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HERD RECONSTITUTION: THE ROLE OF CREDIT AMONG WODAABE

HERDERS IN CENTRAL NIGER

by

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1. This paper describes research that established the need for a pastoral credit system among WoDaaBe herders in central Niger, carried out between 1980 and 1982 as part of the Niger Range and Livestock (NRL) Project. This paper concerns only WoDaaBe herders, a subgroup of the Fulani found throughout West Africa. The research carried out included detailed budget and labour use studies lasting from 1 to 2 years on a sample of 14 WoDaaBe household production units. The figures referred to in this paper are based partly on these detailed studies and partly on much wider surveys of WoDaaBe production systems throughout Niger's pastoral zone)

2. There are three main questions to be asked about any proposed credit scheme: is it necessary; is it feasible; how does it compare with other possible uses of the same limited credit funds? This paper deals only with the first of these three questions. There is little experience with credit among pastoralists; it is therefore important to establish clearly a justification for credit in specific circumstances.

The WoDaaBe food economy

3. The WoDaaBe, like many pastoralists, rely for their subsistence on items they do not themselves produce, to an extent which is unusual among rural populations. The WoDaaBe raise mainly cattle and only small numbers of sheep and goats. They do not cultivate. Production is organized at the household level: a man and his wife or wives, and their children are an autonomous herd-owning and managing unit. Labour to tend the herd comes from this group of people, and their herd ideally meets the subsistence needs of the household. Milk and its products are either consumed directly, or sold or exchanged for cereals. Animals are sold to provide cash to buy cereals and other necessary items. The WoDaaBe have no artisans and do little handiwork, so even basic articles, like mats, water bags, cooking and milking utensils and clothing must be bought.

A self-sufficient household is the ideal, but there are many occasions when joint herd management, labour sharing, and loans or gifts of animals between households are necessary to deal with either labour shortages or an insufficient herd.

4. There is only one short rainy season in the Sahel. As the dry season progresses milk production of lactating animals drops to such low levels that it must often be left entirely for calves. The total number of animals that would have to be herded by a family throughout the year in order to have enough milk to meet consumption needs during the dry season would be unrealistically high, and the WoDaaBe have always exchanged or sold milk or animals to obtain cereals to supplement milk in their diet. This is a reasonable conversion for them to make as terms of trade between livestock products and cereals, although they fluctuate, are largely in favour of pastoralists. By exchanging milk for cereals a herder can usually obtain in cereals many times the calorie value of his milk; this is equally true for livestock. Table 1 shows that cereals, which the WoDaaBe buy or barter, account for 53 per cent of the sample families' annual consumption. They must obtain cereals particularly in the hot season when cereal prices are at their highest and animal prices are low.

Table 1
Sources of food intake in WoDaaBe sample households

Percent of calorie intake
by origin by season:

	rains	cold	hot	transition
milk	67	39	21	22
cereals	25	54	71	22
sugar	7	7	8	7
	100	100	100	100

5. The WoDaaBe in Niger are extremely mobile, and have little contact with the local administration or with government services (WoDaaBe children do not attend school and there are no WoDaaBe civil servants). They are nonetheless not living in isolation. They are deeply involved in the market economy for a major portion of their diet. This of course means that they are vulnerable to normal seasonal market price fluctuations, and are also subject to unpredictable shifts within the year and from year to year. A bad harvest, changes in the exchange rate of the currencies of Niger and Nigeria, or changes in import or export regulations can make cereal prices soar. These fluctuations are due to factors beyond the control of the WoDaaBe but nonetheless have a crucial impact on the household's ability to meet its needs. If cereals cost more, the WoDaaBe have to sell more animals, which are their only important source of revenue.

6. This is not a recent development. But even before the last drought (1968-73) a variety of factors were combining to make the WoDaaBe economy less resilient. The setting up of national frontiers, and the extension of agriculture due to increased cash cropping and demographic pressure, limited possibilities of moving to the best pastures as conditions changed. For these reasons, as well as -a series of good rainfall years in the 1950s and 1960s, and a government policy of installing deep wells in the pastoral zone in the 1960s, the WoDaaBe in central Niger have gradually been moving north into more arid areas well beyond the northern limits of rainfed agriculture. Taxation and reduced possibilities for exchange with farmers all contributed to making the WoDaaBe economy more monetarized, and more vulnerable to terms of trade changes.

Consequences of the 1973 drought

7. Therefore, the last drought hit them particularly hard. It is probable that no more WoDaaBe animals died than in past droughts or epidemics. However, due to the changed conditions, two important things happened. Because of their increased dependence on the market, the shift in terms of trade that takes place in a drought, with livestock prices plummeting and cereal prices rising sharply, meant that most WoDaaBe had to sell the animals that had survived in order to buy cereals. Second, strategies the WoDaaBe had used in the past to reconstitute herds after large scale losses were no longer effective. In the years since the drought the WoDaaBe have not been able fully to reconstitute their herds. When the WoDaaBe were further south, and there was anyway less cultivation, they were able to farm when they lost animals and ensure their subsistence from agriculture, gradually reinvesting first in small stock and then in cattle until they had rebuilt their herds and become fully pastoral again. After the last drought many WoDaaBe tried cultivating: however they did not have access to sufficiently fertile land to overcome their lack of agricultural skill. They were not able to produce enough to live from, much less to obtain a surplus to invest in livestock. Efforts at cultivation were quickly abandoned.

8. When they were further south, in times of hardship they were also able to gather wild plants, both to eat and to sell; these plants do not grow in the drier areas they were using in the last drought. Their earlier proximity to sedentary people meant that they had more regular interaction. At times of animal loss WoDaaBe women were able to get cereals by doing jobs such as pounding millet and mending calabashes in villages.

9. Animal sales and herd reconstitution

It takes a long time to rebuild cattle herds after large-scale losses (Dahl and Hjort 1976: 114-129). In 1981 and 1982 it was clear not only that WoDaaBe herds were not in the process of

being reconstituted, but that in most cases households were making sales of animals that were actually depleting their herds. It is important to distinguish between national herd reconstitution and animals owned by individual pastoral households. The national livestock herd is reconstituted to pre-drought levels in the case of camels, sheep and goats, although cattle totals are still estimated at less than their pre-drought levels. However the distribution of these animals has changed, both geographically and in terms of owners: a much larger proportion of the total animal population is in the southern farming zone than before the drought, and there has been a significant increase of ownership of animals in the pastoral zone, especially cattle, by non-herders (Swift ed. 1984: 35-68).

10. It is estimated that only about 10 per cent of WoDaaBe households currently have herds that are adequate to support the people dependent on them. Inadequate herds mean insufficient milk production and make the WoDaaBe even more dependent on cereals. This entails more animal sales to obtain cash needed to buy cereals. Taking the ratio of 3 TLU/person as a poverty threshold in the present conditions of the WoDaaBe economy (Swift ed. 1984: 518-529), table 2 shows the proportion of people in the WoDaaBe sample below this threshold, as well as the proportion below a threshold of extreme poverty set at 1 TLU/person.

Table 2. Poverty in sample households

Number people	Percent of people in production units with TLU/person ratios of:		
	< 1	1-3	Total < 3
131	16	73	89

Note: TLU calculated as: camel (1), cattle (0.7), sheep and goats (0.1), donkeys not added.

11. The normal marketing strategy for households with adequate herds is to meet cash needs by selling old females and castrated males that are surplus to herd reproduction. Calf mortality in the first year is high (around 20-40 percent) and then drops sharply to about 4 percent a year. Calving, supervision and watering of young calves kept apart from the rest of the herd, and weaning, are all operations demanding extra labour from the herder. After the first year, a calf's weight, and value, increase sharply every year for the next four or five years. Since there are no forage costs, and because of herding economies of scale, it is most profitable for the herder to hold a male calf in his herd until it reaches close to its maximum weight before selling it. If he sells it as a calf he has absorbed the high risk of mortality and invested labour without benefitting from the animal's later increase in value.

12. If a household has a herd that is too small, and sells all its adult male animals, it must then sell increasingly younger males. Since younger animals have less market value, more of them have to be sold to raise the same income. As household cereal needs increase rather than decrease with a small herd, this quickly becomes a vicious circle. Once all males and old females in the herd have been sold, there is no choice but to sell reproductive females, which further reduces household milk supplies, increasing cereal needs and consequently animal sales. The sale of females also jeopardises the future reproduction of the herd. The sale of reproductive females indicates the beginning of a downward spiral of increasingly unviable herds from which it is difficult for a herder to recover.

13. The household budget studies showed that among sample WoDaaBc households, sales of young males were not uncommon and that households were also selling females. Table 3 gives a breakdown of cattle sales by sample households over the full period for which data are available. Percentages are shown as a proportion of total sales.

Table 3. Cattle sales by sample households

males			females		
age	n	%	age	n	%
< 3 yr	40	(32)	< 4 yr	23	(19)
3-5	11	(9)	4-9	9	(7)
5+	14	(11)	9+	27	(22)
Total	65	(52)		59	(48)

14. How are WoDaaBe households dealing with herds that are insufficient for their subsistence? Three strategies - traditional animal loans, herding entrusted animals, and migrant labour - are used to deal with this problem.

Traditional loan system

15. The organisation of WoDaaBe society is based on small, structurally equal, units operating autonomously. To maintain this system, given the risks of livestock raising in a variable environment, there is strong social pressure against the accumulation of animals by individuals. Animal gifts and loans between households are the mechanism by which redistribution takes place to assure, as far as possible, that each household has enough animals for its needs. Initially it is the father and his brothers who should supply the nucleus of a herd to a son setting up a new household. If a household loses animals, relatives make loans or gifts of animals to help rebuild the herd. Close relatives and wealthy people have the greatest obligation to supply animals. There are two forms of traditional animal loan among the WoDaaBe. The first is a short-term loan of milk cows to families facing a shortage. The second is the loan of a cow for three calvings (called haBBabae in Fulfulde. The borrower then keeps the three off-spring and returns the original animal to its owner.

16. The WoDaaBe consider it important not to allow a member of their group to become destitute. These traditional loans, which in the second form amount to gifts of animals, still operate and have a powerful social content in WoDaaBe society. However, for this system to be effective for herd reconstitution on a large scale, there must be enough families that have animals they can loan from their herds without threatening their own viability. After the last drought, losses were so high that there were not enough animals to be spread around to rebuild each family's individual herd.

17. Since 1974 the WoDaaBe have been forced to resort to two new strategies - herding entrusted animals, and migrant labour - that were unknown in their present form before the drought.

Herding entrusted animals

18. Many WoDaaBe have taken into their herds animals that belong to civil servants, merchants or wealthy farmers. These animals are called jokkere in Fulfulde. This allows WoDaaBe households to increase their milk supply and remain in the pastoral zone even though their own herds are too small. Fulani throughout West Africa herd animals for other people. What is important in this case is that the WoDaaBe's only compensation for their labour is milk. This system creates several problems. The actual quantity of milk available is quite small: only some of the animals in the entrusted herd are females, even fewer are lactating at any time, and anyway their owners often take some of them back to have milk for themselves. Second, in the past, when the WoDaaBe were living in closer contact with sedentary people and had a more viable economy of their own, they did take on entrusted animals but as part of a wider series of exchanges: there was a regular exchange of herdiw' services and manure for grazing stubble on harvested fields, and heffers received cereals and young animals periodically from the owners of the entrusted animals. This way a poor herder could gradually build up a herd of his own.

19. Dupire, who studied the WoDaaBe in the same area as the NRL project in the 1950s and 1960s, says that cases of WoDaaBe working as herders for others were only the result of extreme poverty and were rare (1962: 127). She gives details of the payments that rich

WoDaaBe made when they themselves hired a FulBe or Buzu herder; clothing, milk, animals at regular and fixed times (1962: 139). She lists herding animals for sedentary people as a source of revenue for a small number of WoDaaBe and stresses that it was a temporary recourse at times of hardship (1962: 126 and 132).

20. Since the last drought, investment in animals by outsiders has increased, but there are so many destitute WoDaaBe looking for animals that the WoDaaBe are unable to demand what was formerly the normal payment for their work. Because the WoDaaBe only have the use of the milk of these entrusted animals, they have to continue to sell their own animals to meet all their cash needs; the problem of an inadequate herd being further diminished by animal sales is not solved. Furthermore, taking on these entrusted animals involves costs. The owner often insists that his animals remain close to his village, so that herder's mobility, an essential tool of good management and a risk avoidance mechanism, is restricted. If the owner wants to sell an animal, the herder has to leave his camp and take the animal to the market, often several days' trip on foot. An entrusted animal can always die or be lost or stolen, as happens to the WoDaaBe's own animals, but the WoDaaBe are usually suspected by the owner of having sold the lost animal and must reimburse its cost. The fact that the WoDaaBe take on these animals under such unfavourable conditions is an indication of their poverty and their lack of other alternatives to turn to. All WoDaaBe say they would gladly be rid of entrusted animals if there was some better alternative.

Migrant Labour

21. There are WoDaaBe families who can not obtain animals to herd, and even those who still often cannot make ends meet. Since the drought, WoDaaBe households increasingly have been sending people away during the dry season to earn money in Nigeria or other coastal countries. But the WoDaaBe do not have skills to do anything but menial labour, and they are not able to earn enough to accumulate important savings. Once transport costs are paid, and food and lodging in the city, the migrant rarely has much left to contribute to his or her household's cash needs on return, much less to invest in animals. However absence from the camp in the critical dry season,

when milk supplies are negligible and animals have to be sold to buy cereals, somewhat reduces the quantity of cereals the family is obliged to buy, and is a way of holding off some animal sales.

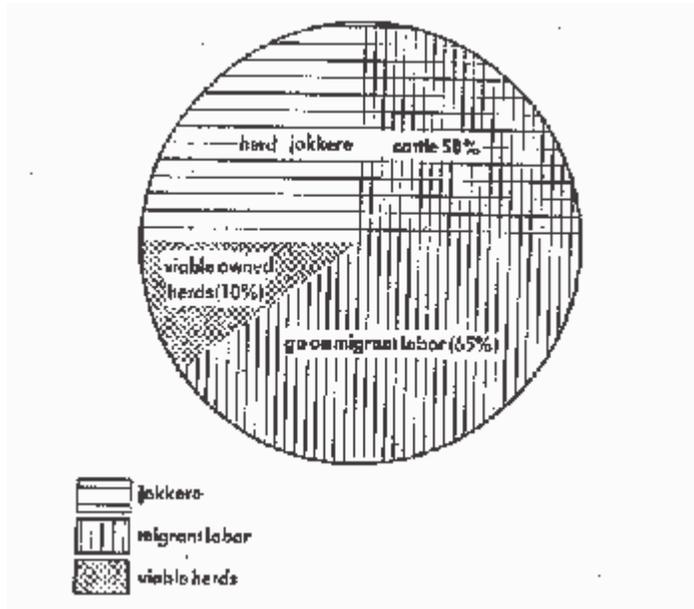
Table 4. Estimated viability of WoDaaBe households in project zone

	Percent of households with:			Total
	Viable owned herds	Unviable owned herds with		
		no jukkere	. jukkere	
No migrant labour	10	—	25	
Migrant labour	-	40	25	65
Total	10	40	50	100

22. Table 4, and the same data presented graphically in figure 1, show estimates of the proportions of families that herd entrusted animals and go on migrant labour. Twenty-five percent of WoDaaBe households in the project zone in central Niger are thought to resort to both migrant labour and herding animals that do not belong to them. Both of these strategies are stop-gap measures that enable the WoDaaBe to survive as pastoralists. But rather than serving as temporary mechanisms that allow the WoDaaBe to rebuild adequate herds and return to a viable economy, they are becoming permanent strategies for survival. Neither migrant labour nor herding entrusted animals does anything to stop the process of a downward spiral of distress sales.

23. Tending entrusted animals and migrant labour also have a detrimental impact on overall resource use. WoDaaBe who have a large proportion of entrusted animals in their herds are more apt to use boreholes where water is drawn mechanically, than to draw water by hand front traditional wells. This is exhausting work during the dry season. When the WoDaaBe do not own the animals they

Figure 1. Estimated Viability of WoDaaBe households in project zone, and alternative economic strategies (percent of households)



are herding, they are less concerned about the disadvantages of boreholes: large concentrations of animals with a greater risk of disease and animals wounding each other, and poor, overgrazed pasture in the surrounding areas. When members of a household are away on migrant labour, there are often not enough people left in the camp to tend the herd adequately, so it may be combined with the herd of a relative. Combined herds, and concentrations of animals around boreholes, markets and villages result in less than optimal use of the resources of the pastoral zone.

24. Furthermore, small herds and inadequate labour because of seasonal migration mean that the WoDaaBe are obliged to abandon many of the risk avoidance strategies they otherwise use to reduce vulnerability, such as species diversification and herd dispersion

through loans and herd-splitting.

25. Families that are obliged to take on entrusted animals or leave on migrant labour find themselves outside the exchanges and loans of animals between households that provide security. WoDaaBe are unwilling to loan animals to families that have a large number of entrusted animals in their herds. They are afraid of diseases that come from these village-based herds and the unruliness that breaks out in herds with a high proportion of males (investors often have herds with a higher proportion of males than herds belonging to pastoralists). The WoDaaBe also worry about the welfare of a loaned animal in a herd belonging to a family that had entrusted animals or has people going away on migrant labour because of the poor herd management that often results. Animal production research carried out by the project showed a significant inverse correlation between numbers of haBBabae animals and entrusted animals in WoDaaBe herds (Swift ed. 1984: 108).

Credit and herd reconstitution

26. Ownership of cattle is the basis of WoDaaBe production. Under present conditions it is becoming increasingly difficult for families to provide •the nucleus of a herd to their children for them to meet their own needs as they become adults and must set up their own households. Furthermore, in most cases the group's individual herds no longer contain surplus animals to redistribute to poorer families. This situation can be remedied by the provision of credit in the form of animal loans to build up household herds to a viable level, or cereal stocks at low post-harvest prices to reduce dry season sales of animals at low prices when cereal prices are high.

27. Rural credit systems are very problematic. An adequate institutional framework – the herder's associations – based on small groups of families that habitually consult and make decisions together helps overcome some of the difficulties normally encountered. For the WoDaaBe there are two related factors that make the effective operation of a credit scheme more realistic.

28. First, their traditional system of animal loans means that the WoDaaBe are used to targeting resources to people in need. Furthermore, this traditional loan scheme has important social significance for the WoDaaBe. Loaned animals are seen as a manifestation of solidarity and friendship and are treated more carefully than any animal in the herd. The terms of the loan are observed scrupulously and with ceremony by the borrower.

29. Second, the budget studies showed a large circulation of cash between households in the form of loans and reciprocal gifts. This demonstrates that the WoDaaBe are already well accustomed to using cash in this way: to making loans, keeping mental accounts and making repayments. However, the household studies show that for an average WoDaaBe production unit of nine people, the minimum viable cattle herd of about 40 cattle is worth about £4,000. The traditional loans and gifts of animals and cash can quite clearly not provide sums of this magnitude.

30. These studies suggest how important a credit scheme could be among the WoDaaBe. The situation described above points to three major potential areas for credit:

- 1) credit in the form of female cattle for herd reconstitution, in order to bring household herds up to the level where they can produce optimally;
- 2) credit in the form of young male cattle for growing out, so the WoDaaBe can profit by the rapid increase in value of these animals at low cost up to 4 or 5 years;
- 3) credit to offset major seasonal changes in cereal prices, by enabling the WoDaaBe to buy cereals after the harvest when cereal prices are low and stock them for the dry season.

31. These three types of credit scheme were successfully implemented in a pilot herder's association programme by the NRL project, described in another ODI Pastoral Network paper (Swift and Maliki, 1984).

NOTES

1. NRL project research results are more fully written up in Swift ed. 1984.

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