



Opportunities for value addition to improve the quality of goat meat supply to the institutional consumers:

The case study of goat meat value chain in Central District Unguja Island-Zanzibar, Tanzania.

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by

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DEDICATION

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List of Abbreviation

ASDP	Agricultural Sector Development Programme
EPINAV	Enhancing Pro-Poor Innovations in Natural Resources and Agricultural Value-chains
EID	Islamic Festival it comes Two times per year, Eid Al-Adha and Eid Ul-Fitri
HACCP	Hazard Analysis and Critical Control Points
QACCP	Quality Analysis Critical Control Point
IFAD	The International Fund for Agricultural Development
GFP/GAP	Good Agricultural/Farming Practice
KATI	Kizimbani Agricultural Training Institute
MANLF	Ministry of Agriculture, Natural Resources, Livestock and Fisheries-Zanzibar
MLFD	Ministry of Livestock, Fisheries and Development-Tanzania Mainland
PESTEC	Political, Economic, Social, Technical, Environmental, Cultural
PRA	Participatory Rural Appraisal
QACCP	Quality Analysis Critical Control Points
SME	Zanzibar small and medium enterprises policy
SNV	Stichting Nederlandse Vrijwilligers (Netherlands Development Organization)
SUSTAIN	Pro-poor development project (Norwegian government)
SWOT	Strength, Weaknesses, Opportunities, Threats
ZSGRP–MKUZA III	The Zanzibar Strategy for Growth and Reduction of Poverty No 3
ZFDA	Zanzibar Food and Drug Agency

ABSTRACT

Linking farmers to markets widely viewed as a milestone towards promoting economic growth and poverty reduction. The vast opportunity in agriculture, tourism and light industries is available in Zanzibar will help to boost poverty reduction and sustainable development of the nation. However, the weak entrepreneurship culture, investment and institutional imperfections along the value chain and supply chain to prevent farmers and other actors in the chain to add value to their produce and identifying business opportunities.

This research paper aims to identify quality demand and recommend strategies that will be used to improve the quality supply of goat meat for the institutional market in Unguja Island of Zanzibar, about seeking an opportunity for actors in the goat meat chain to add value their produces and reach higher market (Institutional market).

Survey data collection method was used to collect data from Central district farmer in Unguja Island. The aim was to understand the goat farmer in the Central district of Unguja Island in the value share, level of awareness on demand and quality, marketing relation, market output and marketing information from the farmer before conduction stakeholder meeting. Secondly, a case study method was employed to get information from specific actors including retailers, supporters, and institutional consumers about the quality awareness, quality of goat meat demanded, discussing the chain map of goat meat and business model for the farmer. Both types of data help to identify the current situation of market opportunities for livestock producers which observed to be little utilised by the actors, relationship of the actors which detected to be weak, less volume of the produce sent to the market by farmer, importation of live goat by retailer and consumer creating own chain by hiring contract supplier to supply meat either from Unguja Island or processed meat from outside an Isle. The lastly was the Institutional consumer become so unhappy with the situation of the goat farmer, and retailers produce in the district and decided to import processing goat through specific supplier from Tanzania mainland.

Options to consider collective action for the farmer as a strategy toward reaching strong production and the higher market is discussed, which would facilitate farmer to meet the demand of the Institutional consumer by importing young goats and fattening before selling to the retailer or direct to Institutional consumer. The relation of retailer and farmer is another point discussed, including special facilitator and agent who will help to import goat, sell and meet the market by consideration of win-win situation or equal profit. Father study to consider nutrition of goat meat to be fattened and cost-effective analysis of goat meat business for an organisation.

Keywords: Supply, Demand, Value addition, value chain, Tourism, institutional consumer

1 Introduction

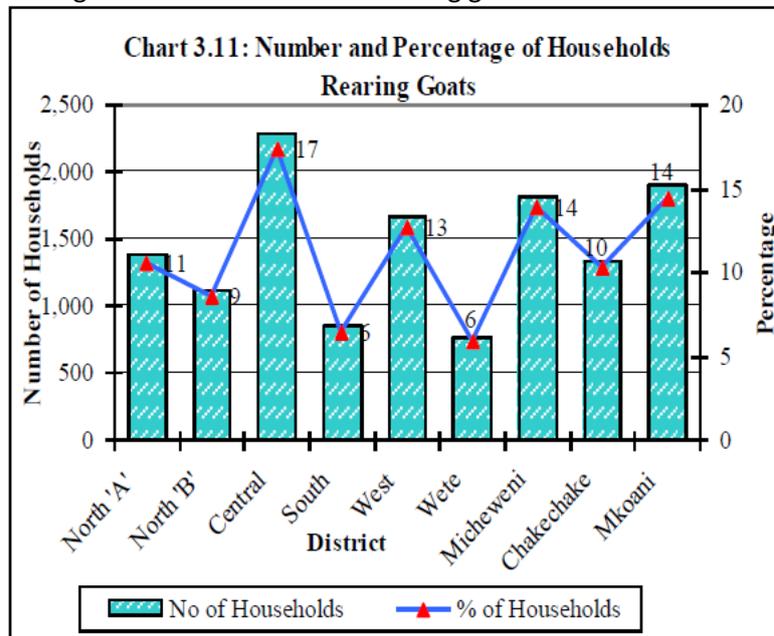
1.1 General Background

Goat production, demand and supply: Meeting institutional market

Tanzania is known to be the third country owning large population of livestock in Africa, about 25 million of cattle, 16.7 million of goat, 8 million of sheep, and 34 million of chicken (MLFD, 2015). Due to cultural value and self-esteem in some part of society in Tanzania own big herd of livestock in their area which contributing to large livestock population in Tanzania. (Wilson, 2015).

Zanzibar as a part of the United Republic of Tanzania, it has only 35% of smallholder household keeps livestock excluding poultry (MANLF, 2012). The percentage number of smallholder farmer raising goat is 10.5 %, where the estimated number of goat is said to be 60,000 to 70, 000. The Central district has 2300 (17%) of households raising goats than any other district in Zanzibar (Figure 1) (MANLF, 2012). Women involve more keeping goat compared to men, especially in keeping dairy goat (Moulton, 2015). Zanzibar is also importing live goat and meat goat from Tanzania mainland throughout the year, 2,753 live goat and 25,345 tons of meat recorded in the year 2006 and 2007 respectively (SNV and MMA, 2008).

Figure 1: Number and percentage of smallholder farmer rearing goat in Zanzibar



Source: MANLF, 2012

Zanzibar has a significant potential for livestock market-led commercialisation to the economic growth, driven by domestic urban demand and the increasing tourist investments. This potential market is still underutilised; available data show that about 91% of livestock products include; beef, chicken, goat meat, mutton and powder milk consumed in the tourism sector are imported (POCRC, 2009). The large importations of the livestock products from Tanzania mainland, South Africa and Brazil in the tourism sector are the results of local produces to be inferior in quality, poor processing, low productivity, livestock diseases, poor marketing infrastructures and other inputs (Anderson and Juma, 2011, POCRC, 2009). According to Anderson and Juma (2011), the tourism hotel and restaurant sourcing local livestock product in Unguja Island-Zanzibar are depending much on the owner or chief cooker of the hotel. Institutional consumer (Local tourism hotels, restaurant and lodge) they reported consuming only 10% of the meat sourced from the local supplier. Despite the demand of the meat by the institutional market, there are significant issues concerning the industry to source less little volume of the local produce; this was due to the inability for a local producer to supply high-quality standard products and with unorganised marketing system (Anderson and Juma, 2011). The issue of the inconsistency quality standard and supply of goat meat supported by Moulton (2015), in her study and in-line with the report from (ZSGRP-MKUZA II) POCRC (2009). It revealed that goat meat supply to the institutional market in Unguja Island-Zanzibar Island associated with inconsistent product supply, lack of sanitary slaughtering facilities,

unorganised market, lack of added value and reduced overall quality of the meat which made it difficult for the hotel to source meat from local suppliers (POCRC, 2009, Moulton, 2015).

Added value distribution in agri-food in Zanzibar

Zanzibar's agri-food value addition activities are currently under development due to previous poor investment and weak entrepreneurship culture which makes difficult to utilise institutional market (POCRC, 2009). The insufficient knowledge, technology and the slow pace of agro-industries development have hampered the production, processing and marketing of agri-food product. However, the country has many potentials drivers to be a key for the development, the presence of significant untapped potential to add value to the existing raw material, especially for livestock product with the strong brand associated with the image of Zanzibar will boost the marketing and raise opportunity to utilise domestic market. The country is aiming to encourage, promote and support public and private sectors to focus on value-added activities to increase the competitiveness of locally produces to satisfy internal market and export market (POCRC, 2009).

Institutional market development

Zanzibar takes a significant step toward poverty alleviation by placing some strategies that aim to sustain the personal growth of poor citizen through different economic activities (ZIPA, 2018, ZCT, 2017). Zanzibar tourism sector grows at a rate of 4% which contributing in the growth of institutional consumer, including five-star hotels, lodge and restaurant which directly and indirectly participating in the reduction of the poverty line in Unguja Island-Zanzibar (ZCT, 2017). Whereby the local smallholder farmers have the chance to be directly involved and benefit from the growth of tourism sector, either through selling their local produces to the hotels, lodge, restaurant or receiving fund for their economic activities. In Unguja Island of Zanzibar, a new policy is known to be Zanzibar Small, and Medium Enterprises policy (SME's) and initiation of pro-poor tourism help poorest people to find more room to invest and utilise the sector (Carboni, 2008). However, the linkage between tourism and local suppliers of agricultural commodities typically constrained by many barriers ranging from demand, supply and related to legal and constitutional factors (Meyer, 2006, Anderson and Juma, 2011). Poor linkage is also described by Zanzibar strategic plan for agriculture growth (ZSPA) 2010-2020 as reported by POCRC (2009), p. 32 referred to as *"The recent development in the tourism industry has not impacted positively in creating the market linkages for the domestic livestock products such milk, eggs and meat, mainly because of the inferior quality and unstable supply base"*.

1.2 Problem Statement and Justification

As far as the tourism sector continues to grow in Zanzibar, the demand and supply of quality goat meat and other produce are increasing. Failure to maintain sourcing or to supply enough volume and quality goat meat to this market segment, the sector will continue to import the meat outside the Island and thus the aim of poverty reduction and sustainable development will not reachable. These become massive pressure for our local producers to shape with the current demand of the Institutional market. However, the presence of predominant informal goat market chain in Unguja Island challenging goat farmer in Central district and retailer to continue supply less volume of goat meat with poor quality to the institutional market (MANRLF, 2011). Such scenario calls for enhancing quality meat production, processing and retailing of goats which seen as a business opportunity for value addition in the chain to meet the demand of the Institutional market. However, value addition in the meat is an impartially new concept in Zanzibar and has not been sufficiently emphasised (POCRC, 2009).

Understanding the strategies to Increase value creation is essential in transforming actors' perceptions on the best way to link them together and being able to improve their supply to the consumer. An emphasising on quality meat demand and consistent supply of quality goat meat must be well considered, these focus area will trigger linkage between actors in the chain and increase awareness about quality. Therefore, there is necessary to analyse the quality demand in the chain and to identify strategies that can be implemented in Unguja-Zanzibar goat value chain to improve the quality of goat meat.

KATI as the primary problem owner with the help of SUSTAIN project, both have a concern with the inclusion of poorest smallholder farmer in the development programme. SUSTAIN project aiming at Agricultural and Natural Resources Transformation for Improving Livelihood through poverty reduction and improved social well-being by promoting innovation. KATI as a chain facilitator has the mandate to train and facilitate farmers toward upgrading their activities or strengthen their performance in the chain around Zanzibar Island and Tanzania in general.

1.3 Research Objective

To identify quality demand and recommend strategies that will be used to improve the supply of quality goat meat to the institutional market in Unguja Island-Zanzibar

1.4 Research Question

1. What is the current value chain and governance of goat meat?

- a. What are the actors' roles and organisation in the goat value chain?
- b. What is the market relation required to connect producer to consumer level in the goat meat value chain?
- c. How is market information on output (quality, volume and price) for the end market flow in the goat value chain?
- d. What is the cost price distribution among the actors in the goat value chain?

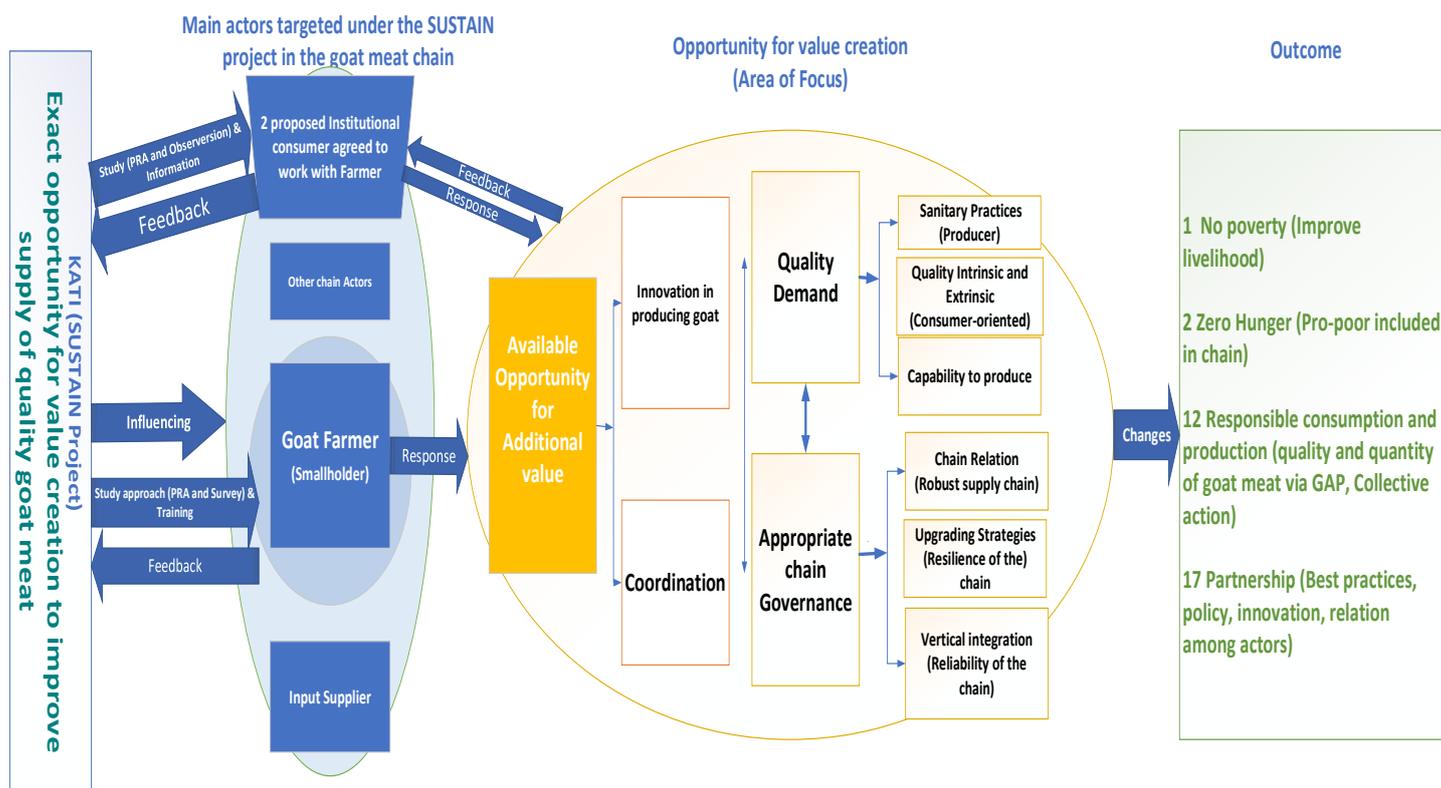
2. What is the possible intervention to improve quality preference and increase demand for goat meat?

- a. What is intrinsic and extrinsic quality attribute required by the institutional consumer?
- b. What are the current slaughtering, retailing and processing sanitary environment in the chain?
- c. What is the awareness of goat meat producer on quality and demand for goat meat by the market?
- d. What is the demand and supply volume in the chain?
- e. Which integrated activities is required to increase or promote the quality supply of goat meat?
- f. What producer business model that can possibly meet the quality demand of the market?

1.5 Conceptual Framework

The study adopted the conceptual framework as shown in figure 2 below. The structure illustrates the value chain of the goat farmer upgraded through the available opportunity for additional value. The concept of adding value divided into two major ideas, innovation and coordination (Include Value Chain Analysis) which influencing quality demand and supply, and governance structure respectively. The chain governance will lead to robust, resilience and reliable value chain and improving quality demand will facilitate smallholder farmer and retailer to meet the Institutional market segment demand and create institutional consumer partnership.

Figure 2. Conceptual Framework of the Study



Source: Author Design, 2018

1.6 Definition of Terms

Added Value is the amount of value that each actor in the chain adds. It is the difference between the price the actor pays for the produce, and the price she or he sells it for (KIT and IIRR, 2008).

Chain Governance: refers to the structure of relationships and coordination mechanisms that exist between actors in the value-chain (van den Berg and Poor, 2004).

Extrinsic attribute: are food quality characteristics that do not necessary associated with the product properties but can affect consumer’s perception (Luning and Marcelis, 2009).

Formal Goat value chain: Registered and fully regulated chain from input supply to retail with clear regulation and standard in the market (POCRC, 2009).

Informal Goat value chain: for this research, the informal goat value chain refers to the chain that characterised with poor quality and quantity, no market standard and regulation, lack of information between actors (POCRC, 2009).

Intrinsic attribute: Are food quality characteristics that are inherent to the physical product (Luning and Marcelis, 2009)

Institutional Consumer: mean any institution which avails of the facilities or service in connection with lodge, hotels, University, hospitals or such other service institutions which buy commodities directly from the producer or trader for use by that institution (KIT and IIRR, 2008). For this study, is more focus on tourism market includes; Hotels, Lodge and Restaurant.

Meat: All parts of an animal that are intended for, or have been judged as safe and suitable for, human consumption (FAO, 2004).

Meat Quality: in this study, it referred to as the meat comprises palatability, wholesomeness, and being free of pathogens and toxins (Webb et al., 2005).

2 Literature Review

2.1 Pro-poor development: Linking smallholder goat farmers to the institutional market

The potential market for the Institutional consumer

Zanzibar's tourism industry current grows due to an increase in tourists arrived on the island, the number of tourist arrival increased by 15.2% in 2017 compared to the 2016 (ZCT, 2017). The growth of tourism in developing has negative and positive effect in the countries, as the positive side has a significant impact on poverty alleviation and it is recognised as the tools of poverty reduction too (Chok et al., 2007). However, the institutional market it is the particular segment, and it has excellent potential for the local citizen in improving their lives, but a satisfying institutional consumer with the product produced by local producer will much depend on the ability of the supplier to provide the right product at the right time (Lubbe et al., 2016). The institutional consumer has been recognised to demand high-quality product that can meet its selective customers, called Tourist (Lubbe et al., 2016).

Unguja Island goat meat supply to the Institutional market

Despite the growth of tourism in Unguja Island, yet the sector is not well utilised (Rotarou, 2014). The tourism in Zanzibar has experienced rapid expansion in the last decade, this has not accompanied by pro-poor growth in the Isle. The Isle has continued to experience the decline of goat slaughtered in Unguja Island, 2,270 goats slaughtered in 2015 and 2,181 goats slaughtered in 2016 (ZFDA, 2018). This reflecting the decline of supplying goat meat to the institutional consumer and remain with domestic customer, according to Anderson and Juma (2011) show that the low supply of local livestock products resulted by the presence of high negative side of supplying condition of the local smallholder suppliers which characterised with unhygienic and unhealthy post-slaughter handling of the meat production. It concluded by Lubbe et al. (2016), the supply of the local produce must reflect the customer needs, and this must apply the idea of analysing the products produced to the potential of consumer preference. In Unguja Island-Zanzibar, large hotels generally are not willing to enter in the local market policy (SME's) since they prefer to import food products. Zanzibar has the poor market infrastructure and less production (MANRLF, 2011). Meanwhile, the local meat suppliers who are supplying to hotels before were also not considering selling to hotels or restaurants in the future due to failure to meet supplying condition (Anderson and Juma, 2011).

Zanzibar Livestock Constrain

Despite the potential and opportunity Zanzibar have in livestock sector there a number of challenges face the areas as it described in the Zanzibar livestock policy Table 1 (MANRLF, 2011)

Table 1: Number of goats slaughtered per year

Challenges	Opportunities
Animal diseases and mortality;	Growing demand for local livestock products, due to the increased tourist market
Inadequacy and low adoption of technologies	Favourable policies and institutional frameworks to entice private sector
Inadequate processing of products	National unity, peace and stability
Unorganized market outlets	Availability of Development Partners ready to support livestock sector development
High input costs	Presence of youth, women and other marginalised groups that can participate in livestock enterprises
Resource scarcity	
Poor livestock infrastructure	

Source: ZFDA, 2018

Factors contributing to the linkage between institutional market and local producer

Linking tourism and local agriculture producer is highly crucial to the development of the individual farmer and nation in general (Rotarou, 2014, Meyer et al., 2004). Increasing the collaboration between tourism and local producers has benefit in minimising the high importation of the agro-products in the institutional market (Meyer et al., 2004). But creating robust linkages between tourism and local suppliers of local agricultural products, foods must be produced in a safe, sanitary and healthy environment that ensures high-quality food standard (Anderson and Juma, 2011). According to Anderson and Juma (2011), Meyer et al. (2004), many factors starting from demand, supply as well as legal and constitutional factors are affecting linkage between tourism and local producer. Table 2 summaries factors that are generally contributing to the weak linkage between tourism market and a local supplier.

Table 2: Factors contributing in weaken the linkage between tourism and agriculture producer

Demand related factors	Supply-related factors	Institutional & Legal-Related
<ul style="list-style-type: none"> ▪ High-quality products to meet the demand of the customer ▪ Tourism industry maturity ▪ The consumer concerns over food safety and health ▪ Seasonality of tourism ▪ Unhygienic and unhealthy post-slaughter handling of local butcheries ▪ Seasonality of tourism 	<ul style="list-style-type: none"> ▪ Physical limitations ▪ The quantity and quality of domestic production ▪ High prices of locally produced food ▪ Technological and processing limitations ▪ Mistrust and the lack of communication between buying and selling parties ▪ The inability of a particular supplier to meet the specific needs of the hotels regarding quality, quantity, consistency, 	<ul style="list-style-type: none"> ▪ Marketing and infrastructure constraints ▪ Supply poorly adjusted to demand ▪ Spatial patterns of supply ▪ Adherence to the agreed terms and conditions in the contracts ▪ Lack of institutional focus, weak market links and failure to promote local products

Source: Meyer et al., 2004 & Anderson and Juma, 2011

2.2 The quality perception of goat meat

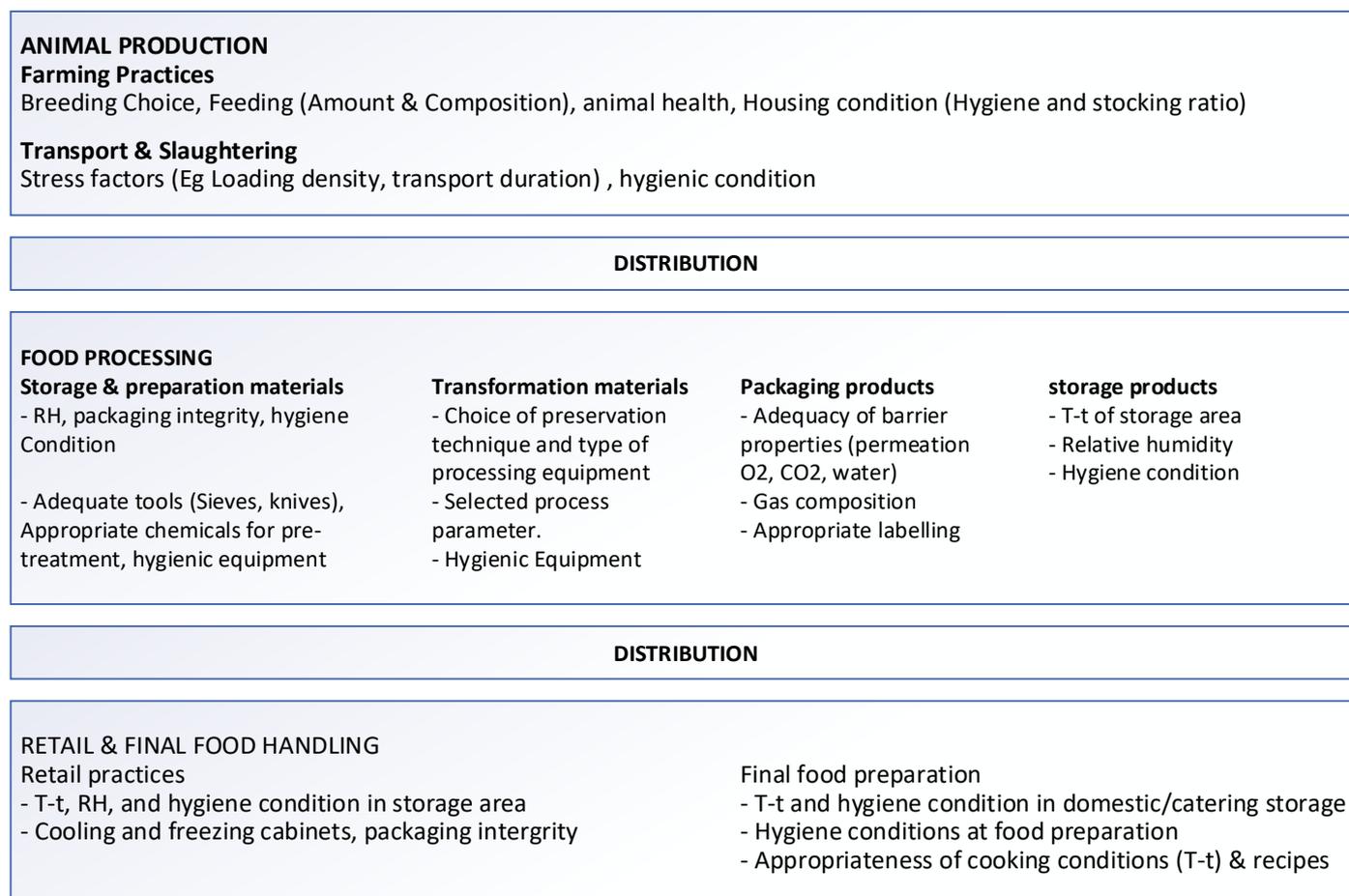
Quality and Safety Perception of food products

The concern of consumer toward quality and safe food has raised. Because of the close relationship with food compared to other goods. Food products properties influence different kind of product attributes, like taste, texture, safety which are judged and perceived differently by the consumer after consumption. In the management of food quality is better to look for things that build quality perception, which is usually based on physical processes and physiological processes. But also it essential to appreciate physiochemical properties of the food that are resulted by the long chain of production and supply which affect the final food quality, figure 3 (Luning and Marcelis, 2009).

The desire for food quality products from the consumer, stimulate the development of Quality assurance system that will incorporate consumer desire into the product. Quality assurance ensures food quality by ensuring the production process are a proper function with a practical application of internal and external audit. The quality assurance system is like appropriate practices codes (Good Manufacture practices (GMP), Good Hygienic Practices (GHP), Good Agricultural Practices (GAP)), Hazard Analysis Critical Control Point (HACCP) and International Standard Organization (ISO) (Luning and Marcelis, 2009). However, The value associated with agriculture products increases a range production quality standards, codes of practices and certification programmes in agriculture sectors (Poisot et al., 2004).

The use of GAPs as one of the good practices in quality assurance provide a guideline for smallholder farmer codes which have been appeared to be motivated by the government and non-government sector to stimulate safe and quality food production. The term GAPs explicitly underlined best practices in food production. In the production of goat, the farmer should be aware with legal practices that related with livestock production, examples disease reporting, record keeping, animal identification and carcass disposal and treatment of the animal (FAO, 2009).

Figure 3: Factor along food supply chain that influences final product quality.



Source: Luning and Marcelis, 2006

Quality characteristics of goat meat and Consumer Preference

Goat meat is the excellent source of lean meat with a number of nutritional components, and desirable fatty acid (Webb et al., 2005). East Africa local goat fed at *ad libitum* have a carcass weight of 10.1 kg and dressing percentage of 57% (Safari et al., 2009). The quality attribute of goat meat (Table 3) can describe physical characteristic which is called intrinsic characteristics, like leaner meat, less compact (tenderness), coarse texture and also can be characterized in sensory characteristics called extrinsic attributes like good aroma and flavour, palatable (Webb et al., 2005). Goat meat has a somewhat darker red colour, coarser texture, has a distinctive aroma and flavour, and have less compact carcasses, especially when related to sheep meat (Webb, 2014).

Meanwhile, understanding the quality of goat meat will depend on one defining quality, where traditionally quality meat can be defined depending on eating quality, processing quality and usage quality. Eating quality comprises palatability, wholesomeness, and being free of pathogens and toxins. Whereby Palatability includes tenderness, flavour, residue, and succulence (Webb et al., 2005). For the producer to have the best quality meat, there is a need to be careful in pre and post-mortem factor to improve the quality of meat. But the presence of new technology like electrical stimulation, chilling and ageing can be used to enhance the quality of meat (Kadim and Mahgoub, 2012).

Table 3: Goat meat intrinsic and extrinsic quality attribute criteria

Intrinsic	Extrinsic
<p>Age and weight at slaughter Fat and carcass yield proportions were affected by weight, with light lambs featuring less internal fat and lower commercial and slaughter yields but more muscle and bone percentage. Further, weight changed fat contents and meat colour.</p>	<p>Odour due to Management/behaviour Stress-free, comfort space, shade and social experience affect taste, texture and smell of the meat.</p>
<p>Gender (male, female, castrated) Gender effect on the quantity of fat deposited, deposition site, growth rate and carcass yield. Females are more affected than men due to their higher precociousness</p>	<p>Fatness due to Diet Ruminant fed at natural way has different fat content, and colour of the meat. Example natural lactation vs nursery milk replacer fed.</p>
<p>Breed Breed bring variation in carcass morphology related to fat quantity or meat quality.</p>	<p>Odour and flavour due to Freezing or frozen time storage Neither the freezing method nor time of frozen storage caused enough changes in sensory quality, only slight differences in tenderness and on the lack of undesirable odours and flavours caused by freezing.</p>
	<p>Tenderness and odour due to Aging Tenderness is higher when ageing time increases due to the enzyme activities. Odour intensity is related to meat nitrogen-containing compounds, neutral degraded and volatile compound</p>

Source: Web *et al.*, 2005

Factor affecting meat quality

Meat quality is essential for consumer satisfaction. Meat quality affected by the way animal reared, feeding and genetics of the animal. The connective tissue and fat-lean are the most part affected in term of quality, hence animal need to be raised in a way to enhance and exploit the quality of meat. Meat quality also can be affected by pre-slaughter and post-slaughter electrical stimulation, and the chilling process may affect the quality of meat. Hence the condition of the slaughterhouses need to be considered because it has a significant influence on the quality of meat produced (Miller, 2002)

Environmental and Social Standard to Influence Consumer Awareness

Producing quality meat and supplying to the target market does not only reflect consumer quality perception, but it needs to look at a sustainability aspect. Incorporating or applying environment and social standard that are promoting product characteristics currently; an example using recycling package material which will protect the environment and encourage or enforce good labour condition or no child labour and help to raise awareness to the consumer about social and environmental issues (Ruerd Ruben *et al.*, 2007).

Zanzibar meat quality control and standard

Zanzibar has given a mandatory Zanzibar Food and Drugs Agency (ZFDA) to “*regulate and control quality, safety and efficacy of food, drugs, herbal drugs, cosmetics, medical devices and diagnostics*” (ZIPA, 2018). The agency has given a task to look after all activities dealing with meat processing. Currently, they certified by ISO 90002015, and they are working under that standard. However, in MKUZA II the government aim to Rehabilitate and construct new

slaughterhouses and abattoirs and prepare them with essential facilities like; animal quarantine infrastructure (POCRC, 2009).

2.3 Value Chain Analysis (VCA)

2.3.1 Generic value chain

A value chain describes “the full range of activities required to bring a product or service through the different phases of production, including physical transformation, the input of various producer services, and response to consumer demand” (Kaplinsky and Morris, 2001).

2.3.2 Chain relation: Market linkage

In order to meet the robust supply chain, there is a need for efficient and trusted interactions between the actor in the chain. These will reduce transaction costs and risks for the chain toward meeting market demand and able to enhancing product quality and strengthening sustainability. The link between smallholder producer and foreign consumer (tourist), helping smallholder producer to comply with the quality demand of the consumer has received more attention nowadays. The type of market linkage between producer and consumer can be improved much with a focus on the governance structure which dealt with implementation of the appropriate legal institution and enhancing market transparency. The extra area to focus in the linkage of producer-customer relation is in-cooperate smallholder producer in vertical integration; the producer has to have full control of the business to grasp opportunity in the chain and having bargain power in the market. It will help to improve and guarantee quality in the chain (Ruerd Ruben et al., 2007).

2.3.3 Chain Upgrading

This aim to bring and build resilience chain as far as there are productive capacities that enable stakeholders and systems to respond to changing circumstances of the chain adequately.

a. Organization of small producer

Smallholder farmer is facing a number of a challenge when they want to meet the market. Market access becomes a challenge to the number of developed countries, where market access defined as the ability of the farmer to access necessary input, services and the strength of the farmer to send it product to the buyer. Some strategies have been proposed by the researcher to solve the issue of marketing; including collective action, remove the entry barrier in the market and improve technology (Van Schalkwyk, 2012).

Organising farmer will help smallholder farmer their economic well-being. The organisation is the free association any person can voluntary unite and able to meet their economic, social and cultural need. The organisation encourage the use of the spot market or veristically integration using a contract formation for their market transaction (Van Schalkwyk, 2012, Ruerd Ruben et al., 2007).

b. Governance structure is developing as a learning process.

Among the opportunity for the producer to have a good relationship with the customer or processor is to motivate less transaction cost from the coordination and motivation cost. These costs associated with the incompleteness of information in the chain and tendency of smallholder producer having a conflict with specific interest from each other instead of having a common interest. Through legal institution and transparency, these costs may contribute to promoting chain and open opportunity for the smallholder farmer to link with the higher market in the chain (Ruerd Ruben et al., 2007). The issue of having organised chain governance it needs an intermediary organisation or facilitator who is going to initiate a value chain development or to transfer necessary know-how both to the farmer’s organisation and service provider. It will boost the learning process in the chain and help to build a long-term management capacity of actors in the chain (KIT et al., 2006).

c. Constrain for value chain upgrading

The main aim of a value chain is to produce value-added products or services for a market, by transforming resources and by the use of infrastructures – within the opportunities and constraints of its institutional environment. Therefore, limitations for value chain development are in our view related to market access (local, regional,), infrastructure and institutional void (Trienekens, 2011)

2.3.4 Chain Development: Vertical and Horizontal linkage

Value chains established by developing the systems into which embedded. The system which will create strong governance for public-private cooperation and co-innovation with strong available policy in the livestock.

a. The driver of value addition (Opportunity for value-added)

The concept of the value chain is focusing on the value creation, innovation, product development and marketing (Webber and Labaste, 2007). The range of opportunities for value creation is vast, and the process of adding value differs from one producer to another which make challenging to come up with single value creation that will boost economic of farmers in the region or country (Giner, 2009). But also, the development of the product in the chain needs to adapt consumer needs, with an emphasis on a specific attribute such as quality. Meeting the demand of consumer needs, the farmer has a role in adopting innovation technique and form organisation, where an organisation will then determine the possible value creation, and innovation should lead to the development of new production technique and steady market supply in the chain (Giner, 2009).

The process of value creation for agri-food differs from one producer to the next, farmer may remain economically viable, if the small-scale farmer will able to find possible value creation in the chain. Meanwhile, given the situation of the farmer, it is impossible to consider created value from the farmer without a clear linkage or association with other participants in the chain and meeting market demand. The approach to governance in the chain will develop or changed to keep up with consumer expectations (Giner, 2009). However, market and institutional imperfections along the supply chain avert perfect vertical and spatial price transmission and prevent farmers and market actors from getting access to information, identifying business opportunities and allocating their resources efficiently (Pica-Ciamarra et al., 2011).

b. Value distribution with governance regime

Distribution of value has both power and income components, to measure the distribution of value added over various actors is strongly related to the governance form of the chain. The power and bargaining position of actors in the chain with the production technology and information asymmetry between chain stages are also contributing to measuring value distribution.

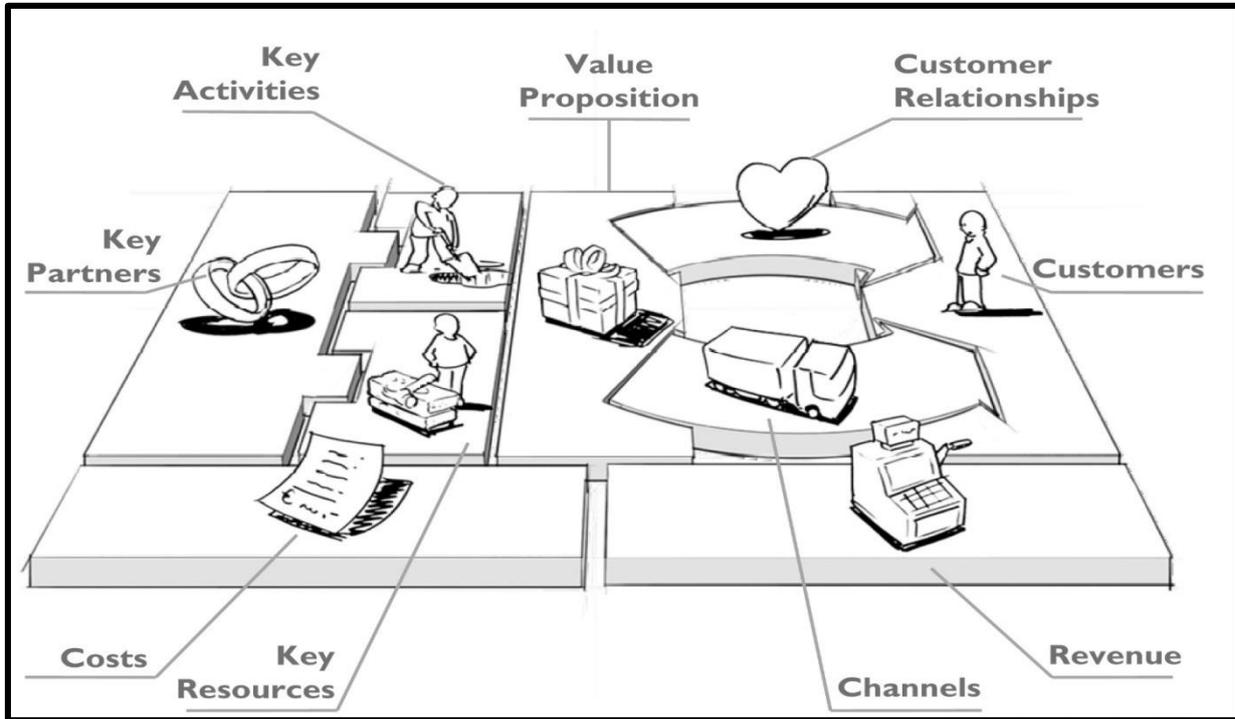
In this aspect small-scale producers depend in many cases on downstream parties in the chain, such as intermediaries (Facilitators), transporters or exporters, input supplies, creditor so as they can realise or increase the added value of their produce (Trienekens, 2011).

The consumer's appreciation toward meat quality will depend on how they define quality, according to (Ruerd Ruben et al., 2007) everyone has a different way or opinion on determining quality, and food quality needs to take "*voice of the consumer*". The quality goat meat attribute now become the focus for reaching the high market and the basis of the consumer demand in the market, promoting goat meat attribute will influence chain actor to abide with all quality attribute to meet consumer preference and desire (Webb et al., 2005). Hence, effectively and efficiently incorporate consumer's willingness or choice especially in the fresh food chain will create a demand-oriented system that will boost customer awareness and contribute to building consumer-oriented approach (Ruerd Ruben et al., 2007).

2.4 Business canvass

The Canvas business model figure 3 is a strategic management template for developing new or documenting existing business models. It has elements describing a firm's activities, partners, value proposition, revenue channels, vital resources, customers segments and costs. Formal descriptions of the business become the building blocks for its operations (Osterwalder and Pigneur, 2009).

Figure 4: Business Canvas Model components.



Source: Osterwalder and Pigneur (2009).

Key Activities: The essential activities in executing a company's value proposition. An example would be creating an efficient supply chain to drive down costs.

Key Resources: The resources necessary to create value for the customer. These resources needed to sustain and support the business for example assets like financial, human, physical and intellectual.

Partner Network: The aim is to optimise operations and reduce risks, the organisation usually develop a buyer-supplier relationship.

Value Proposition: Products and services the business offers to meet the needs of its customers or clients. A company's value proposition is what distinguishes it from competitors using various elements such as performance, efficiency, design, brand, price, cost reduction, risk reduction, convenience and accessibility. The value propositions can be price and ability or customer experience and outcome.

Customer Segments: For a valid business model a producer association must identify customers it serves. Customers can be segmented based on needs and characteristics to ensure the appropriate implementation of a strategy that meets the characteristics of the selected target group of clients. Customer segments include mass, niche, segmented (gender, age, and income), diversify and multi-sided market.

Channels: How value proposition cab be delivered to customers. Through different channels, producer organisation can reach its clients either through its own and partner channels or a combination of both. These channels should be effective channels, fast and cost-effective

Customer Relationship: How business can achieve. Producer organisation must know the type of relationship they want with their customer segments. Various forms of customer relationships exist self-service, co-creation, private, devoted personnel, automated services and communities.

Cost Structure: This describes the most critical financial costs while operating under different business models. It represents fixed costs and variable cost. The cost which remains fixed throughout the year and the cost of input which varies during the production period respectively.

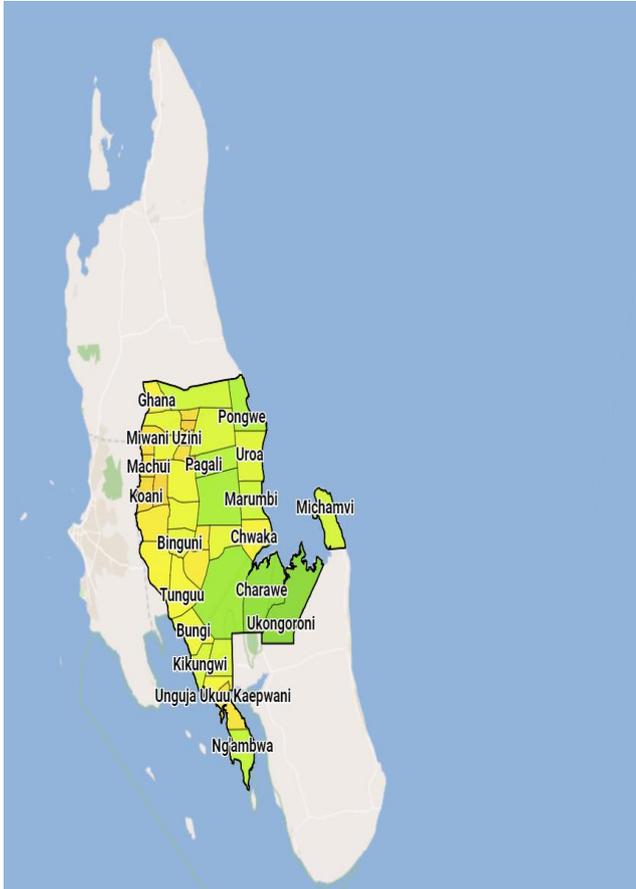
Revenue Streams: The way smallholder goat producer is going to make money from each customer segment

3 Methodology

The chapter presents the study area, study design and data collection strategy and the way the collected data analysed.

3.1 Study Area

Figure 5 Map of Unguja Island, Zanzibar, Tanzania



Study site

The research was conducted in Unguja Island Central district. Unguja Island is the largest island of Zanzibar, it is a hilly island, about 85 kilometres (53 miles) long (north-south) and 30 kilometres (19 miles) wide (east-west) at its widest, with an overall area of about 1,666 square kilometres. Unguja Island annual rainfall ranges from 1,500mm to 2,000mm. The type of the soil includes loam, clays, red earth and sand.

Unguja Island central region is one of the 5 Unguja Island in Zanzibar (Figure 6). Uzini serves as the region's capital. Central district in Zanzibar has a population of 76,346. It divided into 40 administrative wards which also determine the administrative boundaries in the area. Many farmers are smallholders, and they grow horticulture products and livestock at a small scale. Livestock production and trading are picking up as more and more farmers are realising its importance (Citypopulation, 2018) The island has two significant economic backgrounds, tourism and agriculture. Tourism industry becomes more source of employees for the young citizen and continues developed day by day. Agriculture is more relies on small-scale production. Many farmers are smallholders, and they grow horticulture crop, rice, and cloves.

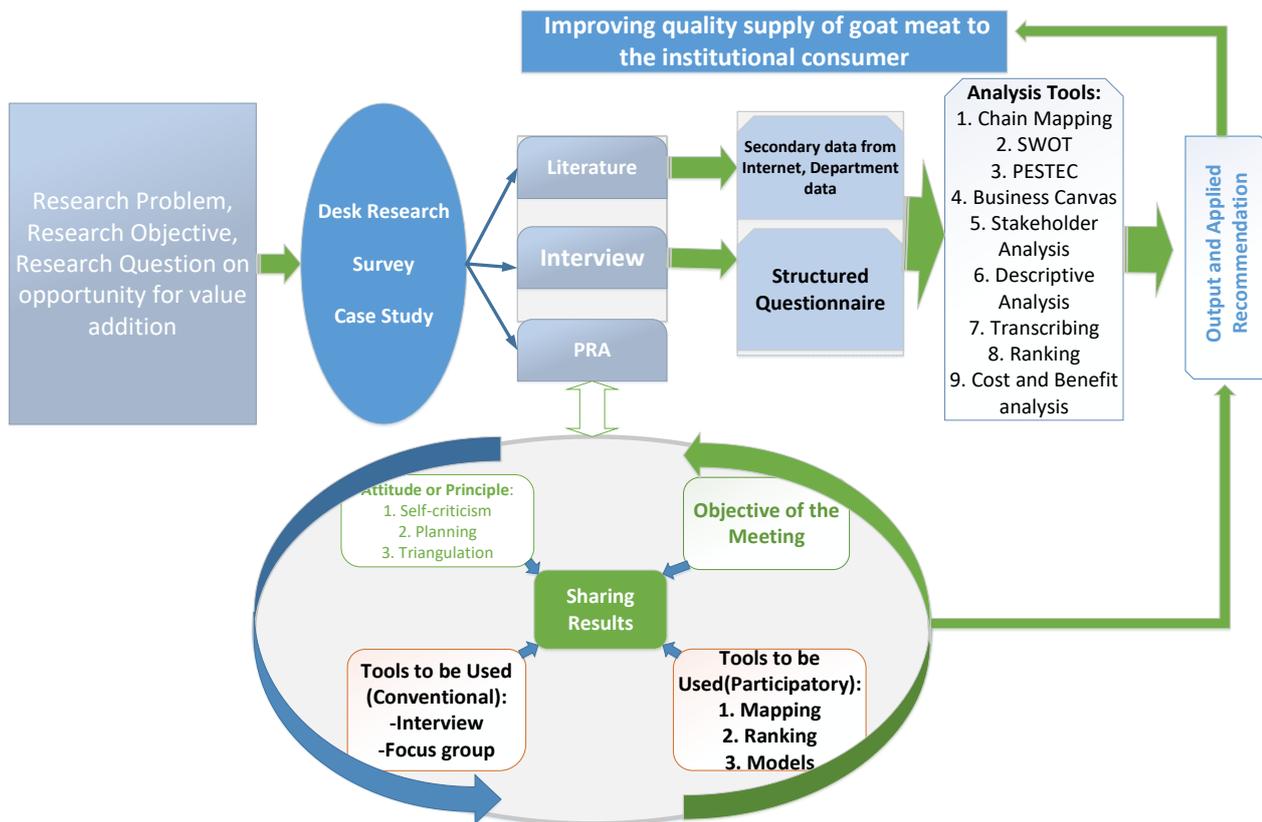
Livestock production and trading are raising too, where farmer they import and rearing animals for the internal market which is not yet fully occupied. The target groups in this research were rural farmer practising goat farming.

3.2 Research Design

The research uses both qualitative and quantitative approach; the approach uses desk and field research to obtain secondary data and primary data respectively (Figure 6). Primary data collection was undertaken from the 25th of June to 20th of August 2018. Two stakeholder meeting (PRA) was conducted, in the first meeting were 10 participants and second meeting were 6 participants. The meeting was first discussing and identify stakeholder, their roles, understand relation and quality awareness and business canvas and the second meeting were explaining supply and demand, and defining the quality of the meet demanded by institutional consumers. In the meeting mapping, drawing, focus group discussion were among of the tools used.

The interview method also was used to collect survey data from goat farmer using a structured questionnaire, and the unstructured interview conducted for the retailer, supporter and institutional consumer. See the research framework figure 6.

Figure 6. Research framework



Source: Author Design

3.2.1 Sampling plan and procedure

The study was targeting goat farmer at the central district and other direct and indirect actors who are dealing with goat value chain in Unguja island. The survey was including 40 goat farmers in the Central district of Unguja island. Through their words, multistage sampling method was used to have the sample unit. The target sample size (40 goat farmers) is drawn from the list of regional livestock extension officers and former project which have been done by KATI. The case study method was including 6 actors (retailer, consumer and supporter) who interviewed and 16 actors who attended a stakeholder meeting (PRA). Through purposive sampling, all actors were generated. The target actors in the case study were also proposed by the SUSTAIN project programme which has mandatory to implement the results obtain from the study of the future.

3.2.2 Research Approach, Method and Tools

Desk Research

Desk research was carried out to obtain literature on secondary data on the smallholder goat value chain. It was also used to answer research questions and compare results with what has already researched. This information obtained from the library, books, internet, journals and reports of the Ministry of Agriculture Natural Resources, Livestock and Fisheries (MANLF) and project reports from stakeholders such as FAO, SSP, ZFDA, EPINAVE, ASDP, MALF.

Survey

A survey was carried out on smallholder goat producers in the rural village of Central district of Unguja island Zanzibar (See Annex 6). By using a multistage sampling method, the goat farmers were selected from four wards; Mpapa, Pagali, Dunga kibweni (Dunga kwa kibawa) and Binguni village. Randomly 40 respondents were coming from the list of goat farmer from the livestock extension officer in the district and project carried out by KATI.

Structured interview using questionnaires was carried out by the researcher to seek initial understanding of the goat farming, cost-benefit, level of awareness on demand and quality at district, marketing relation, market output and marketing information from the farmer before conduction stakeholder meeting.

Case study

The case study approach was used to collect qualitative data during the study. Due to the complexity of the study, the use of case study help to come up with the developed idea as Berg and Lune (2012) refer it, p.339 that “*the scientific purpose of the case study method lies in its ability to open the way for discoveries*”.

A. Interview

Face to face interviews with different stakeholders in the goat value chain was carried out with the aid of an unstructured questionnaire. Two butcher/Retailer were interviewed (See Annex 4), two staff from Zanzibar Food and Drugs Agency (ZFDA) who are dealing with meat inspection in slaughterhouse and butcher safety control were also interviewed as potential actors in maintaining food quality and safety (See Annex 2 and 3). Institutional consumers; Park Hyatt hotel and Hotel Velde (See Annex 5). These interviews were done to have a right direction toward stakeholder meeting and to cross-check data obtained from the meeting. Table 4 shows the interviewees and the information collected.

Table 4. Interviewees and the information collected

Target	Interviewee	Information gathered
Zanzibar Food and Drugs Agency (ZFDA)- Abattoirs and butcher inspection	Public Health officer and Meat inspector	Information about slaughterhouses practices and hygiene, the condition of tools and material used in the slaughterhouses, how the conduct inspection in the butcher, importation site, abattoir, and another processing area, regulation and policy.
Retailer/Butcher 2	Butchery managers	The Information on their procurement of meat activities. Where they obtain their stock, the cost and selling price, amount sold to their consumers or clients, quality issues, a quality attribute they seek when they buy a goat, the problems they face in marketing.
Institutions- PARK HYATT HOTEL, HOTEL VELDE, TEMBO HOTEL	Chefs, the Procurement officer	How they are currently getting their stock, quantities and their conditions, meat quality inferior they meet, a quality they define and want, opinion toward improving supply and linkage between actors.

B. Participatory Rural Appraisal (PRA)

By using this method stakeholder meeting was conducted (See Annex 1), a total of 16 participants were attending the session into two different groups, ten stakeholders participated at the first meeting; Farmers, KATI representative, ZFDA-Food officer, retailer and ZALIRI-Research officer. The focus of the first meeting was about discussing and identify stakeholder, their roles, understand relation and quality awareness and drawing business canvas model for the farmer. 6 stakeholders attended the second meeting, includes chefs, butcher and public health officer from the livestock department. The meeting was discussing seasonal supply and demand for goat meat, defining the quality of the meet demanded by institutional consumers, suggested strategies to meet the quality demand and crosscheck the results we obtained in the first meeting.

3.2.3 Triangulation

The term is expressed as the “mixed method research” (laws et al., 2013). The use of the multiple methods it helps a researcher to yield data that develop detail information of the study. It also helps to understand the role of KATI in

either mainstreaming or improve the current goat chain under the current project, called SUSTAIN. Through the study, multiple methods also help to build trust among actors who are most like to work with KATI in research and the project.

3.3 Data Analysis and Processing

Data collected from the stakeholder meeting and interviews were processed into transcripts by transcribing which representing qualitative data and data from the survey was processed into descriptive value (mean, mode and median) representing quantitative data. Qualitative analysis was done through models, and thematic analysis since empirical data obtained was in narrative and a model forms such as the value chain map, calendar and the business canvas model. The findings were processed into results through answering the research questions by using different themes; Stakeholder matrix was used to identify the actors and their roles in the chain including the risks that they encounter. Value chain map for the smallholder goat meat in the district of central Unguja Island was used to identify information flow, product flow and the overlays of the chain. Value share analysis was used to indicate how the goat meat value shares distributed among the various actors in the chain. The business model canvas was to give farmers an overview of the current business and to identify the significant challenges and propose a new business model. Quantitative analysis was done through the statistical package for social sciences (SPSS) after being coded and processed, the output of the processed data was in the descriptive value where Bar chart, Pie chart, Histogram, crosstabulation table and frequency tables were used to show the results.

3.4 Limitation of the Study

This study is limited with less secondary data that are directly talking about the place where the study conducted. Most of the secondary data provide information about Tanzania which does not thoroughly explain about Zanzibar Island. The researcher had to adjust his methodology and therefore introduce unstructured interview in the case study with butchers, ZFDA, and consumers because it required prior information before conducting a stakeholder meeting. He also had to make two separate meeting because of a load of activities that must be done by stakeholders during the meeting and difficult in assembling all stakeholder at the same day due to the peak tourism season at that time in Unguja Island-Zanzibar. Record keeping by the respondents was unsatisfactory, especially farmer and retailer, and a researcher couldn't get some of the data he required. This has limited him from calculating actual value share for the actors. Therefore, a lot of estimates have been used to calculate the cost price, value share of the goat chain.

4 Results

This chapter explains the empirical findings of the study that was conducted among smallholder farmers in 4 wards (Mpapa village, Binguni, Dunga kwa kibawa and Pagali) in Central district and other actors in the goat chain, retailer, consumer and supporter. The findings from my survey, interviews and stakeholder meeting are focusing on my sub-question which are intended to answer the main question and finally answer the objective of the study.

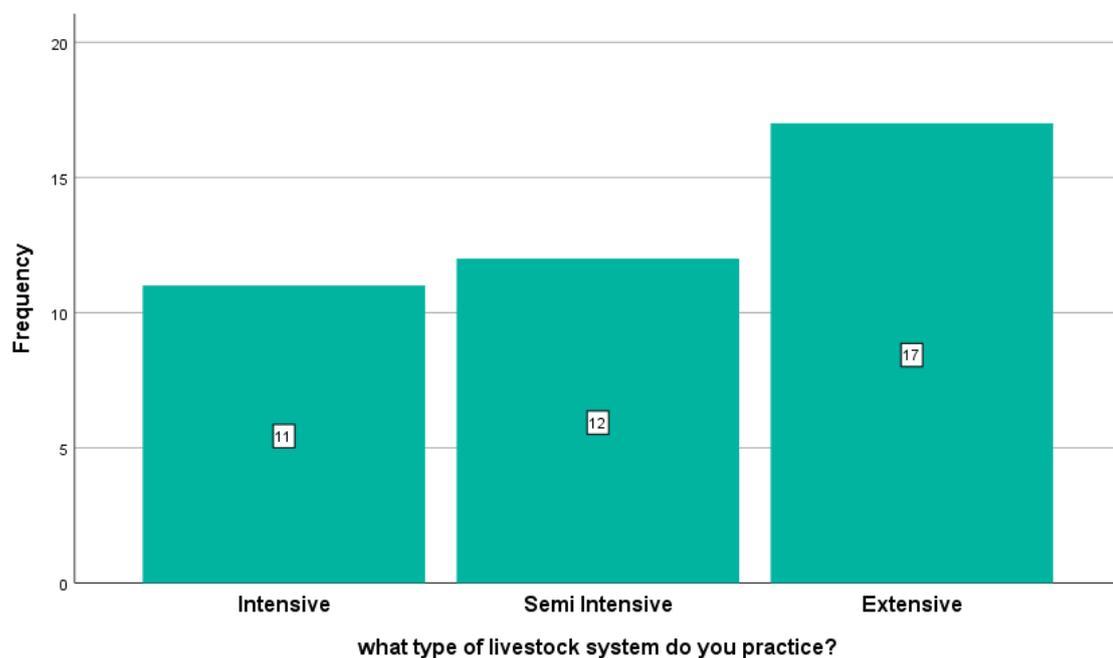
4.1 Survey

These findings are from a survey in which 40 goat farmers from four wards in the Central district in Unguja Island, 24 Males and 16 Females were interviewed (See annexe 8a).

4.1.1 Goat farmer current situation

The figure below (Figure 7) represent the goat keeping system that is dominated by extensive (40.5%), followed by semi-intensive (30%) and intensive (27.5%)

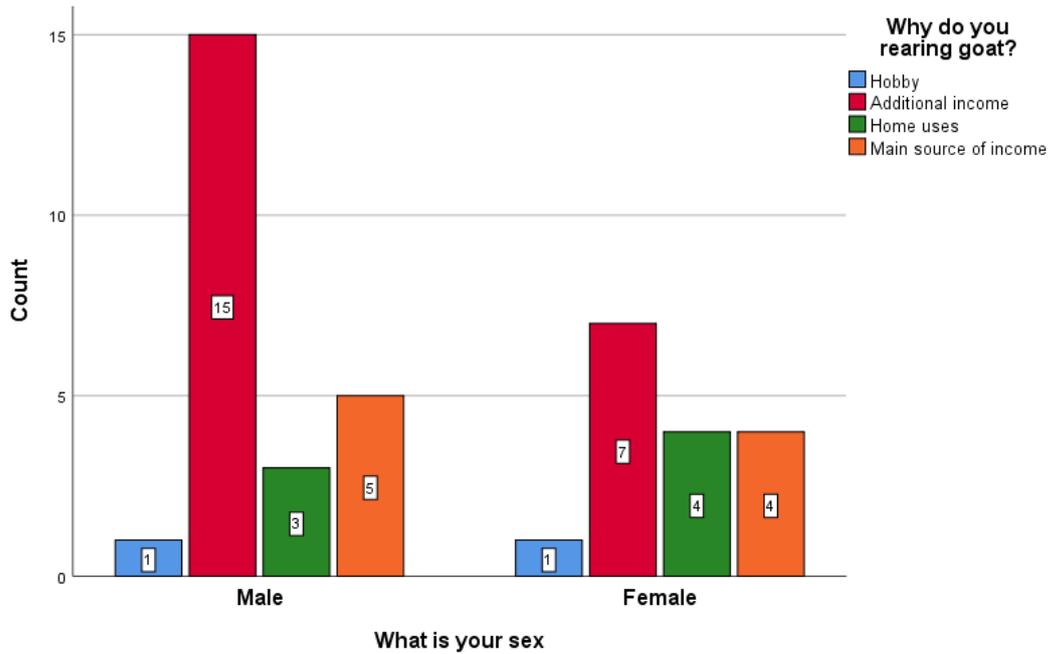
Figure 7: Type of livestock system practised



Source: Farmer Survey data, 2018

The results show goat farmer in the Central district of Unguja Island experienced in goat keeping (70%). Most of the farmer has been raising a goat for more than five years, and the rest are below five years. The figure below (Figure 8) represent the reasons of goat farmer rearing goat based on gender that is dominated by an additional source of income (55%) with 15 males and 7 females and followed by the primary source of income (22.5%) with 5 males and 4 females.

Figure 8: Source of income based on gender.



Source: Farmer Survey data, 2018

When the respondents in the Central district asked about the type of the goat they keep/rear and related to flock size and experience. Figure 9 and 10 represent that is dominated by farmer rearing local goat (42.5%) with flock size of 5 to 9 and more experienced, followed by the farmer rearing crossbreed (32.5%) with flock size 9+ and less experienced and exotic breed (25%).

Figure 9: Relationship between the type of goat reared with experience of the farmer

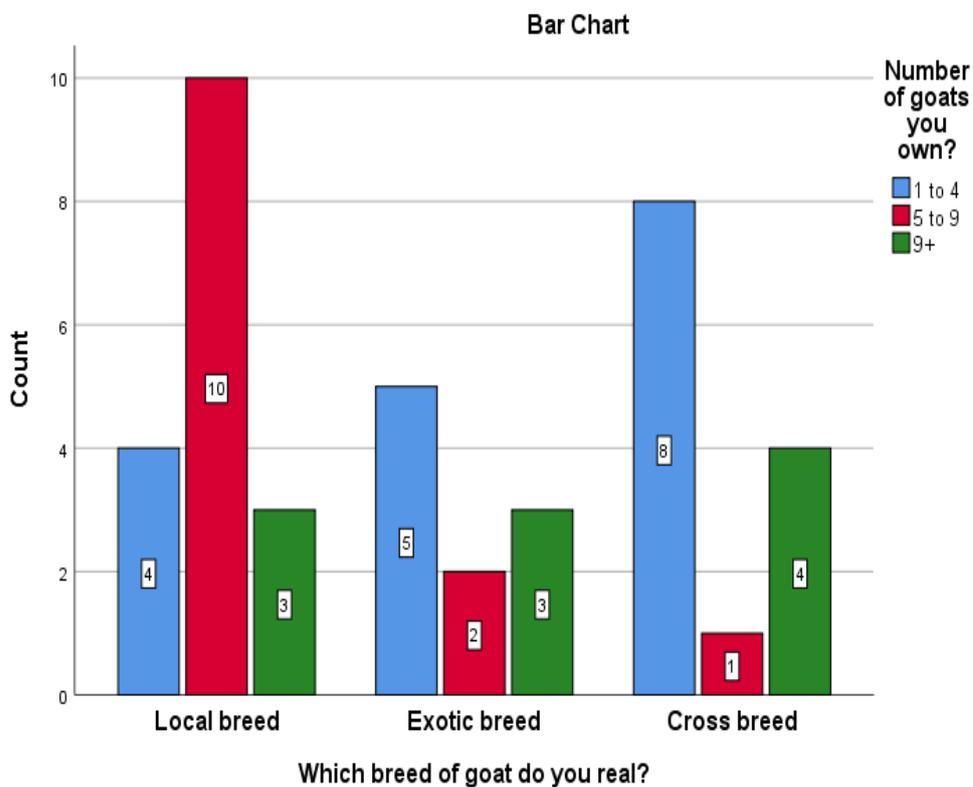
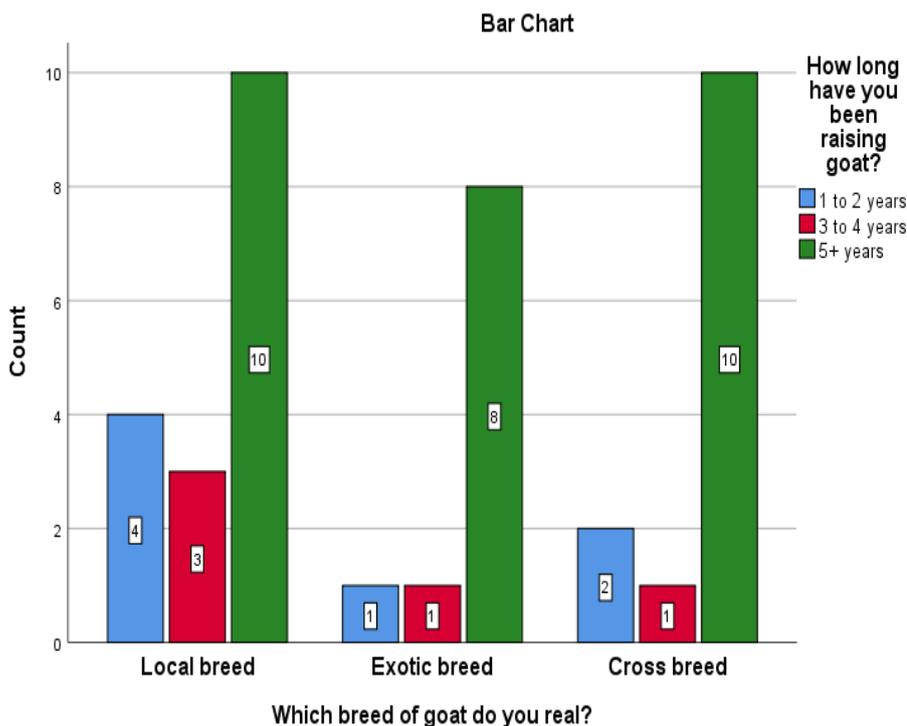


Figure 10: Relationship between the type of goat raised with a number of goats

Source: Farmer Survey data, 2018



Source: Farmer Survey data, 2018

4.1.2 Indirect actor’s contribution in goat value chain

From the survey data, it shows a 78% of a farmer in the central district received less support from government or non-government actors including financial credit and inputs. An average of 11% of farmer said to secure medium to higher support from government and non-government sectors (See annexe 8b).

4.1.3 Level of trust and transparency

The study shows farmer have good relation with their customer, where 57.5% of an interviewed farmer indicate a strong level of trust and 60% of interviewed farmer indicating to have a strong level of transparency with the buyer during the business (Figure 11 and 12).

Figure 11: Level of Trust between farmer and buyer

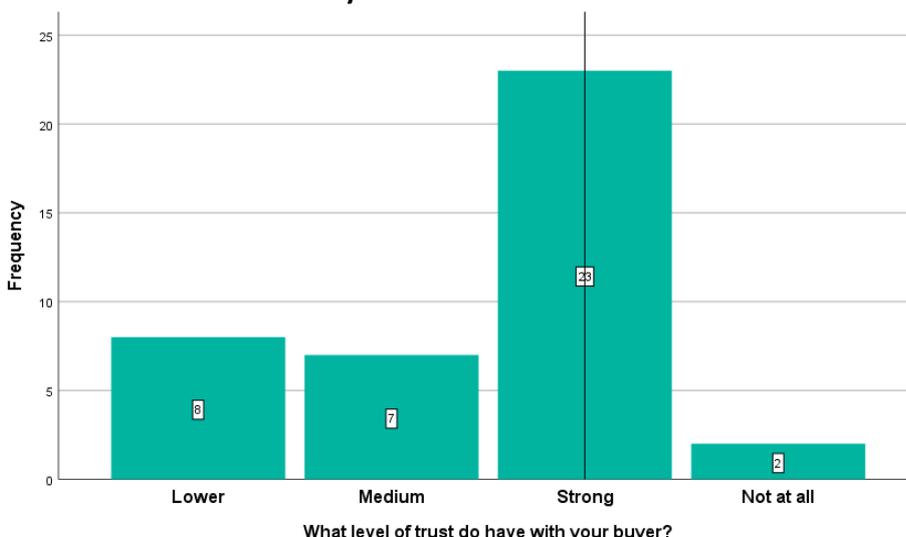
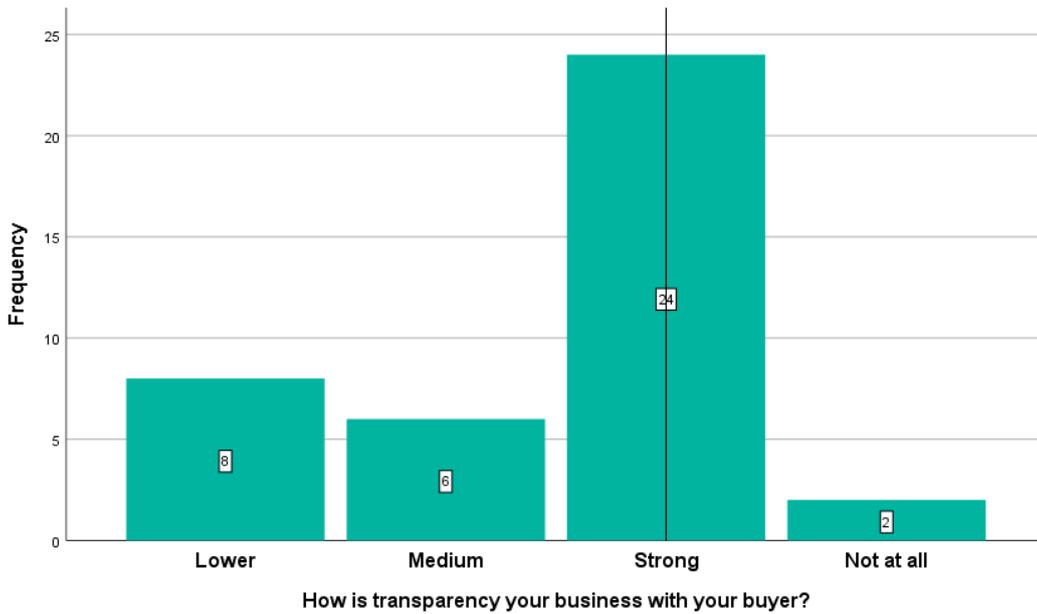


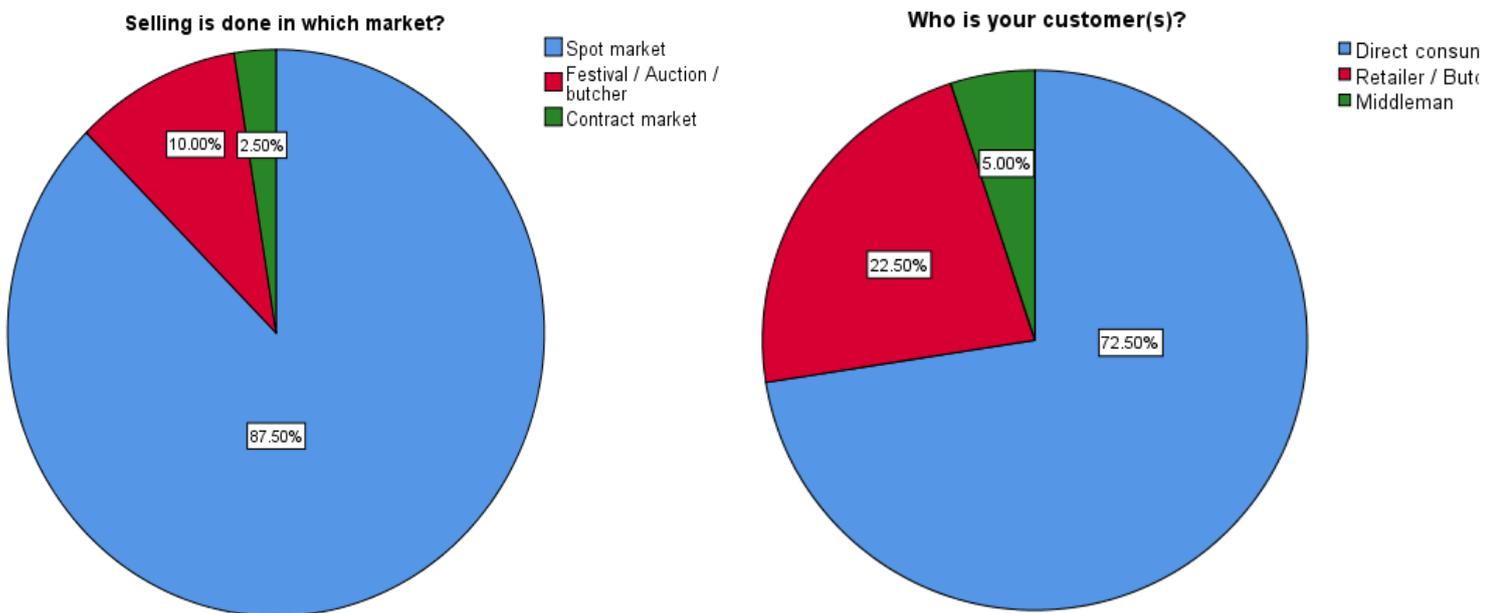
Figure 12: Level of Transparency Farmer they received during the marketing



Source: Farmer Survey data, 2018

The Figure below (Figure 13) represent farmer type of market and type of customer they receive. That Spot market is dominating (87%) and followed by the auction market (10%). The direct consumer is the dominating type of customer (72.5%) and followed by the retailer (22.5%).

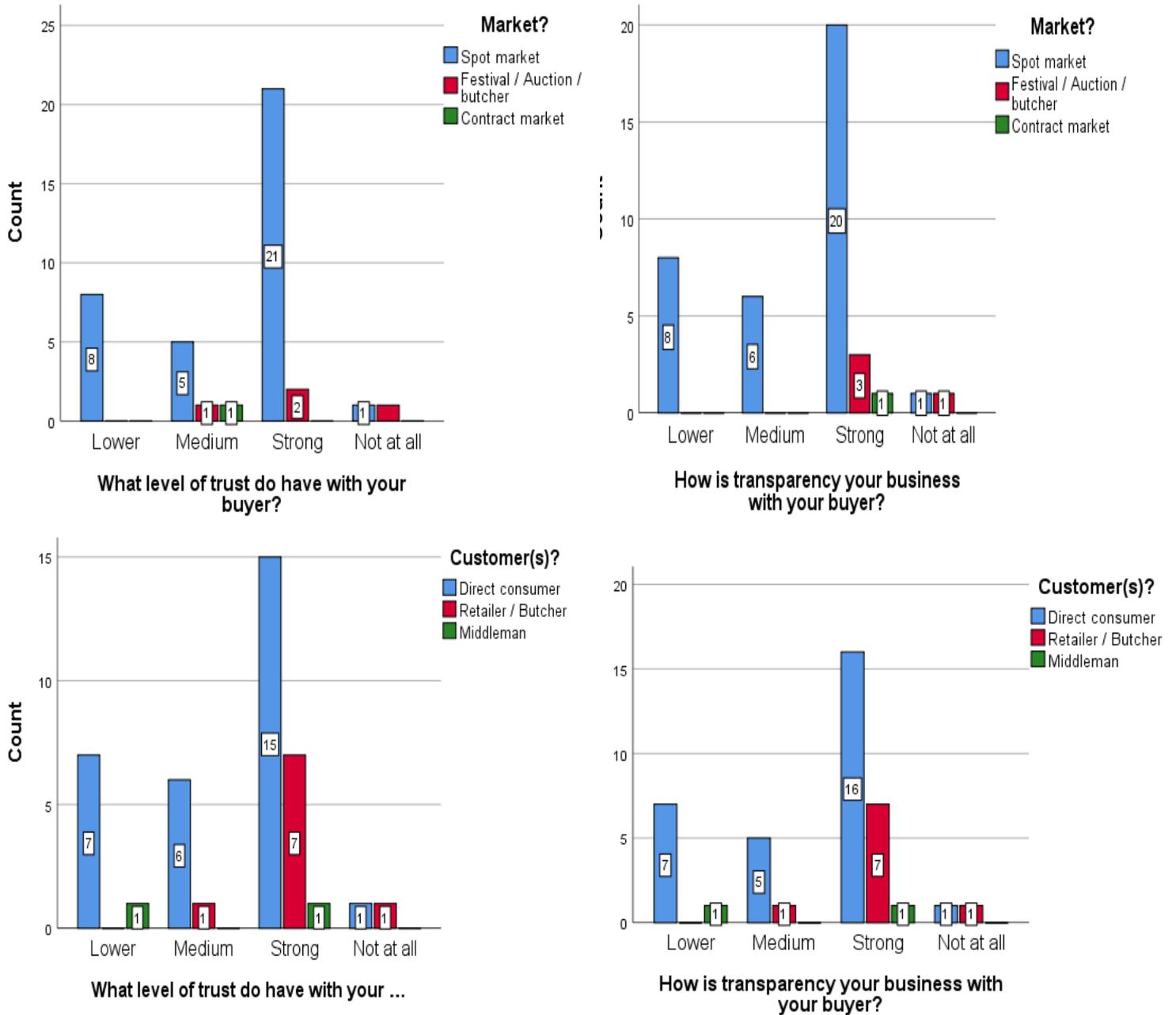
Figure 13: Pie chart shows the area of marketing and type of the customer



Source: Farmer Survey data, 2018

Figure 14 below represent the influence of location of the market and type of customer to the level of trust and transparency, that their strong trust and more transparency business to the spot market and the direct consumer.

Figure 14: Level of trust and transparency with the relation to the area of marketing and type of customer

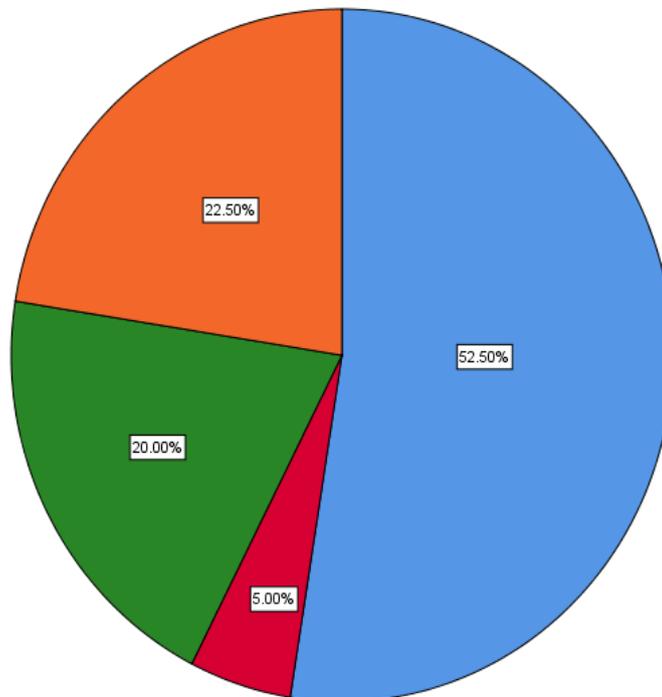


Source: Farmer Survey data, 2018

4.1.4 Ways of farmer and buyer reaching a final selling price

How is the farm gate price determined? Figure 15 represents that farmer uses more negotiation method (52.5%), followed by seasonal of the year (22.5), by the farmer him/her self (20%) and by the buyer (5%).

Figure 15: Farm gate price determination

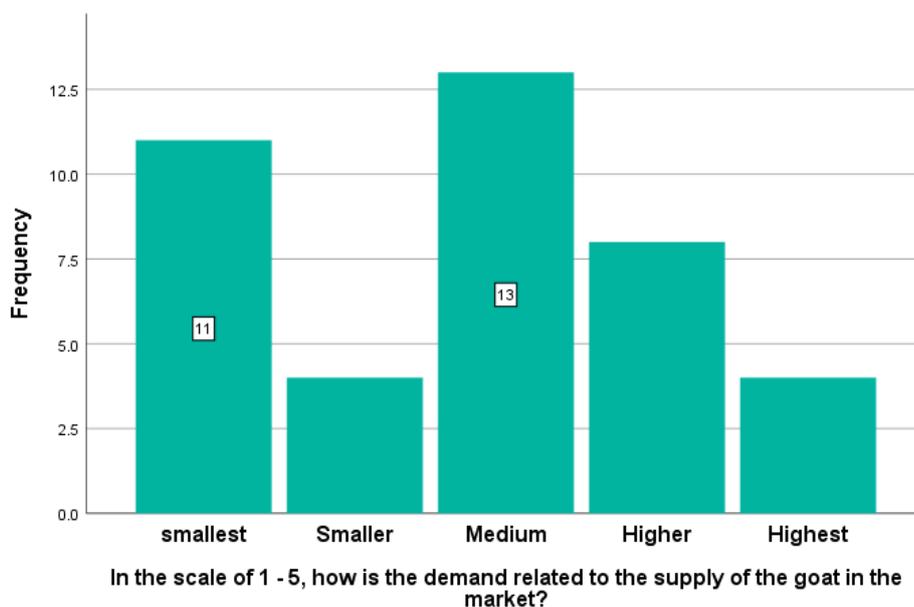


Source: Farmer Survey data, 2018

4.1.5 Information flow (quality, volume, demand)

The study shows a farmer in Central district sends at least 2 to 3 goats in the market per year. The figure below (Figure 16) representing the level of supply with the demand for goat meat that is scored medium level (32.5%) and followed by smallest level (27.5%).

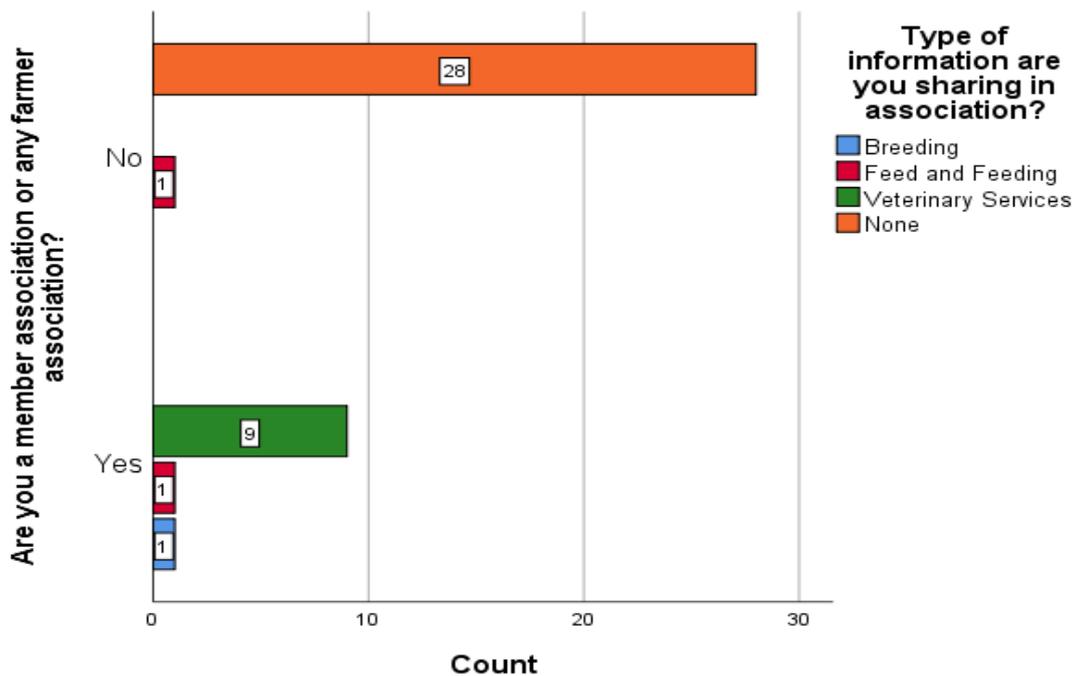
Figure 16: Level of supply of goat with the demand of goat in the market



The table below (See Annex 8c) shows the relation between a number of farmers receive market information and type of information which is 9 farmers out 40 receive market information. The dominant type of information obtained by the farmer is demand (12%) and followed by price (7.5%).

The figure below (Figure 17) representing a number of a farmer who is in association related to the type of information they received from the association. That is only 11 (27.5%) out of 40 farmers from the four words are among of the association, and they receive more information about veterinary services (22.5%) and followed by breeding and feeding system (5%).

Figure 17: Relationship between farmer association with the type of information they shared



Source: Farmer Survey data, 2018

In determining which state do farmer prefer to sell their goat in the market? The finding shows 100% of the farmer in the central district they sell a live goat to the market (See annexe 8d).

4.1.6 Cost price and distribution in the chain

What is the value share do actors obtained in the market? The below table 8 shows variable costs, revenues, gross margins and the value shares for the different actors in the goat value chain in the central district (Table 5).

Table 5: Value shares and gross margins of actors in the goat value chain in Unguja Island central district

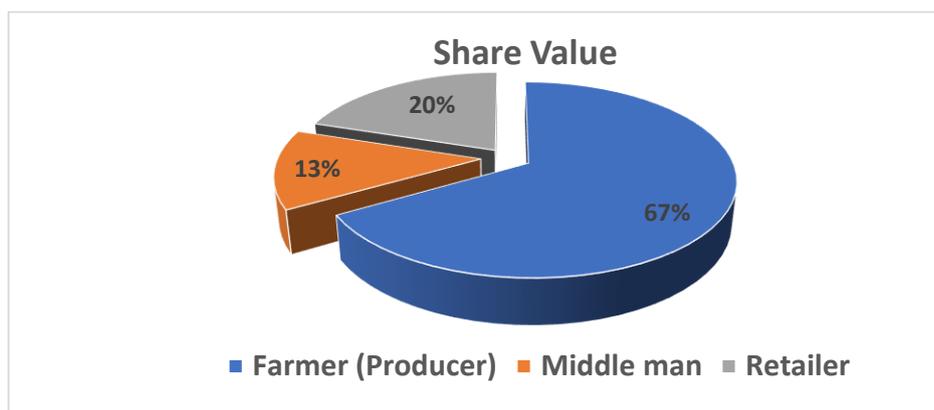
Prices are in Tsh per 1 live goat (1 Euro=2,500 Tsh)

Chain Actors	Variable Cost	Revenue	Gross Income	Value Added	Gross Margin	Value share
Farmer (Producer)	40,000.0	100,000.0	60,000	100,000	60%	67%
Middleman	105,000.0	120,000.0	15,000	20,000	13%	13%
Retailer	125,000.0	150,000.0	25,000	30,000	17%	20%
Total				150,000		100%

Source: Farmer Survey data, 2018

The farmers are getting value share of 67% (figure 19) showing the risk and costs they have to bear in this goat meat business, the end value added is 150,000/= which is not much higher than the initial added value, 100,000/=

Figure 18: Value share of actors in goat value chain



Source: Farmer Survey data, 2018

When the goat farmer asked, what type of the goat do you prefer to sell in the market? The table in annexe 8e, shows that culled goat (Type of goat segregated from a breeding stock based on a specific trait, either bad or good) is dominating group (57.5%), followed by youngstock (23.5%) and last is fatten goat (20%).

What factors contributing to the price of the goat in the market? Table 6 show that the size of the animal is dominating (75%), followed by the weight of the animal (20%) and last is a breed of animal (5.5%).

Table 6: Factors contributing to price determination

Valid		Frequency
	Size of the animal	30
	The weight of the animal	8
	Breeds of animal	2
	Total	40

4.2 Case study

The finding from the study which collected from two different methods, stakeholder meeting (PRA) and interview.

4.2.1 Interview with Hotel chefs, Retailer and ZFD

4.2.1.1 Interview with Hotel Chefs (Hotel Verde and Park Hyatt)

This interview was conducted to have prior information from hotels (five-star hotels) about the quality attribute, the demand of the goat and the challenges they meet on quality aspect and opportunity they see for the future market (Photo plates 3 and 4).

The demand for goat meat and supply

Both interviewees procure local goat from our local supplier (contract supplier) on Unguja island. Current they purchase about 30 to 100 kg per moths, 2 to 3 times per month to reach that volume. But due to the current situation of the goat market in Unguja Island, hotel forced to procure fresh meat from a distinct supplier hired by the hotel.

When they asked about the factors they use to choose the supplier, they explained the following elements.

- Looking for the supplier who is ready to comply with our standard
- We consider first food safety, as food safety most vital to us (hygiene)
- How they deliver the meat, (packing, the container used to carry meat), to make sure my final user is safe
- How they handle the material, sterilised tools when we asked them we need a unique cut of meat.
- How they store meat before deliver.

Quality attribute

Due to the current situation, we don't have many options about all the standard (Intrinsic and Extrinsic) that generally hotel want to have, that makes us limited with the use of the goat meat in our hotel and stick with fresh meat only or based on imported meat outside Zanzibar.

Example, the issue of tender line, Unguja Island goat meat, has a low tenderline, so you need to use the goat meat as fresh (Slaughter today, sending or delivery today and use for the same day), if you keep the meat in the freezer the meat starts to smell. One of the chefs also suggested that *"I think the issue of low tender line resulted in poor feeding system and how frequently they provide water while rearing the goat"*.

Type of Extrinsic character we are looking

- Tenderness (lean meat), well-fed goat (70% meat – 30% bone), not frozen meat, well package, proper temperature of delivering (+5 or 7 Celsius)
- Fresh meat to be delivery on the same day.

Type of Intrinsic character we are looking:

- Age- we prefer most of our goat to be in a minimum age especially from this island, not too much older because most of older goat from our island their meat is smelling bad and they have tough meat
- Species- we prefer to have special goat meat, not local breed with less meat high muscles

Challenge in meat quality procured

When chefs asked about the general insight about the goat meat quality procured by the hotel. The first interview reply *"We are happy with what we received from our supplier. But regarding Quality goat meat, in general supplier are trying to meet the quality in Unguja Island-Zanzibar and the future period, they will reach the target quality which most of hotel target quality"* and the second interview said that *"The quality of goat meat is ok. But only I can use for sauce and curry because the meat is very Tough, and not for another type of cooking which require stake or fillet. The quality of goat meat from Unguja Island is very low when compared to another country. Because there is not enough meat in the goat, its 50 % meat ratio – 50% bone ration some time, you met with more bone than meat. Normally is supposed to be 30% bone and 70% meat in the goat"*.

They explain that there are some challenges about quality, but also their number of opportunities available to shape the business of goat meat in Unguja Island, these challenges and opportunities are (Table 7);

Table 7: Opportunities available and problems about the quality of goat meat supplied by a contract supplier to the institutional consumer.

Challenges	Opportunities
Hygiene of the meat was not ok in the beginning; hence we need to shape our supplier according to our standard.	There is a chance for local producer and supplier to change and meet the interest of hotel in Unguja Island-Zanzibar due to the higher need of the market, resulted in continued growth tourism day after day.
Delivery temperature is not ok; they do not use a chiller when to deliver meat. Hence we need to shape supplier to deliver meat fresh and at a temperature between 5 to 7	
Meat is somehow very tough. Due to the traditional ways of keeping might affecting goat meat. Because Having good tender meat, passed from the chilled room, it needs a better system for farming.	Most of us like to procure processed meat, either individual cuts or a particular part of the meat. The presences of the multiple vendors (supplier), we have a choice to have better quality that satisfies our customers.
Most of our vendor (supplier) do not process meat before they supply to us. Due to the absence of proper processing unit.	Presence of multiple vendors, help us to interview them before we select. This stimulates competition among vendors which leads to good produce to the end market.
In the slaughterhouse, some issues lead to bad quality of meat supplied to us. <ul style="list-style-type: none"> • No proper place for slaughter • No proper place for keeping (freezer, chilling room) • Material for slaughter is not in good shape. 	
The tendering becomes a general issue in goat meat from this island. The problem might be due farmer do not provide water to goat.	
Wrong way of Keeping the animal in the farm; No proper shed for a goat to stay, this results in goat become dirty before slaughter, and increase case of contamination during dressing time.	

Source: Interview Data, 2018

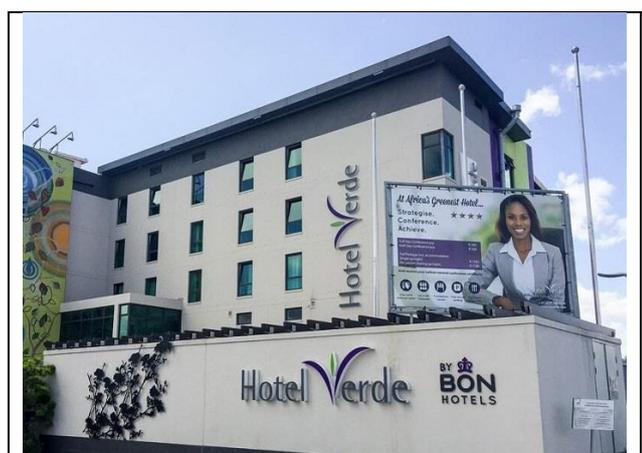


Plate 1: Hotel Verde Mtoni Unguja-Zanzibar



Plate 2: Hotel Park Hyatt Stonetown Unguja-Zanzibar

4.2.1.2 Interview with Retailer/Butcher

This interview was conducted to have prior information from retailer/butcher about the current situation of the market, Quality of goat procured and Challenges they face, cost and activities they practice to secure goat and main supporter in their business. Photo plates 5 show different environment of a butcher.



Plate 3: a. Meat Box on van

b. The retailer at Darajani Market

c. Labour carrying meat

Source: Interview Data, 2018

The current market situation of the goat meat

70% of the butchers are selling only goat meat, 30% mixed with another type of the meat (beef, chicken and fish). Due to an economic vulnerability in Zanzibar resulted in the unstable price of the food products, the retailer sells only 3 to 5 goats per day. This is different when it related to former days, where butcher can able to sell up to 10 goats per day. 80% of retailer bought goats from Tanzania mainland and 20% bought from the local farmer most in Central and South district of Unguja Island. 90% of the customers are Hindus, Banian and local people. Only 10% sold to the institutional consumers like lodge and restaurant. Due to low capital, the retailer finds difficult to have special customers or delivery order. Their customer quality preference is said to be a focus on the health of the meat, colour and smell, and the presence of ZFDA stamp. But during EID (Islamic festival) and high tourism season, the demand for goat meat raised.

Quality of goat procured and Challenges

Most retailer they denied to buy a local goat from Unguja Island due to less number of goat available and carcass weight, 1 goat in Unguja island is estimated to have a carcass weight of about 8 – 12 kg which are aging <1.5 years while the imported goat from Tanzania mainland is determined to have carcass weight above 15kg which ageing above 1.5 years. One of the retailers said, *“some time you may buy a goat with a higher price, but you will not find profit from that animal”*. When they buy a goat, they categorise into three groups like Best, Intermediate and Normal goat (Table 8). It includes eye scoring based on the physical condition of the goat.

Table 8: Categorise of goat based on eye evaluation

Categories	Attributes
Best	The goat estimated to produce 15> kg of carcass weight body. The quality attribute they look is age, must be more than 2 years, thick muscle, health who can sustain a long trip and amount of fat. Score 5 star. These types of goats are scarce to get.
Intermediate	The goat estimated to produce 12-15 kg of carcass weight body, the age of goat must be more than 1.5 years, moderate muscle, health and condition (leg, ramp, rib). Score 3 stars, it's easy to have these types of goat.
Normal	The goat estimated to produce 8-12 kg of carcass weight body, age is near or less to <1.5 years, less than this degree of muscling throughout the body, poor body condition. Scored normal, it's effortless to get these types of goat and are the only goat dominating Central district in Unguja Island.

Source: Interview data, 2018

Cost and activities during procurement of goat from Farmer

The price of goat is ranging from Tsh 100,000 to 150,000 in Unguja Island while the imported goat from Tanzania mainland you can buy 1 goat up to Tsh 70,000 - 120,000. The price of the goat is being determined by negotiation between farmer and trader, using eye scoring and based on physical condition, age, sex, the health of the goat we can agree the price.

The difficulties in finding the best goat in Unguja island, a retailer engaged themselves in transporting live goat from Tanzania mainland to Unguja island. 15-30 goats transported per week by one retailer to Unguja island; they use truck and dhow (Mashua) as a transporting vessel which cost them Tsh 20,000 per goat.

The goat is slaughtered in government or private slaughterhouses when arriving at Unguja Island, the price to slaughter one goat is Tsh 5,000 and 5,000 labour cost (Table 9). Retailer/ butcher they sell goat meat by the kilogram, 1 kg is Tsh 10,000.

Table 9: Value share and gross margin of the actors participate in importing live goat from Tanzania mainland.

Chain Actors	Variable Cost	Revenue	Gross Income	Value Added	Gross Margin	Value share
Farmer (Tz Mainland)	0	70,000.0	70,000.0	70,000.0	100%	41%
Importer Agent	25,000.0	30,000.0	10,000.0	- 90,000.0	17%	-24%
Retailer	150,000.0	170,000.0	20,000.0	140,000.0	12%	82%
Total				170,000.0		100%

Source: Retailer Interview, 2018

Main supporter in their business

ZFDA is the leading supporter for their businesses, helping them by providing legislation of the butcher, inviting in a seminar about hygiene and quality, advice on how to treat their butcher after inspection and provide slaughter service, controlling premises when they import live goat from Tanzania mainland and abattoir.

4.2.1.3 Interview with ZFD

i. Public Health Officer (PHO)

PHO was interviewed to understand the daily sanitary environment in slaughterhouses, processing area, and meat shop (butchers) in Unguja Island. He explained that due to the current system from ZFDA, all butchers, processing area and private abattoir need to be registered and inspected before starting the business. Because the aim of the agency (ZFDA) is to ensure all meat aimed to the market are safe to be consuming.

Meat shop/Butcher in Unguja Island.

In Unguja island, there are about 253 registered suppliers (butcher and processing unit) and three private abattoirs, no one is allowed to sell or processing meat without having an approved licence from ZFDA. To get a licence and register the butcher the owner required to do the former things:

- The Owner of the butcher needs to apply for starting the business, the application is allowing us to inspect the structured of the butcher. If there is any comment, we gave him before the next step.
- Then, after satisfying with the infrastructure of the butcher, we allow him to apply for a license.
- They need to pay Tsh 50,000 /= per year for the butcher to be registered. And each year owner of the butcher need to renew a license which it cost only Tsh 35,000/=

Regulation and facility to open new butcher or processing unit

There are necessary facilities, like ventilation, cutting machine, glass around the store, tape water need to be inside the butcher, when we came to inspect those are the first things that we are looking.

ZFDA have a standard for the butcher or processing unit need to abide to start the business, the regulation aiming to control meat from production up to the consumer. Example of the common standard is;

- Room for butcher need to be 10m x 10m
- Floor tiles and on the wall need to have 6-foot tiles from the floor.
- Siling need to be coloured with white colour.
- Tap water
- In front of butcher need to be closed by transparent glass.
- The seller of the meat needs to have a certificate from recognised health institutional.

If the butcher, processing unit and abattoir fails to abide with our standard, we confiscate meat, and butcher need to pay all the cost that incurred during the cases, and a final decision is to close the butcher after several procedures that include, warning letter, penalties (payment) and call the owner to our office.

ii. Meat Inspector

Meat inspector was interviewed to understand the slaughtering process and sanitary environment in the slaughterhouses in Unguja Island.

Current situation

He explained that there are five central slaughterhouses in Unguja Island Zanzibar 2 own by the government located in Kisakasaka and Muwanda and three owned by a private person situated in Mwera and Kinyasini village. Our slaughterhouses are too old, government slaughterhouses currently estimated slaughter 75 goats per day while the private abattoir slaughter estimated goat slaughtered are 15 per day. Now, we have been satisfied, and we are using ISO 90012015.

Meat inspection process and regulation of meat quality

Meat inspected throughout the year which including working days and holidays. The formation of new regulation 2015, emphasis anti and post-mortem inspection. But before the introduction of the new regulation and being satisfied by ISO, we were much focus on post-mortem. The new regulation also an emphasis on training worker (crash course) about antemortem to enable more officer to deal with antemortem.

When there is an issue of animal not fit for consumption, we dispose of in our near slaughterhouse condemnation pit. We do not have an incinerator for burning the condemned animal. But is a rare case for goat, most cases of condemnation are concerned internal organ. Meat inspected and certified before marked by ZFDA stamp.

There is not special treatment or standard that we certify for the particular market currently, all standard is inside Zanzibar Food, drugs and cosmetic act of 2006. The meat hygiene regulation is talking about the whole system from the animal at slaughterhouse up to the butcher ready to be consumed (inspection, transportation, storage, clean of the butcher

Some of the condition and tools required for meat hygiene are:

- For the type of meat that needs to have further checking need to be detained in our freezer until it will be certified.
- Workers need to have clean tools, and clear gear to prevent contamination. But we fail to maintain our hygiene due to infrastructure and system of water, those staffs allow contamination of the meat inside the slaughterhouses. The system of water is not well, we do not have tap water that is well connected inside while we use a basket.
- As an inspector, you need to have a complete gear, like a cup, rain boots, white coat to make sure meat is not contaminated. Other tools, knife and tools for carrying a sample in the laboratory for further inspection.



Plate 4: ZFDA Post showing Mission and Core Function

4.2.2 Participatory Rural Appraisal (Stakeholder meeting)

4.2.2.1 Stakeholder matrix

A stakeholder analysis was carried out to identify the different actors, supporters, their functions and the associated risks and costs encountered as shown in table 10.

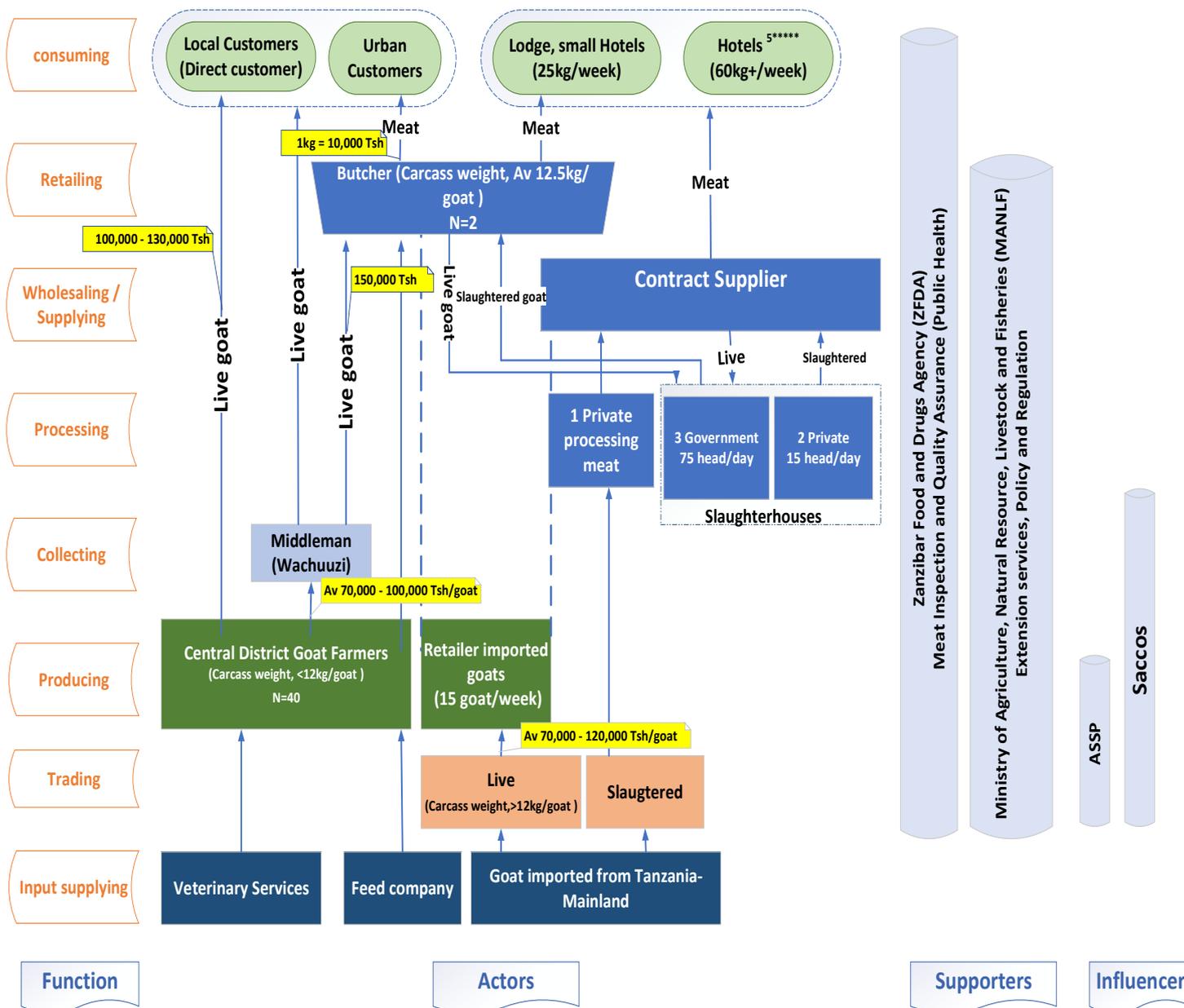
Table 10: Stakeholders Matrix for the goat meat value chain in Central District, Unguja Island-Zanzibar

STAKEHOLDER	ROLE	RISKS AND CONSTRAINTS	COSTS INVOLVED.
Central district Goat Farmers	<ul style="list-style-type: none"> • They own and take care of the goats. • Marketing 	<ul style="list-style-type: none"> • Livestock diseases, • Fluctuations in prices • High costs of inputs • Lack of collateral. 	<ul style="list-style-type: none"> • Labour. • Drugs • Construction of shed
Middleman	<ul style="list-style-type: none"> • Facilitates dialogue and provide/share market demand • Marketing between farmer and retailer 	<ul style="list-style-type: none"> • Limited funding. 	<ul style="list-style-type: none"> • Transport costs
Retailers (butcheries)	<ul style="list-style-type: none"> • Sell goat meat to consumers • Importing goat from Tanzania mainland 	<ul style="list-style-type: none"> • Supply of poor quality meat to consumers. • Diseases • Inconsistent supply • Robed • Long trip and tired 	<ul style="list-style-type: none"> • Transport costs. • Packaging • Refrigeration costs • Labour
Abattoirs (slaughter slabs)	<ul style="list-style-type: none"> • Slaughter and inspection of the goat meat 	<ul style="list-style-type: none"> • Poor hygiene area • No quality system followed • Not tools and well organise route for slaughter and storage 	<ul style="list-style-type: none"> • Storage • Packaging. • Rentals • Service Fees • Labour
Contract supplier and processor	<ul style="list-style-type: none"> • Importing live goat and meat for special order • marketing 	<ul style="list-style-type: none"> • Inadequate supply and poor-quality goats from farmers. • Electricity problem • The unorganised system 	<ul style="list-style-type: none"> • Transport costs. • Packaging • Refrigeration costs • Labour
Non-governmental organisations (ZAYADESCA)	<ul style="list-style-type: none"> • They supply inputs to farmers, e.g. veterinary drugs and breeds • Capacity building (CAHW) 	<ul style="list-style-type: none"> • Political environment • Donor fatigue • Double dipping • Duplication of programs 	<ul style="list-style-type: none"> • Transport costs. • Procurement costs • Labour costs • Electricity
Government-MANLF,ZFDA,KATI,SP,	<ul style="list-style-type: none"> • Extension services in production and animal health to farmers • Inspection of meat • Regulatory work 	<ul style="list-style-type: none"> • Limited funding. • Diseases • Political environment 	<ul style="list-style-type: none"> • Administration costs. • Transport • Legal fees

4.2.2.1 Mapping current goat chain

The different stakeholders and overlays in the Central district goat value chain shown in the chain map, figure 19. The farmer from the Central district sending only 20% of a live goat to the market. The second chain imports 80% live goats from Tanzania mainland which controlled by a retailer or supplier and the last chain includes imported slaughtered goat from Tanzania mainland with a hotel contract supplier

Figure 19: Goat meat value chain map for Central district, Unguja Island-Zanzibar.



. Source: Stakeholder meeting, 2018

4.2.2.2 Producer Current and Proposed business model

The Business Model Canvas (Goat farmer)

<p>Key Partners</p> <ul style="list-style-type: none"> Local and district government Ministry of agriculture (Livestock Seminar provision) ASSP (Training on treatment and animal feeding) Farmer association (Sacco's) 	<p>Key Activities</p> <ul style="list-style-type: none"> Cutting pasture Cleaning the goat shed Milking dairy goat Treatment and production Managing 	<p>Value Proposition</p> <ul style="list-style-type: none"> Goat milk Goats Manure 	<p>Customer Relationships</p> <ul style="list-style-type: none"> Famous in the Social (Umaarufu) Communication by Publicize cell phone number. 	<p>Customer Segments</p> <ul style="list-style-type: none"> Customers surrounding their village (Local customers) Customers from town area (Visitors) Horticulture Farmers Children and pregnant mother (special diet-medicine)
<p>Key Resources</p> <ul style="list-style-type: none"> Goat (Dairy goat, local meat goat) Simple ground goat Shed Pasture land (0 to 3ha) owned or not-owned Concentrate 			<p>Channels</p> <ul style="list-style-type: none"> Farm gate Cell phone communication (middleman and Veterinary doctors) Special Station at village Middleman (Mchuuzi) 	
<p>Cost Structure</p> <ul style="list-style-type: none"> Land cost Goat shed (300,000 – 500,000 Tsh) Labor cost for Pasture production and cutting (50,000 Tsh per month for cutting) Treatment of worm (3000 Tsh per month per 1 goat) Concentrate (5000 Tsh per month per 1 goat) 		<p>Revenue Streams</p> <ul style="list-style-type: none"> Selling of <ul style="list-style-type: none"> Milk 3liters/day 1Liters @3000 Tsh for 3 months Live goat 1goat @ 150,000 – 200,000 Tsh Manure 1 bag @ 3000 Tsh Good household nutrition Become famous and able to control family needs 		

Source: Data from Stakeholder meeting, 2018

4.2.2.3 Institutional consumer quality attribute on goat meat.

During the meeting, we had two chefs from EMARSON Hurumzi and EMARSON Spice hotels who participate the meeting fully and share their concern about the quality attribute they expecting from producer or supplier when they procure goat meat from them (Table 11).

Table 11: Quality attribute suggested by Hotel Chefs during the meeting

Intrinsic	Extrinsic
1. Material for transporting meat need to be standard, hygienic (non-contaminant)	1. Fresh meat
2. Management of goat before slaughter, to attract our customer if necessary when they visit and to show the way they kept.	2. Clean, no contamination with grass or pieces of bones after cutting.
3. Treatment of the animal, need to follow the proper way	3. Good stake, the ration of meat to bone need to be good.
4. Proper feeding of the goat to encourage good smell of meat.	4. Red meat and well stored/packed
5. The appearance of the butcher, need to be good and hygienic	5. Learn meat from minimum aged goat
6. Medium Age goat (1 to 1.5-year goat)	

Source: Stakeholder meeting, 2018



Plate 5: EMARSON Hotel Chefs participate in defining goat meat quality they demand

4.2.2.4 Institutional consumer Seasonal Calendar

During the meeting, hotel, butcher/ retailer and farmer they discuss the supply and demand of the goat meat (Table 12).

Table 12: Calendar of the goat meat supply and demand per season.

Price Tsh X 1000	kg	10,	10,	10,	10,	10,	10,	10,	10,	10,	10,	10,
	Live goat	150,	150,	150,	150,	150,	165,	165,	170,	170,	170,	170,
Supply	Low	Low	Low	Low	Low	Mid	Mid	High	High	High	High	High
Demand												
Season	Low Season for tourism (Rain season)							High Season for Tourist				
Month	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec

Source: Stakeholder meeting, 2018

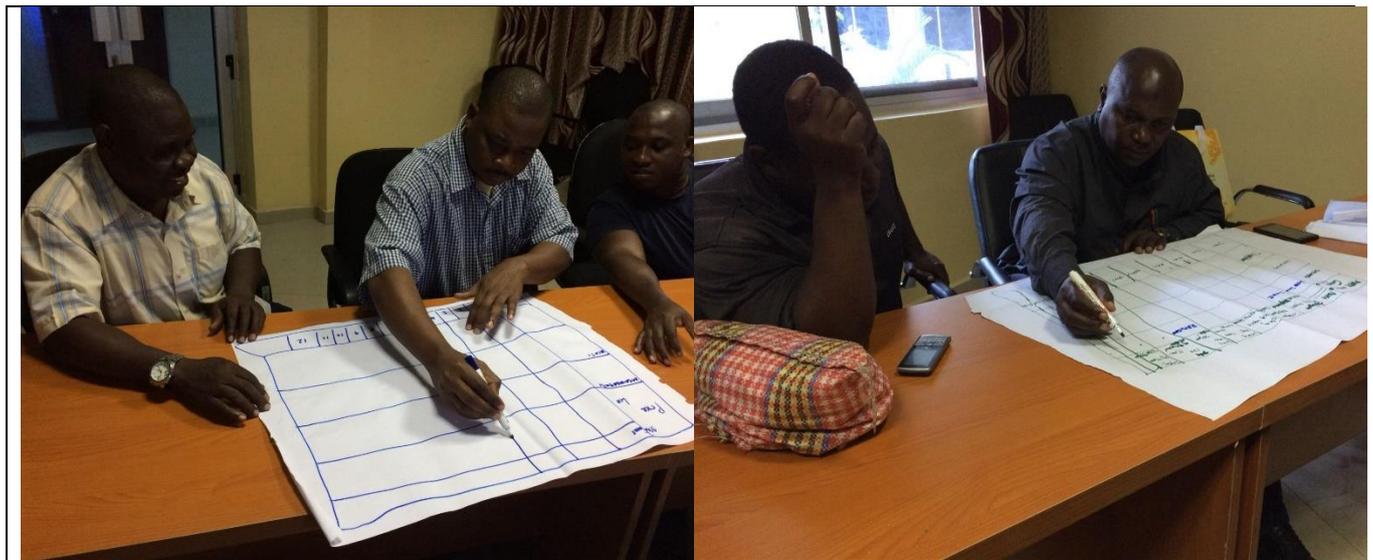


Plate 6: EMARSON Hotel Chefs and Butcher drawing a seasonal calendar of the goat meat

Source: Stakeholder meeting, 2018

4.2.2.5 Focus Group Discussion on market situation and quality awareness

Stakeholders Quality awareness

During the stakeholder meeting, we discuss the quality awareness for each stakeholder attending the meeting. The table below 13 shows how actors understand the quality of goat meat that it will meet the demand of the institutional consumer.

Table 13: Quality awareness for different stakeholders

Stakeholder	Quality awareness
Farmer (Four goat farmer)	<ul style="list-style-type: none"> Health goat: goat with no cases of diseases at the time they intended to be sold
	<ul style="list-style-type: none"> Goat needs to have a good shed and right transporting vehicle. Currently, they use a bicycle to transport goat to market if necessary; it influences the tender line of the meat
	<ul style="list-style-type: none"> Size of the goat: goat needs to be in good shape which reflects the ratio of meat and bones.
ZFDA (Two officers)	<ul style="list-style-type: none"> Start looking for quality at the producer level, by inspecting the way producer treat animal, transport to market, animal welfare
	<ul style="list-style-type: none"> Looking at all area that requires good hygiene for the consumer to have safer food Example ceremony, butcher, transport van for meat, Hotel, importing premises and storage.
	<ul style="list-style-type: none"> We make sure the registered butcher achieves quality and provide a licence to butcher, processor and importing premises
	<ul style="list-style-type: none"> We register brand for those who import animal product.
Livestock research institute (one officer)	<ul style="list-style-type: none"> We are dealing with research, that including finding a better way of feeding, keeping, treating an animal
Retailer (four retailers)	<ul style="list-style-type: none"> We need health goat; this will bring good meat
	<ul style="list-style-type: none"> Goat with proper weight, if two years goat needs to have at least 15 kg and above.
	<ul style="list-style-type: none"> A delivery supplier needs to have a proper box for carrying meat. To prevent contamination
	<ul style="list-style-type: none"> We need to have a good butcher that is clean for our customer to satisfy with our product

Source: Data from the stakeholder meeting, 2018

Market situation

Table 14: PESTEC combines with Strength and Weakness analysis of goat meat value chain.

SEGMENT	Strength	Weakness
POLITICAL	<ul style="list-style-type: none"> • Easy importation of live goat from Tanzania mainland • There is a good relationship between the coastal area. Unguja Island and Tanzania coastal region 	<ul style="list-style-type: none"> • Less developed infrastructure (Road for transportation, modern slaughterhouses, tools and boat for transporting live animal) • Interrupted electricity supply, disturb processing company. • High taxes on importing live animal and opening butcher. • Bureaucracy
ECONOMIC	<ul style="list-style-type: none"> • The growth of the tourism industry with the increasing number of five-star hotel • Presence of domestic market • High demand for goat meat 	<ul style="list-style-type: none"> • High costs of breeding stock, building goat shed, expensive land. • High transport costs from the mainland to Unguja Island Zanzibar. • Limited access to loans. • High feed costs • Unstable market prices for live goat.
SOCIAL	<ul style="list-style-type: none"> • Gender inclusion, most women engage in keeping goat especially dairy goat 	<ul style="list-style-type: none"> • Religion, motivate business of goat.
TECHNICAL	<ul style="list-style-type: none"> • Number of project and program initiated to increase technical skill for entrepreneurs (MIVRAF, SUSTAIN, MKUZA III) • ZFDA introduce a new quality management system • Introduction of ISO in ZFDA 	<ul style="list-style-type: none"> • Limited quality control systems by ZFDA (Controlling exporting and importing premises, butcher and processing company) • Low goat production in the central district, most retail they import live goat • Limited quality standards • Limited market information.
ENVIROMENTAL	<ul style="list-style-type: none"> • Less diseases incidence of diseases. 	<ul style="list-style-type: none"> • Less grazing area
CULTURAL	<ul style="list-style-type: none"> • Used for Islamic festival (EID) and ritual celebrations 	

Source: Data from the Stakeholder meeting

4.2.2.7 Strategies to Improve Quality

Following stakeholder meeting and interview with different actors, farmer, retailer, supporter and hotel chef share opinion about the way to improve and promote quality of goat meat supply to the institutional market. Table 15

Table 15: Strategies required to improve goat meat quality

STRATEGIES REQUIRED TO IMPROVE GOAT MEAT QUALITY

1. PARTNERSHIPS	Between direct actors and indirect actors; retailer, and farmer together emphasis their relationship with hotels and ministry to work together. Research Institutions: emphasis between KATI have to engage in some project and research to help farmer produce better quality products from available local feeds
2. COLLECTIVE ACTION	Farmers are attending the meeting, asking for other farmers to organise themselves and help other like the inclusion of youth in farming.
3. POLICY SUPPORT	Supporter proud of having a great policy that allows upgrading livelihood of a farmer and has prepared a good environment for investment.
4. INNOVATIONS IN PROCESSING AND KEEPING GOAT	Farmer is asking for having training that will include selecting good breeds of goats, treatment and animal health, a good system of Feeds (grazing area) and using local available feeding and marketing system. The retailer also needs to have more skill in focusing on the quality system.

Source: Interview data and stakeholder meeting, 2018

5 Discussion

Central Goat farmer linkage toward Institutional Market

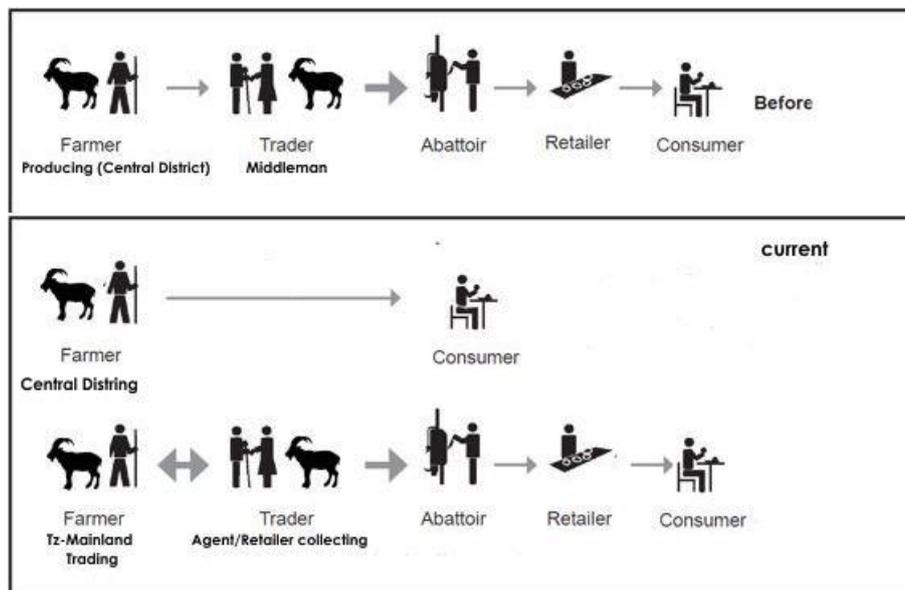
Anderson and Juma (2011) reported hotel in Zanzibar are refusing to procure local food products from the local farmer due to the inconsistent supply of produces. The reason from literature is inline with goat farmer in Central district Unguja Island who fail to supply enough quantity of goat to the market due to practice goat farming as an additional source of income and having too small flocks size. According to the MANRLF (2011), only 3% of households that keeping livestock are depend on livestock as a source of income. The situation showing the Central district farmer are in dilemma to meet the demand of the market, as only 2 to 3 goats per year are sold in the market.

On the other hand, the finding shows retailers decide to import live goat from Tanzania mainland. While hotel is reaching far by creating own chain with a specific supplier to deliver any amount of goat meat they demand (See Chain Map Figure 19). The Central district goat farmer difficulties in meeting the demand of the market lead to poor linkage with the Institutional market and remained focus with direct consumer.

Chain Relation and Information Flow

The book of KIT et al. (2006), In the case of livestock in Mbire, Zimbabwe it shows traders how they negotiate with the farmer before buying livestock, which results to strong trust and good relation. This is similar to the finding of a study which shows a farmer has a strong level of trust with the buyer (direct consumer). The direct consumer has the power to bargain price after farmer place the selling price which leads to agree a price. Meanwhile, retailer relationship with farmers distorted and new informal chain formed which affect the market structure of Unguja Island. The week relationship could be due to the less number of goat available from market while the demand of the market is remaining higher. The addition of other chain channel destroys the market structure of Unguja Island. The book of KIT and IIRR (2008) describes changes of market structure as follows *“as markets develop and become more sophisticated, the chain actors may move from one point in our diagram to another”* this proof the current chain changes from farmer to middleman or direct consumer not as it was before (Figure 20). Formation of too many informal chain results to the absence of lead actor who can set the rules and standard in Unguja Island.

Figure 20: Changes in goat chain market structure and the relationships among actors



Source: Author Design, 2018

Demand and Supply of The Goat Meat

The current actors in the chain have a different opinion about the demand and supply of the goat in the market. The goat farmers are aware of the demand of the goat in the market, but they admit that the supply of goat does not reflect the demand of the market as is shown in the survey data (see figure 16). Meanwhile, the retailer is reflecting the demand of goat in the past days and said they were able to sell up to 10 goats/day but nowadays sell only 3 to 5 goat/day. They also admit in the higher season like EID and tourism peak season the demand for the goat meat is raising (See Seasonal Calendar Table 12). It is also presented by (Anderson and Juma, 2011) in the research about beef and chicken supply In Zanzibar, report that the supply of meat in the hotels to raise with the rise of the tourist visiting Unguja Island.

It is explained by KIT et al. (2006) that *“It is a challenge for smallholder farmers, to understand market demand and develop their skills and capital requirements to supply the required volumes of quality product at the right time of the season”*. This is similar to the situation of the farmer in the ability to supply the right amount of goat to the market. The difficulties to supply the right amount of goat to the market shown in the study by proving that farmer sell only 2 to 3 gaots/year. Also the farmers are not organised in a group or association and they do not receive no market information about quality, price, or quantity.

Institutional Consumer Quality Demand

Most of developing country they prefer to procure 2 years old goat in formal value chain system while in informal chain most of the goat procured are below 2 years old (Webb, 2014). The Institutional consumer in Unguja Island, hotel create their informal chain and prefer to procure goat with minimum age (<1.5 years) from their hired contract supplier. Meanwhile, retailer prefers to purchase and sell too old goat (>1.5 years), this is due to older goat have more carcass weight. The situation of the hotel to prefer young goat (<1.5) than older goat was due to the toughness of the meat, less tender and less juice meat which reduces the type and number of cooking style. But they meet with the situation of less meat bone ratio per goat, hotels are more concern with how much stake available per goat. On the other hand, the literature shows that the toughness, less juice and less tender meat might be the result of poor management of the goat which includes poor feeding system and health of the animal (Webb, 2014).

Hotel in Unguja Island prefers to procure fresh goat meat, it is true that butcher and slaughterhouse in Unguja Island do not possess enough facility to maintain the quality of the meat, the finding shows that. The slaughterhouses misses a number of tools that including chiller room, freezer and updated system of making sure meat remain in the aproper state (quality management system), as it reported by ZFDA officers. The hygiene of meat from butcher reflects less contamination of the meat with other material. As it been proved by Webb et al. (2005) when goat meat electrically stimulated before chilling, it retains its tender, and it can be used at any time

Actors Awareness on market and Quality Demand

Goat value chain actor in the Central district of Unguja island have a different view about the quality of the goat. Farmer work hard to make sure goat are in good shape, weigh enough and stay in a good shed, believing that at the end they will produce quality goat (live goat). The farmer aims to make sure the customer is satisfied with the condition of the animal during the selling. While the retailer has a different way of defining quality; meat that looks health, enough meat per goat, good transportation material and hygiene of the butcher. This show how actors differ in term of quality and demand, the Revolutionary Government of Zanzibar has already seen this issue and already demands/call for innovativeness, creativity, high-quality products in the MKUZA III to merge with the current Tourism sector (ZIPA, 2018). On another hand, a supporter said to provide seminar and advice to make sure all meat processor and retailer sell safe meat to their customer. But it is indeed true that every actor in the chain has a different way of understanding quality and what the market is demanded also is somehow different.

Values share among actors

There is a big gap of value share amongs actor in the chain. According to IFAD main report (IFAD, 2016), the absence of financial support from other financial institutions in improvement business enterprise development. These lead to any development project to continue to focus on production and productivity which reduce speed to enhance quality and market access and lack of a team of facilitator to the development of the business. The percentage of value share receives farmer 60% is higher than other actors which it reflects the time and expense required to raise a goat during the production time, as well as the costs of health and labour (only cutting pasture). While middleman earns a value share of 13% which indicates fewer expenses incurred before selling, most are from transportation. Retailer earns a value share of 20% which is different from middleman owing to the time invented and incurred a cost from slaughter services, transport meat, inspection and labour fee.

On the other hand, the absolute value-added in the chain is minimal, which is only Tsh 150,000. The final value added shows consumer buy product in almost the same state left by the farmer, neither middleman nor retailer adding value to the product, like fatten goat at the farm level, as the finding show farmer sell most culled goat, no special cutting after slaughter, no packaging and processing like sausage. When the consumer buys a product in more or less the same state as it left the farm, such as fresh meat, then there has been little value-added in the chain (KIT and IIRR, 2008).

5. Conclusions

The study finds an opportunity for actors in the goat meat value chain to add value to supply meat to the institutional consumer. The main aim of this study was to identify goat meat quality demand and recommend strategies for improving the supply of quality meat to the institutional market in Unguja Island-Zanzibar.

The finding provides evidence that actors in the goat meat value chain only focus on their function. There were no value added or further activities are done in the chain. Farmers only engage in the production of goats and selling a live goat to the direct consumer or middleman. While the retailer focuses on selling meat in a kilogram, no packaging, order or brand name in the meat their business. Slaughterhouse controlled by ZFDA does only provide slaughtering services, certify meat and placing a stamp. However, there are a less number of supporters including financial institutions willing to support livestock entrepreneurs in the production and market area, that leads producers, and other actors in the chain limited to access financial credit.

The finding proves there is a weak relationship between the actor's in the current value chain. The chain does not have good coordination among actors with no steering leader (lead actor) in the chain who can control the rule and regulation in the chain. The weak relationship between retailer and abattoirs results in the goat meat informal chain with no rules and standard. It also increases the importation of processed meat.

One of the aims of this research was to clarify the quality demand for goat meat. The study provides evidence that EMARSON hotels and other Institutional consumers quality attributes are ranging from management of the goat and hygiene of the meat. They are more concern with pre and post-slaughter activities that include slaughter service procedures, transportation of meat in the truck (chilling van) and prefer machine cuts over an axe cut as far as ZFDA insist for the butcher to own machine for cutting. They also prefer a young goat and not old goat because of the tenderness of the goat meat. They prefer goat coming from good management, including a proper treatment, good stable, well system of feeding and insisting water must provide *ad libitum* to the goat. The finding provides evidence that actors in the chain fail to meet the quality demand of the Institutional consumer due to actor's dissimilar in knowledge about quality and quality awareness of the goat meat demanded by the institutional consumer. The less number of goat available to meet the demand of the institutional market in Unguja Island leading to the importation of living and processed goat meat contributing in failing to meet the demand of the consumer. However, local consumer and urban consumer they are also concerned more about safety and quality of the beef they consumed. They ranked cleanliness of premises and the presence of the stamp in the meat. These are the factor they are looking before choosing a butcher to buy quality meat.

6. Recommendations

This chapter is meant for the Kizimbani Agricultural Training Institute (KATI) with coordination of SUSTAIN project in improving the actor's ability to supply quality goat meat need to facilitate the below recommendation. Actors include; goat farmer in the central district, retailer/butcher, and Department of livestock and veterinary services, Zanzibar.

Goat farmer in the Central district

To Improve quality supply of goat meat, it is recommended to the goat farmer in the Central district to strong engage in the production of goat meat as full business and isolating from the traditional system of keeping goats. Reaching a steady production of goat meat, the farmer needs to change their position in the chain by upgrading their activities and organising themselves by forming a group of farmers contain 10 to 20. See proposed value chain map Figure 21 (compare to figure 19) and proposes business Canvas Figure 22 (compare to chapter 4.2.2.2). This strategy will include;

- The farmer needs to upgrade activities in the value chain; the consideration in improving their activities can also seen as part of value addition. These activities are;
 - a. The farmers need to organise themselves to procure or import young goat (below 1-years) from Tanzania mainland for the fattening process before sending to the market. Farmer will be required to fatten goat for at least three months for the goat to gain enough carcass weight and able to meet market demand.
 - b. Farmers are taking higher up functions in the value chain like collecting and retailing live or slaughtered fatten goat. Farmer will be able to send goat direct to the abattoir and sell meat to the retailer or vendor, direct to institutional consumer. This will help farmers to get information about market and access at the right price for the meat they will produce.
- The collective action as the strategy that will help the farmer to meet market demand. It will easy access of financial credit, receive subsidise, produce enough pasture and building their capacity; in production, marketing and processing (innovation). Through capacity building the following training will be necessary for a farmer in their organisation;
 - a. Training of farmers on marketing and production of products as required by the Institutional market
 - b. Training of farmer on the best way to produce the best goat for the Institutional market.
 - c. Training on breed upgrading by either crossbreeding or new breed to increase the carcass weight.

The Retailer/Butcher in the chain

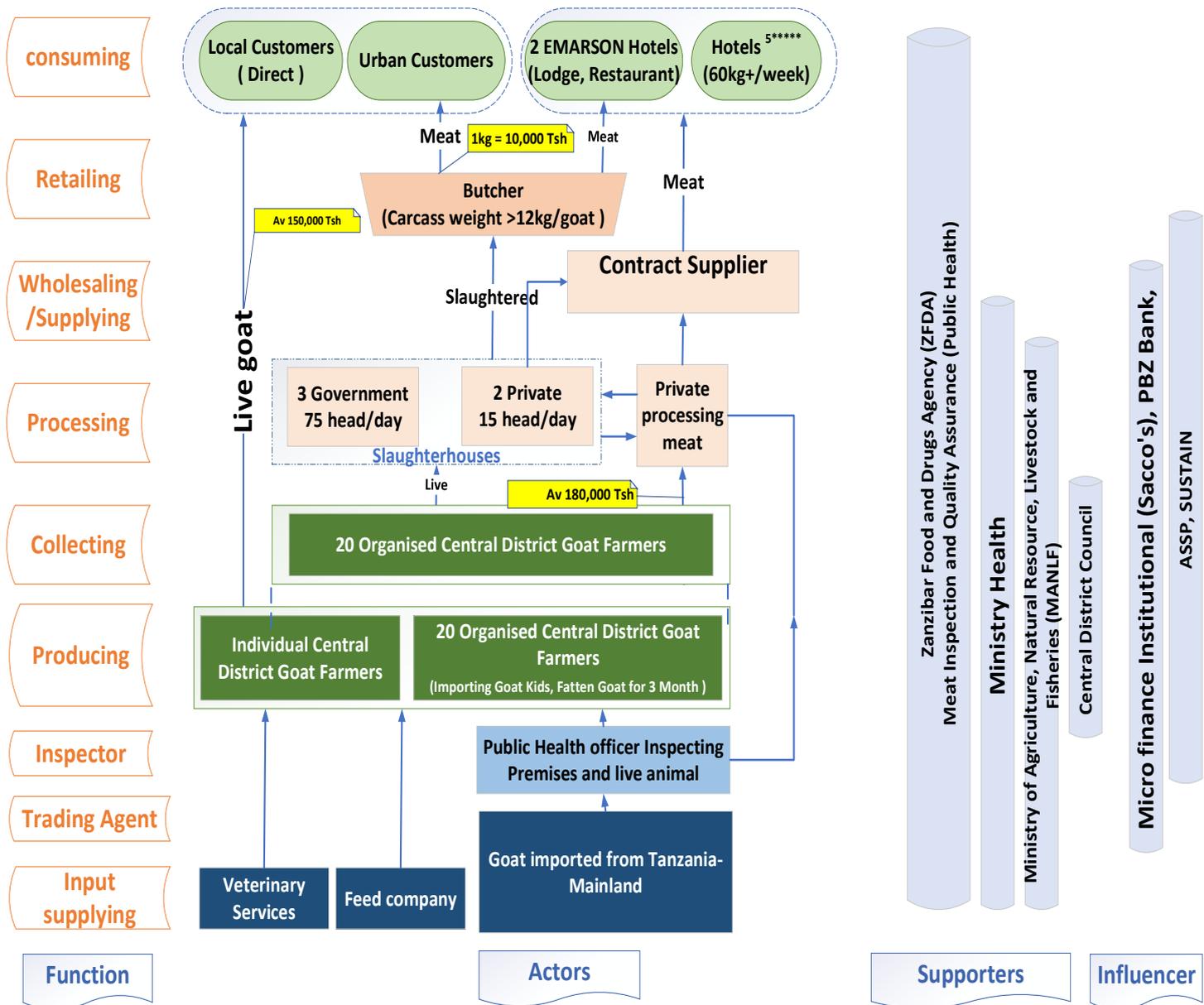
Since butcheries are the major goat sale channels in the Unguja Island, this research recommends the formation of contracting partnerships between the goat farmer organisation and butcher/supplier. This will help to create a good relationship and able to find a lead firm in the chain so as rule and regulation will be established for a specific market. Institutional market will procure goat from either direct to farmer or retailer. This partnership will stimulate value addition and create competition among producer of meat and supplier who wants to meet the quality demanded of the institutional consumer.

Kizimbani Agricultural Training Institute (KATI) and Department of Veterinary and Livestock Zanzibar

For the recommendation to be in practice, jointly facilitation is required between SUSTAIN project with KATI and Department of livestock from the MANRLF. The following are facilitation required;

- Facilitation on finding coordinator/facilitator who will link producer and institutional consumer, because most of the local producers are not well educated and do not know the market. This must be a win-win business for producer and consumers.
- Facilitation on the establishment of a feedlot that will help to improve goat body conditions before slaughtered.
- Facilitate the formation of the partnership that will be better off for the farmer. The win-win situation must be considered, these will create sustainable and resilience chain.
- Facilitation on setting up rule and regulation in the newly developed chain.

- Establishment of slaughter units with well QMS for processing goat meat to meet the standard for the Institutional market.
- **Figure 21: Proposed Value Chain for Central District Goat Farmer**



Source: Author and Stakeholder meeting, 2018

Recommendation for Future Research

More research is required to investigate the way of fattening goat for reaching the special market as an upgrading activity in the goat meat value chain and study cost-benefit analysis for the farmer organisation to upgrade goat meat business in the production and marketing. There is a need to assess the influence quality assurance in meat processing unit in Zanzibar.

Proposed Business Model Canvas (20 Goat farmers, association)

<p>Key Partners</p> <ul style="list-style-type: none"> Local and district government (Gather farmers and provide land for growing pasture) Ministry of agriculture (Livestock Seminar provision) KATI (Provision of Animal Fattening Training) ASSP (Training on treatment and animal feeding) Farmer association PBZ, CRDB, NBC, KCB and Sacco's (Financial Inst) NGO's Zayadesa-Animal welfare 	<p>Key Activities</p> <ul style="list-style-type: none"> Cutting pasture Cleaning the goat shed Treatment and production Managing Processing (Send goat for Slaughter) Taking order direct from hotel-Agent Collect kids from Tz-Mainland 	<p>Value Proposition</p> <ul style="list-style-type: none"> Quality Goat meat Special order Produce goat with Minimum Carcass weight of >12Kg Manure Live goat 	<p>Customer Relationships</p> <ul style="list-style-type: none"> Famous in the Social (Umaarufu) Communication by Publicize cell phone number. Advertisement of goat produced in social media 	<p>Customer Segments</p> <ul style="list-style-type: none"> Customers surrounding their village (Local Farmers markets customers) Customers from town area (Visitors) Hotels Supplier/ Retailer/Butcher Horticulture Farmers for manure
<p>Key Resources</p> <ul style="list-style-type: none"> Special goat meat breeds Modern goat Shed Pasture land (1 to 3ha) owned or not-owned Concentrate for fatten feedlot 			<p>Channels</p> <ul style="list-style-type: none"> Contract with supplier (Agent, facilitator or Butcher) Contract with hotel direct Special Station at village (office for association) 	
<p>Cost Structure</p> <ul style="list-style-type: none"> Land cost Goat shed (300,000 – 500,000 Tsh) Labor cost for Pasture production and cutting (50,000 Tsh per month for cutting, Land preparation and planting grass for 1 ha= 500,000) Treatment of worm (3000 Tsh per month per 1 goat) Concentrate (20,000 Tsh per month per 1 goat for three months fatten goat) Cost of transport from mainland to Unguja island (20000 Tsh per goat) Fatten cost for 3 month (90,000 Tsh per goat) 			<p>Revenue Streams</p> <ul style="list-style-type: none"> Selling of <ul style="list-style-type: none"> Live goat 1goat @ 150,000 – 200,000 Tsh Selling by order slaughter goats Manure 1 bag @ 3000 Tsh Good household nutrition 	
<p>Social and environmental cost</p> <ul style="list-style-type: none"> Expensive land to build office and grow pasture Expensive loan 			<p>Social and environmental benefit</p> <ul style="list-style-type: none"> Community education (Pro poor Development tools) Recreation and Eco-tourism for foreign Tourism) Become famous and able to control family needs 	

Figure 22: A Proposed business model for the Central district goat farmer

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8. Annexes

Annexe 1: Chick list for Participatory Rural Appraisal (Stakeholder meeting)

<p>Stage 1. All stakeholder in the meeting Stakeholder analysis, mapping, and chain relations -List the key stakeholders and their roles and possible risks -Draw the value chain map, calculate value shares -Draw the supply and demand volume calendar to indicate chain relations -Draw Venn diagram to indicate chain relation</p>																
<p>Stage2. Goat Farmer FDG Business model canvas checklist</p> <table border="1"> <tr> <td rowspan="2"> <p>8. Key partners</p> <ul style="list-style-type: none"> • What are key partners • Who our key support • Which resource is acquiring from partners? • Which key activities do partners support </td> <td> <p>7. Key activities</p> <ul style="list-style-type: none"> • What key activities do? </td> <td rowspan="2"> <p>1. Value Proposition</p> <ul style="list-style-type: none"> • What value do we deliver to our customer? • Which one of our customer's problem do we solve? • Which customer need are we satisfying? </td> <td> <p>4. Customer Relationships</p> <ul style="list-style-type: none"> • What type of relationship does each of our customer segment expect us to establish • Which one we already create • How they integrate with us </td> <td rowspan="2"> <p>1. Customer segment</p> <ul style="list-style-type: none"> • For whom are we creating value • Who our most important customer </td> </tr> <tr> <td> <p>6. Key resources</p> <ul style="list-style-type: none"> • What key resource does our value proposition require? </td> <td> <p>2. Channels</p> <ul style="list-style-type: none"> • Through which channel does our customer want to be reached? • How are we reaching now? • Which one is best </td> </tr> <tr> <td colspan="2"> <p>9. Cost structure</p> <ul style="list-style-type: none"> • What are the most essential cost incurred in our business • Which essential resource are the most expensive </td> <td colspan="3"> <p>5. Revenue Stream</p> <ul style="list-style-type: none"> • For what value our customer ready to pay • For what do current pay • How are they current pay? • How would they prefer to pay </td> </tr> </table>					<p>8. Key partners</p> <ul style="list-style-type: none"> • What are key partners • Who our key support • Which resource is acquiring from partners? • Which key activities do partners support 	<p>7. Key activities</p> <ul style="list-style-type: none"> • What key activities do? 	<p>1. Value Proposition</p> <ul style="list-style-type: none"> • What value do we deliver to our customer? • Which one of our customer's problem do we solve? • Which customer need are we satisfying? 	<p>4. Customer Relationships</p> <ul style="list-style-type: none"> • What type of relationship does each of our customer segment expect us to establish • Which one we already create • How they integrate with us 	<p>1. Customer segment</p> <ul style="list-style-type: none"> • For whom are we creating value • Who our most important customer 	<p>6. Key resources</p> <ul style="list-style-type: none"> • What key resource does our value proposition require? 	<p>2. Channels</p> <ul style="list-style-type: none"> • Through which channel does our customer want to be reached? • How are we reaching now? • Which one is best 	<p>9. Cost structure</p> <ul style="list-style-type: none"> • What are the most essential cost incurred in our business • Which essential resource are the most expensive 		<p>5. Revenue Stream</p> <ul style="list-style-type: none"> • For what value our customer ready to pay • For what do current pay • How are they current pay? • How would they prefer to pay 		
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<p>Stage 3. Farmer, Retailers and supporter (ZFDA) Quality awareness checklist</p> <ul style="list-style-type: none"> • How do you perceive about the quality of the goat meat, which things came first in your mind? • What important factors that influence goat meat quality to the institutional consumers • How do you feel when you heard your produce denied by your customers due to quality issues? • What component required to reflect the quality of goat meat • How can we foster quality of meat, so us to attract our customers? • Which environment (feeding, slaughter, storage, supply) is required or sound for quality production of goat meat? 																
<p>Stage 4 Quality preference (intrinsic and extrinsic)</p>																

Intrinsic

- Species (Double purpose goat, dairy + meat)
- Breed (Local, exotic breed)
- Gender (female, male, castrated)
- Age and Weight at slaughter (lighter/heavier)

Extrinsic

- Odour
- Tenderness
- Palatability or Flavor

Other extrinsic related to above

- Ageing of the animal (effect on tenderness)
- Management and animal behaviour (Flavor)
- Diet (Fatness)

Annexe 2: CHECKLIST FOR PUBLIC HEALTH OFFICER (supporter)**Slaughter environment and quality awareness**

1. How many butcheries are in Unguja Island central district?
2. What is the role of the department of public health in ensuring the safety of goat sold in butcheries?
3. How often are the butcheries inspected?
4. What are the requirements for one to be licensed to operate a butchery business?
5. Are there particular facilities which an operator should possess to be licensed to operate a butchery business?
6. Is there a certain education level or training which a person must possess to be licensed to operate a butchery business?
7. Are there specified hygiene standards which butchery operators must maintain?
8. Which are these standards?
9. Are you aware of the institutional consumer fail to buy meat in the butcher?
10. What are the major complaints from the institutional consumer?
11. Are recorded cases reported by these institutional consumers toward non-compliance with the hygiene?
12. How many cases?
13. What are the penalties for non-compliance with the hygiene standards? What was the nature of non-compliance?
13. What regulations or standards does the public health department refer to in regulating the operations of butcheries to align with the demand of the institutional consumer?

Annexe 3: CHECKLIST FOR MEAT INSPECTOR (supporter)

1. How many slaughterhouses are in Unguja Island central district?
2. How many days you're responsible for inspecting meat per week?
3. Stationed at the slaughterhouse or has other duties outside the slaughterhouse?
4. What inspections are carried out – ante-mortem, post-mortem, carcass inspections, transportation trucks (animal welfare)?
5. What happens to animals especially goats, not fit for slaughter and lead to be condemned?
6. How often the condemn case appeared in the slaughterhouse?
7. What is the procedure for ascertaining goat meat is fit for human consumption?
8. Is there any specification for higher consumer meat inspection?
9. What are the tools and material used in inspecting meat?
10. What is the condition of those materials and tools?
11. What regulations govern hygiene and safety of goat meat in the slaughterhouse?
12. Are records kept about the animals slaughtered?

Annexe 4: CHECKLIST for Retailer/butcher Interview

Slaughter slab environment, Awareness of quality, value share, market relation

Value chain actor	Probing				
Most of the butcher is Registered/ Non- registered					
What product are you sold					
How many days spent in the market					
No. of animals butchered/week					
Avg. selling /week (in Kg)					
Who are your suppliers?					
From how many farmers do you procure?		No. of villages/area covered with each procurement			
How frequently do you procure goat					
At what price do you procure					
How purchase price is determined					
Which breeds do you procure for slaughtering		Any specific reason for particular Breed			
Other procurement preferences	Age		Male/Female	Weight.....	Others.....
Any issues faced from procurement to selling					
When do you market your produce					
Who are your customers	Consumers /...../.....				
Are you directly selling to the Insti.consumer		What no. or %	What % sold to others		
Why do you sell to them					
How much quantity do you sell in each market segment (Kg or %)	Weekly..... Festival..... Distant.....				
At what cost goat/chevon are sold (TShs/Kg)					
What are the factors that influence its selling price?					
What margins do you earn with each selling (per kg)					
What are some of the quality attributes you seek for in meat before you sell	• Fat content (leanness) • Colour of the meat • Official stamp • Others				
What are some of the attributes are customers concerned about	• Fat content • Official stamp • Colour of the meat • Special cuts • Tenderness • Others				
Are there any customer complaints reported about the quality of goat meat					
What are the most customer complaints about?	• Toughness • Foul smell (not fresh) • Price • Others (specify)				
Do you pack the meat					
What is the source of water in the butchery	• Tap water • Water bought from outside the butchery				
Do workers have any formal training in meat handling and hygiene					
How many days does a carcass last in the butchery with or without refrigeration					
Do you hold the sale as per demand		Usually when		What %	
Any value addition before selling					
Is there any seasonal demand		When?.....			
At which time Meat demand is Higher and low					

Annexe 5: Checklist for institutional consumer

Institutional consumer Interview: Quality preference (intrinsic and extrinsic)

- Do you purchase goat meat from local produce in Unguja Island-Zanzibar?
- What is your general insight into the quality of goat meat at the butcher or local supplier or farmer in Unguja Island-Zanzibar
- What do you perceive as the willingness to procure from butcher or farmer?
- What factors do you consider when choosing the place to buy goat meat?
- What type of quality are you looking or prefer while purchasing goat meat from a local producer or supplier?
- How frequently do you purchase from the local producer?
- How much quantity do you purchase per month (Kg)?
- What kind of inferior do you meet when buying goat meat from a local producer?
- What can be done to change the situation?
- Any suggested linkage that can enforce the business of goat meat between you and other actors?

Annex 6: Farmer Questionnaire

Questionnaire: **Interview list of goat farmers.**

A number of interviews.....

Date: / /

Address/ location

Telephone:

N.b. Please circle the correct answers.

A: Farmer Profile and the capability to produce

1. How long have you been raising **goat**?years.

2. A number of goats/ Flock size?

a. 1 – 4

b. 5 -9

c. 9+

3. Is rearing goat your main source of income? Yes / No

4. If NO, why do you rear goat?

a. Hobby

b. Additional income

c. Home uses

d. Asset

5. What is the land size?

6. Are you the legal owner of the land? Yes / No

5. Which breed of goat do you rear?

a. Local breed

b. Exotic breed

c. Mixed Breed

7. What is the mortality rate in your farm?

a. less

b. Medium

d. High

9. What is the Age of mortality at your farm?

a. 1 – 3 months

b. 3 – 6 months

c. 6+ months

10. Is there any goat keeper's association? Yes/No

11. Are you a member of that association or any farmer association? Yes/No

12. What type of Information are you sharing with the association?

a. Animal husbandry and breeding

b. Feed and Feeding

c. Marketing

e. Farm management

B: Marketing and chain relation

13. Do you receive any markets information? Yes / No

14. What marketing information do you consider important for your business?

a. Farm gate price

b. Consumer price

c. Location of markets

d. Quality

e. Demand

14. Who provides you with marketing information?

a. Government: extension officers / veterinary officers

b. Private veterinarians

c. middleman

d. Butcher/retailer

15. What level of trust does have with your buyer?

a. Lower

b. Medium

- c. Strong
- d. No at all

16. How is transparency your business with your buyer?

- a. Lower
- b. Medium
- c. Strong
- d. No at all

17. In the scale of 1 – 5, what is the contribution of the other indirect actors and supporters in the chain? (1=smallest, 2=smaller, 3=medium, 4=higher, 5=highest)

C: Economic (Robustness of the chain)

18. What are the costs incurred per goat (entire rearing cycle) farm?

Item	Cost
Feeding	
Treatment	
Housing	

19. At what age of goat do you prefer to sell?

- a. 5 – 7 months
- b. 7 – 9 months
- c. 9+ months

20. What type of goat do you prefer to sell in the market?

- a. Young stock
- b. Culled goat
- c. Fattener

21. At what cost do you sell your goat are sold?

- 22. How is the farm gate price determined?
 - a. Negotiation
 - b. By the buyer
 - c. By the farmer
 - d. By volume
 - e. By seasonality* (* Seasonality: Christmas, Ramadan etc.)

23. What is the factors that influence its pricing

- a. Quality
- b. Weight
- c. Breed of animal

24. Who is your customer(s)

- a. Direct Consumer
- b. Retailer/Butcher
- c. Middleman

25. Selling is done in which market

- a. Spot market
- b. Festival
- c. Contract market

26. How many animals do you sell in each market

- a. 1 - 4
- b. 5 – 9
- c. 10+

27. In the scale of 1 – 5, how is the demand is related to the supply of the goat in the market?

(1=smallest, 2=smaller, 3=medium, 4=higher, 5=highest)

28. What do you consider as the biggest problems constraining your goat marketing? Rank these according to importance.

Possible solution	Ranks
	1

	2
	3
	4

29. What are according to your possible solutions for improving goat marketing in Unguja Island? Rank these according to importance.

Possible solution	Ranks
	1
	2
	3
	4

Quality awareness

30. In which state are you prefer to sell your goat to the market?

- a. Live
- b. Slaughtered

31. if the answer is a slaughter, where do you slaughter your goats?

- a. Slaughter slab
- b. Slaughterhouses (Government support)
- b. At home

32. What practice are you executing to make sure the quality is improved or sustain before you sell your animal?

Practices	Ranks
	1
	2
	3
	4

33. Is there any complain do you receive about the quality of the animal or meat you sell? Yes / No

34. What are these complains? Rank these according to the importance

35. In the scale of 1 to 5, how quality is demanded by the market?

(1=smallest, 2=smaller, 3=medium, 4=higher, 5=highest)

Annexe 7: Transcribing data from Interview

Butcher 1.

Name: Mr Mselem; Sex: Male
Occupation: Butcher + Retailer + Importer
Experience: 7+ years
Butcher: Darajani Markiti
Area: Darajani Markiti
Phone: +255 773358459
Registered butcher

Sell Goat meat only for the whole week, but other few butchers mix with beef or chicken meat. Minimum goat sold are 3 and highest 5 goats per day. 1 goat weight 10 – 12 Kg, Avg. Weight sold per day is 30-36kg and maximum 60kg. This is depending on the seasonal. We import live goats from Tanzania mainland, we do not buy from our local farmer here at Unguja due to less number of goat presence and higher price with less weight we demand that can give us a good return In Tanzania, mainland buy all goat from Auction only. We import once per week, and 4 days per months. The minimum price of goat is 70,000/= and Maximum is 200,000/= The price of live goats is determined by the size and weight of the animal, by using eyes scoring. We have a category to select goat; normal, intermediate and best

We buy goat

Age: For the case of age, we obtain a range of age (young and older). This depends on the available animal in the auction. Although most of our customer like to buy meat from older goats.

Sex: We buy a large number of male goats than female. Why we buy male than female because males have more muscle (meat) and heavyweight (25-30 kg) than female, sometimes you met with a pregnant female.

Transport: We use truck from Auction place (Tanzania Mainland) up to the coast of Tanga region. Then we transport goat to Unguja Island by using dhow (Majahazi) , it is very challenging due to the harsh environment in the ocean (too much wind) and too much risk- we take during the transportation time; Death of goats, Thief: while they buy goats, there is an issue of cheating and robbery.

Most of our customers are coming directly to our butchers (90%): Most of my customers are Indian, these are direct customers who are coming to buy directly from the butcher and another customer.

For the case of Lodge or Bar like 10%: they order meat, and we deliver meat to them, and other are coming to buy directly in the butcher, the main aim of this is to advertise our business.

Meat sold at 10,000 /= Tsh per Kg. Most customer prefer meat with the Presence of Stamp, how nice the meat is look like. And other like bar they are looking for meat having; • Fat content, because most customer they make barbecue • Official stamp • Less Colour of the meat • No Special cuts, but a mixture of bones and meat • Tenderness and toughness of the meat (older meat)

We don't have special training from us to start the business. Not training provided by ZFDA, but ZFDA- they are used to come and inspect the butcher and premises, and at that time, they advise us what we can do to improve the hygiene.

ZFDA also is the one concerning with slaughter service, which does not reflect the quality of the product demanded by the institutional consumer. We have only 3 active slaughterhouses currently. And 5 small slaughter slabs, but only 2 are working.

We may sell all meat at single day, but It depends from one day to another, some time you sell all the meat and another day, some can remain, keeps in the freezer and sold in the next day. During high seasonal, like Eid al hajj we can sell up to 5-10 goats per day.

Any value addition before selling:

We do not add any value before we sell, although we pack for delivery customers

The cost required to import live goat from Tanzania mainland.

- **Buying cost from mainland 70,000 – 130,000/ Tsh**
- **Transport one goat from Tanzania mainland to Zanzibar is 20,000/= Tsh**
- **Slaughter one goat from private and government area is 5000/= Tsh**
- **Other expenses, cut and curry is 5000/= Tsh**

Hence, a total of 100,000 – 160,000/= Tsh is incurred for one goat.

Hotel

Name: Ali Cherati; Sex: Male
Occupation: Chef
Experience: 3 years in Zanzibar
Hotel Name: PARK HYATT ZANZIBAR
Area: Stone town
Email: ali.cherati@hyatt.com
Website: www.hyatt.com

Yes, I have a local contract supplier from Unguja-Zanzibar who supply me with lamb and goat, but due to less volume and number of lamb available, I received only goat meat from him (supplier) and other I import from Tanzania mainland

Current situation

- The quality of goat meat is ok. But only I can use for sauce and curry because the meat is very Tough, and not for stake or fillet. We use goat meat for meant goat.
- The quality of goat meat when compared to another country, here is very low. Example Because there is not enough meat, in the goat 50 % meat – 50% bone, some time you met with more bone than meat. Is typically supposed to be 30% bone and 70% meat in the goat.
- The hygiene of the meat was not ok at the beginning, the supplier delivers to me (My supplier), but I had a problem with the way how they deliver the meat, the issue was temperature, they supposed to deliver in the car with a chiller (Is not happen in Zanzibar). What I did to my supplier, I educate them on and tell them to want I want from them, to deliver with the right temperature (+5, or 7).

Challenges:

- In general, the situation of the supplier in Unguja-Zanzibar is not good, they are not good in term of hygiene, transport and delivery.

Opportunities:

- There is a chance for local producer and supplier to change and meet the interest of hotel in Unguja-Zanzibar due to the need of the market resulted in its continued growth day after day.
- Looking for the supplier who is ready comply with what I want when they deliver meat to meat, like how they package, how they deliver the meat in proper temperature, well covered, time of deliver and volume.
- Due to the current situation, we don't have many options about all the standard (Intrinsic and Extrinsic) that generally hotel want to have, that makes us be limited with the use of the goat meat in our hotel (only curry and sauce) and stick with fresh meat only or based on imported meat outside Zanzibar. Example, the issue of tender line, Unguja goat meat, has a low tender line, so you need to use the meat as fresh (Slaughter today, sending or delivery today and use for the same day), if you keep the meat in the freeze the meat starts to smell.
- I think the issue of low tender line resulted in poor feeding system and how they provide water during rearing the goat. We don't use frozen meat in our hotel. We like to use fresh meat. We don't use frozen meat in our hotel at all. We serve fresh food from proper packing.

Extrinsic

- The tender line is not good. But there is no option, may be due to quantity is very low.

What we want: tenderness (learn meat), well fed goat (70% meat – 30% bone), not frozen meat, well package, proper temperature of delivering (+5 or 7 Celcius)

Intrinsic:

- Due to the less quantity of meat or goat available, there is less option on goat shank, filley, the leg part

What we want: Age (must be not much older due to the toughness of the meat),

We procure 100kg After every 15 days,

Strategies to raise quality supply of goat meat

- Gvt through Unguja Municipality has to make a class for training on hygiene, risk on how to follow and come in international standard.
- Educate the farmer to have a goat on how to feed, hold them. Because traditional keeping is good but now Unguja is going to industrial area, hence they need to change

Zanzibar Food and Drugs Agency

Name: Faki Nyama; Sex: Male
Occupation: Meat Inspector
Experience: 20 years
Institution: ZANZIBAR FOOD AND DRUG AGENCY (ZFDA)
Area: Mombasa
Phone: 0777416588
Website: www.zfda.ac.tz

There are 2 main slaughterhouses in Unguja Zanzibar own by the government and work under the ministry of health (kisaka saka, mwanda), with 2 private slaughterhouses (very small) controlled by the Department of Food and Drug inspection (ZFDA) at mwera and kinyasini.

3 Slaughterhouse is located at the south (kisasaka), and Central (Mwanda) District of Unguja Island capable of slaughtering 75 goats per day, local slaughter. Our slaughterhouse is too old, we use the system that is not updated. Although there is a plan to build an updated slaughterhouse which is related to our new ISO 90012015.

- Meat is inspected throughout the year, working days, holidays and weeks. This is because they slaughter all the days.
- All meat inspectors have a day to work in an office and another day to work in a slaughterhouse.
- The establishment of new regulation 2015, emphasis Anti and post-mortem inspection. But before the introduction of that regulation (ISO) was much focus on post-mortem.
- The new regulation also an emphasis on ant mortem by introducing a crash course for allowing more officer to deal with ant-mortem, current we meet our self-use health officer during an inspection of ant mortem.

When we meet the issue of animal not fit for consumption, we dispose of in our near slaughterhouse condemnation pit. We do not have an incinerator for burning the condemned animal. Very rare, especially for the case of the goat, is not much appear here. Most cases of condemnation are concerned internal organ.

After meat inspects, we can say fit and unfit for consumption. For those fit for human consumption we use Zanzibar Food and Drugs Agency stamp to indicate and notify the meat is inspected and ready to be used.

- Current there is no any standard that indicates this type of meat inspection is special for certain consumer.
- The type of specification is only related to the slaughterhouse regulation. The type of regulation is based on standard slaughterhouses, like slope floor, closed pit, the wall must be easy to be cleaned, if private slaughterhouses also must be registered.
- Current, we did not register full slaughterhouse that complies with all our specification.

We only allow 3 private slaughterhouses, with a capacity of slaughter 15 goats per day

- We need to have many tools, to accomplish the task of inspecting meat.
- As an inspector, you need to have a complete gear, like a cup, rain boots, white coat to make sure meat is not contaminated. Other tools, knife and tools for carrying a sample in the laboratory for further inspection.
- For the type of meat that needs to have further checking need to be detained in our freezer until it will be satisfied.
- Clean tools, clean water, clean floor, clear gear to prevent contamination.
- But we fail to maintain our hygiene due to infrastructure and system of water, those staffs allow contamination of the meat inside the slaughterhouses.
- The system of water is not well, we do not have tap water that is well connected inside while we use a basket
- We have Zanzibar Food, drugs and cosmetic act of 2006, which create regulation about meat hygiene. The meat hygiene regulation is talking about the whole system from the animal at slaughterhouse up to the butcher ready to be consumed (inspection, transportation, storage, clean of the butcher

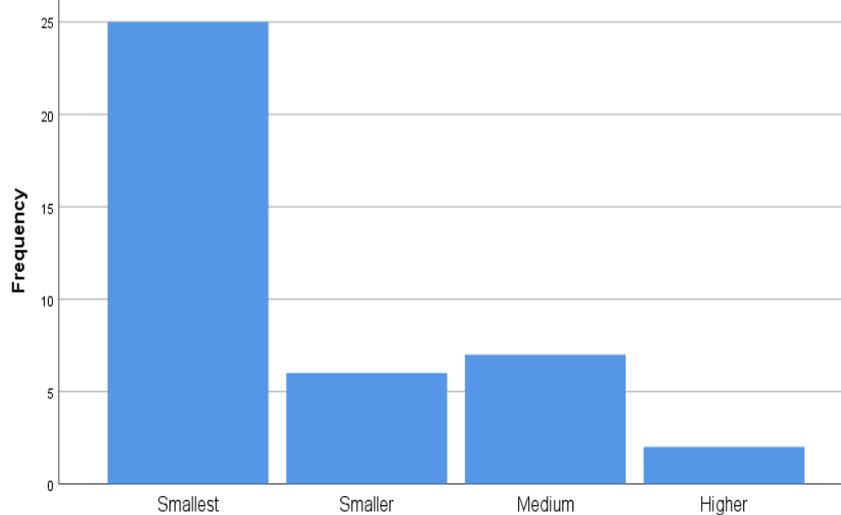
Annex 8: Survey Analysis Results

a. Sex of Respondent

		Frequency	Percent
Valid	Male	24	60.0
	Female	16	40.0
	Total	40	100.0

b. Support of direct and indirect actors in the chain

In the scale of 1 - 5, What is the contribution of the other indirect actors and supporters in the chain?



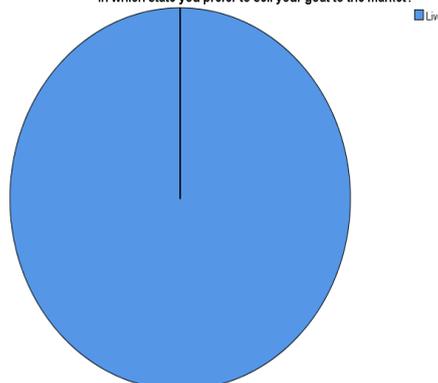
In the scale of 1 - 5, What is the contribution of the other indirect actors and supporters in the chain?

c. The market information received by farmer with relationship to type of market information received

		If Yes, what marketing information do you receive?					Total
		Price	Quality	Demand	Location	Not applicable	
Do you receive any market information?	Yes	3	1	4	1	0	9
	No	0	0	1	0	30	31
Total		3	1	5	1	30	40

d. Type of goat sold in the market by goat farmer in Central district

In which state you prefer to sell your goat to the market?



e. Type of goat sold by the farmer in the market

		Frequency
Valid	Young Stock	9
	Culled goat	23
	Fattener	8
	Total	40

f. Experience of goat farmer in raising goat in the central district of Unguja Island

		Frequency	Per cent
Valid	1 to 2 years	7	17.5
	3 to 4 years	5	12.5
	5+ years	28	70.0
	Total	40	100.0

g. Level of trust and transparency between farmer and buyer

What level of trust do you have with your buyer?				How is transparency your business?			
		Frequency	Percent			Frequency	Percent
Valid	Lower	8	20.0	Valid	Lower	8	20.0
	Medium	7	17.5		Medium	6	15.0
	Strong	23	57.5		Strong	24	60.0
	Not at all	2	5.0		Not at all	2	5.0
	Total	40	100.0		Total	40	100.0

h. Contribution of other indirect actor in supporting goat meat production and marketing

		Frequency	Percent
Valid	Smallest	25	62.5
	Smaller	6	15.0
	Medium	7	17.5
	Higher	2	5.0
	Total	40	100.0

i.