

Gender issues in dairy goat keeping: A case for Murang'a district, Central Province, Kenya



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LIST OF ABBREVIATIONS

DFID	Department for International Development
FAO	Food and Agricultural Organization
Ha	Hectares
Ksh.	Kenya Shilling
MoALD	Ministry of Agriculture and Livestock Development
DGAK	Dairy Goat Association of Kenya
FTC	Farmers Training Centre
ATC	Agricultural Training Centre
MoLD	Ministry of Livestock Development
GTZ	Deutsche Gesellschaft Fuer Technische Zusammenarbeit (German Technical Co-operation)
IFAD	International Fund for Agricultural Development
KNBS	Kenya National Bureau of Statistics
PEST	Political, Economic, Socio-cultural and Technological
DivAPO	Divisional Animal Production Officer
DLPO	District Animal Production Officer
FEW	Frontline Extension Worker
CTA	Centre for Tropical Agriculture
DED	Deutscher Entwicklungsdienst (German Development Service)
MoA	Ministry of Agriculture
KENFAP	Kenya National Federation of Agricultural Producers

DEFINITION OF LOCAL TERMS

Kikuyu	English
Tukaria ndongu	Reference to local goats meaning they chew <i>Solanum</i> fruits

ABSTRACT

Development programmes are initiated to improve the living standards of households, regions and also countries. The intended objectives of the programmes may be achieved but it has been observed that most development programs make assumptions which may limit the achievement of the intended objectives.

The dairy goats project was started in Central province of Kenya by the Ministry of Agriculture and Livestock Development (MoALD) with the aim of giving the livestock farmers an alternative source of milk and incomes due to the fact that the declining land parcels were making dairy cattle keeping an unfeasible undertaking to most rural households. It is worth noting that, farmers in the province used to keep local indigenous goats alongside the dairy cattle.

This study was thus carried out to analyse whether gender issues like labour division, access and control of resources and benefits were affected when the concerned farmers changed from keeping local goats to dairy goats. The other objective of the study was to assess whether gender needs analysis was done before or during implementation of the project.

Primary data which was qualitative was collected using structured questionnaires which were subjected on men and women in dairy goats keeping households. The respondents were 13 men and 12 women who are husband and wife in 13 households who shifted from local goats to dairy goats keeping. Information was also collected from 4 households (4 men and their 4 wives) who have not adopted the dairy goats and hence are still keeping local goats and this was done to compare the results. The study also involved three case studies where semi-structured interviews were conducted on staff from the Ministry of Livestock Development and Dairy Goat Association of Kenya (DGAK) to understand how the programme was implemented. Secondary information was obtained from the livestock offices both at the division and the district.

The results of the study showed that the introduction of the dairy goats in Murang'a district had a positive economic impact to the concerned households and the district in general. However it was also found that, the goats required more labour input and this has increased the labour contribution of the household members even though the study revealed that women bore more of the increased workload.

The increased value of the goats also made the men to increase their attention on the goats which was low with the local goats and this resulted to the men acquiring more access and control of the goats and other production resources and also the benefits from the goats. The women's access and control of resources and benefits decreased as a result. The implementing organization, the MoALD did not conduct a gender needs analysis to understand the needs of the men and women in the district before embarking on the project and this may have contributed to the changes in gender labour division and, access to and control of resources.

Thus the researcher recommends the MoALD and DGAK to carry out a gender impact assessment to address the problem of gender biases which have caused increased workload while their access and control of the accrued benefits has also decreased. Also in The organisations should also be undertaking a gender needs analysis before implementing any intervention in future.

The implementing MoALD and DGAK staff need to be trained on gender so that they can be incorporating the gender issues when interacting the farmers.

CHAPTER 1: INTRODUCTION

1.1 Background to the study

The success and sustainability of any development programme is determined by a variety of factors among them the participation and contribution of both the implementer and the beneficiaries. At the household level, the participation of all household members especially the husband and the wife is very important. However, the incentive to participate is determined by such issues as gender labour division ensuring that one gender is not overburdened by the project activities. For an agricultural programme, it is crucial for men and women to have equal access and control of resources of production, and more so have ability to make decisions on the resource use. The same applies to the benefits accrued from the livelihood activity which should be enjoyed by all household members without some getting worse off, so that they can contribute to the success of the activity/programme.

1.1.1 Overview on land and livestock keeping in Central province

The high potential areas in terms of agricultural production are mainly found in the highland regions of Central, Eastern, Western and Nyanza provinces of Kenya. The high agricultural potential coupled with other factors like good infrastructural development have contributed to the high human settlement in these areas.

The highland areas of Central province, apart from having the above characteristics also have easy access to markets available in Nairobi, the capital city of Kenya and other urban areas. The province inhabitants belong to the Kikuyu tribe who have very strong attachments to land such that nobody feels secure unless he/she has a piece of land. All these factors have led to high land fragmentation thus contributing to the very small farm holdings.

Murang'a district is one of the districts in the province with such features which have contributed to the small land parcels which average 0.4 Ha per household in the high potential areas and 1.6 Ha in the low potential areas (Ministry of Agriculture and Livestock Development - Annual report, 1991). The district also receives good rainfall ranging from 750 – 2500 mm per year (Farm management Handbook of Kenya 1993 – 2005). However, despite the small farm sizes, the inhabitants who are traditionally farmers practice mixed farming engaging in a variety of livestock and crops enterprises. On livestock, farmers keep dairy cattle mainly for milk which is for home consumption and sale, poultry (mainly chicken), pigs, sheep, goats, rabbits.

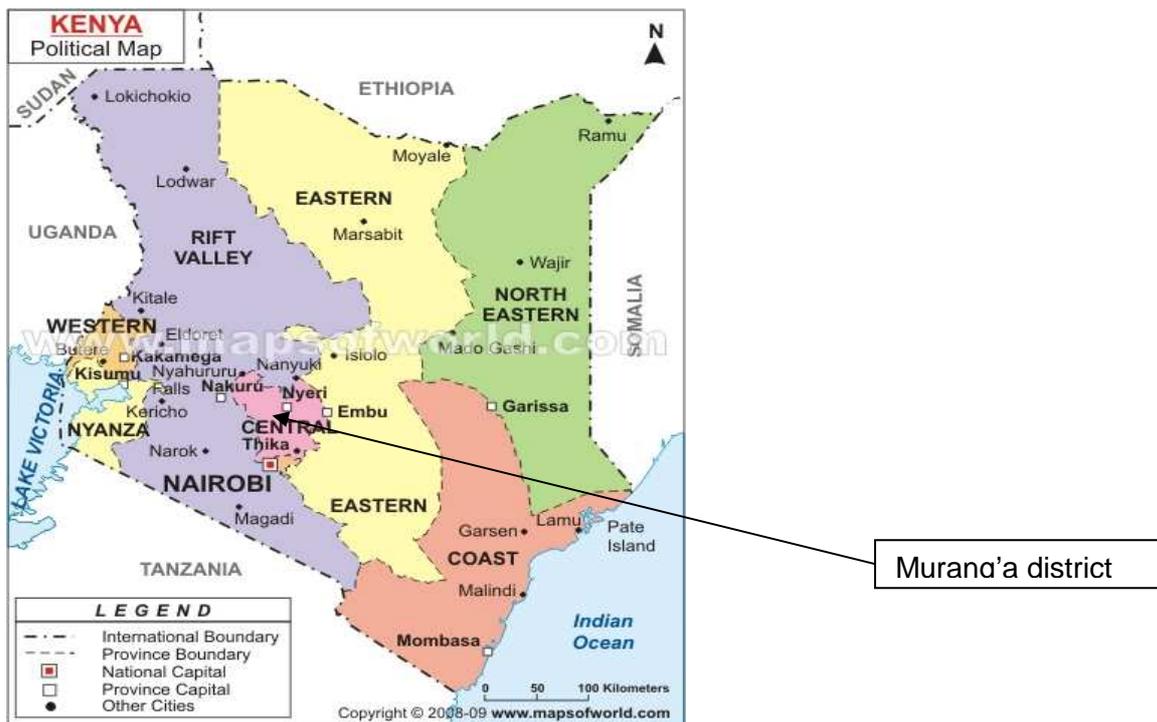


Figure 1. Map of Kenya showing study area

As population continued to increase, the farm sizes continued to decrease, and the farmers with small farm sizes were finding it difficult to continue keeping the dairy cattle due to limited space to grow the required fodder. In order to cope with this limitation, some farmers resorted to grazing or tethering the animals on the roadside or fetching fodder on the roadside for the zero-grazed animals. This practice could not be sustained as competition also arose among livestock keepers for the common fodder resources. There were also conflicts between road users like motorists and cattle owners, and risks of disease spread as a result of the increased animal interaction.

As a result of the feed shortage, milk production and hence incomes of the affected households decreased considerably and this had a negative impact on the livelihood of the households and the region as dairying was the main livelihood option as the coffee sector was not performing optimally. Milk production from the dairy cattle decreased to even less than 1 litre per cow per day (Ministry of Agriculture and Livestock Development annual report, 1992). Thus dairy cattle keeping became a preserve of those with some land to grow fodder and those with inadequate land but could afford to buy fodder and feeds from outside.

1.1.2 Overview on goat keeping in Murang'a district

Goat keeping in the district as is the case in other areas of the province has been going on for a long time and the farmers used to keep mainly the indigenous small East African goats which comprised about 95 % of the goat population with dairy goats and crosses making the remaining 5% (Ministry of Agriculture and Livestock Development, 1991). The few dairy goats were sourced from the white farmers who introduced them into Kenya in early 1950. The other source was government institutions like colleges and Farmers Training Centres (FTC), the nearby being Wambugu FTC and Embu Agricultural Institute.

The indigenous goats were used for incomes through sale of live animals, payment of dowry, source of meat for home consumption or ceremonies among other uses.

1.1.3 From local to dairy goats

The problems cited above of low milk production from dairy cattle brought about by small land parcels among other factors prompted the Ministry of Agriculture and Livestock Development to take action and reverse the trend which was negatively affecting the livelihood of the dairy farmers in the province. Thus the Ministry with funding from GTZ, initiated the dairy goat project in 5 districts (Murang'a, Nyeri, Kirinyaga, Kiambu and Nyandarua) in Central Province and Embu district in Eastern province in 1992. For the case of Murang'a district, the project covered Kahuro, Kangema, Mathioya divisions of the district which have some high potential highland areas leaving Kiharu division which is lowland with low dairying potential.

The idea of the dairy goats was received positively by the farmers since goats required less feed hence less space for growing the feed than dairy cattle. The project objective was to give the farmers an alternative to dairy cattle as a source of milk and also incomes.

The project started with farmers breeding their does which were local breeds with German alpine dairy bucks resulting in upgraded off-springs with higher milk potential. With the continued upgrading process, the beneficiary farmers realized the benefits of milk and increased incomes. This led to more farmers even some with adequate land to abandon the dairy cattle enterprise for dairy goats. As time progressed, the goats were spread even to Kiharu division which had earlier been excluded since it had very low dairy potential and there was no land scarcity.

In Murang'a district which is a DGAK branch, the project started with 9 groups in 1993 with a population of 171 dairy goats (92 males and 79 females) and 342 indigenous goats (MoALD annual report, 1993). Currently the district has 203 groups and 12,713 dairy goats.

Table 1. Dairy goats population and group in Murang'a district

Division	No. groups	Dairy goat population
Kahuro	51	3,672
Kangema	69	4,421
Kiharu	45	2340
Mathioya	38	2280
Total	203	12,713

Source: DGAK Murang'a branch Semi Annual Report, July 2009

1.1.4 Dairy Goat Association Of Kenya (DGAK) and dairy goats

The Dairy Goat Association of Kenya (DGAK) was started in 1994 through the initiative of the ministry (MoALD). It is a farmers' organization and the dairy goats constitute its membership. The objective of forming the association was to ensure the sustainability of the dairy goats project after the end of the project period. The feeling of the ministry was that, by the farmers owning the project from its initiation, it will increase the chances of the continuity of the project even after the eventual withdrawal of outside support.

The association was registered with the registrar of societies in 1994 and it started off with a membership of 37 dairy goat groups. Membership is now estimated at 1,050 groups (Dairy Goat Association of Kenya 2008) spread in all parts of Kenya. The headquarter of the association is Wambugu Agricultural Training Centre (ATC), Nyeri and for ease of management of the association's activities, it has six regions (branches) countrywide.

The operations of the organization are overseen by a DGAK Technical Manager and the branches are run by a DGAK Technical Officer.

The association has engaged the services of DGAK Assistants who are dairy goats farmers and who have been inducted to carry out extension and other services at the in the district. Currently there are 5 assistants in the Murang'a district

Table 2. Distribution of DGAK Assistants, Murang'a district

Division	No. of assistants
Kangema	2
Kahuro	1
Mathioya	1
Kiharu	1
Total	5

Source: DGAK Murang'a branch Semi annual report (July 2009)

1.1.5 Collaborators in the dairy goat project

The dairy goat project was initiated and implemented by the Ministry of Agriculture and Livestock Development with funding from GTZ. The funding was in form of transport, purchase and airlifting of dairy goat bucks from Germany, equipments like computers and also technical advice. The ministry on its part provided office space, personnel and some transport.

The German Development Service (DED) started supporting the project in 2003 when the organization signed an agreement with MoLD and GTZ and so far it has given support to DGAK in form of personnel, logistics (transport, office equipment, training of extension workers) and other reforms in the association like constitutional review.

1.1.6 Gender issues in goat keeping

In the period when the farmers were keeping the local goats, there existed some form of labour division and, access to and control of resources and benefits among the different members in the concerned households. The local goats also had certain management practices and benefits to the household members. The dairy goats which were introduced later were of different breed, had higher milk production potential and demanded management practices which were different from those of the local goats. At the same time the dairy goats gave different benefits to different members of the households. With all these differences between the local and the dairy goats, there was likelihood of change in gender labour division and, access and control of resources among the different household members. It is therefore imperative to assess whether the existing gender issues were affected when the households changed from local to dairy goats keeping. The importance of this study is that, the success of any household livelihood activity is highly determined by fairness in sharing of the workload and, access and control of resources and benefits without any member being overburdened and/or denied access and control of the realized benefits.

1.2 Statement of the problem

Before the introduction of the dairy goats in the 90s most of the farmers in the study area (Murang'a district in Kenya) were keeping local goats. The goats provided meat (for home

consumption and certain ceremonies), manure, incomes from sale of live animals and by-products like skins, were given as gifts, and were also used to pay dowry. The men and women in the goats keeping households had certain form of labour division as well as certain norms for access to and control of resources for production and even benefits. The farmers were also rearing dairy cattle for provision of milk and incomes.

Dairy goats were introduced in the district in 1992 with the objective of giving the farmers an alternative to dairy cattle mainly as a source of milk and also incomes among other benefits.

From that time to date, the dairy goat enterprise continues to be an important livelihood option in the district which has contributed to the improvement of the household incomes. However it is not clear whether it led to changes in the gender labour division and, access to and control of resources and benefits which existed when the farmers were keeping the local goats. This is a concern to the district livestock office since it can limit the achievement of the intended project objectives and especially if it led to the above issues being biased towards one gender.

1.3 Objective of the research

The objective of the research is to investigate the changes in gender labour division and, access to and control of resources and benefits which may have resulted with the dairy goat intervention with the aim of giving recommendations to counteract the negative impact which can affect the success of the project.

1.4 Research issue

In order to achieve the above study objective, the following research questions are formulated to guide the research process with each question having more specific sub-questions.

Main research question 1

How has the dairy goat intervention changed the gender labour division?

Sub-questions

- How was gender labour division when household was having local goats?
- How is gender labour division after the introduction of dairy goats?

Main research question 2

How has access to and control of resources and benefits among men and women changed with the dairy goats' intervention?

Sub-questions

- How was the access and control of resources and benefits by men and women when they were keeping local goats?
- How is the access and control of resources and benefits since they changed to keeping the dairy goats?

Main research question 3

How has the district livestock office contributed to the changes?

Sub-questions

- How has the district livestock office contributed to the changes (negative and positive) in the project?
- What has been the implications of these changes to the district livestock office?
- How has the district livestock office reacted to the changes?

1.5 Definition of key terms and concepts

This section defines the various terms and concepts as used in the research

Buck - A male goat that is mainly used for breeding purposes.

Doe - A female goat that farmers use for breeding to improve the milk yields.

Inbreeding - is breeding between close relatives, whether plant or animal (The American Long Ears Society, 2004)

Access

According to Candida et al (1999) access to resources means the opportunity or ability to use a resource. On a gender perspective it is defined as women's access to factors of production on equal basis with men. Access to resources and services helps men and women benefit from development programs.

In this research, access is used in terms of resources and benefits in the dairy goats enterprise.

Control

This is the command an individual has over resources and also the benefits from these resources. (Gender in Agriculture Sourcebook)

It denotes the power to decide how a resource is used and who has access to it such that none dominates the other.

For the purpose of this research, control will be considered as equivalent to ownership

Gender

Gender refers to how individuals learn what behaviours, attitudes, roles and activities are appropriate to being a man or a woman in their culture, including how they should relate to other people (FAO 2000)

Gender division of labour

Tasks or activities assigned to men and women according to their sex. The gender division of labour varies from one society and culture to another, and within each culture, it also changes with external circumstances and over time (Mukhopadhyay et al 1999)).

Reproductive work

Work which comprises the childbearing/rearing responsibilities and domestic tasks undertaken by women, required to guarantee the maintenance and reproduction of the labour force. It includes not only biological reproduction but also the care and maintenance of the workforce (Caroline O.N. Moser 1993).

1.6 Organization of the thesis

This thesis is organized into six main chapters with an introduction of the issue of discussion in each chapter.

Chapter 1 gives a general introduction of the thesis. It outlines a brief introduction of the issue to be studied, provides the statement of the problem and gives the objective of the study as well as the definition of key concepts.

Chapter 2 covers the literature review/conceptual framework which was studied to form a theoretical basis for which the research findings will be interpreted.

Chapter 3 describes the strategy used in conducting the research. It gives the research design used, the sampling technique used, the population used for the study, data collection methods used and the data analysis methods employed.

Chapter 4 presents the findings of the study from the interviews conducted from the farmer respondents, DGAK staff and the Ministry of Livestock Extension officer.

Chapter 5 gives the analysis and discussions of the findings of the research which also incorporates the findings from the various literature.

Chapter 6 gives the conclusion and recommendations on what need to be done concerning the identified issues.

CHAPTER 2 : CONCEPTUAL FRAMEWORK

2.1 Introduction

This chapter is meant to summarize the findings from literature which relates to gender issues in livestock production especially those concerning gender labour division, access to and control of resources and benefits. It also describes the dynamics of the above issues in relation to agricultural improvement strategies.

2.2 Gender roles and issues in mixed crop–livestock production systems

There are various farming systems as described by different authors especially the one by Shapiro et al (2000) which cannot be ignored since they greatly determine the gender division of labour and, access to and control of resources in livestock production. For the purpose of this study only one – the mixed crop-livestock production system will be described as it suits the characteristics of Weithaga location, Kahuro division, Murang'a district in Central province where the study was conducted. The purpose of describing the production system is because in most of the areas livestock enterprises are just a part of other agricultural enterprises and as such they cannot be treated in isolation as the different household members contribute and benefit from the various agricultural enterprises. .

2.2.1 Gender division of labour in traditional system

In the traditional mixed crop-livestock production system, the community is involved in crops and livestock farming the variety of which mainly depend on the climate of the area and the suitability of the other factors like soils. From a gender perspective, both men and women do a large number of tasks related to animal production, which include harvesting and transportation of feed (green grasses/weeds, fodder, forages etc.), chaffing of fodder, feeding and milking of animals, cleaning of cattle sheds and sale of milk products through formal and informal channels. The division of these tasks among men and women varies from one region or even country to another.

The common characteristic of these areas is the small sizes of farm due to the high human population which is attracted to these areas due to their suitability in terms of crop and livestock productivity. As a consequence, livestock rearing involves enclosing the animals in zero-grazing system since there is no space for letting animals to graze. Majority of men make decisions about breeding of animals and marketing.

Similarities and differences are noted in various countries and regions. A good example is in Togo and in Ghana where there are regional and tribal differences in the division of labour in traditional livestock farming, with satisfaction of social and economic needs as the determining factors of traditional livestock production in Togo (Shapiro et al 2000)

Another example is Burundi in which case women carry out a more significant part of agricultural work than their husbands though men, as owners of the farm business, regard women's work as assistance. In the same country, gender division of labour regarding goat keeping is not strict, but for the women their task involves cleaning the sheds while herding is mainly the men and the boys' work. On decision making on goat keeping, men do it after consultation with their wives but men are more involved in tasks regarding keeping of crossbred goats.

Women in the Ethiopian highlands where there is mixed farming is practiced are more involved in cattle production than in arable farming. Their work involves milking the cows,

cleaning the cow sheds, cut the grass and supervise feeding and grazing of cows, look after calves and sick animals, make dung cakes, butter and cheese and sell these products. They also distribute the milk to different uses. Men are involved in feeding the oxen and taking the animals for veterinary treatment while issues on purchase and sale of livestock are jointly decided upon by husband and wife. Grazing the ruminant livestock is generally undertaken by the boys, and sometimes girls although women assist in grazing to prevent the animals from growing crops during the rainy season. (Whalen 1984 cited in Shapiro et al (2000)).

In some communities, an example being Punjab Province of Pakistan, the value of the animal is the most important factor which determines the gender division of labour especially decision making in livestock production. If the animal is more valuable, there is less possibility that women will make decision especially concerning their purchases and sales.

2.2.2 Gender division of labour in intensified mixed farming systems

As is the case with the traditional farming system, different household members are responsible for different tasks in livestock production under the intensified mixed farming. The intensification of the farming system which also involves livestock keeping causes changes responsibilities, access to resources and livestock products and also control of the benefits. Technological change and market orientation of smallholder dairying, for example, affect the basis of gender division of labour and access to and control of resources and benefits. This is because the change in technology bring with it different management practices some of which may be more demanding in terms of such aspects as knowledge and labour hence the different household members will be forced to participate differently in the enterprise activities. In the case market orientation, if this changes in most cases it is for the betterment of incomes and this re-orientates the existing involvement and hence access and control of resources.

Although the household labour patterns and responsibilities differ from region to region, it has been observed in most areas that, the introduction of a new technology like breeds or husbandry practices leads to change in the existing pattern. An example is Ghusel village in Nepal where the roles and responsibilities of men and women changed with the introduction of a livestock improvement programme aimed at introducing the livestock keepers into the cash economy (Bhatt et al 1994 cited in Shapiro 2009).

Livestock intensification in mixed systems involves the introduction of high-yielding animals and management technologies. The objective of intensification is the potential of increasing production, for example milk which eventually leads to increased household incomes (Walshe et al.1991 cited in Shapiro et al 2000). However, despite the fact that this is an improvement welcomed by everyone in the household, in some instances the benefits don't benefit the different household members equally. The same observation is made on the labour demand which in certain circumstances makes some household members more overburdened (Conway 1997)

In a study conducted in five districts (Kiambu, Nandi, Meru, Migori and Vihiga) of Kenya intensified dairying in the mixed farming system usually takes the form of zero grazing where water and fodder are stall-fed to cattle and this a high labour demanding operation (Maarse 1985 cited in Shapiro et al (2000)). In these areas women's labour constitutes 32% of the labour demand implying they contribute more than men in activities like manure application in the fodder fields, fodder/grass cutting, feeding the animals, cleaning the shed, milking, fetching water, diseases and heat detection and sale of milk. Men contribute 23% of the labour in dairying and they are more involved than women in planting the fodder, buying of inputs and disease control like spraying. In these areas, children

contributed 5% of the labour in the area of water collection, sale of milk and application of manure and hired labour constituted 33.3%.

However there are some cases where women have less labour an example being Holetta in Ethiopia where their weekly labour contribution is 2.7 hours as compared with 10.7 hours for men and children 24.7 hours showing that men and children bear more labour burden as compared to women.

2.2.3 Analysis of gender labour division in goats

As indicated in the various examples above, gender labour division varies from one community, region or country to another. Thus before introduction of an intervention to any region or community it is good to analyse the labour division among the different household members. The importance of this analysis is to avoid a situation where a project or intervention is introduced to improve the livelihood of a household but in addition leads to burdening of some members.

The Activity Profile tool (one of the tools in the Harvard Analytical Framework) is suitable for the purpose of analyzing the labour division in both local and dairy goats because it identifies all the relevant tasks in an enterprise as well as other tasks in the household. It can also be used to identify the gender and age of those involved for example boys or men. The tool can be used to specify time allocation for each activity in terms of duration and seasonality as well as where the activity takes place (March et al 1999).

2.3 Gender and access to and control of resources and benefits

2.3.1 Access and Control Profile tool

The issue of access and control of resources for production as well as that of the benefits realized from the productive activities is very important as it determines the success of any undertaking in the household and the community in general. Thus it is necessary to analyse this issue based on the resources required for a particular enterprise, who among men and women has access to what resource and finally who accesses the benefits from the use of the resources.

The Access and Control Profile is an appropriate tool for assessing the above issues. In addition it assists in differentiating between the access and control of the resources and benefits (March et al 1999).

2.3.2 Access to and control of resources

The resources in livestock production systems include physical ones such as land, inputs, credit and the goat itself. Other resources are those that support the productivity which are mainly knowledge. Land is the most important resource for it is required in setting up infrastructure such as housing for the goats and the owner. Also it is used to grow the animal feeds as well as being used as collateral.

In sub-Saharan Africa although there are variations between countries, land tenure systems in general determine access, control and power to utilize land. In most of the countries, land is still under customary whereby in majority of the customs, women have limited access to land because they are not recognized as beneficiaries in terms of inheriting land (Booth J.G. 1999). In these countries, land parcels are generally transferred through inheritance and in most countries women do not inherit land. Under these circumstances women can only have access to land through their husbands and/or fathers who give them cultivation rights which in some instances is limited since they cannot cultivate what they want.

The issue of concern in these systems, according to various studies, is that despite the higher labour contribution by women, they have more difficulties than men in accessing resources such as land, credit and other productivity enhancing inputs and service.

According to Guerny (1996) in most of African countries, access to land in terms of use rights and ownership are determined by customary land use practices implying that since women use land owned by their husbands or male relatives, they only have temporary custody of the land. Women also usually cultivate separate plots as well as working as unpaid labourers on their husbands' land. All these issues point to the reason why in most African countries, women usually lose the rights to land following the death of their spouse and often there are distinct variations from household to another even in the same region on access and control of land.

The use right and ownership of land is also determined by other factors like population growth and agricultural development among others which create competition on land and this contributes to erosion of already existing use or ownership rights. In such a situation women are usually the first to lose those rights.

2.3.3 Access to and control of benefits

In most of the traditional dairy production systems women are mainly responsible for handling the products which are usually milk consumed at home. In some instances they use part or all of the incomes from sale of the products to purchase household goods (Chen et al 1999).

2.3.4 Access and control of livestock

In most societies in developing countries, although livestock ownership varies from one country or region to another, one factor which mainly determines the ownership is the size of the animal which somehow translates to the value of the animal either monetary or non-monetary. In many societies, for example, cattle and larger animals are owned by men, while smaller animals such as goats, sheep, pigs and poultry are more of a woman's domain.

According to Henderson & Hansen (1995) supports this by noting that, in most sub-Saharan countries, women are associated with the small animals in which case they own sheep, poultry, pigs and goats and, in some cases or certain times they are assisted in herding by their children.

Momsen (2004) also indicates that in most societies, women are mainly involved in keeping and also own small animals with the objective of producing for home use and if it is done for cash production the sales are targeted for local market.

2.3.5 Access to extension services

Extension services enhance the farmers' productive capacity by acquiring knowledge to improve agricultural husbandry. However as described above for other production resources, access to these vital services are usually limited for women due to various factors. One of the main factors causing the limitation is the fact that most of them have to balance their productive and reproductive responsibilities such as the issue of domestic commitments, including child care which works against them (Downes 1999 cited in Sweetman 2001)

Most women especially in Third World countries often are burdened with so many responsibilities that they usually have no time to receive extension services even where they are available.

On this issue of time limitations for women Momsen (2004, p 157) states that “Women on small farms in the third world often have a triple burden of work. They are expected to carry out the social reproduction of the household which may include fetching water and firewood, caring for the children, food preparation and house cleaning. At the same time they provide labour on the family farm and to earn money by working in other farms. The combination of productive and reproductive activities leads to long hours for female farmers, making them probably the busiest people in the world”

It is worth noting that although the socio-cultural set-up of the communities somehow contributes to the issues that hinder women from accessing the extension services, even the development programs contribute to the same. In these circumstances development activities were targeted at men on the assumption that men and women would benefit equally from these activities as women were viewed as housewives who are part of the homogenous household. In order to implement the planned developmental activities, farmers needed some advisory services and so as with the activities the services were targeted at men with the assumption that there would be a trickle-down effect for women (Booth 1999).

However, the delivery of livestock extension services especially in the African countries are directed at men or the systems favour men thus excluding women in receiving the services. The extension officers usually do this due to socio-cultural influences which associate livestock with men. Also in other circumstances they have the assumption that, the delivered information will reach the women. However the information does not automatically trickle down and even when that happens, it cannot be as effective as when the women will have gotten directly (Jansen, Zomers & Wima 1995)

This is done despite the fact that women provide much of the required labour and even in some cases they have expertise as ‘keepers’ of the livestock.

The problem of only targeting men can be linked to the fact that most of the livestock extension agents are men. According to a study by the same body, in 46 African countries the percentage of women extension workers was lower than 4%. This limits the women access to extension since some religious and cultural norms prohibits contact men and women if they are not relatives hence men extensionists. But even despite these religious and cultural limitations the men extension agents are more likely to advice the men farmers as they interact in social joints. This can be supported by a study done in Kenya and Tanzania which found that the men visited woman-headed households less frequently than man-headed ones. and that women tend to prefer women extensionists as long as they are qualified.

2.4 Dynamics in gender issues

The change from traditional to intensified or modern agricultural practices in most instances leads to reorganization in certain issues and as with other enterprises the important concern is whether introduction of new dairy technologies brings intra-household changes in resource and benefits allocation, and how the household as a whole is affected.

According to Momsen (2004) majority of programmes aimed at modernising agriculture leads to changes in the gender division of labour often increasing the women’s dependent status as well as their workload. The status of access and control of resources also change and women often suffer by losing control over resources especially land and are generally excluded from access to improved agricultural methods.

Under traditional animal husbandry practices, the different household members are responsible for different tasks in livestock production. However these responsibilities and access to resources and livestock products are subject to negotiation and change over time with intensification which mainly involves introduction of new technologies. At the same time, the technological change and market orientation of the concerned enterprise will affect the basis of gender division of labour and access to resources and benefits (Shapiro et al 2000).

2.5 Changes in gender issues – Influencing factors tool

The discussions in the above sections point to the fact that, with interventions being introduced in the household and/community there are bound to be changes in the status of the gender issues. The factors which lead to these changes vary from region or community or household to another thus it is important to understand these causes since they are specific to a particular context.

The Influencing factors tool is a very appropriate tool to analyse these factors because it helps in identifying the factors which influence the gender division of labour as well as access and control of resources and benefits. Although these factors interrelate the tool is able to categorise them to assist in better analysis. The purpose of analysis is to pinpoint the ones which affect the women and those that affect the men in a given setup. In addition, the tool helps to identify the constraints and opportunities to be considered during planning of any intervention to ensure it's successful implementation. (Candida et al 1999)

2.6 Organisations' services – Unpacking services tool

It has been observed that the success or impact of any intervention is influenced by the service delivery of the implementing organization(s). There are several examples of this but one given by Henderson & Hansen (1995) where a goat project was introduced to improve the livelihood of women in Kenya but men were not involved. However the goats were housed outside and to prevent theft, men had to play the role of guarding them at night. This led to eventual takeover of the goats by men which were initially meant to benefit the women.

The MoALD was the main player in the dairy goat project and as such the services it offered greatly determined the direction of the whole project. The services of the MoALD will be analysed using the Unpacking services tool (learnt during lectures) which is the appropriate tool to assist in understanding the services the ministry offered, whether the services met the needs of the men and women and, the impact the services had especially on gender labour division and, access to and control of resources and benefits.

The DGAK was formed late but since it was collaborating with the ministry, the services it offered which interrelate with those of the ministry will also be mentioned.

2.7 Conclusion

In reference to the foregoing literature, it can be concluded that gender division of labour exists in livestock keeping where men and women undertake different tasks and that the labour division varies from region or country to another. However, women generally contribute more labour inputs in areas of feeding, cleaning of barns, milking, butter and cheese making and sale of milk and its products than men and children. Children are more involved in grazing the animals where it is practiced although women are involved in some communities or seasons (Pandey 1997). Another observation is that although differences are there across regions, in most of them women are the main actors in the small animals as well as processing of products from the large animals. Hence they have some degree of

access and in some cases control of these animals while men have sole control of the large animals.

The gender labour division as well as access and control of resources are not static and in most circumstances they change when a change in technology occurs and/or with the change in market orientation of an enterprise. There is usually improved economic security of households as a result of interventions like intensification but in most cases, these leads to increased workload of household members and more so for women. It has also been observed that, the benefits from the economic security are mainly enjoyed by the men (Shapiro et al 2000).

It can also be noted that, although access to resources in most regions is socio-culturally determined, development programmes also contribute to the gender inequalities in access especially extension services and at the same time consolidate the existing biases by targeting one gender at the expense of the other.

CHAPTER 3: METHODOLOGY

This chapter covers the brief description of the study area, the strategy employed to carry out the research, data type and method of collection, description of the respondents as well as limitations encountered during the research period.

3.1 Study area

The study was conducted in Murang'a district which is one of the 13 districts in Central Province of Kenya. However by the time of conducting the research in July/August, the district had already been divided to form 3 districts which are Murang'a East, Murang'a West and Kangema. But the research covered the former district boundaries as was originally planned to avoid confusion.

Murang'a district covers an area of 930 km² of which 593 km² representing 64% is arable while the rest composes of very steep areas, rocky areas, natural forests and the Aberdare ranges which border the district to the north west. It is located between latitude 0° 43' O and longitude 37° 8' 60. The district borders the following districts, Maragua to the south, Kirinyaga to the east, Machakos to the south, Nyeri to the north and Aberdare ranges to the North West. The district is divided into 4 administrative divisions which are Mathioya, Kangema, Kahuro and Kiharu. The district has a population of 348,293 comprising of 164,664 males and 183,629 females.

Table 3. Murang'a district population and density

Division	Area (km ²)	Population	Density (Persons/ km ²)
Kahuro	167.9	93,586	557
Kangema	127.7	62,029	488
Kiharu	239.6	86,234	360
Mathioya	174	111,914	643
Total		348,293	

Source: KNBS (2007)¹

The district has high agricultural potential especially Kahuro, Kangema and Mathioya divisions due to the reliable rainfall and suitable soils. Kiharu has lower potential as it suffers from inadequate and erratic rainfall and the soils are not very good for crop production due to the high sand content. The district receives bimodal type of rainfall, the long rains (March to May) and short rains (October to December) with rainfall ranging from 750mm to 2500mm per year.

Agriculture is the mainstay of the district with about 65% of the population deriving their livelihood from agriculture and related activities. Population density is high especially in the three high potential districts due to the agriculturally suitable conditions. The district inhabitants belong to the Kikuyu tribe who are traditionally farmers.

Land pressure is evident due to the small land sizes which range from 0.4 to 1 ha in the high and lower potential areas respectively. Farming is mixed and crops grown include coffee, tea, horticultural, fruits which are grown as cash crops while maize, beans, potatoes are the main food crops and bananas serve as dual purpose crop. On livestock dairy and beef cattle, goats (dairy and local), sheep, poultry (chicken mainly), bees, pigs, donkeys and fish are raised, and most of them are kept as source of income although some also provide food like poultry.

¹ The figures are estimates since last census was done in 1999

Before the collapse of the coffee and dairy cattle sub-sectors in the 90s, they were the main income earners for a big percentage of farmers in the district. However, the two enterprises declined in their importance as income sources mainly due to the poor governance in their marketing organizations. The dairy goats were introduced in that period and since then they have claimed a good position as major income earners for many households particularly in the coffee/dairy zone.

3.2 Research strategy

This study involved data collection from the field, desk study research and case studies. The study conducted in the field had a qualitative approach during which the researcher did interviews on pre-selected farmers using questionnaire with structured questions. The farmers' interviews were conducted at the household level where a total of 33 (17 men and 16 women) farmers was achieved. In addition to the household interviews a focused group discussion was organised and carried out in order to get more information and 19 (12 men and 16 women) attended. For the case study, the data was both qualitative and quantitative since it was involved collection of some descriptive information and also numbers like that of goats and groups.

The study was carried out to explore the impacts on gender labour division and, access to and control of resources and benefits which might have resulted in the households when they changed their goat enterprises from local to dairy ones.

The study started with literature study at the Wageningen University library and this was necessary for the researcher to get an insight on findings from various literature sources on similar projects which have taken place in other regions or countries. Desk study extended to the field where consultation was done from the MoLD and MoA offices in Kahuro division, Murang'a district and Central province. The objective of the consultations was to get relevant documents like reports from the offices and also as a way of getting support especially from the provincial heads. The researcher also consulted the DGAK Technical Manager at the DGAK office at Wambugu ATC, Nyeri.

The field work was carried out in Kahuro division and the respondents were spread in three sub-locations (Wangu, Wanjengi and Mukangu) of Weithaga location in Kahuro division. The whole study was spread during the 6 weeks field work period from mid July to end of August 2009.

The division was chosen for the research because it is one of the divisions where the dairy goats project was initiated in 1992. The other reason is that the livestock extension staff the researcher worked with has been working in the location (Weithaga) even before the project was started and hence he had valuable information about the dairy goat project. The researcher also used to work in the same division for a period of 7 years as a Divisional Livestock Extension Officer but used to deal with the technical aspects of dairy goat keeping hence it was important and interesting to study the project from a gender point of view. The Ministry of Livestock Development collaborates with the DGAK in giving service to the dairy goat farmer and the researcher had a good rapport with the ministry and DGAK staff which was very crucial in getting the required information. The researcher's reputation was also important which enabled him to be entrusted with government transport.

The case studies which involved interviewing the key informants using semi-structured questionnaire were done with 2 field extension officers from the Ministry of Livestock, 1 DGAK Technical Officer representing Murang'a DGAK branch (he is also the Divisional

Livestock Extension Officer for Kangema division) and, 1 DGAK Assistant based in the location (Weithaga) and serves the location as well as the neighbouring Mugoiri and Murarandia locations.

The original idea was to interview the Murang'a District Livestock Production Officer (DLPO) but there has been a lot of staff movements in the ministry and the current DLPO was only three months old in the district hence the 2 livestock extension officers as ministry key informants. All the staff interviewed were men. They gave information on the involvement of the ministry in the implementation of the project. The DGAK staff were interviewed to understand how the organization came about, its objectives and its functions and, how they collaborate with the ministry of livestock development. Finally it was necessary to know whether the two organizations have been able to identify gender issues in the dairy goat project and the implications to them.

The category and gender of the respondents is shown in the table below:

Table 4. Category of respondents

Type of study	Respondents			
	Category	Gender		Total
		Male	Female	
Interviews	Farmers	17	16	33
Case studies	Livestock Extensionists	2	0	2
	DGAK staff	3	0	3
Total		22	16	38

3.3 Data collection and source

The study involved collection of both secondary and primary data. The process of primary data collection in the field is as described above (3.1). Secondary data was collected through review of relevant literatures covering the topic of concern (gender labour division and, access and control of resources and benefits) and these sources included books, journals, organization reports, documents and internet sites. The researcher tried to limit the search to the literature covering developing countries and more so in Africa to get areas with somehow similar climatic conditions and agricultural practices with the study area.

The primary data from goat keepers was collected from 13 households each with a man and his wife and keeping dairy goats and also from 4 households keeping the indigenous. The researcher collected the data by moving from household to household. The man and the wife were interviewed separately although at some point they were interviewed together especially if the information required is common for both man and wife. The reason for interviewing the women separately from their husbands is that, most women would not be willing to give information when the husband is present as they would normally let the husband 'speak for the household'.

The researcher was guided to selected households by the Ministry of Livestock staff who works in the division as the DivAPO but earlier used to work in the area (Weithaga location) as a Frontline Extension Worker (FEW) thus he knows the area well. The DivAPO was also a key informant.

After the household interviews, a focused group discussion was organised during which 19 farmers (12 men and 7 women) attended. The expected turnout was 33 farmers but some failed because of the long distance while others were suspected to be busy with various for example maize harvesting which was the main agricultural activity.

The researcher proceeded to Kangema division which neighbours Kahuro in the North East to get information from the DGAK Technical Officer. The officer played dual role since he also gave information on the involvement of the Ministry of Livestock in the project. Finally the researcher travelled to Nyeri 150 km from Weithaga where he visited the DGAK head office and interviewed the DGAK Technical Manager.

3.4 Selection of respondents and data gathering tools

3.4.1 Primary data tools and Criteria for respondent

The primary data was collected using data gathering tools such as structured questionnaire, checklist for the semi-structured interviews, focused group discussions, and observation. In some instances contextual inquiry was employed.

The purposive sampling technique was used to get the respondents. Initially the number of respondents was targeted at 30 (15 men and 15 women (wives)) in 15 households based on the criteria that they were initially involved in local goats keeping before switching to dairy goats and also they were both engaged in the actual dairy goat activities.

The other 10 farmers (5 men and 5 women) were selected on the criteria that they have not adopted the dairy goats and are still keeping the local goats. This group was used as control to check they show differences in gender labour division and also, access to and control of resources and benefits from those who were keeping the local goats in the past.

However due to some limitations as mentioned below, only 13 households keeping dairy goats and 4 keeping local goats were achieved and in fact in one of the dairy goat keeping households only the husband was interviewed as the wife was away. Thus a total of 33 respondents were interviewed (17 men and 16 women).

The collective interviewing was done in focused group discussion in order to get the common information like the services the farmers receive from the various organizations. Also it was important to conduct the focused group discussion since sometimes it is possible to get more data when respondents are together.

3.4.2 Secondary data

The secondary data was obtained from relevant gender books, journals, scientific books, reports, conference proceedings and publications from the internet. Some district information like demographic data, land and rainfall figures was searched from the district and divisional offices.

3.5 Data processing and analysis

The data collected from the field was summarized and edited to avoid confusion when analyzing and compiling at a later stage. The information from the interviews was grouped based on similarity of the responses.

The data was analysed using the tools Activity Profile for labour division, Access and Control Profile for access and control of resources, Influencing Factors for the causes of the changes in the gender issues. These tools are three of the four which make up the Harvard Analytical Framework and their importance is explained elsewhere in the report (see 2.2.3 and 2.3.1)

The services of the implementing organization, the MoALD were analysed using the Unpacking services tool. The appropriateness of the tool is also explained in section 2.5 above.

3.6 Limitations of the study

There were certain limitations which affected the researcher while conducting the research. First is the shortage of staff since the division which is about 169 km² is manned by only 2 livestock officers and during that period, one of them was on leave hence the research program had to be adjusted a number of times due to other commitments of the livestock staff thus taking longer than planned. The other problem was the weather which was very wet for some days making the earth roads very slippery to be accessible by motorbike thus causing delays.

The area residents were in the middle of the harvesting season and it seemed like disrupting their activities which led eventually to not achieving the set target and even struggling to interview the available ones. This busy schedule led to conducting the focused group discussion in the afternoon and even then the attendance was slightly more than half of those expected.

But despite all these limitations some useful information was collected which enables compilation of this report.

3.7 Importance of the study

The outcome of this study will assist the Ministry of Livestock Development as the overseer of the dairy goat project and other livestock activities in the district to adopt strategies to counteract the negative impacts the project may have created to ensure the continuity and success of the project. The findings will also act as a guide during implementation of future projects.

CHAPTER 4: FINDINGS

This chapter covers the presentation of the findings of the study. Since the research was mainly qualitative, the findings are presented in a descriptive and narrative form based on the sub questions. The findings thus cover the information gathered on the activities involved in both the local and the dairy goats and the gender labour division. Information on the gender access and control of resources and benefits is also presented. The overall findings are from the 25 (13 men and 12 women) farmers keeping dairy goats and 8 (4 men and 4 women) farmers keeping local goats), the DGAK Assistant, the livestock extension officers, the DGAK Technical Officer and some bit of information from the DGAK Technical Manager.

The information presented was collected through individual interviews but some of it was discussed and clarified and/or confirmed during the focused group discussion.

4.1 Activities in goats' enterprise

The information on the activities in goat keeping was collected to check whether there were any variations between the local and the dairy goats but in order to avoid getting outdated information the issue of the local goat keeping was limited to the period just before the dairy goats were introduced in 1993 or whenever the household introduced them since they didn't adopt the project at the same time.

The study found that the activities involved in goat keeping were almost similar for both the local and the dairy goats. The activities can be summarised as:

Table 5. Activities in goats keeping

n = 25

Activity	Local goats	Dairy goats
Fodder establishment and management - Land preparation - Planting - Weeding - Manure application	-	✓
Fodder harvesting	✓	✓
Feeding	✓	✓
Grazing/Tethering	✓	✓
House construction	✓ ¹	✓
House cleaning	✓ ²	✓
Routine goat management	-	✓
Disease/pests identification	-	✓
Disease /pest control/treatment	✓	✓
Selling the goat	✓	✓

Source: Field data

¹ Housing not an important aspect in local goats

² Not actual cleaning but manure removal
- Activity not undertaken

From the study 22 (11 men and 11 women) of the respondents indicated that the introduction of dairy goats led to increase in workload hence higher labour demand for the household. The

main reason was that the goats required more feeds and also more care than the local ones which were more hardy. The other two men argued that there is no much difference since they used to do much of the activities in their local goats. One comment from an old man summarised the issue:

“You just release the local goat to the bush or come with a handful of feeds from the bush as you come from the shops and that’s all but this one has to be cared for like a child”.

The respondents who changed from local to dairy goats indicated that, there was no fodder established for the local goats and fodder was harvested from bushes in the uncultivated farms, along the roadside or public lands. The local goats were also being grazed or tethered in those lands. However, there were 2 households with dairy goats who were up to now fetching feeds from the bushes but just to supply a small portion of the feeds. The local goats were also fed on sweet potato vines which were planted for sweet potato production for human consumption.

Diseases and pests identification as well as control was not a big issue in the case of local goats since for one they were rarely ‘affected’ and those affected were given low attention as they had little economic importance to warrant attention by a veterinary doctor. For instance one old woman commented :

“The ‘tukaria ndongu’ (kikuyu for local goats) were not getting sick – we have seen diseases with these European goats”

However, if the local goats were suspected to be sick which was rare, they were given some herbal concoction and this was the men’s work.

4.2 Labour division

4.2.1 Labour division in local goats

The information on the labour division in goats was obtained both at the individual level and in some cases from both man and wife for to avoid getting biased information. Although the boys and girls were not part of the interview, their contribution in the goat sector also came out from the parents. However the result analysis was based mainly on men and women. The information obtained from majority of the respondents revealed the following activities and labour division in local goats:

Table 6. Labour division in local goats

n = 25

Activity	Who was doing what			
	Men	Boys	Women	Girls
Fodder harvesting	x	x	x	x
Feeding	x	x	x	-
Grazing/Tethering	x	x	x	x
House construction	x	x	-	-
House cleaning (manure removal)	x	x	-	-
Purchasing/Selling the goat	x	-	x	-
Decision making on use of goat	x	-	x	-

Source: Field data

✕ Size of the symbol indicates level of workload.

The results above are views of 18 (10 men and 8 women) respondents which indicate that men had more activities in the local goats. This was especially in fodder harvesting which, all the respondents and discussants agreed was because during those days the fodder fetching involved clearing tough bushes and even in some instances the sources were not very secure for the women hence the men and boys included had to do that work. The men had higher level of workload than women in all the activities.

However after some discussions especially during focused group discussions some respondents especially women thought that they (women) were having more workload with one commenting:

“Just selling and then he commands what is to be done and then goes to the shops, is that what you are saying is more work, even me I can do that in addition to what I am doing now”

This is because in the respondents opinion (mainly women), the only work the men were doing is fetching fodder since decision making was just sitting down and commanding. The other activity was purchasing and selling which was more for the men but the women argued this is enjoyable since there is money and it is not tiring.

4.2.2 Labour division in dairy goats

As indicated above the study revealed some changes in activities and also the labour division equation when the farmers replaced the local goats with dairy goats. The findings on activities and division of labour as obtained from the 25 respondents are shown in the table below:

Table 7. Labour division in dairy goats

n = 25

Activity	Who is doing what			
	Men	Boys	Women	Girls
Fodder establishment/management - Land preparation - Planting - Weeding - Manure application	✕	✕	✕	✕
Fodder harvesting	✕	✕	✕	-
Feeding	✕	✕	✕	-
House construction	✕	✕	-	-
House cleaning (manure removal)	✕	✕	✕	-
Routine management	✕	-	-	-
Disease/pests identification	✕	✕	✕	-
Disease and pest control	✕	-	✕	-
Milking	-	-	✕	-
Purchasing/Selling the goat - At home - At auction	AH✕	-	H✕	-
Decision making on sale of goat	✕	-	✕	-

Source: Field data

AH✕ - at home and auction

Hx - at home

The above results from 17 (9 men and 8 women) respondents gave as the situation of labour and labour division for dairy goats and the results from the interview showed that:

- there are more activities in dairy goats than in local goats keeping.
- on women workload, there was an increase in the number of activities undertaken by women. It was observed that the level of involvement in fodder harvesting and feeding actually increased, and these are activities which they were less involved than men when they were keeping the local goats. At the same time they are doing more than men in fodder establishment and management – an activity which was not there for dairy goats. The other activities which they are now doing but were not doing initially include house cleaning, milking and, disease and pest identification and control. However, the level of involvement in selling and decision making on the sale of goat although was low for local goats decreased even more with the dairy goats. Information from most of the respondents indicated that women can only sell goats at the household level.
- men workload only increased on house construction, routine management, diseases/pests control, selling and decision making on sale of goats.

The other respondents had varying responses like the 2 men who said that they are sharing labour equally and the other 1 claimed to be doing all the activities alone. The 4 remaining women indicated they are doing most of the tasks.

4.3 Gender access and control of resources and benefits

4.3.1 Access and control of resources in local and dairy goats

Access to resources means the opportunity or ability to use a resource. However in most cases access does not give the user the power to make decision even concerning the use of the resource.

Control on the other hand is the power to decide how resources are used, and who has access to it. It denotes the power to decide how a resource is used and who has access to it. The person having control of resource is capable of making decisions over the use and allocation of resources and benefits. Thus this capacity to control a resource gives the authority to the person to reap the benefits realized and even disposal of the resource or asset (March et al 2005).

The results of the study showed that, there were differences in resources demand both in type and quantities. The local goats required fewer resources in terms of types and quantity than the dairy goats. The overall response was that when the households shifted from local goats to dairy goats rearing, there were notable changes in the way the men and the women were having access to and control of resources. The resources access and control for the local and the dairy goats are summarized in the table below:

Table 8. Access and control of resources

n = 25

Resource	Local goats		Dairy goats	
	Men	Women	Men	Women
Land	A/C	A	A/C	A
Inputs	A	a	A/C	a
Goats	A/C	A/c	A/C	a/c
Extension services	N/a	N/a	A/C	a

Source: Field data

A/C - High access and control, a/c – low access and control

N/a - Not applicable

The results from 16 respondents (9 men and 7 women) who are majority showed that that: In **local goats** keeping land was not a very limiting resource as it was mainly needed for building the goat house. The women and men could access the land but its use in terms of identifying the site to put the house was only controlled by man. The women could access the land in terms of managing the goats like feeding or returning them to the pen after they come from grazing thus they had access to the space where the house was put.

The only notable input in local goats was the feeds which were harvested from the uncultivated land, along the roadside and public places and men had more access to these areas but no control since they were mainly communal or public places. Men and women had almost equal access to the goats but men had more control of the goats than women.

In **dairy goats**, land became more important since it was needed for growing more feeds and at the same time space for building the house. Men continued to have more access and control than women.

The inputs required for dairy goat keeping are fertilizers and manure for applying to the fodder (napier and sweet potato vines) and, feeds and men have more access for fertilizers and feeds since they have access to money for purchasing the same. They also had more control in terms of when and where to purchase including application. Women have access only to the manure which they apply to the fodder.

The results also showed that, both type of goats are more accessible to the men while women had higher access for the local goats but decreased in dairy goats. The men even have more control over the goats than women. Women have little access and control in dairy goats since they can perform some activities like feeding and sometimes taking the does to the bucks.

The access was expressed in terms of using or having contact contact with the goat while control was in terms of power to do anything on the goat including selling and slaughter. Men could easily do these activities even with little or no consultation with the wife while majority of the women can do very little to the goat without consulting the husband except in few cases like taking a doe to the buck.

The local goats were not targeted for extension services hence both men and women had no access or control of the service. When the dairy goats were introduced, extension services became an important resource but mainly accessible and controlled by men with men having very low access.

4.3.2 Access and control of benefits in local and dairy goats

The same definition for access to and control of resources can be applied for the case of benefits which means that, access to benefits is the opportunity or ability to use benefits. While control of the benefits is the power to decide how benefits are used, and who has access to them (Candida et al (1999))

The information in this section of the study was collected at the household level. The results indicated that, the benefits of local goats were more than those of the dairy goats in terms of number. It was also found that, there was a change in how benefits were being shared when the household changed from local to dairy goat keeping. Although there were differences between the local and the dairy goats, the benefits from goats were given by all the respondents as:

- source of manure
- source of meat
- incomes from sale of the goats
- payment for dowry
- source of prestige
- milk

Table 9. Access and control of benefits in local and dairy goats

n = 25

Benefits	Local goats		Dairy goats	
	Men	Women	Men	Women
Manure	a/c	A/C	A/C	a/c
Dowry	A/C	a/c	N/a	N/a
Meat	A/C	a/c	N/a	N/a
Milk	N/a	N/a	a/c	A/C
Incomes	a/c	A/C	A/C	a/c
Prestige	A	a	A	a

Source: Field data

A/C - High access and control, a/c – low access and control

N/a - Not applicable

The results which were obtained from 23 (12 men and 11 women) respondents showed that the benefits from the local goats were five (5) which were manure, dowry payment, source of meat, source of incomes and prestige while those from the dairy goats were only three (3), manure, source of incomes and prestige. The dairy goats are not used for dowry since they have high demand from other farmers within or outside the district hence they in most cases they don't even reach mature age for dowry purposes. Also the goats taken for dowry are mainly for meat consumption during the dowry ceremonies and the dairy goats are not used as meat source. So for dowry payment, the farmers buy the local goats.

However, the respondents agreed that dairy goats were more beneficial in terms of incomes than local ones since they are sold at a higher price ranging from 7,000 to 10,000 Kenya shillings (equivalent 67 – 96 euro) for bucks and 8,000 to 12,000 Ksh. (equiv. 76 – 115 euro) for does. This compares with an average of 3,500 Ksh (34 euro) the local goats were fetching.

From a gender perspective, the results from 15 respondents (6 men and 9 women) revealed that men's level of access and control of manure and incomes increased while that of the women decreased. The level of prestige for both of them remained the same, that is high for men and low for women. The access and control of meat and dowry

disappeared for both men and women since dairy goats are not used as source of meat nor are they used as dowry payment. The local goats were not used as source of milk as they produced very little just for their kid(s). The milk from the dairy goats is highly accessed and controlled by women as they are the ones who milk and the milk is usually consumed at home hence men access it through the tea they consume.

The farmers have a tendency of selling the young does which have higher prices due their improved grade thus milk potential. Thus the remaining goats produce low quantities which in most cases is just enough for home consumption.

Some of the remaining respondents (6) in three households indicated to have equal access where one man said he brings the money from goat sale to the wife to keep.

4.4 Gender issues in current local goats

4.4.1 Gender labour division in current local goats

As discussed in the methodology, it was important for the researcher to assess whether the pattern of labour division and, access to and control of resources and benefits have changed in the local goat keeping. For this purpose, 8 farmers (4 men and 4 women) were interviewed and since the data will be useful in assessing how the gender labour division and, access and control of resources and benefits was in the past local goats keeping in comparison to what is happening in current local goat keeping. This is important to assess whether there has occurred any changes and the possible reasons behind it. The two sets of information is presented in the table below.

Table 10. Labour division in local goats (past and current practice)

n = 8

Activity	Who was doing what		Who is doing what	
	Men	Women	Men	Women
Fodder harvesting	x	x	x	x
Feeding	x	x	x	x
Grazing/Tethering	x	x	N/a	N/a
House construction	x	-	x	-
House cleaning (manure removal)	x	-	x	x
Purchasing/Selling the goat	x	x	x	x
Decision making on use of goat	x	x	x	x

Source: Field data

x - Size of the symbol indicates level of involvement in the activity.

N/a - Not done

The results shown are the views of 5 (3 women and 2 men) of the 8 respondents and they showed that women in local goat keeping households have increased workload in fodder harvesting and feeding, activities those who were keeping local goats in the past, were less involved. The women were not used to clean (manure removal) the goat house but now they are doing it. Their level of participation in purchasing and selling of goats has decreased.

For the men, their workload in fodder harvesting and feeding has decreased whereas their involvement in house cleaning has increased slightly. As shown above, they have become more engaged in purchasing and selling and also decision making on the sale or use of goats.

The results also show that grazing or tethering of goats is rarely practiced these days.

4.4.2 Access and control of resources in current local goats

The result from the respondents keeping the local goats currently were summarized and compared with the results obtained from the farmers who used to keep the goats in the past. The results showed that the resources required are almost similar to those required in the past except land which was not a major resource then but now it is due to fodder growing. Like in the past, goat is the main resource.

The results obtained from 5 (2 men and 3 women) of the respondents showed that men have gained more access and control of the goat while that of the women has gone down. There was an exception in one household where the woman has higher access and control of the goat than the man.

4.4.3 Access and control of benefits

The benefits from these local goats are mainly manure and incomes from sale of goats and results from 6 respondents (2 men and 4 women) showed that access and control for manure is equal for both sexes but for the incomes, access and control has increased for the men.

The goats are rarely used as a source of meat unless occasionally when there are celebrations or home consumption in very rare cases, hence access to and control of the meat has gone down for both sexes. They also give prestige but its access and control by both men and women remains the same as in the past that is high for the men and less for the women.

4.5 Change in gender issues – Influencing factors

As presented above by the household changing from keeping local to dairy goats, there arose some changes in gender labour division and also access to and control of resources and benefits. The researcher tried to get the farmers' views on what they think caused the changes to happen. The information was obtained when conducting the household interviews and also during the focused group discussions. However, much of the information was collected during the focused group discussions possibly because of exchange of ideas among the farmers.

The respondents gave the possible causes which were analysed using the Influencing factors tool.

Table 11. Causes of change in gender issues

n = 19

Causes for change	No. of respondents	Percent (%)
Economic – value of the goats	15	79
Community norms	11	58
Dairy goat management demands	9	47
Men domination	7	37

Source: Own study

The table shows the responses by the farmers with the second column indicating the the number who gave that reason and the third showing their percentage.

According to 15 (8 men and 7 women) of the respondents, economic reasons were the main contributors to the changes in gender labour division and, access and control of

resources and benefits the reason being, the goats were introduced when the farmers in the area had limited income sources hence men gained a form of employment giving them more access and control. The men took over the goats since they became more valuable than the local goats which were being controlled by women.

On community norms he 11 (5 men and 6 women) explained that, the Kikuyu customs, gives authority of control of livestock to the men. The issue came up because of the increased involvement by the men in the selling of goats and decision making. However the respondents particularly men could not explain why access and control of the local goats was low. But some of the women respondents connected this to economic reason and one commented:

“Men cannot let women to benefit, they are so possessive – they claim ownership for anything valuable in the household and leave the rejects to us. The problem is they make us do donkey work and they reap the benefits”

On dairy goat management demand, the 9 respondents (6 men and 3 women), gave reasons that the new goats required more attention in terms of feeds and management than the local ones hence everyone in the household was to be involved. This was used to explain why men were more engaged especially in issues like diseases and pests control. The women also had to be involved in fodder harvesting and feeding as the goats required more feeds.

Some respondents 2 men and 5 women blamed all the all the changes on domination by men whereby they argued that men tend to dominate everything in the household and also outside and that is why they took over the control of the goats. They also dominate even during trainings and meetings such that women cannot contribute. Others went further and claimed that even the day’s discussion was men dominated.

4.6 Services by the organizations

4.6.1 Unpacking the services

The services of the organizations which were and still are involved in the introduction and implementation of the dairy goat project (see 4.6.1 and 4.6.2 above) were analysed to assess their contribution to the changes in the described gender issues.

The analysis was based on the needs which the men and women would have expected to be met by the dairy goat project and especially for the women since in most interventions, their needs are ignored.

The study found that, the needs of the women are:

- To have access to the production resources which are land, goats and inputs.
- To be able to access the support services like extension.
- To be involved in decision making concerning the dairy goats enterprise.
- Fairness in labour division between men and women.
- To have access to the benefits from the enterprise which include incomes, manure, goats and milk.
- To be involved in the control of the benefits.

The services of MoLD and DGAK

4.6.1.1 Ministry of Agriculture and livestock Development

The dairy goat project as stated in the introduction was initiated and implemented in by the Ministry of Agriculture and Livestock Development (MoALD) through the funding from GTZ. According to the key informant from the ministry, the roles of the ministry were:

- Conducting a study to identify the viable income generating options for the farmers in the district. The study was carried out by a consultant who was hired by the MoALD but according to the information gathered the consultant did not disaggregate the household members interests as it was a wide study for the whole province. The study came up with other options like dairy cattle, beekeeping and rabbit rearing.
- Promotion of the dairy goats as a viable income generating project. The dairy goats were picked as they were the second option and dairy cattle was the first but there were problems with milk marketing that time hence it was not a viable option.
- Facilitate groups formation since group approach was used so as to get buck services, extension services, inputs and also to enable effective buck rotation.
- Care of the bucks at the site where they were quarantined before being distributed to the farmers. The Alpine bucks were acquired from Germany and so they had to be kept somewhere (Wambugu Farmers Training Centre in Nyeri) so that they can acclimatize before being taken to the farmers. The ministry staff had the role of taking care of the bucks.
- Distribution of the bucks to the groups was also the role of the ministry.
- Training of farmers on goat husbandry.
The training methods used were demonstrations, lectures, field days and tours. The issue of staff shortage was identified as a constraint hence the group approach was used.
- Control of goat diseases through vaccination campaigns.
- Buck rotation
The goat breeding programme had to be closely monitored in order to avoid malpractices such as in-breeding which could mar the whole project. For this reason, the buck needed to be rotated regularly from one group to another and a very strict timetable was to be followed. Thus this role could not be entrusted to the farmers and so the ministry staff were to be in charge.
- Facilitation of acquisition and distribution of inputs
The dairy goats required some inputs like fodder seeds some of which were not available in the district hence the ministry played the role of facilitating the farmers to acquire the seeds.

4.6.1.2 DGAK

The DGAK works in collaboration with the ministry in serving the dairy goats farmers. The services the association gives to the farmers are:

- Provision of breeding bucks
- Facilitation of buck rotation
- Registration of goats
- Facilitation of marketing of goats – marketing was done by bringing together buyers some of whom from outside the district, and the farmers. A central location was selected and an auction system was used.

- Provision of inputs

(Source: Interview with DGAK Technical Manager)

The DGAK Assistants facilitate/monitor bucks rotation, register goats for the farmers, facilitate farmers in marketing their goats and advice farmers on goat husbandry practices as well as training on:

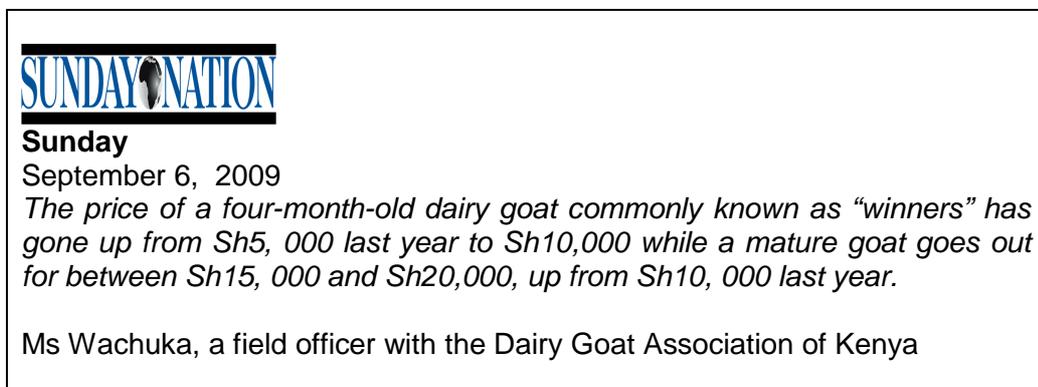
- Group formation and dynamics
- Feeding mgt
- Health and disease
- Housing
- Milk production and marketing

Currently there are 5 DGAK Assistants in Murang'a district
(Interview with DGAK Technical Officer, Murang'a branch)

4.6.2 Contributions of the organizations

The findings from interviews on the key informants working with the MoALD and DGAK indicated that, the two organizations have contributed to the improved livelihood of the farmers keeping goats (both local and dairy). This has been brought about by the increased incomes from goats. The goats prices average Ksh. 12,000 (equiv. 115 euro) for mature dairy goats as compared to Ksh 1,500 (equiv. 14 euro) when the project started.

Even the value of the local goats have increased since they now fetch upto Ksh 5,000 (equiv. 48 euro). The reason for the local goats becoming valuable is because fewer farmers are keeping them, thus the supply is low compared to demand. The goats are required for meat supply in the butcheries and homes, and also for dowry purposes.



Source: Sunday Nation Newspaper, Kenya. 2009

The caption above is from the Sunday Nation, a national newspaper showing the increase in demand and hence price of dairy goats.

This phenomenal increase also has had an impact in the area especially during the period 1990s to 2003 when the coffee and dairy sectors had almost collapsed due to mismanagement which affected the marketing of milk and coffee thus farmers had no source of income.

The researcher also found out that no gender needs analysis was carried out either before or during project implementation.

The other findings were that during the early stages of the project there was farmers' recruitment to join groups and it was realized that, the ministry recognized the goat owner as the one who is the group member. This led to the situation where only one household member benefited from the ministry's services and in most of the households the husband was the beneficiary. One such incidence is when the researcher visited a home and the woman, when informed the purpose of our visit retorted:

"You said you are from the ministry of livestock and you want to talk about the goats, we have only two, a doe and a kid and I can show you"

But when we explained further the purpose of our visit, she continued

"then if you want more than seeing the goats then sit here and I call the owner for you, he is further down doing some farm work"

When we started the discussion we realized that the man was the group member so he is considered by the wife as the owner of the goat.

CHAPTER 5 : ANALYSIS AND DISCUSSIONS

This chapter covers the analysis and discussions of the findings of the study as presented in chapter four. The findings analysed are those from farmer respondents, MoLD extension officer, DGAK Assistant, DGAK Technical Officer and Technical Manager. The findings are also compared with findings of studies conducted by other researchers and organisations as found in the literature some of which is cited in the conceptual framework.. The presentation follows the same format as used in presenting the findings.

5.1 Activities in goats enterprise

The results on the change in activities from the local to dairy goats showed that there was an increase in labour in the dairy goats as compared to what was happening in the local goats. The main reason is that the dairy goats were bigger in size, had a higher production potential in terms of milk and that explains why they required more feeds hence labour demand. Also the conditions the dairy goats were introduced to (study area) was very different from their source (Germany) and were under different management regime, thus they were likely to be more susceptible to pests and diseases. This called for improved management practices like cleanliness and diseases and pests control which called for increased labour.

According to Jansen et al (1995) the introduction of new interventions in most of the times result to change in labour demand and re-alignment of the labour division among the various household members..

And this finding supports the result that the introduction of the new goats breeds involved the change of the production system into a totally new system and this called for a change in labour demand.

5.2 Labour division

5.2.1 Labour division in local goats

The study revealed that men were having more activities than women since they were engaged in all of those activities involving local goats while women only did fetching of fodder although at lower scale, feeding and tethering of the goats.

After further analysis of the findings, I concluded that the men were involved in the more risky, heavier and technical demanding work which are fetching fodder, manure removal and house construction respectively. The fetching of fodder sometimes involved undertaking some risks and manoeuvres like climbing of trees which women could not do. In the same pattern, the women undertook the lighter tasks like feeding and tethering although at the end they required more time, for example feeding can be done even three times in a day

This opinion is supported by Momsen (2004) who indicated that the activities carried out by men and women in the farms follow a certain pattern whereby men undertake the heavier labour while women carry out the regular time consuming tasks an example being weeding.

However a closer analysis also shows some advantages in the men's activities in that by engaging in purchasing and selling goats they had a possibility of enjoying more access to the benefits (incomes).

They also had higher role to play in decision making which also gave them the power to decide on what is to be done on the goats and also other benefits.

5.2.2 Labour division in dairy goats

The results from the majority of the respondents showed that the dairy goats had more labour demand and that for the women, the number of activities increased. They became more involved than men in activities such as fodder harvesting and feeding as well as doing more in the new activity of fodder establishment and management. Other tasks which are new for the enterprise and women are involved are house cleaning, disease and pest control and milking. The women's level of purchasing and selling and, decision making decreased even further with introduction of the dairy goats. The women had different feelings about this but the majority (8) felt that they have always to ask for the money when they need it since the man was keeping it. Other 3 women said they always get the money from their husbands while 1 said her husband comes with the money and decide on its use together and even in some cases she keeps it.

For the men, their workload increased for house construction, for routine management activities like hoof trimming, diseases and pests control. purchasing and selling of the goats, and decision making on goats sales. The men were actually defending that their contribution is high due to the involvement in most of the activities. However, a closer look at their activities their activities are not undertaken often like disease and pests control which can be done even after three months, house construction which is done only once in about five years so the actual workload in terms of total time expenditure is low for the men.

In the case of women, their activities are done very often like fodder harvesting and milking which are done on daily basis and, feeding which can be done even three times in a day. Thus the women's workload increased considerably.

It can also be argued that, when the dairy goats were introduced there was need to establish fodder in the farms to cater for the increased demand thus the fodder was now available in secure areas where women can access thus they started being more involved in this activity. The other reason is that women are the ones who used to fetch cattle feeds including feeding them, hence they extended the roles to the dairy goats.

The other contribution is economic in that, the local goats were not commanding good prices so the men just left the women to handle the issue of selling and in some cases the control of the accrued income. So when the goats (dairy) gained in price the men identified a source of income hence they increased their involvement in selling. Also the socio-cultural aspect comes in women may not like to be engaged in selling the animals as it will be deduced as belittling their husbands.

For the women being more involved in the house cleaning, the increased care demanded for the dairy goats meant that the women must chip in since they are usually in the homestead while men socialise in the shopping centres.

This idea is supported by Momsen (2004) who asserts that modernisation of agriculture leads to alteration of labour division between the sexes and increases the women's dependent status as well as their workload.

On sale of the selling of the dairy goats it was organised in a central place where the farmers and buyers will meet and auction was conducted. The auction was usually organised in a place convenient for all the farmers and so it was in most cases far from home. It also took place for most of the day and that means the men would be involved in this activity more than the women. This supports why the men were dominating in buying and selling of goats leading to more access and control of income. However in few

circumstances buyers will come to the homestead and that's where the women will be involved but even in such cases, women can sell only after consultation with the husband.

This is supported by Stitche & Hay (1995) who writes that although women are the primary owners of livestock in most African countries, they often have lesser role than men in decision making concerning the sale of the livestock.

5.3 Gender access and control of resources and benefits

5.3.1 Access and control of resources in local and dairy goats

The results from the research indicated that with the change from local to dairy goats, land which was not a very limiting resource in local goats became an important one and due to the multiplicity of its use in a mixed farming system, the issues of access and control changed. In the past, men and women had almost equal access to the land in terms of selecting the building site by the man and woman in terms of managing the goat. The control of the land was by the men.

The reason is that with the change to dairy goats, land demand increased for growing the fodder as well as building the goat house and the men continued to have more access and control while accessibility of land by women reduced.

It can also be explained that, in the area where the dairy goats were introduced, farmers practice mixed farming and land parcels are small. In the same area women usually have access to the land to grow food crops and the men cash crops. Thus the only option with the increased land demand was to reduce the crop land hence women's access decreased. This is supported by Booth (1999) who says that generally in sub-Saharan Africa, although there maybe variations, the land tenure system determine access and control of land. Also in most countries in Africa have land is under customary law which gives women limited access to land because they are not recognized as beneficiaries in terms of inheriting land. This system may be different from the study area where land is individually owned but the customs of the area community (Kikuyu) give preference to males in land ownership they (men) make decisions on what is to be grown and where

The inputs required for dairy goat production are fertilizers and manure for applying to the fodder (napier and sweet potato vines) and feeds and, men have more access and control of these inputs. The reason is that they are the ones having more access and control of money for purchasing the inputs. Women have access only to the manure which they apply to their plots.

On access and control of local goats as a resource, men and women had almost equal access but men had more control of the goats than women since they could decide on the use or sale of the goat. With the dairy goats the situation has changed and the goats are more accessible and more controlled by men, this being contributed by the high value of the dairy goats. The customary norms of the society also gives the man the power to control the household assets and this could contribute to the change in control over the goats.

According to Hill (2003) cited in WB (2009), men rarely undertake women's tasks unless in cases where there is potential to gain control over the asset.

The women access and control of goats was limited to feeding and in some cases taking the does to the bucks. These are the tasks they can perform without consulting their husbands.

For extension services, the local goats were rarely targeted for advice since the extension officers focused on other enterprises like dairy cattle which had more economic importance, and even the farmers never consulted on these goats. In the dairy goat production, the extension services were accessible only by men and very low access by women.

The reason for this is that, the services for example trainings are targeted to the registered group members who in most households are men hence they will always attend the trainings organised by the extension officers.

According to Booth (1999), extension services used to be targeted at men assuming that the women will benefit from the men.

This is true in most of the areas but the researcher found that even when the group member was the wife, in certain circumstances the husband will attend on her behalf due to other factors like trainings organised in public places where most women were not comfortable to attend. Also some trainings were organised very far from home and hence the women fail to attend due to home commitments like being involved in other reproductive activities. These type of activities in the location (Weithaga) are fetching water from the rivers which usually takes long due to the hilly terrain, fetching firewood which is not easily available as trees are scarce, food preparation, caring for the children and washing among others.

Momsen (2004), support this argument by noting the women in sub-Saharan Africa do a combination of productive and reproductive activities making them spend very long hours working. This lack of time limits them in accessing the available extension services.

Men have control of the extension services in terms of delivery since sometimes they are consulted by the extension staff on such issues as venue and timing among others. It is common practice for men in the area to go to the shops in the evenings and that is a chance they can meet with the extension officers and arrange for such trainings hence limiting access by women. When the men receive the services (knowledge), they can use it the way they want and they rarely pass it on to their wives.

5.3.2 Access and control of benefits in local and dairy goats

The findings indicated that, when the household changed from keeping local goats to dairy, the men's access and control over manure and incomes increased.

It can be argued that, the increased value of the goats led to men increasing their attention to the goats as it was the main household income earner. The goats required more fodder and manure application was one way of achieving this hence the men had the need for manure which initially was used by the women in the crop fields. The women's access and control of the manure decreased due to the resulting competition.

On access to goat meat and goat for dowry, men used to have higher access and control but the women's access and control was low.

This can be argued in the sense that decision on slaughtering involved only men and women were just informed. Dowry in the Kikuyu custom involves taking the goats to the wife's parents and hence there must be some home discussions in which she participates. However, with dairy goats, the access and control of meat and goats for dowry disappeared for both men and women since dairy goats are not used as source of meat nor are they used for dowry payment. This can be attributed to the high demand for dairy goats for breeding hence they cannot be available for these purposes. The dairy goats are only available for meat when they are beyond the productive age or have reproductive defects which limits their reproduction.

The local goats did not produce enough milk except for suckling its kid hence it was not a benefit to men and women.

With the change to dairy goats keeping the women gained high access and control of their milk and the reason for this is women are the ones who milk the goats and the milk is usually consumed at home hence men access it through the tea they consume.

The level of prestige for both of them remained the same, that is high for men and low for women. According to the customs of the area community, livestock is the property of the men hence the prestige is always higher for them.

5.4 Gender issues in current local goats

5.4.1 Labour division in current local goats

The results from the study showed that the women's workload in fodder harvesting and feeding has increased if you compare with findings of those who used to keep local goats. The reasons behind this the fodder from the communal or uncultivated farms is no longer available hence most of them rely on the fodder they have established for the dairy cattle like napier and sweet potato vines. They also feed them on weeds from their farms. In most circumstances fodder harvesting for the cattle is the task of women hence they extend the same activities to goats and this makes the men less engaged in these two activities.

According to the respondents the house cleaning (manure removal) was mainly the work of men and it remains as such but in a few of the households, the goat houses have been modified to slatted floor like those of the dairy goats and this is where, women are participating in the activity. The improved goat house with slatted floor have very little space under the floor to keep the droppings hence the droppings require to be removed regularly and this where the women are more involved since they are always at home.

This is an indication that, although these households have not adopted the dairy goats, they have adopted some of its good practices like housing.

The level of participation in purchasing and selling of goats has decreased for the women while that for the men have increased. This can be explained on the basis that with most households adopting the dairy goats the local ones are becoming scarce and since they are required for dowry purposes and source of meat, their demand has increased hence their prices. And as explained above, men increase their interest to the goats hence their control while the women lose the control.

The increased control explains why the men become more engaged in purchasing and selling and also decision making on the sale or use of goats.

Also according to Sweetman (2002) the gender-based division of labour according to tasks is breaking down and women are increasingly undertaking tasks previously done by men.

There other change affecting the current local goats is the reduced or no grazing but used to happen in the past. This is explained by the decline in idle and public lands which were used as grazing and tethering fields.

5.4.2 Access and control of resources in current local goats

The result showed that land which was a non significant resource in the past local goats keeping has become a requirement these days. The access and control of the land is higher for the men. Also access and control of goats remained high for the men but decreased for the women.

The reasons for this is that, the decrease in farm sizes has affected all the households in the area hence due to the enclosure of the goats, the demand for the land is high and the competition for the land creates differences in its access and control.

For the goat and as explained above, the local goats have become scarce hence high demand has increased their value thus the men have increased their attention to the goats thus the higher level of access and control.

5.4.2 Access and control of benefits

The findings gave manure and incomes from sale of goats as the benefits from these local goats. From the findings it was observed that access for manure is equal for both sexes but men have more control. The reason for this is that manure has become less since the idle lands have decreased but its demand remains high so the men exert more control due to competition. The competition arises because men want manure for fodder and women need it for food crops.

For the incomes, access and control has increased for the men because, men are now more involved in sale of goats and they act as the custodians of the accrued income.

Access to and control of the goat for meat purposes has gone down for both sexes. This can be argued on the basis that the increased value of the local goats has turned them to sources of incomes rather than meat unless occasionally.

According to Shapiro et al (2000), in traditional animal husbandry practiced in intensive mixed farming, different members in the household have different tasks in the livestock production. However these tasks as well as access to resources and livestock products are subject to negotiation and change over time. This usually happens with intensification which involves introduction of new technologies and change in market orientation.

5.5 Change in gender issues – influencing factors

The findings indicated that, the majority of the respondents (15) gave the cause of the realized changes as economic relating it to the high value of the goats. They (mainly women) claimed to have some level of ownership of the local goats but now they cannot even touch the dairy ones as men have taken over. Other results by 11 respondents (5 men and 6 women) showed that livestock, according to the Kikuyu customs belong to the men. But when probed further, the men's control of goats was lower for the local ones and that's when it came out that, the men had coffee and dairy as income source sources and this contributed to the low interest in local goats.

The other causes were high management demand for the dairy goats which have led to more workload which mainly is handled by the women. Others gave men domination which for this case can be linked to the customary norms and economic reasons.

The above reasons are among other causes which led to the changes in the above discussed gender changes. It is observed that, all the changes were favouring men like increased access and control of resources and also benefits and less workload.

However, it can be argued that despite the fact that these factors exist in most communities, the activities and approaches used both before and during the implementation process could have contributed much to the identified changes and these will be analysed and discussed in the following section to show how they could have made a contribution.

5.6 Organisational support

5.6.1 Unpacking the services of MoALD and DGAK

The services the two organisations are shown in the findings (4.5.1) above. In order to identify the contribution of these services to the changes in the gender issues, it is necessary you unpack them from a gender perspective. It can be argued that the services (some) made a contribution to the observed changes.

The survey which was conducted by the consultant did not cover the gender aspects (interview with DGAK Technical Manager). It can be argued that, this contributed to the changes in gender issues since the various household members' needs were not isolated. If the needs were identified, it could have been realised that different members have different needs from the same resource, the access pattern to the resources for production, the customary norms which govern access and ownership of these resources and also benefits. The study recommended a household enterprise (goat) which although the study showed was a women enterprise was taken over by the men.

The services offered by both organisations used the group approach which although has got advantages like wide coverage and low cost also has some disadvantages which limited the access of the services by the women. These services like trainings required the farmers to be away from home and this was only possible for the men since women had other limitations like reproductive duties in the household. The information obtained showed that although women membership was high in most of the groups, the activities like trainings were always dominated by men (interview with DGAK Technical Officer). The other limiting training method was the tours which involved travelling far sometimes even outside the district. Thus more men attended than women.

The trainings conducted by the extension staff covers the technical areas but don't cover gender issues. This can be attributed to the lack or limited knowledge on gender issue by the concerned staff. The trainings if conducted could have an effect to counteract the negative gender changes

The group approach also had shortcomings in that, the extension officers recognised one household member as the group member hence they looked at the number attending the activities but not who among men and women and this contributed to exclusion of women.

Another argument is that, most of the livestock extension staff were and still are men since at the time of conducting this research, the district had 11 livestock officers and 9 were men. This factor can limit the women from getting the extension since the interaction between men staff and women is limited due to social issues like suspicion by the husbands. Also the staff and the men farmers interact even in social places where women don't go like bars and this limits the women from receiving extension services.

The marketing approach used which was auction at a central location was excluding women in that it involved going away from home sometimes for the whole day and due to the women having other duties (reproductive) at home, they could not afford to take goats to the market. Hence in most of these markets men dominated.

This argument is supported by Jansen et al (1995) who says that, the support given to improve income generating activities in agriculture have not benefited women since they have not been able to control the marketing among other factors.

The above issues contributed to the higher access and control of knowledge acquisition and marketing by men, which made them to have more interest in goats since they were getting money and had higher husbandry knowledge than women. They eventually became the decision makers in the goat enterprise.

5.6.2 Other collaborators

The dairy goat project has attracted other organisations which have been assisting the farmers in various ways. These include KENFAP which facilitates the dairy goat farmers to connect to dairy goat milk marketing. The other is Kenya Stud Book which started registering goats but have now included dairy cattle registration.

CHAPTER 6.0 : CONCLUSION & RECOMMENDATIONS

This chapter concludes the findings of the research based on the results from the study conducted and also on the opinion of the researcher. The conclusion draws its reference from the research questions.

6.1 Conclusion

The study was conducted to assess whether the dairy goat project introduced in the area had an impact on the households' gender division of labour and, access and control of resources and benefits among the men and women.

From the study it can be concluded that, the project introduced in Murang'a district in 1992 by the Ministry of Agriculture and Livestock Development has had a positive impact on the livelihood of the area residents.

The goats were introduced as a viable option based on the findings of the survey carried by the ministry which found that, even if the dairy cattle sector was to be revived, the farmers will still be earning low incomes due to small land parcels which could not guarantee adequate availability of feeds for the dairy cattle. Hence their productivity in terms of milk will be limited by feeds scarcity. Hence the goats were introduced as they require less feed than the dairy cattle and also they could feed on a wider variety of feeds which may be available even outside the farms.

The project picked up very well and the success forced other farmers to adopt the project even to a point of some selling dairy cattle to keep the goats. This expansion created a high demand for goats and this caused the high incomes the farmers are realizing due to the high prices the goats command. The high prices have increased the incomes of the farmers thus improving their livelihood and the general development of the area.

From a gender perspective, the success of the project has contributed to the change in the gender division of labour and, access to and control of resources first due to the improved value of the goats which has caused the men to gain more access and control of the resources and benefits while that of the women has decreased.

The Ministry did not conduct a gender needs assessment before initiating the project which could indicate needs of men and women and analyse whether the project objectives and implementation plan could meet these needs or not. In addition to that the extension services offered by the implementing organizations which are the MoALD and DGAK only covered the technical areas leaving the social and gender aspects.

These failures by the organizations may have contributed to the resulting changes in gender labour division and, access and control of resources and benefits.

The changes if they are not addressed in a timely manner may lead to the gender changes impacting negatively on the women and this affect the future success of the dairy goat project.

6.2 Implications of these findings to the organizations

When conducting of the research, it was realized that the staff of DGAK and MoALD were confident that the project have created a positive impact on the livelihood of the concerned households. However, when asked about the disaggregated impact to the men and women, they were taken aback since they have never thought of that. The technical manager informed the researcher that, the study conducted before the start of the project was the

basis of choosing the dairy goat project but after further probing, he realized that the selection of the dairy goat project may not have been based on the needs of the men and women.

When conducting the research, I reflected on the same since I was involved in the project for some period and using the knowledge I have acquired during my training here, I realized the shortfalls in the project.

It can also be argued that, since there has not been any study carried out to analyse the gender impacts, there is no implication on these changes to the two organizations. The failure to identify the gender issues could have been contributed by lack of or inadequate knowledge on gender by the implementing staff of both organizations. The problem of lack of gender expertise runs throughout the ministry because gender unit is only at the ministry headquarters and even it has limited staff.

6.3 Recommendations

In order to counteract the identified changes in gender labour division and, access and control of resources and benefits, the researcher recommends that:

The organizations (MoALD & DGAK) should carry out an impact assessment which should include gender issues and this will give an insight of the impact the project have created in the household and at the individual household members level. This should be done to cover a wider area and get more details which could have been missed by this study.

The organizations should conduct gender training on their staff who are implementing the project. The implementing staff of the MOLD and the DGAK are not covering the gender topics in their curriculum. The reason may be due to the fact that most of them have not undertaken any gender training especially the DGAK Assistants or have no adequate training for the case of the MoLD livestock staff.

The organizations should change their approach of the implementation especially in the targeting of beneficiaries of the services they offer. The organizations identify the beneficiary of the service as the group member thus they are satisfied in serving one member of the household. This serves to isolate the other member who this study identified as the woman.

The organizations or other collaborators should conduct a gender needs assessment which they should use to consider the possibility of promoting more income generating projects in the area which caters for the needs of men and women.

Finally, since the time allocated was not adequate, the organizations should organize for more thorough and more inclusive study so to assess in more depth the underlying issues of concern.

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ANNEX 1

QUESTIONNAIRE FOR MEN AND WOMEN GOAT KEEPERS

Name of the respondent.....
Gender.....
Level of education.....
Former occupation (before engaging in goats).....
When did you start the dairy goat project and why.....

Labour division

Which were the activities in local goat production?b
Who was doing which activity?.....b
How much was he/she spending on the activity?.....b
Where was the activity undertaken.....b
Who was deciding what was to be done?.....b
What were the determining factors on who was to do what?.....i, g

Which are the activities now with dairy goats?.....b
Who is undertaking what?.....b
How much is he/she spending on the activity?.....b
Where is the activity undertaken.....b
Who decides what was to be done?.....i
What are the determining factors on who was to do what?.....i, g

If you compare what was happening when you had local goats and now what has changed in terms of labour division? ... **who is doing more? duties or time**.....i

Resources

What were the resources (for production) for the local goats? **physical (inputs), natural (land), human (knowledge, skill), financial**b
How was the access to the resources?
- Were the resources available at the household level or outside?.....b
- How were the resources acquired? **purchase or otherwise**.....b
- Who could get the resources?.....i
- Who decided on the acquisition? **time, quantity**.....i
- Who did actual acquisition?.....i
How was control of resources?
- Who decided on the resources use? **land, space, materials**.....i

Resources

What are the resources (for production) for the dairy goats? **physical (inputs), natural (land), human (knowledge), financial**b
How as the access to the resources?
- Are the resources available at the household level or outside?.....b
- How are the resources acquired? **purchase or otherwise**.....b
- Who can get the resources?.....b
- Who decides on the acquisition? **time, quantity**.....i
- Who does actual acquisition?.....i
How is control of resources?
- Who decided on the resources use? **land, space, materials**.....i

If you compare the local and the dairy goats in terms of resources (access and control), what has changed?.....i

Benefits

What were the benefits from local goats?.....b

How was access of the benefits?.....**direct use, sale**.....b

Who had access to (could get) the benefits?.....b

Who controlled use of the benefits?.....i

What are the benefits from dairy goats?.....b

How is access of the benefits?.....**direct use, sale**.....b

Who has access to (gets) the benefits?.....b

Who controls use of the benefits?.....i

If you compare when you were keeping the local goats and now when you are keeping the dairy goats, how has access and control of benefits changed?.....i

Services – Questions to farmers

How has been the services delivery before and after the dairy goat intervention?

- Which stakeholders gave you services?g
- Which services did each give?.....g
- How did they give the services? method, target group.....g
- What were the gender needs on local goats?.....i, g
- Were you asked of your needs.....**key informant**
- Did the services meet the needs of men and women?.....i, g
- If needs were not how would you have liked it to be?.....i, g

Checklist for key informants – DGAK and MoALD staff

Who identified need for dairy goats

What was the objective

Farmers involvement – how and stage

Were needs of farmers identified – including gender needs

Implementation – process

Has an impact study been conducted

If yes, who conducted the study

Is the objective being met

If yes, is the impact positive to men and women or is it more favourable to either?

If the impact is negative to one gender, what's the implication of this to the organization?