

REFLECTIONS ON RURAL PEOPLE'S KNOWLEDGE AND SKILL AND RELEVANCE IN AGRICULTURAL DEVELOPMENT. CASE OF PASTORAL FULBE OF SAVANNAH BELT OF NIGERIA-WEST AFRICA.

H. M. NDIFON and M. I. NFORMI

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ABSTRACT

This study examines the rural people's knowledge and skills and its relevance in agricultural development. Its main objective is to assess the relevance of indigenous knowledge in agriculture. Its specific objectives are to examine the knowledge of farmers in agriculture, assess their skills, determine their relevance and make policy recommendations. The study reveals that pastoralists make use of ethno veterinary practices to maintain the herd. This knowledge has remained famous because it is affordable. The age, level of education and experience of the people influence indigenous knowledge. It is in line with this that it is recommended to farmers to transmit the knowledge to the youths and researchers to document it and government to protect it.

KEY WORDS: Reflections, Rural People's Knowledge, Skill And Relevance, Agricultural Development.

INTRODUCTION

This study examines the indigenous knowledge of the rural people and its relevance to agricultural development. Grenier (1998) defines indigenous knowledge as the unique traditional and local knowledge existing within and developed around specific conditions of women and men indigenous to a particular geographic area. The development of this knowledge system, covering all aspects of life, including management of the natural environment, has been a matter of survival to the people who generate this knowledge.

The indigenous knowledge has often been disregarded as unsystematic and incapable of meeting the productivity needs of the modern world. This knowledge has not been captured and stored in a systematic way, with the implicit danger that it may become extinct. This situation has changed, since the last decade of 20th century. There is an explosive growth in the number of publications on the relevance of indigenous knowledge in a variety of policy sectors and academic disciplines.

The interest in the contribution of indigenous knowledge to a better understanding of sustainable development has been catalysed by United Nations conference on Environment and Development (UNCED) in 1992. UNCED highlighted the urgent need to develop mechanisms to protect the earth's biological diversity. Many of the documents signed at UNCED reflect the need to conserve the knowledge of the environment that is being lost in rural communities. UNCED was an important incentive for the UN and other development agencies to embrace Agenda 21 as the guiding principle for sustainable development. Indigenous knowledge is dynamic and is the result of a continuous process of experimentation, innovation and adaptation which enable the knowledge to blend with science and technology.

OBJECTIVES OF THE STUDY

The main objective is to assess the relevance of indigenous knowledge in agriculture, while the specific objectives were to:

- a) examine the indigenous knowledge of farmers as well as their skills in agriculture
- b) determine their relevance in agriculture.
- c) make policy recommendations.

CONCEPT OF INDIGENOUS KNOWLEDGE

The Fulbe of Savannah Belt of Africa has a very rich culture of indigenous knowledge. This knowledge has not

been given adequate attention in livestock research towards the formulation of government policies on pastoralism. The Farming System Research and Extension Programmes have in the past decade attempted to provide new paradigms of agricultural policy formulation that seeks to incorporate indigenous knowledge of the pastoralists into agricultural research and extension. Indigenous knowledge is believed to help in the adoption of modern agricultural technologies (Titilola, 1992).

According to Warren and Cashman (1989) indigenous knowledge is an important aspect of the culture and technology of a society. They characterized this knowledge for a given group that forms the basis for decision making with regard to familiar and unfamiliar problems and changes.

Altieri (1988) characterized indigenous knowledge of the rural people derived from systems of production and consumption with the following key components: organized technical knowledge, social institutions, decision making and management of diverse natural resources, technology and skill labour. Some indigenous practices are responding creatively to challenges through local adaptation, innovation and experimentation under diverse, heterogeneous conditions.

Successful adaptations are preserved and passed on from one generation to another through oral means. Indigenous knowledge is not necessarily simple nor does it occur in a vacuum. It is changing and very often borrows selectively from outsiders (Niamir, 1990).

Efforts to develop technologies for developing countries were meeting with disappointments largely because the environments and socio-economic systems of the people were poorly understood. Biggelaar (1989) noted that no new approach to rural agricultural development will succeed unless it clearly manifests a thorough understanding of traditional and human ecosystems which it intends to change and the clients' values and norms. Indigenous knowledge systems are considered complex but well adapted to local environments and social conditions.

Agricultural scientists and policy makers begin to recognize such systems and knowledge for their inherent value and not as obstacles to be eradicated and replaced entirely by other systems which are designed to use inputs sufficiently and achieve sustainability. Understanding of indigenous knowledge systems reflects a greater need and willingness to consider particular problems and potentials at local levels (Niamir, 1990).

The pastoral Fulbe of Savannah Belt of Nigeria and elsewhere in Africa adopt a simple system of grazing depending solely on the natural pasture with little feed

supplements to maintain the herd. They are prominent in ethno veterinary practices and use these to sustain their herds. Their dependence on nature makes migration, nomadism and transhumance synonymous to pastoralism. Migration refers to the total removal of livestock and the people from their camp to a new relocation. This is reduced in most states in Nigeria especially in Mambilla Plateau of Taraba State where the grazers are more sedentary. Nomadism like migration involves the movement of livestock and people from one region to another dictated by seasonal changes.

The animals move from the Northern Savannah belt to the Southern parts during dry season to look for green pasture and water. This system has gradually given way to transhumance, a situation whereby part of the cattle and family or herdsmen move out of the rainy season grazing camps to dry season camps in the South and return to camps at the onset of rains. This is common on Mambilla plateau in the high altitudes of Taraba State (Manu, 1995).

Grazing activities during rainy season occur on the plateau, and valleys are used by cattle during the dry season. The nature of pastoral settlements is more of agnatic ties, that is people choose to live by lineage and movement is migratory drift and direct or it may occur across international boundaries between Nigeria and its neighbouring states. Sometimes because of prolonged droughts this migration takes the grazers from Northern Nigeria into Ghana and Benin in search of pasture and water.

Indigenous knowledge is important for the success of livestock development projects and agriculture. Experts in agricultural development often fail in their decisions and solution offered because such solutions do not fit in well with the local knowledge systems (Gefu, 1995).

RELEVANCE OF INDIGENOUS KNOWLEDGE IN AGRICULTURAL DEVELOPMENT

Indigenous knowledge is capable of providing alternative methods of viewing and solving agricultural problems. The success of agricultural development efforts often depends on local participation. Indigenous knowledge helps experts to understand and communicate with local people thereby enhancing the possibilities for participatory approaches to development and sustainability of these efforts. Other reasons advanced by (Kotschi et al, 1989) include:

- i) The present form of resource use has sustained people in resource-poor and fragile environments and must be preserved until proven superior forms of resource use have been developed.
- ii) Local livestock practices and environmental knowledge could offer a starting point for developing livestock methods which may increase the productivity and sustainability of local resources.

Another reason for the usefulness, value and relevance of indigenous knowledge is its relationship to the concept of sustainability and conservation of biodiversity.

The fact that pastoralists are more concerned with protecting themselves from various risks than with making an immediate profit determines a number of salient features of nomadism or nomad economic strategies to adjust to changing conditions (Swift, 1975).

Frantz (1981) identified three strategies used by pastoralists which are relevant to agricultural development. These include:

- i) Flexibility in herd management: This is a comprehensive system by herding several species of domestic animals, each with its own economic and ecological characteristics. Pastoralists spread risks by herding cattle and sheep which sell well but need lots of grass, water and labour, and camels and goats which sell less but can survive adverse conditions. Goats are more resistant to drought.
- ii) Accumulation of large herds: This has given rise to misunderstanding of the reason why pastoralists keep large herds, above what is needed for subsistence. Many researchers (Swift, 1973) had pointed out that

large herds are the adaptive response of a difficult environment. This is a form of risk adjustment, for few animals can be wiped out by drought or epidemic as is the case of Somalia, Ethiopia and Niger in the recent years.

- iii) Relative lack of success in regulating grazing pressure: The variability of rain and pasture and the need for flexibility in management, make any precise allocation of land to a particular group of pastoralists difficult. The strategy of keeping large herds by pastoralist is to guide against uncertainty. Droughts and epidemics have reduced most families to destitutes due to their devastating effects. Transhumance is used as an adaptation to the environment and as a strategy to maintain the grazing land from over grazing. It is practiced at times to evade danger such as eminent epidemic outbreak or presence of poisonous plants in the area.

According to Awogbade and Hassan (1987) transhumance is in response to seasonal variation in weather conditions and forage availability. This strategy by pastoralists has been practiced by generations and has continued to survive. It has been contracting in the recent years due to several factors affecting livestock development.

THE STUDY AREA

This survey was carried out in the Savannah belt of Nigeria, more specifically in Mambilla plateau of Taraba State. This area covers a surface of over 4,200 km². The plateau is over 90% of Sardauna Local Government and is about 24% of Taraba State. This region is conducive for livestock and human habitation. In Nigeria it is only compared to Obudu Cattle Ranch in terms of altitude and climate.

Mambilla plateau falls to the south-eastern corner of Nigeria and lies within latitude 7°10'N and longitude 11°20'E. Its altitude is between 1400m above sea level in the North at Maisamari and 1,950m in the South at Tamy. Its continuous into the Adamawa highlands in Cameroon. It is separated from the Bamenda highlands by River Donga. It is characterized by heavy rains of over 1000 mm per annum which last from March to October, with light rains in November and December. The dry season is from January to early March characterized by winds and haze.

The maximum temperature is 28°C in February and minimum 18°C in August. Sun shine is low due to cloud cover or haze. The plateau has mountain vegetation which occurs only in Jos plateau in Nigeria, Fouta Djallon in Guinea and Adamawa-Bamenda highlands in Cameroon.

SAMPLING TECHNIQUE

The study was based on household heads of pastoralists who practice ethno veterinary medicines to maintain their herds. The population of grazers here was estimated at 250,000 (1991 census). A purposive sample of 100 heads of household was obtained from those practicing indigenous medicines.

DATA COLLECTION AND METHOD OF ANALYSIS

Information was collected by personal interview of those selected according to their knowledge in ethno veterinary practices. The information collected was analysed by descriptive statistical methods such as arithmetic means and percentages.

FINDINGS AND DISCUSSIONS

As seen from table 1 only 5% of the respondents fall below 20 years of age because mostly head of household who are normally male adults were interviewed. Ninety percent of the respondents were males and only 10% were women who were elderly and know some of the skills in indigenous knowledge. Seventy percent of the respondents are between 21 and 40. These are those who manage the herds and have good skills in ethno veterinary practices. Some of these

practices are inherited or handed down from their parents and some are learnt. Twenty-five percent of the respondents are above forty years. This shows that the younger or middle age group is more concern with maintaining the herd and therefore

practice more of the indigenous knowledge acquired from others. Twenty percent of the respondents are above forty years, which meant that the middle age group is more concern with herd management.

Table1. Distribution of Respondents according to Age

Age Distribution	No. of Respondents	%
11 – 20	05	05
21 – 30	30	30
31 – 40	40	40
41 – 50	20	20
51+	05	05
Total	100	100

Source: Survey (2006)

The findings also show that majority of the respondents were adults, males who were household heads. They make decisions and maintain the herd and possess a wealth of

indigenous practices. It was observed that 80% of the respondents possess Qur'anic and adult education (Table2).

Table 2: Distribution of Respondents according to level of education

Level of Education	No. of Respondents	%
Qur'anic	75	75
Adult education	05	05
Primary	12	12
Secondary	05	05
Post secondary	03	03
Total	100	100

Source: Survey (2006)

The Qur'anic knowledge is a religious obligation for every adult and it also helps them to develop their skills in indigenous practices. Eighty percent of the respondents possess Qur'anic and adult education. Only 17% have primary and secondary education and only 3% have post secondary education. The pastoralists still make great use of their indigenous medicines to maintain the herd despite the advancement in veterinary medicine. Majority of these people still hold firm to their ethno veterinary practices due to their level of education in modern drugs which themselves are scarce and expensive for those with small herds. According to FAO, (1986) no systematic documentation of medical forage as this relates to animal health management in Nigeria. This knowledge is still being transmitted orally to the youths otherwise it will disappear with the elders.

Table 3 shows that the pastoralists identify cattle diseases by observation of the behaviour of the affected animal. Ten percent of the respondents used this method. They look at the abnormalities such as restlessness, frequent passing of urine or salivation. Twenty percent identify diseases by observing the symptoms shown by the animal, such as dropping of ears, standing of hairs, passing of watery stool and urine with traces of blood. Thirty percent identify diseases by examining animal's wastes such as dung, urine, saliva and nasal secretions. Forty percent identify diseases due to their long experience with animals and their familiarity with diseases. These are elderly persons who possess a lot of indigenous knowledge.

Table 3. Distribution of Respondents according to their knowledge in Ethno veterinary practices

Methods used in identifying cattle sickness	No. of Respondents	%
Observation of animal behaviour when sick	10	10
Observing symptoms	20	20
Examining animals' wastes	30	30
Length of experience	40	40
Total	100	100

Source: Survey (2006)

CONCLUSION

The study examined the indigenous knowledge of the rural people and its relevance to agricultural development. It was observed that pastoralists in Nigeria relied on the use of medicinal plants and forage in coping with various animal health problems.

RECOMMENDATIONS

Indigenous knowledge is relevant to agricultural development as it is to human medicine and should be integrated into the medical health system. The farmers should be organized in functional groups in order to promote their interests. They should transmit this knowledge to the youths for continuity.

The government should protect the indigenous knowledge and the rights of the producers by laws. This knowledge should be integrated into the health system.

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