THE INFLUENCE OF PRIVATIZATION OF VETERINARY SERVICES ON SERVICE DELIVERY TO FARMERS IN MWALA DISTRICT, KENYA

LABAN NGUNGA MAKAU

A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FULFILLMENT FOR THE REQUIREMENT OF THE AWARD OF A MASTERS DEGREE IN PROJECT PLANNING AND MANAGEMENT OF THE UNIVERSITY OF NAIROBI

2012

DECLARATION

I declare that this research project report is my original work and that it has not been presented to any other university in any form or in part for research or academic purposes.

Sign: _____

Date: 01/08/2012

Laban Ngunga Makau

Reg. No: L50/64658/2010

This Research project report has been submitted for examination with my approval as the university supervisor

Supervisor's signature: _____

Date: 1/08/2012

Bwibo Adieri

Lecturer

University of Nairobi

DEDICATION

To God who has always led me through the path of life.

To Beatrice Ndunge a wife like no other and son Evans Makau and daughter Abigail Nthambi, your support and inspiration made it worthy putting in the extra effort it has taken to come this far. You are God's greatest gift to me.

To my mother Wanza Makau and my late, father Makau Maingi both of whom have taught me the virtuous of life and how to stay with others.

ACKNOWLEDGMENT

The success and completion of this research project has been made possible by many people. First, I would like to appreciate the support I received from my supervisor Mr. Bwibo Adieri for guiding me throughout this research project. I also thank my family for giving me time and peace of mind while I spend time away from them while researching for this paper. I thank all my colleagues with whom we are taking this course with who have assisted me in one way or another. I would like to mention the assistance I received from the staff from ministry of livestock development Mwala District, Director of veterinary services, Kenya veterinary association, ministry of agriculture head quarters and ministry of livestock development headquarters' staff who generously gave me information which I requested from them during the research of this research project report.

I also thank all other friends who assisted me in one way or another.

ABBREVIATIONS AND ACRONYMS

A.I	–	Artificial Insemination
ASALS	–	Arid and Semi-Arid Lands
C.A.I.S	–	Central Artificial Insemination Station
C.A.R	–	Central African Republic
CBAHWS	–	Community Based Animal Health Workers
DVS	–	Director of Veterinary Services
ECF	–	East Coast Fever
F.A.O	–	Food and Agriculture Organization
G.D.P	–	Gross Domestic Product
ILRI	–	International Livestock Research Institute
I.M.F	–	International Monetary Fund
KARI	–	Kenya Agricultural Research Institute
K.N.A.I.S	–	Kenya national artificial insemination services
KVA	–	Kenya Veterinary Association
KVB	-	Kenya Veterinary Board
MLD	–	Ministry of Livestock Development
MLD&M	–	ministry of agriculture, livestock development and marketing
MOA	-	Ministry of Agriculture
NEP	-	North Eastern Province
NGOS	–	Non-governmental organization
N.H.O	–	National Herders Organization
S.A.P	–	Structural Adjustment Programmes
S.P.S.S	–	Statistical package for social sciences
UN	–	United Nations
VSD	–	Department of Veterinary Services

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This study investigated the influence of privatization of veterinary services on service delivery to farmers in Mwala district. The study had three major objectives; to investigate the influence of privatization of artificial insemination (A.I) services on service delivery to farmers, to establish the influence of privatization of clinical treatment of livestock on service delivery to farmers and to determine the influence of privatization of dipping services on service delivery to farmers.

The research study adopted a survey design to get information from a target population of 380 farmers, 14 ministry of livestock staff and 12 private veterinary practitioners in Mwala District. The sample size was 38 farmers selected through stratified random sampling technique (probability sampling technique), the 14 ministry of livestock staff and the 12 private veterinary practitioners both of which were selected through non-probability technique of sampling; the purposive sampling technique which involves studying the entire population of some limited group. Two types of research instruments were used, an interview guide for the farmers and two sets of questionnaires for both the 14 ministry of livestock staff and the 12 private practitioners. The raw data was coded and analyzed by use of statistical package for social scientists (spss) and presentation was done in frequency tables and percentages.

The study found out that there is sharp deterioration on the A.I and dipping services with very high cost. Clinical services were found to be adequate to the farmers.

The study concluded that although most of the farmers are getting artificial insemination services the quality of the service is poor. The study also concluded that there is sharp increase in tick bone diseases due to collapse of the dips. The study further concludes that farmers are adequately receiving clinical services from the private practitioners.

The study recommends that the ministry of livestock development should take over the provision of artificial insemination and provision of dipping services. The study further recommends that the government through ministry of livestock development should give loans and subsidies to the private practitioners in order to strengthen their clinical private practice.

CHAPTER ONE
INTRODUCTION

1.1 Background to the study

State delivered veterinary services have been considered the principal catalyst for development. In the 1970s and 1980s many developing countries in Asia and Africa assigned all veterinary services to the governments. The retention of all veterinary services by the governments represented the prevailing attitudes of the time among newly emerging nations, that the government would provide all things for its citizens and that specifically for the case of veterinary services, the rural poor deserved free veterinary services for their livestock. A full range of heavily subsidized services were brought to the livestock owners (Chenneau, 1985).

Fueled by the wealth created from booming exports in natural products at the time and by donors support, veterinary services in the developing countries expanded rapidly during the post-colonial era (winrock, 1992). The respective governments through donor support offered the following veterinary services; provision of clinical treatment to all livestock, Artificial insemination services, dipping services – tick control, Production and distribution of drugs, Production of vaccines, research and extension on animal production and health, disease control through vaccination, control of livestock movement, disease surveillance, quarantines, Meat inspection, food hygiene, public health, and formulation of veterinary policies(De Haan, Bekure 1991)

The funding for national research increased and there was rise in veterinary staff numbers and facilities in all the developing countries with corresponding enormous increase in livestock population (Carney, 1998). The increase in livestock population meant that there was sharp increase for the demand of veterinary services among livestock farmers. In many countries state services were increasingly dependent on donor funding. In 1981 -85 donor supports amounted to 35% of total expenditures for veterinary services in East Africa. The abundant donor support removed an incentive for governments to fund Veterinary services

through taxation. This meant that state veterinary services were vulnerable to changes in donor policy (Pardey et al 1991 Lele and Smith 1989)

The world recession in the 1980s and the ensuing debt in developing countries led to structural adjustments policies which were began and encouraged by the World Bank and International Monetary Fund (I.M.F). The structural adjustment policies advocated sharp reductions in government expenditure on state funded services (Leonard, 1993). State veterinary services could no longer afford to provide the type and quality of services that they had done in the past (de Haan, and Nissen 1985). There was reduction in operational funds which led to a decline in efficiency (Antenah, 1985 a, CTA 1987). Drug shortages, lack of transport and failure to maintain equipment were symptomatic of the funding crisis (Anteneh, 1991). Treatment drugs were no longer available for distribution, the government had no money to buy acaricides to be put in dips for tick control and there was no money to maintain the artificial insemination services. Since less work could be done, staff were found sitting in offices willing but unable to work (FAO, 1991 a). The staff morale declined and efficiency deteriorated further (Odeyemi in press, Morris 1991; CTA 1987)

Due to the financial crisis the governments of developing countries in Asia and Africa had no alternatives but to privatize veterinary services. The World Bank /IMF spearheaded this effort, encouraging governments especially in Africa to down size government veterinary staffs and create incentives and opportunities for veterinarians to move into the private practice to provide clinical treatments, artificial insemination and dipping services on a fee-for-service basis.

In seeking to move the veterinary services from public to private sectors, donors argued that in most domains any form of private enterprise is likely to outperform the public sector (De Haan, Bekure 1991)

Bekure, 1991, points that privatization is advocated as a means of improving the supply for veterinary services; he further adds that the availability and quality of animal health service is unlikely to improve unless public sector performance can be strengthened. Privatization of veterinary services in the developed world has certainly improved the delivery of animal

health services, but the relative success achieved should not overshadow the challenges still facing the process in many developing countries. Experience indicates that the privatization of veterinary services in Africa, especially in sub-Saharan countries, has had some positive effects, particularly as regards the availability of veterinary remedies and cost recovery. Commercialization and distribution of veterinary remedies through the private sector has increased access to these goods and generally made them more available in countries that have privatized drug supplies (Holden 1999). However, liberalization of veterinary drug distribution has certainly increased access to remedies and vaccines but it has also led to the emergence of informal markets distributing products of dubious quality (Darbon et al 1998, Delgado et al 1999).

Examples show that the involvement of the private sector has improved vaccination coverage and the control of epidemic diseases (FAO, 1997). The results obtained in some countries such as Morocco, Tunisia, Senegal, Mali and Chad, which adopted the approach of contracting out services; demonstrate that subcontracted veterinarians can be effective in the implementation of vaccination campaigns.

Recent studies in countries such as Kenya and Tanzania clearly show that the commercialization of services and the provision of services by Para-professionals do provide poor farmers with better access to veterinary services (Irungu, Mugunieri , Omiti , 2005)

According to Silkin & Kasirye 2002 all these positive and negative effects of privatization, as well as other constraints to the efficient delivery of veterinary services in Africa almost twenty years after privatization, have been extensively analyzed and discussed in several international forums and publications. Some of the major challenges in the delivery of livestock services in Africa include the organization of regulatory bodies, the demarcation between public and private goods services, the management of the transfer of services from the government to the private sector, the delivery of animal health services in low input areas and the provision of adequate services of an acceptable standard.

According to (Chema, Gathuma 2004) in Kenya some veterinary services were:-liberalized; - Production and distribution of drugs and Production of vaccines. Those services retained by the government were ;- Research and extension, Disease control – through vaccinations, control of livestock movement, disease surveillance, quarantines and tsetse control, Meat inspection, food hygiene and public health, formulation of veterinary policies, Monitoring and intervention to ensure proper and quality services by the private practitioners. While services which were privatized included; - Clinical treatment of livestock-1994, Artificial insemination services-1991 and Dipping services – tick control-1989

It is the three services which were privatization (1989-1994) that are of interest to the researcher. The government of Kenya through the World Bank put up measures to stimulate the privatization of veterinary services process through:-Giving out soft loans to start private practice, Training programmes on how to run a business, contracting out of services formally carried out by public veterinarians, incentives for government veterinary officers to leave the government service through early retirement schemes and pension plans (Chema, Gathuma 2004)

1.2 Statement of the problem

Privatization – broadly entails transferring ownership of resources and responsibilities for provision of services from the public to the private sector (James and Upton 1995). The perfectly competitive structures that are required for privatization to work however are hardly obtainable in the real world (Otieno-Oruko, Upton and McLeod 1995). Privatization of veterinary services has led to the concentration of private practice veterinarians in urban, peri-urban and high potential farming areas, leaving more marginal farming areas without proper veterinary services.

The impact of privatization on small scale and resource poor farmers has been very variable and not always evident. In addition given the Kenya's thinly spread markets with dispersed service providers, weak institutions for supervision and underdeveloped infrastructure, questions remain regarding the performance of the private sector in service delivery. While the delivery and privatization of veterinary services is relatively straight

forward in urban centers or high potential areas, private animal health services are more difficult to implement in more remote and marginal areas in developing countries and this raises particular problems (FAO 1997).Professionals are not willing to expand their practices and are not motivated to provide services in those areas where animals are widely dispersed and veterinary drug use is low. Despite privatization of veterinary services farmers are receiving poor service on treatment of their animals, most of the dips have collapsed or are using dip wash of low strength leading to rise in tick borne diseases, availability of artificial insemination service is not guaranteed and inseminators are using inferior semen (Chema, Gathuma 2004). This study determined the influence of privatization of veterinary services on service delivery to farmers in Mwala district with emphasize on the services which were privatized which include:-Artificial insemination services, Clinical treatment of livestock and dipping services – tick control

1.3 Purpose of the Study

The purpose of this study was to establish the influence of privatization of veterinary services on service delivery to farmers of Mwala district.

1.4 Objectives of the Study

The general and specific objectives were defined here below. The main objective of the study was to determine the influence of privatization of veterinary services on Service delivery to farmers in Mwala district. To achieve this, the following specific objectives were formulated

1.4.1 Specific Objectives

1. To investigate the influence of privatization of artificial insemination services on service delivery to farmers.
2. To establish the influence of privatization of clinical treatment of livestock on service delivery to farmers.
3. To determine the influence of privatization of dipping services on service delivery to farmers.

1.5 Research Questions

1. How does privatization of artificial insemination services influence the service delivery to farmers?
2. How does privatization of clinical treatment of livestock influence the service delivery to farmers?
3. How does the privatization of dipping services influence the service delivery to farmers?

1.6 Significance of the Study

The study was considered beneficial in a number of ways. It is hoped that various stakeholders in the livestock sub-sector including farmers, professionals, government officers and businesspeople dealing with livestock related business will use the findings of this study to improve the performance of this subsector. The study may also add to the field of knowledge and the upcoming researchers may use it as a basis for further research. The study has made recommendations to the ministry of livestock development. The ministry will use the recommendations made to improve and strengthen service delivery to farmers

1.7 Delimitation of the Study

The researcher recruited two research assistants who knows the area very well and who speaks the local language. The two assisted in distributing the questionnaires and filling of the interview guide. This therefore made it easy for the researcher to carry out the study.

1.8 Limitation of the Study

The study was limited within Mwala district and not including the rest of the country due to time and financial constraints, the best sampling technique was applied to overcome the limitation.

1.9 Assumption of the study

The researcher made several assumptions

The first assumption was that the sample represented the population. The second assumption was that the respondents gave genuine responses and that information obtained was true.

1.10 Definition of significance terms used in the study

Artificial insemination; Refers to reproduction technique of making a female animal pregnant by introduction of spermatozoa into the vagina or uterus by means other than sexual union.

Clinical treatment of livestock; Refers to the method in which a substance in form of a drug is administered to a sick animal for the purpose of curing it.

Department of veterinary services; Refers to the government agency that is responsible for the management of livestock diseases.

Dipping; Refers to a method of tick control in which animals are immersed in a solution mixed with a chemical for killing ticks usually in a constructed trough

Extension service; Refers to informal education given to farmers in order to improve on their farming activities.

Livestock; Refers to animals including poultry kept by a farmer for food or profit

Policy; Refers to the cause of action or plan of action, adopted or pursued by the government, business enterprise or individual.

Service; Refers to the particular skills or help that a person is able to offer

Veterinarian; Refers to a person who has been trained in the science of animal medicine, whose work is to treat animals that are sick or injured besides managing animals for higher productivity.

1.11 Organization of the study

This research project report is organized in five chapters. Chapter one deals with introduction. The chapter is divided into background, statement of the problem, purpose of the study, objectives of the research undertaken, research questions, significance, assumption, limitation, delimitation, and definition of significant terms used in the research project report..

Chapter two of the project report deals with the literature review on what other scholars have written globally, regionally and locally about the subject of study.

Chapter three deals with research methodology. This chapter is divided into: research design, target population, sample and sampling procedure, research instruments, and piloting of instruments, reliability and validity of the instruments, data collection procedures, data analysis procedure, basically explaining how the researcher analyzed the data collected and ethical considerations.

Chapter four gives analysis, presentation and interpretation concerning the variables which were being studied

Chapter five gives a summary of the findings and discussions on each objective, conclusion, recommendations and suggestions for future research are given at the end of this chapter.

The final sections include references in APA style and appendices I-VI

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provided the documentary evidence of what other researchers had done in the area of study and the background information on the influence of privatization of veterinary services on service delivery to farmers in the world, Africa and focused to Kenya situation. The conceptual framework was given. Knowledge gaps were identified that the research project attempted to fill.

According to Wikipedia the free encyclopedia literature review is a body of text that aims to review the critical points of current including substantive findings as well as theoretical and methodological contributions to a particular topic. Literature reviews are secondary sources and as such do not report any new or original experimented work. It brings the reader up to date with current literature on a topic and forms the basis for future research that may be needed in the area. The literature review in this study will focus on the reviewing the literature on privatization of veterinary services and their outcomes on service delivery to farmers.

2.2 Privatization of veterinary services trends

Privatization has been widely advocated as a means of improving the supply of veterinary services (Leonard, 1985; de Haan and Bekure, 1991). Initial enthusiasm for privatization has, however been tempered by the recognition that in many situations veterinary services require some form of public management (Umali et al; 1984). The availability and quality of animal health services is therefore unlikely to improve unless public sector performance can be strengthened. This is an area of reform that has received comparatively little attention (Leonard, 1985; de Haan and Bekure, 1991).

It has been found that privatization alone is unlikely to improve significantly the delivery of veterinary services. A more sophisticated policy of reform is therefore likely to be required that recognizes the economic complexities of the veterinary services in question.

The economic properties of veterinary services are such that they are likely to require some degree of public provision. Privatization alone is therefore unlikely to resolve perceived

problems of inadequate delivery (Holden, Ashley, Basely, 1995). Prospects for improvement are more likely to rest with measures that strengthen the performance of the public sector through improving the capacity of the state to manage the supply of public services and use of farmer's organizations which are able to provide collective services for the common benefit of their members as in dairy cooperative societies which provide Artificial inseminations to their members. (Holden, Ashley, Basely, 1995).

2.3 Classification of veterinary services according to their economic properties

(Umali et.al 1992) classified various veterinary services according to their economic properties and thus identified the appropriate sector for their delivery

Table 2.1: classification of animal health services according to the appropriate sector for delivery

veterinary service	Economic Optimum sector for delivery		Economic characteristics
	Private	Public	
Clinical intervention	Yes	No	Mainly private good
Production of vaccines and drugs	Yes	No	Mainly private good-liberalized
Distribution of drugs	Yes	No	Private good with externalities-liberalized
Vaccination and tsetse control	No	Yes*	Private good with externalities-liberalized
Diagnostic support	Yes	Yes*	Private and public depending on whether clear property rights (e.g. patents)have been defined
Veterinary research	Yes	Yes	Private and public depending on the medium of communication and specificity of advice-patents
Extension	Yes	Yes	Public good-private in special situations for particular farmer
Disease surveillance	No	Yes	Policy measures to contain externalities
Quarantine and internal movement control	No	Yes	Policy measure to avoid moral hazard
Drug quality control	No	Yes	Policy measure to avoid moral hazard
Food hygiene /inspection	No	Yes	Policy measure to avoid moral hazard
Artificial insemination	Yes	Yes	Public – control and regulations
Dipping services	Yes	No	Mainly private good

Yes* can be provided by the private sector if mechanisms exist to 'internalize' the externalities

Source: Derived from Umali et al. (1992)

2.4 comparison of theoretical delivery against actual patterns of delivery to check if there is need for transferring responsibility from the state to the private sector

45 developing countries were surveyed for the purpose of this study and the results shown in table 2 below

Table 2.2: The role of private and public sectors in the delivery of various animal health services in 45 developing countries

Livestock service	Theoretical sectoral delivery		Actual sectoral delivery in 45 developing countries (% of countries surveyed)		
	Private	Public	Private	Mixed	Public
Clinical intervention	Yes	No	2%	87%	11%
Production of vaccines	Yes	No	12%	9%	79%
Distribution of drugs	Yes	No	15%	75%	10%
Production of drugs	Yes	No	98%	0%	2%
Vaccination and vector control	Yes	Yes*	5%	60%	35%
Diagnostic support	Yes	Yes*	0%	5%	95%
Veterinary research	Yes	Yes	0%	5%	95%
Extension	Yes*	Yes	0%	80%	20%
Disease surveillance	No	Yes			100%
Quarantine and internal movement control	No	Yes			100%
Drug quality control	No	Yes			100%
Food hygiene /inspection	No	Yes		5%	95%
Artificial insemination	Yes	Yes	5%	0%	95%
Dipping services	Yes	No	5%	60%	35%

Yes* economically justified under special circumstances

Source derived from Umali et al., 1992

2.5 How Different Countries Approached Privatization of Veterinary Services

Ahuja, 2001; Chander, 2003 found in their study that in Asia, reports suggest that the privatization process of veterinary services in some countries, such as Indonesia and India, is promising, has the potential to grow and is gaining popularity among farmers. However, reforms required to stimulate the process had not gone far enough and had not received strong support from the State Veterinary Services, which suffer from inadequate budgets and heavily centralized planning systems. As a result, very little has changed in the systems and governments in parts of South Asia (India, Pakistan and Bangladesh) still provide the vast majority of veterinary services. The change process is particularly slow as most private goods services, including clinical activities and artificial insemination, are still heavily subsidized. In a recent study in parts of India, veterinary practice was found to be dominated by retired government practitioners, based within urban and mixed farming areas, which rely on companion animals and other activities to generate income (Chander, 2003). In many other parts of Asia, private clinics are reported to be unprofitable and most veterinarians are forced to engage in secondary business activities to improve their wages and sustain their primary enterprise (Chander, 2003).

Under the structural adjustment programmes which followed the economic crises of the 1970s and 1980s, veterinary services were severely cut back. Clinics began to charge for services. In Tanzania, the veterinary department was reduced by two thirds (Silkin, 2005).

During the 1990s, all the governments in Africa began to develop new policies and laws to provide for private participation in the delivery of veterinary services. Governments in the region were approaching this in similar ways, though current practice varies according to the histories and politics of the individual countries. The private sector began to assume responsibility for clinical services, import and distribution of veterinary drugs and other supplies, aspects of livestock production such as artificial insemination and tick control, and so on, while governments retained responsibility for overall policy, developing national strategies, setting standards and regulations, and inspection and coordination (De Haan, Nissen 1985).The reality of privatization in almost every country has been that very few veterinarians have gone into private practice. In countries such as Eritrea, Ethiopia, and

Uganda, most are still employed by government, and, in countries where they are employed privately, the majority work in the now-liberalized pharmaceutical industry. In Sudan, of the more than 1000 vets listed as being in the private sector, around 80 per cent work for pharmaceutical companies. Similarly, the private veterinary sector in Ethiopia comprises over 400 pharmaceutical importers and retailers as against 77 clinics. The reason why so few veterinarians have ventured into private clinical practice is that clinics rarely make a profit, particularly when they have to compete with limited but still highly subsidized government services, as they do in Ethiopia and Uganda (Holden, Ashley, Basely, 1995)

Not surprisingly, private clinics have been opened mostly in areas where there appears to be the best chance of success, and this means in high-potential farming areas and around the main towns where they can serve the peri-urban dairy industry. Conditions for private practice in rural areas like Mwala are extremely unfavorable due to the difficult physical environment, poor infrastructure and insecurity, scattered and mobile population, and low cash economy. In these regions, the costs of providing a service are higher and the returns to private veterinarians are lower (Odhiambo et al. 1998).

The Central African Republic (CAR) offers an interesting example of a private, almost exclusively user-run, animal health care system. On the one hand, the very limited number of veterinary graduates and the low livestock density impeded the establishment of profitable private professional practices; on the other hand, the high prevailing disease challenge made access to veterinary inputs highly critical. In response to the increasing demand for animal health services, two successive Bank projects have built a basic animal health care system under the auspices of the national herder's organization (N.H.O) which supplies producers with inputs and provides training in the use of these inputs (De Haan and Bekure 1985; Umali, Feder, 1992). Training is provided in cooperation with drug suppliers, who finance a large part of the production of adapted training materials. Compulsory vaccinations are the only activity retained by the government.

After veterinary drug distribution was transferred to N.H.O, the sale of veterinary pharmaceuticals grew strongly, thus refuting the allegations that farmers would not be willing to purchase drugs at full cost. Veterinary pharmaceutical sales through the formal sector jumped from US$12,000 a year in 1982 to approximately US$2.1 million in 1991 (de Haan and Bekure 1991).

As a result of the development of a reliable open market system, purchases of veterinary pharmaceuticals from the black market dropped. Successive household budget surveys showed that, while in 1982, 67 percent of the farmers bought their veterinary pharmaceuticals from the black market, this percentage dropped to 18 percent in 1985 and to only 7 percent in 1988 (de Haan and Bekure 1991). This significant drop provides a strong counter argument against restrictive distribution policies. The exclusive right of government services and professional veterinarians to distribute and administer drugs is advocated frequently by the public sector because of concern that the distribution and administration of veterinary pharmaceuticals by laymen would lead to drug resistance and adverse consequences to human health

Poor herders procured relatively more veterinary drugs than the wealthier ones. Household surveys in the CAR showed that poor farmers used on average 50 percent more veterinary drugs per head than wealthier ones (Umali, Feder, and de Haan 1992). The finding that a commercial open system is more equitable than a subsidized public system is confirmed by Leonard's (1985) findings in Kenya, where he showed that the transition to a more commercial system increased the number of visits the animal health agents carried out by a factor of ten, and those visits especially benefited poor farmers. In effect Leonard found that the agents graduated their charges according to their assessment of a farmer's ability to pay, and that the poorer farmers on average paid less for the same service than the wealthier ones.

2.6 Economic significance of livestock sector

Anteneh (1989) estimated that the value of commodity output of livestock in Sub-Saharan Africa is equivalent to 25% of total food production. In, Europe, North America and

Australia livestock represent over half of the agricultural sector but contribute less than 3% towards the total GDP. In contrast, in Asia and Africa, livestock play a less important role in the agricultural economy, but contribute over 8% of GDP (Umali et al; 1994).

The calculation of GDP usually ignores the contribution of livestock to sustainable agriculture. By providing draught power and manure for crop production, Livestock reduce the demand for imported mechanical equipment and artificial fertilizers. If these products were included in the calculations of GDP, then livestock's share of agricultural domestic production would increase by half (Anteneh et al 1988).

Most of the world's livestock is reared by subsistence farmers. Small scale farmers and the landless including women are responsible for rearing most livestock in Africa (Mlangwa and Kisauzi, 1994: Mclntire et al, 1992) and over 90% of livestock in Asia (Randhawa and Sundaram; 1990: Devendra, 1993).

Levels of production tend to be low (FAO 1989) and represent only a fraction of the biological potential which can be achieved (Walshe, 1987). For instance, Africa with about 14% of the world bovine population, produce 16% and 3% of the world beef and milk out put. In contrast, developed countries have about 30% of the world bovine population and yet produce over 70% of the world beef and milk output (Anteneh, 1989).

2.7 The role of veterinary services

The availability and quality of animal health services can play a key role in increasing the productivity of the livestock sector (Anteneh, 1989: umali et al: 1994). Disease induced losses in the livestock sector represent a major constraint to productivity.

Disease constraints are estimated to cause losses of up to 30% of annual livestock output in developing countries, twice that estimated for developed countries (FAO, 1990).

NB. In Sub-Saharan Africa the control of tsetse fly, a vector for trypanosomiasis, could lead to a 16% and 18% increase in meat and milk production respectively (Tacher et al

1988,) During 1983 -85 Africa is estimated to have incurred a loss of more than US$ 300 million due to rinderpest (Anteneh, 1989)

In many cases disease losses can be avoided through the use of existing disease control technology. Reliable vaccines and drugs exist against many livestock diseases (Sollod, 1981; Halpin, 1981) and there is a strong demand for these products even within the subsistence livestock sector (Young, 1993). However despite the fact that disease control technology exists and is in demand, animal diseases continue to cause widespread losses (CTA, 1987).

Many argue that the presence of readily controlled diseases and the consequent, poor performance of the livestock sector is indicative of weak delivery systems that have failed to provide the necessary advice and drugs to livestock producers (FAO, 1988, Mlangwa and Kisauzi, 1994, Schillhorn, 1984; Walshe, 1987). The states had typically assumed almost sole responsibility for the developing of animal health services in the developing countries (Walshe, Umali et al, 1992; Leonard, 1993). The inadequate supply of veterinary services has therefore commonly been attributed to poor public sector performance that could be resolved through programmes of privatization (Umali et al, 1992; Anteneh 1984; CAT, 1987: IEMVT, 1980; De Haan and Nissen, 1985; Walshe; 1988; Cheneau 1985)

Despite several years of privatization, there is little readily available evidence to indicate that the market dependent private sector is any more capable of delivering services than the state.

Where programmers of privatization have been pursued, private practices have tended to avoid rural constituencies and locate instead in the more lucrative urban markets (Anon, 1992; Odeyemi, 1994).

A study of private practices in Nigeria, for example found that the majority (92%) operated in urban and peri-urban areas (Odeyemi, 1994). In Senegal, privatization has left many pastoral regions without veterinary services (Anon, 1992).

Given these patterns of distribution there was a danger that the transfer of public services to market dependent operators, left many subsistence livestock producers without access to animal health services. There is now recognition that many veterinary services require some form of public management and new approaches, beyond market dependent privatization are required to improve the delivery of animal health services (Umali Et. Al 1994).

2.8 Factors influencing private practice

Private veterinarians and Para-professionals will offer their services so long as they can maintain profitable operations. The profitability and sustainability of private practice are influenced by several factors, which include the costs of operating the practice, the magnitude of farmer demand for services, and the degree of competition from both public and other private practitioners. Because of the large fixed costs of operating a veterinary practice, a clinic, a vehicle to visit farmers, animal examination, and laboratory equipment, private veterinarians must have a specific minimum level of business to earn a reasonable profit. Therefore, an area where a large demand exists, such as a region dominated by large commercial livestock farms, is better able to support a private veterinary practice than an area with small, dispersed herds. Private veterinarians, however, cannot compete with public veterinarians, even if demand exists, if the public veterinarians are subsidized so that they can offer their services at lower rates or for free, (Darbon, Njau, Wood and Martin, 1998)

Although veterinarians are the primary providers of health services, many developing countries also rely on Para-professionals (field technicians, auxiliaries, and farmers) to assist or complement veterinarians. Veterinarians are in short supply in some developing countries, and even when there seems to be enough of them, they are often unwilling to work in rural areas. Para-professionals provide care in areas where veterinary care would otherwise be unavailable (de Haan and Bekure 2004). Commercial livestock growers, along with farmers, pastoralists, and people who raise livestock in their backyards are the direct users of veterinary services. Private firms are unwilling to supply services with public good characteristics because it is usually impossible to restrict the benefit only to people who

pay for it (the free-rider problem). An individual livestock farmer will not be willing to pay for aerial spraying to control the tsetse fly because it would require spraying not only his farm but all other adjacent farms, wildlife reserves, and other habitats favorable to the fly's survival. So this service will have to be provided by the government, which can use its powers of taxation to compel all beneficiaries to pay for it (Head 2000). Since privatization, farmers in the rural areas like Mwala have been missing out of critical services due to lack of payment ability and a general feeling that others who will not have paid for such services with public benefit will enjoy the benefits without paying for them (Darbon , Njau , Wood and Martin `` 1998)

Veterinary epidemiological services, which involve monitoring the presence of disease, are a purely public good. The information benefits the whole sector and cannot be appropriated by any individual livestock farmer. Because of free riders (in this case individuals who would obtain information on the occurrence of diseases without paying for it), private firms will have no incentive to provide this service because it will not be in the interest of any individual to pay for it. If the service is to be provided, the government will have to provide it or pay a private provider to do so. From the perspective of their producers, vaccines and veterinary pharmaceuticals are purely private goods. Entrepreneurs producing these products can capture all the benefits available from producing and selling them. Thus, private entrepreneurs will have an incentive to provide these products at socially desirable levels. Government policies influence private participation in these industries to the extent that they affect the economic incentives. Restrictions on importing veterinary pharmaceuticals and price controls on these products are barriers to entry. In some countries, increasing competition in pharmaceuticals has induced these firms to provide other veterinary services, such as free extension services, to attract more customers (de Haan and Nissen 2005).

Clinical treatment of an animal is generally considered to be a private good, but there are externalities associated with the treatment of an infectious disease. Although the treatment itself is a private good, it has externalities because it may reduce the risk of transmitting the disease to other animals and thus reduce the economic losses of other farmers. Clinical

intervention, however, does not always result in complete cures. In some cases (brucellosis and rinderpest), the animal continues to be a carrier of the disease even though it no longer shows any clinical symptoms. Consequently, preventive measures such as vaccination or the slaughter of diseased animals may be the best strategy (de Haan and Nissen 2005).

Some studies indicate that farmers are willing to pay for reliable service. The Uasin Gishu Project in Kenya, financed by the International Fund for Agricultural Development and the Danish government, found that farmers were willing to pay for dipping if it was guaranteed to be effective (de Haan and Bekure2004).

2.9 Privatization of artificial insemination services in Kenya

The privatization of artificial insemination services in Kenya was done in 1991.

Breeding is important to ensure adaptability and productivity of livestock under different zones and management systems. Artificial insemination (A.I) is used for genetic improvement, propagation and disease control. A.I was started in Kenya in 1935 and was organized by breeders associations. It was concentrated on large- scale dairy farms and commercial ranches. In 1946 the central artificial insemination station (CAIS) was established to run A.I country wide. CAIS was covered under the crop production and livestock Act CAP 321 laws of Kenya and provided A.I at cost to farmers under the director of veterinary services (DVS) (Mogoa, Omiti, Tsuma and Bwanga 2009). With the desire to serve more small-holder farmers whose members were increasing soon after independence, the government established the Kenya national artificial insemination services (K.N.A.I.S) in 1965 largely with external financial support. With generous external financial support and technical support, the government developed a national elaborate and relatively effective A.I field service based on 'daily runs' delivery system and a semen production station. K.N.A.I.S provided semen almost free 1-3/= per vial. The annual total insemination increased from 70,000 in 1966 to 548,000 in 1979 (MO ALD & M 1998) In general the 'daily run' A.I system achieved wide coverage in areas with heavy cattle population but seemed uneconomical where cattle were sparsely distributed. With the increasing financial requirements to service its programmes over the years and dwindling

donor support the government decreased financial support to field A.I services and privatized it in 1991 (Mogoa, Omiti, Tsuma and Bwanga 2009).

Preliminary indications show that privatization of A.I has not proceeded as anticipated in many areas due to difference in socio-economic, agro- ecological and infrastructural conditions.

The privatization of the A.I field services led to the service being provided by the private veterinarians, dairy co-operative societies, farmer's organizations and individual farms with most of the private A.I services concentrated in areas with high densities of dairy cattle.

Initial private A.I services were offered in central and eastern provinces. By 1995 all provinces had started private A.I services except the coast (Mogoa, Omiti, Tsuma and Bwanga 2009).

As shown in the table 2. 3 there was wide variation in the province performance in 1998.

The table shows number of insemination by province. Blank spaces (-) mean that no returns if any were filed with the MO ALD & M.

Table 2.3 Number of insemination by province

Year / Province	A.I By	1990	1991	1992	1993	1994	1995	1996	1997
Central	KNAIS	211,847	120,298	105,512	71,296	55,198	55,512	27,772	3,737
	Private	-	-	7,479	19,269	32,720	51,793	69,908	73,165
Western	KNAIS	9,197	5,534	5,922	4,226	3,523	4,271	4,341	1,468
	Private	-	-	-	-	-	412	1,042	1,047
R/Valley	KNAIS	84,451	52,852	42,237	30,201	23,515	24,343	16,439	-
	Private	-	-	-	192	810	3,470	9,677	8,976
Nyanza	KNAIS	7,908	3,109	2,136	2,490	2,318	3,300	2,405	812
	Private	-	-	-	-	253	331	333	349
Eastern	KNAIS	74,134	55,363	35,400	24,276	18,887	9,326	11,377	-
	Private	-	-	360	397	298	3,231	10,961	14,568
Coast	KNAIS	6,824	4,947	2,943	2,584	1,006	983	840	-
	Private	-	-	-	-	-	-	38	-
Nairobi	KNAIS	-	2,613	1,104	714	638	579	95	-
	Private	-	-	-	6	217	371	622	539
KNAIS Totals		**394,361**	**244,716**	**195,254**	**135,787**	**105,085**	**98,319**	**63,269**	**6,017**
Private Totals		-	-	**7,839**	**19,864**	**34,298**	**59,608**	**92,581**	**98,644**
National Totals		**394,361**	**244,716**	**203,093**	**155,651**	**139,383**	**157,927**	**155,850**	**104,661**

Source: Ministry of Agriculture, Livestock Development and Marketing (MoALD&M)

The cost per insemination rose to 300-500/= which was prohibitive at that time to the majority of farmers especially the small holder farmers. But at the current prices and the socio-economic conditions of that time most private veterinarians could not profitably offer artificial insemination services. Only 20% of dairy herd were using artificial insemination service and an increasing number of farmers are resorting to inferior bulls. Kenyans should expect frequent and serious shortfall in meat and milk production (Omiti and Muma 2000)

2.9.1 How the number of inseminations changed from 1990-1997

Prior to privatization; A.I services were solely provided by the government through the K.N.A.I.S. Inseminations by K.N.A.I.S declined from 394,361 in 1990 to 6,017 in 1997 while those by the private sector increased from 7,839 in 1992 to out space those of K.N.A.I.S in 1995 and stood at 98,644 in 1997 (table 5) over that period national inseminations declined drastically (1990 - 1997) despite privatization of this service (MLD and M annual report 1998)

2.9.2 Constraints in providing artificial insemination services in Kenya

Some of the critical constraints to providing artificial insemination services include: financial and physical difficulties facing farmers in accessing A.I services especially with the privatization of this service. Some of these problems are associated with poor infrastructure and lack of reliable markets to guarantee returns to investment in A.I, use of improperly selected bulls for breeding purposes in the face of poor accessibility to A.I services, the majority of the small scale farmers are not members of the breeders societies and therefore do not participate in milk recording and Kenya stud book registration, risk of creating local monopolies for service providers due to technical considerations and thin markets, lack of financial ability by communities to purchase the necessary equipment in order to operate a localized A.I service, risk of creating local monopolies for service providers due to technical considerations and thin markets. This may compromise on quality and competitive costing of the service at least in the formative years, the technical know-how in providing advice and A.I to farmers due to lack of adequately trained inseminators and Poor detection of 'heat' or delayed reporting and livestock infertility problems (MLD &M Annual report 1998)

2.9.3 Alternative A.I service provision mechanism.

With the privatization of A.I services the government role remained regulatory, facilitator and provision of technical support. The government was to encourage privatization of A.I services through the K.N.A.I.S and C.A.I.S. Private A.I services and are thus organized under a range of mechanisms including:- Community – based A.I services: - encourage farmers groups and co-operatives to undertake A.I services, private A.I practice : - offered by private sector groups or individuals such as practicing veterinarians and A.I technicians, private own – farm A.I services: - where there is enough animals to justify cost such as commercial ranches, satellite–based A.I services: - An extension of the farm service to neighboring farms at a fee (Ministry of Agriculture (MOA), KARI/ILRI, 1999b).

2.10 Privatization of dipping services in Kenya: done in 1989

The privatization of veterinary services in Kenya two decades ago (1989) affected tick control in most livestock keeping areas. All personnel trained in tick control (Dip attendants) were sent home leaving the management of cattle dips in the hands of untrained farmers. Most of the cattle dips were abandoned while those that are still operational use too diluted chemicals to which ticks developed resistance. As a result, most farmers have stopped taking their animals to the cattle dips altogether. Most farmers never take tick control seriously until they lose their prized cows to tick borne diseases. It costs ksh.4, 000 to treat an adult cow suffering from E.C.F and other tick related complications. (MLD and M annual report 1998).

According to (Ayeko, 2008), dipping animals is more effective in tick control than spraying as all the parts of the animal's body are evenly covered by the acaricide, ticks easily develop resistance to most acaricides used by farmers; therefore farmers should frequently change chemicals to control ticks, ticks can survive without food for up to two years, farmers should dip their cattle regularly to ensure that they are not infested since the ticks are always present in the pasture, farmers should not graze their animals on the road sides where they are likely to get ticks. Fodder harvested on the roadsides also harbors' ticks and should be avoided, zero grazing animals have less exposure to ticks, and thus it should be practiced in areas where tick problems are serious, burning pastures in order to kill ticks

does not work because ticks often hide below the soil and reappear when the pastures start growing, even without causing diseases, ticks can degrade an animal's health; their bites can cause wounds on the skin and reduce the quality of the hides; they can also inject poisons into the animal causing complications and interfering with the animal's normal growth.

Dipping services in Kenya are very important tool for tick control. Ticks in Kenya cause the following diseases:-babesios – also known as red water fever and transmitted by Boophilus species of tick, east Coast Fever (E.C.F) transmitted by rhipicephalus species of ticks, anaplasmosis- transmitted by Boophilus species of tick, cowdriosis (heart water) transmitted by Amblyomma species of ticks (IFAD 2008).

2.11 Privatization of clinical veterinary services in Kenya -1994

According to (Chema, Gathuma, 2004), the Kenya Veterinary Association (KVA) launched a privatization scheme (The Kenya Veterinary association veterinary privatization scheme) in 1994 to provide members with credit to set up private practices. The first phase of the scheme (1994 -1996) was rated a success, with 100% loan repayments. The second phase of the project (from 1997) was characterized by a low number of loan applications which increased the cost of loan administration per unit. There was defaulting in loan repayments during this phase. While private practice took route in the high rainfall, intensive farming areas, this was not the case in the Arid and Semi-Arid Lands (ASAL) where Community Based Animal Health Workers (CBAHWS) played a prominent role in providing animal health services. The lack of uniformity in the training these workers denied them recognition by the Kenya Veterinary Board (KVB). An agreement has now been reached between the KVB, Director of veterinary services and the KVA to discontinue the training of CBAHWS and retain to retrain existing ones for disease surveillance and reporting in ASAL Areas.

They concluded that private veterinary practice has been successful in areas of high agricultural potential. Expansion to more marginal areas however would require incentives and subsidies to the private practitioners (Chema, Gathuma 2004).

2.11.1 The major challenges facing clinical treatment of livestock in Kenya include:

The need to increase the efficiency of animal health through more efficient management of the supply of veterinarians and better use of animal health technicians, the need for improvement of the equality of services provided by private veterinarians, the redefinition of the role of the public sector in the provision of services and the shift in financing animal health management from the government to the private sector and the provision of subsidies and incentives to private practitioners in ASAL and Managerial areas (Godiah, Omiti and Irungu, 2008) .

The clinical services are provided on a fee-for-service basis with livestock owners paying professional fee as well as for transport, disposable materials (syringes, needles, gloves and substances) and drugs (Godiah, Omiti and Irungu, 2008).

After independence the indigenous population was allowed to keep dairy animals and at the same time the expatriates who were offering veterinary services left the country. The government increased the no. of veterinarians to offer clinical services to the indigenous population. The government employed all veterinary graduates who graduated locally or from foreign universities accredited by KVB. The government kept on employing all the graduates even after the deficit was eliminated due to political pressure from farmers. By 1980's projections shows that the policy was financially unsustainable. When the policy was abandoned in 1988, personnel costs had escalated from approximately 60% of the recurrent budget in the mid 1970 to over 80%, leaving little for operational costs (Chema, Gathuma, 2008).

The structural adjustments programme and removal of subsidies for agriculture meant that the government could not continue to employ veterinarians given the financial trends over the past decade. As a result the government privatized the clinical treatment of animals to create alternative employment for the newly graduating veterinarians.

The Kenya veterinary association was offered the responsibility for the project. The Kenya government abandoned the automatic employment policy for veterinarians in 1988 and this was followed by full implementation of the donor – decreed (SAP) in 1990. (Chema, Gathuma, 2008).

2.11.2 Sources of funding for establishing a private practice

In a 1995 sample study covering 45 private veterinary practices about half (23 of 45) were found to have been established with personal savings, while contributions from friends or family and bank loans accounted for 22% each. Bank loans included personal commercial loans and special loans (the graduate loan scheme) organized by the government to help university graduates from all disciplines and professions to set themselves up following SAPS. Only two practices were assisted by the pharmaceutical industry, largely through extension of generous credit for drugs and other chemicals.

Table 2.4: Sources of finance used to establish private veterinary practices in Kenya as part of the privatization programme 1988 – 1995 – a sample of 45 practices.

Source	Number of veterinary practices
Personal savings	23
Commercial loans	10
Family and friends	10
Pharmaceutical companies	2
Total	45

Source M.L.D and marketing Annual report – 1996

During the first year of practice, the income of private veterinarians was equivalent to the earnings of their colleagues in the public sector. However, these earnings doubled by the second year and continued to grow at mean rate of us$ 5,430 per year. At the end of the fourth year of practice, the incomes of private veterinarians were close to, or higher than, those of the highest paid officials in the veterinary department (VSD) (Chema, Gathuma, 2008).

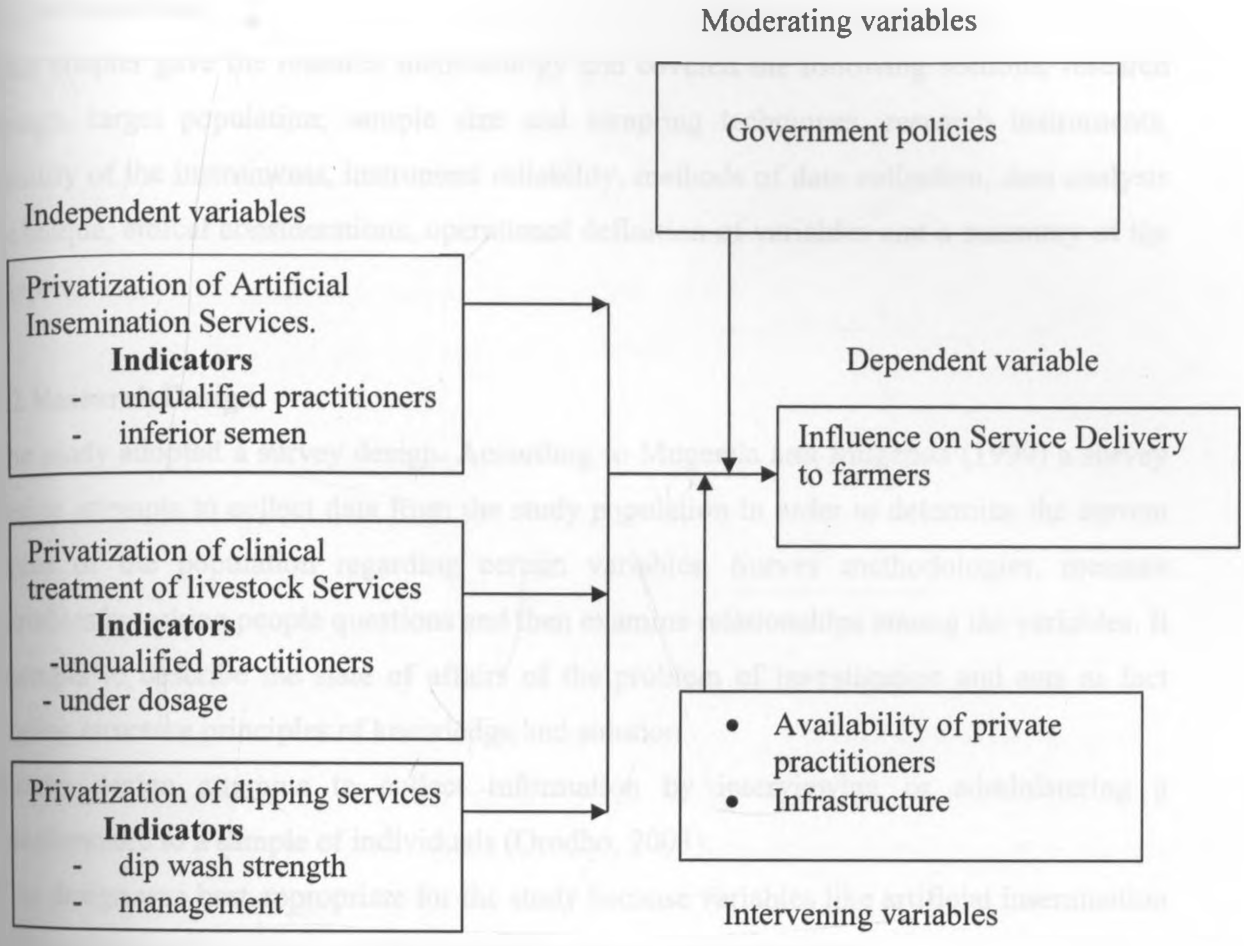
2.11.3 Competition from other animal health providers

All private veterinarians encountered what they considered unfair competition from government veterinarians and Para-veterinarians. However they were even more concerned about dispensing of veterinary drugs by pharmaceuticals and unqualified individuals. The Kenya Veterinary board (KVB) appeared powerless to prevent what were essentially illegal practices. Despite orders from the DVS in the mid 1990s prohibiting private practice by government veterinarians, the order was not enforced. The steady erosion of the purchasing power of the local currency was partly responsible for this. The result was that most private veterinarians could not earn decent wages. However private practitioners were not unduly worried because the demand for services was still strong (Chema, Gathuma, 2008).

2.12 Conceptual Frame Work

According to mugenda and mugenda (1999) conceptual framework refers to a situation where a researcher conceptualizes the relationship between variables in the study and shows the relationship graphically or diagrammatically. In this study the dependent variable is influence on service delivery to farmers while the independent variables are the privatization of artificial insemination services, privatization of dipping services and privatization of clinical treatment of animals' services. The moderating variable is the government policies while the intervening variables are the availability of private practitioners and government personnel who can assist the farmers.

Figure 2.1 Conceptual framework



2.13 Summary of literature review

In this chapter, the global and regional situation on privatization of veterinary services is discussed. The situation in Kenya is elaborated, especially the three services which were privatized that include; artificial insemination services, dipping services and clinical treatment of animals' services. The relevant references are acknowledged.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter gave the research methodology and covered the following sections, research design, target population, sample size and sampling techniques, research instruments, validity of the instruments, instrument reliability, methods of data collection, data analysis technique, ethical considerations, operational definition of variables and a summary of the chapter

3.2 Research Design

The study adopted a survey design. According to Mugenda and Mugenda (1999) a survey design attempts to collect data from the study population in order to determine the current status of the population regarding certain variables. Survey methodologies, measure variables by asking people questions and then examine relationships among the variables. It attempts to describe the state of affairs of the problem of investigation and acts as fact finding structure principles of knowledge and solution.

Survey design attempts to collect information by interviewing or administering a questionnaire to a sample of individuals (Orodho, 2003).

This design was best appropriate for the study because variables like artificial insemination services, dipping services and clinical services were not manipulated.

3.3 Target population

According to Mugenda and Mugenda (2003) the target population is the entire group a researcher is interested in; the group about which the researcher wishes to draw conclusions. The target population in this study was the 380 livestock farmers from the four divisions of Mwala District of Machakos County (Kibauni, Yathui, Mwala and Masii) - Each has 86, 101, 89 and 104 livestock farmers respectively, all the 14 ministry of livestock staff who work in this district and the 12 private veterinary practitioners who practice in this district.

Table 3.1: Target population

Division	No of livestock farmers
Kibauni	86
Yathui	101
Mwala	89
Masii	104
Total	380

b) No of Ministry of livestock staff in Mwala district -14

c) No of private veterinary practitioners in Mwala district – 12

Sources: Ministry of livestock development Mwala district annual report of 2011 on no. of livestock farmers per division, total staff and no. of private veterinary practitioners.

3.4 Sample size and sampling technique

Sample size refers to the number of items selected from the target population. The sample size should be able to fulfill the requirements of efficiency, representativeness, reliability and flexibility (Kothari 2004).The ideal sample should be large enough to serve as adequate as representation of the population which the researcher wishes to generalize and small enough to be selected in terms of subject availability, expense in time and money and complexity in data analysis Best and Khan (1998).According to Borg and Rumble(2001) 10% of the target population can make a reasonable sample size. In this study the sample size was; 38 livestock farmers which were selected by use of stratified random sampling technique (probability sampling technique). The study area was divided into 4 homogeneous parts or strata which in this case are the four divisions of Mwala district (Kibauni, Yathui, Mwala and Masii). Each has 86, 101, 89 and 104 livestock farmers respectively and it's from these 380 farmers from the divisions where a sample of 38 livestock farmers was selected by random sampling, the 14 members of staff of ministry of livestock development and the 12 private veterinary practitioners were selected by use of non-probability technique of sampling. In this study the most suitable non-probability technique which was used is the purposive sampling technique. In this case elements are

chosen based on purpose of the study. It involves studying the entire population of some limited group. The 14 ministry of livestock staff and 12 private veterinary practitioners were all selected and involved in the study.

Table 3.2: Sample size

Stratum	**Target population Total number N**	**% to be sampled**	**Sample size n**
Livestock farmers	380	10	38
Ministry of livestock staff	14	All	14
Private practitioners	12	All	12

3.5 Research instruments

This study used two types of study instruments

(i) Questionnaire- Two different types of questionnaires were used; one for the 14 ministry of livestock staff and another for the 12 private veterinary practitioners. The two types of questionnaires contained both close-ended and open-ended questions. The main advantage considered of the closed ended questions in the questionnaire was that they provided the researcher with information that was easy to analyze. However, the closed ended questions allowed less flexibility and might have curtailed on the accuracy of the respondents answers. Open questions on the other hand enabled the collection of data, on the finer details and therefore more insights on the study were obtained. This is supported by Kothari C.R(2004)

(ii) Interview guide: An interview guide was developed which was used by the researcher and his two research assistants to ask questions to the 38 farmers in order to get the required information. This was a personal (face to face) interview. In this study it was the best method as most farmers who could answer questions on how the veterinary services were before privatization are aged people who are illiterate. The advantages of this personal interview was that it had high response quality, yielded highest co-operation, had no refusal rates and took advantage of the interviewer presence.

3.6 Validity of the instruments

Validity is a measure of the degree to which data collected using a particular instrument(s) represents a specific domain of indicators or content of a particular concept Mugenda and Mugenda (2003). It is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study.In this study validity was ensured by having objective questions that were specific.To achieve validity a pilot study that pretested the research instruments was conducted in one of the neighboring districts with similar ecological characteristics as mwala district. The pilot study was done in a division with target population of 80 livestock farmers, 4 Ministry of livestock staff and 3 private veterinary operators. The sample size was 8 livestock farmers, 4 Ministry of livestock staff and 3 private veterinary practitioners. An analysis was then done to determine whether any corrections were necessary to be done before the actual work of data collection was done on the target sample population. The instruments yielded validity since they had the same results.

3.7 Reliability of the instruments

The reliability of a research instrument concerns the extent to which the instrument yields the same results on repeated trials. The tendency toward consistency found in repeated measurements is referred to as reliability (Carmines and seller 1979)

In this study the reliability of the instruments was determined during the pilot study. A test – retest technique was administered to the same group of subjects twice in the pilot study after a period of time. A two weeks lapse between the first and second test was allowed. The reliability of the test instruments was determined by examining the consistency of the responses between the two tests. The expected results were found to be similar thus reliability was ensured (Rosenberg and Dary 1993). The scores from both tests were correlated to get the coefficient of reliability using Pearson's product moment formulae as follows:

Pearson's coefficient of correlation r

$$r = \frac{N\sum xy - (\sum X)(\sum Y)}{\sqrt{[N\sum X^2 - (\sum X^2)][N\sum Y^2 - (\sum Y^2)]}}$$

Where

N number of respondents

X scores from the first test

Y scores from the second test

The product moment coefficient r was 0.91 and being closer to +1 it shows a strong positive correlation and therefore the researcher went ahead and used the instrument.

3.8 Data collection procedures

Data was collected by using two different types of methods.

i) For the randomly selected livestock farmers in both the pilot and the main study data was collected by use of personal interview (face –to- face) by use of interview guides. The researcher and his two research assistants recorded their responses for analysis

ii) For the 14 ministry of livestock staff and 12 private veterinary practitioners a questionnaire was used for each group. The researcher and his two research assistants took the questionnaires to the respondents during the pilot and the main study and later picked them immediately after they were filled up.

3.9 Data analysis technique

Data analysis refers to the computation of certain measures along with searching for patterns of relationship that exists among the data collected. In the process of analysis, relationships or differences, Supporting or conflicting with original or new hypothesis are subjected to statistical tests of significance to determine with what reliability the data can be said to indicate any conclusions. The analysis helps to interpret data, drawing conclusions and making decisions Mugenda and Mugenda (2008). In this study the collected data was checked thoroughly and examined for completeness. Data was coded and entered into the statistical package for social sciences (spss) version 18 computer

software for windows program and analyzed. Spss was used to do the analysis because it helped in organizing and summarizing the data by the use of descriptive statistics. Data presentation was by use of percentages and frequency tables. This ensured that the gathered information could be comprehended easily. From the sample results inferences were made, on target population and conclusions of the study were made, thereby contributing to the body of knowledge and possible solutions were suggested for adoption to solve problems in the study area and other areas with similar characteristics.

3.10 Ethical considerations

Permission for data collection was obtained from the respondents, confidentiality was assured and the respondents were informed as to why the data was being collected. Participation of respondents was on voluntary basis. Respondents were coded to protect their identity. Personal information was held in confidence and generalized.

3.11 Operational definition of variables

To achieve its objectives this study sought to establish the influence of privatization of veterinary services on service delivery to farmers in mwala district. This was achieved through questionnaires and interview guide to farmers which had questions outlined as per the needs of each objective. The table below shows how the variables were operationalised in the study to make them measurable.

Table 3.3: operational definition of variables

Objectives	Variables	Data collection methods	Indicators	Measurement scale	Analysis approach	Tools of analysis
1. To assess the influence of privatization of artificial insemination services on service delivery to farmers.	**(a)Independent variable;** privatization of artificial insemination services. **(b)Dependent variable;** service delivery to farmers	(a)personal interview (face – to- face) by use of interview guides (b)questionnaires	1.Availability 2.Efficiency 3.cost. 4.Effectivenes 5.From whom 6.Advantages. 7.Disadvantages	Nominal Ordinal	Qualitative Quantitative	Frequencies Percentages
2. To determine the influence of privatization of dipping services on service delivery to farmers.	**(a)Independent variable;** privatization of dipping services **(b)Dependent variable;** service delivery to farmers	(a)personal interview (face – to- face) by use of interview guides (b)questionnaires	1. Availability 2.Efficiency 3.cost. 4.Effectiveness 5. From whom 6.Advantages. 7.Disadvantages	Nominal Ordinal	Qualitative Quantitative	Frequencies Percentages
3. To establish the influence of privatization of clinical treatment of livestock on service delivery to farmers.	**(a)Independent variable;** privatization of clinical treatment of livestock **(b)Dependent variable;** service delivery to farmers	(a)personal interview (face – to- face) by use of interview guides (b)questionnaires	1. Availability 2.Efficiency 3.cost. 4.Effectiveness 5. From whom 6.Advantages. 7.Disadvantages	Nominal Ordinal	Qualitative Quantitative	Frequencies Percentages

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

The chapter covers data presentation, analysis and interpretation of the study findings. The main objective of the study was to investigate the influence of privatization of veterinary services on service delivery to farmers in mwala district. The study had three major objectives; to investigate the influence of privatization of artificial insemination (A.I) services on service delivery to farmers, to establish the influence of privatization of clinical treatment of livestock on service delivery to farmers and to determine the influence of privatization of dipping services on service delivery to farmers.

Data was collected using questionnaires for all 14 government staff and all 12 private practitioners in mwala district, while an interview guide was administered to a representative random sample of 38 livestock farmers.

Statistical package for social sciences (spss) programme was used to analyze the data and the results were presented by use of frequency and percentage tables which were then interpreted to obtain the desired information

4.2 Response rate

Response rate is the proportion of the sample that participated as intended in all the research procedures.

The questionnaires and interview guide return rate was 100% for government staff, private practitioners and the livestock farmers. This was made possible by use of the two research assistants who made sure that they reach every respondent. The questionnaires and the interview guide return rate were therefore adequate for analysis.

4.3 Respondents general information

The general information of the 38 farmers, 14 Ministry of livestock staff and 12 private practitioners is analyzed below.

4.3.1 Gender of the farmers.

Table 4.1 Farmers respondents by gender

Gender	Frequency	Percentage
Male	20	52.6
Female	18	47.4
Total	**38**	**100**

In the table 4.1 of the 38 farmers interviewed 52.6% were male while 47.4% were female. These results are an indication that most livestock is owned by male.

4.3.2 The Age of the farmers

Table 4.2 shows the farmers respondents by age

Age	Frequency	Percentage
36-40	1	2.6
41-45	1	2.6
46-50	4	10.5
51-55	3	7.9
56-60	3	7.9
61-65	14	36.9
66-70	3	7.9
71-75	7	18.4
over 76	2	5.3
Total	**38**	**100**

Table 4.2 shows that 36.9% of the farmers respondents were aged between 61-65 years, 18.4% of them were aged between 71-75 years, 10.5% of them were aged between 46-50 years. The modal age of the respondents was 63 years while the mean age was 62.5 years. These results are an indication that most of those who participated in the study are aged over 60 years and therefore most likely gave correct answers on the study.

4.3.3 Type of animals the farmers kept

Table 4.3 shows the type of animals the farmers kept

Type of animal(s)	Frequency	Percentage
Cattle	2	5.3
Chicken, goats, sheep, cattle	3	7.9
Chicken, goats, sheep, cattle, donkey	4	10.5
Chicken, goats, sheep, cattle, dogs, cats	29	76.3
Total	**38**	**100**

Table 4.3 shows that 76.3% of the respondents keep almost all the animals, chicken, goats, sheep, cattle, dogs and cats.10.5% of the respondents keep Chicken, goats, sheep, cattle and donkey. 7.9% keep Chicken, goats, sheep and cattle. Only 5.3% keep cattle alone. These results are an indication that majority of the farmers prefer keeping different types of animals at the same time. During the interview the farmers confessed that they kept the different types of animals in order to diversify their income and production.

4.3.4 The length of service of the ministry staff

Table 4.4 shows the no of years the officers have worked in the ministry

Length of service in the ministry	Frequency	Percent
1-5yrs	2	14.3
11-15yrs	1	7.1
16-20yrs	2	14.3
21-25yrs	5	35.7
above 30yrs	4	28.6
Total	**14**	**100.0**

The studies considered the number of year's officers have worked in the government to be important. Those officers who have worked in government for long period are considered to be useful as they can give a good comparison of how the services were before and after privatization. From the table 28.6% of the respondents had for more than 30years, 35.7% had worked between 21-25years, 14.3% had worked between 16-20 years, 7.1% had worked between 11-15years and 14.3% had worked for 1-5years.Most of the respondents have worked for more than 16 years and therefore considered useful for the study.

4.3.5 Qualifications of the government officers

Table 4.5 shows the qualifications of the government officers

qualifications of the government officers	Frequency	Percent
certificate	6	42.9
diploma	5	35.7
degree	2	14.3
others	1	7.1
Total	**14**	**100.0**

The table above shows the qualifications of the government officers. 42.9% have certificates. 35.7% have diploma, 14.3% have degrees and 7.1% have basic training in livestock activities. This information is very important for the study as it indicates that the government officers are technically qualified and can therefore authoritatively comment on any issues on the study.

4.3.6 Government officer's duties

Table 4.6 shows the government officers duties.

government officers duties	Frequency	Percent
Animal production and extension services	7	50
Clinical and meat inspection	4	28.6
Disease control and clinical services	3	21.4
Total	**14**	**100.0**

The table above shows the duties performed by the government officers. The study found that 50% of the respondents do animal production and extension services, 28.6% do clinical and meat inspection duties, 21.4% do disease control and clinical services. This information is very useful to the study as it shows that the officers are qualified in technical fields and are therefore able to offer useful information about the study.

4.3.7 Whether the government officers compete with private practitioners

Table 4.7 illustrates whether government officers compete with private practitioners

compete with private practitioners	Frequency	Percent
Yes	4	28.6
No	10	71.4
Total	**14**	**100.0**

The respondents were asked if they compete with private practitioners in offering services to the farmers, 71.4% said that they don't compete with them while 28.6% said they compete with them. This is important to the study as it shows that majority of the government officers do not compete with the private practitioners and as such do not jeopardize the success of the privatization process.

4.3.8 Qualifications of private practitioners.

Table 4.8 shows the qualifications of the private practitioners

Qualifications of private practitioners.	Frequency	Percent
certificate	9	75.0
diploma	1	8.3
degree	2	16.7
Total	**12**	**100.0**

The qualification of the private practitioners was considered very important in the study as it showed the type of people who are offering these services to the farmers. 75% of the respondents have certificates, 16.7% have degrees and 8.3% had diploma. This means that all the respondents are qualified and therefore competent enough to answer the questionnaire.

4.3.9 No. of years the private practitioners have been in private practice

Table 4.9 shows the no of years they have practiced

No of years in practice	Frequency	Percent
1-5yrs	5	41.7
6-10yrs	4	33.3
11-15yrs	3	25.0
Total	**12**	**100.0**

The number of the years the respondents have been in private practice is very important to the study as it will show their competence in comparing the services before and after privatization. From the table above 41.7% of the respondents have done private practice between 1-5years, 33.3% between 6-10 years and 25% have done private practice for 11-15years. This shows that most of the respondents have done private practice between 6-15years and therefore are competent enough to answer the questionnaire.

4.3.10 The type of practice done by the private practitioners.

Table 4.10 shows the type of practice the private practitioners do

Type of practice	Frequency	Percent
Clinical treatment	4	33.3
A.I, clinical, agro vet	4	33.3
Dipping services	1	8.35
A.I, clinical	1	8.35
Clinical, agro vet	2	16.7
Total	**12**	**100.0**

The table above shows the type of practice done by the respondents. 33.3% are doing clinical treatment; another 33.3% are doing A.I, clinical and run an agro vet, 8.35% do dipping services; another 8.35% do A.I, and clinical, 16.7% do clinical and run an agro vet. The above information shows that the respondents are offering the privatized services and therefore very important to the study.

4.3.11 Challenges faced by private practitioners

Table 4.11 shows the challenges faced by the private practitioners

Challenges faced by the private practitioners	Frequency	Percent
Farmers unable to pay	3	25
Unqualified practitioners	3	25
Poor roads, lack of transport	2	16.7
Lack of government loans, Subsidies	4	33.3
Total	**12**	**100.0**

The challenges faced by the private practitioners were found to be very useful to the study. They indicate why the private practitioners are not able to give effective service to the farmers. 33.3% of the respondents said that the main challenge they face is lack of government loans and subsidies, 25% said that farmers are being unable to pay; another 25% said that they face competition from unqualified practitioners and 16.7% said that poor roads and lack of transport are the main challenges they face. This means that the main challenges they face include competition by unqualified people, farmers being unable to pay and lack of loans and subsidizes by the government.

4.3.12 Private practitioners Opinion on improvement of private practice

Table 4.12 shows Private practitioners Opinion on improvement of private practice

Opinion on improvement of private practice	Frequency	Percent
Provide loans, subsidies	7	58.3
Eliminate non professionals	5	41.7
Total	**12**	**100.0**

The opinion of the private practitioners on improvement of private practice was found to be important to the study. It gave the gaps which can be filled in order to improve the private practice. 58.3% of the respondents said that the government should provide loans and subsidies, 41.7% of the respondents said that non professionals doing the work illegally should be prevented from doing the private practice. This means that if private practitioners can get cheap and subsided loans from the government, and the unqualified people are prevented from practicing, they can serve the farmers properly.

4.4 The influence of privatization of A.I services

In this section all questions in the interview guide and the two questionnaires dealing with the privatization of A.I services are analyzed

4.4.1 Access of artificial insemination by farmers

Table 4.13 shows the number of farmers who have access to artificial insemination

Able to access A.I	Frequency	Percentage
Yes	26	68.4
No	12	31.6
Total	**38**	**100**

Table 4.13 shows that 68.4% of the respondents have access to A.I services while 31.6% of them do not have access to A.I services. These results are an indication that majority of the farmers have access to artificial insemination services.

4.4.2 Time taken to be served after request of A.I service

Table 4.14 shows the time taken by farmers to be served after request of A.I service

Time taken	Frequency	Percentage
Immediately	7	18.4
After 2-6 hrs	8	21.1
After 7-12 hrs	8	21.1
After 24 hrs	4	10.5
Don't get it	11	28.9
Total	**38**	**100**

Table 4.14 shows that 21.1% of the respondents are served each after 2-6hrs and after 7-12hrs while 18.4% are served immediately. 10.5% are served after 24 hrs and 28.9% are never served. During the interviews most of the farmers thought that the private practitioners are motivated by money to respond immediately. But all the same the farmers are served at reasonable time after request of the service.

4.4.3 Where farmers get A.I service from.

Table 4.15 shows from whom the farmers get A.I service from.

From whom	Percentage	Frequency
Government officer	2	5.3
Private practitioner	16	42.1
Dairy cooperative society	13	34.2
Others	7	18.4
Total	**38**	**100**

Table 4.15 shows that 42.1% of the respondents get A.I service from private practitioners, 34.2% from dairy cooperative society, 5.3% from government officers and 18.4% receive the service from other sources which include group ranches and individual farms. From the above observation, this is an indication that most farmers are getting A.I service from private practitioners as the government has withdrawn most of its services.

4.4.4 The A.I service provider before privatization

Table 4.16; shows the A.I service provider before privatization

A.I provider before privatization	Frequency	Percent
Government officer	33	86.8
Private practitioner	1	2.6
Dairy co-operative Society	3	7.9
Other	1	2.6
Total	**38**	**100.0**

Table 4.16 shows that before privatization of A.I services 86.8% of the respondents received A.I service from government officers, 7.9% from dairy cooperative societies, 2.6% from private practitioners and 2.6% received A.I service from other sources. During the interviews the farmers said that before privatization of A.I services they used to receive the service from the government which has been proved in the table above.

4.4.5 The farmers' A.I service comparison before and after privatization

Table 4.17; shows the farmers comparison of A.I service before and after privatization

Service before and after privatization	Frequency	Percent
Better after privatization	20	52.6
Worse after privatization	18	47.4
Total	**38**	**100.0**

Table 4.17 shows that 52.6% 0f the respondents think that A.I service became better after privatization while 47.4% think that the service became worse after privatization. The farmers said that the A.I service became better as it was near them and easily accessible

4.4.6 Farmers' Cost comparison of A.I before and after privatization

Table 4.18 shows farmers cost comparison of A.I before and after privatization

Cost comparison of A.I	Frequency	Percent
Cost high after privatization	37	97.4
Cost low after privatization	1	2.6
Total	**38**	**100.0**

Table 4.18 shows that 97.4% of the respondents said that the cost of A.I service went up after privatization, while 2.6% said that the cost became low after privatization. This is because after the government withdrew from providing the service the private practitioners increased the cost to make profit.

4.4.7 Farmers' opinion on positive influence/advantages of privatization of A.I services

Table 4.19 shows farmers opinion on positive influence of privatization of A.I services

Positive influence/advantages of A.I privatization	Frequency	Percent
Variety, quickly, available	17	44.7
Job creation	7	18.5
Low cost	2	2.6
No advantage	12	36.8
Total	**38**	**100.0**

Table 4.19 shows that 44.7% of the respondents said that some of the advantages of privatization of A.I services are variety of semen and inseminators, served quickly and readily available at any time. 18.5% of the respondents said that it created jobs, 2.6% thought it lowered the cost of A.I service and 36.8% said there is no advantage. During the interviews most farmers liked the advantage of having a variety of inseminators to choose from and flexibility of choosing the type of semen they want. The 36.8% of the respondents who said there is no advantage are the ones who do not have access to A.I services.

4.4.8 Farmers' opinion on negative influence/disadvantages of privatization of A.I services

Table 4.20 shows Farmers opinion on Negative influence/disadvantages of privatization of A.I services

Negative influence/disadvantages of privatization of A.I services	Frequency	Percent
High cost, low quality, unqualified Practitioners	13	34.2
Not available, low Success, no supervision	25	65.8
Total	**38**	**100.0**

Table 4.20 shows that 34.2% of the respondents had the opinion that the disadvantages of privatization of A.I services include high cost, low quality semen and unqualified Practitioners, while 65.8% said that it led to unavailability, low success rates and lack of supervision. Some of the 65.8% of the respondents who said the service became unavailable are the ones who currently have no access to A.I services. This shows that most of the challenges faced by the farmers due to privatization of A.I services include high cost, low quality semen and unqualified practitioners.

4.4.9 Farmers' opinion on whether the government should offer A.I again

Table 4.21 shows the farmers' opinion on whether the government should offer AI again

whether the government should offer AI again	Frequency	Percent
Yes	34	89.5
No	3	7.9
Indifference	1	2.6
Total	**38**	**100.0**

Table 4.21 shows that 89.5% of the respondents would like the government to start offering A.I services again while 7.9% do not want the government to start offering the services again. 2.6% did not give any opinion. This is an indication that the farmers are not satisfied with the kind of services they are getting from the private practitioners.

4.4.10 Government officers' comparison of A.I services before privatization and now

Table 4.22 shows Government officers' Comparison of A.I services before privatization and now

Comparison of A.I services before privatization and now	Frequency	Percent
Better after privatization	3	21.4
Worse after privatization	11	78.6
Total	**14**	**100.0**

The respondents stated that A.I services became worse after privatization with 78.6% and 21.4% said that A.I services became better after privatization. This shows that majority of the government officers indicated there is failure in the privatization of A.I services

4.4.11 Government officers' Cost comparison of A.I services before and after privatization

Table 4.23 shows cost comparison of A.I services before and after privatization

Cost comparison of A.I services	Frequency	Percent
cost high after privatization	11	78.6
cost low after privatization	2	14.3
don't know	1	7.1
Total	**14**	**100.0**

The table shows that 78.6% of the respondents said that the cost of A.I went up after privatization, 14.3% said the cost became low after privatization and 7.1% had no idea on the cost changes due to privatization. This is an indication that the private practitioners are exploiting farmers

4.4.12 Government officers' opinion on positive influence/advantages of privatization of A.I services

Table 4.24 shows positive influence of privatization of A.I services

Positive influence/advantages of privatization of A.I services	Frequency	Percent
Available and reliable	4	28.6
Job creation	6	42.8
Fast services	2	14.3
No advantage	2	14.3
Total	**14**	**100.0**

The table above shows the respondents response on the advantages of privatization of A.I services. 42.8% said that it lead to job creation, 28.6% said the service became readily available and reliable, 14.3% said the services became fast enough and other 14.3% said there is no advantage of privatization of A.I services. The creation of jobs for the unemployed qualified personnel is found to be the main advantage of privatization of A.I services.

4.4.13 Government officers' opinion on negative influence/disadvantages of privatization of A.I services

Table 4.25 shows government officers' opinion on negative influence of privatization of A.I services

Negative influence/disadvantages of privatization of A.I services	Frequency	Percent
costly	2	14.3
No records, and not available	2	14.3
Use of dead semen and inferior semen	4	28.6
Unqualified practitioners, no supervision	6	42.8
Total	**14**	**100.0**

The disadvantages of privatization of A.I services were found to be of significant to the study. The respondents by a majority of 42.8% said that the main disadvantage is the continued practice by unqualified practitioners and lack of supervision.28.6% said that there is use of dead semen and inferior breeds, 14.3% said the service is not readily available and there no records kept and another 14.3% said the service became costly. Unqualified A.I practitioners, lack of supervision and use of dead and inferior semen are the main challenges facing the privatization of A.I services

4.4.14 Government officers' opinion on whether the government should offer the privatized A.I services again

Table 4.26 shows the government officers opinion on whether the government should offer the privatized A.I services again.

Whether the government should offer the privatized services again.	Frequency	Percent
Yes	13	92.9
No	1	7.1
Total	**14**	**100.0**

The study sought to establish the respondents' views on whether the government should offer the privatized services again. The respondents categorically stated by 92.9% that the government should offer the privatized services again while only 7.1% said the government should not offer the privatized services again. This is an indication that most of the respondents would like the government to start offering these services again.

4.4.15 Private practitioners' opinion on positive influence/advantages of privatization of A.I services

Table 4.27 shows private practitioners' opinion on positive influence of privatization of A.I services

Positive influence/advantages of privatization A.I services	Frequency	Percent
Available	4	33.3
Efficient, reliable, quick and quality service	3	25.1
Creates employment	1	8.3
Variety of semen	4	33.3
Total	**12**	**100.0**

The table above shows the respondents response on the advantages of privatization of A.I services. 33.3% said that it made it possible to have a variety of semen for farmers to choose from, another 33.3% said A.I became readily available to farmers who before privatization had no access to A.I services, 25.1% said that A.I became efficient, reliable, and quick with high quality service, 8.3% said that it created employment. The private practitioners main advantage of privatization of A.I services include variety of semen to choose from, available, efficient, reliable and created employment

4.4.16 Private practitioners' opinion on negative influence/disadvantages of privatization of A.I services

Table 4.28 shows private practitioners' opinion on negative influence of privatization of A.I services

Negative influence/disadvantages of privatization of A.I services	Frequency	Percent
Poor quality semen	3	25
Unqualified practitioners	4	33.4
,Not available	1	8.2
Costly	4	33.4
Total	**12**	**100.0**

The disadvantages of privatization of A.I services is very important to the study in order to get a true picture of what the respondents think on this topic. 33.4% said that the service became costly after privatization; another 33.4% said that unqualified people started doing A.I after it was privatized, 24.9% said that it resulted to distribution of semen of poor quality and 8.3% said the service is not readily available after privatization. From the information above the major disadvantages of privatization of A.I services are the increased cost and the untrained people who are doing A.I.

4.4.17 Private practitioners' opinion on whether government should offer privatized A.I services again

Table 4.29 shows private practitioners' opinion on whether government should offer privatized A.I services again

whether government should offer privatized services again	Frequency	Percent
Yes	9	75.0
No	3	25.0
Total	**12**	**100.0**

The study sought to establish the respondents' views on whether the government should offer the privatized services again. The respondents categorically stated by 75% that the government should offer the privatized services again while only 25% said the government

should not offer the privatized services again. This is an indication that most of the respondents would like the government to start offering these services again.

4.5 The influence of privatization of Clinical services

In this section all questions in the interview guide and the two questionnaires dealing with the privatization of clinical services are analyzed.

4.5.1 Farmers' response on access to Clinical Services

Table 4.30 shows farmers' response on access to Clinical Services

access to Clinical Services	Frequency	Percent
Yes	37	97.4
No	1	2.6
Total	**38**	**100.0**

The study had an interest on whether the farmers access clinical treatment of animals service. The table above shows that 97.4% of the respondents have access to clinical services while 2.6% do not have access to this service. This is an indication that most farmers at moment have readily access to clinical treatment of their animals when they get sick

4.5.2 Duration taken by farmers to be served after request for Clinical Services

Table 4.31 shows duration taken to be served after request for Clinical Services

Duration taken to be served after request for Clinical Services	Frequency	Percent
At once	14	36.8
After 2-6 hours	11	28.9
After 7-12 hours	8	21.1
After 24 hours	5	13.2
Total	**38**	**100.0**

The study sought to establish the time taken for the farmers to be served after requesting the same. It was found out that 36.8% of the respondents received the service at ounce upon request, 28.9% received the service after 2-6hrs, 21.1% received the service after 7-

12hrs and 13.2% received the service after 24hrs.The farmers interviewed said that the private practitioners come at ounce when called to give service but are mostly motivated by the money charged.

4.5.3 Where do the farmers get the clinical services from?

Table 4.32 shows where the farmers get the clinical services from

Service provider at present	Frequency	Percent
Government Officers	20	52.6
Private Practitioner	18	47.4
Total	**38**	**100.0**

From the table above it shows that 52.6% of the respondents receive clinical treatments of their livestock from government officers while 47.4% said that they received this service from the private practitioners. This is an indication that although clinical treatment of animals has been privatized most farmers still seek this service from government officers.

4.5.4 Farmers opinion on who provided clinical services before privatization?

Table 4.33 shows farmers opinion on who provided clinical services before privatization

Service provider before privatization	Frequency	Percent
Government officers	33	86.8
Private practitioner	4	10.5
Others	1	2.6
Total	**38**	**100.0**

The table 4.33 shows that 86.8% of the respondents received clinical services from government officers before privatization of the service, 10.5% received from private practitioners and 2.6% received the service from other sources. This is an indication that before privatization of clinical services the government was the main provider as it was subsidized.

4.5.5 Farmers comparison of clinical services before and after privatization

Table 4.34 shows farmers comparison of clinical services before and after privatization

Service before and after privatization	Frequency	Percentage
Better after privatization	23	60.5
Worse after privatization	14	36.8
Don't know	1	2.6
Total	**38**	**100.0**

From the table above 60.5% of the respondents said that clinical services became better after privatization, 36.8% said the service became worse after privatization and 2.6% had no answer to the question. Clinical services became better after privatization because the private practitioners attend to all cases called to attend. In most cases they are motivated by the money they charge.

4.5.6 Farmers cost comparison of clinical services before and after privatization

Table4.35 Shows farmers cost comparison of clinical services before and after privatization

Cost comparison of clinical services	Frequency	Percent
Cost high after privatization	35	92.1
Cost low after privatization	3	7.9
Total	**38**	**100.0**

The study sought to compare the cost of clinical services before and after privatization. The results shows that 92.1% of the respondents said that the cost of clinical services became high after privatization while 7.9% said that the service became worse after privatization. The cost became high because the private practitioners were charging very high in order to make a profit.

4.5.7 Farmers opinion on positive influence/advantages of privatization of clinical services

Table 4.36 shows farmers opinion on positive influence of privatization of clinical services

positive influence/advantages of privatization of clinical services	Frequency	Percent
Available, cheap	15	39.5
Variety, quality	12	31.6
Creates job opportunities	11	28.9
Total	**38**	**100.0**

Table 4.36 shows that 39.5% of the respondents said that advantages of privatization of clinical services include, the service is available and cheap, 31.6% s aid that there is increase in the variety and quality of the service, and 28.9% said that privatization of clinical services created job opportunities. Most of the farmers interviewed said that they were happy with privatization of clinical services.

4.5.8 Farmers opinion on negative influence/disadvantages of privatization of clinical services

Table 4.37 shows farmers opinion on negative influence/disadvantages of privatization of clinical services

Negative influence/disadvantages of privatization of clinical services	Frequency	Percent
Expensive, no supervision	13	34.2
Under dosage	3	7.9
Expensive and under dosage	22	57.9
Total	**38**	**100.0**

The table above shows that 57.9% of the respondents said that privatization of clinical services made the service expensive and under dosage of drugs, 34.2% said the service became expensive and there is no supervision, while 7.9% said that it led to under dosage by the private practitioners. Most of the farmers interviewed said that under dosage and high charges are done by the private practitioners in order to maximize on their profits.

4.5.9 Farmers' opinion on whether the government should offer clinical services again

Table 4.38 shows the farmers' opinion on whether the government should offer clinical services again

whether the government should offer clinical services again	Frequency	Percent
Yes	35	92.1
No	2	5.3
Indifference	1	2.6
Total	**38**	**100.0**

The respondents strongly stated that they would like the government to start offering clinical services again with 92.1% while 5.3% do not want the government to start offering the service again and 2.6% were not sure whether the government should start offering clinical services again or not. Due to the under dosage and high charges by the private practitioners most farmers would like the government to start offering clinical services again.

4.5.10 Government officers' Comparison of clinical services before privatization and now

Table 4.39 shows government officers' Comparison of clinical services before privatization and now

Comparison of clinical services before privatization and now	Frequency	Percent
better after privatization	3	21.4
worse after privatization	11	78.6
Total	**14**	**100.0**

The table above shows that 78.6% of the respondents think that clinical services became worse after privatization while 21.4% said that it became better after privatization. This is an indication that majority of the respondents are of the view that clinical services deteriorated after privatization.

4.5.11 Government officers' Cost comparison of clinical services before and after privatization

Table 4.40 shows government officers' cost comparison of clinical services before and after privatization

cost comparison of clinical services	Frequency	Percent
cost high after privatization	13	92.9
cost low after privatization	1	7.1
Total	**14**	**100.0**

The cost of clinical services before and after privatization was considered to be important to the study. 92.9% of the respondents said that the cost of clinical services went up after privatization while 7.1% said that the cost went down after privatization. The cost went up as the private practitioners were charging fees to make a profit.

4.5.12 Government officers' opinion on positive influence/advantages of privatization of clinical services

Table 4.41 shows government officers' opinion on positive influence of privatization of clinical services

Positive influence/advantages of privatization of clinical services	Frequency	Percent
Available	1	7.1
Job creation	10	71.4
No advantage	3	21.5
Total	**14**	**100.0**

The respondents by 71.4% said that privatization of clinical services created jobs for the private practitioners, 21.5% thought that there was no advantage and 7.1% said that the service became available after privatization. From the above information it can be deduced that the main advantage was job creation to the unemployed but qualified personnel.

4.5.13 Government officers' opinion on Negative influence/disadvantages of privatization of clinical services

Table 4.42 shows government officers' opinion on negative influence of privatization of clinical services

Negative influence/disadvantages of privatization of clinical services	Frequency	Percent
No records, no supervision	3	21.5
Un qualified practitioners	6	42.8
Under dosage	3	21.5
Wrong use of drugs	2	14.2
Total	**14**	**100.0**

The table above shows that majority of the respondents by 42.8% think that unqualified practitioners are the main disadvantage of privatization of clinical services, 21.5% said that no records are kept and there is no supervision ,another 21.5% said that there is a lot of under dosage and 14.2% said there is use of wrong drugs. The issue of unqualified practitioners is found to be the main disadvantage of privatization of clinical services

4.5.14 Government officers' opinion on whether the government should offer the privatized clinical services again

Table 4.43 shows the government officers opinion on whether the government should offer the privatized clinical services again.

Whether the government should offer the privatized services again.	Frequency	Percent
Yes	13	92.9
No	1	7.1
Total	**14**	**100.0**

The study sought to establish the respondents' views on whether the government should offer the privatized services again. The respondents categorically stated by 92.9% that the government should offer the privatized services again while only 7.1% said the government should not offer the privatized services again. This is an indication that most of the respondents would like the government to start offering these services again.

4.5.15 Private practitioners' opinion on positive influence/advantages of privatization of clinical services

Table 4.44 shows Private practitioners' opinion on positive influence of privatization of clinical services

Positive influence/advantages of privatization of clinical services	Frequency	Percent
Available	8	66.7
Efficient	2	16.7
Variety of clinicians	1	8.3
Job opportunities	1	8.3
Total	**12**	**100.0**

The table above shows respondents responses on advantages of privatization of clinical services. 66.7% said that the clinical service became readily available after privatization, 16.7% said the service became more efficient, and another 8.3% said that it created job opportunities. The service became more available as the private practitioners make sure they attend to all their clients in order to maximize on their profits.

4.5.16 Private practitioners' opinion on negative influence/disadvantages of privatization of clinical services

Table 4.45 shows Private practitioners' opinion on negative influence of privatization of clinical services

Negative influence/disadvantages of privatization of clinical services	Frequency	Percent
costly	2	16.7
competition by government officers	1	8.3
Under dosage	2	16.7
Unqualified practitioners	7	58.3
Total	**12**	**100.0**

The disadvantages of privatization of clinical services are very important to the study in order to get a true picture of what the respondents think on this topic. 58.3% of the respondents said that unqualified people started treating animals, 16.7% said the service became costly after privatization, another 16.7% said that there is under dosage by unscrupulous practitioners and 8.3% said there is competition by government officers.

4.5.17 Private practitioners' opinion on whether government should offer privatized clinical services again

Table 4.46 shows private practitioners' opinion on whether government should offer privatized services again

whether government should offer privatized services again	Frequency	Percent
Yes	9	75.0
No	3	25.0
Total	**12**	**100.0**

The study sought to establish the respondents' views on whether the government should offer the privatized services again. The respondents categorically stated by 75% that the government should offer the privatized services again while only 25% said the government should not offer the privatized services again. This is an indication that most of the respondents would like the government to start offering these services again.

4.6 The influence of privatization of dipping services

In this section all questions in the interview guide and the two questionnaires dealing with the privatization of dipping services are analyzed.

4.6.1 Farmers' response on access to dipping Services

Table 4.47 shows farmers' response on access to dipping Services

access to dipping Services	Frequency	Percentage
Yes	11	28.9
No	27	71.1
Total	**38**	**100.0**

The table above shows that 71.1% of the respondents do not have access to dipping services while 28.9% have access to dipping services. Most of the farmers interviewed said that most of the dips have collapsed. That is why most of the farmers have no access to dipping services.

4.6.2 How often farmers dip their animals

Table 4.48 shows how often the farmers dip their animals

How often do you dip	Frequency	Percentage
Once a week	4	10.5
Once in two weeks	4	10.5
Once per month	3	7.9
Don't dip	27	71.1
Total	**38**	**100.0**

From the table above 71.1% of the respondents said that they don't dip their animals, 10.5% dip their animals once in a week, and another 10.5% dip once in two weeks and 7.9% dip once in a week. Most of the farmers who do not dip are those who have no access to dipping services.

4.6.3 Farmers opinion on whether acaricide in dip is strong enough to kill ticks

Table 4.49 shows farmers opinion on the strength of acaricide in the dip tank

Strength of acaricides	Frequency	Percent
Strong enough	6	15.8
Not strong	22	57.9
Don't know	10	26.3
Total	**38**	**100.0**

The strength of the acaricide in the dips was of significance to the study as it influences whether the farmers will take their animals for dipping or not. Most of the respondents 57.9% thought that the acaricide in the dips was not strong enough to kill ticks, 15.8% said it was strong enough and 26.3% did not know whether it's strong or not. Mismanagement of the dips is the main cause of the acaricide in the dips being under strength

4.6.4. Farmers comparison of dipping services before and after privatization

Table 4.50 shows farmers comparison of dipping services before and after privatization

Service before and after privatization	Frequency	Percent
Better after privatization	9	23.7
Worse after privatization	23	60.5
Don't know	6	15.8
Total	**38**	**100.0**

The study sought to know from the respondents how the service was before and after privatization. 60.5% said that the service became worse after privatization, 23.7% said the service became better after privatization and 15.8% do not know whether the service became better or worse after privatization. This means that most of the respondents have no confidence in the dipping system.

4.6.5 Farmers comparison of occurrence of tick-borne diseases before and after privatization

Table 4.51 shows farmers comparison of occurrence of tick-borne diseases before and after privatization.

occurrence of tick-borne diseases	Frequency	Percent
Frequent after privatization	29	76.3
Frequent before privatization	7	18.4
Don't know	2	5.3
Total	**38**	**100.0**

The occurrence of tick-borne diseases before and after privatization was of significance to the study. 76.3% of the respondents were of the view that tick-borne diseases increased after privatization, 18.4% said they were frequent before privatization and 5.3% have no idea of occurrence of tick-borne diseases. This is an indication of failure of dipping system.

4.6.6 Farmers cost comparison of dipping services before and after privatization

Table 4.52 Farmers cost comparison of dipping services before and after privatization

Cost comparison of dipping services	Frequency	Percent
cost high after privatization	36	94.7
cost low after privatization	2	5.3
Total	**38**	**100.0**

From the table above 94.7% of the respondents stated that the cost of dipping became high after privatization and 5.3% said that the cost went down after privatization. The high cost of dipping made most farmers to stop dipping their animals.

4.6.7 Farmers opinion on positive influence/advantages of privatization of dipping services

Table 4.53 shows farmers opinion on positive influence of privatization of dipping services

positive influence/advantages of privatization of dipping services	Frequency	Percent
Available, freedom to choose	11	28.9
No advantage	27	71.1
Total	**38**	**100.0**

The respondents 71.1 stated that there is no advantage of privatization of dipping services while 28.9% said that the advantages of privatization of dipping services include the freedom to choose the type of acaricide to use and availability of the service.

4.6.8 Farmers opinion on negative influence/disadvantages of privatization of dipping services

Table 4.54 shows farmers opinion on negative influences of privatization of dipping services

Negative influence/disadvantages of privatization of dipping services	Frequency	Percent
Expensive, not strong, poor management, no supervision	16	41.6
High frequency of tick-borne diseases	10	26.3
Dips collapsed	12	32.1
Total	**38**	**100.0**

From the table above 41.6% of the respondents thought that the disadvantages of privatization of dipping services included high cost, acaricide not strong, no supervision and poor management, 32.1% said it resulted to the collapse of the dips and 26.3% said it led to high frequency of tick-borne diseases. The high cost of dipping, poor management, lack of supervision, under strength dip wash and collapse of the dips are the main reasons which made most of the farmers to stop dipping their animals.

4.6.9 Farmers' opinion on whether the government should offer dipping services again

Table 4.55 shows the farmers' opinion on whether the government should offer dipping services again

whether the government should offer dipping services again	Frequency	Percent
Yes	37	97.4
No	1	2.6
Total	**38**	**100.0**

The respondents were asked if they would like the government to start offering dipping services again. As shown in the above table 97.4% of the respondents would like the government to start offering the dipping services again while only 2.6% said there is no need of the government offering the services again. Most of the farmers interviewed said that in order to control ticks effectively the government should take over the control of dips.

4.6.10 Government officers' comparison of dipping services before privatization and now

Table 4.56 shows government officers' Comparison of dipping services before privatization and now

Comparison of dipping services before privatization and now	Frequency	Percent
better after privatization	1	7.1
worse after privatization	13	92.9
Total	**14**	**100.0**

The respondents stated categorically that dipping services became worse after privatization with 92.9% while 7.1% said that the services became better after privatization. This is an indication that most of the dips have collapsed.

4.6.11 Government officers' cost comparison of dipping services before and after privatization

Table 4.57 shows government officers' cost comparison of dipping services before and after privatization

cost comparison of dipping services	Frequency	Percent
cost high after privatization	13	92.9
cost low after privatization	1	7.1
Total	**14**	**100.0**

The cost of dipping services before and after privatization was considered to be important to the study. 92.9% of the respondents said that the cost of dipping services went up after privatization while 7.1% said that the cost went down after privatization. After privatization of dipping services the government withdrew the subsidies it used to offer farmers for the dipping acaricide and this made the cost of dipping to go up.

4.6.12 Government officers' opinion on positive influence/advantages of privatization of dipping services

Table 4.58 shows government officers' opinion on positive influence of privatization of dipping services

positive influence/advantages of privatization of dipping services	Frequency	Percent
available anytime and job creation	3	21.4
freedom of choosing acaricide	4	28.6
high quality service	2	14.3
no advantage	5	35.7
Total	**14**	**100.0**

In the table above majority of the respondents by 35.7% said that there is no advantage privatization of dipping services, 28.6% said there is freedom of choosing acaricide, 14.3% said it led to creation of jobs and became readily available and 14.3% said it led to high quality service. The government officers have the view that privatization of the dipping services has brought very few advantages due to the collapse of the dips.

4.6.13 Government officers' opinion on negative influence/disadvantages of privatization of dipping services

Table 4.59 shows government officers' opinion on negative influence of privatization of dipping services

Negative influence/disadvantages of privatization of dipping services	Frequency	Percent
Costly and poor management	5	35.7
Weak acaricides, no supervision	3	21.5
Dip collapsed	5	35.7
Frequent tick- borne diseases	1	7.1
Total	**14**	**100.0**

From the table above 35.7% of the respondents said that privatization of dipping services led to the increase of the charges and poor management, another 35.7% said that it led to the collapse of the dips, 21.5% said there is use of weak acaricides which could not kill ticks and no supervision while 7.1% said that it led to increase of tick-borne diseases. Most of the respondents were of the view that high cost, poor management and collapse of the dips are the main disadvantage of privatization of dipping services.

4.6.14 Government officers' opinion on whether the government should offer the privatized dipping services again

Table 4.60 shows the government officers opinion on whether the government should offer the privatized dipping services again.

Whether the government should offer the privatized services again.	Frequency	Percent
Yes	13	92.9
No	1	7.1
Total	**14**	**100.0**

The study sought to establish the respondents' views on whether the government should offer the privatized services again. The respondents categorically stated by 92.9% that the government should offer the privatized services again while only 7.1% said the government should not offer the privatized services again. This is an indication that most of the respondents would like the government to start offering these services again

4.6.15 Private practitioners' opinion on positive influence/advantages of privatization of dipping services

Table 4.61 shows private practitioners' opinion on positive influence of privatization of dipping services

Positive influence/advantages of privatization of dipping services	Frequency	Percent
Available anytime	4	33.4
Employment	1	8.3
Farmers have a right to choose acaricide	1	8.3
No advantages	6	50.0
Total	**12**	**100.0**

The table above shows the respondents response on advantages of privatization of dipping services. 50% of the respondents said that there no advantages, 33.4% said that the service became available anytime, 8.3% said that it created employment and another 8.3% said that farmers have a right to choose the type of acaricide they want. This means that most of the private practitioners do not see advantage of privatization of dipping services. This is because most of them do not do dipping services privately.

4.6.16 Private practitioners' opinion on negative influence/disadvantages of privatization of dipping services

Table 4.62 shows private practitioners' opinion on negative influence of privatization of dipping services

Negative influence/disadvantages of privatization of dipping services	Frequency	Percent
Costly	3	25
Dips collapsed	3	25
Increased tick-borne diseases	4	33.3
Under strength acaricide	2	16.7
Total	**12**	**100.0**

From the table above 25%of the respondents said that privatization of dipping services led to the increase of the charges, another 25% said that it led to the collapse of the dips, 16.7% said there is use of under strength acaricides which could not kill ticks and 33.3%% said that it led to increase of tick-borne diseases. Most of the respondents were of the view that

high charges, increased tick borne diseases and collapse of the dips are the main disadvantage of privatization of dipping services.

4.6.17 Private practitioners' opinion on whether government should offer privatized dipping services again.

Table 4.63 shows private practitioners' opinion on whether government should offer privatized dipping services again

whether government should offer privatized services again	Frequency	Percent
Yes	9	75.0
No	3	25.0
Total	**12**	**100.0**

The study sought to establish the respondents' views on whether the government should offer the privatized services again. The respondents categorically stated by 75% that the government should offer the privatized services again while only 25% said the government should not offer the privatized services again. This is an indication that most of the respondents would like the government to start offering these services again.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECCOMENDATIONS

5.1 Introduction

This chapter summarizes the whole research process. A brief summary of the whole study is given. It also provides a summary of the main findings of the study, conclusions of the study, recommendations and suggestions for further research.

5.2 Summary of the study

The purpose of this study was to investigate the influence of privatization of veterinary services on service delivery to farmers in Mwala district. The research formulated three objectives and three research questions to guide the study. The study adopted a survey design of research.

Data was collected using questionnaires for all 14 government staff and all the 12 private practitioners in Mwala District, while an interview guide was administered to a representative random sample of 38 livestock farmers.

The questionnaires and interview guide return rate was 100% for the government staff, private practitioners and the livestock farmers and this was found satisfactory for the study. Before the main study, a pilot study was carried out so as to test the validity and reliability of the research instruments using test-retest method. A correlation of 0.91 was obtained and the researcher being satisfied with the reliability of the instruments carried out the main study. Data obtained was both qualitative and quantitative. The qualitative data was organized into themes and sub-topics through content analysis. The researcher then analyzed the data using descriptive statistics. Statistical package for social sciences (spss) programme was used to analyze the data and the results were presented by use of frequency and percentage tables which were then interpreted to obtain the desired information

5.3 General information of the respondents

The study found out that the following on the general information of the respondents

5.3.1 Livestock farmers general information

The study established that male respondents were more than female. The male were 52.6% while the female were 47.4%. This is an indication that most livestock is owned by male.

The age bracket of the respondents was between 36-76 years of age. 5.2% of the respondents were aged below 45 years, 10.5% of them were aged between 54-60 years, 36.9% were aged between 61-65 years and 18.4% were aged between 71-75 years and 5.3% were aged above 76 years. The modal age of the respondents was 63 years while the mean age was 62.5 years. These results are an indication that most of those who participated in the study are aged over 60 years and therefore most likely gave correct answers on the study.

On the type of animals the respondents keep 76.3% keep chicken, goats, sheep, cattle, dogs and cats, 10.5% keep chicken, goats, sheep, cattle and donkeys, 7.9% keep chicken, goats, sheep and cattle while 5.3% cattle alone. During the interview the farmers confessed that they kept the different types of animals in order to diversify their income and production.

5.3.2 Government officers' general information

The study established that 28.6% of the respondents have been in the government service for more than 30 years, 35.7% have worked between 21-25 years, 14.3% have worked between 16- 20 years, 7.1% have worked between 11- 15 years and 14.3% have worked between 1- 5 years. Most of the respondents have worked for more than 16 years and therefore considered useful for the study.

On their qualification the study found that 42.9% have certificates, 35.7% have diplomas, and 14.3% have degrees while 7.1% have basic training in livestock activities. This information is very important for the study as it indicates that the government officers are technically qualified and can therefore authoritatively comment on any issues on the study.

On the duties they perform the study found out that 50% of them do animal production and extension services, 28.6% do clinical and meat inspection while 21.4% do disease control and clinical services. This information is very useful to the study as it shows that the officers are qualified in technical fields and are therefore able to offer useful information about the study.

The study found that 28.6% of the respondents compete with private practitioners in providing services to the farmers while 71.4% of them do not compete with them. This is important to the study as it shows that majority of the government officers do not compete with the private practitioners and as such do not jeopardize the success of the privatization process.

5.3.3 Private Practitioners general information.

The study established that the qualifications of the private practitioners were as follows; 75% of them have certificates, 8.3% have diploma and 16.7% have degrees. This means that all the respondents are qualified and therefore competent enough to answer the questionnaire.

On the number of years they have been in practice the study established that 41.7% have been in the private practice for 1-5 years, 33.3% between 6-10 years, and 25% between 11-15 years. This shows that most of the respondents have done private practice between 6-15years and therefore are competent enough to answer the questionnaire.

Concerning the type of practice they do the study found out that 33.3% do clinical treatment only, another 33.3% do A.I, clinical and agro-vet, 16.7% do clinical and agro vet, 8.35% do dipping services and another 8.35% do A.I and clinical services. The above information shows that the respondents are offering the privatized services and therefore very important to the study.

The study also established that the respondents main challenges in private practice include, lack of government loans and subsidies 33.3%, 25% said that farmers are being unable to pay; another 25% said that they face competition from unqualified practitioners and 16.7% said that poor roads and lack of transport are the main challenges they face. This means

that the main challenges they face include competition by unqualified people, farmers being unable to pay and lack of loans and subsidizes by the government.

On the improvement of private practice 58.3% said they want government to provide them with subsidies and loans while 41.7% said they require the removal of non professionals from practice. This means that if private practitioners can get cheap and subsided loans from the government, and the unqualified people are prevented from practicing, they can serve the farmers properly.

5.4 Influence of privatization of A.I services on service delivery to farmers.

The main findings of the study on the influence of privatization of A.I services are hereby given below.

5.4.1 The livestock farmers' respondents' findings on access to A.I services.

The study found out that 68.4% of the respondents have access to A.I services while 31.6% don't have access. This is an indication that majority of the farmers at present have access to artificial insemination services. On the duration farmers take to be served, 18.4% of the respondents receive A.I services immediately they request for it, 21.1% after 2-6 hrs and 7-12 hrs respectively while 10.5% receive it after 24 hrs. Although the private practitioners are motivated by money to respond immediately, most of the farmers are served at reasonable time after request of the service. On where the farmers receive the A.I service from at present, 42.1 % of the respondents said they receive A.I services from private practitioners, 34.2% from dairy societies, 18.4% from individual farms and only 5.3% receive it from the government officers. This is an indication that most farmers are getting A.I service from private practitioners as the government has withdrawn most of its services.

Before privatization of A.I services 86.8% of the respondents received the A.I services from the government 7.9% from co-operative societies, 2.6% from individual farms and another 2.6% from private practitioners. The farmers said that before privatization of A.I services they used to receive the service from the government which has been proved in the table above. The farmers' comparison of A.I service before privatization and now found

that 52.6% of the respondents stated that A.I services became better after privatization while 47.4% said that it became worse. The farmers said that the A.I service became better as it was near them and easily accessible.

On the cost of A.I services 97.4% of the respondents said that the cost became high after privatization while 2.6% said it became low after privatization. This is because after the government withdrew from providing the service the private practitioners increased the cost to make profit.

The study found that 44.7% of the respondents said the main advantages of privatization of .A.I services include wide variety of semen, available and served quickly, 36.8% said there was no advantages, 18.5% said there is job creation and 2.6% said it lowered the cost of A.I services. The 36.8% of the respondents who said there is no advantage are the ones who do not have access to A.I services.

The study also found out that 65.8% of the respondents gave some of the disadvantages of privatization of A.I services as not being available, low success rates and lack of supervision; while 34.2% said that the main disadvantages are that it led to high cost, low quality semen and unqualified practitioners This shows that most of the challenges faced by the farmers due to privatization of A.I services include high cost, low quality semen, unqualified practitioners and lack of supervision.

On whether the government should offer the A.I services again 89.5% of the respondents said the government should start offering the services again, 7.9% said it should not offer the services again and 2.6% did not give any opinion. The farmers believe that if the government can start offering A.I services again, the problem of cost, low success rates, low quality semen, unqualified practitioners and lack of supervision will be solved.

5.4.2 Government officers' respondents' findings on A.I services

This study found that majority of the respondents (78.6%) is of the view that A.I services became worse after privatization with only 21.4% saying that it became better. Majority of the government officers indicated there is failure in the privatization of A.I services.

The respondents by 78.6% stated that the cost of A.I services became high after privatization while 14.3% said the cost became low and 7.1% had no opinion on the cost charges of A.I due to privatization. This is an indication that the private practitioners are exploiting farmers.

The study further established that majority of the respondents by 42.8% said that the main advantage of privatization of A.I services is creation of jobs, 28.6% said it became readily available and reliable, 14.3% said they get fast services and another 14.3% said there was no advantage. The creation of jobs for the unemployed qualified personnel, availability and reliability of the service are found to be the main advantages of privatization of A.I services.

On the disadvantages of privatization of A.I services the study found that the main disadvantage is the emergence of unqualified practitioners and inadequate supervision by 42.8% of the respondents, 28.6% said there is use of dead semen and inferior breeds, 14.3% said it became costly and another 14.3% said there are no records and the service is not available. Unqualified A.I practitioners, lack of supervision and use of dead and inferior semen are the main challenges facing the privatization of A.I services.

The study sought to know from the respondents whether the government should offer the privatized A.I services again. The respondents categorically stated by 92.9% that the government should start offering the privatized services again while 7.1% said the government should not start offering A.I services again. This is an indication that most of the respondents would like the government to start offering these services again.

5.4.3 Private practitioners respondents findings on A.I services

The study sought to find out from the respondents the advantages of privatization of A.I services. 33.3% of the respondents said that it became readily available to the farmers who before privatization had no access to A.I services another 33.3% said that there is a variety of semen for farmers to choose from, 25.1% said AI became efficient, reliable and quick with high quality service, 8.3% said it created employment. The private practitioners main advantage of privatization of A.I services include variety of semen to choose from, available, efficient, reliable and created employment.

On the disadvantages of privatization of A.I services, 33.4% of the respondents said that it led to emergence of unqualified practitioners, another 33.4% said that the service became costly, 25% said it led to use of poor quality semen and 8.3% said the service became unavailable.

The study also found that 75% of the respondents would like the government to start offering the A.I services again while 25% did not want the government to start offering the A.I services again. The private practitioners who want the government to start offering A.I services again are those who do not offer this service and at the same time they think the government might employ them to give this service.

5.5 The influence of privatization of clinical treatment of livestock services

The main findings of the study on the influence of privatization of clinical treatment of livestock have been divided into three parts.

5.5.1 Livestock farmers' responses on findings on clinical treatments

The study found out that 97.4% of the respondents have access to clinical services while 2.6% do not have access. This is an indication that most farmers at moment have readily access to clinical treatment of their animals when they get sick.

When asked to state duration taken to be served 36.8% said that they are served at once, 28.9% served between 2-6 hrs, 21.1% after 7 – 12 hrs and 13.2% are served after 24hrs. This shows that most of the farmers receive the clinical service on time. The study found that 52.6% of the respondents received clinical services from government officers while 47.4% receive it from private practitioners meaning that although this service has been privatized, there are some farmers who still seek it from government officers. When asked who provided clinical services before privatization, 86.8% said that it was provided by government officers, 10.5% said it was provided by private practitioners and 2.6% received it from other sources. This is an indication that before privatization of clinical services the government was the main provider as it was subsidized.

On comparing how clinical services were before and after privatization, 60.5% said that clinical services became better after privatization, 36.8% said it became worse and 2.6% had no answer to the question. Clinical services became better after privatization because the private practitioners attend to all cases in which they are called to attend. This study established that the cost of clinical services became high after privatization with 92.1% respondents, while 7.9% respondents said that the cost became low after privatization. The cost became high because the private practitioners were charging very high in order to make a profit.

Pertaining to advantages of privatization of clinical services 39.5% of the respondents said it resulted to increase in variety of attendants and quality service and 28.9% respondents said that it created job opportunities. Most of the farmers interviewed said that they were happy with privatization of clinical services.

On the disadvantages of privatization of clinical services 57.9% of the respondents said that it became expensive and led to under dosage by the private practitioners 34.2% said it became expensive and lacked supervision while 7.9% said it led to under dosage. Most of the farmers interviewed said that under dosage and high charges are done by the private practitioners in order to maximize on their profits.

The respondent's opinion on whether the government should start offering privatized clinical services was as follows; 92.1% stated that they would like the government to start offering the service again, 5.3% said the government should not offer the service again and 2.6% were not sure on their opinion. This is an indication that most of the respondents would like the government to start offering these services again.

5.5.2 Government officer's responses on privatization of clinical services.

The study found that 78.6% of the respondents are of the view that clinical services became worse after privatization while 21.4% said that it became better. This is an indication that majority of the respondents are of the view that clinical services deteriorated after privatization.

On cost comparison of clinical services before and after privatization 92.9% of the respondents said that the cost became high after privatization while 7.1% said it became low after privatization. The cost went up as the private practitioners were charging fees to make a profit.

The study sought to find out from the respondents the advantages of privatization of clinical services. 71.4% said that it led to job creation, 71.1% said the service became available while 21.5% said there was no advantage. From the above information it can be deduced that the main advantage was job creation to the unemployed but qualified personnel.

The study also found that the most common disadvantages of privatization of clinical services was the issue of unqualified practitioners which was stated by 42.8%, 21.5% said that no records are kept and there is no supervision and another 21.5% said there is under dosage and 14.2% said there is use of wrong drugs. The issue of unqualified practitioners is found to be the main disadvantage of privatization of clinical services

The respondents' opinion on whether the government should start offering the privatized clinical services was as follows.92.9% said that the government should offer the services again while 7.1% said that the government should not offer the services again. This is an indication that most of the respondents would like the government to start offering these services again.

5.5.3 Private Practitioners responses/ findings on privatization of clinical services

The respondents were asked to state the advantages of privatization of clinical. The study found that 66.7% of the respondents said that the clinical services became available, 16.7% said it became efficient, 8.3% said it led to increase in no of clinics and another 8.3% said it led to job creation. The study also found out that on the disadvantages of privatization of clinical services 58.3% of respondents said that it led to unqualified people treating animals, 16.7% aid it led to under dosage and another 16.7% said it became costly and 8.3% said there is competition from government officers. The study further found out that the respondents opinion on whether the government should start offering the privatized

clinical services was that 75% said that the government should start offering the services again while 25% said that the government should not offer the services again.

5.6 Influence of privatization of dipping services

The main findings of the study on the influence of privatization of dipping services have been divided into three parts.

5.6.1 Livestock farmers responses on privatization of dipping services

This study found that 71.1% of the respondents do not have access to dipping services while only 28.9% have access to the dipping services. Most of the farmers interviewed said that most of the dips have collapsed. That is why most of the farmers have no access to dipping services.

On how often they dip their animals 10.5% said they dip their animals once per week and another 10.5% dip once in two weeks, 7.9% dip once in a month; 71.1% said they don't dip. Most of the farmers who do not dip their animals are those who do not have access to dipping services. The study found from the respondents that 57.9% of them thought that the acaricide used in the dips is not strong enough, 26.3% do not know the strength of the acaricide and 15.8% said they don't know. Mismanagement of the dips is the main cause of the acaricide in the dips being under strength. The study sought to know from the respondents how the service was before and after privatization. 60.5% said that the service became worse after privatization, 23.7% said the service became better after privatization and 15.8% do not know whether the service became better or worse after privatization. This means that most of the respondents have no confidence in the dipping system.

The study also found that there was frequent occurrence of tick- borne diseases after privatization of dipping services. 76.3% of the respondents said that tick – borne diseases became frequent after privatization 18.4% said they were frequent before privatization while 5.3% said they did not know. This is an indication of the failure of the dipping system.

The study established that the cost of dipping services became high after privatization with 94.7% of respondents and 5.3% said the cost became low. The high cost of dipping made most farmers to stop dipping their animals.

Pertaining to advantages of privatization of dipping services 71.1% said there were no advantages, 28.9% said some of the advantages include the service became available and there is freedom to choose the type of acaricide to use while on the disadvantages of privatization of dipping services; 41.6% of the respondents said the services became expensive, acaricides not strong enough, poor management and lack of supervision , 32.1% said that the dips collapsed and 26.3% said it led to high frequency of occurrence of tick borne diseases. The high cost of dipping, poor management, lack of supervision, under strength dip wash and collapse of the dips are the main reasons which made most of the farmers to stop dipping their animals.

The respondents opinion on whether the government should start offering diseases the privatized dipping services again was as follows 97.4% send the government should offer the services again while 2.6% said the government should not offer the service again. Most of the farmers interviewed said that in order to control ticks effectively the government should take over the control of dips.

5.6.2 Government officers' responses / findings on privatization of dipping services.

The study found that 92.9% of the respondents view that dipping services became worse after privatization while 7.1% said that it became better after privatization. This is an indication that most of the dips have collapsed. On the cost comparison of dipping services before and after privatization the study found out that 92.9% of the respondents said that the cost became high after privatization while 7.1% said the cost became low. After privatization of dipping services the government withdrew the subsidies it used to offer farmers for the dipping acaricide and this made the cost of dipping to go up.

The study sought to find out from the respondents the advantages of privatization of dipping services; 35.7% said there was no advantage, 28.6% said there is freedom of choosing acaricides, 21.4% said the service is available anytime and led to creation of jobs and 14.3% said there is high quality service.

The government officers have the view that privatization of the dipping services has brought very few advantages due to the collapse of the dips.

The study also found that the main disadvantages of privatization of dipping services was collapse of dips which was stated by 35.7% of the respondents another 35.7% said it became expensive and led to poor management, 21.5% said it led to use of weak acaricides and no supervision while 7.1% said it led to frequent occurrence of tick - borne diseases. Most of the respondents were of the view that high cost, poor management and collapse of the dips are the main disadvantage of privatization of dipping services.

On the respondents opinion on whether the government should start offering the privatized services again the study found that 92.9% of the respondents want the government to start offering the services again while 7.1% said the government should not offer the privatized services again. This is an indication that most of the respondents would like the government to start offering these services again

5.6.3 Private practitioners findings on privatization of dipping services

The study found from the respondents the advantages of privatization of dipping services, 50% of the respondents said there were no advantages, 33.4% said its available any time 8.3% said it created employment, and another 8.3% said farmers have a right to choose the type of acaricides. This means that most of the private practitioners do not see advantage of privatization of dipping services. This is because most of them do not do dipping services privately.

Pertaining to the disadvantages of privatization of dipping services; 33.3% of the respondents said that it led to increase in tick- borne diseases, 25% said the services became costly, and another 25% said it led to collapse of dips and 16.7% said it led to use of acaricides of under-strength. Most of the respondents were of the view that high charges, increased tick borne diseases and collapse of the dips are the main disadvantage of privatization of dipping services.

The study further found that the respondents' opinion on whether the government should start offering the privatized services again was that 75% said that the government should

start offering the dipping services again while 25% said the government should not offer the dipping services again.

5.7 Discussion of the research findings

This study aimed at investigating the influence of privatization of veterinary services on service delivery to farmers. Analysis on the data concerned with the influence of privatization of artificial insemination (A.I), found out that after privatization of the A.I services most of the farmers could easily access AI services and after reasonable time after request for it, the A.I service was mostly offered by private practitioners and the cost of the A.I became high after privatization. Most of the farmers said that A.I service became better after privatization. The most common advantages of privatization of A.I services include wide variety of semen, available, served quickly and job creation. The disadvantages of privatization of A.I services include high cost, unqualified practitioners, use of dead semen, use of inferior breeds and lack of supervision. As revealed in the research findings most of the respondents which include farmers, government officers and private practitioners revealed that the government should start offering the A.I services again. As discussed in the literature review, some of the major challenges in the delivery of A.I services in Africa include the organization of regulatory bodies, the demarcation between public and private goods services, the management of the transfer of services from the government to the private sector, the delivery of A.I services in low input areas and the provision of adequate services of an acceptable standard. It can therefore be commented that the study findings are almost similar to those done in other countries of Africa.

Analysis on the data pertaining with the influence of privatization of clinical services found out that after privatization of clinical services, the service became easily accessible to farmers, it was offered by both the government officers and private practitioners and its cost became high. The most common advantages of privatization of clinical services include; availability, there are variety of providers, quality service and created job opportunities. The disadvantages of the privatization of clinical services include, it became expensive, under dosage by unscrupulous private practitioners and unqualified practitioners and lack of supervision. As discussed in the literature review, while private clinical practice

took route in the high rainfall, intensive farming areas, this was not the case in the Arid and Semi-Arid Lands (ASAL). As shown in the study findings all the respondents which include farmers, government officers and private practitioners were of the view that the government should offer the clinical services again.

The analysis on the data concerned with influence of privatization of dipping services found out that most of the farmers have no access to dipping services after it was privatized and the strength of the acaricide (dip wash) is not strong enough to kill ticks, there is lack of supervision, there is increase in tick borne diseases and dipping services have become worse with the collapse of dips. The cost of dipping has gone up after privatization. The only advantage from the study is that farmers have a right to choose the type of acaricide. As discussed in the literature review, the privatization of dipping services in Kenya two decades ago (1989) affected tick control in most livestock keeping areas. All personnel trained in tick control (Dip attendants) were sent home leaving the management of cattle dips in the hands of untrained farmers. Most of the cattle dips were abandoned while those that are still operational use too diluted chemicals to which ticks developed resistance. As a result, most farmers have stopped taking their animals to the cattle dips altogether. As revealed in the study most of the respondents, farmers, government officers and private practitioners were of the opinion that the government should start offering the privatized dipping services again.

5.8 Conclusion of the Study

This study concludes that the government should start offering artificial insemination services again. Although A.I services become readily available after privatization the disadvantages are too many for this service to be left in the hands of private practitioners. The entry of unqualified people to offer A.I services, qualified practitioners knowingly inseminating animals using dead semen or semen of inferior breeds leads to low success rates. This means that animals will be served repeatedly leading to loss of money by farmers. The use of inferior semen means that the country after some time will be having poor quality animals. The private A.I providers are motivated by money and that is why they attend to all the cases of A.I.

The study also concludes that the clinical services should be left to be offered by the private practitioners as they are doing a good job most of the respondent said that the clinical service became better after privatization, available, cheap, there are variety of providers, quality service and created job opportunities.

Lastly the study finds it right to come to a conclusion that the government should start offering dipping services again. Most of the respondents have said that farmers had no access to dipping services, strength of the acaricide (dip wash) is not strong to kill ticks, there is increase of tick borne diseases and dipping service have become worse with the collapse of the dips.

5.9 Recommendations of the Study

i) The government through ministry of livestock development should start a project of reviving artificial insemination services country wide. The ministry of livestock is supposed to re-activate the A.I routes which used to be there before privatization of A.I services. Motor bikes should be used to reach the rural areas. The government officers in the ministry of livestock development should be taken for A.I. training in order to make it a success. As a stop gap measure, effort should be done to get rid of the unqualified practitioners and a close supervision of the qualified ones by the ministry as it prepares to take over the provision of the A.I services. The stop gap measures are very important because, the taking over of provision of A.I services by the ministry can take a long time as the government sources for funds for the project.

ii) The government through the ministry of livestock development should find ways to strengthen the private clinical practitioners. This can be done by providing the clinical practitioners with government soft and subsidized loans, guarantees and offer them security to the lending institutions. This will ensure that the private clinical practitioners continue to offer efficient and quality clinical services. The ministry should put up a policy of controlling and supervising the private clinical providers and prosecute the unqualified ones.

iii) In order to salvage the dipping systems, the government through the ministry of livestock development should start to revive all the communal dips countrywide. The ministry should partner with a donor(s) who will provide funds. The government officers in the ministry should be trained on how to run the dips. As a stop gap measure the functional private dips should be closely be supervised by the ministry in order to give quality service to the farmers. Sampling of the dip wash should be done regularly in order to check the strength of the dip wash. The stop gap measures are very important because, the taking over of provision of dipping services by the ministry can take a long time as the government sources for funds for the project.

5.10 Suggestions for further reading

This study was conducted to investigate the influence of privatization of veterinary services on service delivery to farmers. As such there is still room for further investigation in this area with the following suggestions for further studies in future being outlined.

i) The influence of privatization of veterinary services on the performance of government officers in the ministry of livestock development.

ii) The influence of government subsidy to private veterinary practitioners on service delivery to farmers.

iii) A similar study can be carried out in other districts in the country to establish whether the findings are similar to those generated by this study.

iv) A research should be done to come out with a policy that controls/regulates the activities of the private practitioners so as to do away with the unqualified people who are practicing.

REFERENCES

Ahmedabad, 2002; World Bank, Washington DC; Swiss *Agency for Development and Cooperation, Bern; Food and Agriculture Organization*, Rome.

Ahuja V., Ward D. &Kurup M.P.G. (2001). – Delivery of livestock health and breeding services: focus on India.

Annual report ministry of livestock development and marketing 1998

Best J.W, Khan V.J; 1998;Research in Education an introduction Longman New York

Borg and Rumble 1993; Educational research An introduction to research methods

Carmines & seller, 1979; the research design in occupational education by James P. Key Module – R10

Chema and Gathuma JM, 2008; Kenya the development of private services and the role of the Kenya veterinary association.

Cheneau Y. (1986). The organization of Veterinary Services in Africa.*Rev. Sci. Tech. Off. Int. Epiz.*, **5** (1), 107-

Daborn C., Njau P., Wood S. & Martin M. (Eds) (1998). – Delivery of animal health services in Eastern Africa.

De Haan C. & Bekure S. (1991). – Animal health services in sub-Saharan Africa: initial experiences with alternative approaches. World Bank Technical Paper No. 134. The World Bank, Washington, DC, 64 pp.

Dehaan, Cornelis, and Nico J. Nissen. 2005. Animal Health Services in Sub-Saharan Africa. World Bank Technical Paper 44. Washington, D.C.

DeHaan, Cornelis, and Solomon Bekure. 2004. Animal Health Services in Sub-Saharan Africa: Initial Experiences with New Approaches. World Bank Technical Paper 134. Washington, D.C.

Dr. William Ayako 2008;– organic journal no.32 pages 1 and 3

El Hicheri K. (1994). Study on the privatization of Veterinary Services in Morocco, Algeria, Tunisia, Mauritania and Libya. Expert Consultation on the Privatization of Veterinary Services, FAO, Regional Office for the Near East- Cairo.

Electronic Conference, 1-15 December 2000. Centre for Management in Agriculture, Indian Institute of Management, Food and Agriculture Organization (FAO) (1997). – Principles for rational delivery of public and private veterinary services. FAO electronic conference, January-April, Rome (http://www.fao.org/ag/aga/AGAH/Vets-l/Default.htm)

Food and Agriculture Organization (FAO) (1997). – Principles for rational delivery of public and private veterinary services. FAO electronic conference, January-April, Rome (http://www.fao.org/ag/aga/AGAH/Vets-l/Default.htm)

. Holden, Ashley, Basely, 1995 – The economics of the delivery of veterinary services. *In* The economics of animal disease control (B.D. Perry, ed.). *Rev. sci. tech. Off. int. Epiz.*,18 (2), 425-439.

International fund for agricultural development (IFAD 2008): Analysis of delivery systems for tick and tick-borne disease control. technologies to small holder farmers Kenya htt://www.ifad.org/lrkm/tans/15.htm

James, A., and M. Upton. 1995. Cost recovery for veterinary services. *Journal of International Farm Management* 1: 125.133.

J. Omiti, 1998: impacts of liberalization in Kenya Dairy sector: institute of policy analysis

Jones, B. A., B. Deemer, T. J. Leyland,W. Mogga, and C. Stem (1998) 'Community-based animal health services in Southern Sudan: the experience so far', paper presented at the 9th International Conference of the Association of Institutes of Tropical Veterinary Medicine (AIVTM), Harare, 14–18 September.

Kathuri N.J and Paul D.A 1993; Introduction to Educational research, Egerton University Njoro Kenya

Kothari C.R(2004) Research methodology, methods and techiniques 2nd edition

Lawrence Godiah, John Omiti, Patrick Irungu 2008;Animal Health service delivery systems in Kenya's marginal areas under market liberalization

McCorkle M. (2003). – Do CBAHWs provide services that work? Evidence of impact from Kenya, Tanzania and the Ministry of agriculture (MDA) 1999 b: the Kenya dairy subsector: a rapid appraised small holder dairy project report with collaboration with KARI and ILRI.

Ministry of agriculture annual report of 1996

Ministry of livestock development annual report 1998.

Ministry of agriculture, livestock development and marketing annual report 2001

Mogoa E.G.M Omiti JM & Tsuma V.T 2009: constraints and opportunities in the privatization of animal breeding services in Kenya

Mpelumbe I.S. (1993). Perspectives on the privatization of veterinary practice in the context of livestock production in Africa. *In* Comprehensive Reports on Technical Items Presented to the International Committee or to Regional Commissions. OIE, Paris, 81-87 (in English), 73-79 (in French).

Mugenda and Mugenda 2008; Research methods ;Quantitative and qualitative Approaches

Odhiambo, O., S. Holden, and C. Ackello-Ogutu (1998) OXFAM Wajir Pastoral Development Project:

Otieno-Oruko, L. O, M. Upton, and A. McLeod. 2000. Restructuring of animal health services in Kenya: Constraints, prospects and options. *Development Policy Review* 18 (2): 123.138.

Orotho J.A 2003;Elements of Education and social science research methods_Maseno

Proceedings of a workshop held in Arusha, Tanzania, 14- 18 December 2008. VETAID, Penicuik and the Technical Centre for Agriculture and Rural Co-operation (CTA), Wageningen (http://www.vetaid.org/publications/arusha98/index.htm)

Rosenberg K.M and Dary H,B (1993) Foundation of behavioral research; A basic question approach Fortworth/Harcout Brace, college publishers, London.

Sara Holden 2009: economic of the delivery of veterinary services rev. science tech.18(2) 425-439

Sen A, & Chander M. (2003). – Privatization of veterinary services in developing countries: a review. *Trop. anim. HlthProd.*, **35** (3) 223-236.

Silkin T, & Kasirye F. (2002). – Veterinary services in the Horn of Africa: where are we now? A review of animal health policies and institutions focusing in pastoral areas. Community-based Animal Health and Participatory Epidemiology Unit, Organisation of African Unity, Nairobi, 84 pp. (http://www.eldis.org/fulltext/cape_new/Silkin%20_Kasirye.pdf).

Trish Silkin (2005): Veterinary services in the Horn of Africa: where are we now?, Development in Practice, 15:1, 40-48

Upton, M. 1993. Privatisation of agricultural input delivery systems. Paper presented at Nairobi cluster socio-economics group meeting, International Livestock Research in Animal Diseases (ILRAD), Nairobi.

APPENDICIES

APPENDIX I

LETTER OF INTRODUCTION

LABAN N. MAKAU
UNIVERSITY OF NAIROBI
DEPARTMENT OF EXTRA MURAL STUDIES
P.O BOX 30197
NAIROBI

Dear Respondent,

Re: research on the influence of privatization of veterinary services on service delivery to farmers in Mwala District.

I am a postgraduate student pursuing a masters Degree in project planning and management at the University of Nairobi. I am doing a research on the above subject.

I have selected you as a respondent in my research with the aim of getting your opinions about the influence of privatization to farmers in Mwala District.

The information that you provide will be treated confidentially and for academic purposes only. Kindly respond to all questions as honestly as possible and do not hesitate to ask for clarification where you don't understand.

I appreciate your time and responses in advance.

Yours sincerely,

Laban N. Makau

APPENDIX II

INTERVIEW GUIDE

To be used in the face to face interviews to the 38 livestock farmers in the main study and 8 livestock farmers in the pilot study.

The influence of privatization of veterinary services on service delivery to farmers in mwala district.

PART A; BACKGROUND INFORMATION

1. What is your gender?

   Male ( ) Female ( )

2. What is your age

   25-30 ( ) 31-35 ( ) 36-40 ( ) 41-45 ( ) 46-50 ( ) 51-55( ) 56-60( )

   61-65 ( ) 66-70 ( ) 71-75 ( ) Over 76years ( )

3. What type of animals do you keep

   Chicken ( ) Goats ( ) Sheep ( ) Cattle ( )

   Pigs ( ) Donkeys ( ) Dogs ( ) Cats ( )

   Others ( )

PART B-ARTIFICIAL INSEMINATION SERVICES

1. Are you able to access artificial insemination service when your cow is on heat?

   Yes ( ) No ( )

2. What time factor is taken after you request for it?

   Immediately ( ) After 2-6 hrs ( )

   After 7- 12 hrs ( ) After 24 hrs ( ) don't get it ( )

3. From whom do you get this A.I service from?

   Government Officer ( ) private practitioner ( )

   Dairy co-operative society ( ) other ( )

4. Before privatization of A.I service in 1991 from whom were you getting this service?

Government officer ( ) Private practitioner ( )

   Dairy co-operative society ( ) other ( )

5. Compare how the A.I Services are at present and before privatization

Better after privatization ( ) Worse after privatization ( )

6. Compare the cost of A.I services now and before privatization

Cost high after privatization ( ) cost low after privatization ( )

7. List the influences you know both positive and negative caused by privatization of A.I services

Positive influences/advantages of privatization of A.I. services	Negative influences/disadvantages of privatization of A.I services
1.	1.
2.	2.
3.	3.
4.	4.

8. In your opinion would you like the government to start offering artificial insemination services again?

Yes ( ) No ( ) in difference ( )

PART C-CLINICAL TREATMENT OF ANIMALS

1. Are you able to access clinical services when your animals are sick?

Yes ( ) No ( )

2. What duration do you take after you request for clinical service and when you get it

At once ( ), after 2-6 hours ( ), after 7-12 hours ( ), after 24hours ( ), don't get It ( )

3. From whom do you get the clinical service? Government officer ( ),

Private practitioner ( ), others ( )

4. Before privatization of clinical services in 1994 from whom were you getting this Service?

Government Officer ( ), Private practitioner ( ), others ( )

5. Compare how clinical services are offered now and how they were offered before Privatization. Better after privatization ( ), Worse after privatization ( ). Don't know ( )

6. Compare the cost of clinical services now and before privatization

Cost high after privatization ( ) cost low after privatization ( )

7. List the influences you know both positive and negative caused by privatization of clinical services

Positive influences/advantages of privatization of clinical services	Negative influences/disadvantages of privatization of clinical services
1.	1.
2.	2.
3.	3.
4.	4.

8. In your opinion would you like the Government to start offering clinical services again? Yes ( ). No ( ). Indifference ( )

PART D-DIPPING SERVICES

1. Is it possible for you to access dipping services?

Yes ( ) No ( )

2. How often do you dip your animals?

Once per week ( ) once in two weeks ( )

Once per month ( ) don't dip ( )

3. Do you think the strength of the acaricides in the dips is strong enough to kill the ticks?

Strong enough ( ) Not strong enough ( ) don't know ( )

4. Compare how the dipping services were before privatization and now?

Better after privatization ( ), Worse after privatization ( ), don't know ( )

5. Compare the frequency of occurrence of tick-borne diseases before privatization of dipping services and now;

Frequent after privatization ( ), frequent before privatization ( ), don't know ( )

6. Compare the cost of dipping services now and before privatization

Cost high after privatization ( ) cost low after privatization

7. List the influences you know both positive and negative caused by privatization of dipping services

Positive influences/advantages of privatization of dipping services	Negative influences/disadvantages of privatization of dipping services
1.	1.
2.	2.
3.	3.
4.	4.

8. Would you like the government to start offering dipping services again?

Yes ( ) No ( )

APPENDIX III

QUESTIONNAIRE OF THE GOVERNMENT OFFICERS (MINISTRY OF LIVESTOCK DEVELOPMENT STAFF OF MWALA DISTRICT)

The influence of privatization of veterinary services on service delivery to farmers in mwala district.

1. How long have you been in the service?

_____

2. What are your qualifications?

Certificate ( ) Diploma ( ) Degree ( ) Other ( )

3. Indicate your duties?

---

4. Do you compete with private practitioners in offering services to farmers?

Yes ( ) No ( )

5. Compare how the following services were to the farmers before privatization and now; (a) **A.I services**- Better after privatization ( ) worse after privatization ( ) (b) **clinical services**- Better after privatization ( ) worse after privatization ( ) (c) **Dipping services**- Better after privatization ( ) worse after privatization

6. Compare the cost of A.I, clinical and dipping services now and before privatization

(a)A.I services; Cost high after privatization ( ) cost low after privatization ( )

(b)Clinical services; Cost high after privatization ( ) cost low after privatization ( )

(C) Dipping services; Cost high after privatization ( ) cost low after privatization ( )

7. List the influences you know both positive and negative caused by privatization of dipping services, clinical services and A.I services

a) Artificial insemination services

Positive influences/advantages of privatization of A.I. services	Negative influences/disadvantages of privatization of A.I services
1.	1.
2.	2.
3.	3.
4.	4.

b) Clinical services

Positive influences/advantages of privatization of clinical services	Negative influences/disadvantages of privatization of clinical services
1.	1.
2.	2.
3.	3.
4.	4.

c) Dipping services

Positive influences/advantages of privatization of dipping services	Negative influences/disadvantages of privatization of dipping services
1.	1.
2.	2.
3.	3.
4.	4.

8. Do you think the government should start offering the privatized services again?

Yes ( ) No ( ) don't know ( )

APPENDIX IV

QUESTIONNAIRE OF THE PRIVATE PRACTITIONERS

The influence of privatization of veterinary services on service delivery to farmers in mwala district.

1. What are your qualifications?

   Certificate ( ) Diploma ( ) Degree ( ) Other ( )

2. How long have you been in private practice?

   _____

   _____

3. What type of practice do you do?

   A.I ( ) Clinical treatment ( ) Dipping services ( )

   Agro vet ( ) other ( )

4. What challenges do you face? Tick where applicable

   Farmers unable to pay for the services ( ),

   Poor road network ( ),

   Lack of transport ( ),

   Competition by government veterinary staff ( )

   Lack of subsiding by the government ( )

   Lack of loans and high interest rates ( )

   Other specify ( )

5. What do you think should be done to make private practice a success?

   _____

   _____

6. List the influences you know both positive and negative caused by privatization of dipping services, clinical services and A.I services

a) Artificial insemination services

Positive influences/advantages of privatization of A.I. services	Negative influences/disadvantages of privatization of A.I services
1.	1.
2.	2.
3.	3.
4.	4.

b) Clinical services

Positive influences/advantages of privatization of clinical services	Negative influences/disadvantages of privatization of clinical services
1.	1.
2.	2.
3.	3.
4.	4.

c) Dipping services

Positive influences/advantages of privatization of dipping services	Negative influences/disadvantages of privatization of dipping services
1.	1.
2.	2.
3.	3.
4.	4.

7. Do you think the government should start offering the privatized services again?

Yes ( ) No ( ) indifference ( )

APPENDIX V

BUDGET

ITEMS	AMOUNT(KSHS)
Stationary	10,000.00
Typing and Printing	8,000.00
Data collection and Analysis costs	30,000.00
Binding and secretarial services	5,000.00
Internet costs, Library access	8,000.00
Research Assistants (2)	30,000.00
Transport and accommodation	30,000.00
Total	**121,000.00**

APPENDIX VI

WORK PLAN

MONTHS/ EVENTS	Jan	Feb	March	April	May	June	July
Identifying of the research title							
Developing Proposal							
Defending Proposal							
Proposal Amendments							
Data Collection							
Data analysis							
Developing & defending final project work							