Wildlife and Meat Production on Marginal Lands with Special Reference to Nigeria

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INTRODUCTION

THERE is enough evidence that man had maintained himself successfully and for ages on hunting wild life. He ate the flesh from all animals that surrounded him. Members of the family *Bovidae* were the chief source of his animal food.

Hunting wildlife for food is still a common practice in many countries till now. Meat from wildlife contributes significantly to the diet of man in the developing nations, while it is considered delicacy in others.

Many animal scientists found it difficult to accept the idea of wildlife farming and ranching for meat production. However, in view of the population explosion in many regions of the world and the increasing need for more animal protein, there is a growing realisation that some wild animal species can be raised successfully on marginal land due to their adaptation to their environment.

WILDLIFE vs DOMESTIC STOCKS FOR THE DEVELOPMENT OF MARGINAL LANDS

Raising wild animals on marginal lands offers a possible solutions to allow the land to contribute to the food supply. Many of the wild ungulates were reported (Crawford and Crawford, 1974; Hopcraft, 1970; Ledger *et al*, 1967; Talbot, 1965) to be better than domestic stocks in converting the flora of marginal land to human food. This claim is based on observations that wild species make best use of the existing plants, they utilise a wider range of plants than domesticated stocks.

Investigations on tropical wildlife (Talbot, 1965) proved that many species produce a higher proportion of edible animal protein (lean carcass meat) per unit of live weight than do domestic indigenous stocks.

There were no objective trials carried out on palatability of game meat but Ledger and his co-authors (1967) reported

TABLE I

Liveweight and Carcass weight of some mature East African Mammals (Males)

Species	Liveweight	Carcass weight	Carcass as % of liveweight	Carcass lean as % of live-weight
	kg	kg	%	%
Eland	508	301	59.1	46.7
Grant's Gazelle	60	36.4	60.5	48.2
Thompsons Gazelle	25.3	14.8	58.6	48.1
Impala	56.7	33.0	58.1	47.3
Buffalo	753.0	380.5	50.5	40.6
Zebu Bull	383.9	280.4	58.0	39.8
Zebu Steer	469.8	270.6	57.6	31.6

Talbot, 1965.

that they tasted meat samples from all game species and they noted no game flavour and meat was acceptable to both sophisticated and unsophisticated palates.

Many wild animals such as the eland, oryx and gazelle are less dependent on free water for survival. These species adapt extremely well to restricted water intake and can offer many advantages over cattle as meat producers in arid zones (Hopcraft, 1970).

Taylor and Lyman (1967) have noticed that eland and oryx can tolerate a heat stress of 45° C with relative ease. They observed that these species can fluctuate their body temperature according to air temperature, to avoid the loss of water in thermoregulation. Diurnal variations in body temperature of more than 10° C have been recorded. These animals were able to resorb the water in the intestine and recirculate it in the body. They were most active at night when air temperature is minimal while they rest under shade at day time. Hopcraft (1970) noticed that eland could be easily handled and can be raised as cattle. It has possibilities of domestication.

It has also been noticed that game animals survive better than domestic stocks in regions infested with tse-tse fly and were considered a practical means of making such land productive (Cuthbertson, 1970; Ledger *et al.*, 1967).

BUSH MEAT CONSUMPTION IN NIGERIA

According to the publication of the Nigerian Federal Ministry of Agriculture and Natural Resources (1974), the area of the forest reserves in Nigeria is estimated to be 96,000 km² or about 9.7 % of the total land. About 69,000 km² of it are classified as Sudan and Derived Savanna, 20,000 km² as low land rain forest, while the rest of the forest land is Sahel, Mangrove and Swamps. The most valued game animals in these lands include the wild boar, various antelopes, bush cow (buffalo), guinea fowl and grass cutter.

The estimated tonnage of bush meat consumed in Nigeria is about 122,000 to 163,000 tons of bush meat per year and the

annual per capita consumption ranges from 2.0 to 2.63 kg bush meat 1 year. These values are estimated from consumption and excluded wastes from processing, storage and distribution (F.M. of Agric. & Nat. Res., 1974; Olayide *et al.*, 1972; Petrides, 1965).

Bush meat consumption in Nigeria varies from place to place according to the population density and availability to cattle meat. Most of the bush meat is eaten in the Southern rural areas of Nigeria as compared to the Northern regions where cattle meat is most plentiful. Bush meat represents about 16% of the total animal protein consumed by the average Nigerian with a range from 5 to 82% (F.M. of Agric. & Nat. Res. 1974; Olayide *et al.*, 1972; Petrides, 1965).

The importance of bush meat in the Nigerian diet is considerably high specially in the southern part of Nigeria where cattle are less numerous and they have to be driven hundreds of miles from the north to the south for slaughtering. Therefore, bush meat is considered one of the chief sources of animal protein in the diet of rural communities in southern Nigeria. It is ranked equivalent to beef meat in terms of the daily available animal protein supply. The daily animal protein consumption available from all sources in the diet of an average Nigerian is estimated to be 8.3 gm/day. The amount of protein supplied from fish, beef and bush meat are 2.56, 1.35 and 1.31 gm protein /day, respectively (Olayide *et al.*, 1972). It is believed that these values are under-estimated due to the difficulty in obtaining accurate data.

PRESENT STATUS OF WILDLIFE RESOURCES IN NIGERIA

Reports indicate that wildlife in Nigeria are becoming scarce. Several species of mammals including the eland and gazelle which were formerly present in Nigeria are either very rare or have been eliminated by now (F.M. of Agric. & Nat. Res., 1974; Petrides, 1965). There is enough evidence to prove their abundance in the past. They are abundant in Nigerian game

reserves and adjoining countries. These evidences indicate the suitability of the Nigerian environment for their survival. However, due to over-hunting, their population decline during the last decade or two (Petrides, 1965).

Intensive land use and unregulated over-hunting contributed to their scarcity. The increase in population density and consequently the increased need for more meat encouraged the hunters to practice all year round. They hunted games of both sexes and of all ages. They burnt the savanna grass to drive the game or to encircle it with flames "ring firing". All these factors contributed to the scarcity of wild life in Nigeria.

SUGGESTIONS FOR RESTORING AND DEVELOPING WILD LIFE IN NIGERIA

Successful utilization of game animals for meat production can be achieved by establishing more game ranches and by encouraging the people to have private game farms. The latter is a smaller scale to the game ranch both in size of land and size of herd. The variety of species are fewer in game farms, while it is wider in game ranch. Eland, gazelle, wild boar, buffalo and grass cutter are suggested species for game farming.

It is always advisable to choose the species best suited to the environment from the indigenous animals known to thrive in the same environment. A mixed population of wildlife produces more meat per acre than a single species, due to the complementary food selection pattern.

Hunting should be regulated by declaring some areas closed to hunting or by enforcing kill limitations on certain species, sexes or ages and number of animals per hunter to kill.

Due to the complexity of the problem and the limited information available on wildlife, more research is required about the animal and his environment.

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