

**INDIGENOUS KNOWLEDGE AND CONTROL PRACTICES OF SHEEP AND GOAT
DISEASES AND PEST AMONG FARMERS IN IKOLE EKITI, EKITI STATE,**

NIGERIA

BY

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AEE/13/0954

**DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION, FACULTY
OF AGRICULTURE, FEDERAL UNIVERSITY, OYE-EKITI, EKITI STATE, NIGERIA**

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**OLUWABUNMI HOPE OLU-AJAYI
(MATRIC NO: AEE/13/0954)**

SUPERVISOR: DR S.I. OGUNJIMI

A PROJECT

**SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF BACHELOR OF AGRICULTURE (B. AGRIC) DEGREE IN
AGRICULTURAL ECONOMICS AND EXTENSION
TO**

**DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION
FACULTY OF AGRICULTURE**

DECLARATION

I, OLU-AJAYI OLUWABUNMI HOPE, hereby declare that this project work is entirely my own work and has not been submitted to any other university or higher education institution, or for any other academic award in this university. All borrowed ideas have been duly acknowledged.

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(Matric No: AEE/13/0954)

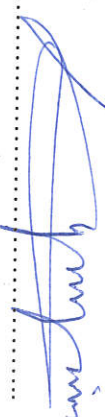
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CERTIFICATION

This is to certify that this project was carried out by **Oluwabunmi Hope OLU-AJAYI** of the department of agricultural economics and extension federal university oye Ekiti, Ekiti State, Nigeria has been read, approved and adjudged to meet part of the requirements for the award of Bachelor of agriculture degree in Agricultural Economics and Extension of Federal University Oye-Ekiti, Ekiti State, Nigeria


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DATE


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PROF O.B. ADENIJI (H.O.D.)

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EXTERNAL EXAMINER

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DEDICATION

This project is dedicated to the Almighty, God of Gods, my ever supportive and loving parents,
my siblings and loyal friends. I love you all.

ACKNOWLEDGMENTS

With profound gratitude to God, my appreciation goes to DR. S.I. Ogunjimi, for his benevolent effort, encouragement, supervision and care that saw this project through. I acknowledge him indeed as a Father. Following this are all the lecturers in the department of Agricultural Economics and Extension starting from the H.O. D, Prof. Adeniji O.B, Prof. Omolehin R. A, Dr .Fakayode S.B, Dr. Apata T.G, Dr Mkpado M, Dr. Abiola M.O, Mr femi Aladejebi, Dr. Anugwo S.T, Mrs Egbunonu C.M., Miss Ifejirika C, Mr Ajakpovi P A, Mrs Alabi O.O that impacted skills, knowledge and leadership qualities into my life, as well as fine-tune this work, I appreciate you all.

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ABSTRACT

The study attempts to investigate the level of access, use and effectiveness of indigenous knowledge practices in controlling diseases and pest in sheep and goats among goat and sheep farmers in Ikole Ekiti, Ekiti State, Nigeria. Data were gathered through a questionnaire scheduled on a total of 90 goat and sheep farmers in Ikole Ekiti. The data were analyzed using descriptive statistics tools of frequencies, percentages, and means to describe parameters such as age, sex, household size, educational qualification, and farm size. Pearson correlation coefficient was used to determine the relationship between the dependent variable and independent variables. The result revealed that the mean age of the respondents was 58.07 years and 63.3% of the goat and sheep farmers were females. The study area had low contact with extension workers. The main sources of information were, family members, friends and neighbors and radio. Using sandpaper leaf for mange infection and palm oil for bloat was ranked highly effective. The constraint with the highest percentage was inadequate information of usage technique. Based on the result of the Pearson correlation, accessibility has a positive and significant relationship with usage of indigenous knowledge practices. Sequel to the findings of the study, it was recommended that, agricultural extension services in Ekiti state should make extension agents available in rural areas to educate the farmers on various indigenous knowledge practices.

Key words: indigenous knowledge, sheep and goats diseases and pest effectiveness rural

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Indigenous knowledge is the local knowledge that is unique to a culture or society. Other names for it include: 'local knowledge', 'folk knowledge', 'people's knowledge', 'traditional wisdom' or 'traditional science'. This knowledge is passed from generation to generation, usually by word of mouth and cultural rituals, and has been the basis for agriculture, food preparation, health care, education, conservation and the wide range of other activities that sustain societies in many parts of the world (World health organization, 2001).

Numerous countries have developed national herbal pharmacopoeias to document medicinal plants that have been found to be effective and to further ensure their safety, efficacy and quality. Emphasis should be placed on the need to further exploit the rich and diverse African natural resources, which can contribute to discovery and development of new traditional and orthodox medicines (Luis G.S. 2010).

Traditional medicine has demonstrated great potential of therapeutic benefits in its contribution to modern medicine. More than 30% of modern medicines are derived directly or indirectly from medicinal plants. Examples of these medicines are analgesics (aspirin, belladonna); anticancer medicines (vincristine and vinblastine), antihypertensive agents (reserpine); antimalarials

safety, efficacy and quality of TMs, and some have reported promising results. For example, the National Institute for pharmaceutical r&d (Niprd) in Nigeria has reported to have developed a traditional medicinal product from medicinal and food plants (Ossy *et al.*, 2010). Traditional medicine is also used to control and cure the diseases of animals. It's very essential as most of small ruminants (sheep and goats) are reared by rural farmers and they are of economic importance in the society.

Sheep and goats are among the major economically important livestock in Nigeria. In Nigeria small ruminants contribute an estimated 35% to the total meat supply; they are more important in the north than in the south, and more important in rural than in urban areas. Population estimates suggest there are roughly one million head of sheep and seven million goats in the sub humid zone of Nigeria. In livestock units, this represents 3% and 16% respectively of total ruminants in the zone. The major breed of sheep is the Yankasa; the West African Dwarf is the major goat breed.

Sheep and goats play an important role in the livelihood of resource-poor farmers. They provide their owners with a vast range of products and services such as meat, milk, skin, hair, horns, bones, manure and urine for cash, security, gifts, religious rituals, medicine, etc. Sheep and goats are relatively cheap and are often the first asset acquired, through purchase or customary means, by a Young family or by a poor family recovering from a disaster such as drought or war. Sheep and goats, once acquired, become a valuable asset providing security to the family as well as

improves the productivity of sheep and goats is important in creating wealth and improving the standard of living of resource-poor farmers (IBT, 2004).

The short generation interval of sheep and goats coupled with high frequency of multiple births allow for rapid increases in animal numbers. This builds financial capital and allows the sale of surplus animals for cash that can be used for other agricultural enterprises, school fees, medical bills, etc. Very often, there are no banking facilities in rural areas and an easy way to store cash for future needs is through the purchase of sheep and goats. In fact, in some areas, small ruminants have been described as the 'village bank'. It has to be noted that this is beyond the cash value of the animal. Small ruminants represent only 7% of the average total capital invested in livestock in the mixed crop-livestock production system, but they account on average for 40% of the cash income and 19% of the total value of subsistence food derived from all livestock production. Sheep and goats contribute a quarter of the domestic meat consumption; about half of the domestic wool requirements; about 40% of fresh skins and 92% of the value of semi-processed skin and hide export trade.

In the southern guinea savanna region of Nigeria like in many parts of the country, small ruminant production and productivity is impeded by various constraints which include health.

This constraint can adequately be alleviated or curtailed by modern or western-style technologies such as vaccination, chemoprophylaxis/chemotherapy, feeding animals with formulated rations and proper housing. Small ruminants in the study area are largely in the hands of rural farmers.

However, the rural small ruminant farmers have developed indigenous methods or technologies for coping with the constraints. Among the various indigenous methods is the use of herbs to manage animal diseases. The knowledge base of these herbs differs not only from region to region but also within communities. It has been developed through trial and error and deliberate experimentation. Therefore, it is less systematic, less formalized, and not universally recognized as a valid method of disease control in animals (Matekaire and Bwakura 2004).

1.2. PROBLEM STATEMENT

Reliance on plants and plant products as remedies of disease dates back to antiquity. Medicinal plants constitute a complete spectrum of consumable plants which are purely dietary; example includes fresh vegetables and fruits which provide essential vitamins (Benowica, 1979) and those known to be purely medicinal. Much has been documented on the use of plants/plant products in human medicine (ethno medicine). In the face of rising cost of western-style (modern) medicine and increased concern about development of drug resistant parasites and tissue residues of chemotherapeutic agents, the sustainability of many of these modern technologies in livestock production is seriously called to question. A search for alternative methods of disease control in sheep and goat is therefore, of utmost necessity. The aim of this study is to assess effectiveness of indigenous knowledge practices in sheep and goat diseases and pest control. It is therefore, worthwhile to provide information on plants and plant products used for ruminant health in ikole, Ekiti state, Nigeria.

1.3. OBJECTIVES OF THE STUDY

The main objective of this study is to assess how effective indigenous knowledge practices have been in the control of diseases in sheep and goats in Ekiti state.

The Specific objectives are:

- i. Describe socio-economic characteristics of sheep and goat farmers in the study area
- ii. Identify the common pest and diseases of sheep and goats and the indigenous practices used by sheep and goat farmers to control it.
- iii. Examine the sources of information on indigenous practices.
- iv. Determine effectiveness of indigenous knowledge
- v. Assess the constraints associated with to indigenous knowledge practices.

1.4. JUSTIFICATION OF THE STUDY

In Nigeria, small ruminant production and productivity is impeded by various constraints which include health. This constraint can adequately be alleviated or curtailed by modern or western-style technologies such as vaccination, chemoprophylaxis/chemotherapy, feeding animals with formulated rations and proper housing. Small ruminants in the study area are largely in the hands of rural farmers. Since these farmers are mostly located in the rural areas, they are scarcely aware

manage animal diseases. The knowledge base of these herbs differs not only from region to region but also within communities. It has been developed through trial and error and deliberate experimentation. Therefore, it is less systematic, less formalized, and not universally recognized as a valid method of disease control in animals (Matekaire and Bwakura 2004).

1.5. HYPOTHESIS

- There is no significant relationship between socio-economic characteristics of sheep and goat farmers and effective usage of indigenous knowledge practice.
- There is no significant relationship between farmer's accessibility to the indigenous practices used in sheep and goat diseases and pest control and effective usage of indigenous knowledge practice.
- There is no significant relationship between sources of information on indigenous knowledge used in sheep and goat diseases and pest control and effective usage of indigenous knowledge practice.
- There is no significant relationship between constraints associated with indigenous knowledge practices used in sheep and goat diseases and pest control and effective usage of indigenous knowledge practice.

CHAPTER TWO

LITERATURE REVIEW

2.1. INDIGENOUS SMALL RUMINANTS

Tropical Africa has about 22% and 17% of the total world sheep and goat population of 1,028 million and 765 million respectively (Tibbo 2000; LDC 2002; Nwafor 2014). Nigeria is home to about 22.1 million sheep and about 70% of the small ruminants are found in the semi-arid zones of Nigeria and these belong to the agro-pastoral farmers utilizing extensive and semi-intensive management systems (Ajala *et al.*, 2003; Mbilu, 2009). Whilst, majority of the sheep population in the country are owned by small-holder rural livestock farmers, a few are still in the urban areas (Sanni *et al.*, 2004; Mbilu, 2009). Sheep and goats constitute a good source of family income and livelihood, assets and agricultural resources for smallholder farmers (Iyayi and Tona 2004; Shittu *et al.*, 2010; Saleen-Ben and Smith 2012). This makes small ruminant farming an important and secured form of agricultural investment to the Nigerian rural and urban farmers. Ingawa (1986) further explained that livestock and livestock products particularly from small ruminants accounted for 56% in value terms (income) in typical smallholder mixed farming settings. This again underlines the valuable contribution of small ruminants as income generating assets among small-holder livestock farmers (Mbilu, 2009; Shittu *et al.*, 2010). They are kept mainly as a secondary investment and require minimal input.

2.2. INDIGENOUS FARMING SYSTEM

prevalent all over the world is now almost vanished from the developed countries and confined to some tribal dominated regions of developing countries occupying more than half of arable land (Thurston, 1992). Furthermore, wherever there is indigenous farming it is characterized by the presence of special and temporal heterogeneity often with complex age structure, mixed and multiple cropping, host-pathogen relationship and use of simple tools to cultivate crops and rear animals. Gopal *et al.* (2009) reported that India is rich in traditional farming systems because of diversity in agro-ecological habitats inhabited by diverse ethnic groups who have been practicing age-old farming in location specific situations for generations, being a community based farming system that brings the local people closer and promote respect for the environment, although the tools techniques used are either unknown or least understood.

2.3. INDIGENOUS KNOWLEDGE PRACTICES FOR SHEEP AND GOAT

In course of their close interactions with nature and natural resources, they are to make a certain decisions as to the solutions of their problems they encounter in their day to day life while managing the land and environmental resources for survival. Therefore, indigenous knowledge so developed is based on necessities, extinct, curiosity and observations of ethnic groups to mitigate the immediate situations (Berkes *et al.*, 2010). Hence, indigenous knowledge is used in the decision making process as to how, when and where to act depending on the situations. This knowledge has been tested using the thumb rule of trial and error methods over a period of time through generations and validated to make the established knowledge for the purpose for which

sheep and goats are raised by smallholder farmers as a major source of meat and immediate cash income. The importance of small ruminants (i.e. sheep and goats) to the socio-economic well-being of people in developing countries in the tropics in terms of nutrition, income and intangible benefits (e.g. savings, insurance against emergencies, cultural and ceremonial purposes) cannot be overemphasized (Olafadehan *et al.*, 2014). Sheep and goats are important livestock species in developing countries because of their ability to convert forages, and crop and household residues into meat, fibre, skin and milk. The recently released poverty map by ILRI (2006) indicate that livestock types are key indicators where families sit on the poverty scale, sheep and goats being considered poor-man's species. Generally, goats and sheep are raised by smallholder farmers as a major source of meat and immediate cash income. The recently released poverty map by ILRI (2006) indicate that livestock types are key indicators where families sit on the poverty scale, sheep and goats being considered poor-man's species. Owing to their ability to thrive and reproduce fast even in harsh environments they used as source of risk mitigation during crop failures, property security, monetary saving and investment in addition to many of other socio-economic and cultural function (Fikru and Omer, 2015).

Furthermore, our traditional way of goat management is challenged by low survivability and high mortalities of kids. Reducing lamb and kid mortality brings a better financial income for farmers and pastoralists. Examination of farmers' management practices that influence the survivability of kids in small-scale communal goat production systems will lead to an appropriate extension message to meet the needs of sheep and goat farmers.

family/society. In fact, these ethnic bases cumulative knowledge took generations of time to penetrate into the social fabrics of inter and intra- ethnic groups because of communications gap and orthodox nature of the society. Eventually, this local knowledge in course of time gets socially accepted and validated which finally inters into the social life and subsequently become the Indigenous traditional knowledge (ITK) of the society as a whole. Indigenous traditional knowledge is distinct from international knowledge which is derived through hypothetic inductive process such as knowledge generated in universities, research organizations, private and public research institutions through research activities (Thurston, 1992) As such, scientists in recent years are keen to learn indigenous knowledge in its various dimensions as to how indigenous people view, perceive and interact with their environment and mobilize their cumulated knowledge for designing appropriate actions. Although many people, so to say self-styled modern educationists have discarded this knowledge branding them as outdated primitive knowledge, yet its importance and hidden principles, particularly in the field of agricultural and environmental issues have been recognized by international bodies such as the united nations conference on environment and development, 1992; international union for conservation of nature and natural resources, 1980 and world convention on environment and development, 1987 (Kanaoujia, 2006). As such, scientist in this knowledge base economy who are in research of new ideas and innovations expect that indigenous knowledge may hold significant message which may be of use to remedy the deficiencies in modern agricultural and environment related issues (Berkes *et al.*, 2000). As the elderly persons in any ethnic group hold the key and

external inputs. Eco-friendly manipulation of their immediate environment, judicious application of plant and animal products either in raw or simple processed forms are important components of indigenous knowledge system.

2.4. DISEASES AND PEST OF SHEEP AND GOAT

A large percentage of the rural people satisfy their subsistence needs through livestock production which involves the rearing and marketing of livestock (Oladele, 2014). Diseases and inadequate nutrition (in terms of quality or quantity) constitute serious constraints to small ruminant production in Africa (Tadesse, 2012).

Sheep and goats share many health problems. While there are some important differences between the species, there is need to have a broad overview of diseases and health problems and clinical signs of diseases common to sheep and goats, and to be familiar with what is normal.

Animals should exhibit a healthy hair coat or fleece, while maintaining a body condition score appropriate to their production stage. Both coat and body condition score are good indications of nutritional adequacy and overall health. Signs of an unhealthy animal include isolation from the rest of the herd/flock, abnormal eating habits, depression, scouring or diarrhea, abnormal vocalization, teeth grinding, or any other abnormal behavior (Lynn, 2014).

2.4.1. Soremouth

Soremouth (contagious ecthyma), is a viral skin disease and the situation is caused by a Pox virus that breaks into the skin to enter the body. Various symptoms of a soremouth infection

include having blisters on the lips, nose, udder and teats. Soremouth disease results in depressed

Soremouth is transmitted by direct contact with affected animals or contact with equipment, feed, and bedding that have been exposed to the virus.

2.4.2. Clostridial Diseases

Enterotoxemia Type C, also known as bloody scours, can occur in two distinct forms which are struck; this is seen in adults that do not normally exhibit clinical signs and enterotoxic hemorrhagic enteritis; that occurs in lambs or kids within the first few days of life and it cause an infection of the small intestine, resulting in bloody diarrhea or sometimes death without clinical signs. Enterotoxemia is related to indigestion. It is predisposed by an overabundance of milk, possibly due to the loss of a twin.

Enterotoxemia Type D, also known as pulpy kidney or overeating disease, is less seen in goats and frequently seen in sheep. A sudden change in feed causes this organism, which is already present in the gut, to reproduce quickly, resulting in a toxic reaction. In some cases, animals exhibit uncoordinated movements and convulsions before death.

Tetanus, known as lockjaw is caused by *Clostridium tetani*, and the condition occur when the bacteria gains entry to the body through a contaminated break in the skin. Most cases of tetanus in sheep are secondary to tail docking and castration, especially when rubber bands are used in the process. Animals with tetanus become rigid, exhibit muscle spasms, and eventually die. Treatment is usually unsuccessful, but the disease can be prevented with vaccination and good hygiene. Tetanus can be transmitted to humans, so care should be taken when handling an outbreak.

2.4.3. Internal and External Parasites

Parasites most times pose a huge threat to the health of small ruminants. Parasites can damage the gastrointestinal tract, and result in reduced reproductive performance, reduced growth rates; less productive animals in terms of meat, fiber and milk; and even death.

General clinical signs that an animal is suffering from a parasitic infestation include diarrhea, weight loss or reduced weight gain, loss of appetite, and reduced reproductive performance. Factors that may affect an individual's susceptibility to parasitism include natural genetic resistance, age, and reproductive stage. Goats are generally more susceptible to internal parasites than sheep. . The animals least susceptible to parasites are mature, dry ewes while the groups most susceptible to parasitism are young animals, lactating ewes and does, and those in late gestation or around the time of parturition.

2.4.3.1 Internal Parasites.

Several internal parasites affect sheep and goats, and all sheep and goats have a low level of parasite activity. However, excessively high parasite levels are often detrimental to the health of the animal. The most common internal parasite is the roundworm that lives in the abomasum and small intestine of sheep and goats (Hepworth *et al.*, 2006).

There are several types of roundworms that infect sheep and goats, including *Teladorsagia* (*Ostertagia*) *circumcincta*, *Haemonchus contortus*, and *Trichostrongylus colubriformis*.

The most dangerous parasite affecting sheep and goats is the gastrointestinal roundworm *Haemonchus contortus*, also known as the barber pole worm. This voracious bloodsucking

driven a distance. Edema, or the accumulation of fluid under the skin, is usually seen as a swelling of the lower jaw, a condition known as bottle jaw (Hepworth *et al.*, 2006).

Tapeworms can cause weight loss, unthriftiness, and gastrointestinal upset. A tapeworm infection can be diagnosed by yellowish-white segments in the feces. Lambs and kids become resistant to tapeworms quickly, so infections are most common in animals younger than four or five months of age. The biggest problem with tapeworms is that producers can actually see the segments in fecal matter and can become overly concerned. Infections by other internal parasites are more serious than a mild tape worm infection.

Coccidia are protozoan parasites that damage the lining of the small intestine. Since the small intestine is an important site of nutrient absorption, coccidian can cause weight loss, stunted growth, and diarrhea containing blood and mucous. Other clinical signs include dehydration, fever, anemia, and breaking of wool or hair. Fly strike and secondary infections can also result from coccidiosis. *Coccidia* are usually found in animals in confinement or intensive grazing systems, as a result of poor sanitation, overcrowding, and stress. Animals between one and six months of age in feedlots or intensive grazing systems are at highest risk for coccidiosis. Outbreaks of coccidiosis can be controlled by implementing good sanitation techniques, providing clean water, rotating pastures, and avoiding overstocked pens. Outbreaks of coccidiosis can be treated with sulfa drugs. Coccidiostats can be administered to inhibit coccidial reproduction.

Helminthosis is considered to be a major cause of mortality and sub-optimal productivity in

decreased quality of skin, wool or mohair. Pneumonia, Brucellosis, footrot, dermatophilosis (streptothricosis), caseous lymphadenitis, anthrax, blackquarter (blackleg) malignant OedemaGas (gangrene) Tetanus, infectious necrotic hepatitis, enterotoxaemia caused by clostridium perfringes types B and C., Pulpy kidney disease, Botulism, Colibacillosis, Salmonellosis and Mastitis are examples of disease of sheep and goat (Cheyne *et al.*, 1994)

2.5. INDIGENOUS PRACTICES USED TO CONTROL PEST AND DISEASES IN GOATS AND SHEEP

Livestock production (sheep and goats) is a source of livelihood and employment in Nigerian agriculture. A huge percentage of the rural dwellers of this country satisfy their subsistence needs through livestock production.

Sheep and goats are some examples of the most prominent of all domesticated animals in Nigeria (Adekunle *et al.* 2002). In Nigeria, mobile pastoralism or transhumance is the dominant method/system and it involves movement of the herdsmen, their families, and the herds from one place to another, with the availability of fodder, water and animal health as determining factors. Pests and diseases are two of the greatest threats to the realization of the productive potential of our herds in Nigeria. The inadequacy of modern health delivery system in our livestock production enterprises either in human or material resources calls for a look at the alternative means of dealing with the menace of pests and diseases. Pests and diseases control is also carried out according to the traditional beliefs of the herdsmen before and even after the advent of

it was the only medical system accessible to the majority living in the rural settings. According to them, traditional healers know a lot about the transmission and spreading of diseases. Therefore diseases prevention plays an important role, for instance traditional tick control. They reported the following:

- Nomads used to avoid places with high infestation of ticks.
- Animals were fed with plants containing a high level of salt, thus the ticks fall off.
- Before leaving the enclosure in the morning, women and children collect ticks from the animals and throw these ticks into a fire burning near the entrance to the enclosure
- Shady trees were avoided in case of ticks infestation
- Tick eradication by burning the infested pasture was widely used.

Padmakumar (1998) pointed out that there are two main systems or methods of treating diseases viz

- Practical treatment including herbalism i.e. treatment with parts of plants or other natural products.
- Magic-Religious healing, mostly done by reading the Koran

Under the practical treatment, the most common treatment is the scarification and bloodletting in order to free the animal from spoiled blood and using red-hot plates on animal body to burn disease spot. Indications of this type of therapy are lameness, the rheumatic complex skin

- Herd dispersion is used to reduce the risk of infecting all animals belonging to one household.
- Choosing animal for breeding was based on the health of the animal
- Prevention of contact between healthy and ill animals
- Diseases prevention can cause herdsmen and his herds to move.
- Pastoralist avoids regions where insect or cattle rearsers use medication without proper care and therefore complications arise.
- There may also be over-dosage, false applications and wrong treatment.

Other indigenous practices prevailing include:

2.5.1 Indigestion problem

Tender betel (Piper betel Linn.) leaves paste prepared by grinding over a rock is fed to sheep and young calves for indigestion problem in young calves. Betel leaves act as a post meal digestive stimulant, natural antiseptic, astringent, diuretic and nerve tonic (Sullip, 2008).

2.5.2 Retained placenta & respiratory diseases

Retained placenta is the common ailment during old age cow and sheep causing acute pain and even death in severe cases. The animal, especially cattle and buffalo having such problems are fed with *Ocimum sanctum* Linn. (Tulasi) leaves twice a day. The first dose is given at morning in empty stomach and the second dose is given at evening. The same

medication is also followed for respiratory diseases like pneumonia, pleurisy and

2.5.3. Bone fracture

Turmeric, locally called as Yamitaku (*Curcuma domestica* Valeton) leaf paste is applied 3 times a day in fracture region of the calf. Besides, it also helps to relieve joints pain. At the end of third dose, a mild heat treatment is given at the targeted site. During the treatment period, the animal is kept under restricted movement. Paste of *Datura* (*Datura stramonium* Linn.) leaves, rice grains, buffalo milk and castor oil in different proportions is applied over the fracture region of cattle and buffalo. This formulation is applicable both in livestock as well as the human beings. process is repeated for 2-3 days for complete relieve of pain.

2.5.4. Jaundice

Paste of castor tender leaves, black pepper and small onions is fed in empty stomach to the livestock, preferably in morning hours and before taking breakfast in the case of human beings.

2.5.5. Stomachache / blot conditions

Beside, feeding mango leaf slurry to the livestock suffering from stomach pain, in some cases, animals are fed with coconut oil or coconut milk mixed with paddy husk thrice a day for three days.

2.6. MODERN DISEASE AND PEST PREVENTION METHODS

Producers should assess the herd or flock's general health on a regular basis, including vital signs, body condition, and coat. A biosecurity plan must take into account all modes of

spread of infectious agents from infected to susceptible animals. The most basic method of disease control in individual herds/flocks is to avoid introduction of disease agents. Producers should keep a closed herd/flock. If a closed herd/flock is not feasible, then use an animal quarantine program. A useful isolation program consists of a facility that prevents co-mingling of animals for at least 30 days, including separate water supplies. Restricting traffic in and out of a facility can reduce the potential introduction of pathogenic agents. Producers should minimize the number of people and vehicles that enter premises or require a sanitation and disinfectant plan to prevent spread of disease agents. Other important management tasks that can prevent or help minimize disease issues are sanitation of facilities (especially shared livestock trailers), good ventilation or air turnover, proper stocking or animal density rates, and a good nutrition program.

Advice and treatment from a veterinarian is almost an absolute in preventing and controlling health problems in a herd/flock (Scharko, 2008). Veterinarians' recommend vaccination programs; help with parasite control programs; assist with reproductive management; deal with emergency situations; prescribe drugs that may be useful, but are not approved for sheep or goats; do necropsies on dead animals; and perform a host of other important management tasks. Vaccinating the herd/flock provides some insurance against specific common disease and each vaccination program must be tailored to an individual operation (Hopkins, 2008). Sheep and goats should be vaccinated for *Clostridium perfringens* Types C and D and tetanus (CD&T) at

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. DESCRIPTION OF THE STUDY AREA

The study was conducted in Ekiti State, southwestern Nigeria, which is largely an agriculture-based state in the country. The state is located at latitude 7° 40'N and longitude 5° 15'E and is mainly an upland zone (250 metres above sea level). It lies on the south of Kwara and Kogi States, east of Osun State and bounded by Ondo State in the east and south (EKSG, 1997).

The area is underlain by metamorphic rocks and has a generally undulating land surface. The state enjoys a tropical climate with two distinct seasons: rainy season (April to October) and dry season (November to March).

The temperature ranges from 21°C to 28°C, with high humidity. South-westerly and northerly winds blow in the rainy and dry seasons, respectively. Tropical forest exists in the southern part of the state, while guinea savannah occupies the northern peripheries.

Agriculture is the predominant occupation of the people in Ekiti state. They engage in animal husbandry such as for sheep and goat and their major farm produce includes: yam, cassava, cocoyam, cocoa, Amaranth, kola nut, orange (and other citrus), oil palm, maize, rice, sweet potato, etc. People also engage in trading and manufacturing of goods such as skin and hides, textiles, pottery, bricks, mats and footwear, etc.

The first stage involved a purposeful sampling of 1 main sheep and goat rearing Local Government Area from the sixteen (16) Local Government Areas of Ekiti state which was ikole local government area.

At the second stage, 9 communities were randomly selected from the Local Government Area. The communities include: Asin, Otunja, Usin, ara, ijesa isu, ayedun, ayebode, isaba and odo oro. The Third and final stage involved snow-ball sampling of 10 respondents from each of the communities to give a total sample size of 90 respondents in all.

3.3. DATA COLLECTION

Data was collected from two sources, that is, primary and secondary sources. Secondary data was extracted from related documented information, while primary data was collected directly from sheep and goat farmers through personal interview with the aid of a structured questionnaire designed to obtain information on socio-economic characteristics of the farmers, types of indigenous practices, the sources of indigenous practices used, and constraints to the use of indigenous practices.

3.4. DATA ANALYSIS

The data collected was analyzed using descriptive statistics tools of frequencies, percentages, and

To know the level of effectiveness, total scores for each respondent was grouped into 5 categories: very effective, effective, partially effective, rarely effective and not effective. The mean score with standard deviation was used to categorize the effectiveness into high, low and moderate.

The score of mean plus standard deviation was considered as highly effective; mean minus standard deviation was considered as low and different between high and low was considered as moderately effective.

CHAPTER FOUR

4.1 RESULTS AND DISCUSSION

SOCIO-ECONOMIC CHARACTERISTICS OF FARMERS

Age

The mean age of the sampled sheep and goat farmers was 58.07 years and the standard deviation was 7.929. 20% of the farmers have their ages ranging below 51 years of age, 51.1% have their ages ranging from 51-60 years of age, another 20% have their ages ranging from 61 -70 years of age and 8.9% have their ages ranging from 70 and above. This findings implies that majority of the correspondents are between the ages of 51-60 years old. Most of the young able-bodied men had migrated to the urban areas in search of a better life and older generation is left in the rural areas. The implication of this is that the future of livestock production in the study area is uncertain and will decrease drastically. The findings collaborate with Ogunjimi (2012), Ogunjimi and Ajala (2014) that majority of the farmers in Ekiti were above 45 years.

Sex

From Table 1, majority (63.3%) of the respondents are females while the remaining (36.7%) are males. The findings indicate that, majority of sheep and goat farmers in the study area are female. This implies that sheep and goat production is female dominated in the study area. The finding collaborate with Olayemi et al (2012) findings that, women are known to be more

Marital status

From the same table 1, it was revealed that majority (92.2%) of the respondents are married, (1.1%) of the respondents are divorced and (6.7%) of the respondents are widowed. This implies that majority of the respondents are considered to be responsible to take any rational decisions in the uptake of any innovation.

Years of education

Data reported in Table 1 further revealed that, about (44.5%) of the respondents had primary education, (36.6%) of the respondents had secondary education, and (21.1%) of the sampled sheep and goat farmers had no formal education. This attribute is expected to influence the respondent's perception, awareness and usage of indigenous practices.

Land acquired

From table 1, it was revealed that majority (76.7%) of the goat and sheep farmers acquire their land through inheritance, (21.1%) of the farmers purchase their farmland and (2.2%) of the respondents make use of village land. This implies that most of the farmers are indigenes and acquire their land from their forefathers, therefore practice what they learn from their fathers.

Size of flock

The mean flock size for sheep was 8 while that of goat was 13. This implies that majority of

more goats than sheep. The farmers rear more goats because of their prolific nature compared to sheep.

Farm size

Data from table 1 shows that the farm size of majority of the respondents (74.8%) ranged between 1.0-2.0 hectares, while (13.6%) had farm size of between 2.1-3.0 hectares and (11.6%) of the farmer's ranged from 3.1-4.0 hectares. This finding implies that farming activities are mainly dominated by small-scale farmers.

Extension contact

The result in table 2 shows that (75.6%) of the farmers had no contact with extension agents in the past one year only (24.4%) had contact with extension agent. Low level of extension contact might be due to the fact that extension agents were not well-equipped to face the challenges ahead due to inadequate training. This result is in line with the finding of Ogunjimi (2012) that there was low level of extension contact among farmers in south-western Nigeria. This shows that extension contact in the study area was very poor. This might be connected with the poor funding, remuneration and motivation of extension staff in most of the South western states (Ajala A.O, 2016).

Table 1: Percentage distribution of personal characteristics of respondents

Variables	Frequency	Percentage	Mean/std
Age (years)			
			59/7.929
Below 51	18	20.0	
51-60	46	51.1	
61-70	18	20.0	
Sex distribution			
Male	33	36.1	
Female	57	63.3	
Marital status			
Married	83	92.2	
Divorced	1	1.1	
Widowed	6	6.7	
Years of schooling			
0	19	21.1	
1-6	40	44.4	
7-12	31	34.5	
			7/4.272

Source: Field survey, 2018

Table 2: Percentage distribution of socio economic characteristics of respondents

Variables	Frequency	Percentage	Mean/std
Land acquired			
Purchase	69	76.7	
Inheritance	19	21.1	
Village land	2	2.2	
Farm size			
1-2	68	74.8	2/0.753
3-4	12	13.6	
4-5	10	11.6	
Size of flock			
Sheep			
Below 10	42	46.7	8/3.310
10-20	39	43.3	
Above 20	9	10	
Goat			
Below 10	34	37.8	13/4.247
10-20	28	31.1	
21-30	17	18.9	
Above 30	11	12.2	

Source of information of indigenous knowledge practices

The result of data analysis on the source of information on indigenous knowledge practices in the study area shows that the farmers are informed by family members (mean = 1.00, rank = 1st), friends and neighbors (mean = 0.54, rank = 2nd), radio (mean = 0.39, rank = 3rd), television (mean = 0.18, rank = 4th), extension agents (mean = 0.10, rank = 5th). The other sources include; agricultural newsletter, salesmen and newspaper have a mean of 0.00 and all rank 6th. Therefore with a grand mean of 0.27, family members, friends and neighbors, and radio are the most effective source of information.

This result shows that the respondents are mostly informed about indigenous knowledge practices by their family members, friends and neighbors. This asserts that informal relationships and face to face interaction leads to effective communication. This correlates with Mary omgor (2013) that says interpersonal communication dominates our activities at home, office, market and elsewhere. It helps to break the barrier of formal relationships, generate warmth and create harmony that is necessary for socio-economic development.

Table 3: Mean distribution of the respondents on the source of information of indigenous knowledge practices in the control of diseases and pest in sheep and goat

Source of information	mean	Rank
Family members	1.00	1 st

Leaflet/agric news letter	0.00	6 th
Salesmen	0.00	6 th
Newspaper	0.00	6 th

Source: Field survey, 2018

Accessibility to indigenous knowledge practices

Table 4 indicated that sandpaper leaf (*Ficus exasperata*), shea butter (*Vitellaria paradoxa*), Igi-Erin (*Hunteria umbellata*), wood ash, alligator pepper (*Aframomum melegueta*), lapalapa (*Jatropha curcas*) and oloora (*Rauvolfia vomitoria*) have a mean of 5.00 and rank 1st, With a grand mean of 4.76 they are the most accessible while fermented maize and unripe pawpaw have a mean of 4.46 and rank 8th. The others are tobacco leaves (mean= 4.43, rank= 10th), palm oil (mean= 4.39, rank= 11th) and efinrin (*Ocimum gratissimum*) (mean= 4.33, rank= 12th). This indicates that the indigenous knowledge practices are highly accessible in the study area because they are readily available. This goes in line with (M M Matlebyane *et al*, 2010), herbal medicine offer cheaper, more sustainable, available, reliable and familiar alternatives to imported synthetic drugs.

Table 4: Mean distribution of the respondents on their accessibility to indigenous knowledge practices in the control of diseases and pest in sheep and goat

Accessibility	mean	Rank
---------------	------	------

Wood ash	5.00	1 st
Alligator pepper	5.00	1 st
Lapalapa	5.00	1 st
Oloora bark	5.00	1 st
Fermented maize	4.46	8 th
Unripe pawpaw	4.46	8 th
Tobacco leaves	4.43	10 th
Palm oil	4.39	11 th
Efinrin	4.33	12 th

Source: Field survey, 2018

Usage of indigenous knowledge practices

Data from the table 6 revealed that majority of the farmers are using all the indigenous knowledge mentioned to control diseases and pests in sheep and goat but in order of ranking, alligator pepper and palm oil (mean= 4.67, rank= 1st) came first, followed by igi emi, fermented maize and wood ash (mean= 4.62, rank= 3rd). The others include sand paper leaf (mean= 4.60, rank= 6th), oloora bark (mean= 4.58, rank= 7th), unripe pawpaw (mean= 4.57, rank= 8th), tobacco leaves (mean= 4.57, rank= 8th), efinrin (mean= 4.57, rank= 8th), Shea butter (mean= 4.56, rank= 11th) and lapalapa (mean= 4.52, rank= 12th) with a grand mean of 4.60. This finding shows that most of the indigenous knowledge practices are highly used in the study area. The indigenous

Table 5: Mean distribution of the respondents on their usage of indigenous knowledge practices in the control of diseases and pest in sheep and goat

	Mean	Rank
Alligator pepper	4.67	1 st
Palm oil	4.67	1 st
Igi erin	4.62	3 rd
Fermented maize	4.62	3 rd
Wood ash	4.62	3 rd
Sandpaper leaf	4.60	6 th
Oloora bark	4.58	7 th
Unripe pawpaw	4.57	8 th
Tobacco leaves	4.57	8 th
Efinrin	4.57	8 th
Shea butter	4.56	11 th
Lapalapa	4.52	12 th

Source: Field survey, 2018

8th), alligator pepper (mean= 4.33, rank= 9th), lapalapa (mean= 4.33, rank= 9th), efinrin (mean= 4.28, rank= 11th) and oloora bark (mean= 4.09, rank= 12th). The findings resulted in a grand mean of 4.50 and standard deviation of 0.20. The result shows that the farmers indicated that all the used identified IKPs were effective. Availability and commonality of the materials such as palm oil, shea butter, wood ash and pawpaw could be a factor enhancing their usage and hence effectiveness.

Table 6: Mean distribution of the respondents on the effectiveness of indigenous knowledge practices in the control of diseases and pest in sheep and goat

Indigenous practice	Knowledge Mean	Rank	Decision
Sandpaper leaf	4.98	1 st	Highly effective
Palm oil	4.77	2 nd	Highly effective
Shea butter	4.66	3 rd	Moderately effective
Igi erin	4.62	4 th	Moderately effective
Tobacco leaves	4.59	5 th	Moderately effective
Fermented maize	4.53	6 th	Moderately effective
Unripe pawpaw	4.43	7 th	Moderately effective
Wood ash	4.42	8 th	Moderately effective
Alligator pepper	4.33	9 th	Moderately effective
Lapalapa	4.33	9 th	Moderately effective

Constraints to indigenous knowledge practices

Table 7 shows the factors militating against the utilization of indigenous knowledge practices by the farmers in the study area. The constraint ranking first is inadequate information of usage techniques (mean= 1.99, rank= 1st) followed by lack of proper management skill method (mean= 1.22, rank= 2nd), inadequate credit facilities (mean= 1.16, rank= 3rd), inadequate know how (mean= 1.13, rank= 4th), inadequate infrastructural facilities (mean= 1.13, rank= 4th), inadequate storage facilities (mean= 1.12, rank= 6th) and untimely credit facilities (mean= 1.10, rank= 7th). It can be interpreted that most of the respondents in the study faced the series of constraints which could influence the effective usage of indigenous knowledge practices.

Table 7: Mean distribution of the respondents on the constraints of indigenous knowledge practices in the control of diseases and pest in sheep and goat

Constraints	mean	Rank
Inadequate information on usage techniques	1.99	1 st
Lack of proper management skill method	1.22	2 nd
Untimely credit facilities	1.16	3 rd
Inadequate know how	1.13	4 th
Inadequate infrastructural facilities	1.13	4 th
Inadequate storage facilities	1.12	6 th
High cost of materials	1.11	7 th

Testing of hypothesis

The correlation result between the socio-economic characteristics of the farmers in the study area and effective usage of indigenous knowledge practice in the control of disease and pests in sheep and goats shows that age ($r=0.243$ $p\leq 0.01$), schooling ($r=0.139$ $p\leq 0.01$) and house size ($r=0.182$ $p\leq 0.01$) had a positive and significant relationship with usage of indigenous knowledge practice. Farm size ($r=0.095$ $p\leq 0.01$) has no significant relationship with the usage of indigenous knowledge practice and extension contact ($r=0.082$ $p\leq 0.431$) show low result with usage of indigenous knowledge practice. This shows that the higher their age, level of education, house size, and extension contact, the higher their usage of indigenous knowledge practices.

Table 8: Correlation analysis between respondent's personal socio-economic characteristics and effective usage

Variables	Correlation coefficient(r)
Age	0.243**
Schooling	0.139**
Extension contact	0.082
Farm size	0.095

** . Correlation is significant at the 0.01 level.

verifiable tool when it comes to usage of indigenous knowledge practices. This shows that the more they have access to information, the higher their level of usage.

Table 9: Correlation analysis between source of information and effective usage

Variables	Correlation coefficient(r)
Source of information	0.191**

** . Correlation is significant at the 0.01 level.

Source: Field survey, 2018

In table 10, the correlation results shows that constraints ($r=0.036$ $p\leq 0.01$) has no significant relationship with the usage of indigenous knowledge practice. This implies that the constraints the farmers faced do not influence their usage of indigenous knowledge practices.

Table 10: Correlation analysis between constraints and effective usage

Variables	Correlation coefficient(r)
Constraints	0.036*

** . Correlation is significant at the 0.01 level.

Source: Field survey, 2018

The results in table 11 shows that accessibility ($r=0.595$ $p\leq 0.01$) had a positive and significant

Table 11: Correlation analysis between accessibility and effective usage

Variables	Correlation coefficient (r)
accessibility	0.595**

** . Correlation is significant at the 0.01 level.

Source: Field survey, 2018

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 SSUMMARY

The study assessed the effectiveness of indigenous knowledge practice in the control of disease and pests in sheep and goat among goat and sheep farmers in ikole Ekiti, Nigeria. It shows that, 51.1% of the sheep and goat farmers have their ages ranging from 51-60 years of age. Majority (63.3%) of the respondents are females while the remaining (36.7%) are males. About (44.5%) of the respondents had primary education, (36.6%) of the respondents had secondary education, and (21.1%) of the sampled sheep and goat farmers had no formal education. 92.2% of the farmers were married. 44.5% of the farmers had primary education and 76.7% of the farmers inherited their farmlands.

- The indigenous knowledge practices worked on for this project are: bark of iroko tree (*Millicia excelsa*)/tagiri (*Adenopus breviflorus*)/unripe pawpaw for treating intestinal worms, grind tobacco leaves for tick infestation, igi-erin (*Hunteria umbellata*)/sand paper leaf (*Ficus exasperata*) and palm-oil for mange infestation, shea butter (*Vitellaria paradoxa*) and salt for foot rot, ground alligator pepper (*Aframomum melegueta*) for orf, igi emi (*Vitellaria paradoxa*) for wound, palm oil for bloat treatment, oloora bark (*Rauwolfia vomitoria*) & palm oil for treating poisonous plants ingestion, fermented ground maize for treating sheep and goat pox, charcoal

The farmers are informed mainly by family members, friends and neighbors, radio, and television respectively. The constraint that ranked first was inadequate information on usage techniques. Sandpaper leaf and palm oil were the most effective indigenous knowledge practice. Twelve variables were used and they were all highly used by the farmers. Also, there were positive and significant relationship with accessibility and usage of indigenous knowledge practices.

5.2 CONCLUSION

Based on the findings of this research work, it can be concluded that sandpaper leaf, shea butter, igi emi, wood ash, alligator pepper, jathropa curcas and oolora bark were the most accessible followed by fermented maize and unripe pawpaw. The others are tobacco leaves, palm oil and efinrin. According to the results, all the above indigenous knowledge practices are being used and effective in the control of diseases and pests in sheep and goats. The result also implies that indigenous knowledge practices are affordable, highly used and satisfactory in the control of disease and pests of sheep and goat. They also range from highly effective to low level of effectiveness. However there was low contact between the sheep and goat farmers and extension agents recorded hence efforts should be made by governmental and non - governmental organizations in training the farmers on knowledge of indigenous practices and usage techniques.

5.3 RECOMMENDATION

- There is need for extension agents to be trained on indigenous knowledge practices so they can impact it on the farmers.
- There is need for government and non-government organization to provide credit facilities for the preservation of indigenous practices for future use.
- The sources of information on indigenous knowledge practices should extend beyond family members, friends and neighbors.
- Programmes that are related to knowledge of farming activities should be aired late in the evening on radio and television when the goat and sheep farmers will be able to listen or watch.

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APPENDIX

The diseases and pests of sheep and goat and the indigenous practices used

S/N	DISEASES AND PESTS	INDIGENOUS PRACTICE USED
1.	Intestinal worms	Bark of Iroko tree/Unripe pawpaw
2.	Tick infestation	Grind Tobacco leaves in water
3.	Mange infestation	Igi-erin/Seeds of Iroko tree/sand paper leaf and palm-oil
4.	Foot rot	Shea butter and salt seeds of Iroko tree.
5.	ORF	Ground Alligator pepper
6.	Wound	Igi Emi
7.	Bloat	Palm -oil
8.	Poisonous plants	Oloora bark and palm oil
9.	Sheep and goat Pox	Fermented ground maize and millet flour
10.	Diarrhoea and Dysentary	Onion solution and Charcoal mill
11.	Retained placenta/ Dystokia(prolonged labour)	Lapalapa (Jathropha Curcas) and palm oil
12	Broken horn	Wood ash

QUESTIONNAIRE

FEDERAL UNIVERSITY OYE-EKITI, EKITI STATE

DEPARTMENT OF AGRICULTURAL ECONOMICS AND EXTENSION

RESEARCH TOPIC: INDIGENOUS KNOWLEDGE AND CONTROL PRACTICES OF SHEEP AND GOAT DISEASES AND PEST AMONG FARMERS IN IKOLE EKITI, EKITI STATE, NIGERIA

Dear respondent,

This questionnaire is strictly for academic purposes and as such it will be extremely appreciated if you give relevant information at it will be treated confidentially.

Background Information

Name of Village/Town: _____ Questionnaire No. _____

Location (L.G.A) _____ Zone _____

(A) Demographic characteristics of the farmer

1. Age of respondent _____ years
2. Sex: Male Female
3. What is your marital status, specify,
(i) Single _____ (ii) Separated _____ (iii) Married _____ (iv) Divorced _____ (v) Widowed _____
What is your household size? _____ (i) Children _____ (ii) Dependants _____
4. What is your religious affiliation? (i) Christianity _____ (ii) Traditional religion _____ (iii) Islam _____ (iv) others (specify) _____
5. How did you acquire or obtain your farmland? (i) Inheritance _____
(ii) Purchase _____ (iii) Rented _____ (iv) Lease _____ (v) Village land _____
6. What is your farm size? (i) 1-2 hectares _____ (ii) 3-4 hectares _____ (iii) 4-5 hectares _____
7. What is your sheep flock size? (i) <10 _____ (ii) 10-20 _____ (iii) >20 _____
8. What is your goat flock size? (i) <10 _____ (ii) 10-20 _____ (iii) 21-30 _____ (iv) >30 _____

- (iv). Completed university _____ (v). Adult literacy (vi) did not attend school at all _____
13. How many times have you had contact with the extension agents in the past one year? _____
14. How many extension training meetings have you attended in the past two years? _____

C. Usage of indigenous practice

Please indicate whether the indigenous practices used are highly used (5), used (4), partially used (3), rarely used (2), not used (1)

S/N	AILMENT/DISEASE	INDIGENOUS PRACTICE USED	1	2	3	4	5
1.	Intestinal worms	Bark of Iroko tree/Tagiri/Unripe pawpaw					
2.	Tick infestation	Grind Tobacco leaves in water					
3.	Mange infestation	Igi-erin/Seeds of Iroko tree/sand paper leaf & palm-oil					
4.	Footrot	Sheabutter&salt Roast seeds of Iroko tree/Efinrin					
5.	ORF	Ground Alligator pepper					
6.	Wound	Igi Emri					
7.	Bloat	Palm –oil					
8.	Poisonous plants	Oloora bark & palm oil					
9.	Sheep and goat Pox	Fermented ground maize & millet flour					
10.	Diarrhoea & Dysentary	Onion solution &Charcoal mill					
11.	Retained placenta/ Dystokia(prolonged labour)	Jathropa Curcas squeeze&palm oil					
12	Broken horn	Wood ash					

D. Effectiveness of indigenous practices.

Please indicate whether the indigenous practices used are very effective (5), effective (4), partially effective (3), rarely effective (2), ineffective (1)

		tree/sand paper leaf & palm-oil						
4.	Footrot	Sheabutter&salt Roast seeds of Irokotree/Effirin						
5.	ORF	Ground Alligator pepper						
6.	Wound	Igi Emi						
7.	Bloat	Palm -oil						
8.	Poisonous plants	Oloora bark & palm oil						
9.	Sheep and goat Pox	Fermented ground maize & millet flour						
10.	Diarrhoea & Dysentary	Onion solution &Charcoal mill						
11.	Retained placenta/ Dystokia(prolonged labour)	Jathropa Curcas squeeze&palm oil						
12	Broken horn	Wood ash						

E. Accessibility

Please indicate how accessible the indigenous practices are to you in your community. Not accessible (1), rarely accessible (2), partially accessible (3), accessible (4), highly accessible (5)

S/N	AILMENT/DISEASE	INDIGENOUS PRACTICES USED	1	2	3	4	5
1.	Intestinal worms	Bark of Iroko tree/Tagiri/Urripe pawpaw					
2.	Tick infestation	Grind Tobacco leaves in water					
3.	Mange infestation	Igi-Emi/Seeds of Iroko tree/sand paper leaf & palm-oil					
4.	Footrot	Sheabutter&salt Roast seeds of Irokotree/Effirin					
5.	ORF	Ground Alligator pepper					
6.	Wound	Igi Emi					
7.	Bloat	Palm -oil					
8.	Poisonous plants	Oloora bark & palm oil					
9.	Sheep and goat Pox	Fermented ground maize & millet flour					
10.	Diarrhoea & Dysentary	Onion solution &Charcoal mill					

F. Source of awareness

What are your most important sources of awareness about the indigenous practices

i.	Extension agents				
ii.	Family members				
iii.	Friends and Neighbours				
iv.	Radio				
v.	Television				
vi.	Leaflet/Agric. News letter				
vii.	Salesmen				
viii.	Newspaper				

G. Constraints to effectiveness of indigenous practices

In your own opinion what are the problems militating against effectiveness of indigenous practices about sheep and goat. Carefully indicate those applicable to you. VA = very highly, M = moderate, L = low, VL = very low.

	Constraints	VH	H	M	L	VL
i.	Inadequate know-how of the indigenous practices					
ii.	Inadequate storage facilities					
iii.	Inadequate credit facilities					
iv.	High cost of materials					
v.	Inadequate information on usage techniques					
vi.	Lack of proper management skill method					
vii.	Inadequate infrastructural facilities					
viii.	Untimely credit facilities					