

## Extension Potentials of Traditional Management Practices of Muturu Cattle (*Bos brachyceros*) in Ebonyi State, Nigeria

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### Abstract

*The study investigated the extension potentials of traditional management practices of muturu cattle (Bos brachyceros) in Ebonyi State. eighty muturu farmers randomly selected from Ezza, Izzi and Ohaukwu Local Government Areas constituted the sample. Data were collected through the use of interview schedule and presented using percentages and mean scores. Results of the study show that muturu has a high socio-cultural significance in the area. However, majority (68.75%) of the farmers have never had any contact with extension agents on muturu production matters. The results further indicate that the major problems facing the muturu farmers are lack of finance, pasture unavailability during dry season, high cost of drugs/vaccines and inadequate information on improved management practices. It is therefore recommended that appropriate extension programmes that will respond to the peculiar needs of these farmers be put in place with planned programmes of learning activities.*

### 1.0 Introduction

The basic biological role of livestock in rural and national economies is the provision of animal protein through such animal products as meat, egg, milk, butter and cheese and other animal products. In Nigeria, cattle production continues to enjoy topmost priority among the nation's livestock species, because of its important strategic position and cultural values (Federal Livestock Department, 1987). Nuru (1988) observed that out of the total meat supply from the domestic source, cattle, accounts for 45% sheep and goat 35% and pigs and poultry 20%. In addition, cattle provides more than 90% of the total annual milk output in Nigeria while sheep and goat provide less than 10% (Walshe et al 1991).

The Federal Livestock Department (1987) and Uza et al (2000) noted that about 90% of cattle in Nigeria are owned by the nomadic Fulani herdsmen whose animals depend on grazing of native pasture as they move from one place to another. This is partly because in southern Nigeria, cattle production is hampered by high incidence of trypanosomiasis. However, the solution to this problem is the preference of two breeds of cattle (Muturu and N'dama) that have been found to be trypanotolerant in this breeds were slow maturing and unproductive, recent reports have indicated that the two breeds are early maturing and exceptionally fertile (Robert and Gray, 1983; Klinge-



Vonschultz and Wifsen Hansen, 1986).

The muturu cattle (*Bos brachyceros*), otherwise known as the West African Dwarf Shorthorn cattle is humpless with a compact body and a broad head that is relatively large for its body. The animal is usually black in colour or dark brown with patches and is probably the least known race of cattle in Nigeria and indeed in West Africa (Federal Department of Livestock and Pest Control Services, 1981). The population of these cattle in Nigeria stood at about 15.16 million herds (FAO, 1986). Muturu is a good converter of forages into high quality meat and are usually slaughtered during festival, ceremonies and sacrifices apart from their main use as source of protein for human (FAO, 1984). Umoh et al (1989) also observed that muturu is a source of income to farmers in this region. The skin has been reported to be used in leather works (Payne, 1990). Webster and Wilson (1989) further reported that these animals are used in the production of manure and as convenient experimental animals for metabolic studies. Despite all these advantages, the density of muturu is comparatively very low to that of the White Fulani cattle. This study therefore sought to find out to what extent extension efforts promote the activities of muturu farmers and the major problems encountered in raising muturu cattle in south-eastern Nigeria.

### 1.1 Objectives of the study

The broad objective of the study was to investigate the extension potentials of traditional management practices of muturu cattle in Ebonyi State, Nigeria. Specifically, the study was designed to:

1. ascertain the existing management and breeding systems practised by muturu cattle farmers in the area;
2. identify the farmers' major reasons for raising muturu cattle;
3. ascertain the farmers' perception of the available extension services on muturu cattle production;
4. identify the major problems associated with muturu cattle production; and
5. ascertain farmers' opinion on the needed strategies for increased muturu cattle production in the area.

### 2.0 Methodology

Three local government areas namely, Ezza, Izzi and Ohaukwu well known for their muturu cattle production in Ebonyi State were purposively selected for the study. A preliminary survey carried out in the state showed that the number of muturu cattle farmers in Ezza, Izzi and Ohaukwu were 96, 88 and 79 respectively. From each local government area, 28 to 30 muturu cattle farmers were selected for interview through simple random sampling technique. In all, 85 muturu farmers were sampled. However, 80 farmers fully participated in the study. The instrument for data collection, which was validated by staff of the Department of Agricultural Extension, University of Nigeria, Nsukka, was pre-tested using a small sample of 15 respondents from Ezza Local Government Area.

To ascertain farmers' perception of available extension services on muturu cattle production, a four point Likert-type scale with five items was utilized. The response options ranged from "poor" to "very good" and scaled 1 to 4 respectively. However, the respondents' major reasons for raising muturu cattle, their perception of the major problems of muturu cattle production and their perception of the needed strategies to overcome these problems were measured on 3 point Likert-type scales with 15, 14 and 8 items ranging from "not important" scaled 1 to "very important" scaled 3, "not serious" scaled 3, respectively. The split-half method of estimating reliability (Tuckman, 1978) was used to determine the reliability of the scale. The reliability of full instrument gave  $r = .88$  which was considered very satisfactory. Responses of the 4 - point and 3 point scales were categorized according to their mean scores. In terms of extension services, mean scores of 2.5 or above were classified as good, while those with mean scores below 2.5 were classified as poor. In terms of



major reasons for raising muturu cattle, mean scores of 2 and above were regarded as major reasons, while mean scores of below 2 were regarded as minor reasons. Also, in terms of respondents' perception of problems confronted and the needed strategies to overcome them, mean scores of 2 or above were classified serious and important, while mean scores below 2 were classified as not serious and not important. In all, percentages were used to present data related to objective one, while mean scores were used to summarise data related to the rest of the objectives.

### **3.0 Results and Discussion**

#### **3.1 Management and breeding systems practised by the Muturu farmers**

The rearing systems of muturu in Ebonyi State include the tethering, free range and intensive systems. Data on Table 1 show that majority (96.25%) of the respondents practise the tethering system, 2.5% use the free-range system, while 1.25% of them practise the intensive system.

The tethering system of muturu management involves taking the animals out in the morning and tethering them to stakes where they are allowed to graze on pastures unsupervised till evening. These animals are brought back to their thatched shelters near the homestead where they are also tethered for security. This system was adopted in many cases by farmers to check destruction of farm crops by these animals. Umoh et al (1998) also reported that majority (69.35%) of the muturu farmers in Akwa Ibom State practised this system of management. In the intensive system, the animals are kept in thatched enclosures called "Okaefi" where yam peels, cassava peels, fronds, grasses and water are provided for them all year round and hence are not allowed to move about the village. However under the free-range management system, the animals are allowed to roam about especially during the dry season to graze without a herder, sometimes these uncontrolled animals normally return to their thatched enclosures in the evening.

Table 1 further shows that majority (81.25%) of the respondents practise free mating system, while 18.75% use hand-mating system. Agwu (1999) in his study of the pig management practices in Udi Local Government Area of Enugu State found that only 7.5% of the farmers used the hand-mating system. In the free mating system, the animals are left on their own without any conscious effort by the farmers to observe their heat periods, hence no purposeful mating was done. This system of breeding cannot be relied upon if increased productivity is to be attained by the animals because the danger of inbreeding is much higher (Njoku, 2000). Unfortunately, majority of the farmers are practising this system of breeding. However, majority of the farmers are practising this system of breeding. However, in the hand mating system, the farmers closely watch the animals for signs of heat in which case they would separate them, from the rest of the herd and introduce a bull for their servicing. One of the common practices among the farmers was the borrowing or hiring of bull(s) with known record for servicing of the cows. In some cases a token of between N60 to N150 may be charged per bull depending on the number of days required.



Table 1  
Percentage Distribution of Respondents by management and Breeding System of Muturu (N = 80)

Management and Breeding System	Percentages
<b>Management systems</b>	
Tethering	96.25
Free range	2.50
Intensive	1.25
<b>Breeding system</b>	
Free mating	81.25
Hand mating	18.75

### 3.2 Major reasons for raising Muturu cattle

Entries on Table 2 show that only eight socio-cultural and economic reasons were identified as major reasons for raising muturu in the area. These include: for title taking ceremonies (2.95), for burial ceremonies of titled men (2.87), to attain social recognition (2.85) and to generate income when sold (2.78). Other major reasons include acting as security (2.67), dung used as manure (2.65), for use in appeasing the gods (2.0) and for production of hides which are sold as raw materials (2.0). The implication of these findings is that the raising of muturu in the area has high socio-cultural significance and hence tends to support the FAO report (1984) that muturu were usually slaughtered during festival ceremonies and sacrifices in the region.

Table 2

## Respondents' Major Reason for Raising Muturu Cattle

Reasons	Mean scores
Used in title taking ceremonies	2.95*
Used in burial ceremonies of titled men	2.87*
To attain social recognition	2.85*
For income generation when sold	2.78*
Acts as security	2.67*
Dungs used as manure	2.65*
Used in appeasing gods	2.00*
Hides sold as raw materials	2.00*
Acts as alternative dowry	1.86
Used in child-naming ceremonies	1.83
Used for setting debts	1.68
Used in new yam festivals	1.66
Used in marriage ceremonies	1.65
Dungs used as repellent	1.62
Fats used in treating convulsion	1.35

\*Major reasons

### 3.3 Farmers' perception of contact and quality of available extension services on Muturu production

#### Level of contact

Table 3 shows that majority (68.8%) of the respondents have not had any contact with extension agents on muturu production matters, 18.8% of the respondents have been visited on some occasions by the extension agents, while 12.5% were visited once every month by the extension agents.

The low percentage of muturu farmers visited by the extension agents appears to indicate that the extension service/agents are not playing their expected roles in promoting livestock production in the area. Williams and Williams (1991) also observed that the Livestock Extension Service of the Agricultural Development Programmes (ADPs) is generally poorly organized and in some cases non-existent.



Table 3

Percentage Distribution of Respondents by their Contact with Extension Agents on Muturu Production Matters (N = 80)

Contact with extension Agents	Percentages
Never	68.75
Occasionally	18.75
Once every month	12.50

#### Farmers' perception of available extension advice

Entries on Table 4 show that out of the seven areas in which advice are given, for those in contact with extension, only three, namely healthcare (3.26), feeding (3.04) and housing (2.90) are perceived by the respondents as good, while the rest are perceived as poor. This confirms the assertion made by Ajala (1988) that livestock extension services are sadly inadequate in Nigeria. These findings also tend to strengthen our earlier findings that extension's expected roles in muturu production in the area were not adequately played. However, there are also indications that the extension services have made significant contributions in three areas, which the farmers considered important in raising muturu.

Table 4

Respondents' Perception of the Quality of Extension Advice given on Muturu Production

Areas of Extension Advice	Mean scores
Healthcare	3.26*
Feeding	3.04*
Housing	2.90*
Record keeping	1.98
Labour management	1.88
Marketing strategies	0.66
Loan procurement	0.63

\*Good

#### 3.4 Farmers' perception of major problems associated with Muturu production in the area

Data in Table 5 show the problems associated with muturu production. The data show that inadequate finance to expand the herd size (2.92), pasture unavailability during dry season (2.88), high cost of drugs/vaccines (2.75) and scarcity of water during dry season (2.72) are among the major problems facing the muturu farmers. Other major problems include irregular contacts with extension agents (2.68), unavailability of labour required to look after the herd (2.52), inadequate information on improved management practices (2.30), irregular supply of vaccines and drugs in the area (2.26), and access to veterinary doctors (2.00). These findings confirm the assertions made by Njoku (2000), Amogbade (1988) and Suleiman (1988) that the major problems of cattle production include among other things the inadequate supply of water and pasture especially during the dry season, as well as problems arising from inadequate veterinary services and infrastructure.



Table 5

**Respondents Perception of the Problems Associated with Muturu Production**

Problems	Mean scores
Inadequate finance to expand herd size	2.92*
Pasture unavailability especially during dry season	2.88*
Cost of drugs and vaccines	2.75*
Scarcity of water supply during dry season	2.72*
Irregular contact with extension agents	2.68*
Unavailability of labour required to look after the herd	2.52*
Inadequate information on improved management practices	2.30*
Irregular supply of vaccines/drugs	2.26*
Access to veterinary doctors	2.00*
Cost of construction materials	1.90
Purchase of breeding stock from reliable source	1.84
Irregular demand for muturu products	1.65
High cost of commercial feeds	1.60
High cost of transporting animals to and from market	1.60

\**Serious problems***3.5 Farmers' perception of the needed strategies for increased Muturu production in the area**

Table 6 shows that provision of soft loans by institutionalized sources of credit (3.0), posting of veterinary officers (2.96), provision of infrastructural facilities such as water supply (2.81), regular supply of drugs/vaccines (2.78) and posting of livestock extension personnel to the area (2.70) are among the measures perceived by the farmers as important for increased muturu production. Other perceived important measures include establishment of muturu ranches in the area (2.54), educating farmers on improved production practices (2.32) and providing of training programmes for the muturu farmers (2.01). The fact that provision of soft loans is perceived, as one of the major strategies for increased muturu production tends to collaborate out earlier finding that lack of finance is a major limiting factor to increased muturu production in the area. This suggests the need to improve the financial base of the farmers in addition to provision of basic infrastructural facilities and improved extension services in order to increase muturu production in the area.



Table 6

## Respondents' Perception of Important Strategies for Increased Muturu Production

Strategies	Mean scores
Provision of soft loan by institutionalized sources of credit	3.00*
Posting of veterinary officers	2.96*
provision of infrastructural facilities such as water supply	2.81*
Regular supply of drugs/vaccines	2.78*
Posting of livestock extension personnel	2.70*
Establishment of muturu ranches in the area	2.54*
Educating farmers on improved production practices	2.30*
Providing training programmes for muturu farmers	2.01*

\*Important

## 4.0 Conclusion

the findings of this study established that majority of the farmers surveyed have never had contact with extension agents on improved muturu production practices while for those that are in contact, the frequencies of such contact is rather low. The results further show that muturu have high socio-cultural significance in the area. However, the major problems facing the muturu farmers are lack of finance, pasture unavailability during dry season, high cost of drugs/vaccines and inadequate information on improved management practices, among others.

In view of these findings and considering the socio-cultural and economic significance of muturu among rural households in the area, it is important that appropriate extension that will respond to the peculiar needs of these farmers be put in place with planned programmes of learning activities that will benefit the farmers and the nation at large.

## References

- Amogbade, M. O. (1988), The nature and scope of pastoralism in Nigeria. In: J. O. Gefu, I. F. Adu, E. A. Lufadeju, M. S. Kallah, A. A. Abatan and M. O. Awogbade (Eds.). *Pastoralism in Nigeria, Past, Present and Future. Proceedings of the National Conference on Pastoralism in Nigeria*. Pp 8 - 16.
- Agwu, A. E. (1999), Pig management practices in Udi Local Government Area of Enugu State of Nigeria, *Nigerian Journal of Agricultural Teacher Education*, Vol. 8, (1 & 2), 65- 72.
- Ajala, A. A. (1988), The Role of Extension Service in the Improvement of Small Ruminant Management in West and Central Africa, *Proceedings of the Workshop on the Improvement of Small Ruminants in West and Central Africa*, OAU, Nairobi, Kenya, 149 - 159.
- Federal Department of Livestock and Pest Control Services (1981), *Nigerian National Livestock Survey*, Federal Department of Livestock and Pest Control Services, Abuja, Nigeria.
- Federal Livestock Department (1987), *A Report on Livestock Production in Nigeria*, Federal Livestock Department, Lagos.
- Food and Agriculture Organization (1966), Protein requirement, *FAO Management Meetings Report Series No. 37*, Rome.



- Food Agriculture Organization (1984), *Production Year Book*, FAO, Rome.
- Food and Agriculture Organization (1986), *Production Year Book*, FAO, Rome.
- Klinge Vonschutz and Wifsen Hansen (1986), Preliminary studies on the performance and productivity indices of Muturu and N'dama cattle, *Tropical Animal Health Production Journal*, Vol. 9, No. 17, Pp 4 - 6.
- Njoku, P. C. (2000), Nigerian agriculture and challenges of the 21<sup>st</sup> century, *Agro-Science: Journal of Tropical Agriculture Food, Environment and Extension*, Vol. 1, No. 1, 1 - 28.
- Nuru, S. (1988), Research and development in pastoral production system in Nigeria, In: J. O. Gefu, I. F. Adu, E. A. Lafadeju, M. S. Kalla, A. A. Abatan and M. O. Awogbade (Eds.), *Pastoralism in Nigeria Past, Present and Future. Proceedings of the National Conference on Pastoralism in Nigeria*, 52 - 62.
- Payne, W. J. (1990), *An Introduction to Animal Husbandry in the Tropics*, 4<sup>th</sup> Ed. Longman Group, UK Ltd.
- Robert, C. J. and Gray, N. (1983), Studies on trypanosomiasis resistant cattle. The breeding and growth performance of N'dama, Muturu and Zebu cattle managed under the same condition of husbandry, *Tropical Animal Health Production Journal*, Vol. 8, No. 29, 211 - 220.
- Stephen, N. W. (1966), A contribution to the study of African native cattle. *Journal of Veterinary Science and Animal Production*, Vol. 2, No. 7, 8 - 16.
- Suleiman, A. H. (1988), Policy issues in pastoral development in Nigeria. In: J. O. Fefu, I. F. Adu, E. A. Luifadeju, M. S. Kallah, A. A. Abatan and M. O. Awogbade (Eds.), *Proceedings of the National Conference on Pastoralism in Nigeria*, 17 - 25.
- Tuckman, B. W. (1978), *Conducting Educational Research* (Second Edition) Harcourt Brace Jovanovich, Inc. New York.
- Umoh, B. I. Okonkwo, A. C. and Udoudo, a. I. (1998), A study of the muturu population and management system in Akwa Ibom State. In: O. O. Oduguwa, A. O. Fanimu and O. A. Osinowo (Eds.), *Proceedings of the Silver Anniversary Conference of the Nigeria Society for Animal production (NSAP) and the Inaugural Conference of the West African Society for Animal Production (WASAP)*, Gebmi Sodipo Press Ltd., Abeokuta, 260 - 261.
- Uza, D. V., Dogo, D. D. and Ayoade, J. A. (2000), Evaluation of the productivity of settled pastoralist Bunaji herds in and outside the Kachia grazing reserve, *Journal of Sustainable Agriculture and the Environment*, Vol. 2, No. 2, 151 - 161.
- Walshe, M. J; Gramdle, A., Nelli, C. and Benchman, M. (1991), Dairy development in sub-Saharan Africa, *World Bank Technical Paper*, No. 135.
- Webster, C. C. and Wilson, P. N. (1989), *Agriculture in the Tropics*, First Ed., Long man Group, UK Ltd.
- Williams, C. E. and Williams, S.K.T. (1991), Extension services in livestock production sector in Nigeria, *Nigerian Journal of Rural Extension and Development*, Vol. 1, 1 - 13.