

Grazing Reserves and the Development of Traditional Pastoralism in Nigeria: Progress and Prospects

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Abstract

The Nigerian beef industry is controlled by pastoralists for whom production strategies are primarily for stock survival rather than increased off-take. Their production system is in the traditional (extensive, migratory) phase of development, which needs to be modernized (intensified) to bridge the increasing gap between supply and demand for beef in Nigeria while sustaining the pastoral lifestyle of the producers. In this paper, the most sustained effort at development of pastoralism - the grazing reserve scheme - is examined for its effectiveness. Using the Bobi Grazing Reserve in Niger State, Nigeria as study area, its progress towards the settlement and economic development of pastoralism is evaluated. From the results, an unprecedented voluntary settlement of pastoralist, and marginally improved production parameters are recorded. Possession of land rights, grazing security, presence of water and grazing resources, and the deliberate policy of encouraging transhumance activity out of the reserve during the dry season, were factors responsible for the voluntary settlement. The need for stricter stock control measures, provision of extension/veterinary services and socio-economic infrastructure, and a greater involvement of settlers in the funding and administration of the reserve are highlighted as conditions for sustaining the programme.

Introduction

The nomadic pastoral production system owns 70-80% of Nigeria's cattle population (SLDP, 1986; Awogbade, 1988; Suleman, 1988). It is a lifestyle that involves regular pattern of physical movement of household and animals from one ecological zone to another in the course of yearly round of resource extraction which seeks to maximize scarce natural resources. Presence of food, water and disease (especially tsetse) free areas are major reasons for this movement. This extensive production system is largely

in the traditional phase of development (Mellor, 1976) and the consensus among modern economic planners is that the system is "counter productive, wasteful, undesirable and out of tune with present economic realities" (Gefu, 1988). Based on the foregoing, Awogbade (1988) asserted that the production system is at variance with state economic interests. Government and development agencies have long recognized the necessity to embark upon programmes for the economic development of pastoralism in Nigeria.

The Grazing Reserve Scheme has been the most sustained effort at pastoral development in Nigeria and it arose from the recommendation of a World Bank review of Nigeria's livestock sector between 1949-1954 (Suleman 1988). The most significant recommendation was for the establishment of grazing reserves in major cattle producing area of Northern Nigeria to:

"...stabilize the pastoral production system ... and to utilize an area to demonstrate to the pastoralist that a sustained high level of development can be achieved by combining free range management with modern management practices" (Awogbade and Famoriyo, 1982).

This recommendation was accepted and in 1964 the Rumar-Kukar-Jangari grazing reserve was established in the present day Katsina State by the then Northern Region government. Since 1970, the grazing reserve scheme has become a national development strategy for cattle production. Along with other strategies, it was reflected as a major strategy in the Second, Third and Fourth National Development Plans (1970 through 1985), as well the First Livestock Development Programme (FLDP) (1976-1983) and Second Livestock Development Programme (SLDP 1987-1995). Likewise the 1988 Agricultural Policy specifies that a minimum of 10% of the country's land area be legally acquired and constituted into grazing reserves for lease to grazers (Anon, 1988).

It is in spite of these efforts over time that the traditional pastoral production system has improved only a little, and Nigerian's animal protein deficit worsen over time. Indeed evaluations of these development programmes have shown that

most components failed to achieve desired goals. Reasons for these failures have likewise been adduced (Nuru 1982; Davie West, 1982, 1989; Okaiyeto, 1982, Oyenuga, 1982; FLDP, 1985; SLDP, 1986; Awogbade and Hassan, 1987; Bincan, 1987; Oluokun, 1992).

Under the SLDP, three new reserves were to be developed in addition to those started during the FLDP. The new ones were situated at Donga (now in Adamawa State), Gidan Magajiya in Kwara State, and Bobi in Niger State. The extent of settlement and development in these new grazing reserves at the end of the SLDP was evaluated by this author, using the Bobi grazing reserve as case study. The specific objective of this study were to determine:

- (i) The extent of voluntary settlement of nomadic pastoralists in the reserve
- (ii) Improvement of traditional livestock production due to settlement
- (iii) Necessary processes for sustaining the concept beyond the SLDP.

Materials and Methods

An evaluation of the effectiveness of the SLDP grazing reserve scheme was undertaken in March, 1995 and December, 1996 using the Bobi Grazing Reserve in Niger State, Nigeria as study area. The Bobi Grazing Reserve is located approximately 60km SE of Kontagora between the Kontagora-Kaduna and the Tegina-Mokwa highway. It covers an area of 30,222 hectares between latitude 10° 00' to 10° 10'N and longitude 5° 45' to 6° 00' E in the Northern Guinea ecological region.

Sampling Procedure

A stratified sample of 20% of settlers at the reserve in March, 1995 was selected using the seven reserve blocks as strata. Forty respondents (20% of 196 settlers by March, 1996) were randomly chosen within each block. In addition, the project officer and one out of the four (4) extension agents attached to the reserve were also interviewed on project activities.

Data Collection Methods

These include field surveys, field observations and participatory evaluation. Measurement instrument included use of unstructured interviews, questionnaires and observation of project activities. Variables measured included project context (environmental, social and economic setting), project stimuli (credit, land right, security, inputs and extension services), and project outcomes (settlement, production system and degree of change to agropastoralism). Prospects for sustaining of the concept post-SLDP were evaluated.

Analytical Method

The results were subjected to simple statistical analysis (mean, standard deviation and percentile analysis).

Results

Settlement in the Reserve

By April 1995, a total of one hundred and ninety-six (196) settlers have voluntarily settled in the Bobi Grazing Reserve since the beginning of development in 1987. They were settled in five blocks as shown in Table 5.1.

From analysis of interview/questionnaire response, virtually all settlers were willing to settle permanently in the reserve other things being equal. Presence of water resources, grazing resources and land for farming were the major reasons for settling. About 80% were nomads prior to settling, the rest (non-nomads) being on Fulani. Major problems of settlement identified by respondents were dry season feed shortage (80%), dry season influx of transhumance settlers (66%), dry season bush fires (59%), clashes with arable farmers (54%), and lack of veterinary services and socio-economic facilities (51%).

Livestock Population and Production

The livestock population of the reserve varies according to season. In October 1991 (end of rainy season), there were 3445 heads of cattle in the reserve, but this number reduced to 1399 heads by April 1992 (peak of dry season), the rest having been taken on transhumance grazing outside the reserve (Falobi, 1992). Likewise in October, 1994 there were 6623 heads of cattle which reduced to 3002 heads by April, 1995 (Table 1). Up to 65% of respondents still practiced seasonal transhumance due to dry season feed shortages, taking an average of 55% of stock out of the reserve in the process.

Offtake was highest among male domestic fowl (84.31%), followed by castrated bulls (76.19%), male guinea fowl (91.61%) and adult bull (31.77%). Offtake in other species were female domestic fowl (26.95%), goat (25.01%), sheep (22.59%), bulls (17.68%), cow (6.89%), calves (6.84%), female guinea fowl (3.81%) and heifers (1.43%). The average offtake in cattle was 12.67%, sheep 22.59% and goat 25.01%. Age at first calving varied between 43-48 months, calving interval 16-20

Table 1: Distribution per block of settled agropastoralists and their livestock holding as of October, 1994 and April, 1995

Block	Number of settlers	Ethnic groups (dialects)	Carrying capacity of block (Livestock units = lu)	Number of animals October, 1994 (lu)	Number of Animals April, 1995 (lu)	% of peak Oct., 94 (lu April, 1995)
II	35	Hausajes	970	1436 cattle, 700 sheep, 325 goats. (1029.24lu)	763 cattle, 260 sheep, 190 goats. (563.43lu)	54.74
III	38	Sullubawas plus Kamberis	618	1287 cattle, 615 sheep, 345 goats. (1060.87lu)	806 cattle, 250 sheep, 143 goats. (652.53lu)	61.51
IV	43	Katsinawa	1133	1378 cattle, 580 sheep, 452 goats (1052.45lu)	429 cattle, 223 sheep, 205 goats (323.43lu)	30.73
V	43	Kanawas plus Hausaje	986	1271 cattle, 428 sheep, 442 goats. (1028.78lu)	502 cattle, 163 sheep, 145 goats. (382.02lu)	37.13
VI	37	Katsinawa	862	1252 cattle, 436 sheep, 455 goats. (968.45lu)	502 cattle, 165 sheep, 173 goats. (378.6lu)	39.09
Total	196		4632	6623 cattle, 2749 sheep, 2019 goats. (5139lu)	3002 cattle, 846 sheep, 1061 goats. (2299.56lu)	44.74

Source: Livestock Census, Bobi Grazing Reserve - October, 1994 and April, 1995.

months, calving percent 56.6% and calf mortality 18.88%.

Discussion

That nomadic pastoralist will settle spontaneously wherever the basic needs and land security are provided was confirmed at the Bobi Grazing Reserve where presence of grazing resources, water and land security were the major reasons for settlement. As of April, 1995, 196 households owning an estimated 6623 cattle, 2749 sheep and 2019 goats have settled in the reserve. Significantly, most settlers came from the semi-arid Sahel regions of Nigeria such as Katsina, Kano and Sokoto. They were moving away from declining grazing resources and short rainy season of these areas. Effectively, there was a southward movement of cattle concentration away from the far north towards the middle belt guinea savanna zones. This is in consonance with observation of Ezeomah *et al.* (1988).

About 65% of settlers at the reserve still practice extensive dry season transhumance to as far as Abuja (380km) and Ilorin (300km). This practice has been described as one of the desirable resource use adaptation mechanism of the traditional pastoral production system, in that it prevents environmental degradation of the reserve during the dry season, as well as being culturally compatible with the pastoralists traditional system. Also offtake, production and reproduction parameters were significantly better than the production parameters of 8.7% offtake, age of first calving of 54 months, calving interval of 25 months, calving percentage of 45% and calf mortality of 20% reported earlier (Anon, 1981, 1988; SLDP, 1985; Olayemi *et al.*, 1986). This is despite poor extension promotion and delivery, poor

input supply, inadequate veterinary services and inadequate infrastructure development.

It appears that the major socio-economic changes in outlook and production system of settled pastoralist have been spontaneous rather than as a result of extension education activities. It also appears that government has been paying lip service to this aspect. This tend to justify Okaiyeto's (1982) fear that government is unlikely to meet the high capital and managerial requirements for the development of grazing reserves.

Generally, it will appear that the change in the SLDP grazing reserve model in favour of emphasis on land security and encouragement of transhumance, as well as gazetting of the reserve, the socio-economic survey of the land and the involvement of settlers in grazing reserve management all contributed towards the unprecedented voluntary settlement.

Prospects for the Sustainability of the Grazing Reserve Concept

The prospects for the use of grazing reserves for the economic development of pastoralism in Nigeria is sustainability, the prospects of the Bobi Grazing Reserve are dependent on:

- (i) *Strong Local Institution and Community Participation:* The provision of a three stage management committee involving the pastoralists in planning, implementation and development of reserve activities is a positive step. With the involvement of the pastoralists, the chances of sustainability is high.
- (ii) *Environmental Compatibility:* This raises a major cause of concern as the reality of overstocking has stepped in. By April, 1996, the reserve was effectively overstocked. However, since most

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stop admittance of new settlers. The cattle production on the reserve is only slightly better than in the unsettled traditional herds (Ochere 1981; Hitchcock 1982). This must be due in part to the poor veterinary service and the high prevalence of trypanosomiasis and the heavy infestation with leeches, both of which cause anaemia and possibly death (Soulsby 1982). Animal mortality on the reserve is relatively high. Many of the settlers at Bobi have displayed improved skills in animal management, increased appreciation of modern social amenities (including secular education) and a change in lifestyle to permanent settlement. These are all indicators of progress towards meeting extension objectives (Okaiyeto 1982). Improvements in the staffing, resources and facilities would enable the reserve to serve as a pilot centre for pastoral development through which cattle owners could be encouraged to adopt modern animal management practices.

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