

GAME PRODUCTION: AN ALTERNATIVE TO BEEF CATTLE PRODUCTION IN SOUTHERN NIGERIA

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Abstract

In recent times, human nutritionists have observed that due to the rapid population growth in the south and other parts of the country, the production of animal protein has not been high enough to meet demands in Nigeria. In this light, the paper discussed the inherent problems involved in solely depending on the North for animal protein consumption by the Southern dwellers. It also discussed the factors limiting the development of the beef cattle industry and that of the other ruminants in the South, and the benefits derivable from game production and utilization as an alternative. Based on these, a concerted effort is advocated to develop game production and as an utilization alternative to beef cattle production through a three-prong strategy in Southern Nigeria.

Introduction

According to Okorie (1977) the word 'Agriculture' is used for such a wide range of varied activities that is difficult to find a single definition or explanation which satisfactorily covers what is generally meant by it in different parts of the world at different periods in history.

Plato stated that "Agriculture is the mother and nurse of other arts, science and technology for when agriculture flourished, all other pursuits are in full vigour, but when the ground is forced to lie barren, other occupations are almost stopped. The history of early man according to Okorie marked the genesis of agriculture hence agriculture, particularly the raising of animals has been as old as civilization itself. Common farm animals were really domesticated before written history. Paleolithic man hunted animals for food and clothing. His successor, Neolithic man tamed and confined these animals. The Neolithic era ideally is regarded as a period when man changed from involuntary gathering and planting to rearing of animals. This has a corollary that man changed from a nomadic to a settled life. It was an 'age of cultural development'. It is interesting to note that man's need to safeguard food supply when hunting was poor, gave rise to domestication of animals.

The dog was the first animal to be tamed as a companion in Tarma (S.W. Asia) (Okorie, 1977). Goats were domesticated about 8500-7000 B.C.; sheep were raised about 6000-7000 B.C.; pigs were reared in China about 6000B.C.; asses were domesticated in N.E. Africa about 250 B.C. and cattle which originated in S.W. Asia were the last to be domesticated.

There are four major cattle types namely:-

- a) Beef type
- b) Dairy type
- c) Dual purpose type and
- d) Draught or OX type used as beast of burden.

The beef cattle is characterized by great width and depth of body. The horns and legs are fairly short. Their primary purpose is to convert feed efficiently into maximum high quality meat for human consumption. The mammary gland is not well developed.

The main beef herds of Nigeria are raised by Fulani herdsmen while small quantities of Muturu and N'dama breeds are usually found in Southern Nigeria. More than 90% of the beef consumed in Nigeria is produced in the North and the remaining 10% is produced in the South. This situation is attributable to the following factors:

- a) The North is relatively free from tsetse fly, a major insect pest of cattle and other ruminants for the major parts of the year while this killer pest thrives in the South.
- b) Livestock rearing is part of the tradition of most of the tribes in the Northern states while in most of the Southern areas beef cattle production as business is not common.
- c) There is extensive grassland in the North in contrast to the dominant forests of the South. This situation poses a great nutrition problem among other unfavourable circumstances in the South arising from high rainfall and humidity.

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It is therefore certain that the conditions prevailing the South are not conducive for profitable and meaningful beef cattle production. Other classes of farm animals also have their limiting factors existing in the South to some considerable extent.

There is therefore the need to find alternative source(s) of satisfying the protein requirements of the Southern dwellers instead of relying only on transported livestock from the North.

Hitherto, animals are moved down to the South in groups through the following ways:-

- a) By train
- b) On hoof and
- c) By road.

Those animals on hoof suffer a long stress through long distances covered with very little or no food, except occasional pastures they pick along the roadside. Due to starvation, these animals lose weight and quality, while those transported by train or lorries sometimes contract diseases associated with stress. Some of these diseases that are zoonotic are transferable to the consumers. Some may die of accidents and/or suffocation before reaching their destinations. All these explain why total dependence on the North is not in the best interest of the Southerners in particular and the nation in general.

According to FAO (2000) figures, an average adult human needs about 65g of protein a day and not up to 25g is consumed by most Africans. This paper therefore seeks ways and means of intensifying game production and utilization as an alternative to the futile beef cattle business in the South.

The Concept of Game Production

The concept of game production is defined in this context as the domestication, management and conservation of wildlife species. The word conservation, means to maintain something into the indefinite future. The something here refers to wildlife. The question can be asked as to whether a natural resource like wildlife can be maintained indefinitely without being used? This is not possible because the benefit, beauty and full appreciation of a natural resource lies on its use by man.

Conservation in relation to game produced can therefore be defined as the manipulation and wise use of wildlife resources to guarantee their perpetuation. The science and art of wildlife production and conservation can be carried out within and outside protected areas, either for exploitation or for ecological integrity (Spinage, 1979). Protected areas include zoos, wildlife parks, game ranches, game reserves and national parks. These areas serve as tools for wildlife conservation. The use of protected areas for wildlife conservation involves a reasonable degree of management, requiring science and technology input.

Benefits Derivable from Game Production

The thickly and lightly forested areas of the South, coupled with the climatic and other ecological characteristics provide a conducive environment for the growth of wild animals that could be gainfully utilized.

The utilization of game animals by man according to Mossman and Mossman (1976) began some three million years ago. The ways in which wildlife could be used are expectedly many. This variety according to Alo and Akosim (1994) allows for adaptations to the personal inclinations of the people involved and to the changing ecological and social circumstances.

There are a number of reasons for advocating policies for wildlife conservation and utilization. Some apply only to some situations, others are of general validity. In Nigeria, it is interesting to observe that the reasons for wildlife conservation and production are beginning to be fulfilled in the life of the people and the aspirations of the nation. These include food which is of paramount importance; others include educational recreational, rural development, employment, revenue and foreign exchange as outlined by Alo and Akosim (1994).

Bush meat is a rich source of animal protein. Other products such as skin are also derivable from game animals. Some national parks and game reserves have converted their buffer zones into hunting reserves. These hunting reserves surrounding the National parks and game reserves are closed to hunting and trapping for a few years. Hunting is allowed only when animal populations have attained reasonable size. By this arrangement, the conservation areas contribute immensely to the availability of the much-needed animal protein, particularly to the rural dwellers. Wildlife and natural situations are also materials for education in science, agriculture and natural history.

Game conservation programmes in Nigeria attract visitors, tourists, researchers, etc both local and international. This has resulted in significant economic development in terms of the provisions made for hotels, restaurants, transport and handcrafts to cater for the need of the visitors. Besides, the support zones

have enjoyed tremendous rural development through governmental and nongovernmental organization assistance in providing infrastructure such as electricity, roads and pipe born water.

Foreign visitors at the parks and other conservation areas normally come in with their money which they spend to enjoy and carry out their missions thereby contributing to our foreign reserves in no measure.

Employment opportunities are provided for skilled wildlife personnel including professional wildlife managers, range ecologists; field assistants and porters. Gainful employment of this nature ultimately result to improved general standard of living to the benefit of the communities in particular and nation in general.

Strategies for Enhanced Game Production and Utilization

Three strategies are hereby put forward:-

- a) Extensive game ranching.
- b) Domestication.
- c) Intensive education and training.

Extensive Game Ranching

Extensive game ranching according to Akosim (1994) is the farming of wild animals in their natural environment. Management involves mainly the control of predators, provision of water holes, wells or reservoirs, provision of salt licks, manipulation of habit for the provision of cover against predators, rain and sunshine, and for resting purposes as well as population control.

Improvement on the food quality and quantity may be carried out through such practices as cutting of tree canopy or total removal of trees to enhance the growth of forbs and grasses, seeding of the range with desirable species, fertilization and irrigation.

Extensive game ranching advocated requires a minimum of 5000 hectares and could extend up to 400, 000 hectares (Dassman and Mossman, 1991). The profitability of game ranching has been demonstrated in environments similar to the Southern Nigerian ecosystem by researchers like Dassman and Mossman (1991) and field and Blankenship (1993).

Extensive game ranching demands two things. First is the land as earlier on indicated and the second is the wild animal diversity and abundance. According to Adegbola (1982) 10 percent or 3,508,570 hectares of Nigeria's land area is available for forest reserves and game production. The above land area can yield 13,670,738 kg of dressed meat per year under protection and management (Dassman and Mossman, 1991).

With respect to diversity and abundance, series of wildlife surveys in the Southern belt have revealed the abundance of important game species in the area.

Domestication

The domestication of some of the indigenous wild ungulates and rodents is strongly advocated particularly the fast breeding species such as giant rat, the cane rat, the kob and the gazelle.

Arguments in favour of domestication according to Akosim (1994) are that many indigenous wild mammals show higher biological potentials than the domestic stock by having short gestation period, large litter size, short estrus cycle, high efficiency of feed conversion, high lean meat content, high killing out percentage, and early maturity. They also exhibit high resistance to the prevalent diseases of the domestic stock, hence the suggestion that increases in meat production could be achieved up to level of constituting a desirable alternative to beef if all the manageable indigenous wild animals with the above characteristics could be domesticated in the South.

Table below shows the meat production potentials of some of the indigenous wild life species.

Table 1: The Meat Production Potentials of Some Indigenous Wildlife Species with Desirable Domestication Characteristics

Parameters Species	Gestation Period (days)	Litter Size (average)	Age at Sexual maturity (Months)	Average Live weight (9m)	Weaning Live (days)	Number of Litters Years	Docility	Acceptability of Meat	Food habit
Giant rat Cricetomys gambianus	28	4	5-6	960	21-26	4	Docile	Highly accepted	Utilizes fruits roughages, nuts, tubers and edible byproducts of human food
Cane rat Thryonomys swinderanus	90	4	9-12	7,500	60-90	2	Docile	Highly accepted	Utilizes natural forage, roots & tubers, fruits, nuts, barks & insects
Kob Kobus Kob	150	1	9	68-000	150	1	Docile	Highly	Accepted utilizes natural forage alone
Red-fronted Gazelle Caselle ruffifrons	150	1	6	27,000	150	1	Docile	Highly accepted	Utilizes natural forage alone.

Source: Massman and Vlossman, 1976.

Intensive Education and Training

Education and training that should be intensive in content and practice oriented, and extensive in terms of participation should be embarked upon to provide the much-needed wildlife personnel to support the campaign for ranching and domestication.

To this end all the Southern Nigerian Universities should be encouraged to either start programmes in wildlife where none exists or to enrich and intensify their pre-existing courses in that respect. The polytechnics, colleges of agriculture, and schools of wildlife should also be encouraged to do so.

Conclusion

A call has been made for game production as an alternative to beef cattle production in Southern Nigeria. The strategies to this effect have been suggested and the meat production potentials of some indigenous wildlife species with desirable domestication characteristics have been tabulated to facilitate action. Game production and utilization in Southern Nigeria can be developed as an effective alternative to beef cattle production if and only if the three-prong strategy can be recognized and give the appropriate attention and consideration it deserves by the appropriate institutions concerned.

Recommendations

On the basis of the above issues, the following recommendations are made:-

- 1) The agricultural extension personnel in Agricultural Development Projects in the various states in the South should integrate effective game production and utilization education in their farmer training programmes.
- 2) The scope of game production and utilization education should be expanded in the formal schools and colleges to inculcate more practical realities involving domestication strategies.
- 3) The Universities and other tertiary institutions should be encouraged to be more effective in game production manpower training to adequately support the game production project.

- 4) Following full development of the game production industry, possible shortages in animal protein requirements can be provided for through supplementary supplies from the North and other livestock production ventures.
- 5) Finally, for effective supplementation, the mode of transportation of these animals from the North should be made more comfortable to prevent exposing them to avoidable stress and dangers on the way.

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