

**Socio-Economic Constraints on Goat Farming In the Lowveld of Swaziland
– A Case Study of Matsanjeni**

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Abstract

This study was designed to focus on why subsistence livestock farmers concentrate mainly on cattle rearing instead of diversifying the livestock sector to incorporate small ruminants particularly goats which can sustain under a diverse climatic conditions. Areas of interest in this study were socio-economic and cultural factors namely; social status, ownership, dignity, prestige, taste, lack of information on sustainable goat farming, customary activities, income and market that influence farmers' preference of cattle over goats. A survey study was carried out to about 124 subsistence livestock farmers, where 58 owned cattle only, 34 owning goats only and 32 had both goats and cattle. Data was collected from all the farmers through personal interviews guided by a questionnaire. The findings revealed that the lack of formal market opportunities for selling goats was one of the major hindrances against goat farming. Also, high socio-economic and cultural status accorded to cattle by livestock farmers makes the livestock industry to be continuously monopolized by beef production.

Key words: socio-economic and cultural factors, sustainable goat farming, customary activities

Introduction

Goats are valued for milk, meat, fibre (hair, cashmere and mohair), skin and other miscellaneous products. The importance of goats becomes more apparent when one considers the distribution of the world's goat population. About 57 percent of the world's goat population is found in Asia and 32 percent in Africa (FAO, 1987). The temperate regions of the world carry only 11 percent of the world's goats (FAO, 1987).

Agriculture in Swaziland continues to be the dominant feature and driving force in the socio-economic development of the Swazi people. Together with the Agro-based industries, it is responsible for keeping about 75% of the Swazi work force in gainful employment (Government of Swaziland, 1995). Further, it has direct impact on the government policy of curbing urban migration through optimizing income-generating opportunities in the rural areas (Government of Swaziland, 1995).

Dlamini and Lebbie (1986) argue that though not a major contributor to the nation's foreign exchange earnings, the livestock industry in Swaziland is recognized for its vital role in the development process of the economy. The primary roles it plays in providing quality proteins, meeting the social and cultural needs of the people and providing raw materials for industries.

According to Vilakati (1996) Swaziland is indeed basically a livestock keeping country. The grazing lands account for about 70% of the available land. Small ruminants comprise of about 43% of the total ruminant population (Vilakati 1996). The goats rank second to cattle in population, geographical distribution and socio-cultural uses. In 2003, there were a total of 522,260 cattle, 273, 576 goats and 23,983 sheep (Swaziland Central Statistical Office, 2003).

Lebbie (1985) stresses that among the small ruminants the goat stands out as the most popular, especially among the majority of the Swazi rural population. It is the vital roles in social, cultural and economic activities of the people that kept it. Goats provide meat, milk and skin but in Swaziland goats are kept for meat only. They are recognized as the second alternative form of wealth to cattle (Matsapha, 1984). Goats are sold to generate cash income when necessary. This income is normally used to meet various family demands, such as purchasing of food items not produced on the farm, paying school fees, buying clothing and paying of loans and fines (Lebbie, 1985). Goats' skins are used as traditional mats and clothing (*sidziya*) for ladies. The latter is worn during cultural ceremonies such as customary marriage (*kuteka and umtsimba*), *lutsango* reed dance and many others. Furthermore the hardiness and suitability of goats for the climatic and ecological systems prevailing in Swaziland cannot be overemphasized.

However, compared to cattle, small ruminants have made little contribution to the export earnings. Lebbie (1985) also noted that despite the popularity and wide geographical distribution of the goat, little or practically no attention has been given to its development at the national level. Currently, there are five cattle breeding ranches, three fattening ranches and one "sisa" ranch. Except for the Angora goat Development run by Tibiyo, a government parastatal body, for the production of mohair, which also did not succeed well, small ruminant production, has not received the development oriented approach that it deserves. The goats are very popular among the Swazi and generally accepted by Swazis. The meat is highly relished and is in great demand. Their hardiness and ability to tolerate poor dietary regimes

(especially goats) compared to cattle have made them to fit excellently into the country's ecological and climatic systems (Dlamini and Lebbie, 1986).

With the persistent droughts that occur in Swaziland and their uncertain periodicity, is high-time to diversify the livestock industry for future prospects. For example, the 2002/2003 drought killed 8911 cattle in the Shiselweni district only against no goat fatal reported (Swaziland Central Statistical Office, 2003). The goat stands out to be a better alternative due to the increased goat meat demand. At present, the demand for goat meat is in excess of supply, which in turn is associated with relatively high prices (FAO, 1987).

Goat farming as a veld management strategy

Goats, unlike a bulldozer, control bush and weeds without disturbing the existing grass and soil. They also do not leave synthetic chemicals that could run off into lakes and streams or be ingested by a cow or other animal. These characteristics make goats ideal candidates for multi-species-rotational grazing. The goats can be rotated in to eliminate most of the undesirable vegetation (from a cow's perspective), and then the cows can come behind them to graze the grass without having to pick through as many weeds (Bull, 2000).

Goats provide a unique opportunity for farmers to reduce their dependence on chemical weed control, and to reduce the total cost of managing weeds on their farms. There is a popular image of goats having the capacity to not just survive, but to achieve good production on seemingly low quality feed (Capricorn Publications, 2004).

The advantage that goats have over sheep and cattle is that they have a preference for a varied diet and a habit of browsing and selecting roughage in their diet. It is apparent that goats are able to do well on what appears to be low quality forage because of their grazing habit, not through any advantage in digestion. Consequently, there is little doubt that, like sheep and cattle, goats will perform poorly if they are fed exclusively on low quality feed. High animal performance will only occur when goats achieve high intakes of high quality forage (Capricorn publications, 2004).

The addition of goats to cattle pastures has been shown to benefit the cattle by reducing browse plants and broad-leaved weeds. This permits more grass growth. Goats will control blackberry brambles, multiflora rose, honeysuckle, and many other troublesome plants (Coffey, 2001). It is thought that you can add one goat per cow to a pasture without any reduction in cattle performance, and with time the weedy species will be controlled so that total carrying capacity is improved. This is a cheap way of renovating pastures, and you can sell the extra goats and kids for a profit, as well.

Foraging preferences of goats cause them to graze a wider spectrum of plants than other small stock. *Boer* goats are inclined to forage from the top downwards, from heights of 160 cm to 10 cm and with a ratio of 82% bush and 16% grass (Coffey, 2001). Bush encroachment and regrowth has been combated successfully with *Boer* goats, which browse leaves but also debark stems and branches, particularly of young plants. The practice of using goats in bush control has been successful. Neither veld conservation practices, nor veld burning, nor planned pasture management with cattle has equalled the impact of goats in combating bush encroachment. This is an economically important trait of goats. Foraging habits may contribute to *Boer* goats having low infestations of internal parasites (Coffey, 2001).

Goats have unique behavioural characteristics. They are intensely curious. They will investigate anything that piques their interest. Coupled with their curiosity, their jumping and climbing ability can present some real management challenges. They can climb through a new “goat-tight” fence, pull the wash off the line, nip the rose buds or bounce onto a packed vehicle (Hazel, 2000).

Goat meat

Key management issues for a successful goat meat enterprise are: fencing, parasite control, predator control and marketing. Attention must also be paid to nutrition and to breeding stock selection. While goats are enjoyable to raise and may be profitable, they are not a way to ‘get rich quick’. As with any farming endeavour, knowledge and skills are essential for success (Hamilton, 2002).

Unlike pork, goat meat has no religious taboos in many societies, thus it is consumed around the world excluding vegetarian societies. Like goats’ milk and cheese, the meat is unique in flavour and palatability. It is leaner than many other red meats and usually less tender. However, its leanness has a place in today’s demand for meats with less fat. Goat meat is termed either *cabrito* or *chevon*, depending on the age of the slaughtered goat. *Cabrito* (Spanish for “little goats”) is from kids slaughtered weighing 8-10 kg. *Chevon*, on the other-hand, is from older goats (Hazel, 2000).

Goat meat, which is low in fat and contains about 20% protein, around 2% mineral salts and vitamins A, B and C, is a high quality, easily digestible food that is particularly valuable – harsh rural climatic zone (Hazel, 2000). The typical rather clinging smell can be suppressed by using a lot of spices (Matsapha, 1984).

Advantages of goats over cattle keeping

Goats have the ability to reproduce quickly - twice per year - with some having the potential of reproducing twins or triples (Ndossi, 2003). This is because goats are seasonally polyestrous with oestrous cycles every 20-21 days. Tropical breeds of goats may cycle year round. Goats reach maturity at five to nine months, but are not recommended to breed until they have reached 60% of their adult weight or one year of age. The presence of a *Buck* causes *Does* to come into standing heat which lasts about 24-36 hours and is recognised by tail shaking, flagging, nervousness, frequent urinating, bleating, and swollen vulva discharge. With proper nutrition and management, goats can have multiple births, twice a year kidding (Hamilton, 2002).

The great fertility of goats that is well known ensures that the goat continues to survive despite its neglect by man. In tropical Africa, it is fertile the whole year round and as the *Bucks* nearly run with *Does*, conception is achieved even when there is a weak heat period. More often goats give birth twice yearly and about 20% of the cases, three times in two years, when two or more kids are generally born (Matsapha, 1984).

Compared to cows, goats produce more milk on less food and are not affected by long treks to find food. The milk is used mostly to feed kids. Goat milk helps to make up for a disastrous protein deficiency in children and overcomes the protein calorie syndrome known as kwashiorkor. Its high vitamin and mineral salt content are further advantages. Hygienically produced goat milk processed in modern conditions is used in South Africa as a baby food (Hazel, 2000).

Goats play a fundamental role in the rural household economy. Studies by Lebbie and Manzini (1989) have revealed that small ruminants (goats) are an integral part in the traditional subsistence farming system of the majority rural Swazi population. Cash income, meat and social/cultural functions are the main uses of goats. For instance, Vilakati (1996) observed that it is relatively easier for farmers not only to slaughter a goat for home consumption, but also to sell it for emergency financial requirements. Farmers sell goats to pay school fees, hospital fees, buy food and other household needs. Slaughters for social/cultural ceremonies are also common.

Individuals buy/sell goats through an informal marketing set up. The non-existence of a well developed formal marketing outlet infrastructures has inherently resulted in no development of any grading system for small ruminants. Prices are therefore highly variable (Vilakati, 1996).

Matsanjeni area was chosen because there is a lack of information on why livestock farmers in the Lowveld of Swaziland have for decades focused primarily on beef production. This is despite the fact that the area is prone to droughts and drastic fall in annual rainfalls, which has led to low forage productivity. This study was therefore, designed to investigate socio-economic constraints on goat farming in the Lowveld of Swaziland case of Matsanjeni area. The specific objectives of this study were to:

- (i) Find out why the farmers concentrated mainly on cattle rearing whilst there were small ruminants particularly the goats that can sustain under the prevailing climatic conditions.
- (ii) Identify if ever there were any social and cultural beliefs such as livestock ownership, education level, socio-cultural uses of livestock, dignity, prestige, and taste, lack of knowledge on goat farming, income and market that influenced the farmer's preference of cattle over goats.
- (iii) Find out if there were any problems which militated against the development of goat production.
- (iv) Recommend strategies that can expedite increased development of the goat to promote the rural and national economy.

This study therefore, is important because it explored the potential of the small ruminant sector, goats in particular as means of diversifying the livestock sector, which has long been dominated by cattle. In view of the fact that goat production has faster returns on investments, it is important to take advantage of this and increase research and development in this sub-sector in order to improve the income and living standard especially of the rural masses (Dlamini and Lebbie, 1986). Development of subsistence goat farming will also assist local government to find solutions to the problems of unemployment and poverty, by using a resource they own.

Methods and Materials

Study area

Matsanjeni area is located in the Shiselweni District of Swaziland. It is situated at about 69 km east of Nhlanguano town and 18 km from Lavumisa. In terms of longitudinal and latitudinal positions Matsanjeni extends from $31^{\circ}43'$ to $31^{\circ}45'$ E and $27^{\circ}13'$ to $27^{\circ}15'$ S.

The study area generally lies in the Eastern Lowveld physiographic region and is characterised by lowlands, hills and some mountainous areas. Matsanjeni area is poorly drained such that water is a very scarce commodity. There is only one river, Matsambo, which also has a seasonal water flow.

In terms of climatic conditions, the study area is less humid, with also a least annual rainfall received between November and March. The mean annual rainfall ranges between 250 – 550 mm (Government

of Swaziland, 2005). Temperatures vary with season from 38.9°C in January to 9.8°C in July (Government of Swaziland, 2005). Hence it is cold in winter and hot in summer. Due to this climatic conditions dry-land cropping is very hazardous. As a result crop failures are frequent.

Regarding soils, they are generally fertile. Thus in terms of forage Matsanjeni is potentially highly productive. As a result, it is characterised as a sweet-veld due to the mixture of most desirable and nutritious grasses which are indigenous to Swaziland. For example there is a wide variety of Savannah trees and indigenous shrubs which are good for browsing animals like goats. Therefore, the study area in particular and the Lowveld in general merits livestock production especially goats due to its proneness to droughts, which have adverse effects on the production of cattle.

Data collection

The information required was gathered from subsistence farmers who own both cattle and goats, cattle only and goats only under Matsanjeni dip tank. This was the only dip tank used by the Matsanjeni farmers. The information was obtained from livestock owners regardless of gender.

According to Matsanjeni dip tank veterinary officer; there were a total of 124 cattle and goats farmers. Out of the 124, 34 farmers owned goats; 58 owned cattle and 32 owned both goats and cattle. All the farmers were interviewed. The study employed in-depth interviews in the collection of data. In-depth interviews were administered to household heads namely men and women.

Method of data analysis and presentation

The data for this study are presented in narrative and tables. The responses were coded and inputted for analysis using SPSS. This was mainly to facilitate analysis. Moreover, since this is a case study, interpretational analysis was also employed which involves examination of data for constructs, themes and patterns to describe and explain phenomenon studied.

Findings and Analysis

The study aimed at finding out the socio-economic factors that influenced subsistence livestock farmers to focus mainly on beef production instead of diversifying the livestock sector to incorporate small ruminants, goats in particular. The socio-economic factors ranged from lack of information on sustainable goat production, social status, cultural influence, taste, income and market.

Livestock ownership

Livestock ownership was mainly by the men as heads of households. For instance, 86% of the respondents reported that the livestock belonged to men, with only 14% of livestock owned by women (Table 1). More notable was that even if some animals belonged to the women or children, they would still be registered under name of the men.

Table 1: Proportion of registered livestock ownership

Livestock Owner	Frequency	(%)
Husband	77	86
Wife	13	14
Total	90	100

Ownership of livestock type by gender

When looking at livestock type ownership by gender, the women were major owners of goats when compared to cattle. About 59% of women owned goats against 41% men. The case was different in cattle ownership. About 72% men owned cattle against 28 % women (Table 2). A female owned cattle in cases where her husband was late.

Table 2: Type of livestock ownership by gender

Gender	Goats		Cattle		Both	
	Frequency	(%)	Frequency	(%)	Frequency	(%)
Male	14	41	42	72	24	75
Female	20	59	16	28	8	25
Total	34	100	58	100	32	100

Ownership of livestock by age

Livestock ownership was dominated by the older ages. For instance, the majority of the cattle were owned by 41.4% of the farmers who ranged between 41-50 years (Table 3). It is worth noting that there were no respondents below the age of 20 who owned cattle.

In terms of goats ownership the highest number of goats' keepers of about 35.3% was between 31-30 years. There were no goat keepers in the ranges 0-10; 11-20 and 70 years and above (Table 3). Furthermore, from the findings 25% of the farmers between 31-40 years owned both cattle and goats while there were 43.75% of the farmers within the age range of 41-50 (Table 3).

Table 3: Ownership of livestock by age

Age Group	Cattle Keepers		Goats Keepers		Cattle and Goats Keepers	
	Frequency	%	Frequency	%	Frequency	%
0-10	0	0	0	0	0	0
11-20	0	0	0	0	0	0
21-30	2	3.4	4	11.8	2	6.25
31-40	4	6.9	12	35.3	8	25
41-50	24	41.4	8	23.5	14	43.75
51-60	16	27.6	6	17.6	6	18.75
61-70	8	13.8	4	11.8	2	6.25
71+	4	6.9	0	0	0	0
Total	58	100	34	100	32	100

Education levels of livestock keepers by type of livestock

The education level of the respondents was very appalling since none of them had even high school education (Table 4). For instance, among the farmers who kept cattle only, 31% were illiterate; 55.2% had only access to primary education and only 13.8% had secondary education (Table 4).

Table 4: Education level of livestock keepers

Education	Cattle Keepers		Goats Keepers		Both	
	Frequency	%	Frequency	%	Frequency	%
Illiterate	18	31	12	35.3	10	31.3
Primary	32	55.2	16	47.1	16	50
Secondary	8	13.8	6	17.6	6	18.7
High School	0	0	0	0	0	0
College	0	0	0	0	0	0

University	0	0	0	0	0	0
Total	58	100	34	100	32	100

Sources of income for the farmers

The main sources of income of most respondents were the sale of agricultural products, off-farm wage employment and mostly wages in kind or food donations. For instance, 32.3% of the respondents credited their source of income to cattle with 21% of the respondents relying on off-farm wages (Table 5). Moreover, only 12.9% of the respondents relied on goats as a source of income.

Table 5: The main sources of income for the farmers

Source of income	Frequency	%
Cattle	40	32.3
Goats	16	12.9
Wages in kind	4	30.6
Off-farm wage	38	21
Poultry	26	3.2
Total	124	100

Livestock type kept by farmers

The findings of the study indicate that most farmers kept cattle as opposed to goats. Reasons for prioritising on keeping cattle include multiple socio-economic issues such as sale, meat, milk, draught power, manure and many cultural needs (customary use). For instance, 29.8 % of the respondents kept cattle solely for income generation (Table 6). However, normally the cattle are only sold when there is a need for money such as paying school fees and purchase of food stuffs and farming inputs. Furthermore, cattle products are very useful to the farmers such as milk, meat and manure. In addition, cattle are used as draught power mainly for ploughing activities.

Table 6: General reasons for keeping cattle

Reason	Frequency	(%)
Sale (income)	37	29.8
Milk	24	19.4
Cultural needs	30	24.2
Meat	18	14.5
Manure	10	8.1
Draught Power	5	4
Total	124	100

Social and cultural reasons for keeping cattle and goats

The findings indicate that cattle are kept mainly because they are a sign of wealth, or form of security among the Swazis. The respondents declared that cattle were regarded as the “bank” of the Swazi livestock farmers. They stated categorically that cattle were a sign of wealth. They felt that investing in cattle was much better than putting money on a fixed deposit account. Selling of a beast was much better than selling goats.

Other reasons include prestige, dignity, dowry (bride price), wedding ceremonies, funerals and customary rituals. The respondents felt that cattle gave them an identity and restored dignity. They declared that a man without cattle was like a bird without wings. Surprisingly, even the farmers who owned goats also cherished a strong passion for raising cattle. A man with a large herd of cattle was accorded much respect. Worth noting that respondents pointed out that there were wives in almost every household because of cattle.

In terms of keeping goats the findings reveal that goats provide meat for domestic consumption, milk, and cash income through their sale. However, it must be pointed out that respondents indicated preference of beef as opposed to goat meat. This is due to taste and an unfavourable smell of goat meat which dampen one's appetite. Nonetheless, goat meat was regarded healthy compared to beef as it does not cause many diseases. In terms of generating income through the sale of goats the findings reveal that the market for goats was very scarce as they were mainly sold to neighbours especially during December (for slaughter on Christmas Eve). Moreover, goats are important for social and customary needs, pasture management since they graze on a multiple type of species. This in turn explains their drought tolerance compared to cattle.

Problems in goat production

The problems encountered in goat farming in order of priority were the lack of a good, formal and reliable market for selling goats, lack of capital, lack of training on goat framing and stock theft. For instance 83.1% of the respondents pointed out that they do not engage in the production of goats due to the lack of a formal market while 4.8% complained of stock theft (Table 7).

Table 7: Problems encountered in goat production

Problem	Frequency	(%)
No formal market	103	83.1
Capital	8	6.5
No training on goat farming	7	5.6
Stock theft	6	4.8
Total	124	100

Conclusion

In conclusion, there is a serious lack of knowledge on sustainable goat production in Swaziland. The potential of goats has not been explored; hence goats remain an integral part of the livestock industry with a very minimal economic contribution to farmers. The study has shown that there is still a lot that need to be done in order to unveil the rosy side of goats. Thus the study established that the socio-cultural status accorded to cattle by the Matsanjeni livestock farmers perpetuate a continued monopoly of cattle in the livestock industry. Also the lack of formal market opportunities is a major hindrance to goat farming.

Recommendations:

- There is more information needed on goat farming in order to unveil the potential of a goats' enterprise
- There is more research needed on the multiple uses of goats.
- Training subsistence farmers on sustainable goat production is necessary to empower them how best they can use the goat to get solutions to their problems of underdevelopment and unemployment.
- More information is required on the advantages of goat farming over cattle rearing.
- Information on market opportunities necessary.

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