

Commission on Nomadic Peoples

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Nomadic Peoples, Number 23, 1987

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GRAZING RESERVES IN NIGERIA

by Moses O. Awogbade

The issue of settling nomadic cattle rearers is one which for many years now has generated considerable discussion in Nigeria's government circles. Since the grazing law of 1965 was enacted by the then Northern Nigeria legislative assembly and with the commencement of the First National Livestock Development Project (FNLD), the settlement debate has assumed a progressively wider dimension. There are several obvious reasons for this official interest in settling Nigeria's livestock owners: It is estimated that traditional livestock owners control over 90% of the total national herd but have no right to land; the movement of herds limits their access to health facilities and the government's ability to institute improved management; traditional livestock owners do not participate in the political decision-making process. In addition, there is an establishment throughout the Northern States of urban based Fulani pressure group known as "Miyetti Allah", representing the Pastoralists Socio-Economic and Cultural Interests. This group is also involved in protecting the land rights of pastoralists.

Currently, the direction of Federal Government policy seems to indicate the desirability of settling the traditional cattle rearers, as a step forward in the essential process of establishing their land rights into a form which will provide incentives for returns to land and in land investment. Furthermore, settlement is expected to provide added incentives for the gradual injection of modernization process into traditional livestock production system.

It is in this light that grazing reserves are being established by all the States Government in Northern Nigeria to formalize land tenure rights for the pastoralists, and to make possible the development of Nigeria's livestock resources by institution of a ranching system. The issue now is how to direct these developments so as to optimize the use of the reserves, while reaping the benefits of secure tenure and the advantages of a modern ranching system.

In this paper, we discuss these issues by examining: (1) the development of grazing reserves; (2) current experience gained in the established reserves; and (3) aspects of socio-cultural dynamics which will be useful in articulating what should be the direction of development.

The Development of Grazing Reserves

For the past 20 years, Nigerian government policy has been centered on the establishment of grazing reserves in the cattle producing areas. The broad objective is to provide livestock owners with legal grazing rights and title to land, as a response to the increased pressure on traditional grazing lands by arable farmers and government agricultural projects. By encouraging livestock owners to settle within the grazing reserves, it was hoped they would enjoy access to veterinary services and extension workers, while increasing the off-take from their herds (Fayinka 1982).

As already indicated, the legal basis for establishing grazing reserves was enacted by the then Northern Regional Government in 1965. One early parcel of land set aside for this purpose was at Ruma-Kukar-Jangari in Kaduna State. It covers an area of 121,762 hectares, and has received substantial investment on demarcation, fire protection, and water development. After the appraisal of livestock

development in Nigeria in 1974 by the World Bank, a World Bank loan of U.S. \$21 million was proposed to assist the First National Livestock Development Project (FLDP), with project costs split between the Federal Government (50%), the States (25%), and the World Bank (25%). It was initially estimated development of the livestock sector would require U.S. \$42 million over an investment period of eight years. The Federal Government's direct involvement in the establishment of grazing reserves started during the second and third National Development Plans (1970-80). During the third Development Plan (1975-80), total investment on livestock development by the Federal and State governments was Naira 119.8 million, of which Naira 86 million was allocated for grazing reserves.

The Federal Livestock Department acted as the principle federal agency for the implementation of the FLDP through the National Livestock Project Unit (NLPU), now the National Livestock Project Department (NLPD) established in 1976. Under the auspices of NLPD, six grazing reserves with a land area of 115,000 ha have been established, at Kachia and Kukar-Jangarai (Kaduna State), Gujba (Borno), Udobo (Bauchi), and Garkida and Sorau (Gongola). These reserves have been provided with physical infrastructure, access roads, fire-breaks, water, pasture development, and some equipment. Total investment costs as of June, 1983, were Naira 2.1 million. It was also planned that within the six grazing reserves, some 1,850 nomadic herdsmen and their families would be encouraged to settle.

So far, little progress has been made in this direction, except in the Kachia reserve where 31 agro-pastoralists have begun growing crops and making use of leguminous fodder plots developed with assistance from the International Livestock Centre for Africa (ILCA). These "fodder banks" (as they are termed) provide high quality dry season feed to cattle, thus preventing the severe nutritional stress they normally experience during the dry season. After a few years the soil fertility should increase and the plot can then be used for cropping, forming a permanent rotation system.

Nevertheless, despite limited progress in actual settlement, the idea of having grazing reserves and giving pastoralists more secure tenure has caught on in several states. In Gongola State, there are 74 proposed grazing reserves: 52 under the State Government, and 22 under local Governments. Four of these have reached the point where they are to be gazetted, but only one (at Sorau) has attracted some physical development and settlement. In Bauchi State, there are 105 proposed reserves; again, four are proposed to be gazetted, and one (at Wawa da Zange) has been identified as a pilot settlement scheme under UNDP assistance. In Plateau State, the Wase reserve is also involved through spontaneous sedentarization of pastoralists.

The provision that an area can be set aside as a grazing reserve does not clarify what kinds of production unit will be established within the reserve. The usual practice has been to establish some form of a ranch, owned either by individuals, a group, or a cooperative. In African countries where ranches have been established (e.g., Kenya, Tanzania, Burkina Faso, and Senegal), they are either on a freehold or leasehold tenure arrangement (Baldus 1977). This permits ranchers to incorporate so as to secure loans for development (Ayuko 1981). A good example is the well-known Kenya case, where 18 group ranches have received loans from the World Bank under the Kenya Livestock Development Project (David-West 1982:51; Galaty 1978). In Nigeria, so far most ranches are individually or privately owned. Under the First Livestock Development Project of 1970, there was a provision for 50 private, long-term ranch development loans, and 10 have been disbursed. In addition, there are some other parastatal ranches being run by the Federal and State governments (and not reviewed here).

The idea of ranching is not new in Northern Nigeria. There was an early, ill-fated attempt by Speed to establish 'African Ranches Ltd'. (Dunbar 1970). In regard to ranches for pastoralists, it was Stenning who first suggested the idea of a group ranch to be organized on the basis of the agnatic lineage structure in Borno. The goal would be to demarcate an area of such a size that its endowment in pasture and water supplies could support members' herds (1959:237-238).

More recent experience suggests there are three main types of ranch which might be implemented: (a) an Individual ranch registered in the name of an individual who manages it. Such ranches are now a common feature in the Nigerian scene, especially on Nigeria's plateau areas, and are mainly investments made by large farmers; (b) a Group ranch registered in the name of a group of pastoralists who graze their individually owned herds on it and have official rights. Examples are found in Kenya, Tanzania, Botswana, Burkina Faso and Senegal; and (c) a Cooperative ranch run by a group of members, who use a loan to build up a herd; the ranch is managed by all the members. It is most common in socialist states.

The distinguishing characteristic between group and cooperative ranches is that in a group ranch, livestock are individually owned while in a cooperative ranch, jointly owned. According to Oxby, in actual practice one finds intermediate or transitional forms in Africa where pastoralists own some livestock individually as in a group ranch and some livestock jointly, as in a cooperative ranch. This means that the distinction between group and cooperative ranches can be somewhat blurred. In practice, what we are dealing with in Africa are group/cooperative ranches (Oxby 1981:4).

The main question to be resolved is what form of ranch system the Nigerian States should establish within grazing reserves once these have been gazetted for use by pastoralists. The author's involvement in a survey of grazing reserves in 1984-85 and earlier studies (Awogbade 1980, 1981) have made it clear that the States are approaching this matter in quite different ways, with long-run implications for which types of ranch will be acceptable to the traditional pastoralists.

The Current Situation

The current situation is, then, that promotion of grazing reserves is official Nigerian government policy, and is being put into practice by several of the Northern States (Kaduna, Bauchi, Plateau, Gongola and Borno).

Cattle rearers use the grazing reserves acquired by the NLPD and the infrastructure provided. However, some of the reserves have not been demarcated enough to permit the introduction of rotational or block grazing. The lack of block grazing has led to problems such as exerting pressure on the natural environment, bush control and overgrazing around watering points, with the result that ecological balance is becoming difficult to maintain.

In some acquired reserves, State governments have also started the legal process to permit giving out grazing leaseholds to cattle rearers. In fact, section 22 of the grazing reserve law of 1965 is now being amended to facilitate this process. In regard to how cattle producers are incorporated, Bauchi and Gongola States have adopted a different approach to settlement models.

In the proposal for development various assumptions have been put forward on how to implement the models. Before looking at these models, it is necessary to describe briefly the synopsis of traditional Fulani systems of pastoral production which provide the social and political context. This will be described within the framework which takes cognisance of the socio-economic formation. Young boys and men, as well as clients, look after herd deployment and movement. Women and unmarried girls are responsible for preparation of food and the sale of animal products in local markets. The elders deal primarily with the administrative and management policy. Production decisions are reached at the level of domestic units. At the community level, decisions are concerned with the regulation of marriage contracts, the representation of group interests, resolution of group conflicts, and the performance of ritual functions which uphold pastoral social values.

It is no longer feasible to use Stenning's (1959) findings that the agnatic lineage structure can be used as the basis for group formation due to the following reasons. Recent surveys among the Fulani in Gongola, Bauchi and Plateau States have shown the tendency towards autonomy in social, economic and political matters by the head of households (Jewuuro), each pursuing its own economic interests without affiliation to other groups. Specifically, the relationship between Fulani social and economic groupings and their mode of pastoral production (which formerly is based on agnatic group solidarity) is now being mediated strictly within the confines of immediate blood relations (for details see Awogbade 1983). We must also add the disturbing effects frequent changes in land ownership structure in Nigeria, and which has marginalized the pastoralists from landownership. Let us bear this in mind as we discuss the settlement types in the different states where the Fulani are becoming sedentarized.

Settlement Models

The policy to encourage the settlement of traditional livestock owners has been accepted by the major producing areas of Nigeria, notably Bauchi, Plateau and Gongola. The immediate objective is to intensify and improve pastoralists production systems within grazing reserves which have been established.

Different settlement models (some still in formative stages) have been drawn, and are essentially based on Nuru (1979) recommendation - Guidelines on the development of grazing reserves.

So far two states (Bauchi and Gongola) have proposed identical models. Other producing areas are yet to make public theirs. Presently there are two ongoing settlement programmes being funded with assistance from FAO/UNDP at Wase and Wawa da Zange (Plateau and Bauchi States). The main focus of FAO/UNDP settlement projects is to provide the technical expertise needed to assist Nigeria to achieve settlement of Fulani pastoralists within established grazing reserves in Wase and Wawa/Zange respectively.

It will be instructive to the discussion to look at the established g/rs in Wase, Wawa/Zange and Sorau (Gongola State) where presently there are development efforts with a view to examine current processes of development.

Wase Reserve

Wase occupies 744 sq.km and is part of the lower Benue Plains. This makes it one of the grazing reserves with tsetse infestation. Its development started in the early 1970s, and was the subject for development by Plateau State Ministry of Agriculture/Federal Livestock Department and USAID. This initiative resulted in the construction of dams, access roads, fire-breaks and other livestock facilities. However, by 1975 all development activities were terminated before management plans which included rotational grazing, assessment of stocking rates and grazing committee, were effected.

Since its establishment, the area has attracted a considerable number of nomadic pastoralists who have turned the area into wet and dry season grazing grounds. It is presently one of the few g/rs which is gradually attracting spontaneous settlement. Perhaps it is this trend that has attracted new initiative on the part of Plateau State Government and FAO. There were 15 dams constructed in the 1970s, 12 new additional dams are being proposed. There is also one administrative centre at Safio, north of the reserve. The new initiative can be regarded as an extension of the early efforts.

New attempts are being made at approaching members of the local community and the pastoralist users about the project plans. Meetings have been held to initiate cooperation with the project plans. However, it should be noted that the project policy is still in its formative stage, hence it is difficult to ascertain who are to be the target groups in the proposed settlement scheme. Also to be added is the methodology to be used to attract the different groups presently utilizing the reserve. This is certainly a problem area. For instance, three groups of users can be identified. The first is the agro-pastoralists (i.e., those who combine animal husbandry with cropping and their cattle remain in the reserve all year round). The second group consists of transhumant pastoralists who normally spend few weeks during the dry season. They are migratory pastoralists from Sokoto, Gongola, Bauchi and the Cameroon. The third group is the farming communities whose villages are located on the peripheries of the reserve. This group is increasingly taking up animal husbandry themselves. They have also established symbiosis relations with the agro-pastoralists in the sense of exchange of goods and services (animal products, herding and labour and access to farmland for crop residues).

Administratively, Wase is divided into ten zones with one Ardo (Fulani Chief) representing each zone. This made the reserve convenient for the Local Government for the purpose of head tax collection. In a survey we carried out in 1984, there were 650 households (homesteads) of settled, semi-settled, transhumant pastoralists and farming communities. Those who settled on the peripheries of the reserve were not included in the survey.

In the light of the composition of the residency groupings already indicated above, there is bound to be confusion especially on the categorization of who should be included in the settlement scheme. This is one of the areas where an FAO project can run into difficulty. So far, the project document is still not clear in intention on how the three principal users of the reserve would be accommodated within the stated objective. Certainly contact has been made with the Emir of Wase and the local community, yet the users willingness to accept regulatory control that may be introduced as the scheme progresses, water supply utilization, local participation in the management of the ranges and development of crop production within the reserve have not been clarified.

It is to be noted that the objective of the project is to assist pastoralists to opt for settlement. And here in the reserve are three groups with different production objectives - agro-pastoralist, transhumant pastoralist and farming community taking up animal husbandry. The question now is "which one is to be excluded?", bearing in mind what is supposed to be the direction of the project (assisting the pastoralist) before the project takes off the ground. In fact NLPD position is quite clear on who should be the target for development - the pastoralist. Unless this issue is resolved FAO may be creating more problems than anticipated.

The main constraints are lack of water and pasture in the dry season, incidence of tsetse in the wet season, and shortages of supplementary feeds. Others are: not enough veterinary outposts (the only one serving the area is located in Wase town); no rural health centre; and no marketing facility. Fulani agro-pastoralists have sent 40 of their children to a nearby school, but had to withdraw them because of the reorganization of schools by Plateau State Government.

Wawa da Zange (Bauchi State)

Wawa de Zange occupies an area of 414 sq.km. of semi-arid part of Bauchi State, with an annual rainfall of 800 mm. It is located along Gombe road. Of the total land mass of 414 sq.km. only 4,000 ha is being proposed for development.

Initial attempt to establish Wawa/Zange as g/r started in 1980 by Bauchi State Ministry of Agriculture and Federal Livestock Department and is to be funded by FAO/UNDP. This has resulted in the provision of infrastructure-fire breaks, access roads, and office and uncompleted cattle dip.

Unlike Wase which has potential in terms of natural resources to accommodate cattle throughout the year, Wawa cannot be counted to possess such resources. It is one of the reserves in Nigeria in which there is a short wet season (June to September), and a long dry period (October to June). The other with the same characteristic described above is Gujba, in Borno State.

Further development activities started in 1984 in which a pilot project is to be implemented in accordance with Bauchi State plan for pastoralist settlement. In the plan, 4,000 ha in the reserve is to be developed and allocated to 16 families. The selected 16 families are to be given leases for up to 50 years.

The issue of selection is quite an interesting one, but it is not pertinent to go further on it meanwhile. This is because unlike the Wase case where 650 households have been identified, the situation in Wawa/Zange is different. At the time of our survey there was one identified settlement inside the reserve. The household identified belongs to one Malam Audu who has been residing in the reserve for the past 16 years. According to him pastoralists only use the area for four months in a year, normally during the wet season. After the rains the area is left empty. Although there were other pastoralists residing about 20 km to the south of the reserve, our inquiry showed that most had moved towards the south in search of pasture and permanent water sources. From discussion with the pastoralists no contact has been made but they have their opinions on the project largely on what they saw and observed going on inside the reserve. Here again the issue of who are to be the beneficiaries of the project is yet to be resolved.

Unlike the Wase where the pattern of settlement has not been articulated except that development would cover the entire reserve, that of Wawa/Zange is on a different level of development. This is to say the model to be implemented has been drawn and approved by Bauchi State Government. Therefore Wawa provides an instructive case to examine how settlement is to proceed.

The 4,000 ha will be divided into four units of 1,000 ha, each with its own dam. The 1,000 ha will be further sub-divided into four blocks of 250 ha with a common watering point, making 16 units in all. Each unit will be allocated to a family group, to be selected by a committee appointed by the Commissioner for Agriculture on the recommendation of the Chief Livestock Officer. After approval successful applicants will be issued with grazing permits and will be assisted to establish pasture blocks. A livestock centre will be built where permit holders will have access to extension workers. The government will also guarantee loans so as to help beneficiaries develop beef and dairy farms.

Sorau (Gongola State)

Unlike Wase and Wawa/Zange where development is being assisted under FAO/UNDP auspices, Sorau's development falls under Nigerian First Livestock Development Project (NFLDP) and is being financed jointly by the Nigerian government and the World Bank. Besides, the development of other g/rs in Gongola is being funded by Gongola State Government.

In the case of Sorau the FGN/World Bank objective is to help settled and semi-settled pastoralists establish ranches by granting long-term loans for ranch development. Gongola Government on its own initiative has drawn a plan for resettlement. We shall discuss the Gongola Government model first.

There are 74 proposed grazing reserves in Gongola State. 52 of them belong to the State Government, the remainder 22 to local governments. Of the 74, only 4 are in the process of being gazetted and they are in Sorau, Gongoshi, Jibro and Nassarawa.

In the proposed model livestock owners (Fulani and non-Fulani) will be given grazing permits on leasehold for a period of 50 years. Three permit holders are to be selected, each from the 52 reserves for pilot project. The three permit holders will be selected by a committee to be set up by the Honorable Commissioner for Agriculture through his representatives: the Chief Veterinary Officer, Chief Livestock Officer District head of the area, representative of Chief Agricultural Officer, and a representative from Nigeria Livestock Project Department (NLPD). The government will assist the successful applicant with (a) certificate of occupancy, (b) supplementary feed, (c) veterinary package, (d) seeds multiplication centre to produce seedling for pasture farms, and (e) schools and markets. The budgetary allocation for the scheme is put between N170,000 - 180,000 and it is expected to cover all the local governments in Gongola State. One area of confusion in the plan document is the generalized use of the words 'livestock owners'. The question is 'who are they?' Three groups qualified as 'livestock owners'. The first is the traditional cattle rearers; second are the cropping farmers who also keep a considerable number of cattle; and third are the absentee cattle owners who reside in the urban areas and employ Fulani to take charge of their cattle. The concept 'livestock owners' is amorphous and there is the need for clarification so that one can rightly ascertain the project's target group. A lot of re-thinking is still required on the theoretical approach to the settlement program.

This brings us to the Sorau case. As already pointed out, Sorau falls under the First Livestock Development Project. Its objective is to make available to pastoralists loans with which to establish ranches.

The project has made attempts to approach settled pastoralists, and NLPD seem concerned to concentrate on settled agro-pastoralists, who are judged to be easier to approach and to convince them of change, to an intensive crop/livestock production system.

So far three settled pastoralists have benefitted from the loan. They combine cattle rearing with farming, general contracting and good distributorship. All the three claimed to have become involved on the advice of Abdulahi Mubi, NLPD representative in Bauchi. It was through him that they applied for loans. When the loans were granted they were able to get certificate of occupancy.

For the purpose of ranch development, Sorau is divided into two parts: one part was given to the loan beneficiaries, and the other part reserved for communal usage. About 1,300 ha is allocated to each of the agro-pastoralists, and two already have between 250-300 animal units on their land, with about 300 ha of developed pasture.

One of the beneficiaries has a fenced farm inside the ranch, where crops are grown with a view to utilizing the post-harvest residues during the critical dry season.

At the time of the survey a total of 62 animal units were lost in 1983 due to fire outbreaks and diseases, the two main constraints which have emerged. The problem of fire arises because transhumant pastoralists usually set their temporary camps on fire when moving out of the reserve. There is also a serious complaint about animal theft, and the lack of drugs and feed constraints.

One fundamental issue which arises is the question of whether in a country where land holdings are being actively fragmented, it will be logical to allocate such large tracts of government land to a few individuals without alienating the other pastoralists from the area. In any case, when the allocated areas are in full production, they can only accommodate 700 animal units. In the longer run, this policy will legitimize the concentration of land in the hands of a few pastoralists, thereby creating a new set

of social and political problems. Another crucial area to take note of is that the leasehold arrangements run contrary to the guidelines on grazing reserve management plans by Nuru et al (1979).

In a survey we conducted in the 1984/85 wet season, there appeared to be a consensus among agro-pastoralists that the reserves could be used to achieve First National Livestock Development Project. Of the 66 households sampled in Gongola, Bauchi and Plateau States, 97% indicated their desire to give ranch proposal a trial, provided that necessary preconditions were fulfilled. Among these were:

- a) that land is made available¹;
- b) guaranteed financial commitment by the government for the provision of necessary infrastructure: dams, dips veterinary clinics and drugs;
- c) outlaw setting reserves on fire;
- d) adequate supply of supplementary feeds;
- e) eradication of tsetse fly;
- f) adequate security against cattle theft;
- g) construction of market outlets and access roads.

In regards to ranch type, it was agreed that their cultural system is suited to group ranches rather than either cooperative or individual ones. It would seem desirable, therefore, to look into the possibility of having group ranches as a part of the settlement packages.

Socio-Cultural Dynamics and Ranch Formation

In summary, the proposal to establish ranches can be described as a renewed effort to develop cattle producing areas by assigning definite land rights to forestall the consequences of land misuse. It is anticipated that pastoralists will then conserve pasture resources by limiting the number of stock to be managed in the ranches. The policy consolidates the rights of cattle rearers in the face of gradually diminishing grazing lands brought about by increased demands for farming land.

The key to realizing this objective remains in finding a type of ranch organization which suits Fulani socio-cultural dynamics. Two options readily come to mind. The first would be to use pastoralists' territorial groupings, and the second, their domestic grouping.

The problem with using territorial groupings as the basis for ranch formation is that these groupings are amorphous and fluid. Political, social and economic controls are very difficult to maintain, making it unlikely that such groups can meet the economic and management requirements of a ranch organization. On the other hand, if the domestic unit were used, there is the advantage that the household head already holds socio-economic and political authority. The household's organizational structure makes it easier to secure tenure. It controls the activities which are most affected by veterinary care or proposals to control stock numbers.

Assuming that the internal structure of a group ranch is resolved, there is also the issue of what administrative model to institute as a basis for involving cattle rearers in all facets of administration,

¹ The gradual process of settlement of pastoralists has been a continuous trend in cattle producing areas of Nigeria. What is impeding the process is the difficulty experienced by Fulani in getting access to and security of tenure on land suitable for crop/livestock production.

policy, and management. It would seem that three kinds of committees are required: (a) one for technical matters, such as policy and recruitment; (b) another for implementation and discipline; and (c) a third for day-to-day management of each zone. This structure is derived from the Wase reserve described above, but it would seem promising for duplication elsewhere.

Membership of these committees might be as follows. The technical committee would have the Amir or his representative, district heads involved with the reserve, representatives of the development agency and the State government, Fulani representatives (of Ardo rank), and one prominent citizen of the area (a nominee of the Emir) who is a farmer, and a senior representative from the Local Government area. The committee would lay down policy guidelines and procedures for range use and management, determine stocking rates, and arrange other technical inputs. It would also receive applications for recommendation direct to the State Commissioner. Applicants should be restricted mainly to the pastoralists who have identified with the reserve for a period of not less than five grazing seasons. These would be either transhumant or semi-settled pastoralists.

Membership of the second committee dealing with implementation would be the village heads representing the geographical spread of the reserve, all Fulani chiefs (ArDOS), and senior representatives of the Ministry of Animals and Forest Resources. Its major function would be the overall management of the reserve, including imposing disciplinary sanctions against any settler violating the established procedures.

The third committee would be a localized one, in that the inhabitants of each reserve's zone would form their own management committee under the chairman of the zonal Ardo. Membership would be the zonal Ardo, select heads of domestic units (proportional to the number of households in the zone), select Fulani elders (membership determined by the elders' council), nominees of the State government and NLPD, and two prominent farmers. The committee's operation would be restricted to day-to-day management of each zone; it would also see to the equitable distribution of inputs.

To insure that these committees do adequately represent members of each ranch, there is a need for an accurate census of both humans and animals. The census results would be drawn upon in determining the procedure for allocating lands, with a view towards giving an allocation in accordance with the needs of each participating family. The involvement of Fulani representatives as well as others from the local community should make the schemes more acceptable and workable. The aim should be to afford pastoralists the opportunity to decide the pace and direction of their own development.²

Conclusion

Clearly, the problems facing nomadic settlement in Nigeria are associated with landownership, lack of supplemental feed, disease, and insufficient political will to implement the NLPD policy objectives. These problems remain critical for the success of the on-going settlement program. The fundamental transformation being sought is to induce pastoralists to abandon a transhumant life-style in favour of becoming sedentary livestock producers (as in the case of Sorau). This is a crucial requirement for the creation of a stabilized ranch system. Some present thinking favours establishment of commercial ranches, but in this paper we have argued the case for a new form of production organization based on group ranches which are more suited to the pastoralists' own socio-political organization. An

² Data used in this paper is based on a survey carried out in 1984/85 on behalf of NLPD and the World Bank for the second Nigeria Livestock Development Project. This support is hereby acknowledged.

administrative model based on a hierarchy of committees is also proposed, to insure that all of the pastoralists (rather than a select few) have a greater say in planning their own development.

In making these suggestions, we are aware that there are (unlike in Kenya and Tanzania) no precedents in Nigeria from which relevant experience can be drawn. Notwithstanding this fact, on the basis of our study experience in some of the reserves, the following steps are suggested:

1. There is a need for plans to be formulated gradually and cautiously, coupled with constant dialogue with the pastoralists. Such plans will require continuing appraisal and consultations.
2. The establishment of a ranch system usually demands the introduction of enforced quotas. The first requirement would be to know accurately how many people will depend on the ranch and its livestock for subsistence. There are bound to be situations where there are more people than can be supported from the enforced quotas. It must be mandatory to make alternative arrangements for them before stock quotas are enforced. Without such an option, it would be difficult to make a ranch policy effective.
3. There is a need to ensure rigorously the involvement of pastoralists and other interest groups (like farmers and community leaders) in the planning of the scheme. Periodic monitoring is also required to test the reaction of pastoralists to implementation of the proposed ranch model.
4. Land within the reserves is presently not allowed to be farmed. A policy permitting settled cultivation on a long-term basis should be pursued. The ILCA fodder bank model offers a good solution in this respect.
5. Measures must be worked out to control access to land within the reserve to prevent non-ranch members as well as non-pastoralists from acquiring land. It is also desirable to control the amount of land a household farms. This will prevent an uneven distribution of land resources between domestic units.
6. A critical element in the formation of a new ranching system is the problem of transient pastoralists whose access rights would be curtailed in the existing reserves. This group of cattle owners should be encouraged to take up residence in the reserves. If they should refuse, an alternative would be to carve out areas for use as rotational grazing grounds (especially in the wet season).
7. There is a need to establish markets, service centres, and schools at strategic places when ranches are being implemented.
8. Finally, a key element inducing extension staff to remain in close contact with ranch members is the provision of welfare service for staff and families.

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