



Constraints to Livelihood Options Pastoralists in Yusufari Local Government Area of Yobe State, Nigeria

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ABSTRACT

Pastoralism can be regarded as a global phenomenon, occupies 25 percent of the world land area and provides 10 percent of the global meat production (FAO, 2001). The livelihoods of most pastoralists depend on availability natural resources and much dictated by the climatic factor. Hence, pastoralists are having few options for diversifying livelihoods perhaps due to the lack of knowledge for other livelihoods and their tradition that detached them to other livelihoods. The populations of the study were composed of the five districts and adopted a multi-stage sampling technique. At the third stage, systematic random sampling was used to interview households. Mobile pastoralists were selected using snow ball sampling. Pastoralism is the major means of survival for the pastoralists in the study area. The other possible options identified are farming, mat making, rope making, weaving, hut making, trading of livestock and potash mining and marketing. However, these alternative options are also constraint by many factors including desertification and fast moving sand dunes; market competition, insurgency and power of aristocrats. Recommendations made by this study include social and economic support to the pastoral communities, increasing access to land and water rights and establishment of skills acquisition centers.

INTRODUCTION

Pastoralism can be regarded as a global phenomenon, which is practiced from the Asia up to South America and from Western Europe to the African Savanna. It occupies 25 percent of the world land area, provides 10 percent of the global meat production and herds of nearly a billion different kinds of livestock (FAO, 2001). It is a subsistence method of producing milk, meat and other animals' products from domesticated animals such as camels, cattle, sheep and goats. Normally, pastoralism is practiced in marginal areas where crop production is extremely difficult. Agro-pastoralism is a set of practices that combined production of millet, sorghum, maize, vegetables and pulse (annual legumes) with pastoral livelihoods. Pastoralism and agro-pastoralism are extremely important and the most prevalent land-use in arid and semi-arid environments of the world. However, about 65 percent of world dry lands consist of grassland used for livestock production contributing to the livelihoods of 800 million people (Mortimore, 2009). Livelihood is a combination of the resources used and activities undertaken in order to live. According to Ellis (2000) "A livelihood comprises the assets and the access to these (mediated by institutions, social relations and organizations) that together determine the living gained by the individuals or households." The livelihoods of most poor people especially in rural areas depend on natural resources and climate sensitive sectors such as agriculture (farming and pastoralism), forestry and fisheries. They have few options for diversifying livelihoods away from these sensitive sectors and reducing vulnerability. It has been observed that the major livelihood option in Nigerian rural dryland communities is agriculture (farming and pastoralism). Thus, recently there have been a number of social, political and economic processes and programmes both at local, national and global levels impacting on pastoralists' livelihoods.



Globalization, global economic crises and climate change are happening at unprecedented pace with profound impact on nations.

The repercussions of these global events have seriously affected pastoralists' livelihood in Nigerian Drylands. Thus, there is the need to identify the key constraints to pastoralists' livelihood activities.

Statement of the Research Problem

Pastoralism is a very important activity globally, because of the human population it supports, the food and ecological services it provides, the economic contributions it makes to some of the world poorest regions and standing civilizations it helps to maintain (Nori and Davies, 2007). Unfortunately, pressures and threats associated with human population growth, economic development, land use changes and climate change are constraining the pastoralists' to protect and sustain these invaluable social, cultural, economic and ecological assets worldwide (ibid). African pastoralists who inhabit arid and semi-arid lands are among the poorest populations, they lack most important infrastructure such as accessible roads, electricity and communications, leading them increasingly isolated. However, their livestock holdings of camels, cattle, sheep and goats often comprise the bulk of their limited wealth and an integral part of their socio-cultural life (Ouma et al, 2004).

Nigeria is experiencing a number of social, environmental, political and economic crises. Of course, the governments of Nigeria are formulating policies that have goals to transform the economy and the society. Furthermore, global events such as global economic crises, globalization and climate change are adding critical dimensions to changes taking place at the local and national level. In the context of these rapid social, political, economic and environmental changes, it is not likely that pastoralists' livelihoods will remain unchanged since both rural economy and rural dwellers are dynamic.

MATERIALS AND METHODS

Study Area

The study area Yusufari Local Government Area of Yobe State is located between latitude $12^{\circ}55'03''N$ to $13^{\circ}28'03''N$ of the equator and longitude $10^{\circ}15'0''E$ to $11^{\circ}23'0''E$ of the Greenwich meridian time. The Local Government shares local boundaries with Yunusari Local Government to the east, Karasuwa and Bursari Local Government Areas to the south, Nguru Local Government Area to the west and international boundary with Niger Republic to the north. It has an area of about $3,928\text{Km}^2$ (1,517 sq. mi).

Methods

This study adopted a multi-stage sampling technique. At the first stage, the entire local government area was divided into five clusters based on the existing districts, namely Yusufari, Maimalari, Kachallari, Meori and Kumaganam. At the second stage, purposive sampling was used to select two clusters. The first cluster, Maimalari District, was selected based on its having the highest number of pastoralists communities among the districts while the second cluster, Meori District, was selected based on the presence of Yobe State fourth largest and most popular grazing reserve in the district. At the third stage, two villages were selected from each district using the convenient sampling



technique. The convenient sampling was adopted due to the insecurity situation in the as a result of persistent insurgents attacks The settlements found to be moderately secured and selected were Ngardari, Ngalabo, Sholel and LamidoZangina. At the fourth stage, sedentary households to be interviewed were selected using systematic random sampling at the interval of five (the number of respondents selected from a settlement was proportional to its size) while mobile pastoralist were selected using snow balling. A Total number of 80 sedentary pastoralists/ agro-pastoralists were interviewed and 52 mobile pastoralists selected using snow balling sampling were also interviewed (table 1). Focus group discussions were also made to validate the information collected during the household's interview.

Table 1: Sampling frame and sample size

Districts	Village	Sedentary Pastoralists		Mobile Pastoralists (Households)
		Sample Frame (Households)	Sample Size (Households)	
Maimalari	Ngalabo	89	18	9
	Ngardari	95	19	12
	Sholel	110	22	18
	Lamido Zangina	107	21	13
Meori				
	Total	401	80	52

Source: Fieldwork, 2017.

RESULTS AND DISCUSSIONS

Key Constraints Pastoralists Livelihoods

Pastoralism is the major means of survival, whereby all of the respondents are engaged. Despite the fact that all the respondents are engaged in this activity, its sustainability in the area is constrained by many factors.

Key Constraints to Pastoralism

Despite that all the respondents are engaged in pastoralism, (i.e both pastoral and agro-pastoral households) and most of their assets are secured, but it is not without constraints. The key constraints to pastoralism in the study villages were discussed below.

Diseases

Animal diseases is highest caused by over-stocking of the grazing reserves and poor state of the existing grazing reserves. Information obtained from the officials of Yobe state ministry of Animals and Fisheries Development, staff of Yobe State Pilot livestock project and pastoralists revealed that animals' diseases like black quarter, food and mouth diseases and rinder pest were very common in the area. About five-sixth of the respondents engaged in pastoralism are complaining about animals' diseases most especially during this insurgency in north eastern part of the country which is leading to overstocking of grazing areas that are Boko Haram free zones. The diseases have numerous far-reaching consequences and implications on pastoral livelihood looking, both economic and social aspects of pastoralists. Thus, movement or pastoral mobility became difficult as long as the



animals were affected depending on the severity. Mobility has been severely curtailed since the herds are no longer capable or energetic of withstanding long trekking or journey. It is also stated that the Uda and Bokoloji (Sullubawa) pastoralists are the most vulnerable groups in case of diseases because of their transhumant nature which entails several visits to various grazing lands and water points. The settled or agro-pastoralists are less prone to diseases, unlike their counterpart mobile-nomads and therefore blamed the transhumance pastoralist for carrying and spreading diseases on their small size herds. They further revealed that if appropriate measures were not taken to halt the menace of the diseases, then it could lead to a total decimation of herds or animals in the affected areas. The poor state of the existing grazing reserves had immensely aided the spread of various diseases among different stock species. The grazing reserves have no clinic for veterinary services and even the veterinary clinics in surrounding villages have no veterinary personnel. The state government is no longer supplying animals' vaccines in appropriate time and locations. It is the pastoralists that buy the animals drugs on their own when the need arises at a very high cost. This shows that the grazing reserves are becoming avenues for disease transmission thereby causing difficulties in pastoral mobility within these areas.

Drought

Drought and its causes are frequently misunderstood, and are often assumed to be climatic events over which pastoralists have no control. In many rangelands, poor management, restriction of pastoral mobility and undermining of natural resource governance have led to land degradation, which leads to reduction in 'effective' rainfall: rain falls and runs off rather than penetrating the soil. As a result pastoralists can be at increasing risk of drought even when rainfall is good (or even improving), and in the same year they can be exposed to the risk of flash-flooding. This phenomenon is notable for example in the Somalia areas of Eastern Africa. Due to over stocking of the remains of encroached grazing reserves and cattle route, pastoral mobility has been restricted and as such the land is degrading and consequently recurrent droughts are occurring. The issue pertaining drought in the area has many dimensions. For instance, when drought hit the neighboring countries like Niger and Chad, huge number of pastoralists are expected in the area and as such there will be pasture deficit in the area. About half of respondents engaged in pastoralism believed that drought is among the major constraints to pastoralism in the study area.

Encroachments to grazing lands and stock routes

FACU, (1999) confirmed that in Nigeria, *Fadama* occupies over three million hectares and almost all *famada* States in Nigeria are essentially located along the two of Nigerian main corridors, north-west (running from Niger and Benin republics through Sokoto, Zamfara state) and north-east (emanating from Niger, Chad and Cameroun running Borno, Yobe, Adamawa, Kano and Plateau state, terminating in Niger-Benue Basin). The World Bank in a pre-appraisal mission raised some important concerns with respect to potential environmental impact that could result from the implementation of the *Fadama* projects. Critical among the issues were potential for increased conflict between farmers and pastoralists as land is converted from pasture to arable land, and impact of displaced pastoralists and their herds on available rangeland as they are concentrated in smaller areas



within and adjacent to *Fadamas* and as the traditional transhumant route are encroached upon.

In April, 1996, a World Bank Mission on *Fadama* project recommended the followings:

- The Agricultural Development Programmes and Federal Agriculture co-ordinating unit ensure that new project areas did not lie along, in, or contiguous to, transhumance corridors or gazette grazing reserves.
- At least 20% of surface area to be reserved for pasture and watering.
- Where possible, sedentary pastoralist (agro-pastoralists) be integrated into *Fadama* users Association (FUAs); and
- *Fadama* members demarcate their plot trees.

The appeal of above stated World Bank mission stated above proved futile considering the negative impact of the *Fadama* project on relationship between agriculturalist and pastoralist. Yobe state, the government has not made much progress in the development of grazing reserves, as only 10% of the available grazing reserves are functional and most of the land earmarked as grazing reserves, stock routes and watering points for the pastoralists have been encroached upon by farmers. For instance, the stock routes of Gumsi to Kakori whose length is 33km and that of Gumsi to Wachakal which is 37km in length were both encroached, upon by *Fadama* farmers, Bare (2014). Kakori is a ward under Nguru Local Government Area, while Wachakal is under Karasuwa Local Government Area. These two areas are bordering the study area and are known for their intensive *Fadama* irrigation farming.

It is a known fact that herds can move along transhumance tracks and graze on rangelands only as long as they have access to water. But the encroachment by farmers along the cattle trails have denied the pastoralists rights of access to water points both surface water and ground water points, which under normal circumstance must be open to multiple users. What worsened the situation was that some farms were even enclosed or fenced. If water points were privately owned with exclusive rights, pastoral movements would become difficult and pastoral communities could be condemned to destitution in years of rainfall deficit. The respondents engaged in pastoralism revealed that encroachment is among the key constraints to pastoralism in the study area.

Resource Use Conflicts

In an interview conducted, respondents attributed conflict as a dominant player or force that constrained pastoral mobility. It has been widely heard, over the years, there has been a complex interaction between ownership rights and user rights. In area under study, increasing pressure on land has decreased the importance of communal rights and enhanced the significance of individual ownership rights. Nevertheless, the pastoralists continued to regard land, pasture and water as God-given free resources to which they should have unlimited access. The constraints inherent in differing perception of land by the farmers and pastoralists therefore tend to be a major source of conflict. The incessant attacks by insurgents and the new dimension of cattle rustling in north-east and most of the parts of the country respectively had resulted in the illegal and unjust killings and kidnapping of innocent pastoralists had no doubt limited pastoral mobility or movement in the region. The



respondents engaged in pastoralism conform that conflicts is among the major constraints to pastoralism in the study area.

Severe Desertification

The drylands are particularly sensitive to land degradation, with 10-20% of drylands are already degraded (M.E.A, 2005). Up to 71% of the world grassland were reported to be degraded to some extent in 1991 as a result of poor land management that led to overgrazing, salinization and alkalinization, acidification and other processes (ibid). Unsustainable land use is driving land degradation. The result is a loss of land productivity which impacts on livelihoods and the economy. Land degradation is defined as the long-term loss of ecosystem function and productivity caused by disturbances from which the land cannot recover unaided. Land degradation occurs slowly and cumulatively and has long lasting impacts on rural people who become increasingly vulnerable. Land degradation is becoming a major constraint to both pastoralists and agro-pastoralist in the study villages. The respondents engaged in pastoralism conceded that land degradation is among the key constraints to pastoralism in the study area.

Marginalization in Decision Making

Pastoralists suffer from inadequate government policies which address their fundamental problems. Most of the blame goes to the legislative arm at both Federal and State levels for their undignified silence over matters concerning pastoralism as a whole. A key informant reveals that the balance of power between pastoralists and farmers gradually shifted in favour of farmers. That power in contemporary dispensation is what pastoralists' lack. Whenever conflicts occur between farmers and pastoralists, the state arbitration structures always listen to farmers, thus leaving the pastoralists as helpless and defenceless victims. It is also revealed by a key informant that even the most popularly known and much talked about pastoralists' umbrella organization in the country referred to as Miyetti Allah Cattle Breeders Association of Nigeria (MACBAN), is no longer performing as expected in terms of protecting the interests and yearnings of the pastoralists. In addition, that few *Fulbe* educated elites used the association as an instrument or paraded under the canopy of the association to achieve their personal political interests and goals rather than protecting the rights and interests of pastoralists as a whole. The result further revealed that pastoralists believed that marginalization in decision making is among the key constraints to pastoralism in the study area.

Key Constraints to Rain-fed Cultivation

Rain-fed cultivation is the third major means of survival to respondents engaged in the area under study, but this activity is only undertaken by sedentary pastoral households. The key constraints to rain-fed cultivation in the study area were discussed below.

Drought

In addition to high inter-annual variability, the rainfall regimes of drylands are characterized by high concentration in a few months, intermittence and violence of storms. Thus the region is, by nature, prone to recurrent and sometimes intense and persistent



periods of drought NAP (1997). Drought is seriously affecting agricultural products in the study area. Maigari, (1997) revealed that the study area is a drought prone area, with high incidence of physical degradation and pest. About three-fourth of the respondents engaged in rain-fed cultivation believed that drought is among the key constraints to rain-fed cultivation in the study area.

Diseases

Plants diseases are seriously reducing the crop produced in the area. Rainfall decline in the study area is favouring ample breeding of pests like locusts, grasshopper, betel, quelea birds and rodents among others (Maigari, 1997). The above named pests, birds and animals have a serious blow on farm products in the study area. About three-fourth of the respondents engaged in rain-fed cultivation revealed that diseases are among the key constraints to rain-fed cultivation in the study area.

Local Farm Implements

Lack of modern farm implements, improved seeds varieties and fertilizer are among the constraints to rain-fed cultivation in the study area. According to the respondents even the fertilizer and improved seeds that they normally buy from government, arrived lately. About five-eighth of the respondents engaged in rain-fed cultivation conceded that use of local farm implements is among the key constraints to rain-fed cultivation in the study area.

Advancing Sand dunes and Desertification

Maigari, 1994 reveals that sand dunes are moving with a speed of less than 1% in the 1950s to about 7% in 1969 and about 20% in 1986 in the study area. Desiccation and moving sand dunes have turned about 47% of Kaska area almost unproductive to agricultural production. Kaska is town in Yusufari Local Government Area and is less than 35 kilometres away from the study area; as such the farmers of the area under study are not immune to the repercussions of advancing sand dunes. About half of the respondents engaged in rain-fed cultivation opined that advancing sand dunes is among the key constraints to rain-fed cultivation in the study area. The drylands are particularly sensitive to land degradation, with 10-20% of drylands are already degraded (M.E.A, 2005). Up to five-seventh of the world grassland were reported to be degraded to some extent in 1991 as a result of poor land management that led to overgrazing, salinization and alkalization, acidification and other processes (ibid). Unsustainable land use is driving land degradation. The result is a loss of land productivity which impacts on livelihoods and the economy. Land degradation is defined as the long-term loss of ecosystem function and productivity caused by disturbances from which the land cannot recover unaided. Land degradation occurs slowly and cumulatively and has long lasting impacts on rural people who become increasing vulnerable. Land degradation is becoming a major constraint to both pastoralists and agro-pastoralist in the study villages. About three-eighth of the respondents engaged in rain-fed cultivation believed that land degradation is among the key constraints to rain-fed cultivation in the study area.



Key Constraints to Irrigation

Irrigation is another activity taking place in the area under study by agro-pastoral households. The key constraints to irrigation in the study area were discussed below.

High rate of evaporation

Due to the high temperatures in area, there is high rate of evaporation. Thus, even if you pour water on the plants twice daily, they are still in need of more water. However, as the water evaporates, it leaves salt behind, which may accumulate until the soil is saline that nothing grow there. It takes more water to flush the salt from the soil and carry it away. As such the produce is declining and the income generated is also declining. About two-third of the respondents engaged in irrigation opined that high rate of evaporation is one of the key constraints to irrigation in the study area.

Use of local implements

Use of local implements is among the key constraints to irrigation in the study villages. The respondents revealed that government is not supporting them with modern farm implements, despite the harsh climatic environment they inhabit. They are of opinion that modern farm implements such as water pumping machines and pesticides will help them to produce more than what they are producing now. About two-third of the respondents engaged in irrigation believed that use of local farm implements is among the key constraints to irrigation in the study area.

Water scarcity

Due to the less rainfall received in the area, the irrigation depends on ground water left from earlier climatic periods, or extract water from wells faster than it is recharged by rainfall. As such the level of underground water is dropping and water must be pump from deeper in the ground. Pumping water from deep underground also requires lots of energy. About half of the respondents engaged in irrigation believed that water scarcity is among the key constraints to irrigation in the study area.

Diseases

Plant diseases are also hindering irrigation in the study villages. The respondents are complains about plant diseases and government is not helping them by providing pesticides to the irrigation farmers. About half of the respondents engaged in irrigation opined that disease is among the key constraints to irrigation in the study area.

Lack of technical know-how

Most of the respondents practicing irrigation in the study area, don't know much about the system, they need to be educated on types of soils, seeds to be planted on each soil type among others. About one-third of the respondents engaged in irrigation opined that lack of technical know-how is among the key constraints to irrigation in the study area.



Lack of Preservative Methods

According to the respondents, even if they produce many products they have to sell it at lower prices due to lack of preservatives methods. If they have preservatives then, they will keep it to the time when there is high demand of the products. About one-sixth of the respondents engaged in irrigation concede that lack of preservative method is among the key constraints to irrigation in the study area.

Key Constraints to Mat Making

Due to the presence of raw materials used in making mat in the area under study, the activity is undertaken by two-ninth of the respondents in the study villages. The key constraints to mat making in the study villages were discussed below.

Low prices in the markets

According to the respondents' low prices of their products is a major constraint to the business of making mat in the study villages. Due to poor infrastructures such as roads network in area, taking markets to the urban areas where the prices are higher is very difficult and costly as middle men benefits more than the producers. According to the respondents locally made items are normally admired by people in the cities but transporting the product to city is difficult. About three-fourth of the respondents engaged in mat making believed that low price is among the key constraints to mat making in the study area.

Increased used of rubber mats

Due to increase in the rate of producing rubber mats at affordable prices and last longer than the locally fibre mat. Many people now prepare rubber mat than the locally fibre mats. According to the respondents in the last ten to twenty years, many mosques both in rural and urban communities are using locally fibre mat. But now they are using carpets, rugs and rubber mat. About two-third of the respondents engaged in mat making opined that increase use of rubber mats is among the key constraints to mat making in the study area.

Decline in raw material

Fibre is a major raw material of making mat and it is currently declining due to climate change and recurrent droughts in last decade. About two-third of the respondents engaged in mat making revealed that decline in fibre is becoming the key constraint to mat making in the study area.

Key Constraints to Rope Making

Due to the presence of fibre in the study area, a number of agro-pastoral households are making and selling rope in order to improve their means of living in the area under study. The key constraints to rope making in the study villages are seasonality and declining raw material.



Seasonality

Rope is normally used in dry season for tying grains, fencing house, among others. Thus, the only usage of rope in rainy season is tying livestock, but uses like fencing house and tying grains in the farm are done during the dry season and is the time when rope is more marketable. About two-third of the respondents engaged in making rope opined that seasonality is among the key constraints to rope making in the study area.

Decline in raw materials

Fibre is the raw material of making rope and it is currently in decline in the study area. Two-thirds engaged in making rope believed that raw material decline is among the key constraints to rope making in the study area.

Key Constraints to Weaving

Weaving is another livelihood activity taking place in the area under study by the agro-pastoral households. The key constraints to weaving in the study area includes; poor capital and lack of technical know-how.

Capital

Capital can be regarded as major constraints to entering many livelihood options in the study villages. All of the respondents engaged in weaving opined that capital is among the key constraints to weaving in the study area.

Technical know-how

Lack of technical know-how is a major constraint of weaving in the study area. According to the respondents a skills acquisitions centre was built in Maimalari to improve the respondents' knowledge of many livelihood options in the area but government has abandoned the centre in the last few years. All of the respondents engaged in weaving revealed that lack of technical know-how is among the key constraints to weaving in the study area.

Key Constraints to Hut Making

Making hut is another means of improving livelihood in the area under study by agro-pastoral households. The key constraint to hut making in the study area includes seasonality, declining raw material and low demand of services.

Seasonality

Hut is usually demanded in rainy season; as such the business of making hut is seasonal. All the respondents engaged in making hut opined that seasonality is among the key constraints to making hut in the study area.

Decline in raw materials

Climate change is taking toll on many varieties of plants, trees and shrubs as they are in a state of decline and to a larger extent disappearing, hut making materials inclusive. This



decline in hut making raw material is among the key constraints potash business in the study area.

Low demand of services

According to the respondents, hut making is not new thing to many pastoralists and agro-pastoralists and as such many people know how to do it. So the activity is not regarded as a major source of income, because only few people are buying it. All of the respondents engaged in making hut opined that many respondents know how to make hut, is among the key constraints to making hut in the study area.

Key Constraints to selling milk

Selling animals milk (cattle and camel) is the second major activity in the study villages, both mobile and sedentary pastoralists are engaged in the activity. The key constraints to selling milk in the study villages were discussed below.

Poor Patronage

Despite the high rate of population growth in developing nations, most especially rural communities. Thus, animals' milk (cattle and camel) becomes abundant in the markets of the study villages, which makes the product very cheap. This is due to the presence of many pastoralists in the study villages, most especially during rainy season. Thus, the increase in prices of almost all the goods and services needed by the pastoralists have increased the prices of animal's product like milk and many poor people cannot afford it. The respondents engaged in selling milk concede that low consumers' is among the key constraints to selling milk in the study area.

Economic factor/inflation

Due to increase in prices of many products in the markets, animals' milk prices too have increased. Thus, poor people prepare to buy the necessities of life like grains instead of milk. The increase in prices of many products globally has increased the prices of milk products. Since pastoralists' are using milk money to buy their necessities of life. According to some of the respondents the number cattle sold to go for pilgrimage in the last 30 years is still the same now. The respondents engaged in selling milk concede that economic factor/inflation is among the key constraints to selling milk in the study area.

Lack of preservatives techniques

Lack of preservatives is the major constraint to processing and marketing milk in the study villages. Due to low number of consumers and high number of pastoralists during the rainy season, at times milk is return from markets to the house which becomes waste or extracts the oil and pours the remaining milk on ground. Selling milk is a major source of pastoralists' income globally, but when there are no preservative it becomes a waste. Preserving and packing milk in India has improved the livelihood of many pastoralists' communities. The respondents engaged in selling milk conformed that lack of preservative is among the key constraints to selling milk in the study area.



Increase in household population

The increase in households has reduced the amount of milk to be sold out per household. As the milk is normally sold out when there is a surplus in pastoralists households, why because it is regarded as food. The respondents engaged in selling milk believed that population growth is among the key constraints to selling milk in the study area.

Key Constraints to (Middle Men/Women) Buying and Selling Livestock

Buying and selling livestock is another livelihood activity that is undertaken by both pastoral and agro-pastoral households in the area under study. The key constraints to buying and selling livestock in the study villages are high cost of transportation and arm robbery.

High cost of transportation

Transporting animals most especially cattle is costing a lot of money from northern to southern part of the country. Despite the distance between the two regions and transportation, other charges like revenue from states and Local Government Areas where the animals are passing, bribes from police and military check points. Each trailer is paying one to two thousand naira per check point and due to the current insecurity in the north eastern states, the check point have seriously increased in the affected states. About seven-ninth of the respondents engaged in buying and selling livestock believed that high cost of transportation is among the key constraints to buying and selling livestock in the study area.

Armed robbery

According to the respondents there are many cases of arm robbery in Nigeria's roads, most especially the southern part of the country. Arm robbers are attacking and collecting their money. According to the respondents' even local routes, arm robbers are attacking them whenever they sold cattle, at times they are even killing animals' owner or leaving them with serious injuries talk less of collecting their money. About five-ninth of the respondents engaged in buying and selling livestock revealed that arm robbery is among the key constraints to buying and selling livestock in the study area.

Key Constraints to Fibre Sale

Due to the presence of rivers and oasis in the area under study, some agro-pastoral households are engaged in selling fibre in order to improve their means of living. The key constraints to selling fibre in the study area include; seasonality, low prices and declining raw material.

Seasonality of the business

Most of the products made from fibre are normally used in dry season; as such they are more marketable in dry season. Example of products from fibre includes: huts, mats, rope, and hand bags, among others. About two-third of the respondents engaged in selling fibre opined that seasonality is among the key constraints to selling fibre in the study area.

b. Low prices of the products



Due to increase use of rubber materials in many places, the use of materials produced from fibre is declining. As such, the price of the products made from fibre is becoming lower. About two-third of the respondents engaged in selling fibre revealed that low price of the products' is among the key constraints to selling fibre in the study area.

Declining raw material

Due to recurrent droughts and land degradation in the study area, fibre is seriously declining. Fibre is normally found in oasis, ponds and around rivers. Thus, many rivers in the study area are declining which is also affecting the growth of fibre. About half of the respondents engaged in selling fibre opined that decline in raw material is among the key constraints to selling fibre in the study area.

Key Constraints to Livestock trade

Trading livestock is another means of human survival that is undertaken by agro-pastoral households in the area under study. The key constraints to livestock trading in the area under study were discussed below.

Poor patronage due to insurgency

Due to the current insecurity in the North-Eastern part of the country, the number of people coming from the southern part of the country to buy livestock has seriously decline. As such the income generated from trading animals has decline. According to the respondents before this insurgency they are getting a lot of money in the activity, which is helping them to solve many problems in their households, but now they are suffering from poor patronage of people from southern part of the country. They also reveal that strangers (i.e southerners) are given more money than our people. About five-sixth of the respondents engaged in livestock trading opined that low customers is among the key constraints to livestock trading in the study area.

Poor infrastructures in the markets

Government did not provide infrastructures like boreholes, toilets and a place where customers will sit and rest. According to the respondents when infrastructures were provided in the markets, it will attract customers. There is the need for provision of basic infrastructures and tight security in most cattle market in the country. About two-third of the respondents engaged in livestock trading opined that poor infrastructures is among the key constraints to livestock trading in the study area.

Insecurity within the market

There are cases of stealing people's money inside the markets. According to the respondents there are thieves and duffers inside each livestock market. A respondent reveals that there was a time one duff them more than one hundred thousand naira in the cattle market, the incidence occurred when a buyer gives them the money to count and give to animal owner and somebody came and told them that he is no more interested in buying, let them give him the money, after giving him the money the real buyer came to take his animal. No money no animal, the animals traders association have to tax all of its members to settle



the issue. About half of the respondents engaged in livestock trading opined that insecurity within the markets is among the key constraints to livestock trading in the study area.

Key Constraints to Potash Sale

Potash is a mineral resource found in the area under study; as such a number of agro-pastoral households are engaged in mining and selling potash to improve their means of living in the study area. The key constraints to selling potash in the study area were discussed below.

Seasonality

Potash is normally mined in dry season and is more marketable in rainy season. Thus, seasonality is affecting potash business. Pastoralists are the major buyers of potash and their number is normally higher in the rainy season in the study area. The respondents engaged in selling potash have to keep it for months before selling it and where to keep it is a problem, but the middlemen have places of keeping a lot of potash until the mid-rainy season. As such the middlemen benefit more than the producers in the business of potash. About four-fifth of the respondents engaged in selling potash opined that seasonality is among the key constraints to selling potash in the study area.

Decline in the product

Due to recurrent droughts and land degradation in the study area, potash is seriously declining. Potash is normally found in oasis and around river. Thus, many rivers in the study area are declining which is also affecting the potash. About three-fifth of the respondents engaged in selling potash opined that decline in raw material is among the key constraints to selling potash in the study area.

Control of mining sites by Aristocrats

Traditional rulers in the study villages are in control of potash mining sites. These rulers are the one controlling prices of potash, why because whenever they increase the rent of plots in mining sites potash prices will increase. About three-fifth of the respondents engaged in selling potash believed that control of mining sites by traditional rulers' is among the key constraints to selling potash in the study area.

Low prices

The miners of potash normally sell their products in markets closer to them at lower prices. The middle men benefits more than the miners, due to the poor access to markets. About two-fifth of the respondents engaged in selling potash opined that low price is among the key constraints to selling potash in the study area.

Key Constraints to Local Mattress Sale

Selling locally made mattresses is another activity taking place in the area under study by agro-pastoral households in the study area. The key constraints to selling local mattress in the study area are declining raw material and seasonality.



Declining raw material

The grass used in making locally made mattresses is declining in the study villages. This is due to environmental changes taking place in the area. All of the respondents engaged in selling local mattress opined that decline in raw material is among the key constraints to selling local mattress in the study area.

Seasonality

Local mattress is usually used in rainy season; as such mattress is usually demanded at the beginning of rainy season. All of the respondents engaged in selling local mattress opined that seasonality is among the key constraints to selling local mattress in the study area.

Key Constraints to Grain Trade

Trading grain is another means of improving agro-pastoral households' livelihood in the area under study. The key constraints to grain trading in the study area includes; high revenue and poor access to markets.

High revenue

Despite the decrease in the number of grain buyers from southern part of the country, the revenue collectors did not reduce a single kobo from what they were collecting when things were good. According to the respondents grains are normally brought from southern part of the State were the climatic condition of the area is seriously favouring huge production of grains and the area has become under the control of Boko haram, as such the traders' income has decreased. About two-third of the respondents engaged in trading grain opined that high revenue is among the key constraints to grain trading in the study area.

Poor access to markets

Due to current insecurity in north-eastern States grain products are becoming cheaper. This can link to the fear of grain buyers from southern part of the country. According to the respondents poor roads to transport what rural people produce to the major markets is another constraints to the business. As such grains traders end up with little income. About two-third of the respondents engaged in trading grain revealed that poor access to markets is among the key constraints to grain trading in the study area.

Key Constraints Selling Local Weapons

Selling local weapons is another livelihood option in the study area. The key constraints to selling local weapons in the study villages are poor capital and harassment by security personnel.

Poor capital

According to the respondents' poor capital is seriously affecting their business in the area. All the respondents engaged in selling local weapons opined that a product damaged is among the key constraints to selling local weapons in the study area.



Harassment by security operatives

Harassments of pastoralists by security personnel's have seriously affected the business of local weapons. According to the respondents' many pastoralists are of fear of going to village markets with local weapons like knife, bow and arrow among others and current insecurity in the region has increased the number of security personnel in the area. Thus, since pastoralists' are the buyers of these weapons harassing them whenever caught with a weapon has seriously decline the demand of the products. All the respondents engaged in selling local weapons revealed that harassment by security operatives is among the key constraints to selling local weapons in the study area.

Key Constraints to Transporting Livestock via foot

Transporting livestock via foot is another means of improving livelihood in the study area undertaken by agro-pastoral households. The constraints to transporting livestock via foot in area under study are insecurity on the routes and poor payment of services by animals' owners.

Insecurity on the routes

Arm robbers at times are attacking people transporting livestock via foot and take away the animals. Due to the current insecurity in the north-eastern states, many people now prepare to transport their livestock via road transport despite its expensiveness than transporting via foot, as transporting livestock via foot is becoming dangerous. About three-fourth of the respondents engaged in transporting livestock via foot opined that insecurity in the route is among the key constraints to transporting livestock via foot in the study area.

Poor payment of services by animals' owners

The livestock owners are paying low prices to the people transporting livestock via foot than via roads. Despite all the stresses of transporting livestock via foot. About half of the respondents engaged in transporting livestock via foot believed that low price is among the key constraints to transporting livestock via foot in the study area.

CONCLUSION/RECOMMENDATIONS

The foregoing findings lead to the conclusion that pastoralists have continued to face constraints in accessing the available natural resources to pursue livelihoods options available which is increasing their vulnerability in the study area. Greater recognition and support are needed for sustainable pastoral and agro-pastoral systems in view of their contributions in sustaining the livelihood of millions of people residing in drylands. Targeted support by governments, civil society organizations, development agencies and community donors, pastoral networks, development practitioners and researchers is needed to harness these opportunities through the following: Pastoralists' movements and rights over land (pasture) and water has to be guaranteed and protected by various Governments of the country in consonance with the ECOWAS and African Union (AU) Acts on pastoralists. This will help reduce high rate of encroachments of grazing reserves and cattle routes and farmer-pastoralists conflicts.



There is need for governments to provide or improve the veterinary clinics in the grazing reserves and employ personnel at each grazing reserves to take care of all the cases pertaining to animals' health in the grazing reserves. The time of vaccinating the animals supposed to be when there is larger number of herders in the grazing reserves and cattle route not the time government wishes. There is need for Independent National Electoral Commissions to review its current Act which does not favour mobile pastoralists, since where you register is where you are to cast your vote. Pastoralists may register somewhere and during elections may not be in the same location of registration, since pastoralists are mobile in nature. Despite the presence of Skills Acquisition Centre in Maimalari there are fewer options available to the respondents, as there are no personnel in the Centre for the past 5 years. Governments need to train the permanent residents of the area so as to take care of the Centre, since non-indigene personnel find it difficult to stay on that harsh environment. Lack of technical know-how among others has limits respondents livelihood diversification in the study area. There is need of governments to improve access to micro credit to the agro-pastoralists so as to help them purchase farm implements and improve their capital on other available livelihood options.

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