Possibility of introducing Smallholder Beef Cattle Farmer's Association as a starting point to develop the beef cattle chain and improve their income in Arua district, Uganda.

Research Project submitted to Van Hall Larenstein University of Applied Sciences in partial fulfilment of the requirements for the awards of master degree in Agricultural Production Chain management Specializing in livestock production chains.

By

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DEDICATION

This work is dedicated to my wife, Gladys Candia for her endurance and perseverance shown in my absence, I love you and our three children.

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ABBREVIATIONS

ADLG	Arua District Local Government
DED	German development services
DCO	District Cooperative Officer
FAs	Facilitating Agents
GDP	Gross Domestic Product
GoU	Government of Uganda
GTZ	German Technical Services
NAADS	National Agricultural Advisory Services
NAGDP	National Agriculture Gross Domestic Product
PMA	Plan for Modernisation of Agriculture
POs	Producer Organisations
MAAIF	Ministry of Agriculture Animal Industries and Fisheries
MPMPS	Meat Production Master Plan Study
UBOS	Uganda Bureau of Statistics

ABSTRACT

The theme of the research is "*Possibility of introducing smallholder Beef Cattle Farmers Association as a starting point to develop the beef chain and improve their income in Arua district, Uganda".* The study was carried out in two Sub Counties of Arua district, Uganda. The objective was to investigate the possibility of forming beef cattle farmers association for smallholders to improve their bargaining position and the beef supply chain.

The research examined the current status of the beef chain and the interventions for establishing smallholder farmers association.

Survey questionnaires were administered to sixty smallholder beef cattle farmers in two Sub Counties (30 farmers per Sub County). Ten beef cattle traders and the district cooperative officer were interviewed to get additional information for the research.

The results revealed that about seventy percent of the beef cattle farmers in Pajulu Sub County and about seventy seven percent from Rigbo Sub County support the idea of forming smallholder beef cattle farmers association. Seven beef cattle traders supported the idea of introducing the smallholder farmers association.
The structure of beef chain showed that there are two channels from the farmers to the Urban and rural consumers.

It can be concluded that the idea of introducing smallholder farmers association is supported by the majority of the smallholder beef cattle farmers and traders in Arua district.
The farmers expect the association once formed to improve their access to inputs/financial credits, extension services. The association would help them (farmers) share experience and information on issues related to beef cattle enterprise on price, quality and quantity of the cattle needed by the potential buyers.
The Cattle traders' expectation from the association was to meet the required number of beef cattle in terms of volume hence reducing their transaction costs

There should be a deliberate effort by Arua district local government to help smallholder farmers organise themselves and create awareness on the process of forming smallholder farmers association.

Keywords: smallholder beef cattle farmers, beef supply chain, Smallholder beef cattle farmers' associations/ Producer organisation.

CHAPTER ONE: INTRODUCTION.

1.1 Brief Description of Uganda

Uganda is a landlocked, developing country in central eastern Africa with a total area of about two hundred thirty six square kilometres of which approximately two hundred thousand and thirty six thousand square kilometres are land water. The population of Uganda is about 31.4 million (UBOS 2002).

The Agricultural sector provides for up to 42% of the National Gross Domestic Product (NGDP**).** Livestock production is one of the most important economic sectors of Uganda and is among the most rapidly developing industries(MPMPS 1998). Livestock Production in Uganda contributes 17% of the national agriculture Gross domestic Product (NAGDP) in the form of meat and milk (MAAIF, 2004) and 9% of the National Gross Domestic Product (NGDP). Up to one third of the total national households are involved in livestock industry related activities(MAAIF 2001).

The cattle population in Uganda is about six (6) million with about 4% of the population being exotic and cross bred (FAO, 2004). In smallholder systems, which dominate agriculture, livestock provide cash/income, are capital/assets, source of manure/fertilizer and fuel. Cattle are also source of power for transport and cultivation.

1.2 Justification of the Study.

The government of Uganda through the National Agricultural Advisory Services Programme (NAADS) has organized smallholder crop farmers and beekeepers into farming associations and has helped them jointly market their produce and have a better bargaining position than before. This also enables them have ease access to extension services, market information, agricultural inputs and financial credit (Arua district NAADS report 2007).

According to KIT et al (2006), producers' organization can help smallholder farmers improve their bargaining position and income.
Giel Ton et al (2007) argued that producer organizations offer support to their members in accessing markets either acting as a facilitator by providing market information and technical assistance or act as a contractor, by processing and marketing members products This also implies producer organization's management and organization.

This situation is however not yet explored in the context of smallholder beef cattle keeping in Arua district (Arua district local government veterinary Report 2007).

1.3 Research Problem

The few numbers of beef cattle (in terms of volume) sold by individual beef cattle farmers put them in a disadvantaged bargaining position with the cattle traders (the middlemen). The farmers therefore receive low price offers per cattle.

1.4 Objective of the Research

To investigate the possibility of forming beef cattle farmers association for smallholders to improve their bargaining position and the beef supply chain.

1.5 Main Research Question 1

1. **What is the Current Status of the Beef Supply Chain in Arua District?**

1.1 How is the beef chain structured in Arua district?
1.2 What are the roles of the actors of the beef chain?
1.3 Who are the supporters and what roles do they play in the beef chain?
1.4 What are the problems faced by smallholder beef cattle farmers and cattle traders?

1.6 Main Research Question 2

2. **What Interventions can be Employed to Bring Smallholder Beef Cattle Farmers Together in the Beef Chain?**

2.1 What are the roles, functions, management and capacity building requirements of producer organisations?
2.2 What can government do to help smallholder beef cattle farmers come together?
2.3 How can farmers be helped to fulfil the legal requirements for forming smallholder beef cattle farmers association?
2.4 What are the views of smallholder beef cattle farmers and cattle traders on introducing smallholder beef cattle farmers association ?

1.7 Explanation of terms

i. An association is a non profit organisation that enables members to collaborate for services, information exchange and representation. A typical example is the bargaining association, which negotiates on behalf of its members with the buyers of their products.
Through collective bargaining, the association can obtain better prices or more favourable trading conditions than could an individual producer.

ii. Producer organisation. It is a rural business, producer-owned and controlled organisation that help smallholder farmers to do the following:-

- Collaboration, coordination to achieve economies of scale in their transaction with input suppliers and buyers
- Accessing inputs and services
- Making channels of information accessible to rural producers
- Raising levels of knowledge and skills in agricultural production and value addition

iii. Bargaining power is the ability to influence the price or terms of a business transaction. Bargaining power can enable producers negotiate better prices and terms, such as a long-term supply agreement or access to business services. Bargaining power depends on many different factors but the most important are scarcity, the availability of alternative marketing options, and market information:

- **Scarcity**: if a product is in short supply compared to the demand for the product then the producer is usually in a strong bargaining position. However, scarcity often only applies to products with certain characteristics. For example, there may be hundreds of producers selling tomatoes to a wholesale market but very few of them deliver tomatoes in the quantity and quality favoured by traders. In this case, only the producers that can meet these expectations have a product that is in short supply and will be able to negotiate better prices.

- **Alternative marketing options**: even if producers are selling a product that is in short supply, they will still be in a weak bargaining position if they do not have alternative marketing options. This situation may arise in thin rural markets where there are few traders, and producers do not have adequate transport or storage facilities.

- **Market information:** access to accurate information about market prices and conditions can help producers avoid exploitation by buyers and negotiate a fair price.

CHAPTER TWO: REVIEW OF LITERATURE

2.1 The Concept of value Chain

A value chain is a sequence of production processes from the provision of specific inputs for a particular product to its primary production, transformation, marketing and distribution, and final consumption. It analyses the links and information flows within the chain and reveals the strengths and weaknesses in the process. It also analyses the boundaries between national and international chains, takes into consideration buyers' requirements and international standards (Richter 2005).
The value chain approach addresses factors that determine if a product meets market requirements with regard to quality, price, dependability, volume, design and speed of delivery. Value chains generally include three or more of the following actors: producers, processors, distributors, brokers, wholesalers, retailers and consumers.
The figure below depicts beef value chain, the actors and their functions and flow of information, goods and money.

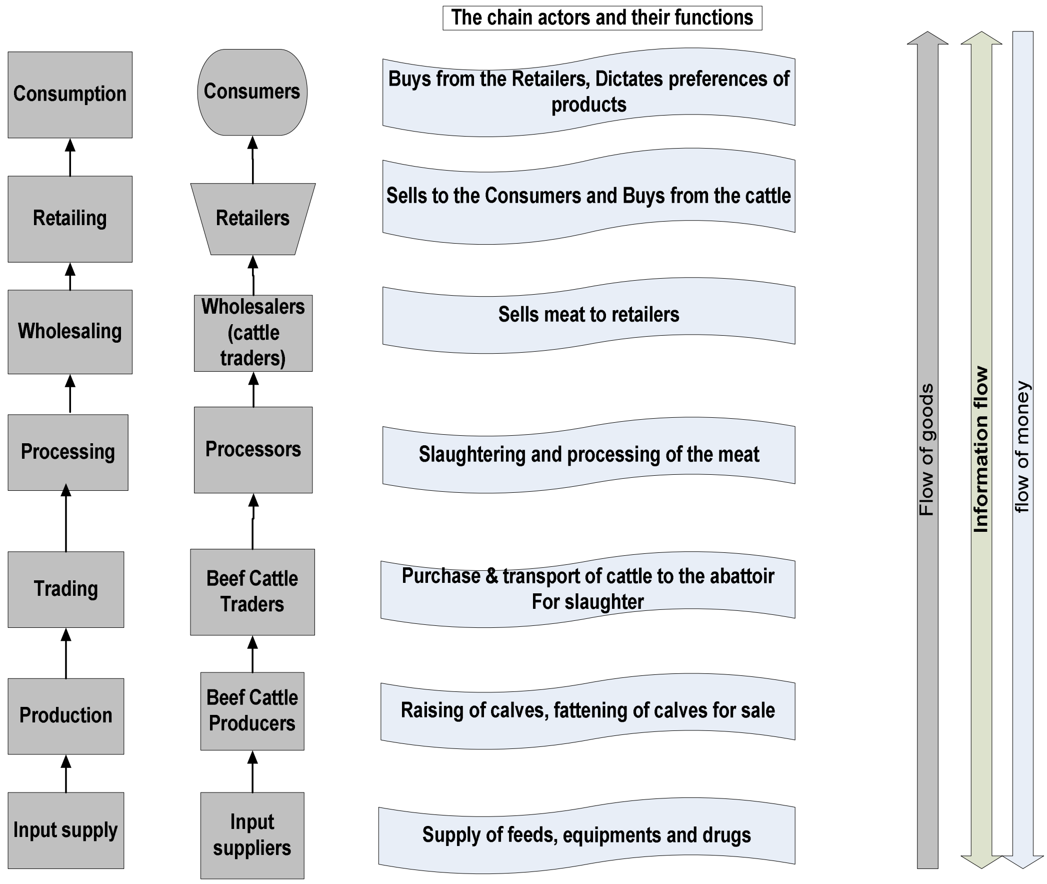

Figure 1. The Beef value Chain

2.2 Review of The Concept of POs for Developing Countries

The role of producer organizations in market chains has received increasing attention from governments and donors aiming to help smallholder farmers operate in an organized manner (Giel Ton et al 2007).

2.2.1 Functions and roles of POs

Producer Organisations enable their members to access inputs , technical advise and financial support. POs link members to local and global markets It also improves their ability to achieve bargaining power with private sector. POs helps farmers to collectively meet the volume required by the buyers hence reducing transaction costs. POs lobby on behalf of the members, represent their members' interests in negotiations with governments, donors, or the private sector. POs enable more accurate assessment of members needs, broader and timely availability of information at grass roots(Pierre-Marie Bosc, Didier. et al 2002).

POs fulfill farmers' expectation by providing access to financial services, input and out put markets and technical services. POs lower transaction cost through economies of scale in transactions; improve information flows (market and technical information); lobbying on behalf of farmers(Chirwa, E.W. et al 2005).

2.2.2 Benefits of POs

POs lower marketing cost and enable small-scale producers to access other markets by combining their produce to reach the scale necessary to deal with buyers in other markets, or by processing their produce to access higher value markets at a later stage in the chain.
POs help increase small-scale producers' bargaining power for negotiating better prices through bulking and improving the quality of their product .POs improve small-scale producers' access to services when the services are provided to a group other than to individuals. Through POs, there are opportunities for incentives and value addition, members have increased confidence and influence(Chris Penrose-Buckley 2007).

According to Avishay braverman, et al 1991, rural farmer organisation aim at improving economies of scale and bargaining power with the external agents. It also provides access to savings and loans facilities. Through farmer organisations, input supply and marketing become more efficient.

Producer organisations strengthen smallholder's positions in markets, strengthen bargaining power, reduce transaction costs and raise the voice of smallholders in the policy process (World Development Report 2008).

The majority of the world's poor are small scale rural producers who have limited influence if any, in bargaining processes. POs help members to have a better bargaining position with the private sector, governments (World Bank 2001).

POs are intermediaries between the rural producers and the other stakeholders. POs integrate producers into the market(product marketing), represent and defend producers interests to other economic and institutional stakeholders and governments(Marie-Rose. M. et al 2001).

POs help farmers through collective marketing raise the required volumes of uniform cattle to attract buyers to offer better prices than sold by individual farmers(Musemwa L et al 2007).

2.2.3 Formation of POs

Chris Penrose-Buckley (2007) found out from case studies he did in ten developing countries that for small scale farmers to form rural producer organizations the following issues should be taken into consideration: -

• *Group size:* group size should be kept small, ideally between 15 and 30 members, to facilitate good communication and regular interactions between all group members.

• *First meetings:* a new group needs to follow a simplified business planning process, starting with an assessment of market opportunities before defining the group's objective and developing a very simple marketing strategy. It is also important at this stage to define how the group will divide any proceeds from their collective activities.

• *Pilot activities:* before the FA or individual members invest significant resources in the group, it is a good idea for the group to gain experience and test its marketing strategy through various pilot activities. New POs should focus on very simple collective activities and services for members, based on participants' existing livelihood activities. At this stage, FAs need to find the right balance between allowing the new PO to learn from its own experience and failures, and using its influence to help members avoid bad decisions that may undermine their confidence.

• *Consolidation:* if the pilot activities are successful, the group can begin to invest and expand its activities and gradually develop a simple decision-making structure. From the very start FAs need to help POs to develop a market-oriented approach and to focus on financially sustainable PO services and activities.

• *Financing:* most new POs will depend on the FA for access to start-up funding. Generally, it is better for FAs to provide access to loans rather than offering grants, as grants can exaggerate the profitability of the PO and undermine the members' sense of responsibility. If the FA does decide to offer a grant for operational funds or specific investments, the timing is critical: if a grant is offered too soon, before the group has established itself, it can undermine the initiative and sense of ownership within the group.

• *Shared assets:* managing shared assets requires considerable social capital and management skills, and FAs should therefore avoid financing shared assets, such as tractors or processing equipment, until groups have gained experience and developed their capacity.

• *Transforming community-based groups into POs:* existing community based groups may already have significant social capital. The challenge is to ensure that the members of such groups understand that the new group will function as an independent business and that they are prepared to take ownership of the business, including the risks involved.

2.2.4 Strengthening of the Capacity of Pos

Producer Organisations need support in terms of building the Capacity of leaders, members or managers through organizational strengthening, building skills to develop and lobby for favourable legislation, building negotiation skills to enter into and maintain partnerships (both vertical and horizontal. POs need require knowledge to collect, assess and distribute market information that the producers need to improve their competitiveness. POs need Technical assistance to comply with certification requirements, accounting and financial management (Giel Ton et al 2007).

Pos need capacity strengthening in the areas of: - accountability to members, effective two way communication channels, transparent and effective financial management and internal technical knowledge.(Rondot, p., et al 2001)

2.2.5 Challenges Faced by POs

Case studies carried out in ten developing countries revealed that the challenges faced by POs are poor governance and breakdown of trust between members and leaders. POs incur internal transaction costs for purchasing and distribution of inputs to members, collecting produce from individual members, pay them and then collect and transport this produce for sale to a buyer. POs risk losing business to traders who may be able to offer better prices to members than the PO can, because of lower operating costs(Chris Penrose-Buckley 2007). create problems and increase business costs. For example, the association Agrolempa in El Salvador is formally registered as a business and therefore has to pay taxes. Many of its competitors, however, are informal traders who do not pay taxes and therefore can offer attractive prices to Agrolempa's members (Chris Penrose-Buckley 2007).

In Malawi most rural POs lack sense of ownership amongst most of the members because most of the rural POs were initiated by external agents such as government personnel, NGO and sometimes local leaders with minimal participation of the local communities. The ordinary members are not given prominence with respect to decision making on the management of the organizations. Limited capacity building with regard to leadership and entrepreneurial skills and absence of clear policies and guidelines (Richard Kachule 2004).

CHAPTER THREE: METHODOLOGY

3.1 Study Area:

The research was carried out in Arua district, located in the north-western part of Uganda. The district is bordered by the Sudan (north west), Democratic republic of Congo (west), Yumbe district (north east), Nebbi district (south) and Gulu district (east). Arua district has a total area of about five thousand four hundred square kilometres, five thousand two hundred square kilometres is arable land and the rest wetland. The vegetation is predominantly savannah woodland with leguminous trees and grass (Panicum, Bracheria, Setaria).

The population of Arua district according to the 2002 population and housing census estimate is about eight hundred fifty five thousand. The number of households that keep beef cattle is about seventy six thousand three hundred.

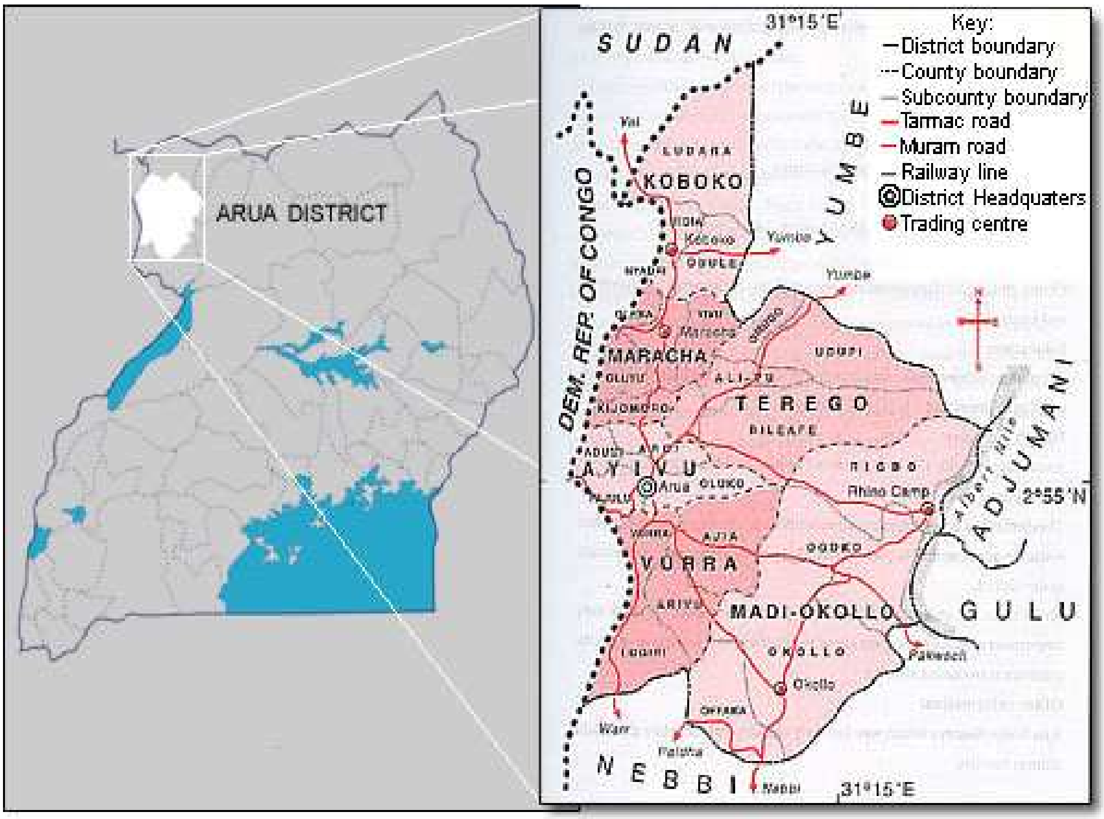

Figure 2 Map of Uganda Showing Arua District.

3.2 The Research

The research has a qualitative and a quantitative approach and is based on field survey results, interviews, professional literature and documents from district veterinary department.

Data collection
The data for the research was collected through surveys and interviews.

a) Survey.

The survey was carried out in two sub counties. One sub county was randomly selected from the western zone (with 8 sub counties and zone is relatively closer to the municipal abattoir) and the other sub county was also randomly selected from the Nile plateau on the eastern side (with six sub counties and the zone is relatively far from municipal abattoir).

Thirty-eight smallholder beef cattle farmers from each sub county were randomly selected using information on the names of the heads of the households owning beef cattle from the office of the district veterinary officer, Arua. Survey questionnaires were administered to sixty smallholder beef cattle farmers; thirty from each sub county.

NB.
-The veterinary officer in charge of Animal health and production randomly selected the two sub counties and their respective farmers.

-The names of all sub counties in the western zone were written on small pieces of paper and put in a small box. The box was shaken and one Sub County (Pajulu) was picked representing the western zone. The names of smallholder beef cattle farmers from the Sub County were also written on small pieces of paper and put in a paper box. The box was shaken and about thirty three farmers were randomly picked for the survey questionnaires. The same procedure was repeated for the eastern zone in which Rigbo sub county was selected.

-Over 90% of smallholder beef cattle are slaughtered in Arua Municipal abattoir and the 10% slaughtered in various sub counties.

The survey questionnaires for the smallholder beef cattle farmers addressed issues related to the problems faced by smallholder farmers in the beef chain (sub question 1.4), the views of the smallholder beef cattle farmers on the introduction of beef cattle farmers association (Sub question 2.4) and their role in the beef chain (sub question 1.2), A structured questionnaire was used to gather background information from the respondents (smallholder beef cattle farmers) regarding their age (age group in beef production), level of education (provides information on capacity needs of the farmers).The other pieces of information collected are on land size, number of beef cattle owned by the household.

b) Interviews

i. The district cooperative officer and the district veterinary officer.

The interview addressed issues related how farmers can be helped to fulfil the legal requirements for forming smallholder beef cattle farmers association (sub question 2.3), the role of the government to help smallholder farmers come together (sub question 2.2) the roles, functions, management and capacity building requirements of producer organisations (sub question 2.1).

ii. Ten beef Cattle Traders

The interview was related to the problems faced in the beef chain (sub question 1.3) and got their views on the Idea to form smallholder cattle farmers association (sub question 2.6).

c) Other sources of information

- Literature review

The literature review was related to the roles, functions, management and capacity building requirements of producer organisations (sub question 2.6)

-Documents

The document answers questions related to the structure of the beef chain(sub question 1.1), the roles of the actors(sub question 1.2), the supporters and their roles(sub question 1.3)

Table 1 Summary of Information/Data and their Sources

Sub question	Information/data	Source of information/Data
1.1	Structure of the beef chain	Arua district Veterinary report/office
1.2	Roles of the actors	Arua district Veterinary report/office
1.3	Supporters and their roles	Arua district Veterinary report/office
1.4	Problems faced by farmers	Survey beef with Cattle farmers
1.4	Problems faced by Traders	Interview with Cattle Traders
2.1	Roles, functions, management and capacity building requirements of POs	Interview with District Cooperative Officer/Arua. Literature
2.2	How government can help farmers come together	District Cooperative Officer/Arua
2.3	How farmers can be helped to fulfil the legal requirements for forming smallholder beef cattle farmers association.	District Cooperative Officer/Arua
2.4	Views of smallholder beef cattle farmers on introducing smallholder beef cattle farmers association	Survey with smallholder beef cattle farmers
2.4	Views beef cattle traders on introducing smallholder beef cattle farmers association	Interviews with beef cattle traders

3.3 Analysis of the Survey Data:

The collected survey data were coded and analysed using statistical package for social sciences (SPSS 16.0 for windows). Descriptive analysis was used to visualise the demographic composition of the smallholder beef cattle keepers in the survey such as average age, land size, and number of beef cattle. Crosstabulation was used to compare the views of the two clusters on the idea of introducing beef cattle farmers association in Arua district. Crosstabulation was also done to compare between the two clusters on the level of education and constraints faced in the beef chain.

CHAPTER FOUR: RESULTS.

4.1 Structure of the Beef Chain, Roles of the Actors and Supporters of the Chain.

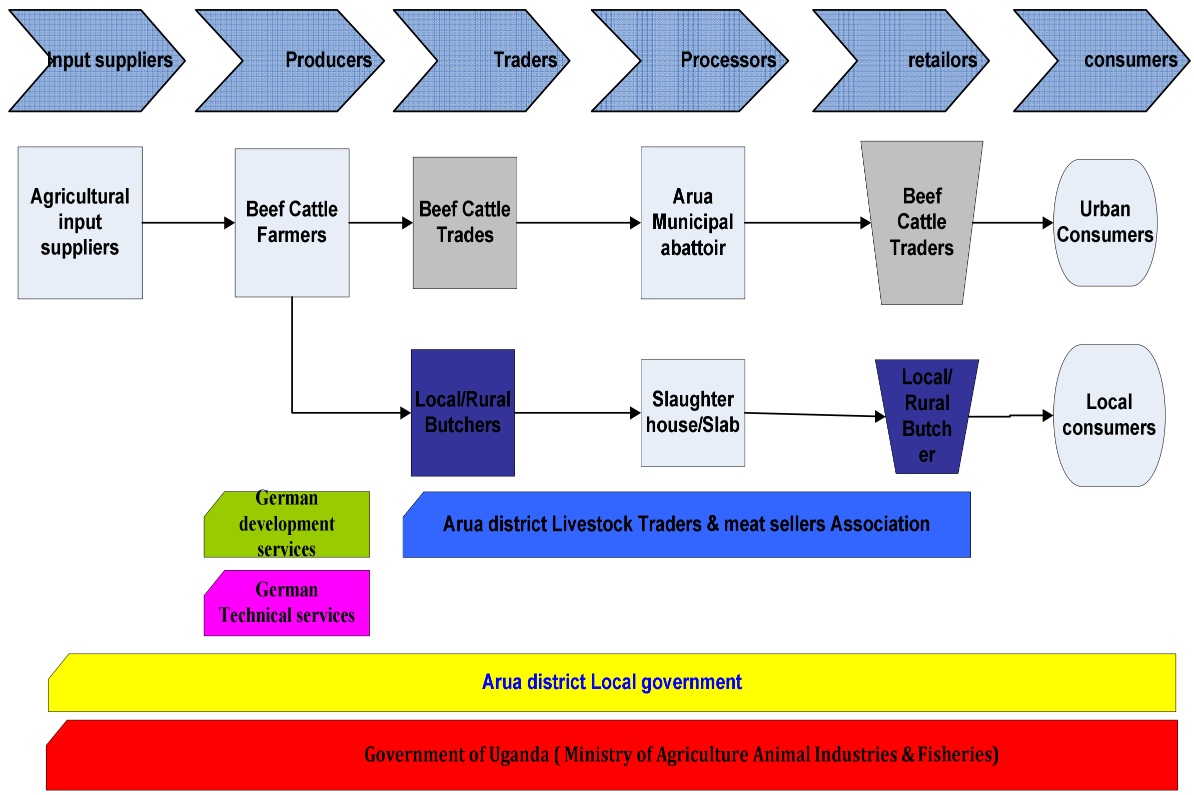

Figure 3 Stakeholders of Beef Chain (Arua District)

Source: Arua district veterinary report 2007

NB:
-Beef Cattle farmers perform both functions of Traders and Retailers
-Local/Rural Butchers buy cattle from beef cattle farmers and sell the meat rural consumers.

The stakeholders are: - Input suppliers, Producers (beef cattle farmers), Cattle traders, Processors (abattoir & slaughter houses/slabs), Retailers (butchers/cattle traders) and Consumers. German Development services (ded), German Technical Services (gtz), Government of Uganda (through the Ministry of Agriculture Animal Industries and fisheries) and Arua district local government are supporters of the chain as shown below.

i) Agricultural/veterinary input Suppliers:- These are business people who sell Agricultural and Veterinary inputs like , spray pumps, drenching guns, acaricides, drugs to farmers for improving their beef cattle.
.
ii) Producers:- These are smallholder beef cattle farmers who raise small east African zebu cattle (about 90%). They graze cattle on natural pasture and sell the fattened cattle to the cattle traders .The farmers sell the cattle in their farms/kraals or livestock markets located in their respective sub counties or their neighbouring sub counties.

iii) Cattle traders buy beef cattle from the livestock market and also direct from farmers kraals. The cattle traders' transport these cattle in Lorries (big trucks) and in most cases move them on foot from the livestock markets and farmers kraals to Arua municipal Abattoir. They also slaughter the cattle in the abattoir and sell the beef/carcass to consumers/customers.

iv) Processing. This is done in Arua municipal abattoir. The veterinary officer in charge of the abattoir inspects the cattle before slaughter. The slaughtered cattle are flayed and inspected by the veterinary officer. Offals (intestines, rumen) and other internal organs are cleaned by washing their contents. The meat is chopped and taken to the shops owned by the cattle Traders who also perform the retail function. Processing in the sub counties is done in slaughter houses or slabs.

v) Retailers. In Arua town, retailers (cattle traders) sell to the urban consumers whereas local Butchers sell to the local/rural consumers.

vi) Consumers are the last actors in the chain. The consumers buy from the retailers(retail shops). They cook meat fresh or preserve by smoking/ drying or keep in refrigerators.

vii) Government of Uganda (GoU) and Arua district Local Government (ADLG) support the beef chain by performing the following functions:-

- Control and prevention of livestock diseases (e.g. vaccinations)
- Provision of Extension services (Veterinary services)
- Regulate livestock movement
- Licensing of Livestock input suppliers, cattle Traders, Butchers
- Inspection of livestock and meat
- Provision of infrastructures like roads, cattle markets, water, abattoir, slaughterhouses.

viii) German development services (DED), German Technical Services (GTZ) support by training farmers on good animal husbandry practices. They vaccinate and treat cattle in collaboration with Arua district veterinarians (Arua district local government three year development plan 2006).

4.2 Background Information of the Respondents (Cattle Farmers)

Age

The average age of the farmers in the two clusters shows that Farmers in Pajulu Sub County have an average age of about fifty four years compared with those from Rigbo Sub County.

Table 2 Average Age of Farmers in the Two Clusters.

Sub county	N	Mean	Std. Deviation	Std. Error Mean
Pajulu	30	53.80	12.576	2.296
Rigbo	30	44.30	8.914	1.627

Figure 4 Average Age (Pajulu)

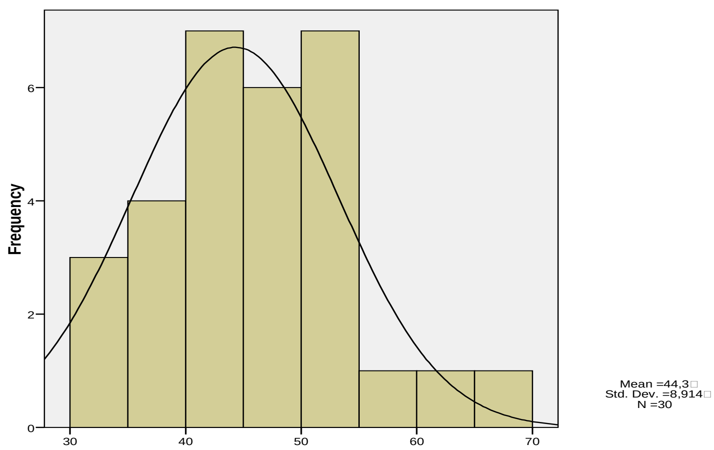

Figure 5 Average Age (Rigbo)

Average Number of Cattle Owned by Individual Farmers

The average number of cattle owned by farmers in the two clusters shows that Rigbo sub county has higher number of cattle owned by individual farmers (about15) compared with Pajulu Sub County (about 9) as shown by figures three and table six below.

Table 3 Average Number of Cattle Owned by Farmers in the Two Clusters

Sub county	N	Mean	Std. Deviation	Std. Error Mean
Pajulu	30	9.23	6.067	1.108
Rigbo	30	14.73	9.552	1.744

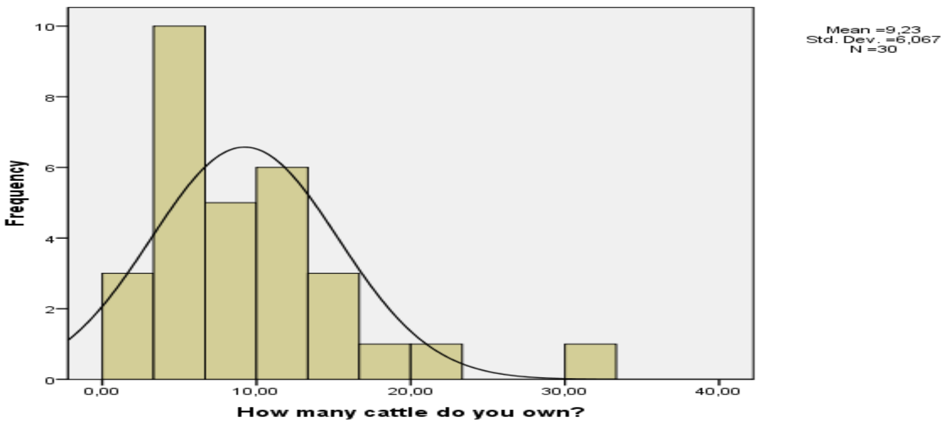

Figure 6 Average Cattle Number (Pajulu)

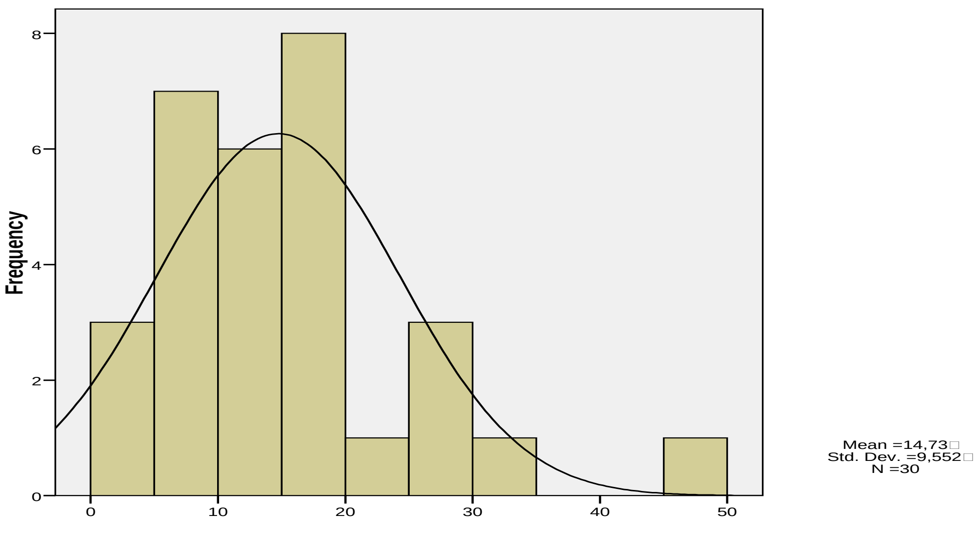

Figure 7 Average Cattle Number (Rigbo)

Average Land Size Owned by Farmers

The average acreage of grazing land owned by farmers in the two clusters shows that farmers in Rigbo sub county have higher average grazing land size (about 2.7) compared with Pajulu Sub County(about 1.6) as shown by in Table 4and Figures 8plus 9

NB: The number of cattle per acre in the two clusters is Pajulu 6/acre, Rigbo 5/acre.

Table 4 Average Grazing Land Size (Acres)

Sub county	N	Mean	Std. Deviation	Std. Error Mean
Pajulu	30	1.60	.814	.149
Rigbo	30	2.73	1.413	.258

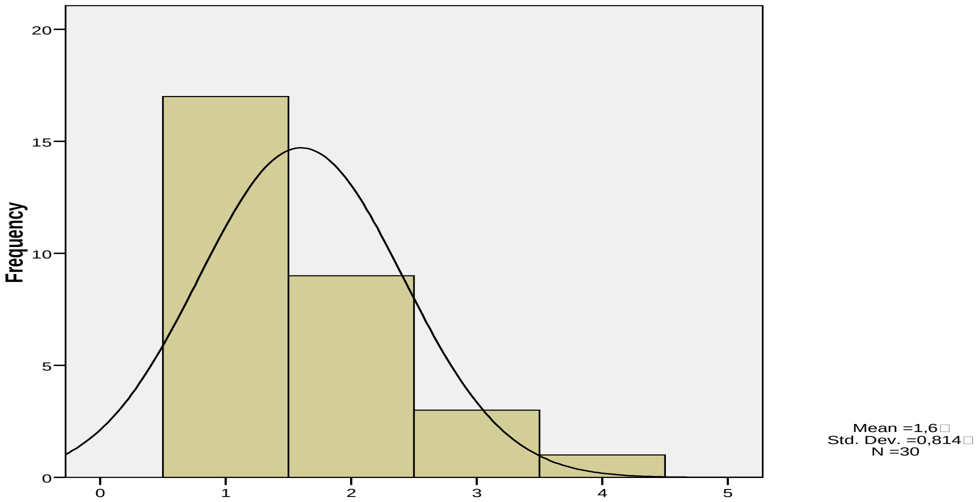

Figure 8 Average Land Size (Pajulu)

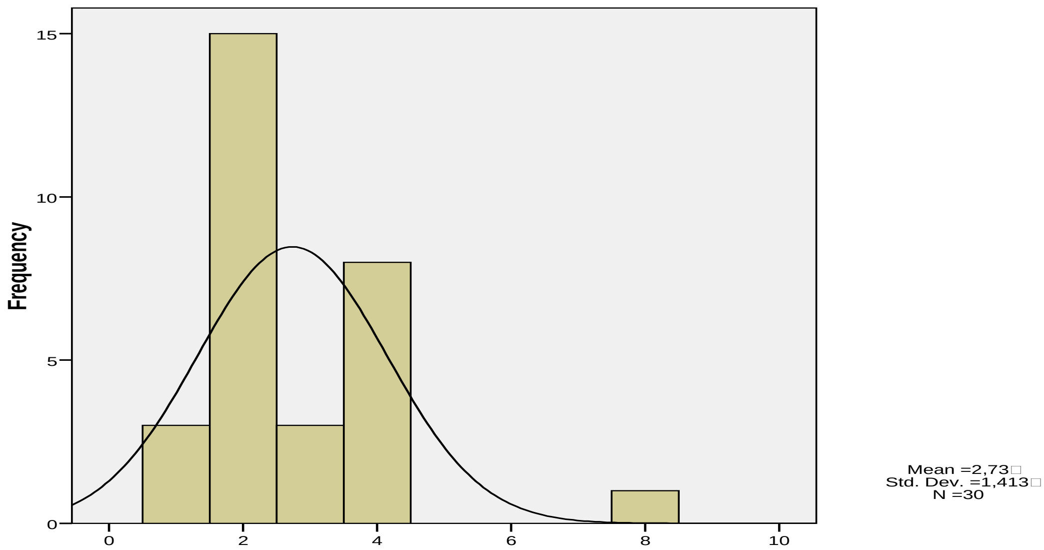

Figure 9 Average Land Size (Rigbo)

Education Level of the Farmers

Table 5 and figure 10 shows the level of education in the two clusters.

Table 5 Comparison of Farmers Level of Education

		Level of education (Crosstabulation)				
		Primary level	Ordinary level(%)	Advanced level(%)	Diploma & above(%)	Never been to school(%)
Sub county	**Pajulu**	8 (26.7%)	5 (16.7%)	3 (10.0%)	4 (13.3%)	10 (33.(%)
	Rigbo	13 (43.3%)	6 (20.0%)	4 (13.3%)	3 (10.0%)	4 (13.3%)
	Total %	21 (35%)	11 (18.3%)	7 (11.7%)	7 (11.7%)	14 (23.4%)

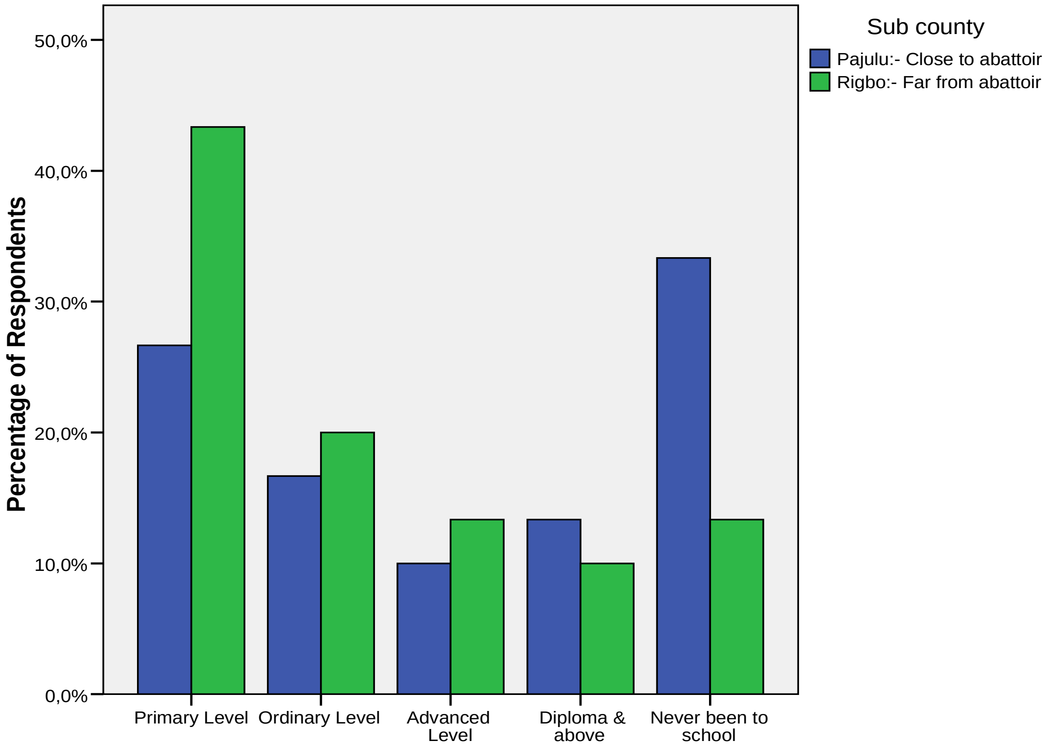

Figure 10 A Graph Comparing Farmers Education Level

4.3 The views of Smallholder Beef Cattle Farmers.

Tables 6 and figure 11 show the result of the opinion of sixty smallholder beef cattle farmers in the two clusters on the Idea of introducing smallholder beef cattle farmers association.

Table 6 Compares the Opinion of Farmers

		Opinion of farmers on the idea of introducing smallholder beef cattle farmers association.				Total (%)
		Very good idea (%)	Good idea (%)	No idea (%)	Bad idea (%)	
Sub county	**Pajulu(close)**	43.3	26.7	16.7	13.3	100
	Rigbo(far)	56.7	20.0	13.3	10.0	100
Total (%)-both clusters		50.0	23.3	15.0	11.7	100

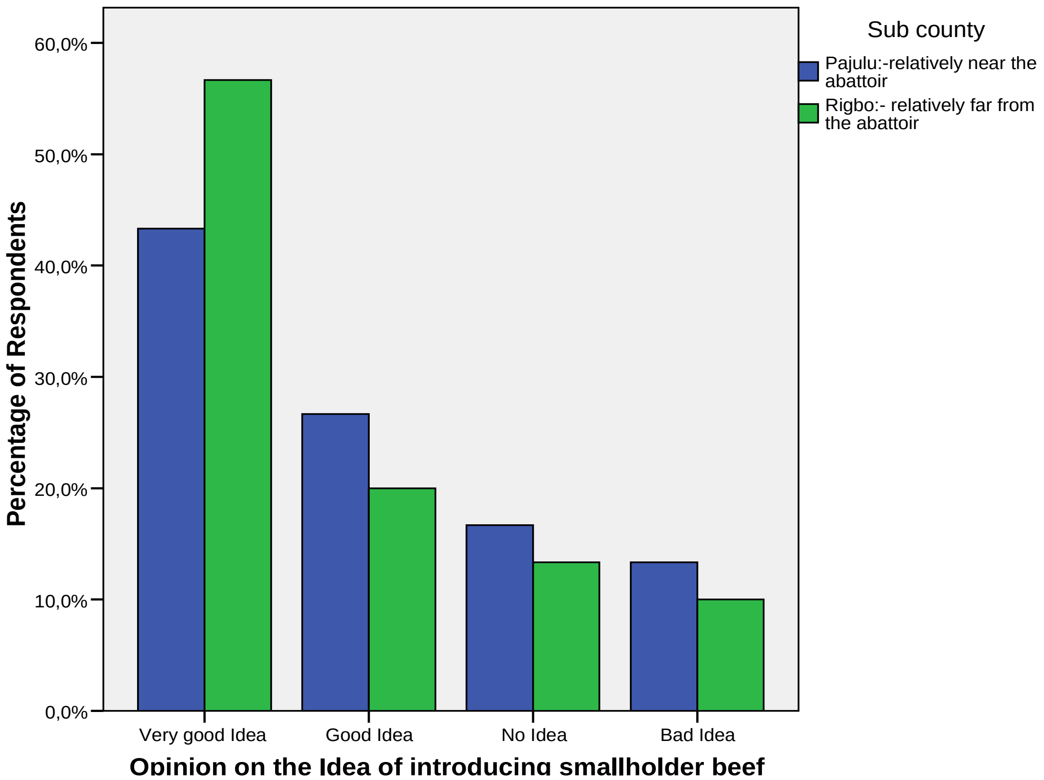

Figure 11 A bar Graph Comparing Opinion of Respondents

4.4 Reasons for saying very good or good idea

Each farmer was allowed to give more than one reason, and similar reasons were put under one(i.e. grouped into five broad headings).
The reasons given by the smallholder farmers were in terms of the benefits they would get as a result of collective action.:-

- Improved access to inputs / financial credits through the association (as security)
- Access to services like veterinary extension would be improved because service providers can reach them with ease
- They would be able to sell their cattle direct to the abattoir and access other markets through the association
- They would share experience and information on issues related to beef cattle enterprise price, quality and quantity of the cattle needed by the potential buyers

There is no significant difference (P> 0.05) in supporting the Idea of forming the association between the two clusters as shown in Table 7 and Figure 12.

Table 7 Farmers Reasons for very good and good Idea.

		Reasons for very good and good idea for forming the association.				Total
		Improved access to inputs	Improved access to services	Access to abattoir and other markets	Experience and information sharing	
Sub county	Pajulu	8 (36.4%)	3 (13.6%)	6 (27.3%)	5 (22.7%)	23 (100%)
	Rigbo	6 (28.6%)	5 (23.8%)	5 (23.8%)	5 (23.8%)	21 (100%)
Total (%)-both clusters		14 (32.6%)	8 (18.6%)	11 (25.6%)	10 (23.3%)	44 (100%)

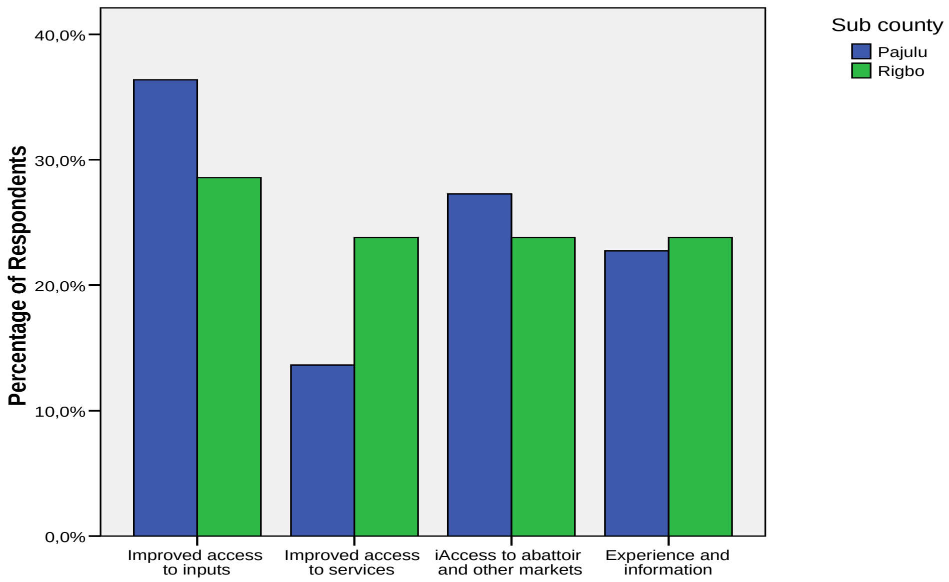

Figure 12. A bar Graph Showing the Reasons for Farmers Opinion

Table 8 Farmers Reasons for bad Idea for forming the Association.

		Reason for bad idea for forming the association.				Total
		Lack of trust/ corruption	Incur costs	Political interest	Have their own customers	
Sub county	**Pajulu**	3	1	0	3	7
	Rigbo	4	3	2	0	8
Total (%)-both clusters		7	4	2	3	16

The reason given by the farmers who were against the idea of forming the association were:

Seven Respondents said that they do not trust group activities because of the rampant corruption because they had a similar experience with cotton in the district where they used to pay them irregularly and in most cases late.

Four respondents said that costs incurred like taxes; market dues and transport in selling their animals through the association. This will reduce the selling price of the animals they usually sell from their kraals without taxes, transport costs nor market dues.
Two said that local leaders or politicians have interest in using their ignorance for soliciting funds in their names from donors. Three said they have their customers (cattle traders) whom they have regular contacts with.

4.5 The Opinion of Beef Cattle Traders

Table 9 Opinions of Beef Cattle Farmers

	Good idea	No difference	Bad idea	Totals
Number of respondents	7	2	1	10
Percentage of respondents	70	20	10	100

Table 9 shows that majority of the cattle traders support the idea of introducing smallholder beef cattle farmers association.

The beef cattle traders who supported the idea of introducing smallholder beef cattle farmers gave the following reasons: -

- Reduction of costs of feeding and accommodation during the period of searching and collecting the animals in one place.
- Reduction of time for searching for the animals to be purchased and also time for negotiating with different beef cattle farmers.

Those beef cattle traders who said there was no difference reasoned that they could work with or without farmer associations because they are capable of adjusting to any business environment.

Those that never supported the idea said that smallholder cattle farmers would make them lose their business because they would take their animals for slaughter direct to the abattoir.

4.6 Problems faced by smallholder farmers in the beef chain

Table 10 Problems Faced by Smallholder Farmers

		Problems faced by you (smallholder farmers) in the beef chain.					Total
		Lack of market information	Inadequate information on grading	Delayed payments by the cattle traders	Low farm gate price	Lack of weighing scale	
Sub county	**Pajulu**	16 (53.3%)	3 (10%)	2 (6.7%)	6 (20%)	3 (10%)	30(100%)
	Rigbo	14(23.3%)	6(10%)	4(6.7%)	3(5%)	3(5%)	30(100%)
Total		30(50%)	9(15%)	6(10%)	9(15%)	6(10%)	60(100%)

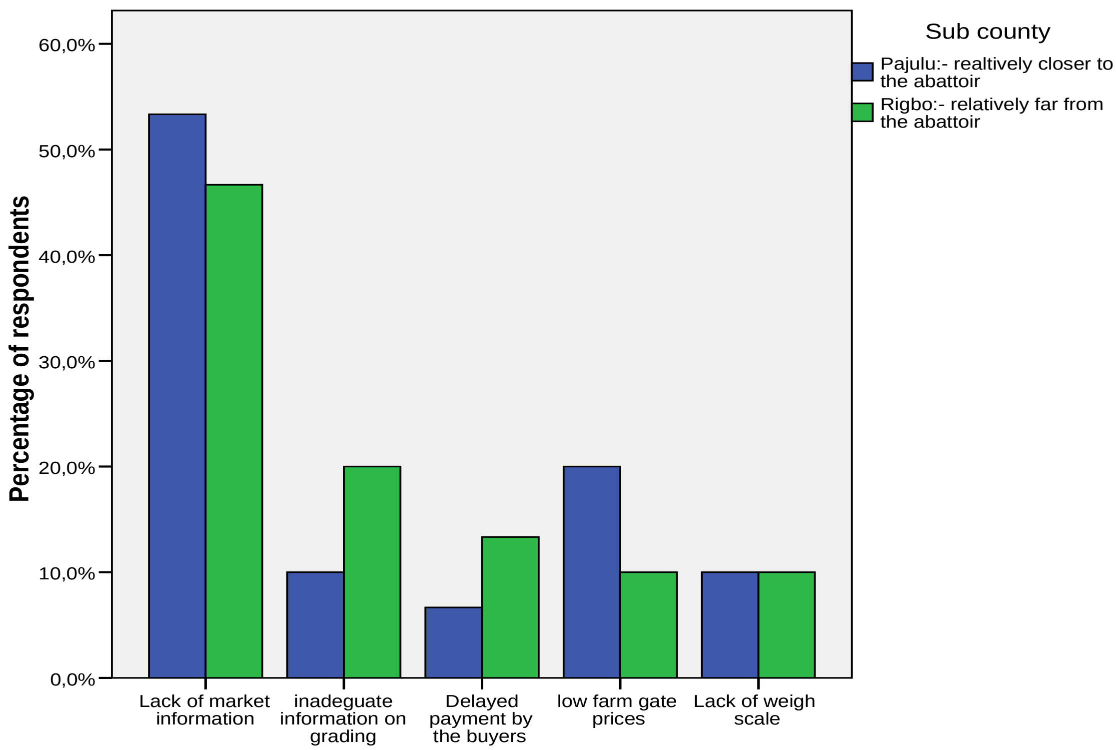

Figure 13. A bar Graph Showing Problems Faced by Farmers

Table 13 shows that lack of market information is the main problem of marketing cattle by smallholder beef cattle farmers in Arua district.
The table also shows that there is no significant difference (p>0.05) in the problems given by the farmers in the two clusters.

4 .7 Problems Faced by Cattle Traders in the Beef Chain.

Ten respondents were interviewed and each one was allowed to give more than one constraint).

- Sourcing the required number of animals.
- Increased cost of feeding & accommodation
- Too much time spent looking for cattle
- Cost of caring for animals
- High cost of hiring trucks for transporting beef cattle from the source to the abattoir

The cattle Traders explained that getting the required number of animals is not easy since they have to track long distances looking for the animals. This makes them spend a lot of time searching for the animals thereby increasing the cost of feeding and accommodation. It also becomes costly taking care of the animals in the abattoir for several days before slaughter especially when many other animals are awaiting slaughter.

Table 11. Problems Faced by Cattle Traders in the Beef Chain

	Problems faced cattle traders in the beef chain.				
	Sourcing the required number of animals	Increased cost of feeding & accommodation	Too much time spent looking for cattle	Cost of caring for animals	High cost of hiring trucks for transporting beef cattle from the source to the abattoir
Number of Respondents per constraint	6	7	7	6	3

Suggestions to the constraints given by farmers

Table 12 Compares Farmers' Suggestions to the Constraints

		Suggestions (by smallholder farmers) to the constraints.					Total n=60
		Government avails timely market information free at grassroots	Provision of extension services by the government extension workers e.g. on grading	Written agreements and trust	Collective selling of the cattle by farmers	Availability of weighing scales in the livestock market	
Sub county.	**Pajulu**	12 (40%)	5 (16.7%)	3 (10%)	6 (20%)	4(13.3%)	30 (100%)
	Rigbo	16 (53.3%)	4 (13.3%)	4(10%)	3 (10%)	3 (10%)	30 (100%)
Total		28 (46.7%)	9 (15%)	7 (11.7%)	9 (15%)	7 (11.7%)	60 (100%)

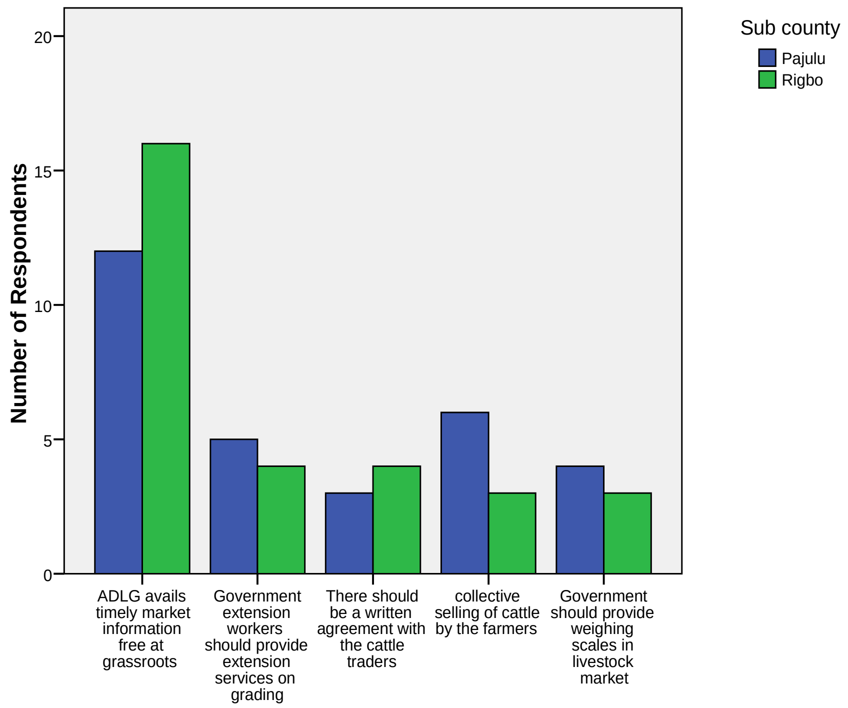

Figure 14. **Compares the Suggestions to the Constraints Given by the Farmers.**

The following are the suggestions to the constraints given by the cattle traders:-

- Farmers should collect and sell beef cattle in livestock markets
- Auction for cattle be established in every sub county by Arua district local government
- Renovation of the holding ground in the abattoir by Arua municipal authorities
- Collect cattle for slaughter when the number is reasonable e.g. fifty and above.

Table 13 Suggestions to the Constraints Given by Cattle Traders

	Suggestions of cattle traders' suggestions to the constraints.				
	Farmers should collect and sell animals in livestock markets	Auction for beef cattle be established in every sub county	Availability of the date, time, and number of cattle in the market	Renovation and upgrading of the holding ground in the abattoir	Lack of weighing scale
Number of respondents	15	4	2	6	3

4.8 How farmers can be helped to fulfill the legal Requirements for Forming POs

According to the District Cooperative Officer (DCO), farmers need to be guided in the following areas: -

The farmers should be facilitated in terms of advisory services so that they will clearly come up with the name, location, address, vision, mission, aims and objectives of the association.

The smallholder farmers should get an external support in the process of developing the constitution including recording of the minutes and resolutions passed for the formation of the association.

The smallholder farmers should be helped to register with the registrar of companies under cooperative Act 1985.

4.9 How government should help Smallholder Farmers come together.

The interview with the district cooperative officer yielded the following information:

- Government should encourage beef farmers to get organized in groups and form Arua district farmers association.
- Government should formulate policies on domestic trade that are favourable to beef cattle framers
- Government should ensure price transparency hence encouraging fair competition.

5.0 Roles, Functions, Management and Capacity Building Requirements of POs.

The district cooperative officer said that the registered farmer associations need the following support: -

- Capacity building of the leaders/managers or members in negotiation skills with the buyers, governments and the donors.
- POs need knowledge and skills in getting and timely distributing market information to the producers.
- POs need capacity building on technical issues like management and accounting.

CHAPTER FIVE DISCUSSION

5.1 Structure of the beef chain and the roles of the stakeholders

The actors of the beef chain in Arua district consist of individual farmers, cattle traders , abattoir, the Butchers(cattle traders) and consumers. This chain is not well organised because there is weak link and coordination in the activities of the chain actors. Information sharing amongst the actors is lacking.

Richter(2005) explains that a well organised value chain has proper links and information flows within the chain and takes into consideration buyers requirements in terms of quality, price, dependability and volume.

5.2 Background Information of Respondents (Cattle Farmers)

The average age of the farmers in the two clusters is from shows that Farmers in Pajulu Sub County have an average age of about fifty four years compared with those from Rigbo Sub County.
There is significant difference ($P<0.05$) in the average age of the Farmers in the two clusters.

Average Number of Cattle and land size owned by Individual Farmers.

The average number of cattle owned by farmers in the two clusters shows that Rigbo sub county has higher number of cattle owned by individual farmers(about 15) compared with Pajulu Sub County(about 9). There is no significant difference in the number of animals owned by the farmers in the two clusters.

The average acreage of grazing land owned by farmers in the two clusters shows that farmers in Rigbo sub county have higher average grazing land size (about 2.7) compared with Pajulu Sub County (about 1.6). There is significant difference ($P<0.05$) in the size of grazing land owned by the farmers in the two clusters.
This implies that the average number of beef cattle per acre raised by farmers is six and five in pajulu and Rigbo Sub counties respectively.

Education Level of the Farmers
Comparison of the level of education of the farmers in the two clusters shows that there is no significance difference ($P>0.05$). The two clusters have the same capacity building needs.

5.3 The opinion of Cattle farmers and Traders

The results indicate that there is no significant difference ($P>0.05$) in the opinion of farmers in the two clusters on the idea of introducing smallholder beef cattle farmers association. Generally, the majority of the farmers in the two clusters (about seventy three percent)were for the idea of forming smallholder beef cattle farmers association

The reasons given by the farmers in the two clusters who supported the idea of forming smallholder farmers association are similar to the findings of Chris Penrose-Buckley (2007) from a case study he did in ten developing countries. His findings revealed that for smallholder farmers to embrace the idea of producer organisations and make it successful they should have the same understanding of the potential benefits of collective action like lower marketing costs (as a result of economies of scale), improved market reach and improved bargaining power.

Robin Bourgeois, Frank Jesus et al 2003 sought the opinion of farmers in Indonesia on the formation and development of Rural producer organisation. The study revealed that the majority of the farmers supported the Idea of forming RPO and then successfully formed Rural producers organisation (RPO). Through the RPO, the farmers were trained on how to bargain with traders and how/where to get information on market prices. His finding is similar to the reason of the cattle farmers in Arua district who are for the idea of introducing beef cattle farmers in Arua district, Uganda.

Majority (seven out of ten) of the cattle traders support the idea of introducing smallholder beef cattle farmers association which means that traders and farmers can cooperate and have good relation. KIT and IIRR (2008) did research on cattle trade in Mbire district Zimbabwe. The study revealed that cattle farmers and traders cooperated well and improved their trade relation.

Those beef cattle traders who said there was no difference reasoned that they could work with or without farmer associations because they are capable of adjusting to any business environment.

The cattle traders who never supported the idea said that smallholder cattle farmers association would throw them out of business because they would take their animals for slaughter direct to the abattoir.

5.4 Problems Faced by cattle Farmers and Traders

The farmers acknowledged that lack of market information, knowledge on grading, delayed payments by cattle traders are some of the constraints they face.
Sabine Homan and Andre Vanrooyen (2006) found out in southern Zimbabwe that lack of market information was one of the challenges faced by the small scale cattle and goat farmers.

Michael Kibue (2007) did a research on livestock marketing chain (From Masai Pastoralists to consumers in Nairobi), Kenya. He found out that pastoralists lack market information and the livestock traders benefited from the knowledge gap.
The cattle traders spent a lot of time and money in getting the required number of animals which increases transaction cost.

KIT and IIRR 2008 had similar findings with cattle trade in Mbire district Zimbabwe. The study revealed that getting the required number of cattle from individual farmers because the traders spent a lot of time moving several distances from farmer to farmer searching for animals.

5.5 How farmers can be helped to meet the legal Requirements to form POs.

In Uganda it is required that for smallholder farmers to form producer organisations they need to fulfil the legal requirements**.**

The farmers should be facilitated in terms of advisory services so that they will clearly come up with the name, location, address, vision, mission, aims and objectives of the association.

The smallholder farmers should be get an external support in the process of developing the constitution including recording of the minutes and resolutions passed for the formation of the association.

External support is also needed in building the capacity of the managers /leaders of the association and assets to start up the association.

The other support is the initial financial assistance for getting started. The association needs an office with furniture for day today running of the associations affairs.

5.6 What the Government can do to help Smallholder Farmers form POs.

The government should encourage farmers to get organized in groups so that they can easily get market information through advisory service provision to them by private service providers and government field extension workers. This is what the smallholder cattle farmers mentioned in section 4.6 that they do not get market information.

CHAPTER SIX CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion.

It can be concluded from the structure of beef chain that there are two channels from the farmers to the Urban and rural consumers.
It can also be concluded from the background information that the average number of animals per acre in Pajulu is greater than the one in Rigbo.

It was observed that the idea of introducing smallholder farmers association is supported by the majority of the smallholder beef cattle farmers and traders in Arua district.

The farmers expectation was that through the association their access to inputs/financial credits, extension services will be improved and that they would sell their cattle direct to the abattoir and access other markets .The association would help them (farmers) share experience and information on issues related to beef cattle enterprise on price, quality and quantity of the cattle needed by the potential buyers.

The two actors (farmers and traders) who do not support the idea of introducing farmers association are very few and will have little effect, if any, on the overall opinion of the farmers in Arua district.

It was observed that farmers association once formed would provide the required number of animals (in terms of volume) to be bought by the cattle traders.

The cattle traders acknowledge that they face high costs in collecting the required number of the cattle because of the Increased cost of feeding & accommodation, time spent (about 1-2 weeks) in searching for the animals.

6.2 Recommendation

The following are the recommendations for forming the smallholder beef cattle farmers association as a starting point for developing the beef chain: -

- There should be a deliberate effort by Arua district local government through the district cooperative office under the leadership of the district cooperative officer to facilitate the process of forming the association through mobilisation meetings and consultations with the smallholder beef cattle farmers. This will help the farmers have the sense of ownership at the initial stage.

- After establishment of smallholder beef cattle farmers association Arua district local government should train the leaders in collaboration with development partners like DED and GTZ on managerial and negotiation skills.

- Arua district local government should improve on the facilities in the livestock market (e.g. weigh bridge) and build a better abattoir to improve hygiene.

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Appendices

Appendix A Survey questionnaires for smallholder beef cattle keepers

1. Age of the farmer…………………………………………………….

2. Location: Village……………………………Parish……………………

Sub County…………………………County…………………………….

3. Educational standard

Primary level ☐

Ordinary level ☐

Advanced level ☐

Diploma & above ☐

Never been to school ☐

4. What is the total land size in acres?

Less than one acre ☐

1- 2 acres ☐

3- 4 acres ☐

5 acres & above ☐

5. Total number of cattle owned (Fill the table below).

Age category	Males	Females	Total
Less or = 6 months			
7months- 2years			
Above 2yrs & < 4yrs			
4yrs & above			

6. If yes where do you sell your cattle?

At farm/kraal ☐

Local livestock market ☐

Municipal abattoir. ☐

Others (specify) ☐

7.Give the reason(s) for the choice in question 6.

8. Who buys your cattle?

Cattle traders ☐

Local Butchers ☐

Cattle farmers ☐

Others (specify) ☐

9.Why do you prefer the buyer you have chosen in question 8?

10. Are you satisfied with the price of cattle per herd, if no, how would you like it to be improved?

11. How can cattle marketing be improved?

12. What is your opinion on the Idea of introducing Arua district small-scale beef cattle farmers association?

Very good Idea ☐

Good Idea ☐

No Idea ☐

Bad Idea ☐

Very bad Idea ☐

13.Pease give reason(s) for the answer you have chosen above (question 12).

14. Who provides you with market information?

- Government ☐
- Cattle traders ☐
- Local butchers ☐
- None ☐
- Others (specify). ☐

15.What kind of market information do you get from the answer you have given in question 14?

- Quality ☐
- Price ☐
- Quantity/Number ☐
- None ☐

16 what challenges do you face in marketing your cattle?

17 What are your suggestions to the constraints?

Appendix B: Interview checklists

Checklist for the District cooperative officer.

1. Helping farmers to fulfill the legal requirements for the formation of smallholder beef cattle farmers association

-What should be done for the smallholder beef cattle farmers to form and legally registered farmers their association?

2. What should the government do in order to help smallholder farmers come together?

3.What are the roles, functions, management and capacity building requirements of producer organisations (beef cattle farmers association)?

-Roles and functions of POs

-Capacity building support for POs

Checklist for cattle traders (Butchers/Retailers).

1. What are the challenges faced by you in the beef chain?

2 How can these challenges be minimized?

3. What is your view on the Idea of forming smallholder beef cattle farmers association?

-Give reason(s) for your view.