Since 2001 ajfand AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

Afr. J. Food Agric. Nutr. Dev. 2024; 24(7): 26858-26875 https://doi.org/10.18697/ajfand.132.24490

Date	Submitted	Accepted	Published
	10th January 2024	18th June 2024	27th July 2024

ASSESSMENT OF MARKET PRICE DETERMINANTS OF LIVE GOATS IN THREE DISTRICT MUNICIPALITIES OF THE EASTERN CAPE PROVINCE, SOUTH AFRICA

Mthi S[1,3]*, Washaya S[2], Ikusika OO[4], Mpisana Z[4], Qokweni L[5], Yawa M[1], Tyasi TL[7], Rumosa-Gwaze F[6], Tokozwayo S[1], Mabece V[3], Ngonyama A[3], Duda S[3] and CT Mpendulo[4]

Siza Mthi

*Corresponding author email: sizamthie@gmail.com
ORCID ID: https://orcid.org/0000-0002-0584-1402

[1]Dohne Agricultural Development Institute, Private Bag X 15, Stutterheim, 4930, South Africa

[2]Department of Livestock, Wildlife & Fisheries Great Zimbabwe University, P.O. Box 1235 Masvingo

[3]Department of Rural Development and Agrarian Reform, P.O. Box 112, Queenstown, 5320

[4]Department of livestock and Pasture Science, University of Fort Hare, Private Bag x11314, Alice 5700, South Africa

[5]Department of Rural Development and Agrarian Reform, Private Bag x6012, Port Elizabeth, 6001

[6]Ikhala TVET College, Queen Nonesi Campus, Queenstown 5320

[7]Department of Agricultural Economics and Animal Production, University of Limpopo, Private Bag X1106, Sovenga 0727, Limpopo, South Africa

Since 2001 ajfand AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

ABSTRACT

Goat production is essential to South African rural livelihood despite being faced with numerous challenges. Goat trade is crucial for African rural households' welfare, and food security. The study aimed to assess market price determinants of live goats in three Eastern Cape Province district municipalities. A pre-tested, semi-structured questionnaire obtained information from randomly selected 210 out of 350 goat farmers. Data was analyzed using the Statistical Package for Social Science to generate means, frequency, and percentage. Pearson's chi-square test was used to analyze farmers' demographic profiles, flock structure, and price determinants of goats. The results revealed that goat farming in the study areas was dominated by men (78%), and 43% were between 41 and 60 years. More than 40% of the respondents had advanced secondary education and more than 10 years of farming experience, holding between 2-5ha land with a household size ranging from 4-6 members. Regarding flock structure, female goats accounted for a higher proportion (53.2%) than their male counterparts (46.8%). Cash income (42.3%) was the main reason for keeping goats in the study areas. This is followed by traditional ceremonies purpose, while milk purpose was the least reason goat's farmers in the study area keep goats. Findings revealed that body size ($p<0.001$), colour ($p<0.05$), sex ($p<0.01$), age ($p<0.001$), season ($p<0.001$), breed ($p<0.05$) and head type ($p<0.05$) were the main determining attributes for the market price of live goats in the study areas. The study revealed that most goat farmers sell live goats during December (57%) compared to other seasons (43%). This could be attributed to the many traditional ceremonies among the Isixhosa people, who comprise the study area. The desired features and attributes influencing prices should be informed and incorporated into the breeding. It could be concluded that the size of the goat and the season are the main determinants of prices for goats in the study area. Additionally, various stakeholders should create market linkages and access to market information systems to convert the system into market-oriented using a value chain framework.

Key words: Income, size, colour, season, live goats, South Africa

Since 2001 ajfand AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

INTRODUCTION

There has been a rapid increase in human population within the past decades. Consequently, the rising demand for disposable income coupled with progressive urbanization has led to global demand for livestock products, which is expected to increase between 70 and 80% by 2050 [1, 2, 3]. A study by Greyling [4] reported that most (60%) of South Africa's population depends on agriculture, in which livestock, especially small stock, play a crucial role. The role of goats and sheep in South Africa's animal product income ranges between 8-10% per annum [5, 6]. Smallholder communal farmers in South Africa and other developing countries raise goats under low-input production systems. This extensive production system is characterized by minimal management, and veterinary intervention to maximize production.

South Africa is known for its rich and immensely diverse goat breeds, widely distributed in different agroecological regions and production systems. Goats are reared for various reasons, such as a source of food, farm family income, foreign exchange earnings, and social and cultural ceremonies [7, 8, 9]. However, the pricing of live goats or chevon requires immediate attention [10]. South Africa has no proper market structure or grading system for goat carcasses [11]. Understanding market price determinants of live goats will assist in the formulation of a grading system, and effective marketing strategies for resource-limited farmers.

Goats are estimated at approximately 1 billion worldwide, with a considerable proportion resident in Asia and Africa [12]. South Africa has a goat population of 5.2 million, of which 38.9% of the national goat population is found in the Eastern Cape Province [13]. Goats are relatively easy to keep and can be produced quickly [14]. In most rural communities, there are no organized markets; therefore, buyers are not informed, and goats are marketed haphazardly [15]. In these informal markets, no clear-cut factors determine the goat price [16]. Pricing solely depends on the ability of the buyer to negotiate and the willingness or reasons for selling by the farmer. Such price determination precepts consistently undervalue the animal to the detriment of the farmer financially [17, 18]

Therefore, identifying the attributes contributing to market price formation is germane in designing effective policies for sustainable production, and reducing food insecurity within local farming communities [19, 20]. Therefore, the current study assessed the attributes considered in determining the market price of live goats in the three District Municipalities of the Eastern Cape Province.

ajfand Since 2001
AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

MATERIALS AND METHODS

Ethical consideration

The study observed all the ethical considerations as laid down by the ethical committee of the University of Fort Hare. Also, written consent was obtained from each respondent before administering the instrument. All respondents were informed that their participation was voluntary, and written informed consent was sought from all participants before participating. The confidentiality of participants was maintained, as no personal identifying information was collected on the questionnaire.

Study area description

Five major villages from the three district municipalities were used in the current study, and their descriptions are provided in Table 1.

Data collection

These study sites were selected based on the livestock production system and the willingness of the communities to participate in the survey. A meeting with traditional leaders was held in each community to explain the purpose of the study and how farmers would benefit before the selection of goat farmers. A total of 210 out of 350 goat farmers were interviewed using a pre-tested structured questionnaire, consisting of open-ended and closed questions from October 2018 to May 2019. Trained enumerators conducted the survey using the local vernacular Xhosa language to obtain accurate information that was later translated into English. Each goat farmer was interviewed individually in their homestead. Aspects covered in the questionnaires include; demographic characteristics, flock structure, reason for keeping goats, and attributes used to determine the market price of live goats.

Statistical analysis

The data was captured on Microsoft Excel 2013 and analyzed using the Statistical Package for Social Sciences [21] version 27 to generate descriptive statistics. Descriptive analysis was used to determine the frequencies of categorical variables. Pearson's chi-square test was used to analyze farmers' demographic profiles, flock structure, and price determinants of goats. Multinomial logistic regression was used to identify the factors influencing goat prices.

RESULTS AND DISCUSSION

Social demographic information

Socio-demographic profiles of goat farmers who participated in the study are shown in Table 2. A total of 210 goat farmers were interviewed in the study areas. The mean age of goat farmers was 42.3 years (range from 20-85 years). The

ajfand Since 2001
AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

majority (43%) of goat farmers were 41-60 years old. Goat farming was dominated by men (78%) compared to women (22%). The number of people in a household ranged from two to more than seven. The study revealed that more than 40% of the households had family size from 4 to 6 members.

Approximately 83% of goat farmers attained primary and secondary education. Landholding varied among different households; the significant proportion of landholding in the study areas was between 2 and 5 ha. Most goat farmers have been involved in goat farming for more than 10 years, as presented in Table 2. Another 34.8% had between 6 and 10 years, while the remaining 9.5% had less than or equal to 5 years of goat farming experience.

Adult breeding females (>1 year) constituted larger proportions in the flocks (53.2%), followed by kids (6-12 months), kids < 6 months, intact males >1 year, and lastly, castrates (Table 3).

Farmers in the study areas kept goats for multiple purposes (Figure 2): family cash income, traditional ceremonies, household meat consumption, status, manure as a source of fertilizer (6.4%), and milk.

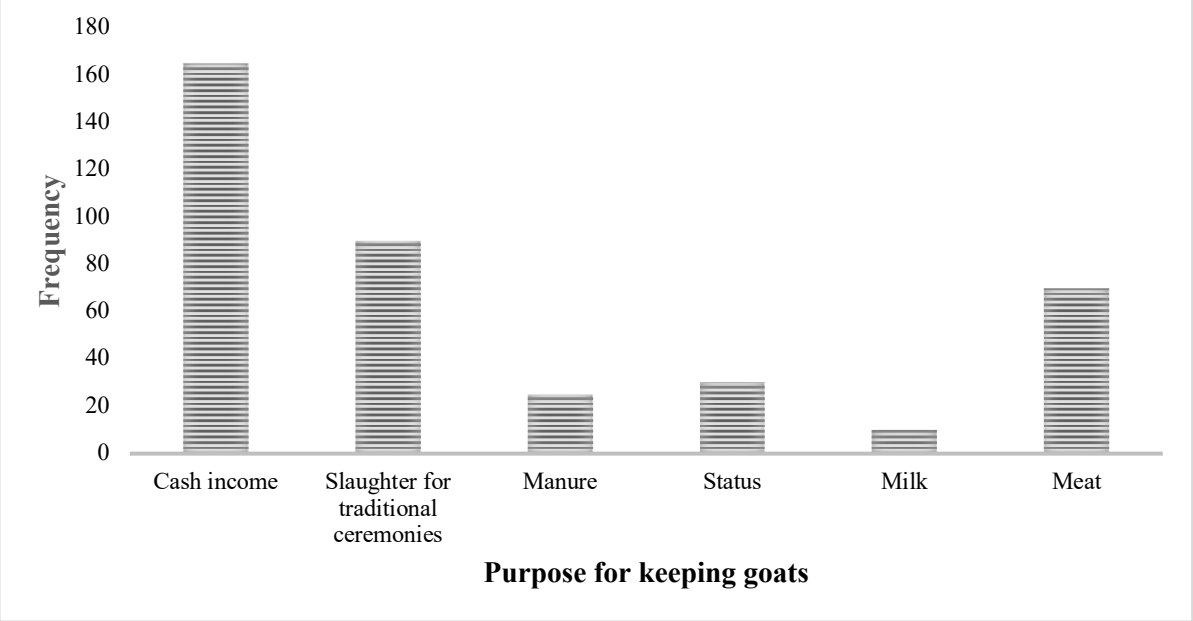

Figure 1: Purpose of keeping goats in the study area

Goat farmers in the study areas fetched the highest price in terms of mature, hybrid, big size, white coat, castrated goats with horns during the December season, as presented in Table 4. The market price of live goats was influenced by body size, sex, and season in the study areas.

ajfand Since 2001
AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

This study was conducted to explore goat farmers' attributes for market price determination of live goats under smallholder farmers. Understanding farmers' attributes for market price determination of live goats, benefits relevant stakeholders in the goat production industry in implementing effective marketing strategies and channels in rural communities and improving traits of economic importance [20, 22].

From this study, most goat farmers were still in their economic active ages between 41-60 years of age, whilst more than 26% of farmers were above 60 years of age and relied on social grants and pensions. This concurs with Akinrotimi *et al*. [23], Rahman [24] and Mthi *et al.* [25], who revealed that most farmers involved in livestock farming were in their middle and economically active age of life. This study revealed that more males (78%) were heads of households involved in goat production than females (22%). This is most likely a result of the fact that most families' breadwinners are men. As a result, they are forced to engage in income-generating activities to raise money for their family. This result agrees with the study conducted by Mthi *et al.* [26] and Mazamabara *et al.* [27], who found that livestock production, especially ruminant production, was dominated by males. The findings from this study contrast with those of Baruwa [28], who reported that females dominated goat enterprise.

Results from this study indicated that the majority of goat farmers had 4-6 persons in their households, which concurs with the findings of Nwandu [29], who found out that in the Okpe Local Government area of Delta State, majority of the respondents had family size fell between 4-6 persons in livestock production. The higher the household size, the higher the productivity because such households would have more hands in the business. The findings revealed that most of the interviewed goat farmers had senior education, implying that there were more educated farmers in goat production. Many educated farmers could contribute greatly to goat enterprises' improved productivity and profitability. These results aligned with Mazamabara *et al.* [27], who reported that a greater percentage of livestock farmers obtained senior secondary education. Moreover, education and an understanding of marketing dynamics are important aspects of the success of agricultural enterprises. These findings align with FAO [30], which reported that educated farmers are more likely to participate in marketing their farming products.

From this study, farmers' landholdings were classified into three categories; small (≤1ha), medium (2-5ha), and large (>5ha). Many farmers (57%) were in the medium class, which was also representative of the typical land size in rural communities of the Eastern Cape Province. These findings align with the findings of Haque [31] in Barind Area Bangladesh, who reported that most sheep farmers (81%) were in a small category. The findings that most of the interviewed goat

ajfand Since 2001
AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

farmers had a farming experience of more than 10 years agree with Ogunniyi [32], who report that farmers use their expertise in the farming sector to create specific, measurable, doable, practical, and time-bound goals. Additionally, farming expertise aided farmers in efficiently using the resources at their disposal and foreseeing risks.

In the study areas, the flock structure was made of various age and sex compositions. The findings that the majority (53.2%) of breeding stock were female goats more than one-year-old agree with Matshawule & Beyene [33], who reported that ewes and does were higher than the bucks and rams as community farmers slaughter and sell males. This higher number could be attributed to farmers keeping female goats in the flock for replacement purposes. The flock will expand quickly since maintaining more females results in more births. In this current study, interviewed goat farmers primarily kept goats for various purposes, including cash generation through the sale of live animals and traditional ceremonies and meat production. Findings from this study are in line with observations from previous studies conducted in Ghana by Baah *et al.* [34], Ethiopia by Woldu *et al*. [35], and South Africa [33]. Information on farmers' main purposes of keeping goats in communal farming systems is essential in formulating marketing strategies and improving profitability.

Multinomial logistic regression

Goat body size had a significant ($p<0.001$) effect on the market price determination of live goats in the study areas. Goats with big sizes received higher premium rates (Table 3). The results of this study, along with those from [36, 37], all support the notion that animals with big body sizes fetch higher price premiums than medium and small sizes [38]. Although coat colour had no significant effect in the study areas, buyers and sellers consider coat colour when determining the price. Compared to other hues, white coats carry a larger price premium.

The gender of a goat also had a significant ($p<0.01$) role in the market price determination of live goats. When all other things are equal, a male goat costs substantially more than a female goat. According to Table 4, buyers are willing to pay more for castrated goats than male and female goats. Findings concur with Jabo and Adamu [39], assertion that male animals cost significantly more than female animals, despite the reverse finding in a study by Nadhem *et al.* [40].

Age had a significant ($p<0.001$) effect on a goat's price. The results in Table 4 revealed that the older/ more mature the goat, the more expensive it is. This outcome is similar to Teklewold *et al.* [41], who reported that mature animals cost more due to increased live weight compared to immature and young ones. Consumers prefer the meat of young animals, and there is an inverse relationship

Since 2001 ajfand AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

between goat age and price, according to Alfaz [42]. Findings disagree with the findings made by Tarekegn [43], who found that age significantly and positively influences the price premium in sheep.

The selling season of the animal is the most important factor in influencing the price of goats because of the cyclical consumption patterns in our society. The results of Table 4 showed that season had an effect ($p<0.001$) on market price determination. Goat prices in December are higher than winter goat prices. This result is consistent with findings reported by Zelalem *et al.* [44].

There are several goat breeds in the rural communities in the Eastern Cape Province. Occasionally, it could be challenging to differentiate one breed from another. Goat hybrids were more expensive to purchase than domestic goat breeds. The findings align with Naanep *et al*. [45], who discovered significant pricing fluctuations between breeds, as opposed to Srinivas *et al.* [46], who found a negligible effect of breed on price.

In the study areas, the goat's horn type had a significant role in determining the market price of a live goat. According to Table 4 findings, goats with horns are more expensive than goats with no horns (polled). This finding is consistent with that of Asresu *et al.* [47], who claimed that goats with horns commanded the greatest prices in the market [44].

CONCLUSION AND RECOMMENDATIONS FOR DEVELOPMENT

Goat production plays a vital role in the livelihoods of smallholder farmers in the Eastern Cape Province. Considering the present data, it can be concluded that body size, season, and sex were the most determining attributes for the market price of live goats in the study areas. The baseline information provided in this study will contribute to developing coordinated and comprehensive goat production improvement programs and ultimately improve goat productivity and the livelihood of rural farmers.

Funding
The authors received no direct funding for this research.

Disclosure
No conflict of interest was reported by the author(s).

Ethical considerations
A letter seeking approval for assistance and cooperation from local agriculture offices in mobilizing goat farmers was granted. Informed consent was obtained from the traditional leaders and goat farmers before interviews and discussions were conducted.

ajfand Since 2001
AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

Authors' contributions

Mthi, S Conceptualized the research, collected data and wrote the original manuscript, Washaya S, did the statistical analysis and was involved in writing the final paper. Ikusika oo and Mpendulo CT write the final draft and supervise the work while Mpisana,Z, Qokweni,L, Yawa,M,Tyasi, TL, Rumosa-Gwaze F, Tokozwayo S Mabece V, Ngonyama A and Duda S were involved in data collection, curation, resources, funding and original draft.

Availability of data and materials

We affirm that the information in this paper is original and that the authors/researchers did the original research from which it was derived.

Conflict of interest

We have studied the instructions on competing interests and can attest that none of the authors has any financial or non-financial competing interests in the paper.

Since 2001 ajfand AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

Table 1: Description of the study sites

District Municipality	Local Municipality	Community/Village	Coordinates	Altitude	Min-Max Temperature	Rainfall	Vegetation
Amathole	Amahlathi	Upper Ngqumeya	32° 43'08.87" S longitude & 27°07'42.14" E latitude	670 m	12-25˚C	500-840mm	Mixture of Thicket & Bhisho Thornveld
	Mbhashe	Ciko	32°16'11.18" S longitude & 28°32'03.22" E latitude	587 m	9.8-32˚C	500-900mm	Bhisho Thornveld & Great Fish Thicket
	Mnquma	Nxaxo	32°32'47" S longitude & 28°30'17" E latitude	456 m	11-23˚C	1015mm	Transkei Coastal Belt & Bhisho Thornveld towards inland
O.R. Tambo	Ingquza-Hill	Goso	31°22'49.38" S longitude & 29°35'48.57" E latitude	144 m	11.2-23˚C	700-1100mm	Indian Coastal Belt and patches of Scarp Forests
Alfred-Nzo	Umzimvubu	Santombe	30˚49'25" S longitude & 27˚21'93" E latitude	1330 m	13-29˚C	780mm	East Griqualand Grassland & Drakensberg Foothill Moist Grassland

Since 2001 ajfand AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

Table 2: Socio-demographic status of the goats' farmers

Parameters	Category	Number	Percentage %
Age	20-40	65	31.0
	41-60	90	43.0
	>60	55	26.0
Sex	Male	164	78.0
	Female	46	22.0
Family size	≤3	41	19.5
	4-6	102	48.5
	>7	67	32.0
Educational Level	Primary	40	19.0
	Senior Secondary	90	43.0
	Matric	55	26.0
	Post Matric	25	12.0
Landholding	Small (≤1 ha)	30	14.0
	Medium (2-5ha)	120	57.0
	Large (>5ha)	60	29.0
Farming experience	≤5 years	20	9.5
	6-10	73	34.8
	>10	117	55.7

Since 2001 ajfand AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

Table 3: Average goat flock structure and flock composition

Goat categories	Mean±SD	Total	Percentage
Kids <6 months	2.0 ± 1.6	434	16.2
Kids (6-12 months)	2.2 ± 1.2	509	19.0
Intact male >1 year	1.0 ± 0.3	226	8.4
Female > 1 year	11.1 ± 2.0	1424	53.2
Castrated	0.4 ± 0.3	85	3.2
Total		2678	100

https://doi.org/10.18697/ajfand.132.24490

Since 2001 ajfand AFRICAN JOURNAL OF FOOD, AGRICULTURE, NUTRITION AND DEVELOPMENT
SCHOLARLY, PEER REVIEWED
Volume 24 No. 7
July 2024
PUBLISHED BY AFRICAN SCHOLARLY SCIENCE COMMUNICATIONS TRUST
ISSN 1684 5374

Table 4: Multinomial logistic regression on market price determinants of goat farmers

Variables	Mean price	Frequency (n=210)	Proportion (%)	Odd ratio	Confidence intervals (95%)	P-*value*
Body Size						
Small	≤ 1600	20	10.0	1.434	1.243-1.762	<0.0001***
Medium	1800	70	33.0			
Big	≥ 2000	120	57.0			
Colour						
White	≥ 2000	205	98.0	0.347	0.108-1.089	0.003*
Other	≤ 1800	05	2.0			
Sex						
Female	≤ 1800	40	19.0	1.224	0.135-0318	<0.001**
Castrates	≥ 2000	110	52.4			
Male	≤ 1500	60	28.6			
Age						
Young	≤ 1600	30	14.0	0.246	0.126-0.480	<0.0001***
Mature	≥ 2000	180	86.0			
Season						
June (winter)	≤ 1800	90	43.0	2.443	1.651-5.231	<0.0001***
December (summer)	≥ 2000	120	57.0			
Breed						
Local	≤ 1800	50	24.0	1.987	1.826-3.069	0.003*
Crosses	≥ 2000	160	76.0			
Head type						
Polled	≤ 1800	80	38.0	0.452	0.154-3.445	0.004*
Horns	≥ 2000	130	62.0			

***p < 0.001; **p < 0.01; *p < 0.05; NS: p > 0

REFERENCES

1 **Jouzi Z, Azadi H, Taheri F, Zarafshani K, Gebrehiwot K, Van Passel S and P Lebailly** Organic farming and small-scale farmers: Main opportunities and challenges. *Ecological Economics,* 2017;**132**:144-154.

2. **Tito R, Vasconcelos HL and KJ Feeley** Global climate change increases risk of crop yield losses and food insecurity in the tropical Andes. *Global Change Biology*, 2018; **24**:592-602.

3. **Steinfeld H** Livestock and natural resources. In: proceedings of an international policy forum, 2012 August:16-17 Bangkok 16-17.

4. **Greyling JC** The role of the Agricultural Sector in the South African Economy. Master's Dissertation, 2012. University of Stellenbosch.

5. **Cloete SWP and JJ Olivier** South African sheep and wool industry. In: International Sheep and Wool Handbook. D.J. Cottle (Editor). Nottingham University Press, Nottingham, UK, 2010: 95-112.

6. **Ikusika OO, Mpendulo CT, Zindove TJ and AI Okoh** Effect of Varying Inclusion Levels of Fossil Shell Flour on Growth Performance, Water Intake, Digestibility, and N Retention in Dohne-Merino Wethers. *Animals,* 2019; **9**: 565.

7. **Biradar N, Desai M, Manjunath L and MT Doddamani** Assessing the contribution of livestock to the livelihood of farmers of Western Maharashtra. *J. Hum. Ecol.,* 2013; **41**: 107-112.

8. **Meissner HH, Scholtz MM and AR Palmer** Sustainability of the South African livestock sector towards 2050 Part 1: Worth and impact of the sector. *S. Afr. J. Anim. Sci.,* 2013; **43**: 282-297.

9. **Marandure T, Mapiye C, Makombe G, Nengovhela B, Strydom P, Muchenje V and K Dzama** Determinants and opportunities for commercial marketing of beef cattle raised on communally owned natural pastures in South Africa. *African Journal of Range and Forage Science*, 2016; **33**: 199-206.

10. **Makusha A, Ikusika OO, Akinmoladun OF and CT Mpendulo** Investigation Of Goat Meat Consumption In Relation to Market Potential Among Major Stores In Eastern Cape, South Africa. *Afr. J. Food Agric. Nutr. Dev.* 2023; **23(10)**: 24964-24985. https://doi.org/10.18697/ajfand.125.23875

11. **Washaya S, Mupangwa J and V Muchenje** Chemical composition of Lablab purpureus and Vigna unguiculata and their subsequent effects on methane production in Xhosa lop-eared goats. *S. Afr. J. Anim. Sci.,* 2018; **48(3):** 445-458.

12. **Capote J** Environments and goats around the world: Importance of genetic and management factors. In: Kukovics, S. (Ed.): Sustainable Goat Breeding and Goat Farming in Central and Eastern European Countries. Food and Agriculture Organization of the United Nations, Herceghalom, Hungary, 2014: 1-6.

13. **Department of Agriculture, Land Reform and Rural Development (DALRRD).** National Livestock Statistics. Statistics and Economic Publications and Reports (2021). http://www.daff.gov.za/daffweb3/Home/CropEstimates.Statisticalinformation/Livestock. *Accessed 02nd November 2023.*

14. **Ahmad W, Ahmed T and B Ahmad** Hedonic pricing of goat characteristics at the market level: the case of Pakistan. *International Food and Agribusiness Management Review*, 2019; **22(4):** 483-497. https://doi.org/10.22434/IFAMR2018.0037

15. **Mbatha CN** Livestock production and marketing for small emerging farmers in South Africa and Kenya: Comparative lessons. *South African Journal of Agricultural Extension*, 2021; **49(1):** 141-161. https://doi.org/10.17159/2413-3221/2021/v49n1a10783

16. **Ntshangase ZM, Tafa S, Moyo B, Misery S and J Van Niekerk** Factors affecting household goat farmers market participation and the extent of commercialization. Goat Science-Environment, health and Economy. 2021.

17. **Shackleton S, Shackleton C and B Cousins** Re-valuing the communal lands of southern Africa: New understandings of rural livelihoods. Department for International Development, 2020:1-4.

18. **Doelamo ZK and TH Assefa** Determinants of market price of goats in case of Assayita market, Afar Region, Ethiopia. *International Journal of Advanced Research in Management and Social Sciences*, 2017; **6(5):** 177-190.

19. **Assefa E** Assessment of production and marketing system of goats in Dale District, Sidama Zone. MSc thesis, Awassa College of Agriculture, University of Hawassa Awassa Ethiopia.2017.

20. **Kang S and YK Na** Effects of strategy characteristics for sustainable competitive advantage in sharing economy businesses on creating shared value and performance. *Sustainability*, 2020; **12**:1397. https://doi.org/10.3390/su12041397

21. **Statistical Package for Social Science (SPSS**). (2021).

22. **Kaumbata W, Banda L, Meszaros G, Gondwe T, Woodward-Greene MJ, Rosen BD, Van Tassell CP, Solkner J and M Wurzinger** Tangible and intangible benefits of local goats rearing in smallholder farms in Malawi 2020.

23. **Akinrotimi OA, Cliffe PT and IF Ibemere** Integration of rural aquaculture into small scale farming systems in Niger delta region of Nigeria. Global Approaches to Extension Practice: *A Journal of Agricultural Extension,* 2011; **7(1):** 43-48.

24. **Rahman Z** Cattle fattening program in Dinajpur district of Bangladesh.2012.

25. **Mthi S, Thubela T, Mgujulwa N, Rumosa-Gwaze F Jokana N, Ntsabo T, Mfono A and S Tokozwayo** Perceived training needs among livestock farmers in the Northern Eastern Region of the Eastern Cape Province: A case of Ugie commonage. *Applied Animal Husbandry & Rural Development,* 2023;**16**: 1-6.

26. **Mthi S, Nyangiwe N, Thubela T, Nyalambisa N, Madyibi Z and M Yawa** Cattle production and breeding practice in communal farming system in the Eastern Cape Province, South Africa. *Appl. Anim. Husb. Rural Dev.*,2020; **13**: 42-54.

27. **Mazamabara F, Zivenge E and N Mafuse** Understanding profitability of small stock animals for rural development. *Journal of Agricultural Science and Food Research*, 2021; **12(1):** 1-9.

28. **Baruwa OI** Empirical analysis of costs and returns to goat production under tropical conditions. *Journal of Livestock Science*, 2012; **4**: 44-50.

29. **Nwandu PI** Profitability of small-scale broiler farmers' production in Okpe Local Government Area of Delta. *Dutse Journal of Pure and Applied Sciences,* 2021; **7**: 33-41.

30. **FAOSTAT**.2015. Data/Live Animals/Goats. Data Available online at http://www.fao.org/faostat/en/data/QA Accessed November 2023.

31. **Haque MI, Sarder MJU, Islam MA, Khaton R, Islam HR and MA Hashem** Socio-Demographic Study of the Farmers of Barind Area of Bangladesh. *Journal of Earth and Environmental Science,* 2020; **4(1):** 1-8. 194. https://doi.org/10.29011/2577-0640.100194

32. **Ogunniyi LT** Factors influencing the economic efficiency of goat production in Ogbomoso agricultural zone, Oyo state, Nigeria. *Journal of Animal Science Advances,* 2010; **4(1):** 690-698.

33. **Matshawule S and ST Beyene** Farmers' Perceptions of Livestock Husbandry and Rangeland Management Practices in Two Communal Coastal Areas of the Eastern Cape Province, South Africa. International *Journal of Food Science and Agriculture,* 2022; **6**: 309-319. https://doi.org/10.26855/ijfsa.2022.09.01

34. **Baah J Tuah AK, Addah W and RM Tait** Small ruminant production characteristics in urban households in Ghana. *Livestock Research for Rural Development*, 2012; 24, Article #86. http://www.lrrd.org/lrrd24/5/baah24086.htm *Accessed January 17, 2023.*

35. **Woldu T, Markemann A, Reiber C, Muth and A Valle** Optimising contributions of goat farming to household economic success and food security in three production systems in Ethiopia. *J. Agric. Rural Dev. Tropics and Subtropics,* 2016; **117(1):** 73-85.

36. **Akinmoladun OF, Adonis HP, Tyutwana A, Mpetile Z, Ikusika OO, Akinmoladun OF and CT Mpendulo** Perceptions and attitudes towards goat meat and milk consumption in the eastern cape, south Africa. *Afr. J. Food Agric. Nutr. Dev.* 2023; **23(7):** 23938-23955 https://doi.org/10.18697/ajfand.122.23765

37. **Terfa Z, Haile A, Baker D and GT Kassie** Valuation of traits of indigenous sheep using hedonic pricing in Central Ethiopia. *Agricultural and Food Economics,* 2013; **6**: 234-247.

38. **Dossa LH, Sangare M, Buerkert A and E Schlecht** Production Objectives and Breeding Practices of Urban Goat and Sheep Keepers in West Africa: Regional Analysis and Implications for the Development of Supportive Breeding Programs. *Springer Plus*, 2015 4, 281.

39. **Jabo M and M Adamu** Determinants of Sheep Price in Kaduna State, Nigeria. *PAT*, 2018; **14(2):** 25-31.

40. **Nadhem M, Derek B, James A, Edwin O and O Julie** Assessing Sheep Traders' Preferences in Kenya: A BestWorst Experiment from Kajiado County. *UMK Procedia,* 2014; **1**: 63 – 73.

41. **Teklewold HG, Legese D, Alemu G and A Negasa** Determinants of livestock prices in Ethiopian pastoral livestock markets: implications for pastoral marketing strategies. Paper presented at the International Association of Agricultural Economists Conference, Beijing, 16-22 August 2009. Available at: https://tinyurl.com/y448tjt *Accessed July 2023.*

42. **Afzal M, Ahmad S, Baloch AS and QB Ahmad** Seasonal price variation and price characteristics for small ruminants marketing in Balochistan. *Pakistan Journal of Agricultural Research, 2011*; **24:** 86-93.

43. **Tarekegn K** What determines the price of Bonga sheep at the market level in Southwestern Ethiopia? A hedonic price analysis. *Agriculture & Food Security*, 2021;**10(60):** 1-11. https://doi.org/10.1186/s40066-021-00337-2

44. **Zelalem T,Aynalem H, Baker D, and K Girma** Valuation of traits of indigenous sheep using hedonic pricing in Central Ethiopia*. Agricultural and Food Economics*, 2013; **1(1):** 1-13.

45. **Naanep ND, Velasco NB, Tayab CB, FL Dacayo, FL, Jordan RC, Maltu JM and EC Villar** Traders' preferences for halal goat characteristics in selected markets in region xii, Philippines. *Philippine Journal of Veterinary and Animal Sciences* , 2012; **38 (2):** 177-186.

46. **Srinivas TAA, Hassan AA, Rischkowsky B Tibbo M, Rizvi J and AH Naseri** Hedonic analysis of price expectations of goat producers in Afghanistan: implications for production and marketing decisions. *Agribusiness*, 2013; **29 (2):** 133-146.

47. **Asresu Y, Yigezu A, Girma T, Tilaye T, Aynalem H, Halima and R Barbara** Identification of strategies to improve goat marketing in the lowlands of Ethiopia: a hedonic price analysis. *Applied Economics,* 2018; **49**:1-15.