

EPIZOOTIOLOGY OF PASTORALISM IN NIGERIA

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Pastoralism is an economic activity based on a production system in which the pastoralist derive a major proportion of family's subsistence livelihood mainly from herds of domesticated cattle, sheep and goats, utilizing predominantly natural inputs^{1,2}. Pastoralism in Nigeria account for up to 20-26% of total national income from agricultural production^{3,4}. In Nigeria, the pastoral production system is extensive and migratory across the various ecological zones, in response to seasonal changes in weather, forage availability and disease situation. During the drier months (lasting up to 9 months in the arid zones), transhumant movements are from the arid and semi-arid zones of the north towards the tsetse fly infected subhumid zones of the south, in search of pasture, crop residues, water and disease-free areas. This movement pattern is reversed during the dry season.

A regional differentiation of pastoralism in Nigeria based on physical environment and the structure of the social area has been extensively described⁵. Twenty four (24) classes of the pastoral economy was described. However, four (4) main groups of pastoralism – nomadic (transient), semi-nomadic transhumant, semi-settled transhumant and settled agro-pastoralism (mixed farming) are generally recognized^{6,7}. The most extensive movement are by the nomadic and semi-nomadic groups who move hundreds of kilometres annually between the arid sahel and sudan regions towards the subhumid guinea and derived savannas, and the plateau regions. The least movement are by the agropastoralists who practise extensive arable farming in addition. Increased voluntary settlement due to environmental conditions have led to the assertion that 80% of Nigerian's pastoralists are fully or semi-settled⁸, and are mainly of the Fulani tribe⁹. Studies in Nigerian pastoralism have mainly been undertaken by agriculturalists, antropologists, sociologists, geographers, educators and economists. A work by this author¹⁰ applied epizootiological principles to study the pastoral phenomenon.

MATERIAL AND METHODS

The pattern of change of pastoralism in Nigeria from nomadic to settled agropastoralism was studied between 1993 and 1998. The foci of study was the Bobi Grazing Reserve, Niger State Nigeria, strategically located of Nigeria's North-West transhumance south, between latitude $10^{\circ} 00'$ and $10^{\circ} 10' N$ and longitude $5^{\circ} 45'$ and $6^{\circ} 00' E$ in the Northern Guinea Savana eco-climatic region. Primary data was collected through use of structured questionnaires, interviews, field study, project site visitation and observation of the host, agent and environment epizootiological components of the site. Secondary data were collected by extensive literature review.

RESULTS

The epizootiological features of Nigerian pastoralism are shown in Table 1. The most important epizootiological factors were environmental (feed, water and disease) limitations. These lead to extensive transhumance activities, which in turn predispose to sporadic outbreaks of various diseases, in addition to endemic ones. Host activities like bush burning and congregation of animal at water points contribute to the problems while reservoir animals are encountered at interfaces created during transhumant movements.

DISCUSSION

In view of the extensive transhumance within Nigeria as well as across national borders, there is a need for a nationally and internationally coordinated programme of vaccination, preventive medication, treatment and regular vector control. There should be a greater use of crop residues during dry season to prevent overstocking. Perhaps the greatest need is the development of a Livestock Geographical Information System (GIS) for Nigeria to determine for each ecoclimatic zone the most appropriate pastoral production system. The application of newer epizootiological approaches such as "Agrohealth System"¹¹, SAVANNA¹² (Dr Micheal Coughenour, Colorado State University) and IMAS¹³ (ILRI/CSU) to study Nigerian pastoralism is hereby advocated.

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