Fulani agropastoralists in central Nigeria:

images of daily life in the early 1980s



text and photos by Ann Waters-Bayer

with foreword by Aliyu Dawobe

Göttingen 2026

Waters-Bayer, Ann

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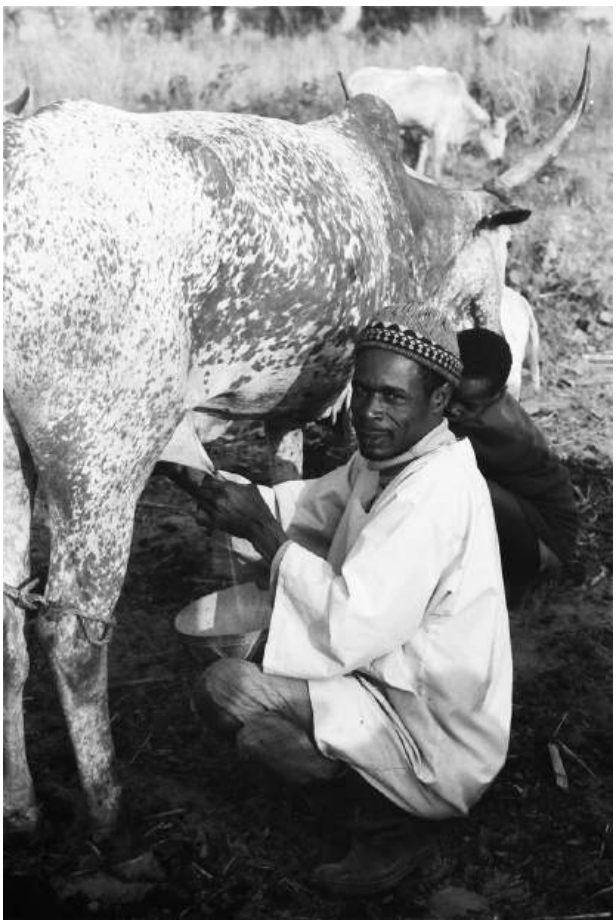
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including an annex with photographs

Göttingen, Germany

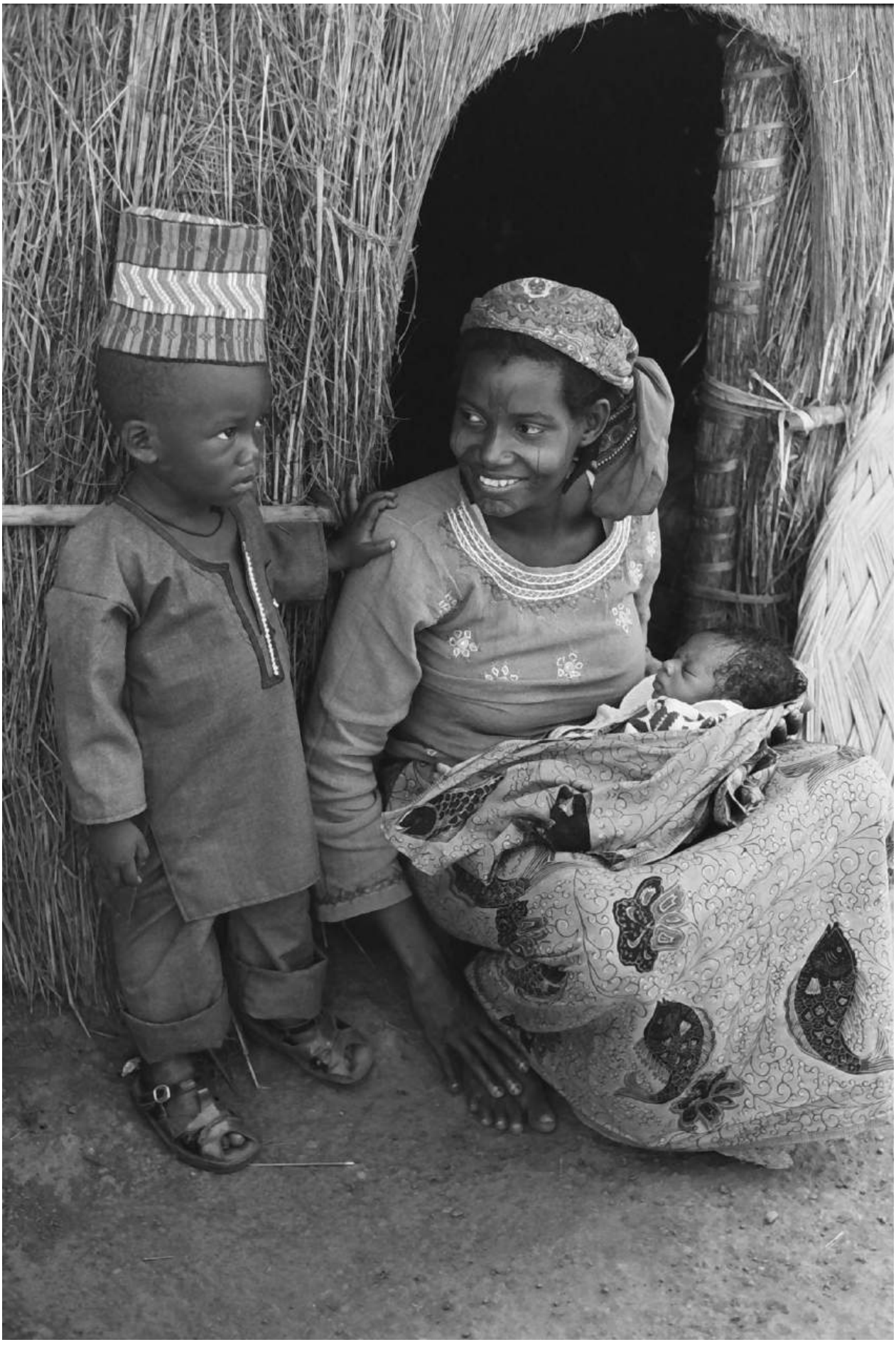
2026

Dedicated to the Kaceccere Fulani families and communities living in the Zonkwa area of central Nigeria 40 years ago – and to their descendants









Foreword

by Aliyu Dawobe, International Committee of the Red Cross, Abuja, Nigeria[1]

Relations between the Kaceccere Fulani herders and the local non-Fulani farmers in central Nigeria used to be cordial. Both parties benefitted from the synergies of cohabiting the region, with herders providing livestock manure in the fields belonging to farmers to double the crop yields, while farmers were happy to allow the herders to graze harvested fields at the end of the rains, again in anticipation of more manuring of their farmlands in the dry season. At that time, chemical fertilisers to apply in crops were not readily available and/or not affordable. Cow dung was more affordable (mainly through trade by barter) and its fertility could last more than a year. On the other hand, the herders' wives – who took the lead in processing and marketing milk and in managing the dairy enterprise – sold fermented cow milk and butter to the farm families and thus gained an important income for themselves.

In the last three decades, perhaps because of an increase in population of both farmers and herders, the cordiality between them began to become fragile. Clashes between local (mainly Christian) farmers and Muslim Hausa traders that were experienced in Kafanchan in 1986–87 and in Zangon Kataf in 1991–92 negatively affected the mutual synergy between the local farmers and the Muslim Fulani herders in southern Kaduna State. Although some Fulani pastoralist families still live in Zonkwa and other nearby areas, they live with one eye open, constantly studying and analysing changes in the context. Whenever they anticipate any political or religious conflict, they immediately migrate north with their livestock. Religious and political conflict continued to affect the Fulani herders in Kaduna State, for example, during the Sharia crisis in 2000 and the election violence in 2011.

Presently, many Fulani herders have deserted some of the conflict flashpoints in southern Kaduna State and have settled permanently in Ladduga, the Kachia Grazing Reserve, although they temporarily move with their livestock to the Zonkwa area in the dry and early wet seasons. Especially after the 2011 election violence that had a strong negative impact on many Fulani families in Zonkwa and surroundings, including Madauchi, distrust has grown between them and the local farmers. Fulani herders accuse the farmers of attacking and killing them, while the farmers accuse the Fulani in Ladduga of taking over their farmlands.

Although the Fulani herders and the local farmers still manage to live beside each other and to share use of the land in southern Kaduna State, their relations are marred by lack of trust and by each group's fear of being attacked by the other. Thus, hitherto synergistically linked communities have lost many of the earlier mutual benefits of coexistence that are described in this book, based on the situation in the early 1980s.

[1] Aliyu Dawobe grew up in Madauchi in the area of central Nigeria described in this book. He was a boy when the research was carried out, and his family was one of the main Fulani families involved in the research. His father, the late Dawobe Abayin (first photo on the dedication page), was *ardo* (leader) of the Fulani in Madauchi, and he welcomed ILCA to work there.

This book could serve as a key reference document that could be used by older people to reflect on the cordiality that existed decades ago between herders and crop farmers and how the two groups mutually supported each other to boost their respective economy and wellbeing. It could equally be used by younger people who did not enjoy the previous cordial coexistence and who might like to trigger peace initiatives and efforts amidst herding and crop-farming communities.

I can still recall how good the living was between various tribes and communities in central Nigeria when I was a young boy in the early 1980s, and I have a feeling that there is still a window of opportunity for reconciliation between these hitherto peace-loving groups. Over the decades, both groups have incurred great losses and now they seem to be anxious for peace to return. But who is going to take this giant step to peace? Can this book serve as one of the triggers for reconciliation? Only time and history will tell.

Endorsement

by Abdullahi Gambo[2], The Pastoral Response (PARE), Kaduna, Nigeria

This booklet and its photographs carry a particular significance from the work of the researcher in the 1980s in Madauchi, Gidan Maga and Abet communities with Fulani agropastoralists and crop farmers. The documentation is not merely on livelihoods but on relationships – relationships shaped by proximity, interdependence, accommodation and mutual understanding.

Reading this book and looking at the images from the perspective of Southern Kaduna State today, one cannot help but reflect on how profoundly our situation has changed. Communities that once shared landscapes, markets, water sources and everyday spaces have experienced years of insecurity, violence, displacement, losses and deepening mistrust. These realities must be neither minimised nor forgotten.

Yet history has it that the present is not necessarily the destiny of the future.

The significance of this booklet lies precisely in that tension. It does not suggest that we can simply return to the 1980s, nor that the challenges of today can be wished away by recalling a more peaceful past. Rather, it offers us something perhaps even more valuable: evidence that farmers and pastoralists have lived together, interacted and found practical ways of accommodating one another.

For older generations, these photographs may awaken memories of relationships once taken for granted. For younger generations, they provide a glimpse of a history that violence and mistrust may otherwise have obscured. And for all of us, they pose an important question: if coexistence was once possible, what must we do – individually and collectively – to make peaceful coexistence possible again?

This will require honesty about the grievances and fears of all communities. It will require responsible leadership, justice, protection of lives and livelihoods, dialogue, and practical arrangements for managing land, water and other shared resources. It will require crop farmers and pastoralists to see one another not only through the lens of competing livelihoods, but as fellow citizens whose futures are interconnected.

Southern Kaduna State is too rich in human experience and cultural diversity to allow its future to be defined only by the conflicts of its recent past. The task before us is not to recreate yesterday but to draw wisdom from it.

These photographs could possibly serve not merely as an archive of what once was, but as an invitation to imagine – and patiently build – a state in which crop farmers and pastoralists can once again live with security, dignity, mutual respect and hope.

[2] Abdullahi Gambo has been working the past 18 years with pastoralists and crop farmers across northern Nigeria. He works with The Pastoral Resolve (PARE), a non-governmental and not-for-profit organisation in Kaduna, Nigeria.

Endorsement

by *Ayuba Caleb*[3]*, Institute for Peace and Conflict Resolution, Abuja, Nigeria.*

Dr Waters-Bayer's insights into the past relations between crop farmers and herders are a must-read for academics and practitioners in the peace and conflict-resolution ecosystem. Her work examines the historical dynamics of the phenomenon while making commendable efforts to provide a sound perspective on the core actors involved in the interactions.

Her practical evidence of the cordial social relations that once defined the communal association between farming and herding communities of Central Nigeria since generations until the recent past accords completely with the theoretical underpinnings of earlier scholars such as J.D. Fage in his "A history of Africa" (1978) and Mark Davidherser and Aniuska Luna in their article "From complementarity to conflict: a historical analysis of the farmer-Fulbe relations in West Africa" (2008). These scholars' perspectives find harmony in their conclusion that relations between farmers and herders were symbiotic and mutually beneficial to all parties, with monetary exchanges and barter playing a critical role in sustaining these relationships.

Unfortunately, in Nigeria's post-military era, which coincided with the advent of the democratic dispensation, the cordiality that characterised this agro-economic symbiosis and the functional social interactions between the two communities have suffered significant setbacks. These have been exacerbated by a toxic political environment and elite manipulation, whose conflict-entrepreneurship fervour has continued to undermine a consensus-based approach to establishing a cohesive Nigerian society in the 21st Century.

At a time when the farmer-herder conflict has reached its apogee, with devastating impacts on human lives and material resources running into billions of US dollars, Dr Waters-Bayer's material is particularly timely, as it suggests practical pathways for resolving this existential conflict, with a view to restoring the mutually beneficial relations that characterised centuries of stable ecological interactions leading to productive socioeconomic and political outcomes that benefited the once-vibrant North-Central region of Nigeria.

At this juncture, we are compelled to reflect on peace-building pathways such as dialogue, negotiation and mediation as vital instruments for resolving these violent encounters and restoring enduring peace to the North-Central region.

[3] Dr Ayuba Caleb is a research fellow and head of the Directorate of External Conflict Prevention and Resolution at the Institute for Peace and Conflict Resolution, Abuja, Nigeria.

Preface by the author

From 1981 to 1985, I worked as socio-economist in the Subhumid Zone research team[4] of the International Livestock Centre for Africa (ILCA)[5]. Our study area was in southern Kaduna State in the centre of Nigeria.

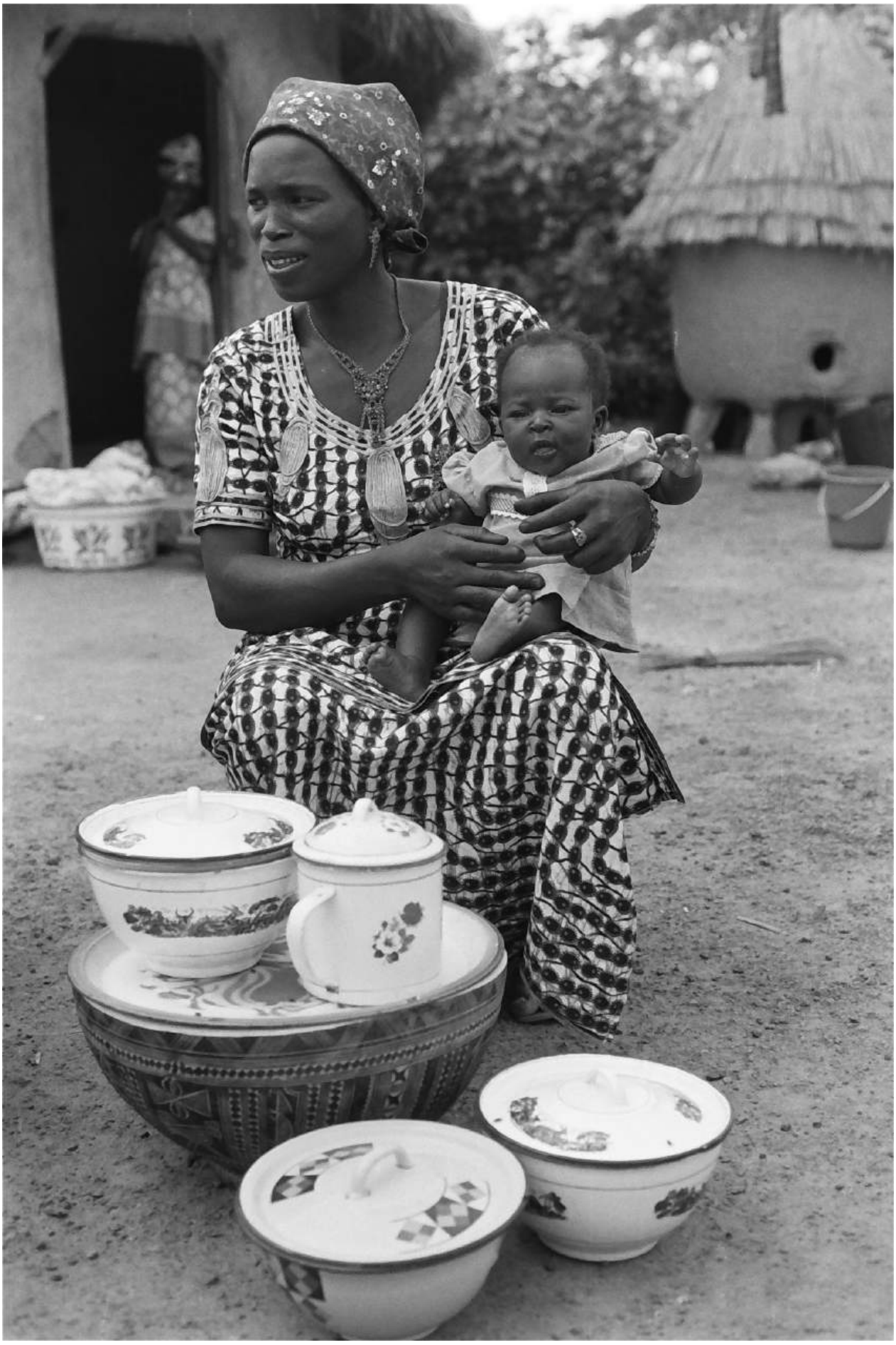
My main task was to learn about decision-making by women and men in households of settled Fulani agropastoralists, above all with regard to livestock husbandry and to producing and marketing livestock products. I initially focused on 12 Fulani households in the settlements of Abet and Madauchi near Zonkwa. Through these households, I made contact with some transhumant Bororo Fulani families, who brought their herds in the dry season from the arid zone in northern Nigeria to the subhumid zone in central Nigeria, and also with the crop-farming households belonging mainly to the indigenous Kaje and Kamantan groups.

At that time, over 40 years ago, cameras were not widespread in rural Nigeria. A main way in which I managed to build up closer relationships with the Fulani (including the Bororo) was by taking photos in and around their settlements and, the following day or two, giving them prints of the photos. Where we lived in the town of Zonkwa, there was no public electricity supply but each evening we turned on a small generator we shared with our neighbours, and I could then work in my darkroom to develop the negatives and to print black and white photos.

These were not photos made for "coffee-table" books in the Global North about exotic peoples but rather photos made for the Fulani families themselves. Many men chose to be pictured with a bicycle or motorbike or newly built hut (for a new wife) or reading a newspaper, while the women preferred photos of their children, their homes, their new dresses and jewelry, and their work in processing and selling milk products. Grandparents often wanted to be pictured with their grandchildren. These photos are now historical documents that depict the daily lives of one group of agropastoralists in the early 1980s in central Nigeria.

The following text consists of excerpts from a case study written for ILCA in 1984 "to provide those unable to visit Abet physically with a simulated field tour amongst the people and ecological environment", in order to furnish readers of the drier and more detailed research papers produced by the team "with an essential understanding of the context in which the work has been conducted" (as expressed by our research team leader Ralph von Kaufmann in his foreword to the case study "Day by day: the Fulani of the Abet Plains"). It is based on observations, conversations and interviews – over a period stretching from late 1981 to mid-1984 – with women, men and children living on the Abet plains and in Madauchi, including oral history related by elders.

[4] Many thanks to all team members at that time for contributing to our understanding of livestock-keeping in the Subhumid Zone: Ellen Taylor-Powell, Emmanuel Otchere, Habibu Suleiman†, Junaidu Maina, Mark Powell, Mohamed Saleem†, Ralph von Kaufmann and Wolfgang Bayer. Especially warm thanks to the Fulani families who welcomed us into their homes. Thanks also to the University of New England (UNE) in Armidale, New South Wales, Australia; UNE's distance education programme opened the way for me to work as socio-economist with ILCA.
[5] In 1994, ILCA merged with the International Laboratory for Research on Animal Diseases (ILRAD) to form the International Livestock Research Institute (ILRI).



Introduction: the Abet plains

Almost exactly in the geographical centre of Nigeria, about halfway along the road from Kaduna to the Jos Plateau, a small road branches off at Fadiya village, shortly before the town of Zonkwa[6]. After half an hour's drive or three hours' walk between hills and bushland, past scattered farming settlements and rocky outcrops, the road descends onto the gently undulating Abet plains, dotted with thatched mudbrick buildings in compounds surrounded by cactus-like euphorbia fences, uniformly ridged fields and large trees in the fields – a typical parkland savanna landscape.



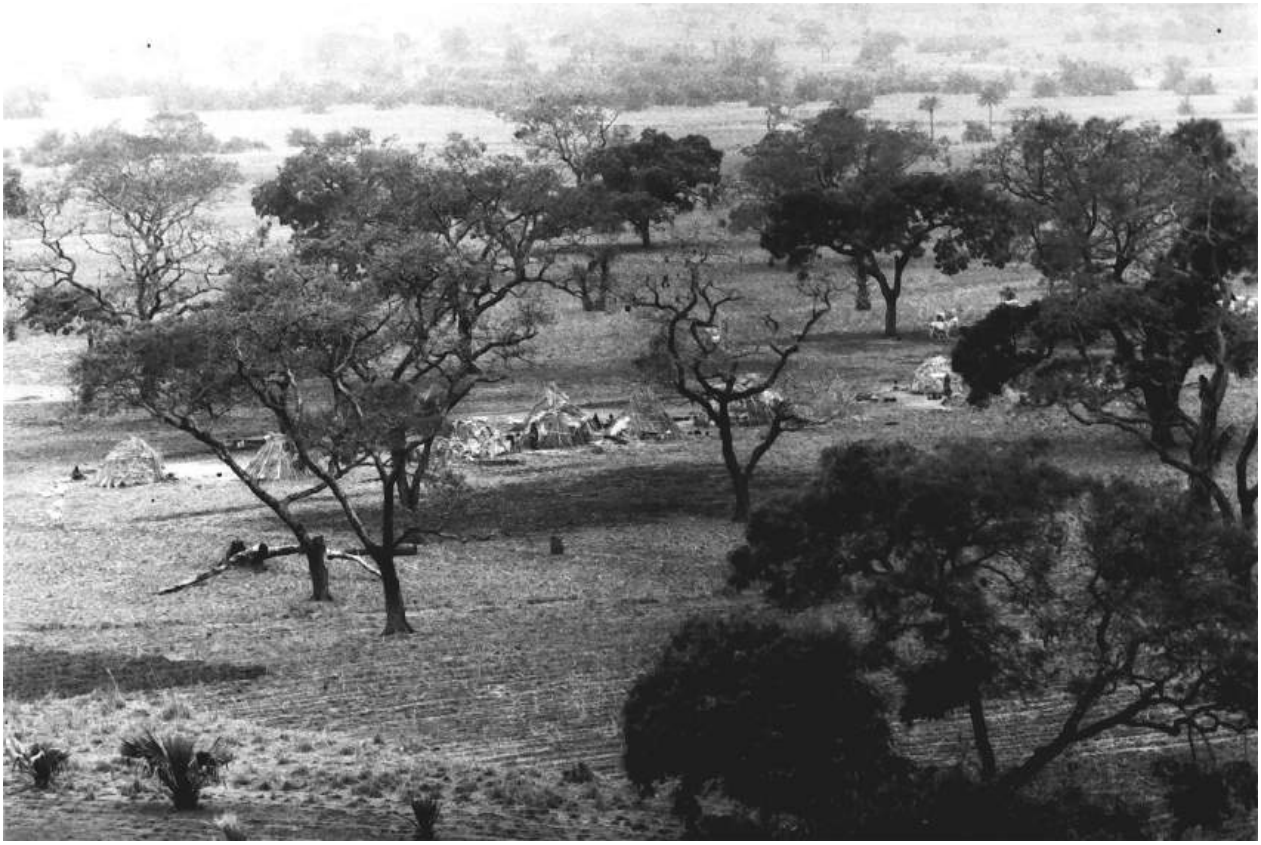
A quarter of the land is covered by crops, partly on the better drained upland and partly in the low-lying *fadama*[7] beside the numerous, thickly wooded streams that flow into the Gurara River. Another third of the plains lies under grass or light bush fallow. The remaining area – commonly called "bush" – is common grazing land.

Most of Abet's annual rainfall of 1300 mm comes in torrential downpours from April to October. The rest of the year is unremittingly dry and relatively cool.

The roughly 60 km^2 of the Abet plains north of the Gurara River are inhabited by about 2500 Kaje and 1000 Kamantan – the major ethnic groups cultivating the area – as well as about 400

[6] This text in the present tense refers to the situation in 1984, when the text was originally written.
[7] *Fadama*: low-lying land that retains soil moisture in the dry season.

settled Fulani agropastoralists and a few Hausa farmers-cum-craftspeople or traders living mainly in Gidan Maga beside Abet. Abet lies on a major route in Nigeria of transhumant Bororo Fulani, who come from the drier north of the country and stay a few days or weeks on their trek to and from dry-season grazing areas south of Abet. A small number of Bororo families camp in Abet for the entire dry season.



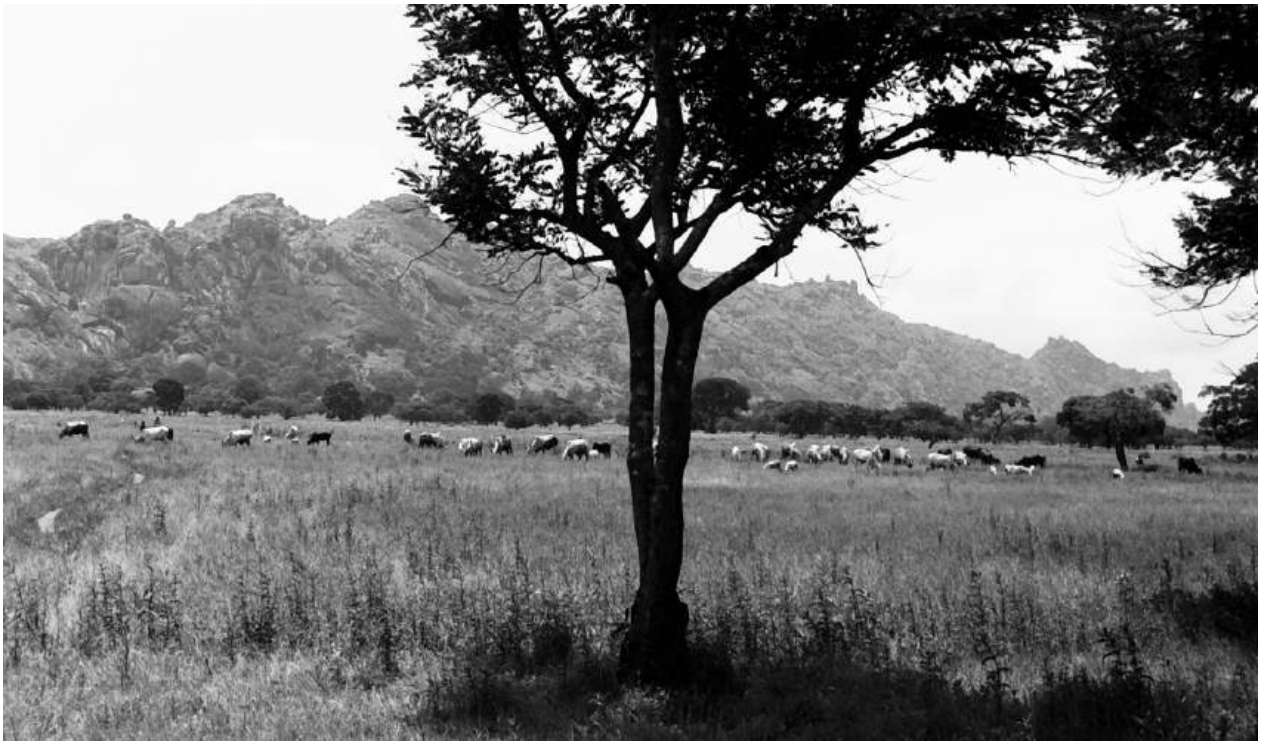
Women from both the settled and the transhumant Fulani families sell their milk products directly to village houses and shops and on the local weekly market. This is held every Tuesday in Abet/Gidan Maga in and around rows of thatched open-frame stalls in the deep shade of mango trees. "Bush taxis" provide transport to and from Abet also on the days of other weekly markets in villages and towns within a radius of 30 km, so the women can sell every day of the week. The more affluent male villagers, including Fulani, travel to markets on their own bicycles or motorcycles. However, the majority of the Abet people – including the Fulani women – go on foot, carrying their products (and, on the way back, their purchases) on their heads.



Fulani settlement in Abet

The situation of the settled Fulani on the Abet plains can be understood only with some knowledge of their history. In the first decade of the 19th century, Fulani-Hausa *jihad*[8] forces penetrated into what is now Southern Kaduna State with a following of cattle-keeping Fulani to establish the rule of the Zaria and Jema'a Emirates. Because of the slave tributes demanded by the conquerors, the Kaje and Kamantan people who hunted and farmed on the Abet plains maintained their dwellings in the hills to the east and north of the plains.

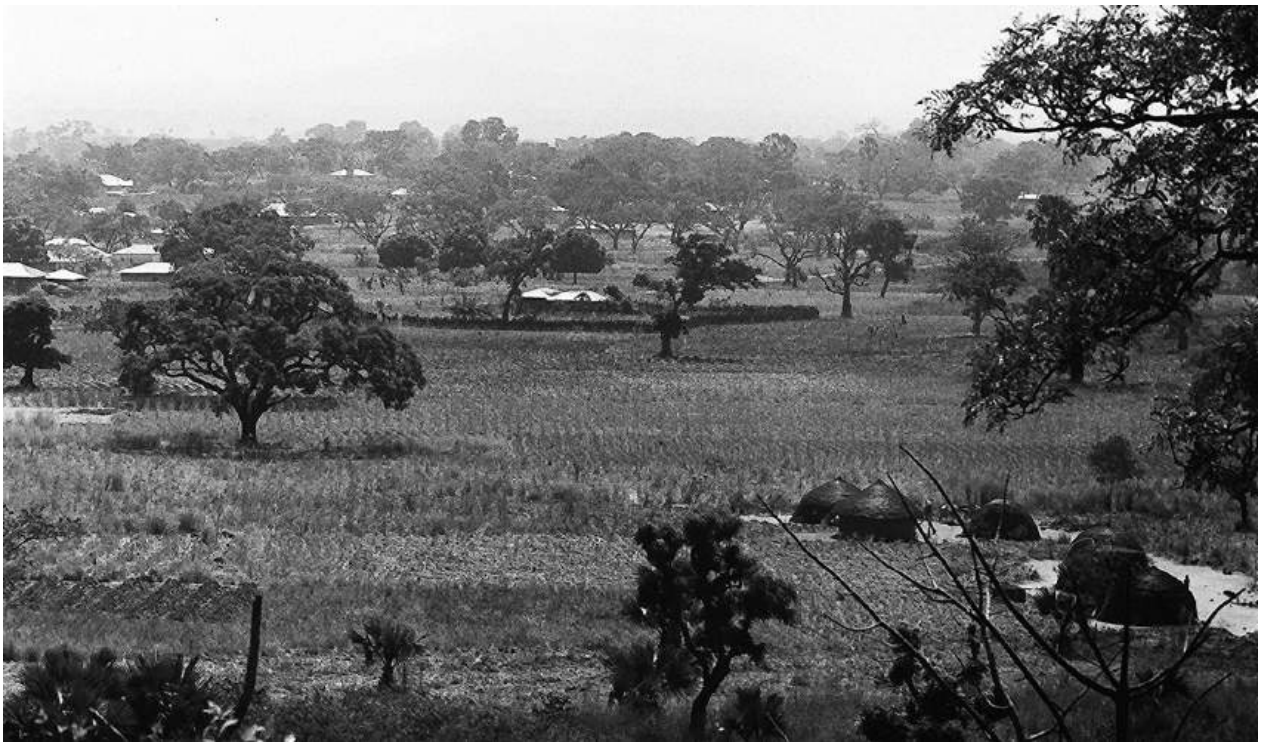
During and even before the *jihad*, transhumant Fulani herders had been passing through or sojourning on the Abet plains, which offered still green pastures when regions further north had already become dry. However, when the annual rains came, the local farmers began to cultivate their fields, and biting flies began to bother the cattle. Most herders then preferred to move back north for the duration of the wet season. The Fulani herders who migrated with their families into the Abet plains, as well as in Zonkwa, Madauchi, Kagoro, Kafanchan, Zangon Katab and Kwoi in southern Kaduna State and some parts of Ganawuri in Plateau State, refer to themselves as Kaceccere'en.



Some Kaceccere Fulani pastoralists managed to remain throughout the entire year in pockets in central Nigeria where insect-borne diseases were not so prevalent, but it was not until warfare and slave-raiding ceased after British colonisation in the early 20th century that some began to settle in Abet. By this time, the Kaje and Kamantan were moving their homes down from the

[8] *Jihad*: holy war to spread or purify Islam.

hills and expanding cultivation further across the plains. After some Fulani succeeded in keeping their cattle alive and well in Abet year-round, others joined them. Increasing numbers of round thatch huts, which signify more permanent Fulani settlement, could be seen on the Abet plains. Most of the Fulani now settled in the Abet area were born there or nearby. They may have shifted their homesteads several times over the years, but usually still within the Abet area, which they now regard as their home.

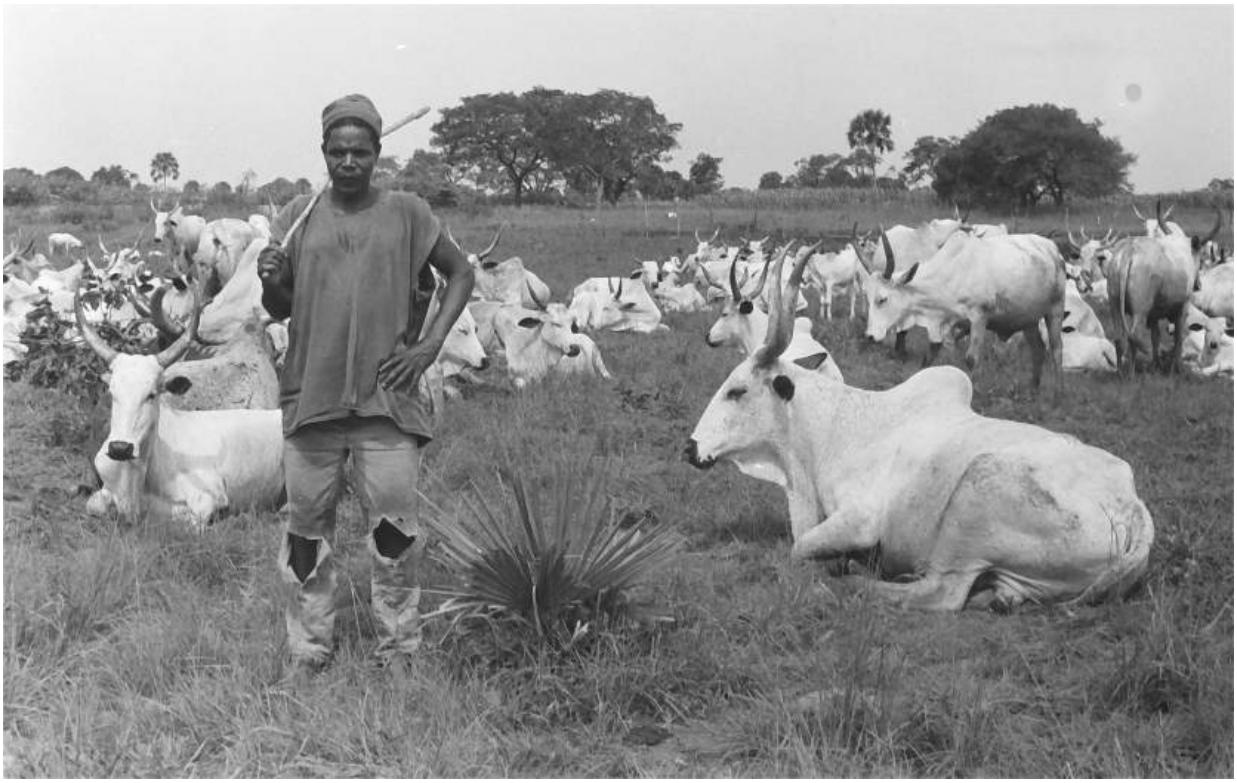


Settled Fulani homes in foreground and Kaje homes in background

The most common reason given for settling is that the herders or their parents or grandparents were tired of constantly being on the move: migration caused “too much suffering”. Nevertheless, the settled Fulani have retained considerable flexibility in choosing sites for dwelling and herding. Although the occasional Fulani homestead in Abet has been maintained in one place for up to 30 years, most of the Kaceccere Fulani tend to dwell at a site for only a few years and then shift to a new site. They gave several reasons for shifting: to save the cattle from disease, to put a safer distance between the herd and farmers’ crops that the herd could damage, to allow a farmer to cultivate the land he had temporarily loaned to the Fulani, or to gain better access to roads or markets.

A small number of the settled Fulani take all of their cattle and sheep for several months in the dry season to a site perhaps five or ten km away from the permanent homestead. The family sets up a temporary camp or even moves into the compound of a Kaje family, while the herd grazes the surrounding harvested fields in the daytime and is kept on the Kaje farm overnight. Most settled Kaceccere Fulani try to graze their herds within daily walking distance of their homestead for as long as possible each year but toward the end of the dry season, when the

first scattered showers fall, herders may find it necessary to “follow the rains” and take their animals up to 20 km from home for several consecutive days.



Disinclination to continue long-distance movement of household and herd may well arise from the need to grow crops. The Kaceccere Fulani often discuss the changes that they and their parents have experienced in conditions for family survival. They ask themselves why their cows do not seem to give so much milk as did cows in earlier decades and why the cost of other foods has risen relative to the value of milk products, obliging them to sell cattle to be able to purchase sufficient grain – with the result that their herds become even less adequate for supporting their families. By the 1940s and 1950s, many Fulani families using the Abet plains for at least part of the year sought to alleviate this problem by diversifying into cropping. They regard Abet as good farming country where previous clearing and tillage obviate the hard work of opening up new land to cultivate.

Nevertheless, when the Fulani explain why they settled in Abet, they give its arable potential only secondary importance to its grazing potential. They point to the abundant green *fadama* areas that provide nutritious forage during the dry season and to the many cultivated fields where crop residues can be grazed. They claim that the grasses on fallow land are better and that animals are easier to herd in the cleared areas than in the bush. Some herders also say that there are fewer biting flies in Abet than in, for example, the nearby government-created Kachia Grazing Reserve, where Fulani are being encouraged to settle. In the Abet area, water for livestock is also in good supply.



The Fulani women value the Abet area's suitability for milk production and the many customers to be found in Kaje and Kamantan farmhouses within a few minutes' walk of their own homes. Also the village market is close by; the women do not have to walk for hours or transport milk by "bush taxi", with risk of spillage because of the constant jolts on the rough tracks.







Fulani family life

Just as settlement does not mean permanence in homestead location, it also does not imply constancy in household composition. A married son may leave his father's home, and an elderly father may rejoin one of his sons; married brothers may combine or separate their families; wives may join or leave the household; a young woman returns to her mother's home for the birth and early rearing of the first baby; women seeking divorce come with their small children to live in the homes of parents or brothers; children are lent for a few months or years to grandmothers or other relatives, or are borrowed from other families.

In all this flux, a life cycle of a Fulani family can still be discerned. When a young man has a wife and at least two children old enough to help in herding, dairying and household work and if he has a large enough herd to support them, he can set up his own homestead and manage his animals independently from those of his father and brothers. As his sons grow up – at latest, when they marry – the father gives them livestock that form the nucleus of their own herds. When the last son has married and become independent, the father's remaining animals are distributed and the elderly man goes with his wife or wives to live with one of his sons.[9]



[9] This is the same life cycle that was described by Derrick J. Stenning in his 1959 book *Savannah Nomads: A Study of the Wodaabe Pastoral Fulani of Western Bornu Province, Northern Region, Nigeria.*



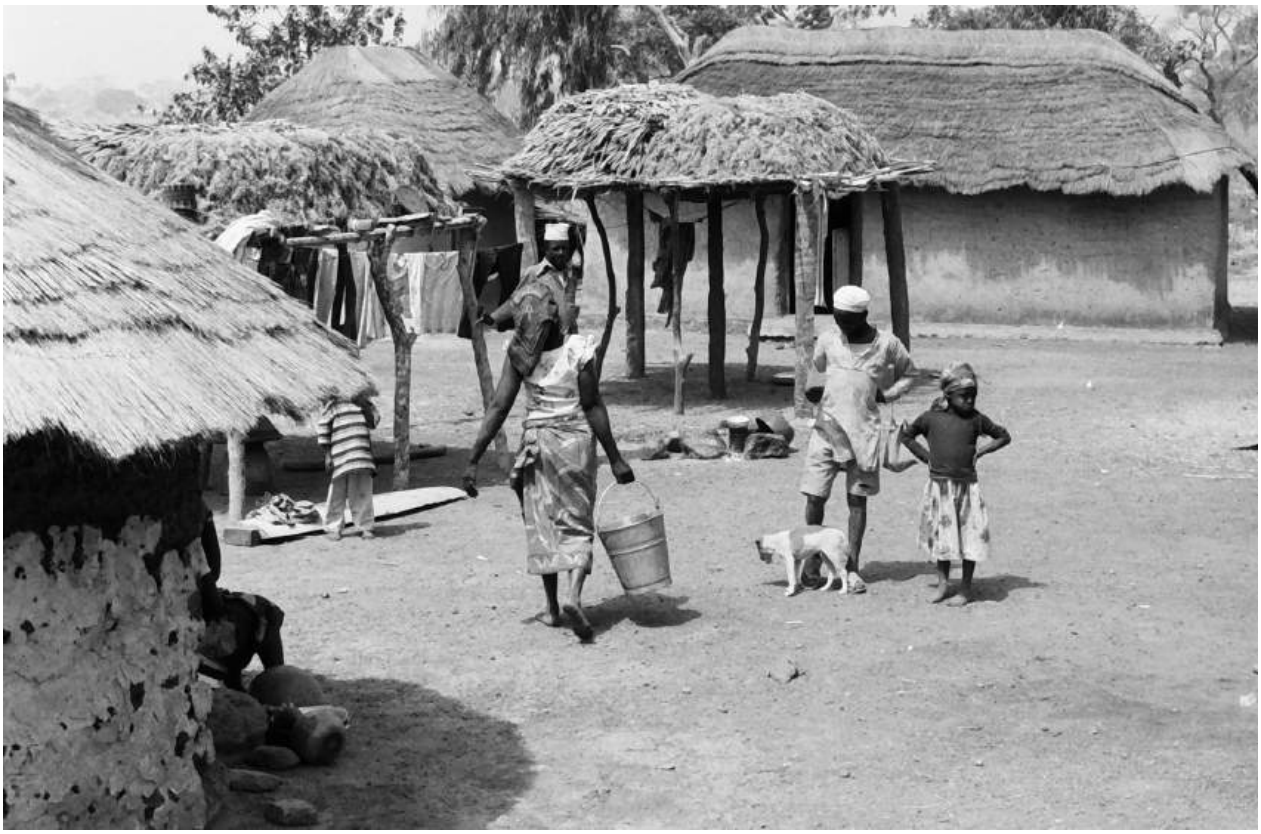
New hut under construction



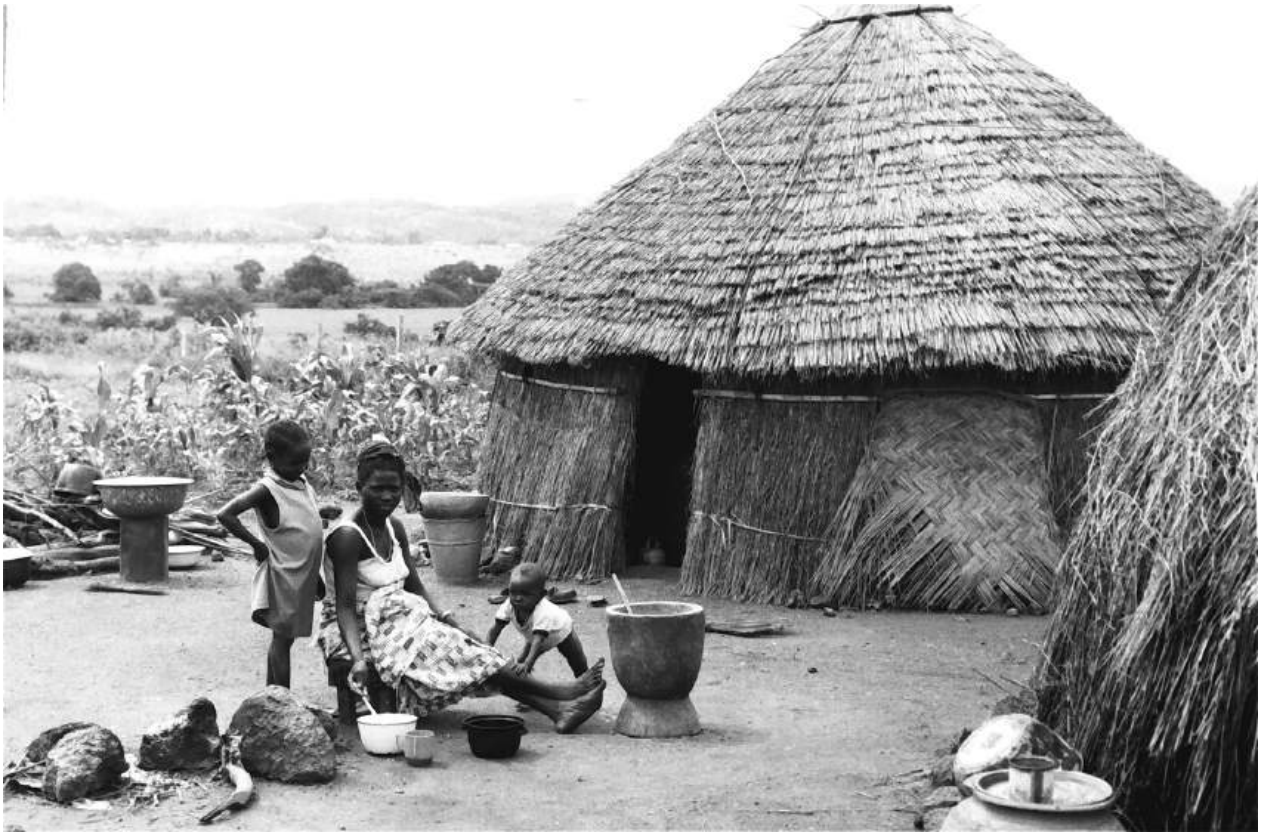
Although there are Fulani households in Abet with only four members and others with as many as 25, the average number is about ten members. The complex composition can be illustrated with the example of Rebo's household.

Rebo married Lami, the widow of his deceased senior brother, and two of Lami's sons – Jammo and Abubakar – also came to live in his compound. Eighteen-year-old Jammo goes to primary school in Abet when he does not have herding duties. Thirty-year-old Abubakar has two wives. His senior wife Mo'abet has borne one daughter and three sons, but two of the boys died within a few weeks of birth. Abubakar's junior wife Mairo is a daughter of Rebo's brother Yakubu, whose compound lies only about 100 metres away. Mairo is living there because she recently gave birth to her first child. Since her marriage to Rebo, Lami has borne two more children, a son Musa and a daughter Binte. She has also adopted Juli, a little girl from her home village whose mother died in childbirth.

In the neighbouring homestead live two of Rebo's younger brothers, Yakubu and Ibrahim. Both are married and have several children, mostly girls. The newly wedded wife of Yakubu's son (who is away attending secondary school, as there are only primary schools in the Abet area) lives with her parents-in-law. Rebo, Yakubu and Ibrahim's elderly father, who has retired and given his livestock to his sons, lives with his wife in Yakubu's compound. A seven-year-old son of a fourth brother (who is in the army and stationed in Jos) lives with his uncle Ibrahim and helps him care for the animals.



Associated with these two homesteads are four separate herds managed by Rebo, Abubakar, Yakubu and Ibrahim. Ibrahim's herd also includes animals belonging to his brother in the army and to yet a younger brother who is boarding at a secondary school in Kachia town about 60 km northwest by road.



Each Fulani homestead or *ruga*[10] consists of several separate dwellings. Most *rugas* in Abet comprise round grass huts, which are rethatched every two or three years if the family does not move to another site. Some *rugas* include more durable buildings made of mudbrick, either in the traditional circular design or as a long rectangle with two or more rooms, like the modern dwellings of the local farmers. Grass huts are built by the Fulani men, who usually collect the materials themselves, although some buy grass from local farmers. Kaje or Kamantan men are hired to construct the clay-walled, thatched roof grain stores – one for each household head – and mudbrick houses, to lay cement floors or to erect corrugated metal roofs.

Each wife has her own dwelling, most commonly a round one-roomed hut, which she shares with her unmarried daughters, infants and any other children entrusted to her care. The husband's dwelling is separate, often on the opposite side of the *ruga* clearing. Sons of working age, about six years and older, live with their father until it is agreed that a son is old enough to have his own hut. Adult relatives, such as an elderly father or mother or a brother who lives with the family, usually have their own huts.

[10] *Ruga*: Word in Hausa language for Fulani encampment, referring to both the homestead and the people living there; called *wuro* (home) in the Fulfulde language.

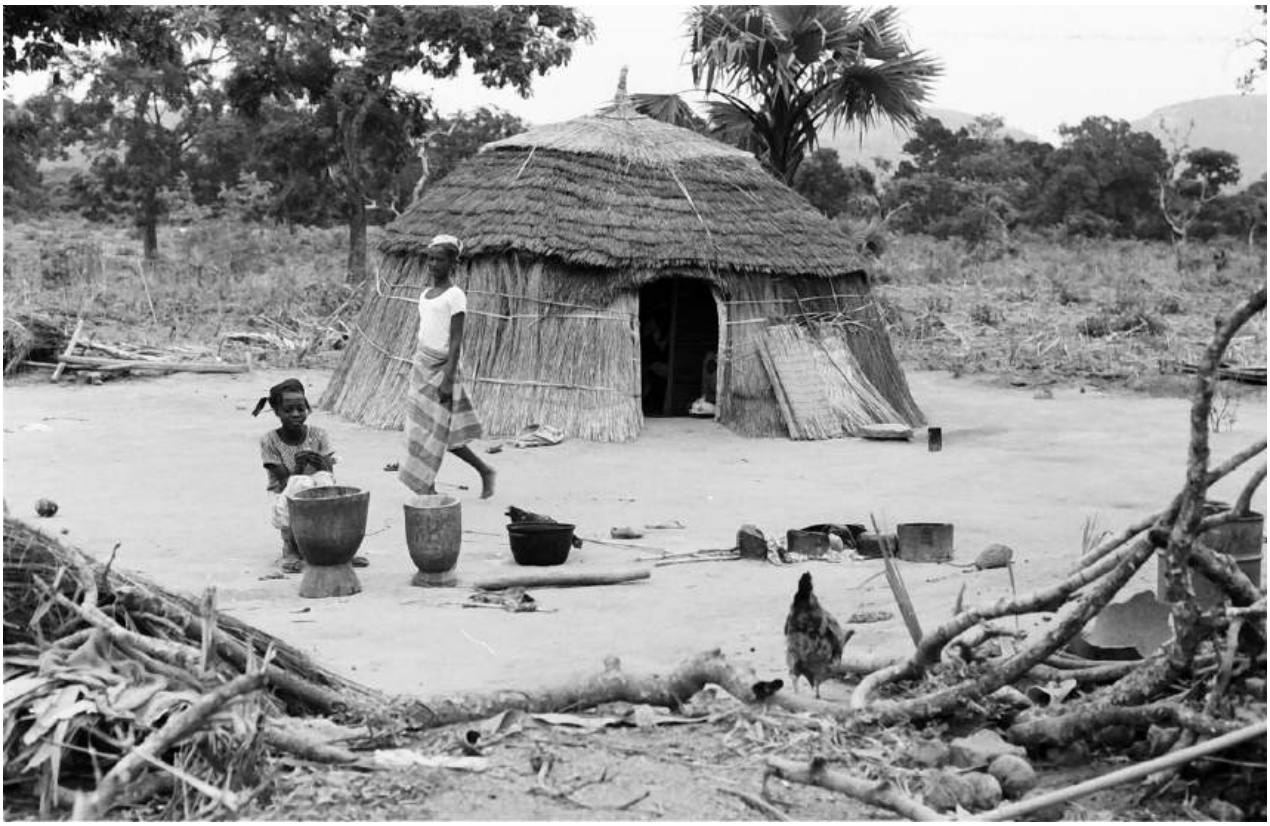
In Rebo's *ruga*, for example, Lami shares her hut with her daughter Binte and adopted daughter Juli. Rebo now lives alone in his hut, having given his 15-year-old son Musa permission to move into the newly built hut of his stepson Jammo. Both children of Abubakar's senior wife Mo'abet live in her hut because the son is still small and the daughter unmarried. Abubakar has a three-roomed mudbrick house with thatched roof; one room is Abubakar's, one is storage space and the third is being vacated by his brother Jammo in preparation for the return of Abubakar's junior wife Mairo with her baby boy.

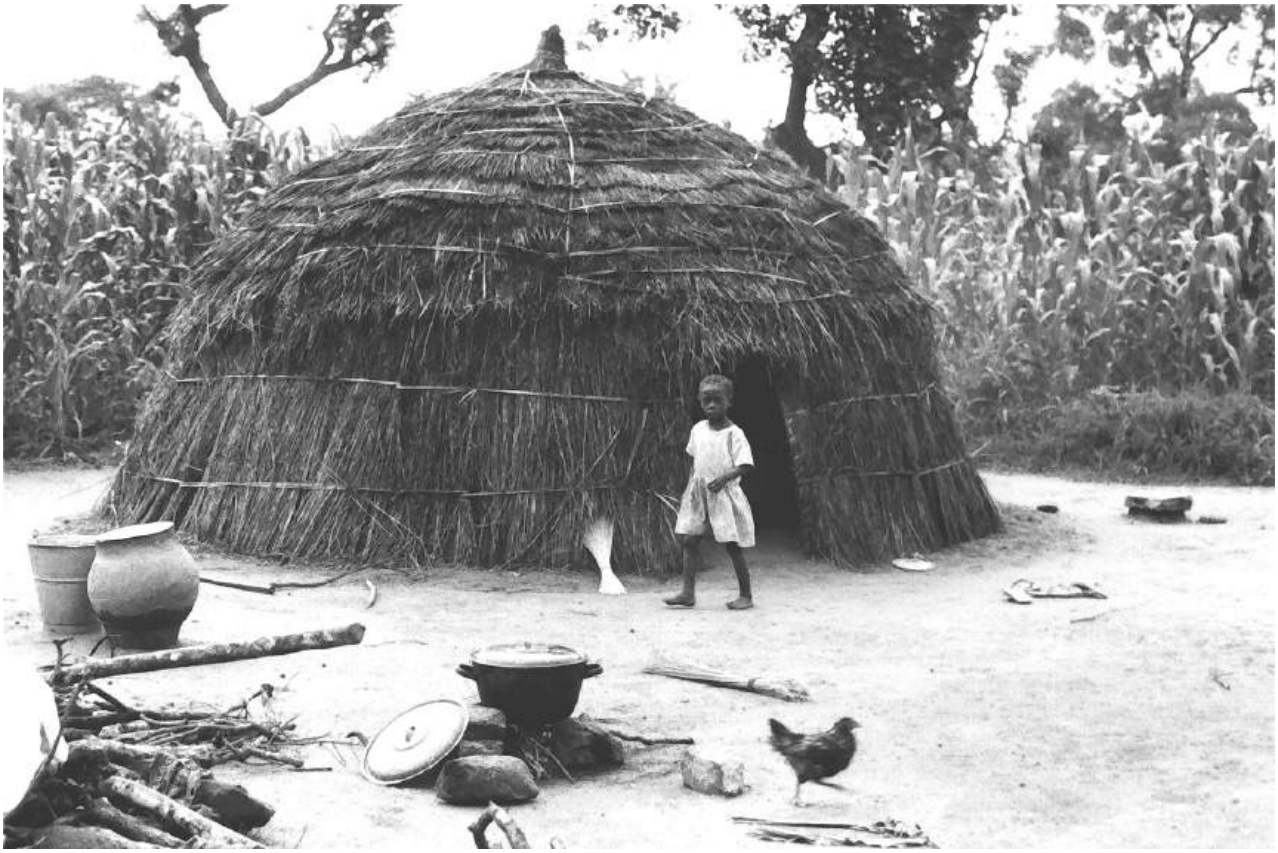


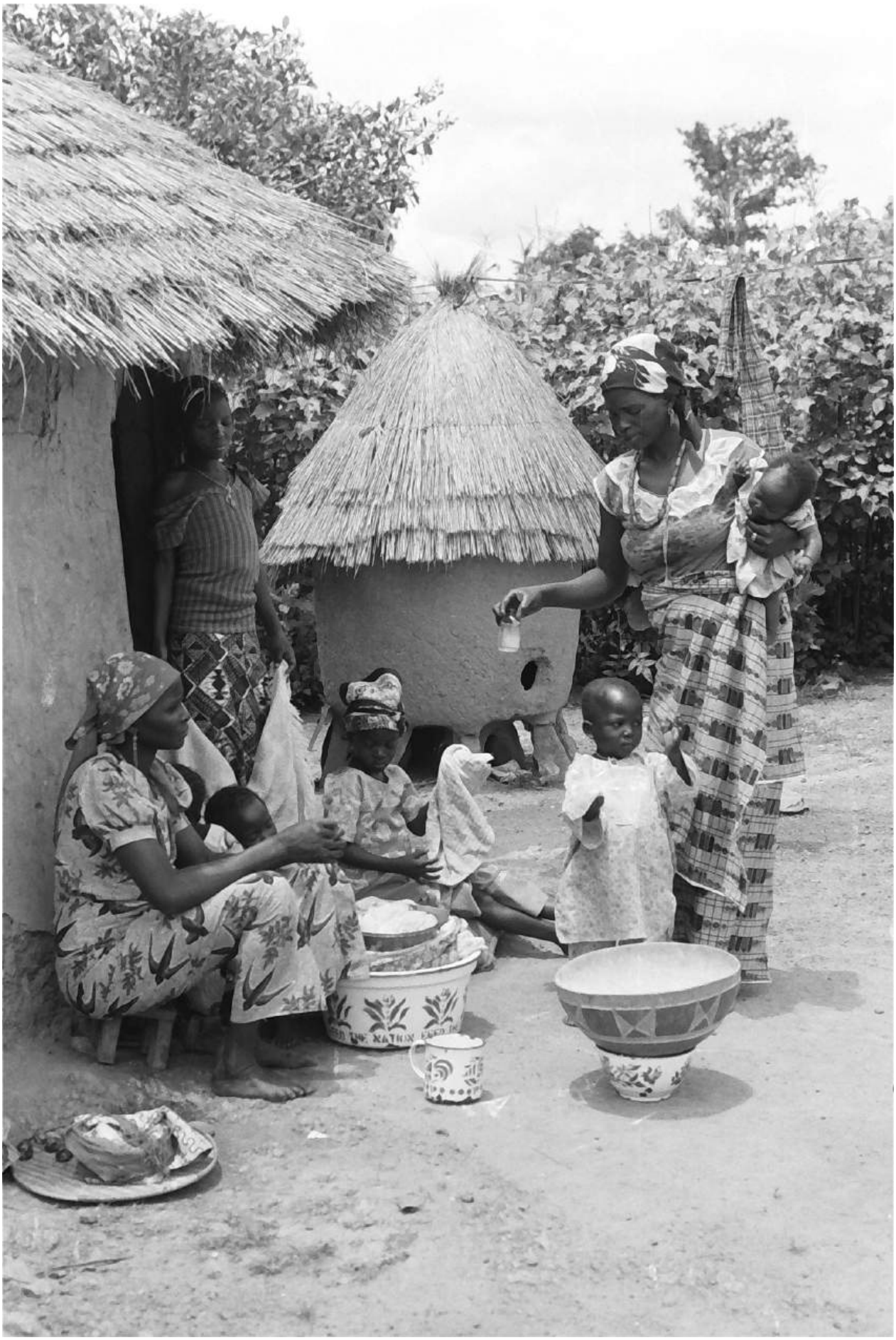
Other structures in the *ruga* may include grain-drying platforms (which also serve as shade-roofs and racks for drying household utensil and clothes), round thatched mud-walled granaries like those in local farmers' compounds, and shelters for poultry, calves, sheep or goats. A recent innovation is a thatched kitchen hut for each wife. More commonly, however, the women and girls pound and sift grain and cook the family meals in the open air. Each woman has a three-stoned hearth in front of her dwelling as well as a similar fireplace inside, used sometimes for cooking in inclement weather but also for heating during cold nights in the dry season.











The Fulani herds and flocks

The lives of the Fulani settlers in Abet revolve around their cattle. The women value the animals above all for their ability to produce milk, while most men show more interest in producing calves. In the average settled Fulani herd in Abet, there are about 50 head of cattle, although a few families keep fewer than 10 head and one family has almost 200 head. Many families keep sheep (10–20% of the herd), either to be consumed at home during family or religious festivities or to be sold when cash is needed. A few also keep goats for similar purposes. Chickens and guinea fowls are kept for breeding and sale more commonly than for producing eggs.



The *ruga* head usually has managerial control but not necessarily ownership of all animals kept in his *ruga*. The animals may belong to relatives, friends or even local farmers. Herds may be joined or separated for convenience of management when, for example, seeking distant grazing during the dry season. Animals are loaned to support families that have suffered losses from disease and are trying to rebuild their herds.

Of the livestock kept by a settled Fulani household, the poultry receive the least attention and the cattle the most. The birds scavange around the homestead and find shelter either under the granary or in small, loosely thatched huts built on the edge of the *ruga* clearing. Goats are tethered to stakes or trees at a safe distance from crops during the wet season and allowed to wander freely during the dry season. However, Fulani men and women who have purchased only one or two goats often prefer to leave them with the farmers who sold them. Sheep are

generally herded with the cattle when crops are growing and are tied overnight to a long rope pegged down at both ends near the cattle. In the dry season, all sheep are given free range.





The cattle are always herded and are brought back to the homestead each night to be hobbled in pairs or enclosed by a fence, made formerly of thorny branches but now more commonly of wire strands. The calves are tied in order of age to a pegged rope. During the day, very young calves are kept close to the *ruga*, the smallest ones being tethered in the shade of a tree or calf shelter. The others are released by a woman or child, after departure of the main herd for grazing; they graze near the *ruga*, normally unattended except when they are led to water. These calves are allowed to suckle twice a day: once in the morning briefly before and after the cows are milked, and once in the evening, when a calf receives all its mother's milk. Older calves, which graze with the main herd, can suckle whenever they like during the day. The herders carefully remove ticks by hand from all the animals, once or twice weekly in the dry season and more often in the wet season.

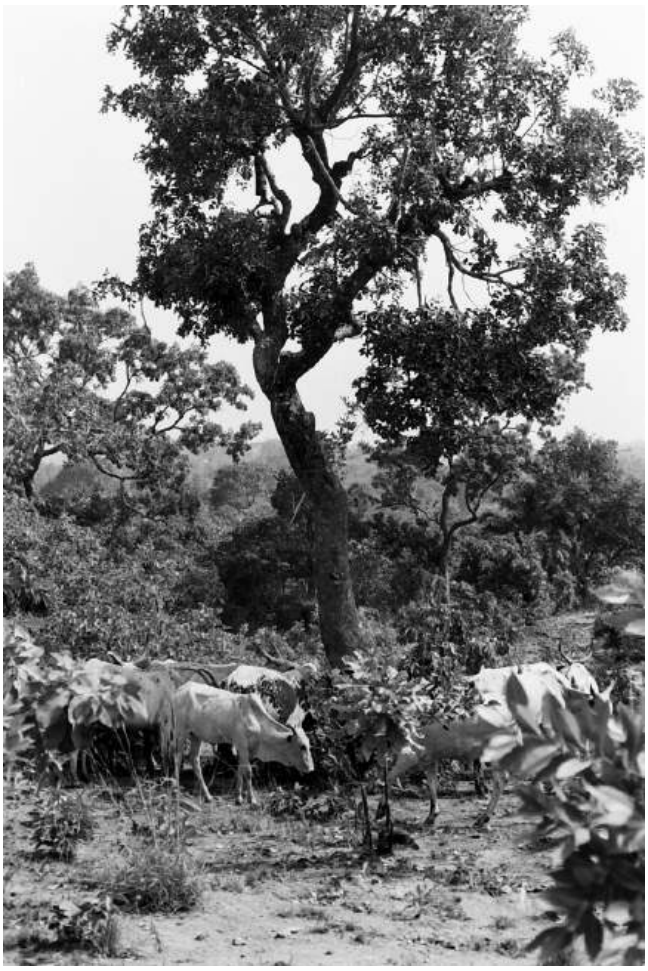




During the wet season when fields are cropped, the Fulani herds are restricted to grazing fallow fields and upland bush areas in and around the Abet plains. As soon as the cereal harvest begins, the herders compete for access to crop residues, on which the animals spend most of their daily grazing time in the dry season. In the period directly after harvest, the residues are particularly rich in nutrients and give a boost in animal condition and production. The herders also bring their animals into the *fadama* areas, where grasses have remained green. Toward the

end of the dry season, the cattle begin to browse shrubs, and the herders lop branches from certain trees whose leaves are more nutritious than the mature grasses. The Fulani also bring their herds to burnt areas to graze the protein-rich plant regrowth. Local farmers set the fires to flush out game, to clear stubble in the fields and to protect their homes from uncontrolled fires.

The herds are watered two to three times daily. Numerous streams flow through the Abet plains during the rains but are, with few exceptions, reduced to broken strings of stagnant pools in the dry season. Access to fallow fields, bushland, crop residues, *fadama* grazing and regrowth after burning, as well as to wet- and dry-season watering points, is not restricted to any particular individuals or groups. These resources are shared, not only among the Fulani settled in Abet but also with the transhumant Fulani, who bring in several herds – each with 100 or more cattle and 20–25 sheep and goats – during the dry season.



Cattle browsing leaves from lopped branches (Photo: Wolfgang Bayer)

The pastoralists supplement their animals' diet with *kanwa* (unrefined salt) placed in heaps on worn-down termite mounds which, in themselves, contain a concentration of minerals. Largely because of extension efforts by the Nigerian Federal Livestock Department and experimental work by ILCA, some Fulani now buy cottonseed cake as supplementary feed for their cattle during the late dry season, when the nutritive value of natural forage is at its lowest level.





Giving cattle kanwa *(mineral supplement)*

Crop farming by the Fulani

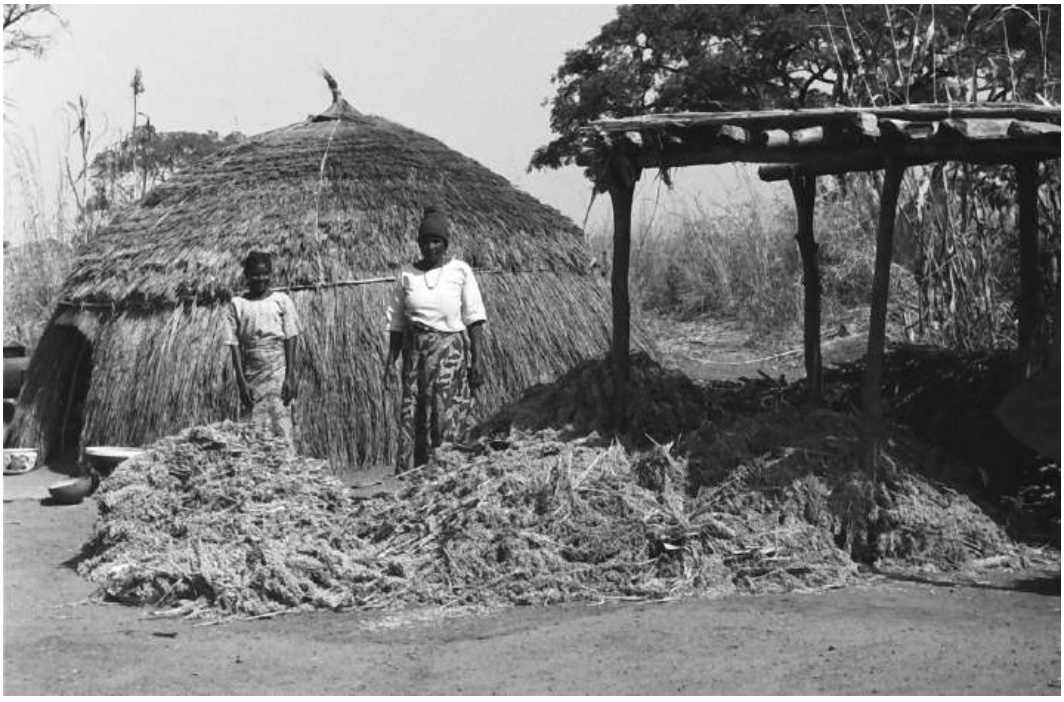
Almost all the settled Kaceccere Fulani do some crop farming, mainly to avoid the necessity of selling livestock to purchase cereals, their staple food. They cultivate small plots adjacent to the *ruga* on land where the livestock had been kept overnight for some days or weeks and deposited manure and urine. Other, more distant fields are sometimes acquired on loan from local farmers. The major cereals – sorghum, maize and millet – are grown almost exclusively by men or boys. The agropastoralists also grow rice, sweet potato, yam, cocoyam, cassava, iburu (*Digitaria iburua,* black fonio), groundnut and soybean. A few have also started growing ginger, a major cash crop of the Kaje and Kamantan farmers.





The average area cultivated by a settled Kaceccere Fulani household is small, totalling less than a hectare, about half to one third of the area normally cultivated by a local farm household. Because the yields are usually not enough to satisfy all of their requirements, the Fulani must also buy food from neighbouring farmers. However, a small number of agropastoralists pride themselves on their self-sufficiency in cereal production and can even sell some surplus sorghum or maize to other Fulani.













The Kaceccere Fulani's efforts to combine herding with the relatively new activity of cropping are often constrained by a shortage of family labour, as the growing season is also the time of year when the herds need the closest supervision. Many Fulani men must therefore hire labour from local farming families to help with ridging, weeding and harvesting. However, the first generations of Fulani settlers, who frequently hired farm labour, are being succeeded by younger generations who have cultivated since childhood and can work with skill and speed. The Fulani have adopted local farming techniques, such as using the Kaje's traditional hoe, planting on soil ridges and transplanting millet from nurseries fertilised with goat manure and wood ash. They obtain most of the goat manure from neighbouring farmers, who keep more goats than the Fulani do. Some Fulani with larger fields also mobilise *gayya* (communal farmwork), usually involving Fulani neighbours but sometimes also nearby farmers.



Fulani man binding millet





Fulani use Kaje farmers' traditional ridging hoe



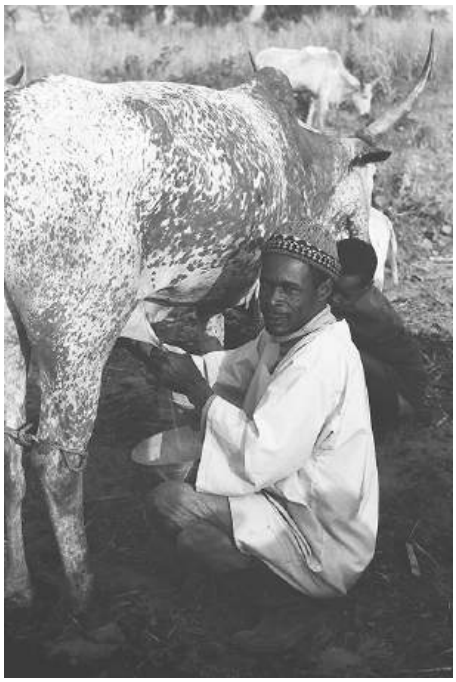


Most Kaceccere Fulani women grow a variety of vegetables and condiment plants for soup ingredients. They sow okra between the men's maize and sorghum plants, and sometimes also in separate plots ridged by male relatives or neighbouring farm boys. In small household gardens on the edge of the *ruga*, each wife has her own spinach, hemp, pepper, roselle or pumpkin plants, while lima beans can often be seen twining up the cereal stalks in plots close to the *ruga*. In the midst of her husband's fields, a woman may plant *shiwaka*[11] trees, which bear bitter leaves for cooking in soups and sauces, as well as henna trees to obtain cosmetic dye for hands and feet. The men are more likely to plant trees bearing edible fruits such as mango, citrus, guava or papaya around the *ruga*, even though the family may have no intention to remain at that site for long. Creeping over the women's domed huts are vines bearing loofah sponges for washing and bottle-shaped gourds for churning butter. The women claim that the vines also help to hold the thatch grass together.



[11] *Shiwaka*: *Vernonia amygdalina* or "bitter leaf", a native shrub.

Agropastoralism: the family concern



Agropastoral production is a source of livelihood in which the entire family is involved. Each member of working age (about 6 to 60 years) has a role determined by sex and age, although the division of labour is by no means rigid.

Among the settled Kaceccere Fulani, most animal husbandry activities are the responsibility of the males: the boys herd, tie and detick the animals; boys and men milk the cows; and men make herd-management decisions and give animal health treatment, often using medicinal plants.

The herders within a family usually work in shifts or on alternate days. Young boys can handle the docile White Fulani cattle during the dry season but during the rains, when the risk of damage to crops is great, young men and often the herd manager himself keep a close watch over the animals.



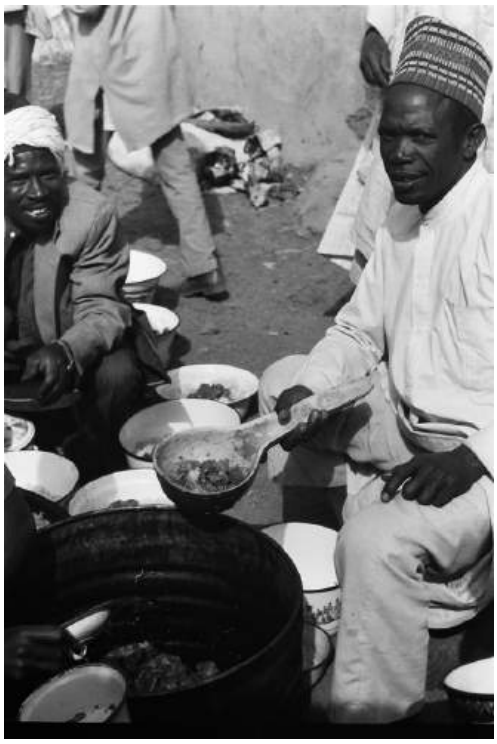
The older men prefer to spend their time visiting each other and attending markets – among other things, to gain information about grazing conditions, disease outbreaks, vaccination campaigns, livestock and grain prices, availability of supplementary feeds, and political developments concerning farmer-herder relations or government policies.

The men and boys make the long ropes for tethering cattle and sheep, the short halters for smallstock and the hobbles for cattle, out of home-grown hemp fibre for the dry season and out of raffia palm fibre for the wet season. In recent years, some Kaceccere Fulani have begun to use calf ropes made of plastic fibre because they are more durable. The men are also responsible for obtaining fencing materials.



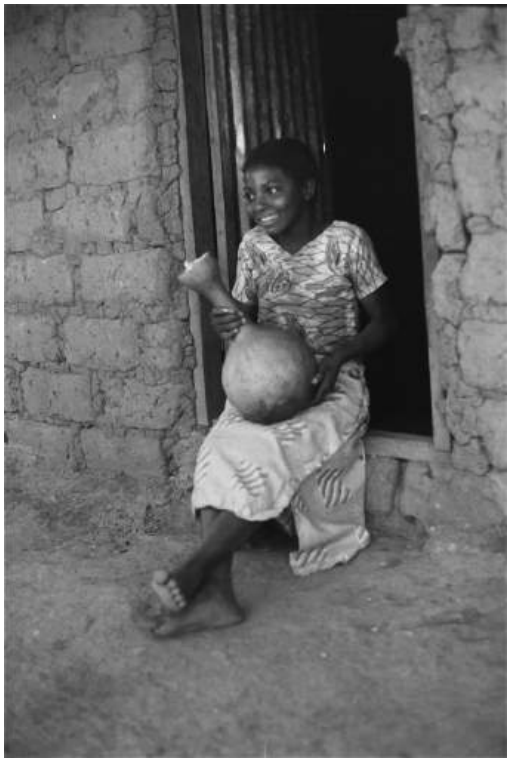
Most animals are sold to a local butcher or trader but, if an animal is slaughtered for a special occasion such as an Islamic holiday or a clan reunion or a marriage, the men are responsible for slaughtering the animal and preparing the meat for the feast.



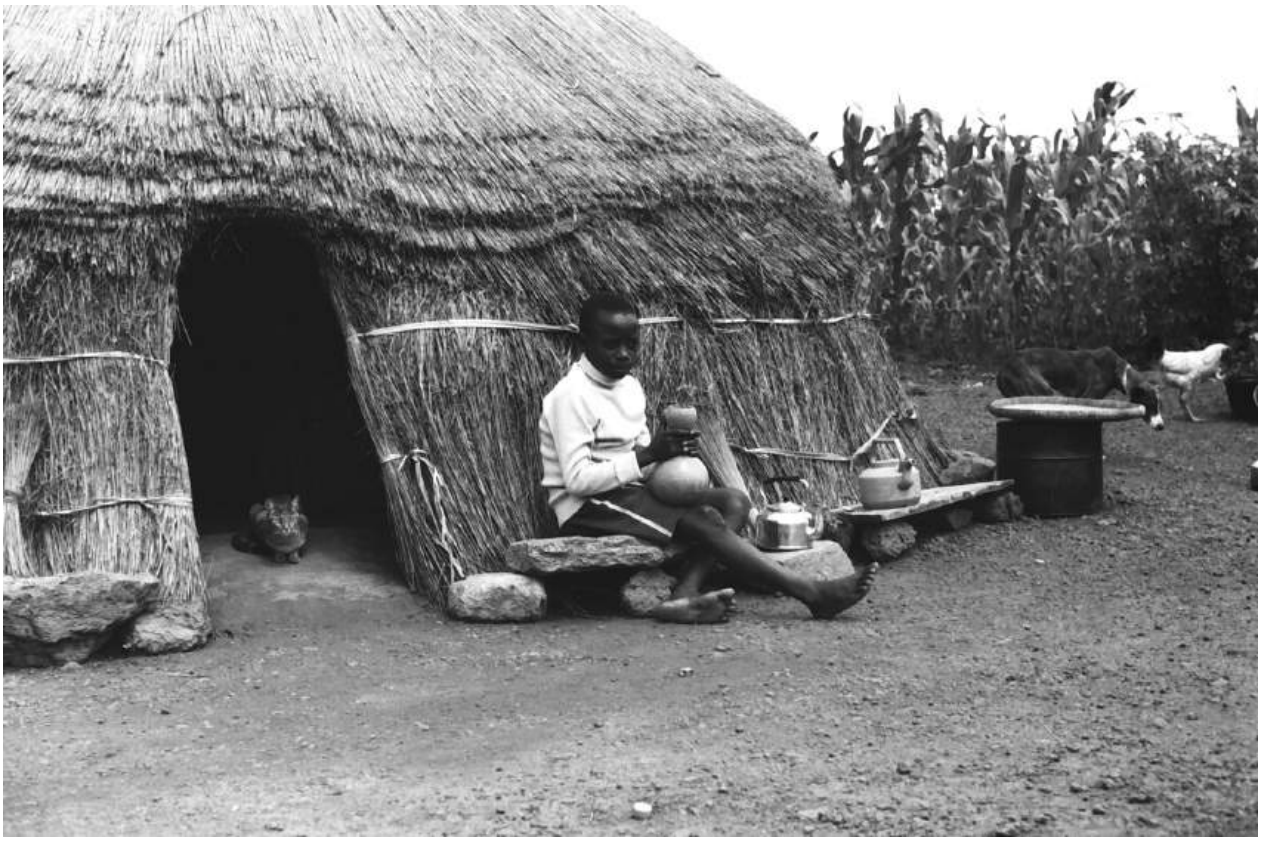


Fulani men preparing and distributing meat during a ceremony

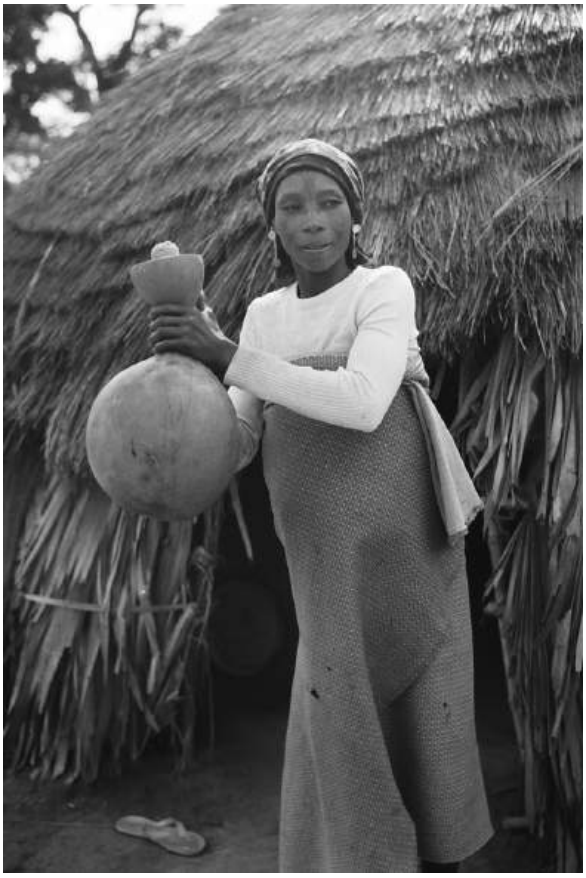
The women and girls are responsible for processing and marketing milk products, as well as domestic tasks such as fetching water, collecting wood and dung for fuel, keeping the compound clean and preparing food. Wives take turns cooking for the family. They and their daughters often also take turns carrying the calabashes of fresh milk from herd to hut. Sharing of childcare work is common. A grandmother living with the family often plays with a small child and carries it on her back. A daughter older than about five years minds her baby brother or sister, while her mother prepares *fura* (balls of cooked millet flour) to sell with *nono*[12] (sour milk). Daughters are especially useful as dairymaids: a woman with several daughters supervises their activities, checking the consistency of butter being churned by one girl, making sure that another has strained the milk properly, and directing a third to wash and paint the calabash in which the milk will be carried to market. Two daughters can pound the millet grain as a team and sift the flour, but the mother usually does the more strenuous work of kneading the *fura* dough in the mortar and the precise work of forming the right size of *fura* balls.

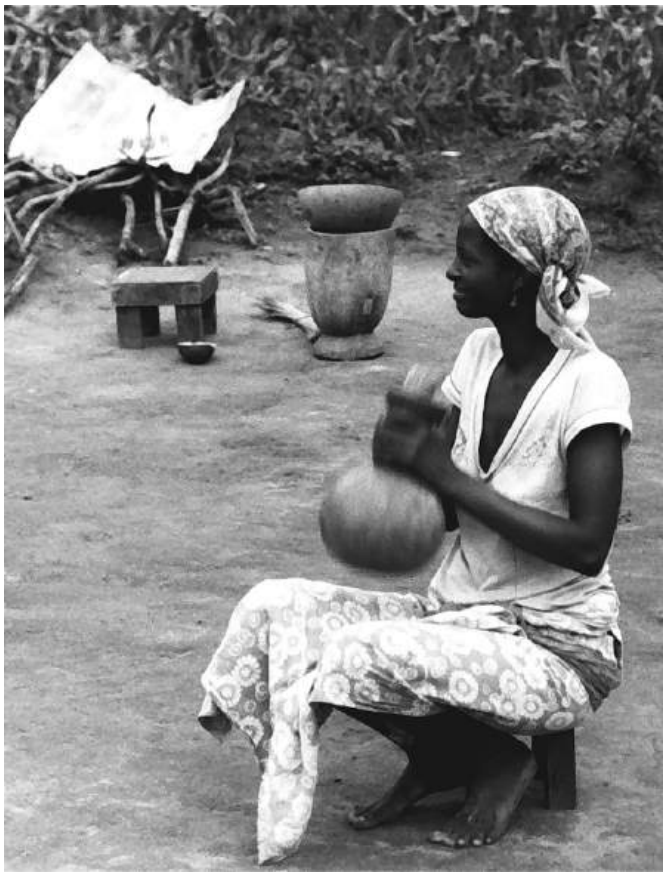


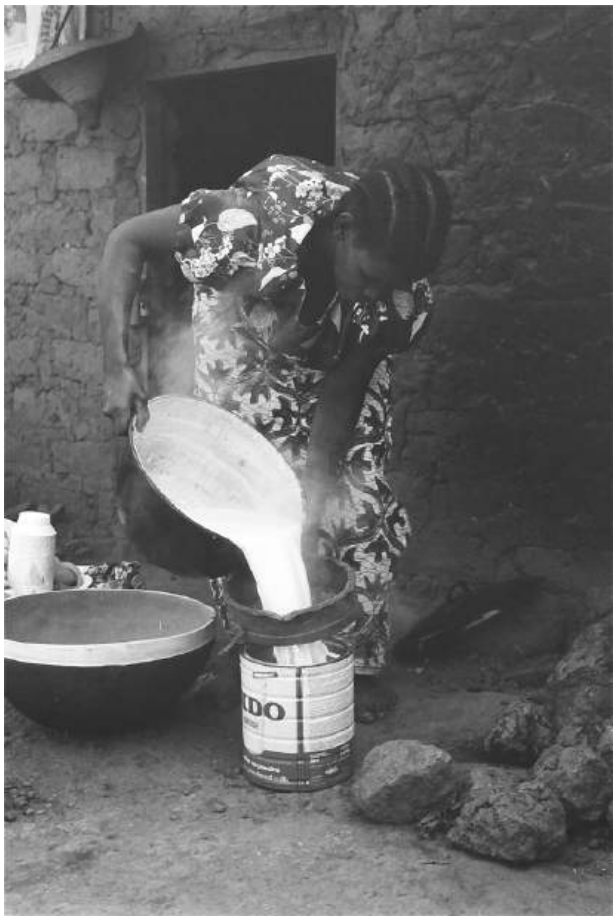
[12] "Fura" and "nono" are Hausa words, Hausa being the *lingua franca* in markets throughout north and central Nigeria and in many other parts of West Africa.



Churning butter





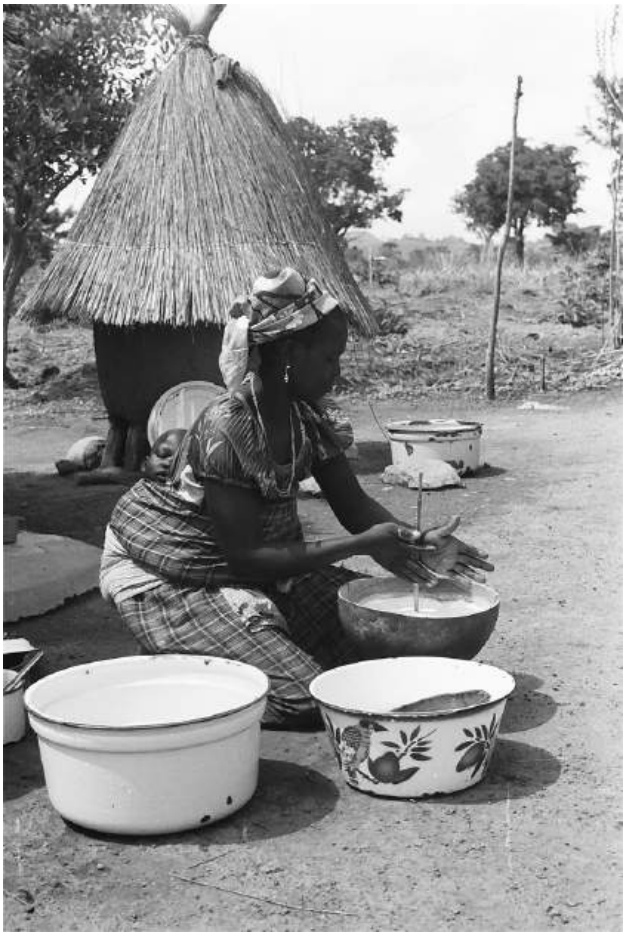








Preparing nono to sell with fura balls







Preparing fura balls to sell with nono



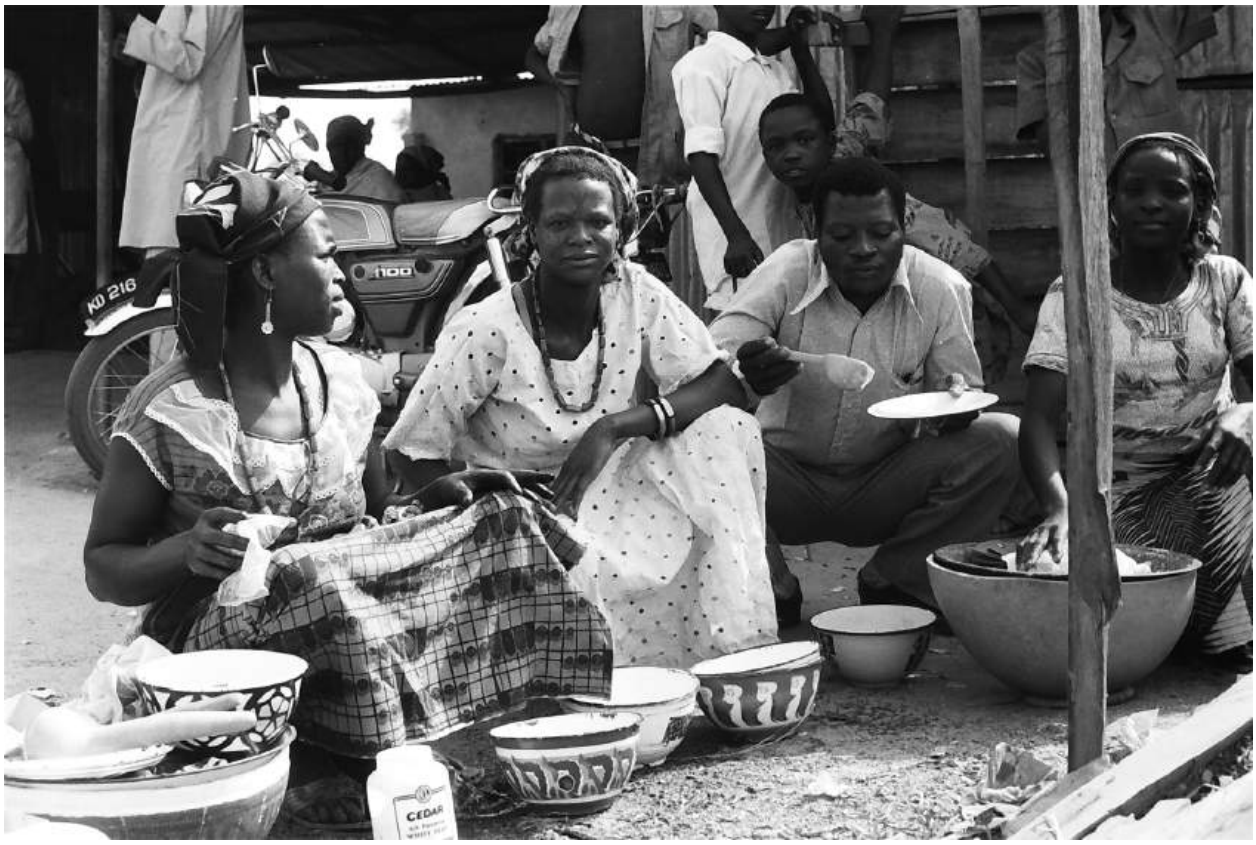


The girls assist in herding and milking only if there are not enough boys to do this work. The Kaceccere Fulani men are not keen to let their wives milk, because they fear that the women will take off too much milk and not leave enough for the calves. Depending on the ownership of cattle by her husband, herself and her children as well as on the total number of women in the *ruga*, each woman is given her due portion of the milk that the men and boys extract from the family herd. She determines how much milk will be consumed by her dependents and how much will be sold as butter or as *nono*.













The Fulani women and their daughters sell the milk products to farm families living close to the *ruga* or to workers in the fields, and at village markets. Most women sell every second day, but may sell more often if they are selling also on behalf of other women or during the wet season, when the family herd produces more milk. Women in families with relatively small herds often buy *nono* from women in families with larger herds, to sell it together with *fura*. Customers prefer to buy *nono* mixed with *fura* at the time of purchase, as a common midday meal. Women who sell both products can earn more for their *nono* than if they sold it without *fura*.







Crop farming is primarily a male domain in the settled Fulani households. The women assist occasionally in planting and harvesting but more commonly in carrying home the harvested crops and preparing grain for storage. The women say that their dairying and marketing tasks leave them little time for crop farming. They do, however, invest time in growing vegetables that would otherwise have to be bought out of dairy earnings. Because supplying the family with grain is the responsibility of the household head, he and his sons must organise their time so as to handle both animal husbandry and cropping activities.





The men derive their cash income mainly from livestock sales, which bring in large sums at irregular intervals. An animal is sold when cash is needed for major expenses such as marriage or a child-naming ceremony, hospital fees, or the purchase of bags of grain, a radio or cassette player, a bicycle or motorcycle, or a pilgrimage to Mecca. Because dairy sales are more or less regular, the women are more likely to have a steady supply of cash on hand and can thus make small daily or weekly purchases of household supplies.





From an average Fulani family's cattle herd in Abet, the annual income from animal sales is about one and a half times the official Nigerian minimum wage. From the sale of dairy products surplus to family needs, a Fulani woman earns on average an additional one fifth of minimum wage. Both men and women derive some further income from selling poultry, sheep and goats. Handcrafting is occasionally practised for profit: women may sell crotcheted baby clothes or embroidered bed garnitures, and men sometimes make ropes for sale to transhumant Fulani and owners of large herds. In recent years, interest has grown in small-scale retail trade: three Fulani men have opened small shops in the Abet area and a few Fulani women buy commodities such as palm oil or kerosene in nearby towns for resale in small quantities to customers who come to their *rugas*.

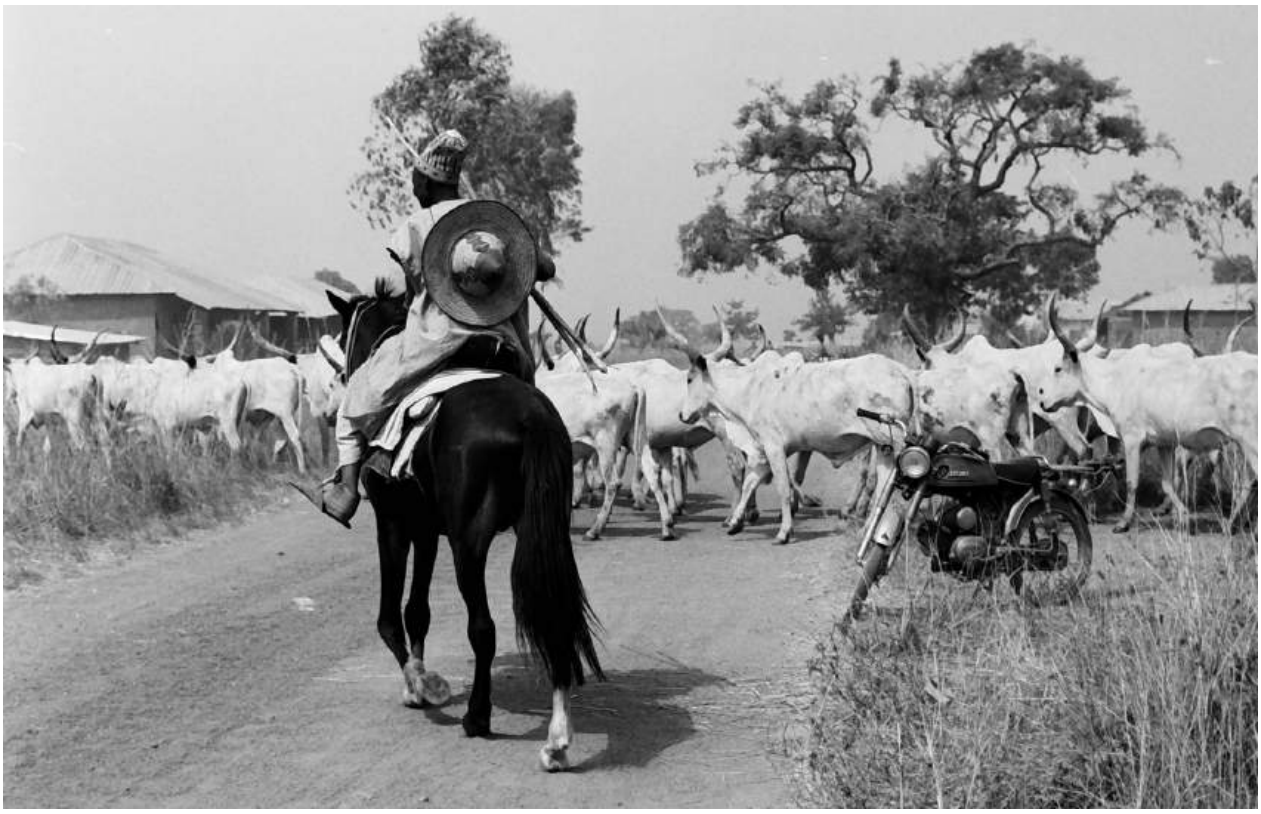




Fulani women are expected to meet all the costs associated with their own income-earning activities, and have complete control over their earnings. The men must meet costs associated with livestock and crop farming, such as veterinary care, supplementary feed or fertiliser (e.g. goat manure). To cover these expenses, the men normally receive no contribution out of the dairy earnings of their wives.

Relations between settled and transhumant Fulani

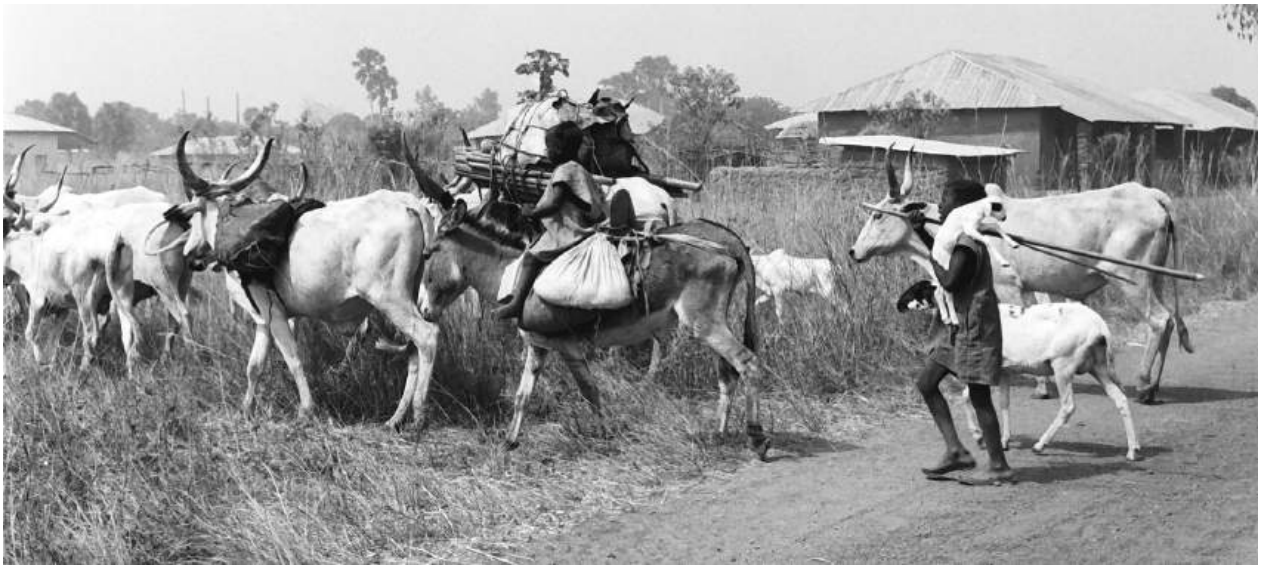
Not all Fulani pastoralists who bring their herds to Abet have decided to settle there. Each dry season, the plains are traversed by long files of cattle including pack-laden steers, accompanied by flocks of sheep and sometimes goats, followed by small children on donkeys and by women and girls head-carrying several calabashes each. Inconspicuous low domes of branches and leaves or cones of sorghum stalks are quickly erected as shelters – and may be abandoned again after only a few days. These are the herds and camps of the transhumant Fulani, generally called Bororo by the Kaceccere Fulani and farmers. The Bororo speak a different dialect of the Fulfulde language than do the Kaceccere.



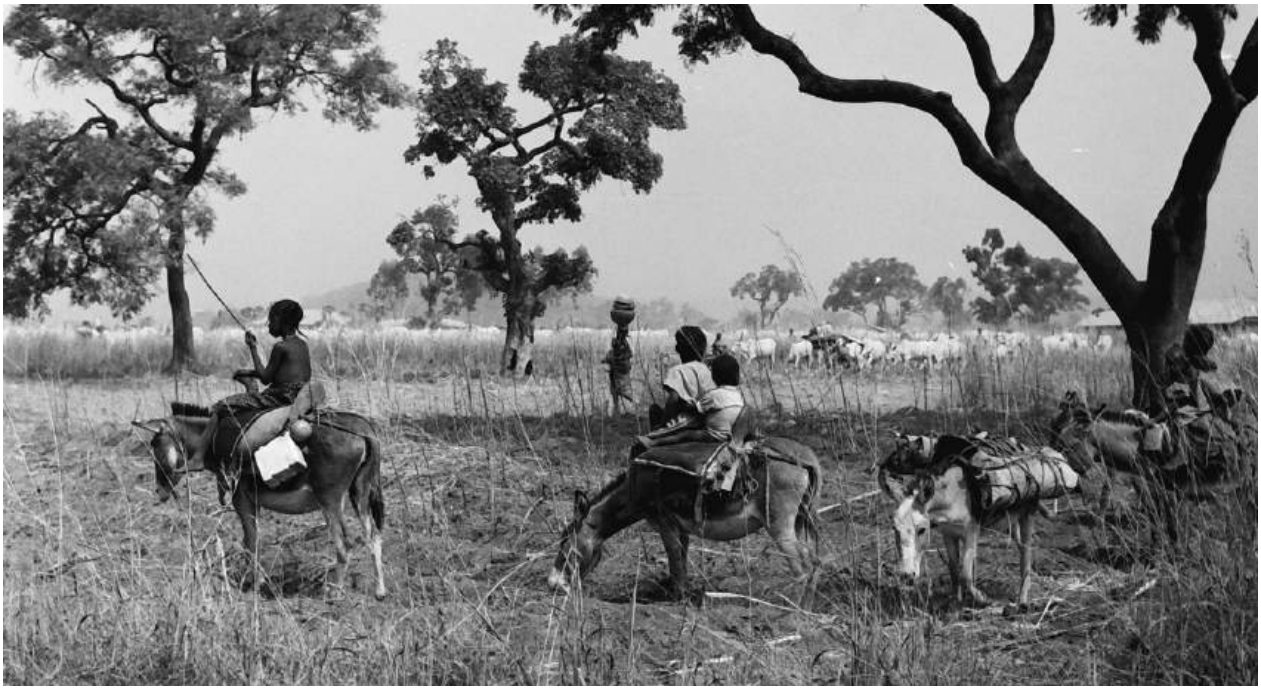
In November, while harvesting is still in progress, Bororo herds moving southwestward from the Bauchi area in northeastern Nigeria stay briefly in Abet as one of their regular resting places on the way to dry-season grazing areas around Abuja above the confluence of the Niger and Benue Rivers. In April or May, when the first rains fall, they pass through Abet again on their return trek to their wet-season bases.

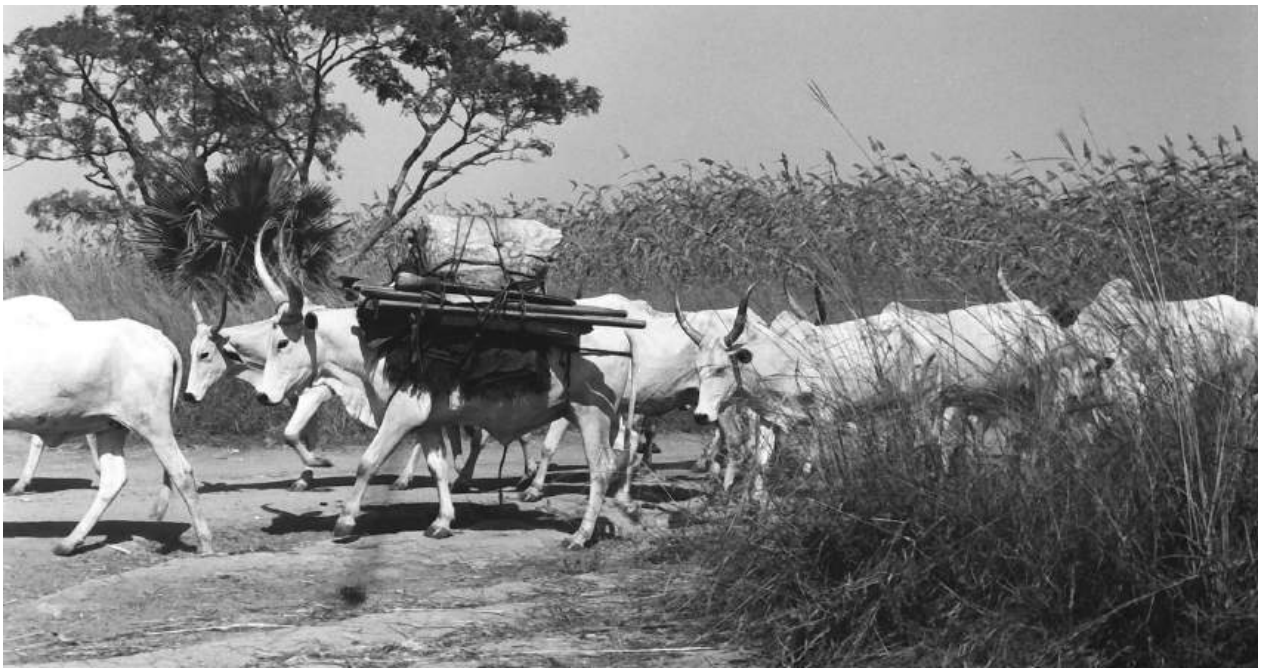
In January and February, a second wave of Bororo moves south from around Kano in northern Nigeria, where they have already harvested crops and grazed the crop residues. Most head for dry-season grazing sites further south of Abet, but some camp on the Abet plains for four or five months, before returning north in June. They have travelled 300 km or more, moving their herds about 20–30 km a day on two to three days per week. Each year, they follow the same

route and camp at roughly the same sites, sometimes on the same farmer's field as in previous years, unless news of livestock disease induces them to leave their accustomed paths.

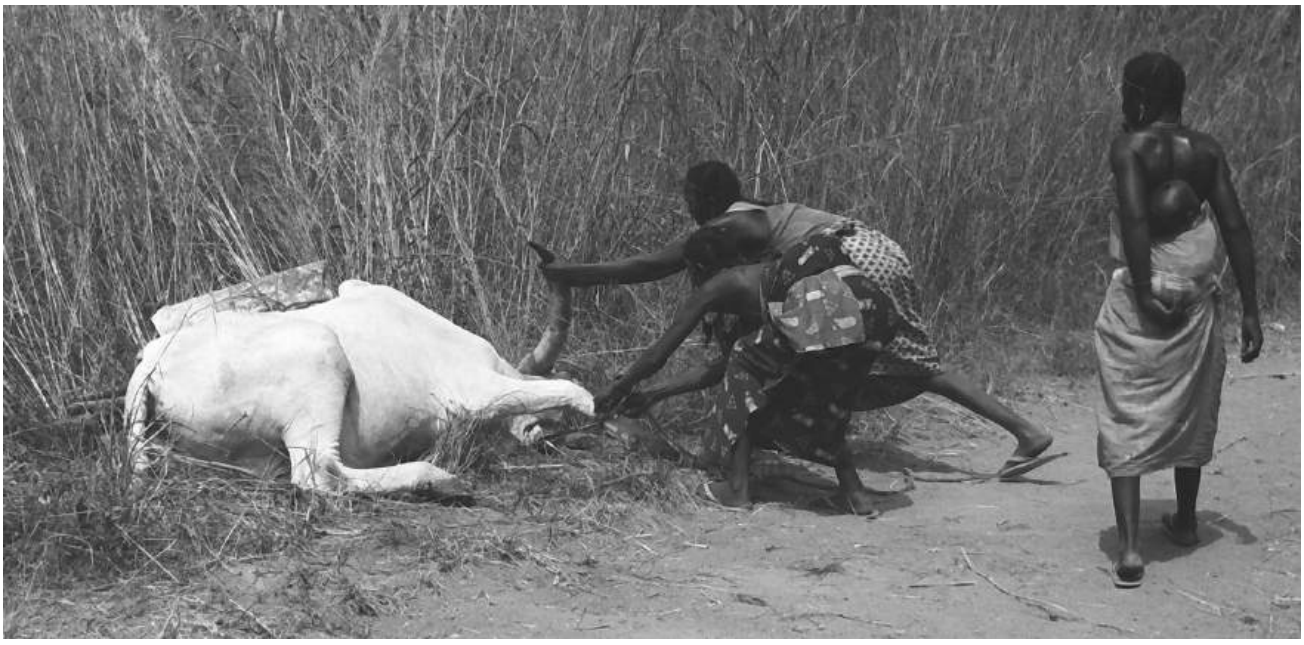


Some Bororo leave their small children and elderly family members behind at their wet-season bases, but those who spend all the dry season in Abet come with their entire families. The Bororo do not cultivate land in Abet but generally do some cropping around their wet-season bases in the north. The transhumant Fulani, who tend to have large herds, may be better able than the settled Fulani to rely mainly or even exclusively on livestock products for their livelihood. Herds of well over one hundred and even the occasional herd with several hundred head of cattle can be seen on the Abet plains in the dry season.





Some settled Fulani are personally acquainted with the transhumant herders who come to Abet each year, and a few have married Bororo women. However, the general attitude of the Kaceccere Fulani toward the Bororo is one of reserve. The settled pastoralists fear that the transhumant herds will bring disease to their own cattle, and they resent the fact that crop residues and *fadama* grazing needed by their own herds are consumed by Bororo stock passing through "like locusts". The influx of Bororo herds almost doubles the grazing pressure in Abet in the dry as compared with the wet season, when only the resident herds remain. There is a widespread feeling among the settled Fulani that the only solution to the "Bororo problem" is to make them settle, although preferably not in Abet.





Bororo Fulani setting up camp in Abet



The *ardos* (leaders) of the Kaceccere Fulani keep themselves informed about the movements of the transhumant herds and are particularly anxious to locate any diseased animals among them. Herds with animals suspected of carrying diseases that could endanger local stock are isolated by order of an *ardo* until government veterinary officers have examined and treated the animals.



The Bororo are also unpopular among the settled Fulani because the availability of produce from the large transhumant herds tends to reduce the local prices paid for dairy products, livestock and manure. The Bororo women, who come in groups to the various markets, are easily recognisable by their intricately braided and decorated hair and their elaborate jewelry. The settled Fulani women are less extravagantly ornamented and coiffured, but they have much more strikingly carved and decorated milk calabashes. The settled Fulani women complain that they are obliged to keep prices low when the Bororo women bring milk and butter at a time of year when dairy products would otherwise be scarce and fetch high prices. The indigenous farmers, on the other hand, welcome the Bororo because they provide milk, manure and meat at a time when most needed and disappear again before the cattle can damage crops. Some settled Fulani also welcome the Bororo because they provide opportunity to buy relatively inexpensive animals.

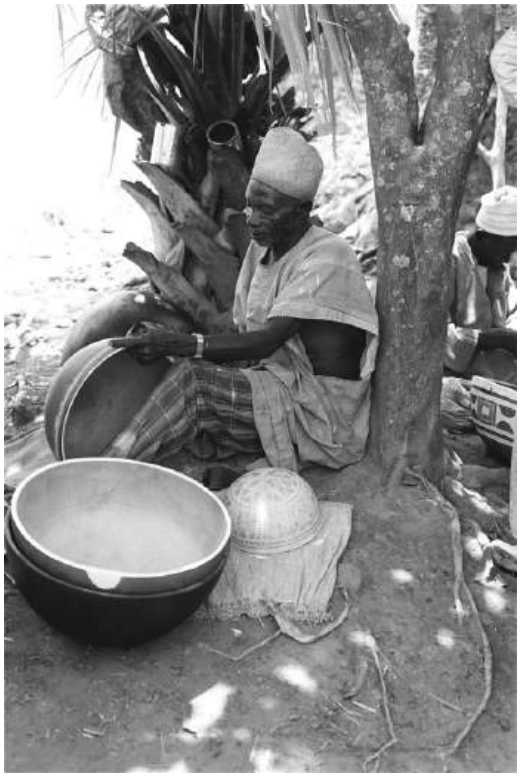


Occasionally, a Bororo family does not move north again when the rains begin. This may be because a family member is ill and cannot travel, or because reports of widespread disease north of Abet convince the herd manager that his animals have a better chance of surviving if they do not move on. In such cases, the family will normally start moving again as soon as the situation has improved. However, there are a few Bororo living in the Abet area who decided to remain for a wet season and, after seeing that their cattle fared well, continued to stay. Even if these Fulani remain for several years in Abet, they are still called Bororo, because they do not belong to one of the Kaceccere lineages.





Relations between settled Fulani and local farmers



Hausa man carving calabash designs

The Kaje (Hausa name for Bajju) and Kamantan (Hausa name for Angan) regard the Abet plains as their heritage and permanent home, and regard the Bororo and Kaceccere Fulani as more or less transient inhabitants. After the British colonisers enforced peace in Nigeria at the end of the 19th century, the Kaje and Kamantan moved down from their hill settlements to the plain. Also some Hausa farmers moved in; most of them practised some craft or trade as a sideline to farming, and the local farmers welcomed the Hausa's skills and products, especially the tools made by Hausa blacksmiths. During each dry season, the Hausa inhabitants in the Abet area are joined by kinsmen from the north, who offer such services as making pottery, cutting calabash designs, carving mortars and pestles, transporting goods with their donkeys, selling imported commodities such as salt and kolanuts, and purchasing farm products such as ginger and locustbean cakes (*daddawa*) to be resold on the Kano market in the far north of Nigeria. In the Hausa settlement on the Abet plains are the marketplace and two mosques, which are also visited by the Fulani.

The Kaje and Kamantan settlements are sprawling collections of thatched mudbrick buildings. The number with roofs of corrugated metal sheets has increased rapidly in recent years. A few of the longer established Fulani families have also adopted this housing style. The dwellings of these pastoralists are scarcely distinguishable from those of the farmers, except that the farmers' compounds are surrounded by high, impenetrable hedges of euphorbia.

The natural conditions of Abet permit cultivation of both the cereal crops predominant in the drier north of Nigeria and the root crops of the more humid south. The main cereals of the local farmers are sorghum, millet, maize and rice, and the main root crops are yams, cocoyams and cassava. Legumes such as groundnut, soybean and cowpea are commonly planted in mixtures with the cereals. Other crops include sweet potato, okra and pepper. The major cash crops are rice and ginger, which are traded to the north primarily by Hausa men.

The Kaje and Kamantan also collect products for home consumption and sale from trees, both those planted close to the compound and those in fields cleared and claimed by the family. The most important economic trees are locustbean, sheanut, papaya, guava, mango, citrus and various types of palms that provide oil and wine as well as raw materials for building (notably the termite-resistant wood of the fan palm *Borassus aethiopum*) and for the weaving of baskets,



Preparing locustbeans for making dawadawa

mats and ropes. The locustbean (*Parkia biglobosa*) is the most valued tree. Each one has an owner. The pulp of the pods can be eaten by people or livestock and the kernels made into daddawa, black cakes used as seasoning for soups and gravies. The pods can also be used to make a tempering agent for pounded mud floors; the bark is widely used for medicinal purposes. To make *daddawa*, women are increasingly using soybean as a substitute, as the locustbean trees are limited in number and mature slowly. Moreover, women in families without such trees in their fields must buy locustbean pods, either in the market or on the trees before harvesting, whereas they can grow their own soybeans. However, *daddawa* made from locustbeans is still preferred and commands a higher price. *Daddawa* made from soybean is usually sold by traders who transport it by truck to Kano and even into Niger.

In addition to crop farming, the Kaje and Kamantan rear goats, sheep, pigs, chickens, ducks and dogs, primarily for sale. Some farmers also own a few cattle, which they place in the care of a Fulani neighbour and sell to local butchers when the farm family urgently needs cash, for example, for house construction or marriage expenses. The farmers also collect honey from beehives, which they construct out of mud and cattle dung, with a thatched roof, and then place in trees to attract wild bees. The Kaje and Kamantan have retained their hunting skills with bow and arrow and locally made shotguns, even though game has now been reduced to bush rats, monkeys, antelopes and lizards.



Kaje thatched beehive in tree

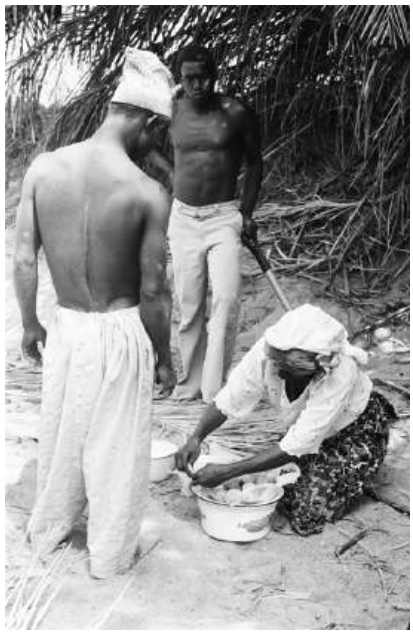
Among the Kaje and Kamantan, both men and women are active in marketing crop products and livestock. The women also sell prepared foods such as bean cakes, pounded yam and fried fish, but the most popular nourishment made by the women is beer. Each day of the week, a different woman in a given neighbourhood brews beer from sorghum; the location of the "bar" for the day is general knowledge in the area. Large quantities of this and other alcoholic drinks are prepared for the weekly Tuesday market in Abet. As the day progresses and the Fulani women, having sold their milk and butter, leave the shade of a large mango tree on the marketplace and return home, a crowd of Kaje and Kamantan men and women gathers under the shade of a second such tree, where *burkutu* (sorghum beer), *buza* (sorghum and honey beer) and, when in season, *bammi* (palm wine) can be bought from the farmwomen-brewers and consumed on the spot.



Making sorghum beer

Most of the Kaje and Kamantan people have adopted Christianity in the last 30–40 years. The numerous churches scattered over the plains testify to the wide variety of Christian denominations present in Abet. A small number of Kamantan and even fewer Kaje have been drawn to the Muslim faith. Almost all the Fulani and Hausa are Muslim.

Synergies between herding and cropping



Fulani woman selling fura da nono to farmers in the field

The Kaceccere Fulani chose to settle in an area of central Nigeria with a relatively high density of cultivation, yet the local farmers have willingly accepted the Fulani's presence, as each group benefits from being close to the other.

Trade. Livestock and crop producers are drawn together by mutual marketing opportunities. The Fulani women find nearby customers for their dairy products in farmhouses, fields and villages. They usually sell for cash but, at the time of cereal harvest, they often exchange milk and butter directly for millet or sorghum and receive additional bundles of unthreshed grain as gifts from their neighbours and customers.

Kaje and Kamantan farmers buy cattle from the Fulani for family festivities, for fattening or as an investment of earnings from crops. However, most livestock sales are to Hausa butcher-traders, who come to the Fulani camps to negotiate the sales. These animals are then led to a point where they can be loaded onto a pickup truck for transport to nearby towns, where other traders arrange further transport by truck or rail to larger cities in the south.

Because few Fulani grow enough crops to meet their needs and some with relatively large herds or other sources of income grow no crops at all, the settled Fulani generally depend on the farmers to supply food staples. Fulani men buy the cereals, while the women buy many of the complementary foods as well as the millet they need for *fura* to sell with *nono*.

Farmers who collect thatch can sell this to Fulani men who need it for hut construction but have no time to collect the thatch themselves. Similarly, farmwomen who collect firewood in the bush can sell it to Fulani women who cannot fetch fuel themselves. Fulani women, in their turn, earn a little money from farmwomen who come to the *ruga* seeking bran for use as pig fodder.

Labour exchange. The farmers avail themselves of Fulani herding skills by entrusting cattle and sheep to be tended by the settled pastoralists. The Fulani gain the milk and manure of these animals and, depending on the specific agreement, perhaps one of the offspring every two or three years, or a bag of *kanwa* for the herd or some grain for the family. Similarly, some farm families care for the goats of Fulani men and women in return for a kid every year or so; here, again, agreements vary.



Fulani agropastoralists in central Nigeria

A small number of Kaje and Kamantan men and youth can understand the Fulfulde language as a result of having spent a few years as boys herding for the settled Fulani in return for food and lodging plus a bull per year or a heifer every two years. However, this practice is declining as more farm children are going to school for longer periods of time.

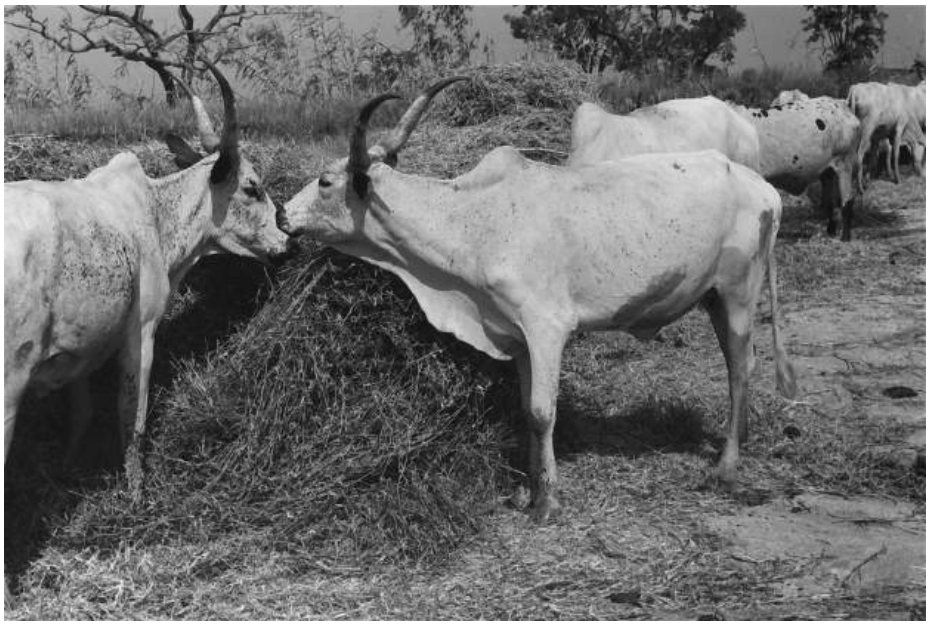


Granary in Fulani compound built by Kaje expert

The Fulani appreciate the local farmers' skills and hire them for field labour, as well as for building mud-walled granaries and houses and for digging wells.

Crop residues and manure. Another advantage for pastoralists living close to crop farmers is the quality of grazing on harvested and fallow fields. Particularly attractive is the plentitude of sorghum, millet, rice and bean residues, which cattle and sheep eagerly consume. The Fulani recognise the valuable contribution of these residues to the diet of their animals – boosting milk production, favouring calf conception, and building up body reserves to help tide the stock over the dry season. The crop residues on the Fulani's own small fields are not enough for the herds; farmers' fields are larger and more numerous. The farmers, in turn, benefit to a small extent from the manure and urine deposited by the grazing animals and from the removal of plant debris and the incorporation of some of the residues into the topsoil by the cattle's hooves.





More substantial manuring benefits are gained when cattle are kept overnight on farmland during the dry and early wet season. Farmers are particularly keen to hire Fulani herds to manure plots where ginger will be grown. Payments are calculated according to herd size and duration of manuring and are made in cash or kind, the latter including grain, thatch grass and Fulani settlement rights on the farmer's land. Some farmers invite local Fulani to bring their herds immediately after harvest to graze crop residues, in the hopes of laying claim to large amounts of manure through overnight kraaling on the farmers' fields later in the season. Others seek out transhumant Fulani and ask them to camp with their large herds on the farmland, and may even break down the ridges so that the campsite will be more comfortable and provide sorghum stalks for building temporary huts.



Bororo Fulani camp on farmer's field in Abet



Abet farmers collect cattle dung free of charge from wet-season enclosures of Fulani cattle. Farmwomen carry the manure in large baskets on their heads and spread it over the cropland. Some farmers use bicycles to transport sacks of dung to their fields, others hire itinerant Hausa donkey drivers for this purpose, and the richer farmers transport manure by pickup truck.

Farmers also cultivate abandoned Fulani campsites or negotiate to plant a crop, usually ginger, on former cattle camp areas beside still inhabited *rugas*. The Fulani find it advantageous if the farmer does the initial hard work of cultivating the compacted soil where the cattle have been camped; the residual effects of the manure on soil fertility can still benefit the Fulani's own crops in the subsequent year or two.

Despite the availability of chemical fertilisers in Abet in recent years, demand for manure is still high. Chemical fertiliser has a more concentrated effect than manure but must be applied each growing season, and the farmers can never be sure that the fertiliser will arrive in time. Dung releases its nutrients more slowly, so that the effect on soil fertility lasts over two to three years. Its organic matter content also improves soil structure. Particularly for their ginger fields, the farmers are adamant that only cattle manure and not chemical fertiliser can be used.

Land sharing. Traditional land rights on the Abet plains are held by the Kaje and Kamantan. The Fulani make arrangements with farmers for rights to use their land for dwelling and cropping. Sometimes, the matter is discussed with and given approval by the leader and elders in the farming community. Agreements may involve a time limit of only a few years; a farmer who wants to cultivate a fertile cattle camp then requests that the Fulani family move to another site on his land or on land of another farmer in the area. More commonly, however, no time limit is set. Some older farmers whose sons have left for schooling or work outside of Abet know that they personally will not be able to work the land loaned to the Fulani and doubt whether their sons will return to Abet to help them.



Some of the Kaceccere Fulani offer the local farmers a small gift for permitting use of the land for dwelling and cropping. This usually consists of no more than a few Naira, meant for kolanuts, and is called “kola money”. The Fulani may obtain additional arable land not contiguous with the *ruga* site on loan from farmers, in which case it is more common that a small token of appreciation is given each year for as long as the plot is used. This rarely takes the form of beer (which is the traditional token gift for land leasing among the Kaje and Kamantan) but more often consists of cattle manure plus the occasional gift of a calf or meat. These gifts are not regarded as direct payments for using the land and are often reciprocated by small gifts of seed, millet transplants or goat manure from the farmers to the Fulani.

Some Kaceccere Fulani men have negotiated marriage with a Kaje woman as second, third or fourth wife, in an attempt to have better relations with the local crop-farming community and to have more secure access to land use in the area.

Until recently, it was generally understood by the Fulani and local farmers in Abet that herds may graze any uncropped areas during the growing season, except those set aside for collecting thatch grass, and that they may also graze all the harvested fields in the dry season. Occasionally, the Fulani asked permission of a farmer before entering his field with the herd, but this was generally not regarded as necessary unless the farmer was still in the process of harvesting or if the field was directly adjacent to the farm compound.



Fulani boy herding Bunaji cattle (Photo: Wolfgang Bayer)

The widespread exchange of products and labour and the sharing of land resources between farmers and Kaceccere Fulani do not, however, preclude discord. Although very close economic links and even friendships have developed between some farmers and Fulani who have been living for several years in the same area, ethnic and religious differences generally create a social distance between the two groups, and also their economic pursuits do not always complement each other. Minor incidences of conflict between individuals from each group can easily put a strain on relationships. Such an incident recently led to a group decision by farmers in one hamlet not to allow Fulani cattle to graze their harvested fields. Only after intensive negotiations between Fulani and farmer leaders could the tension be eased, but now the Fulani must ask permission of the field owners in that specific area for stubble grazing.



Conflicts occasionally arise over grazing rights when Fulani herd their cattle on fallow fields near compounds where farmers' goats and sheep are tethered in the wet season. The farmers say their families have more work to take their small stock further afield for grazing, once Fulani cattle have eaten out the good pasture near the farmers' homes.

The greatest source of conflict is crop damage. In the eyes of some farmers, notably those not growing ginger, the availability of commercial fertiliser has reduced the need to tolerate the presence of the Fulani and their herds and has increased the farmers' inclination to take cases of crop damage to court. However, by far the majority of incidents are resolved out of court, either directly between the farmer and herder concerned or through mediation by the leaders of the farming and the Fulani groups. The herder is normally required to pay compensation to the farmer, sometimes in cash and sometimes by providing manure for the farmer's fields. However, if it is obvious that a farmer had deliberately planted across a generally recognised cattle track, the herder is generally not liable.

A thermometer of tensions between Fulani and local farmers in Abet would show fluctuations from season to season and from year to year. The constant change in relations between the two groups raises consciousness of their sensitive mutual dependence and spurs the efforts of influential individuals in each group to maintain the generally peaceful co-existence.

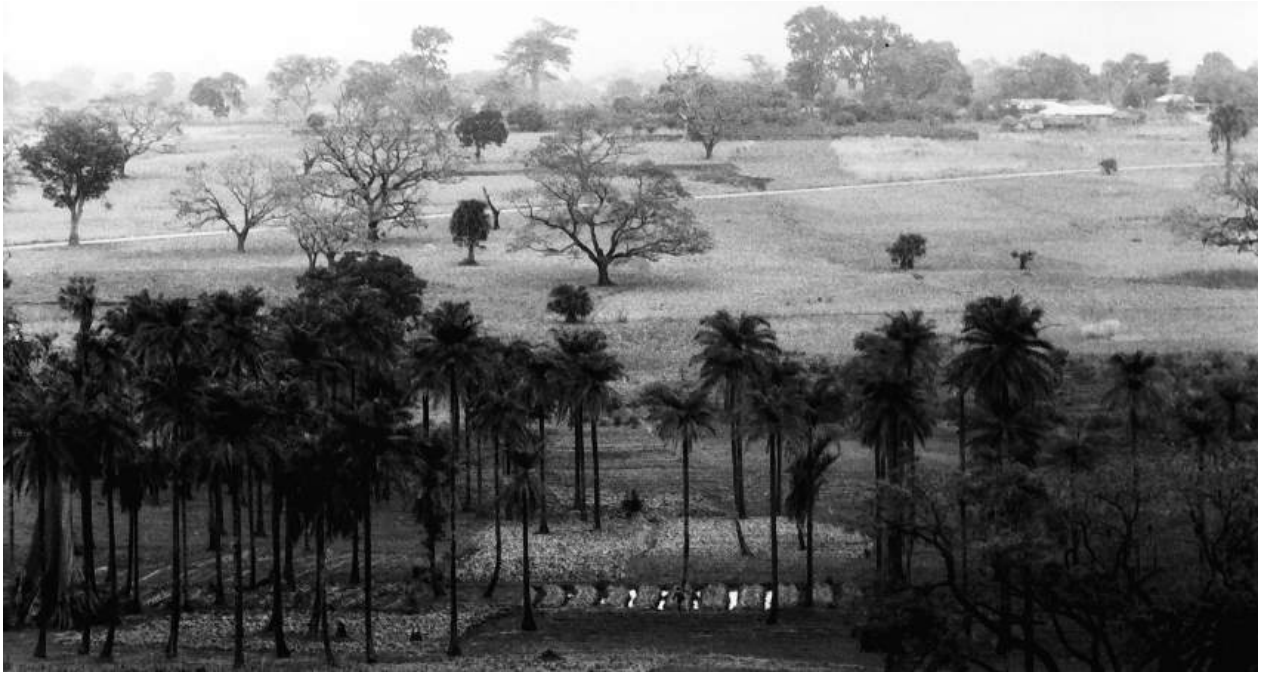


Changing times

In recent decades, the Kaceccere Fulani have witnessed several changes in conditions for grazing and crop farming. Because most local farm children now go to school, and many young people are attracted to move to the cities, the Fulani have greater difficulty in finding boys or young men to hire for herding or cropping. Older Kaje and Kamantan farmers lack young, strong hands to bring fallow land back into cultivation or to clear new land. More manure and chemical fertilisers have become available to maintain soil fertility on existing cropland. This has led to more continuous cropping and hence fewer areas of recent fallow for the Fulani cattle to graze.

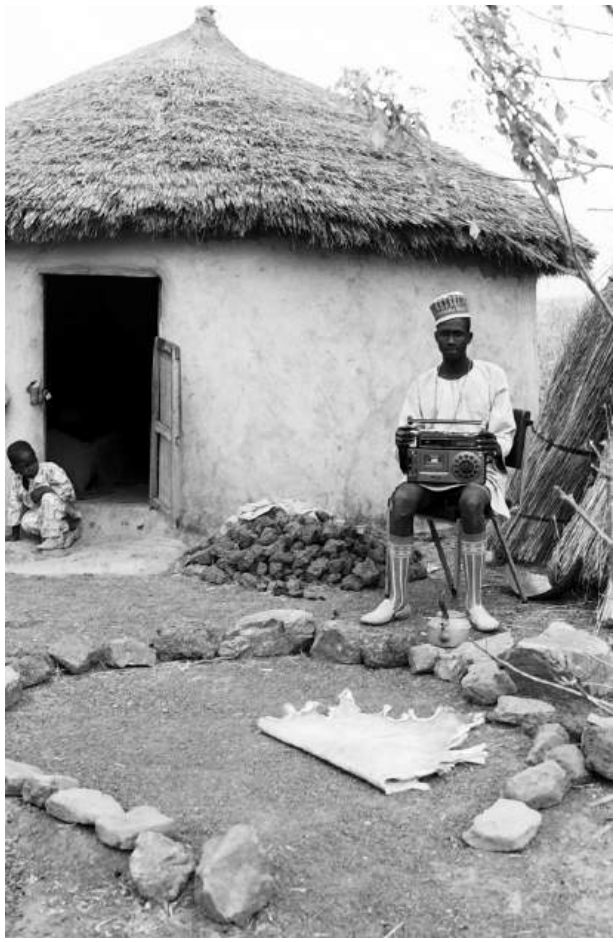
Longer use of the same fields by Kaje and Kamantan farmers may, in turn, make it easier for the Fulani to obtain sites for settlement and longer loans of cropland from the farmers. The areas used by the Fulani are often abandoned "bush farms" that tend to be further from the roads and closer to the hills than the main present-day areas of farming by indigenes. Kaje and Kamantan elders estimate that total area cultivated by their fellow farmers is decreasing somewhat, but the reduction is more than balanced by the expansion of Fulani farming which, the elders say, has been particularly noticeable in the last five years.

In addition to upland fields close to their *rugas*, Fulani men and women seek *fadama* plots for rice and cocoyam, but they find them only with difficulty because these areas are also coveted by the indigenous farmers. Sometimes, farmers loan *fadama* plots to the Fulani for one or two seasons, then reclaim the land in order to benefit from the residual effects of the manure that the Fulani use to fertilise their rice. Availability of grazing resources is not seriously affected because, while the rice is growing, the animals are eating millet and sorghum residues on upland fields and, after the rice harvest in late December, *fadama* grazing becomes available for the rest of the dry season. Moreover, the rice regrowth after harvest offers often better-quality forage than the more mature *fadama* grasses.



Attitudes and expectations

The Fulani elders have also witnessed changes in the attitudes and expectations of the younger generations. An elderly Fulani man, reclining in his wooden deckchair beneath the *ruga* mango tree, expresses relief that he does not have to endure the "suffering" of constantly moving camp in his old age yet still has the satisfaction of daily contemplation of the family herd now under the management of his married sons. "The cattle lie down peacefully at night; they are not restless. When they get up in the morning, their coats are shining." This is his proof that the Abet plains, where he chose to settle, are good for the cattle and therefore good for the Fulani. However, this soothing sight of healthy and contented cattle is not always the ultimate in satisfaction for his adult children and his grandchildren.



Since the Fulani settled, their awareness of Islamic teachings and values has been heightened through continual contact with fellow believers. One of the elderly man's sons, who has made the pilgrammage to Mecca, now sees his calling as a *malam*, promoting a deeper understanding of Islam. Another son has sought political leadership among the Fulani of the area where the family had been living previously and prefers to stay there and consolidate his political position rather than seek better grazing grounds for his cattle.

Other retired pastoralists visiting the old man in his home, sharing his proffered refreshment of sorghum porridge mixed with sour milk, talk about the changes that government education is bringing. Many Fulani boys and girls in Abet ask their fathers to be allowed to attend school, and some parents encourage one or two of their children to learn things other than animal husbandry and dairying. The old men can see only too clearly what is happening: the school is taking the children away from herding and, once they have some formal education, they no longer want to care for the animals. If things go on like this, the old men agree, there will eventually be no-one left to "follow the cattle".

Even young Fulani who have not attended school are putting other concerns above those of the family herd. They like to buy modern things such as bicycles and motorcycles, even cars or small buses to start taxi businesses. Almost all the young men now have watches, radios and cassette players, a few have pocket calculators, and there are even Fulani with battery-operated television sets in their *rugas*. To be able to afford such purchases, the Fulani have to sell cattle.

According to the old men, that is why the herds in Abet are getting smaller, and the Fulani have to do more cropping to be able to feed the family.

Some younger men claim that grain is getting more expensive in comparison with milk, so that it is no longer possible – as it may have been in their fathers' prime time – to obtain enough grain for the family to eat in exchange for the milk products sold by the women and, as a result, the men have to sell animals to acquire grain. A few Fulani even say that the availability of good farmland, rather than good pastureland, is their main reason for staying in Abet although it was initially not the main reason for settling there.



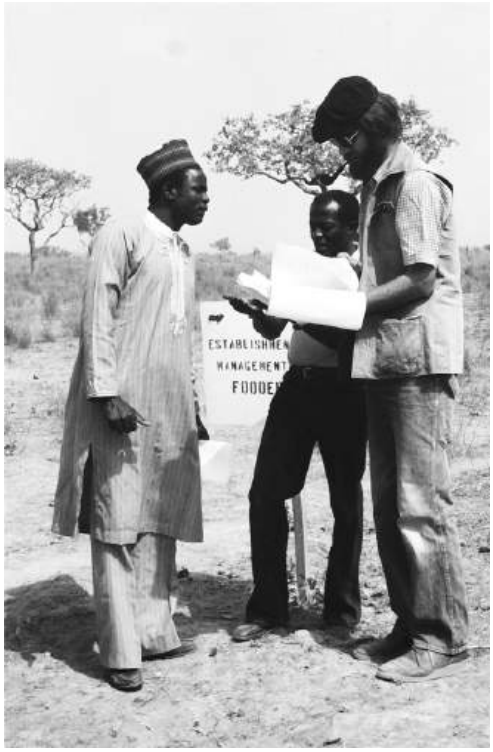
Not all Fulani women agree that the price relations between grain and milk have changed so drastically, but they definitely feel that they are not receiving as much milk from the herds as in previous decades, for several reasons. Most women claim that the herds are getting smaller; possibly the cows are not producing as much milk as before. The women suspect that the men are not taking as much milk from the cows but are rather leaving more for the calves, so that these will grow more quickly. Whatever the reasons, the women's milk earnings cannot provide for the grain needs of the family. One Fulani woman added, pointing to the four-poster iron bed and glass-doored wooden cupboard in her room and the corrugated iron roof above her head: "You can't buy such things with milk money."

The Kaceccere Fulani have acquired a taste for the material goods that oil-producing Nigeria has manufactured or imported on a large scale in recent years, and settlement has made it easier for them to possess objects that would encumber a household on the move. Yet the cost of manufactured goods is rising, and many of the foodstuffs and goods that the Fulani have come to regard as necessities rather than luxuries cannot – at present levels of agropastoral production – be purchased without eating into the herd capital on which the family primarily depends.

Seeking to increase agropastoral production

Whatever used to be the case, the present level of production in Fulani herds in Abet is fairly low – similar to levels in other low-external-input pastoral systems in the tropics. On average over a year, about 0.7 litres are milked daily from each cow, and an average-sized herd of 50 cattle has about ten lactating cows at any one time. Milk yields fluctuate according to season: the highest level of about one litre per cow is reached in the early wet season. In an average herd, usually no more than ten calves are born each year, but one or two die before one year of age. Each year, about five or six animals are slaughtered or sold from the herd.

The Fulani regard their greatest problems in pastoral production as animal health and nutrition. These are closely linked: a poorly fed cow is less able to withstand disease than a well-fed one. The pastoralists are eager to have their cattle vaccinated, especially when they judge their herds to be in danger of contracting a disease, and also seek other forms of veterinary treatment –both traditional and modern. They are willing to spend substantial sums of money for these services and medicines. They also buy byproducts from crop processing, such as cottonseed cake, to feed their cattle in the dry season. However, such feedstuffs are in short supply relative to the number of livestock (not only cattle) in Nigeria, and prices are rising.



For this reason, many Fulani are observing with interest the current experiments in Abet with sown forage plants to be used for dry-season grazing. Working together with the Fulani, ILCA's scientists are testing so-called "fodder banks" – fenced areas of about four hectares of legumes that can be grazed for a few hours daily in the late dry season to supplement regular grazing. The soil is prepared for sowing by means of overnight trampling by cattle over several weeks during the wet season. Forage legume seed, mixed with chemical fertiliser, is broadcast in the same way that Fulani are accustomed to sowing rice or iburu.

The Fulani would like to see all their animals benefitting from the extra feed, but the fodder banks are too small for this, so only pregnant and milking cows are supposed to graze them. In this way, according to ILCA projections, if a Fulani can use his fodder bank for at least five years, he will gain enough through higher milk yields, more calf births and fewer calf deaths to more than cover the costs for seed, fertiliser and fencing materials. Also, because the legumes can capture nitrogen from the air to enrich the soil, the person who later grows crops in the fodder-bank area – be it the Fulani himself or the local farmer who lent him the land – will benefit from increased soil fertility.

Need for land-use security

To sow improved pastures, even such relatively small ones as fodder banks, secure access to land is needed. In areas like Abet, where local farmers focus their cropping on more productive rather than marginal land, the Fulani can make verbal agreements with farmers for rights to use the more marginal land for at least five years. However, not all Fulani feel secure in these rights, because the attitudes of the crop-farming community toward the Fulani are constantly changing. Desire for greater security of rights to land for grazing and cropping has induced some Kaceccere Fulani to move to the Kachia grazing reserve (called Ladduga) about 50 kilometres further north. Although they recognise that the reserve has fewer *fadama* areas and, because there are also fewer farmers living nearby, there are less crop residues and fewer marketing opportunities, the land-rights issue has superseded these other concerns. A few Fulani are trying to enjoy the best of both worlds by returning to transhumance, spending the wet season in the grazing reserve, where more secure land is available for grazing and cropping and where there is less danger of conflict with indigenous farmers over crop damage, and then taking cattle for the dry season to Abet for its plentiful crop residues and *fadama* grazing.

For the Kaceccere Fulani, the availability of land for growing food and forage crops might change for the worse if the local farmers were to adopt new techniques to alleviate their shortage of labour for cultivation. On land close to major highways in Nigeria, mechanised farming is expanding. If tractors were introduced in Abet, the farmers would be able to work larger areas and might be inclined to reclaim land presently being used by the Fulani. This could upset the whole balance of relationships between the two groups.

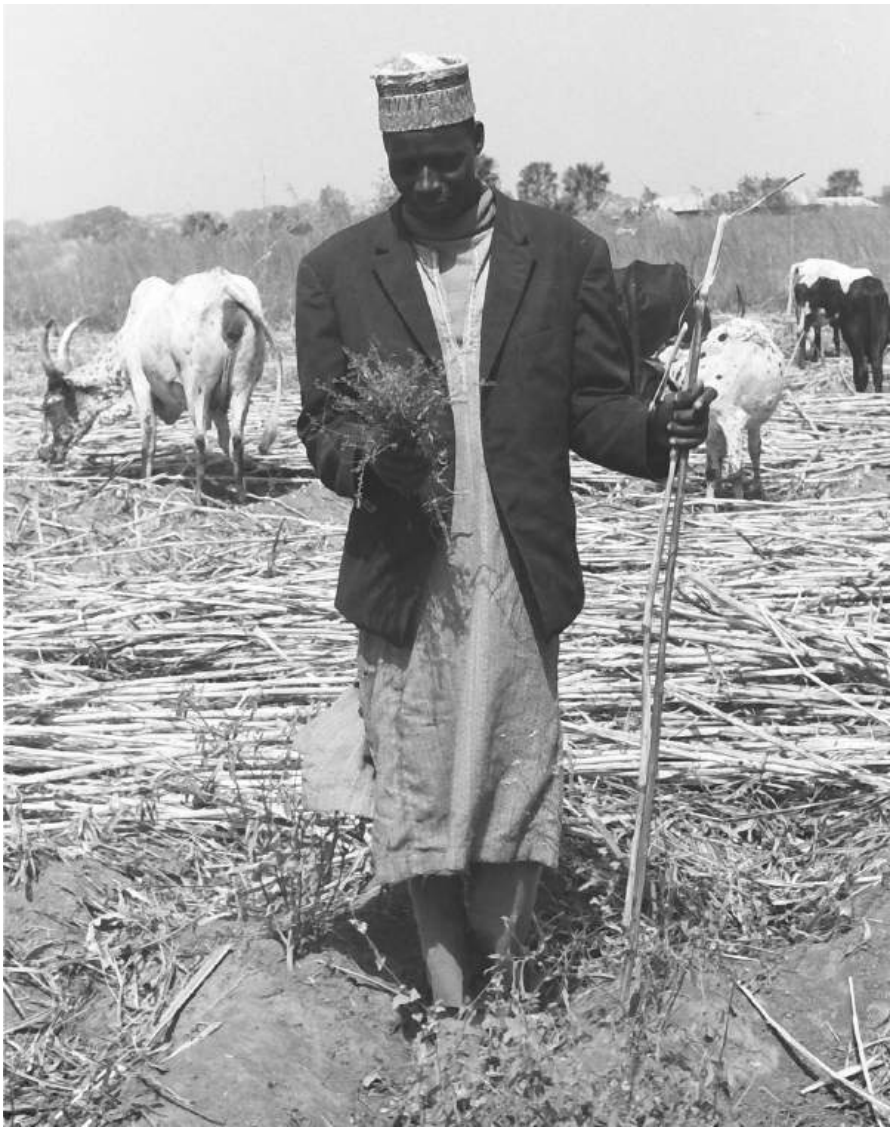
Labour constraints in crop farming could be partially alleviated by the use of draught animals. In various parts of central Nigeria, attempts have been made to harness animals for cultivation, but animal disease, inadequate nutrition, lack of appropriate implements and lack of experience among most farmers in handling large animals have hindered success. In Abet, a small number of local farmers and Fulani experimented with draught animals but soon abandoned the practice, complaining that it was difficult to graze the animals, to obtain trained replacement animals and to ridge the heavy Abet soils properly. At the present level of draught implement and technique development and advisory services, this innovation is not one that Abet farmers and Fulani regard as suitable for their conditions.



Whatever the prospects in Abet, cultivation is definitely expanding in central Nigeria as a whole. In addition to the natural population growth of indigenous groups,

immigration from the more densely populated regions further north and south has led to a faster rate of population growth in central Nigeria than in other parts of the country. The people are concentrating in areas that are well serviced with good roads, schools and hospitals, and that offer other income-earning opportunities to supplement farming income. Population growth has led to more widespread cultivation and challenging issues of land rights for the various pastoral, agropastoral and mixed-farming groups who have moved into central Nigeria.

Because the human population in central Nigeria was formerly so sparse, immigration and expansion of cropping have brought some advantages for livestock husbandry. Bush clearing and wildlife hunting have been partially responsible for a decrease in the tsetsefly population, making central Nigeria a healthier region for livestock and humans alike. The larger quantities of crop residues offer better dry-season grazing than in sparsely populated areas: aerial surveys by ILCA revealed that areas in central Nigeria with a larger proportion of land being cultivated are also areas supporting a larger number of cattle.



Approach to improving existing production systems

At low levels of external inputs, the integrated use of land for cropping and livestock production can result in higher total yields and greater variety of foodstuffs per unit area than either of these activities alone. Within the crop and livestock production systems themselves, mixtures of crops in the same field (for example, maize and beans with an overstorey of tree crops), mixtures of different species of animals in the same herd (for example, cattle and sheep) and multiple use of livestock (for example, for meat, milk and manure) result in higher yields and lower production risks than sole cropping or livestock production with a sole production aim.

Farmers and pastoralists in Abet and many other parts of Nigeria and West Africa already practise such systems, with a complexity that confounds easy measurement of exact total yields. These are systems that have developed over centuries and are still developing. Both the crop farmers and the Fulani are willing to try out new cultivars, animal breeds and husbandry techniques, and to incorporate successful ones into their production systems. In Abet, this has been evident over recent years in the farmers' rapid uptake of pig raising, soybeans and chemical fertilisers, and the Fulani's uptake of cropping, modern veterinary treatments and supplementary feeding.

However, increasing demand for livestock and crop products, especially in the rapidly growing urban areas of Nigeria, can be met only if the farmers and herders can raise current production levels. Increases could be achieved within the existing integrated systems of crop and animal husbandry through the introduction of forage crops, either in mixtures or in rotation with cereal crops, and – after a higher level of animal nutrition has thus been attained – crossbreeding Fulani cattle with exotic breeds possessing a higher genetic potential for production. These are only a few of the many possibilities being investigated by ILCA.

Success in further development of existing production systems hinges on good relations between farmers and herders and on a mutually acceptable system of land-use rights. Land-based innovations such as fallowland improvement or fodder banks would need to be organised at the community level, with agreement between farmers and Fulani – both those resident in the area and those who bring in their herds only for the dry season. It is the role of research organisations and government departments of agriculture and livestock to work together with each other and with the producers in designing innovations that are appropriate for existing production systems and in making sure that any external inputs or support services required are available in sufficient quantity and at the proper time.

The greatest potential in Nigeria and Africa for efficient use of resources and increased food production lies in the people who have always been farmers and herders, who have skills and knowledge inherited over generations of practice in an environment they know extremely well, and who have shown the flexibility to integrate innovations that bring real improvements.



For more photographs of the everyday life of Fulani agropastoralists in central Nigeria, see the annex to this book.