



The Study Major Challenges of Livestock Production and Strategy of Smallholders Dairy Farms in Banadir

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Abstract

This study looked into the main obstacles to livestock production and the strategies of smallholder dairy farmers in the Banadir region of Somalia. The Somali pastoral economy is mainly based on a range of animal resources. Over 60 percent of the Somali human population subsists in pastoralists. Pastoralists contribute more than 40 percent of the GDP and 80 percent of national exports. Due to factors, Somalia is largely reliant on low-yielding native zebu cattle, which generate 400–680 kg of milk per cow each lactation cycle. Local breeds are the most prevalent breed type raised by farmers in the Banadir region, and milk production is their primary agricultural activity. To meet the future demand, production of milk and meat, including milk production per lactating cow and daily weight gains for meat animals, would need to be significantly increased if the available feed resources were sufficient.

Milk production systems can be broadly categorized into urban, peri-urban and rural milk production systems (G, 2001). Dairy producers in the Banadir region report that 78% of their issues are related to feeding, 13% to illness, and 9% to marketing. In the Banadir region of Somalia, there were 95% landless dairy farmers who were dependent on feed parcharging. Farmers have used 78.9% straw, (give reason) because the most available fodder in this region. The mean of local bred cattle the average of daily milk production local breed 9.525 litter (do you have any reason why) due to the genetic, climate and inadequate of feed are main reason to low of milk production both indigenous and exotics breed, the average age maturity month 36.152, the average of age fast calving month 25.2875, the average of calving interval month 13.6875, the average days open month 3.55, the average of heat detection month is 6.2 and feed impact on milk production in Banadir region farmers 62% where is feed cost respectively.

KEYWORDS: Livestock, Production, and Feeding

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I. INTRODUCTION

The Somali economy has long been based on the rearing of livestock. For the predominately rural population, it is the most significant source of food and income. The only method of raising livestock in the nation is nomadic pastoralism, and rangeland is used for communal or free grazing. The sale of live animals, beef off-takes, milk off-takes, hides, and skins are the primary elements of direct livestock benefits. The percentages of cows in the national herd, the percentage of milking cows, the average daily milk production per cow, the average daily milk production per lactation period in litres, the total amount of milk produced in litres, the percentage of off-take, and the average farm gate price per litre of cow milk are some of the study's key variables (IGAD, 2015).

livestock rearing is a common culture in Somalia— where 80% of the population is nomadic or semi-nomadic according to the central bank of Somalia. The livestock sector is the most essential source of income and food for these predominantly rural populations. Despite the importance of livestock production to the Somali economy and livelihood, the vulnerability of the country to climate change poses a threat to this sector. It is noteworthy that Somalia is categorized as one of the most exposed countries to the changes in the climate (FAO, FINAL REPORT ABOUT ANIMAL PRODUCTION, 2012).

The Somali pastoral economy is mainly based on range animal resources. Over 60 percent of the Somali human populations subsist in pastoralist. Pastoralists contribute more than 40 percent of the GDP and 80 cent of National export. Camel, cattle and small ruminants are widely distributed in all ecological zones of the country. Sheep and goats are dominant animals, but camel population exceeds cattle in number. Number of camels and small ruminants are found in the drier northern and central zones. Cattle dominate in the wetter southern and Trans-Juba regions. Small ruminants make up 70 percent of the livestock marketed producing 69 percent of total

meat production. Camels and goats provide 75 percent of the total milk supply. In the pastoral subsistence economy camels are primarily raised for milk production and small ruminants for generating cash income for the family (A., (1991)

II. MATERIALS AND METHODS

Research design

This study was cross-sectional and descriptive in design. It will be descriptive because it is going to describe the main obstacles to livestock production and the strategies of smallholder dairy farmers in the Benadir region of Somalia and also the researcher was collect the data from study subject's one point in time

The researcher used Slovene's formula to select the respondents of the study from the population Where n is the required sample size, N is the target population size and e is the standard error or level of significance, which is popularly known to be =0.05 or 5%. For this study, N = 100; using the following formula:

$$n = \frac{100}{1+100(0.05)^2} = 80$$

Sampling Procedure

Non-probability sampling is a way of sampling where the researchers use a judgment to select population members who are good prospects for precise information, the sampling procedure will be non-probability purposive sampling used to select the sample. The reason for choosing this approach is that respondents who are eligible to participate in this study are purposively chosen as target respondents of the study.

Data Collection Procedure

Semi structured questionnaires will be used to collect quantitative data. Selected research assistants who are familiar with English and the local languages spoken in Wanlaweyn and also had some prior research experience in data collection will translate the content of the questionnaire.

Table 1: Sex status

Sex Status	Frequency	Percent
Male	55	68.8%
Female	25	31.3%
Total	80	100.0%

The above table summarized demographics in gender characteristics and shows that 68.8% of the respondents were male while 31.3% were females. This indicates that the most respondents of the questionnaire were male, because most farm owners and employees were male due to cultural inequalities of livestock ownership that exists in Somalia.

Table 2: Age of respondents

Age of respondents	Frequency	Percent (%)
18-30 years old	17	21%
31-40 years old	31	39%
40 & above years	32	40%
Total	80	100

According to the above table above describes the majority forty percent (40%) of the respondents were between 40 years above, while thirty nine percent (39%) of the respondents aged 31 - 40 above years old, and twenty one percent (21%) of the total respondent aged between 18-30 years old. However this data shows that the stakeholders were above 40 years in daily farmers in banaadir region.

Table 3: herd composition.

Herd composition	Total	Percent
Laction cows	85	41.8%
Dry cows	53	26%
Bulls	30	14.7%
Heifers	36	17.7%
Herd size total	203	100%

Table 4.4 above represents the total herd composition in the Benadir region. (100% were herd size, what does mean herd size?) 41.8% were lactation cows, 26% were dry cows, 14.7% were bulls, and 17.7% were heifers. This result was collected from 80 small households and commercial dairy farmers in the Benadir region. These 80 farmers reared local cattle in the Benadir region.

Table 4: Mean production and reproductive parameters in the local breeding

Parameters breeding	Mean
Milk liter per day cows	9.525 L
Laction length month	6.4
Age maturity month	36.152
Age fast calving month	25.2875
Avarege calving interval month	13.6875
Days open month	3.55
Heat detection month	6.2

Table 4.5 above represents the mean of local-bred cattle and the average of daily milk production for the local breed of 9.525 litters (do you have any reason why?). Due to genetics, climate, and inadequacy of feed, the main reason for low milk production in both indigenous and exotic breeds is the average lactation length of 6.4 months (why explain?). Lack of nutrients needed in dairy animals and poor management are major effects of the length of lactation. The average age maturity month is 36.152, the average age of fast calving month is 25.2875, the average age of calving interval month is 13.6875, the average days open month is 3.55, and the average heat detection month is 6.2.

Table 5: Which roughage you use your animals?

	Frequency	Percent
Grass	12	15.0%
Residue	5	6.3%
Straw	63	78.9%
Total	80	100.0%

Table 4.7 above represents the type of roughage they have used. 78.9% straw (give reason) because the most available fodder in this region is 15% grass and 6.3% residue. These tables represent which types of roughages have local cattle in the Benadir region of Somalia.

Table 6: represents when did experienced of feed shortages during various seasons

Seasons	Numbers
Deyr	10
Jilaal	60
GU'	3
Xaggaa	7

The table below 1.33 shows feed shortages during various seasons in Somalia, especially in the Benadir region. 10 of the stockholders people said during the deyr (autumn) seasons felt feed shortage, 60 of the stockholders people said during the jilaal (winter) seasons felt feed shortage, 3 of the stockholders people said during the gu' (spring) seasons felt feed shortage, and 7 of the stockholders people said during the Xaggaa (summer) seasons felt feed shortage. This data shows that the most feed shortage in Benadir region is during the jilaal seasons.

Table 7: Do you have any farm land?

Farm land	Frequency	Percent
Yes	4	5.0%
No	76	95.0%
Total	80	100.0%

According to Table 4.9 above, 95% of dairy farmers in the Banadir region lack any farmland, and just 5% of them have land suitable for growing fodder. This finding suggests that the majority of farmers rely on agricultural wastes for their animal feed since they lack a facility to create it. Dairy farmers are unable to maintain their inputs and outputs without the production of feed.

Table 8: Seasonal feed impact on milk production

Season	Frequency	Percent
Milk price	16	20.0%
Body condition	14	17.5%
Feed cost	50	62.5%
Total	80	100.0%

Table 5.1 above describes the seasonal feed impact on milk production in Banadir region farmers: 62% is feed cost, 20% is milk price, and 17.5% is body condition. This table shows that most dairy farmers in the Banaadir region have challenges with feed costs.

Table 9: Type of house/barn

Type of house	Frequency	Percent
Loose house	80	100.0%
Conventional house	0	0%

Table 5.2 above shows that most dairy farmers in the Banadir region always use house barns; 100% of those are loose houses, but they do not use conventional houses.

Table 10: Types of rearing system

	Frequency	Percent
Intensive/ indoor	24	30.0%
Extensive/outdoor	27	33.8%
Semi-intensive	17	21.3%
Non but fenced	12	15.0%
Total	80	100.0%

The various rearing strategies utilised by farmers in the Banadir region are shown in Table 5.4, 30% of operations use limited land and high inputs intensively, 21.3% are semiintensive, and 15% are unfenced, 33.8% are extensive, utilising wide regions with minimal inputs.

Table 11: what are the main challenges of cattale production?

Major Challenges	Percent
Feeding challenges	78%
Disease challenges	13%
Marketing challenges	9%

The primary issues with animal production for dairy farmers in the Banadir region are shown in table 5.6. 78% of people struggle with feeding, 9% with marketing, and 13% with sickness. This outlines the key difficulties cattle experienced in the Banadir region, where they had to deal with high feed costs, explaining why

cattle could produce well on a daily basis despite these difficulties. Others face problems with marketing, while others struggle with medical issues.

III. Conclusion

In terms of potential, Somalia's livestock industry is among the top national and individual assets, but it hasn't been able to fully realise its potential to boost livelihoods and food security. This study, which was based on information gathered in the Benadir region, looked at the primary issues with animal production and the management practises of smallholder dairy farms there. A sample of 80 farmers were surveyed and a questionnaire used to evaluate Somalia. During this study we had visited 80 smallholder's dairy farms in Benadir region and we conducted by usin questionear Most dairy farmers in banadir region 95% have no farm land , 5% have land the main dairy farm in banadir have use 100% roughages and concentrate . Feeding protein before energy feeds and feeding grain before forage in non-TMR systems, all such management practices change the dairy cow's milk components. These conditions can create slug feeding (one or two meals per day versus 10 to 15)or allow cows to eat high grain meals part of the time and high forage meals the remainder of the day.

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