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Influence of Smallholder Dairy Farmers' Participation in Microfinance on Breed Improvement in Dairy Farming in Longisa Sub-County, Bomet County, Kenya

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Abstract: *The livestock sector contributes about 40% of the agricultural Gross Domestic Product (GDP) which is about 10% of the national GDP. Smallholder farmers in the study area have received microfinance services since the 1990s. However, there is continued keeping of local breeds and low use of AI services for breed improvement in the study area. The purpose of this study was to investigate the influence of smallholder dairy farmers' participation in microfinance on dairy improvement. The scope of this study was limited to smallholder dairy farmers only. The study used a cross sectional survey research design. A proportionate stratified random sampling method was used to select 152 respondents from each location represented. Data was collected using questionnaires. Using ordered logistic regression this study revealed that the amount of microfinance credit used influences the type of breeds kept by smallholder dairy farmers in the study area. Dairy breeds kept could be attributed to the amount of MFI's credit used. The most common type of dairy cattle breed in the study area was indigenous cattle. Smallholder dairy farmers should take advantage of the available and upcoming microfinance institutions in their effort to obtain the necessary finances for breed improvement.*

Keywords: *Microfinance, Participation, Smallholder, Credit, Influence, Dairy farming, Breed improvement*

I. Introduction

Agriculture is the main driver of the Kenyan economy and contributes about twenty five percent (25%) of the Gross Domestic Product (GDP). The sector provides over eighty percent (80%) of employment and sixty percent (60%) of the national income (Government of Kenya, 2010). Eighty percent (80%) of the Kenyan population live in the rural areas and derives their livelihoods from crops and livestock. The livestock subsector contributes forty percent (40%) of the agricultural Gross Domestic Product (GDP) which is equivalent to ten percent (10%) of the national GDP. The dairy farming is the largest contributor of the livestock GDP (Muriuki, 2011).

Dairy farming in Kenya plays a key role in food security, creation of employment, generation of incomes and enhancement of livelihoods of farmers, traders, processors and other individuals engaged in the entire dairy value chain (Muia, Kariuki, Mbugua, Gachuiri, Lukibisi, Ayako & Ngunjiri, 2012). The Kenya National Bureau of Statistics, KNBS (2010) estimates that 3.4 million heads of dairy cattle produce approximately 3.1 billion litres of milk per year. Smallholder farmers dominate the dairy farming industry in Kenya where they own about eighty percent (80%)of the total dairy herd (Government of Kenya, 2012). There are about 1.5 million milk-producing households who account for about eighty five percent (85%) of the annual total milk production (Muriuki, 2011). The factors that have promoted a major shift in dairy technology leading to shifts towards a more market oriented smallholder dairy production include suitable climate and improved fodder technology. Other factors include improved dairy cattle populations, rising urban populations and incomes as well as high consumption of milk and other dairy products (Muia et al., 2012).

After the liberalization of dairy industry in the 1990s (Technoserve, 2008), the dairy sector in Kenya suffered a major blow. Farmers were forced to pay for services that were initially not charged and also the control of milk prices was left to a free economy (Muriuki, 2011). In addition to this, budgetary constraints as well as the socio-economic crisis of the late 1970s and early 1980s forced the Kenyan government to decontrol the milk prices thus liberalizing the industry (Ngigi, 2002). The reforms in the dairy sector included sale of veterinary drugs to enhance cost recovery, liberalization of feed markets and control of prices thereof, transfer of the management of cattle dips to the local communities, privatization of the Artificial Insemination (AI) services and privatization of clinical services (Omiti, 2002). Thus, farmers had to look for alternative sources of funding from both mainstream banks and Microfinance Institutions (MFIs) so as to finance these services.

However, Rosegrant, Cline, Susler, and Valmonte-Santos, (2005) projected that by 2025, the demand for milk and other dairy products will increase by twenty five percent (25%) in developing countries. This is attributed to high human population growth, increased urbanization, high disposable incomes and increasing opportunities for the domestic and exports markets. Nonetheless, Kenya has the potential to meet her own

domestic demand by increasing the production from the 4.2 billion litres produced in 2009 to above 5.0 billion in 2014 (Cherono, 2005). There is need to exploit this potential by improving in specialized dairy cattle population, intensifying use of inputs, value addition to milk and other dairy products as well as improving linkages for sale of milk and acquisition of inputs (Muia, et al., 2012).

Microfinance institutions have made considerable progress in providing the much needed credit and savings facilities for the smallholder farmers thereby growing in terms of number of organizations, clients and donor funding (Duvendack, Palmer-Jones, Copestake, Hooper, Loke & Rao, 2011). The smallholder farmers have thus, been able to build strong microenterprises, increase their incomes and subsequently participate more in economic growth and development (North, 2012). Additionally, the MFIs have tried to develop products that are responsive to cash flow cycles and marketing relationships of farming communities (Duvendack, et al., 2011). MFIs have made considerable efforts in ensuring that the number of people living below poverty line has reduced globally. However, financial services are indispensable, despite the fact that they are insufficient in poverty alleviation (North, 2012).

In Kenya, microfinance covers a wide array of institutions which include the indigenous rotating savings and credit associations (RoSCA), self-help groups, financial savings and credit cooperatives (SACCOs). MFIs also include non-bank financial institutions (NBFIs) such as credit NGOs (Seibel, 2007). In some occasions, they may also include moneylenders (shylocks) as well as private deposit collectors. These institutions have been seen as an avenue to break the cycle of poverty which affects about half of the Kenyan population (Karugu & Kanyagia, 2007). The institutions offer both financial services as well as education and training services to the farmers in a bid to improve their capacity.

Dairy farming is among the key drivers of the economy of Longisa sub-county, Bomet County. The area has a favourable climate for dairy farming indicated by medium altitude and high rainfall evenly distributed throughout the year. Dairy cattle, mainly improved local breeds are the main species of livestock kept for milk and other dairy products (Ministry of Agriculture, 2009). Several MFIs have been in operation in Bomet County since 1990s which offer credit services to farmers. For instance K-Rep began operating in the county in 1999 with initial two branches in Ndanai, and Makimeny ward but has thus far expanded to the entire county. Agricultural Finance Corporation (AFC), Kenya Agricultural Productivity Programme (KAPP), Njaa Marufuku Kenya (Kareith, 2009) Youth Enterprise Fund and Women Enterprise Fund, Faulu Kenya, Equity Bank, Kenya Women Finance Trust (KWFT), Trans National Bank and Kenya Commercial Bank (KCB) are among the established financial institutions which have operated in the county for over five (5) years now. Additionally, cooperatives such as Kenya Cooperative Creameries (KCC), Kenya Farmers Association (KFA) and Savings and credit cooperatives (SACCOs) as well as agribusiness processors have also been offering microfinance credit services to farmers in the county (Government of Kenya, 2010). Also Sot Savings Association (SSA) has been in operation for the last four (4) years. It offers inputs as well as credit to members of Sot Dairies for registered members.

The number of dairy cattle increased from 600000 heads at independence to 3.3 million in 2005 (Export Processing Zones Authority [EPZA], 2005). About eighty percent (80%) of the existing dairy cattle are kept by the smallholder farmers. These dairy populations comprise of the Guernsey, Jersey, Friesian, Ayrshire and Bosindicus (local zebu, Boran and Sahiwal) (Bebe, Udo, Rowlands & Thorpe, 2002).

In Longisa sub-county, MFIs have existed since late 1990s and have always rendered microcredit services to farmers in this area (Government of Kenya, 2011). The MFIs have provided farmers with the much needed funding to improve their dairy stocks. The institutions have been targeted by the donor funding institutions so as to keep helping the farmers to improve their dairy breeds (North, 2012). However, the influence of this credit on the breeds kept by the small holder farmers in the sub-county is largely unknown.

The credit received is utilized in dairy farming through financing AI services for breed improvement, purchasing of feeds, expanding the land area under dairy farming and in value addition. However, there is limited information on the extent to which the microcredit used from the MFIs in the County has influenced the dairy farming. This is because the industry is still predominated by low milk production and limited diversification in terms of breeds of cattle reared. Additionally, there is very minimal value addition on milk with majority of it being sold directly to consumers at the household level (58%) and the rest either being sold to self-help groups or individual traders who either sell it to other consumers or processors (Government of Kenya, 2010).

Dairy farming is practiced in the rural areas where it is mainly used as a poverty reduction strategy. According to Duvendack et al., (2011), microfinance is seen as one avenue of promoting dairy farming hence helping in alleviating poverty. According to Omillo, Ng'ang'a and Bennett, 2013) microfinance can be an important toolkit in providing social change and improving the livelihoods of smallholder dairy farmers through improved farming. Although farmers' participation in microfinance can help in improving dairy breeds, this potential has not been adequately harnessed in the study area despite the existence of these institutions for now over 20 years. There is continued keeping of local breeds and low use of AI services for breed improvement in

the study area (Government of Kenya, 2007). This study was to find out the influence of smallholder dairy farmers' participation in microfinance on breed improvement in Longisa sub-county, Bomet County.

II. Research Methodology

A cross sectional survey research design was used in this study. This is a present oriented methodology used to investigate populations by selecting samples to analyse and discover occurrences (Oso & Onen, 2008).The design was useful in in describing the influence of smallholder dairy farmers' participation in MF on dairy farming without having to manipulate variables as in experimental research. The design aided the researchers in collecting data from a large sample and to use it in intensive analysis. It helps the researcher to get respondents' opinions and feelings on issues relevant to the study. This design allows the researcher to use hypothesis in a cost effective manner that saves time and money (Bhattacherjee, 2012).

The study area was Longisa sub-county located in Bomet County at an altitude of 1700m to about 2100 meters above sea level. It occupies an area of 257.9km^2. The sub-county has a cool climate with an average annual rainfall of approximately 1425mm per year and a mean temperature of about 18^{o}C. The average slope of the land ranges between fourteen percent (14%) and twenty two percent (22%) (Ministry of Agriculture, 2010). Soils are mainly clay loams with average pH of between 5.0 and 6.5. These features make this sub-county a high potential area characterized by its ability to promote dairy farming. The study area lies in the LH1 zone implying that it has high potential in dairy farming as well as crop growth. The main agricultural activities in this area are crop and animal production. Various crops are grown which include: Irish potatoes, maize, beans, vegetables such as cabbages and kales and fruits. Semi zero grazing and tethering is practiced but much of dairy farming is done through free range. The area has a total population of 97 862 of which 47661 are males and 50201 are females. The area has a population density of approximately 379 persons per km^2 (Kenya National Bureau of Statistics, 2010). According to MoALF (2014), the area has a total of 5720 households. The sub-county has eight locations namely; Cheboin, Kapkimolwa, Kimuchul, Kiplabotwa, Kipreres, Tegat, Kembu and Chemaner. Their household populations are 634, 802, 700, 921, 581, 632, 872 and 869 respectively (MoALF, 2014). All these locations were included in this study. The Sub-county was selected because of its fair representation of an agricultural zone in Kenya where rural farmers are significantly involved in smallholder dairy farming.

The target population was 5720 smallholder dairy cattle farmers in Longisa sub-county while the accessible population was all 5720 households involved in smallholder dairy cattle farming in Longisa sub-county (MoALF, 2014). Table 1 shows the accessible population of households per location.

Table 1. Accessible Population in Longisa Sub-county per Location

Location	Households
Cheboin	634
Kapkimolwa	802
Kimuchul	700
Kiplabotwa	921
Kipreres	581
Tegat	632
Kembu	872
Chemaner	869

Source: (MoALF, Longisa, 2014)

The population of farmers was arrived at on the basis of the fact that every household keeps at least a dairy cow. These are the smallholder dairy cattle farmers in Longisa Sub-county with an average farm size of less than two (2) hectares of land.

The sampling frame obtained from Ministry of Agriculture, Livestock and Fisheries (MoALF) office in Longisa Sub-County was 5720 households of smallholder dairy cattle farmers in Longisa sub-county (Longisa Sub-County MoALF, 2014). Stratified random sampling was used to obtain the sample from different locations (strata) in the Sub-county. For uniformity purposes proportionate stratified sampling method was used to ensure all the locations are represented in the study. Simple random sampling was used to select (respondents) smallholder dairy cattle farmers from each strata. The following formula was used to come up with an appropriate sample size for the study as per Nassiuma (2000).

$$n = \frac{NC^2}{C^2 + (N-1)e^2}$$

$$n = \frac{5720\ (0.25^2)}{(0.25)^2 + (5720-1)\ 0.02^2}$$

$$n = \frac{357.5}{2.3501}$$

$$n = 152$$

Where: n = Sample size,
N = Population size
C = Coefficient of variation which is fixed between 0 – 30%
e = Margin of error which is fixed between 2-5%.
The sample size was calculated at 25% coefficient of variation, 2% margin of error and a population of 5720 households.

Twenty five percent (25%) coefficient of variation was used to ensure that the sample is wide enough to justify the result being generalized for Longisa sub-county. Two percent (2%) margin of error was used because the study was a cross sectional survey, whereby the independent variables were not to be manipulated. Using the above formula, a sample of 152 smallholder dairy cattle farmers was selected.

Table 2 shows the population of 5720 households of smallholder dairy cattle farmers and the percentage proportion for each location (strata) in Longisa sub-county. It also shows the calculated sample size for each location and the total sample size for the study.

Table 2. Sample Size per Location in Longisa Sub-county

Location	Households	Proportion percent	Sample size
Cheboin	634	11.1	17
Kapkimolwa	802	14.0	21
Kimuchul	700	12.2	19
Kiplabotwa	921	16.1	24
Kipreres	581	10.2	16
Tegat	632	11.0	17
Kembu	872	15.2	23
Chemaner	869	15.2	23
Total	**5720**	**100.0**	**152**

Source: (MoALF, Longisa, 2014)

A researcher administered questionnaire was used to collect primary data for this study. The questionnaire consisted of both closed-ended and open-ended questions. Closed ended questions provided a basis for quantifying the data obtained. The open ended ones provided useful information that can be used in explaining observation in the study (Bhattacherjee, 2012).

Experts from the Department of Applied Community Development Studies, Faculty of Education and Community Studies and experts in MFIs and dairy farming research from Egerton University were used to determine the validity of the instrument. The experts were also used to assess what concepts the instrument aimed at measuring and determined whether the items or indicators accurately depicted the concepts of interest. This ascertained both the face and the content validity of the instrument. Content validity occurs when an instrument provides adequate coverage of the subject being studied. This includes measuring the right things and having an adequate sample. Face Validity involve only a casual, subjective inspection of an instrument to judge whether it covers the content it purports to measure (Bhattacherjee, 2012).

Reliability of a research instrument is its ability to yield consistent results or data after repeated trials (Mugenda & Mugenda, 2003; Kothari, 2008). The instrument was pretested using 30 (thirty) dairy farmers from Bomet central sub-county to ensure that there are no deficiencies and ambiguities in the final instrument. According to (Kathuri & Pals, 1993; Mugenda & Mugenda, 2011), 20-30 cases are sufficient for pretesting of instruments in survey studies. Bomet central and Longisa sub-counties both have similar climatic conditions, practice dairy farming and have access to MFIs services. Stratified random sampling was used to select the respondents in which the locations (Mugango, Ndaraweta, Sigorwet, Sibayan, Itembe, Kanusin, Mutarakwa, Kamokoso, Njerian, Kyogong) were the basis of the strata. For uniformity purposes proportionate method was used to ensure each stratum is represented. Simple random sampling was used to select (respondents) smallholder dairy cattle farmers from each stratum for pretesting. The reliability of the estimated using

Cronbach alpha coefficient where a coefficient of 0.7 and above was accepted.

Descriptive statistics (means, frequencies and percentages) were used to describe the amount of credit used and breeds of dairy cattle kept. Ordered logistic regression was used to determine the influence of the amount of credit used on the type of breeds kept by smallholder dairy farmers. The Statistical Package for Social Sciences (SPSS) aided the analysis. Themes were created in the analysis of qualitative data.

III. Results And Discussion

The subjects for the study comprised of smallholder dairy farmers in eight locations of Longisa Sub-county. The study gathered information on the respondents' personal attributes. These attributes encompassed the gender, marital status, age and level of education.

On the issue of gender, the results indicated an almost equal distribution of male and female. About 54% of the respondents were female while 46% were male. This may imply that dairy farming related decisions such as how to seek and use financing, type of dairy breeds to be kept and animal husbandry practices to be implemented may not be dominated by any gender.

Majority (76%) of the farmers were married implying that most of the farming activities may have been targeted to benefit a number of household members. Some of the respondents were widowed (18%) while a few were single (7%). Since majority of the agricultural activities in the study area were labour intensive and utilizing family labour, married farmers may thus be advantaged as far as labour acquisition is concerned.

Majority (45.4%) of the respondents were aged 31 - 40 years. About 23.0% of the total respondents were aged 21 - 30 years while 17.1% were aged 41-50 years. There were very few respondents aged 51 years and above (a cumulative of 14.5%). The mean age of the respondents was 38.49 with a standard deviation of 11.37 years. The fact that farming in the study area is popular among the young and middle aged persons (at the aged between 21 – 50 years as represented by a cumulative percentage of 85.5%) may have a positive effect on dairy farming productivity and production due to the effect of technology adoption. Young and middle aged farmers are generally receptive to adoption of new technology in farming.

Most of the respondents had less than tertiary level of education. Majority (59.9%) of the respondents had primary (Standard 5 – 8) level of education. This was followed by respondents with secondary (Form 1 -2) level of education. About 9.2% of the respondents had no formal education while a similar proportion had tertiary (college) level of education. These results imply that majority of the dairy farmers may lack adequate formal education which is a prerequisite to better modern dairy farming. In addition to this, the level of education of the household head can influence the kind of decision that may be made on behalf of the entire household with regard to dairy farming. More educated farmers are likely to make better decisions as well as quickly adopt new technologies in farming as compared to their less educated counterparts.

Some of the major livestock kept in the study area include dairy cattle, goats/sheep and poultry. Dairy production occupies majority of the land as far as livestock production in the study area is concerned. On average each household in the study area dedicates about 0.759 acres of land to dairy farming. About 0.5 and 0.496 acres of land is dedicated to goats/sheep and poultry production, respectively.

In order to better understand the dependent variable, this study sought to determine the type of dairy cattle breeds kept by smallholder dairy farmers in Longisa sub-county, Bomet County. Figure 1 summarizes the relative proportion of dairy cattle breeds in the study area.

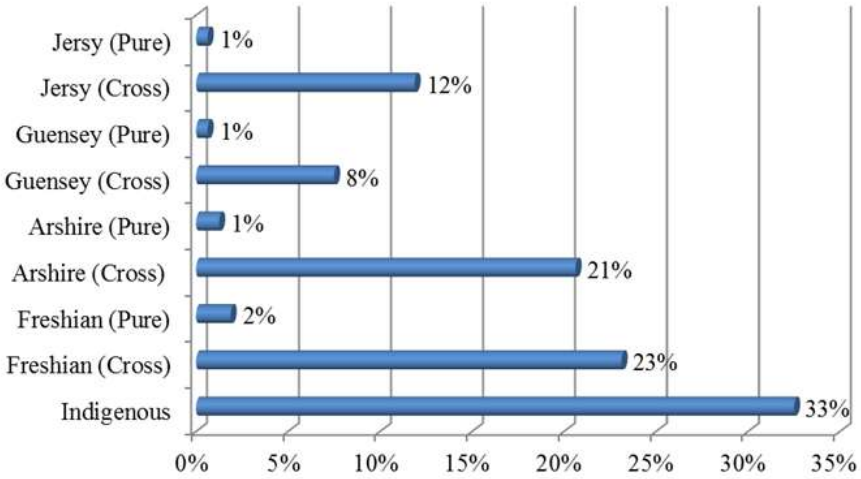

Figure 1. Type of Dairy Cattle Breeds Kept

Source: Field Data (2015)

The results in Figure 1 shows that the most common type of dairy cattle breeds in the study area is indigenous cattle as represented by 32.5% of all the cattle. This is followed by Fresian /Zebu and Ayrshire/Zebu as represented by 23.1% and 20.6%. About 11.9% of the dairy cattle in the study area are Jersey (cross). Each of the pure breeds in the study area (either Fresian, Jersey, Guernsey and Arshire) was less than 2%.

This study noted that an overwhelming majority of the households in the study area were aware of microfinance institutions operating in the area. This is as depicted in Figure .

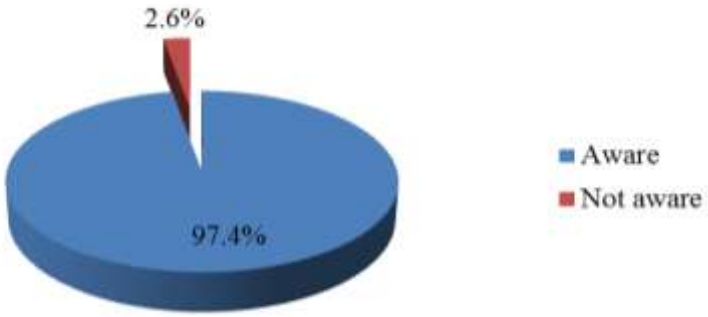

Figure 2. Awareness of MFIs institutions operating in the study area

Source: Field Data (2015)

Figure shows that 97.4% of the households were aware of the microfinance institutions in the study area and only 2.6% of the households claimed not to be aware.

Kenya Women Finance Trust (KWFT) and Equity bank are among the major institutions in the study area offering microfinance products to the dairy farmers. Some of the MFIs operating in the study area were identified as depicted in Figure .

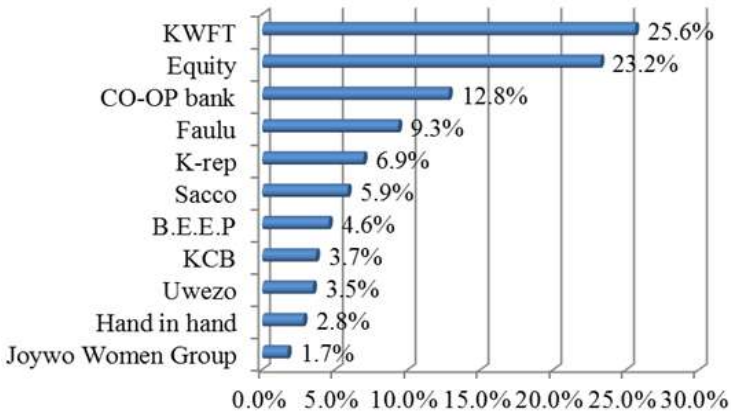

Figure 3. MFI's operating in the area

Source: Field Data (2015)

About 25.6% of the respondents cited KWFT as a microfinance institution operating in the area and was closely followed by 23.2% of the respondents that cited that Equity bank had microfinance products that it offers to the residents. Some of the other organizations with microfinance loan products operating in the area include Co-operative bank, Faulu Kenya, K-Rep, various SACCOs, B.E.E.P, KCB, Uwezo, Hand in Hand and Joywo Women Group.

Figure depicts the proportion of households that had borrowed loan from microfinance institution for use in dairy farming within the past four year.

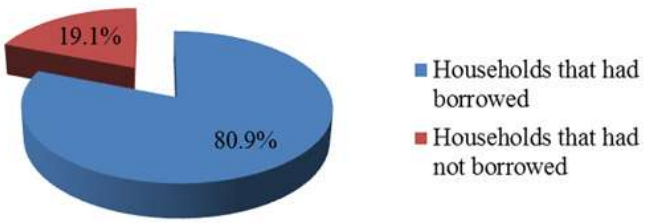

Figure 4. Households' borrowing of loan from microfinance institution for use in dairy farming

Source: Field Data (2015)

The results in Figure shows that majority of the households had borrowed loan from microfinance institutions for use in dairy farming as represented by 80.9% of the households.

Some of the microfinance loan obtained by households for use in dairy farming was diverted to other uses as indicated in Figure .

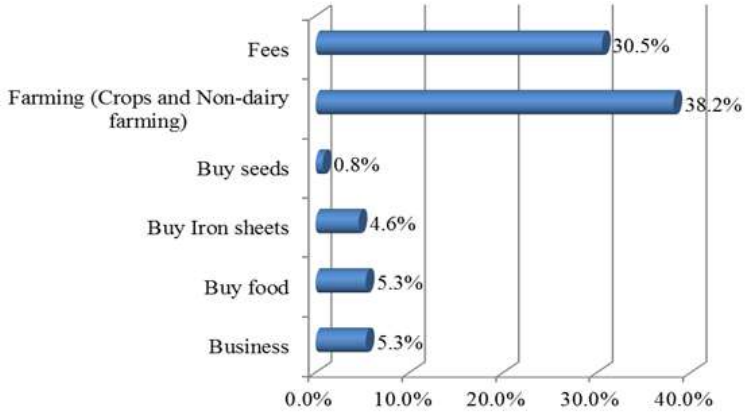

Figure 5. Other purposes of the loan taken

Source: Field Data (2015)

Figure 5 shows that majority of the households (38.2%) had diverted the microfinance loan initially set for use in dairy farming into other forms of farming (poultry, food crops and cash crops). About 30.5% of the households had used the loan in payment of school fees while others (less than 10.0%) had injected the money in non-dairy business, purchase of family food, buying of iron sheets and purchase of seeds.

Loans are normally diverted to cater for emergency needs that may arise in a household as well as in situations where the borrower sees another more viable or lucrative opportunity (Birech, 2013). Given that cash is tangible and the complexity of household economies, it is clear that most attempts to divert a loan are normally naïve. Institutions should organize training programmes in preparing their clients enough for the proper utilization of the loan acquired. The loan should also be given at an appropriate time so that it can be used for the intended purpose.

Some of the loan borrowed for use in dairy farming was microfinance products from Equity bank (Figure 6).

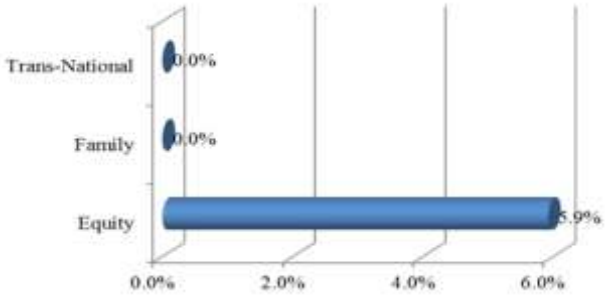

Figure 6. Whether the loan was borrowed from Formal Banks

Source: Field Data (2015)

The results in figure 6 shows that about 5.9% of the loan borrowed for use in dairy farming was accessed from Equity Bank. However, none of the households had benefited with microfinance products from two other formal banks (Trans-National Bank and Family Bank) operating in the study.

Some of the loan accessed by households for use in dairy farming was sourced from Savings and Credit Cooperative Societies (SACCOs) as depicted in Figure .

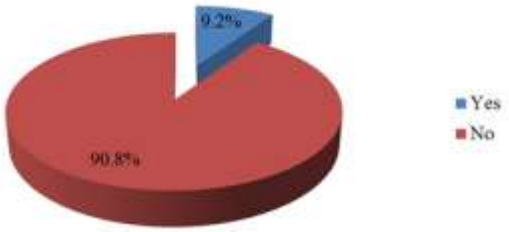

Figure 7. Access of loan from SACCOs

Source: Field Data (2015)

The results in Figure 7 show that 9.2% of the households had accessed loan from SACCOs. However, majority of the households (90.8%) did not source their loans from SACCOs.

Some of the SACCOs operating in the study area include *Sot Dairy* and *Fruarisha*. Figure shows the proportion of households who had benefited from various SACCOs loans within the last four year.

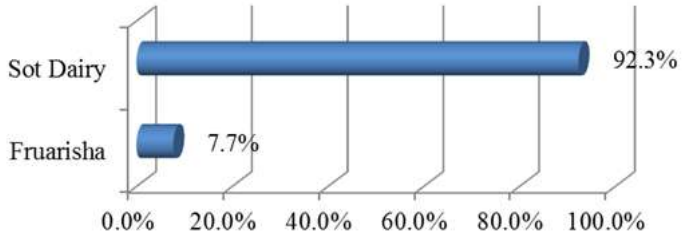

Figure 8. SACCOs providing loan to households in the study area

Source: Field Data (2015)

The results in Figure 8 show that most households (92.3%) benefited from Sot Dairy SACCO loans with 7.7% of the households benefiting with loans from *Fruarisha* SACCOs.

There existed some informal groups in the study area that were advancing microfinance credit to dairy farmers in the study area. Figure 16 shows the distribution of informal groups that had given credits to the sampled households.

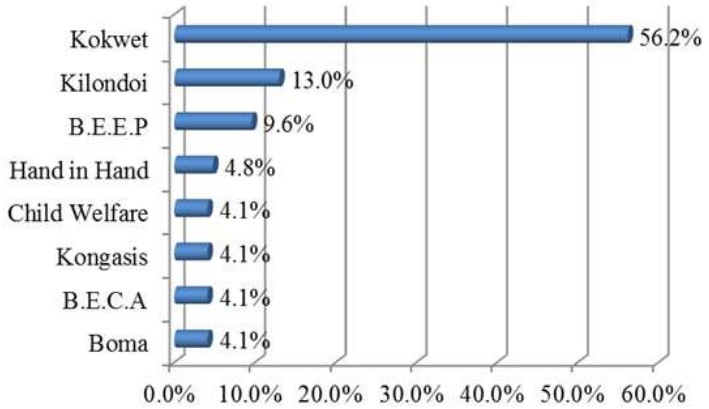

Figure 9. Informal groups

Source: Field Data (2015)

Figure 16 shows that majority of the households in the study area had been given microfinance loans from Kokwet informal group as represented by 56.2% of the respondents. About 13.0% and 9.6% of the households had also benefited with microfinance loans from *Kilondoi* and B.E.E.P respectively. Some of the other informal groups serving in the study area include Hand in Hand, Child Welfare, *Kongasis,* B.E.G.A.

This study observed that majority of the MFIs in the study area was offering small loans (most of them were less than Kshs. 30,000) as shown in Table 3.

Table 3. Amount of loan borrowed

Amount borrowed	Frequency	Percent
Less than 10,000	30	19.7
10000 – 19999	27	17.8
20000 – 29999	20	13.2
30000 – 39999	13	8.6
40000 and above	14	9.2

Source: Field Data(2015)

The results in Table 3 shows that majority of the households had borrowed less than Kshs. 10,000 from MFIs within the past four years as represented by 28.8% of the respondents. This was closely followed by households that had borrowed Kshs. 10,000 - 19,999 and Kshs. 20,000 – 29,999 as represented by 26.0% and 19.2% of the respondents, respectively. It was just a cumulative of 17.8% of the households that had borrowed Kshs. 30,000 or more for the last year.

Table 4. Ordered Logistic Regression Results for the Influence of the Amount of Credit Used on the Breeds of Cattle Kept

Extent of shift from indigenous to exotic breeds	Coef.	Std. Err.	z	P>|z|
Amount of credit used	0.095*	0.042	2.26	0.024

N = 152, LR = 122.96, LR chi2 (1) = 12.53, Prob> chi2 = 0.000, Pseudo R^2=0.441

The results in Table 4 reveal that the coefficient for the amount of credit used (0.095) were statistically significant at 5%. The log likelihood for the fitted model of 122.96 and the log likelihood chi-squared value of 12.53(Prob> chi2 = 0.000) indicate that the two parameters are jointly significant at 5%. Pseudo R^2 of 0.441 meet the statistical threshold of 20% confirming that the breeds of cattle kept by the smallholder dairy farmers in the study area were well attributed to the independent variables (amount of credit used) considered in the model.

Based on these results, the null hypothesis was rejected. Thus the amount of credit used has a significant influence on the breeds of cattle kept by the smallholder dairy farmers in Longisa sub-county, Bomet County.

These results agree with Omillo, Ng'ang'a, and Bennett (2013) whom in their study on the role of microfinance institutions in Bunyala District, Western Kenya, noted that availability of microfinance has played a very big role in improving the life of the people and that their services have positive effects on the farmers' improvement of dairy breeds among other areas such as dairy enterprise development, nutrition and diets.

These results also agree with Khandker (2005) whom in his study on Microfinance and Poverty in Bangladesh found positive effects of participation in microfinance on agricultural development, especially in dairy farming where smallholder farmers were able to adopt better high yielding dairy cattle breeds.

These results also agrees with Taiwo (2012) whom in the study on the impact of Microfinance on welfare and poverty alleviation in Southwest Nigeria found that there has been significant effort towards poverty alleviation and economic development through microfinance. The study concluded that Microfinance Institutions had successfully helped the poor to improve their standard of living and social status through improved dairy farming that is marked by improved breeds.

The use of microfinance credit was also found to have positive effects on smallholder livestock farmers' ability to improve their dairy breeds and bring better performance of this sector (Republic of Kenya, 2006). With the intervention of microfinance institution by provision of needed credit at fair terms, dairy farmers are able to buy better breeds of cattle that are able to produce higher milk yield.

IV. Conclusion And Recommendations

The amount of microfinance credit used by smallholder farmers in dairy farming significantly influence the type of breeds of cattle kept in the study area. This study recommends that dairy breed improvement requires substantial amount of capital. In this regard, dairy farmers in the study area should take advantage of the available and upcoming microfinance institutions in their efforts to obtain the necessary finances for breeds improvement. Good dairy breeds result to higher milk yield.

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