IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A Study On Sustainable Goat Farming Practices In Namakkal District, Tamil Nadu

[1]N. Sudha, [2]Dr. K. Selvaraj

[1]Research Scholar, PG & Research Department of Commerce, Mahendra Arts & Science College (Autonomous), Kalipatti, Tiruchengode Tk. Namakkal Dt. Tamilnadu.

[2]Research Supervisor, Associate Professor and Head, PG & Research Department of Commerce, Mahendra Arts & Science College (Autonomous), Kalipatti, Tiruchengode Tk. Namakkal Dt. Tamilnadu.

ABSTRACT

Goat farming is a significant agricultural activity in Namakkal district, Tamil Nadu, contributing substantially to the livelihood of small and marginal farmers. Sustainable goat farming practices are essential to ensure the long-term viability of this activity. This article discusses the best practices for sustainable goat farming in Namakkal district, focusing on selecting suitable breeds, improving genetic quality, and implementing breeding programs to enhance productivity and providing high-quality fodder, ensuring adequate nutrition, and promoting grazing with supplementation and implementing regular vaccination, parasite control, and veterinary care to maintain goat health and developing market linkages, improving price fixation, and promoting value-added products. The study further assesses the profitability of goat farming through cost and returns analysis and identifies major constraints faced by farmers such as inadequate veterinary services, fluctuating market prices, feed scarcity, and limited credit availability. The findings indicate that goat farming significantly supplements household income, enhances food and nutritional security, and provides substantial self-employment opportunities, especially for women and marginal farmers.

Sustainable goat farming practices can improve productivity, income, and livelihood security for farmers in Namakkal district. Government support, extension services, and farmers' organizations play a crucial role in promoting these practices.

Key words: Sustainable Goat farming, Long-term viability, Breeding, Feeding, Health management, Marketing, Livelihood security.

INTRODUCTION

Goat farming is an integral part of livestock production in Tamil Nadu, particularly in the Namakkal district. The state's diverse geography and climate make it an ideal location for rearing goats. Sustainable goat farming practices are essential to ensure the long-term viability of this agricultural activity. This article discusses the best practices for sustainable goat farming in Namakkal district, Tamil Nadu.Goat farming in India is a very profitable business with minimum investment. Goat farming can be done in small to large

industrial scale. Here is the complete information on starting a goat farming project. Goat farming in India is a well-established, antiquated form of farming especially in places where dry land farming system is practiced. It is generally practiced by farmers who have a very small area of land for farming. Sometimes landless laborers also undertake goat farming since the risk, initial investments etc. are much lower than other forms of farming. Goats are hence rightly called as "poor man's cow" since it has promises of good return that can serve as investment source.

The study further assesses the profitability of goat farming through cost and returns analysis and identifies major constraints faced by farmers such as inadequate veterinary services, fluctuating market prices, feed scarcity, and limited credit availability. The findings indicate that goat farming significantly supplements household income, enhances food and nutritional security, and provides substantial self-employment opportunities, especially for women and marginal farmers. Such an inquiry will help identify strengths, limitations, and opportunities for enhancing the productivity and profitability of goat enterprises. The findings would support informed policymaking, targeted interventions, and improved support services for rural development.

BEST PRACTICES FOR SUSTAINABLE GOAT FARMING

1. Breeding and Selection

Selecting the right breed is crucial for successful goat farming. In Tamil Nadu, popular breeds include KanniAdu, KodiAdu, and Salem Black. Farmers should choose breeds that are well-suited to the local climate and have high productivity. Breeding programs should focus on improving the genetic quality of the goats.

2. Feed and Nutrition

Goats require a balanced diet that includes high-quality fodder, concentrates, and clean water. Farmers should prioritize fodder production, using crops like Desmanthus, Stylo, and CO-5. Grazing with supplementation is recommended, as it allows goats to utilize available grazing resources while receiving necessary nutrients.

3. Housing and Health Management

Proper housing is essential to protect goats from extreme weather conditions and predators. Sheds should be well-ventilated, with adequate space for each animal. Regular cleaning and disinfection of sheds are necessary to maintain hygiene and prevent disease outbreaks. Vaccination and parasite control programs should be implemented to ensure the health and well-being of the goats.

4. Marketing and Support

Farmers should have access to reliable markets and receive fair prices for their products. The Tamil Nadu government offers various schemes and subsidies to support goat farmers, including the Livestock Development Scheme and the Integrated Goat Development Project. These initiatives provide financial assistance, technical guidance, and market linkage support.

GOVERNMENT SCHEMES AND SUPPORT

The Tamil Nadu government has introduced several schemes to promote sustainable goat farming practices in the state. Some of these schemes include:

- **Livestock Development Scheme (LDS):** Provides up to 50% subsidy on capital investment for setting up small-scale commercial livestock farms, including goats.
- **Integrated Goat Development Project (IGDP):** Aims to increase productivity and profitability of goat farming through improved breeds, feeding practices, healthcare management, and marketing facilities.

- **National Bank for Agriculture & Rural Development (NABARD) scheme:** Provides loan facilities up to 85% of project cost, subject to certain conditions.

CHALLENGES AND CONSTRAINTS

Despite the potential of goat farming in Namakkal district, farmers face several challenges, including:

- **Lack of fodder and grazing facilities:** Limited availability of quality fodder and grazing land can affect goat productivity and health.
- **Inadequate veterinary services:** Insufficient access to veterinary care can lead to disease outbreaks and mortality.
- **Market fluctuations:** Unstable market prices and lack of reliable market linkages can affect farmers' income.

OBJECTIVES OF THE STUDY

The main objectives of sustainable goat farming practices in Namakkal district, Tamil Nadu are:

- **Improving Productivity:** Enhance goat productivity through genetic improvement, better nutrition, and healthcare management.
- **Increasing Income:** Increase income for goat farmers through sustainable practices, market linkages, and value-added products.
- **Promoting Sustainable Practices:** Promote sustainable goat farming practices, including fodder production, efficient water use, and waste management.

DATA COLLECTION:

- **Primary Data**: Structured interview schedule covering socio-economic conditions, goat management practices, costs, returns, and constraints.
- **Secondary Data**: Published journals, reports of Government of Tamil Nadu, NABARD, FAO, District Livestock Department, and relevant research studies.

TOOLS OF ANALYSIS:

- Simple percentage
- Chi-square
- ANOVA

SAMPLE SIZE:

- Data was collected from 120 Respondents in the study area.

TYPE OF CHARTS:

- Pie Chart, Bar Chart, Column Chart.

HYPOTHESIS

Based on existing research, potential hypotheses for sustainable goat farming practices in Namakkal district, Tamil Nadu, could be:

- **Adoption of sustainable practices:** Goat farmers in Namakkal district who adopt sustainable practices, such as grazing with supplementation and proper health management, will have higher productivity and income compared to those who do not.
- **Impact of government schemes:** Government schemes and subsidies, such as the Livestock Development Scheme (LDS) and Integrated Goat Development Project (IGDP), significantly improve the livelihoods of goat farmers in Namakkal district by increasing their access to resources, training, and markets.

- **Role of women in goat farming:** Women's participation in goat farming in Namakkal district leads to improved household income, decision-making, and empowerment, contributing to sustainable agricultural development.
- **Constraints to sustainable goat farming:** The major constraints faced by goat farmers in Namakkal district, such as lack of fodder and grazing facilities, inadequate veterinary services, and market fluctuations, negatively impact the sustainability of goat farming practices.
- **Effectiveness of extension services:** Extension services and training programs for goat farmers in Namakkal district significantly enhance their knowledge and adoption of sustainable goat farming practices, leading to improved productivity and livelihoods.

These hypotheses can guide research and analysis to better understand the challenges and opportunities for sustainable goat farming practices in Namakkal district, Tamil Nadu.

STATEMENT OF THE PROBLEM

Sustainable Goat farming in Namakkal district, Tamil Nadu faces several challenges, including:

- **Low Productivity:** Goat productivity is low due to poor genetics, inadequate nutrition, and inadequate healthcare.
- **Lack of Market Access:** Goat farmers lack access to markets, resulting in low prices for their products and limited income.
- **Limited Resources:** Goat farmers face limited resources, including lack of fodder, grazing land, and veterinary services.
- **Climate Change:** Climate change affects goat farming, with changing weather patterns impacting fodder availability and goat health.
- **Exploitation by Middlemen:** Goat farmers are often exploited by middlemen, who offer low prices for their products.

Sustainable goat farming practices can help address these challenges and improve the livelihoods of goat farmers in Namakkal district, Tamil Nadu.

REVIEW OF LITERATURE

1. Kate Downie-Meirose (2014) has tried to determine factors initiating a change from conventional sheep farms to sheep dairy farms on the Canter bury plains and the potential of sheep milking industry developing with regard to current environmental restraints. The author says sheep milking in NewZealand is very small industry. The study has brought out the result that given an industry presence in the region. Sheep milking in Canter bury is a feasible farming operation which is gentler to the environment than cow dairy counter parts.

2. Shiva Kumar et al. (2017) have observed that small ruminant's play an important role in Indian economy. They are a source of livelihood and employment to millions of rural households. Sheep and goats in India are predominantly maintained on natural vegetation on common grazing lands, wastelands and uncultivated (fallow) lands, stubbles of cultivated crops and top feeds.

3. Jhonson et al. (2013) have observed the reluctance of farmers to invest much capital in their small ruminant enterprises and they decided to place more emphasis on low-cost technology options such as controlling the breeding season in order to have periods of selectively favoring growth of the most palatable of the prevalent strategies and determining which trace minerals might be limiting the growth or reproduction.

4. Mehmad and Ahmad (2013) have made an analysis of agricultural farming involving sheep farming in Konya province in Turkey. They have found that factors like income volumetric costs and labour considered as effective in sheep farming activities.

5. Folasade Temitops Ogunkoya (2014) has identified factors affecting cattle and sheep farming in the study area of South Africa. The author mentioned these factors as lack of camp systems, drought prevalence, increased feed costs, poor veterinary interventions, insufficient breeding stock, high cost of fuel and

transportation, lack of equipment, diseases, stock theft and pilfering and insufficient grazing land. The author has suggested that extension and veterinary services should be strengthened.

6. R. Mallikarjuna, V.Rajaganapathy, R.Ganesan, P. Ponnuvel and D.Sreekumar (2021) have summarized that the majority of the goat farmers in Puducherry were women(60.2%), aged(60.6%) and illiterate (53%) owning an average flock size of 16 numbers of goat with a mean annual income of Rs. 34,990, with87.9 per cent of the farmers being landless. The major primary and secondary occupation of the respondents were goat farming with an average of 12 years of experience in goat farming.

RESULT AND DISCUSSION

A. SIMPLE PERCENTAGE ANALYSIS:

TABLE NO.: 1

AGE OF THE RESPONDENTS

S.No.	Kinds	Frequency	Percent (%)
1	Upto 20 years	34	28
2	21 years - 40 years	55	46
3	41 years - 60 years	23	19
4	Above 61	8	7
Total		**120**	**100**

Source: Primary Data

Interpretation

From the above table reveals that the respondent belongs to the age group of upto20 years (28%), 21 years - 40 years (46%), 41 years - 60 years (19%) and Above 61 years (7%). It is ended that the maximum of the respondent belongs to the age group of 21 - 40 years (46%).

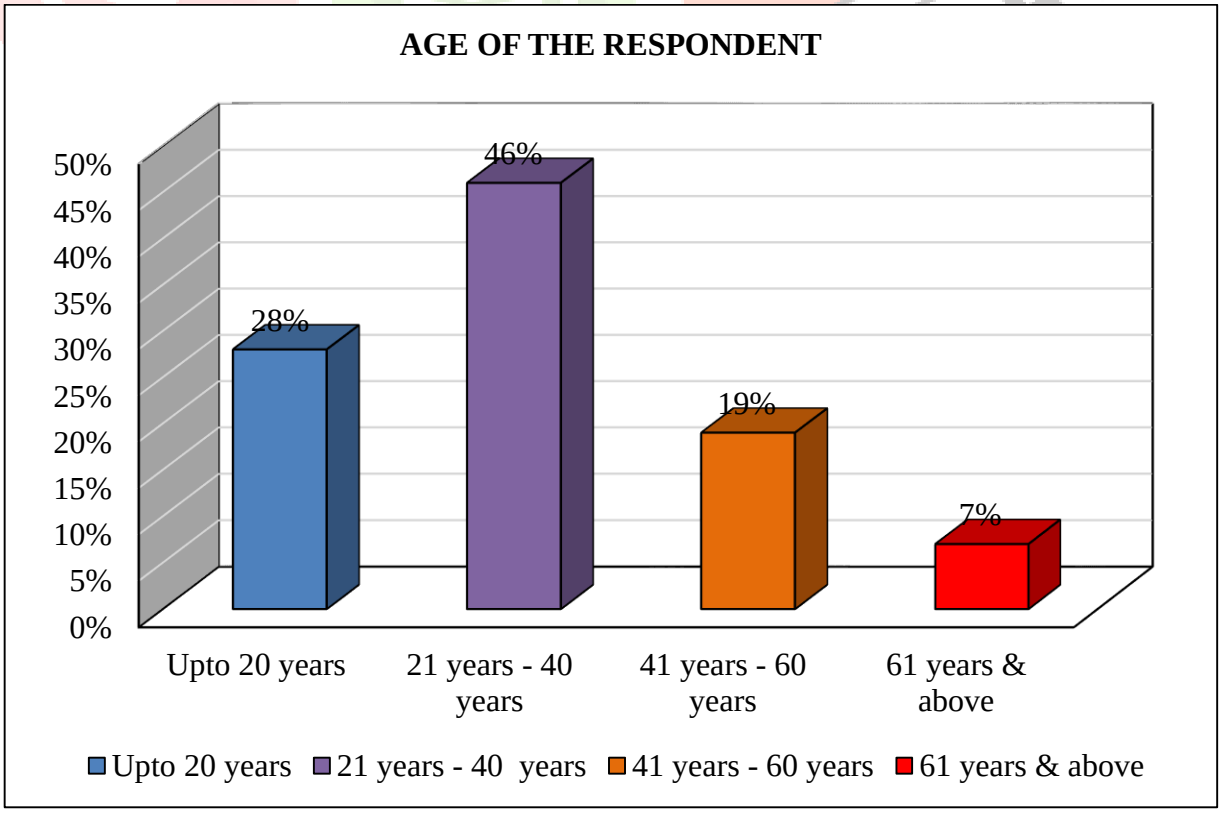


TABLE NO.: 2
MONTHLY INCOME OF THE RESPONDENTS

S.No.	Kinds	Frequency	Percent (%)
1	Upto Rs.10,000	34	28
2	Rs.10,001 to Rs.20,000	24	20
3	Rs.20,001 to Rs.30,000	26	22
4	Above Rs.30,000	36	30
Total		**120**	**100**

Source: Primary Data

Interpretation

It is clear that the monthly income of the respondents is to less than Rs.10,000 (28%), Rs.10,001 to Rs.20,000 (20%), Rs.20,001 to Rs.30,000 (22%), and above Rs. 30,000 (30%). Maximum of the respondent's annual income is less than Rs.10,000 (28%).

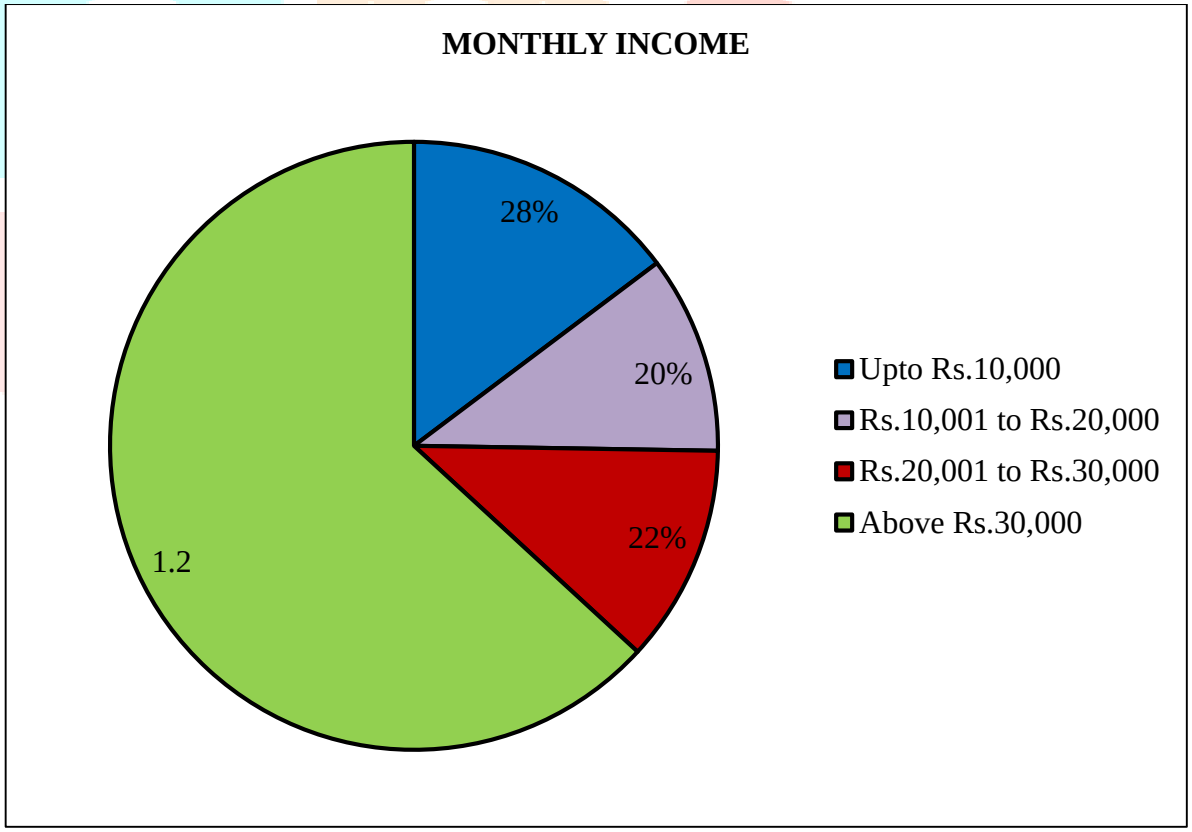


TABLE NO.: 3
SOURCES OF FUNDS OF THE RESPONDENTS

S.No.	Kinds	Frequency	Percent (%)
1	Own funds	24	20
2	Borrowed funds	34	28
3	Both own and borrowed	19	16
4	Government schemes	43	36
Total		**120**	**100**

Source: Primary Data

Interpretation

It is clear that the sources of funds of the respondents is to own funds (20%), Borrowed funds (28%), both own and borrowed (16%), and government schemes(36%). Maximum of the respondent's sources of funds is Government schemes (36%).

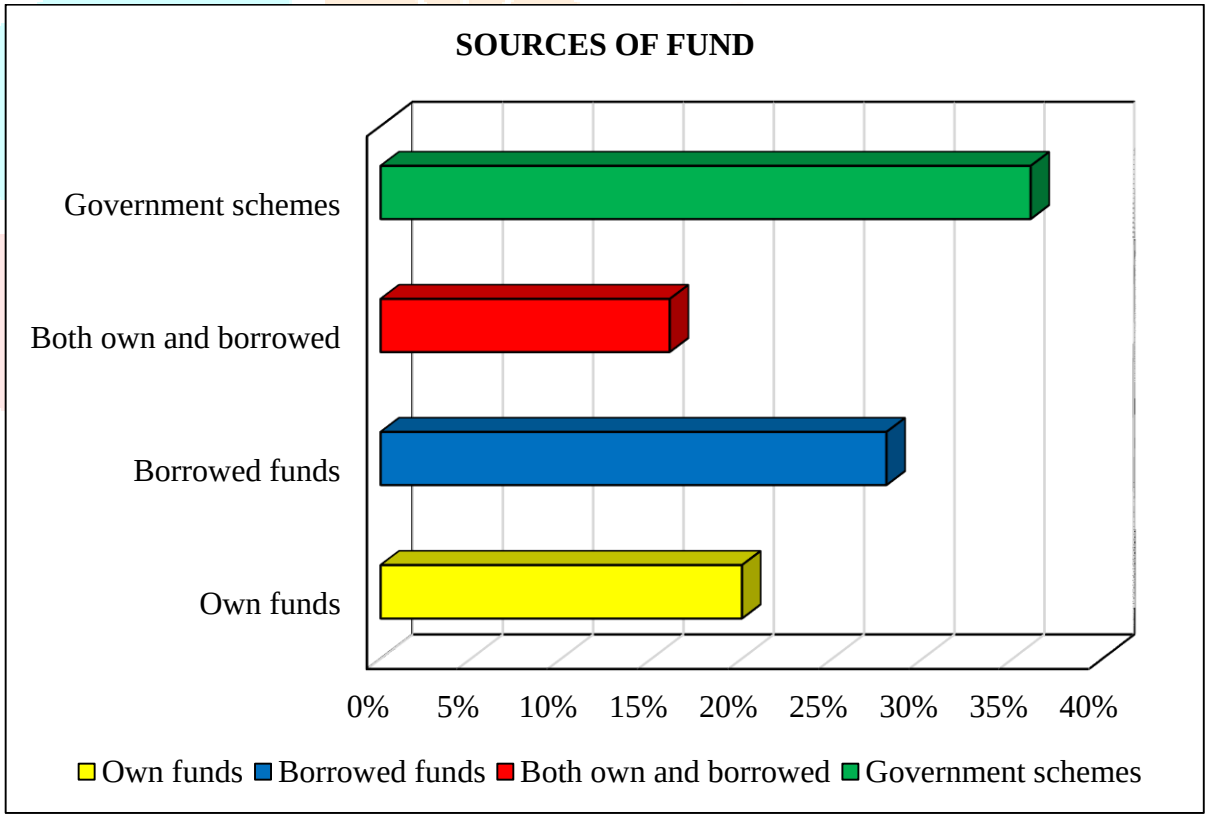


TABLE NO.: 4

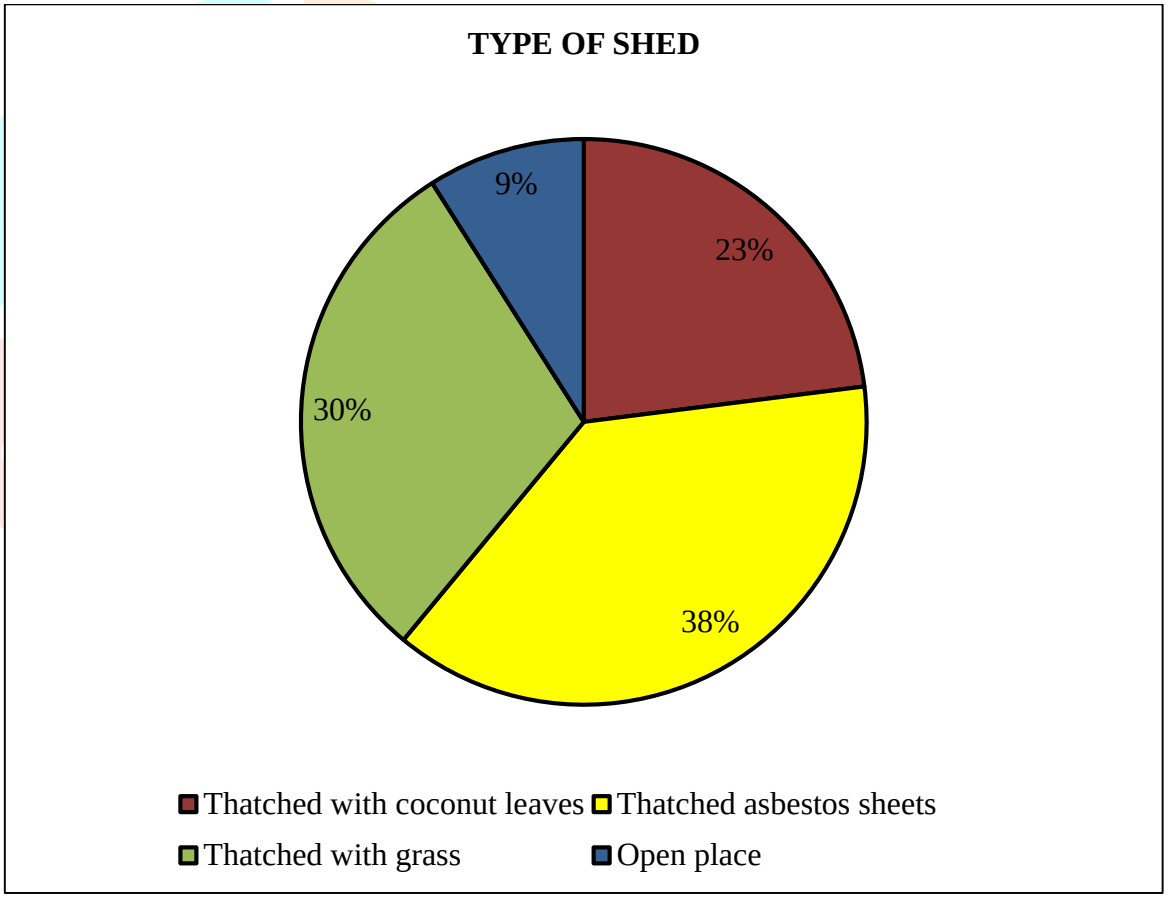
TYPE OF SHED OF THE RESPONDENTS

S.No.	Kinds	Frequency	Percent (%)
1	Thatched with coconut leaves	28	23
2	Thatched asbestos sheets	45	38
3	Thatched with grass	36	30
4	Open place	11	9
Total		**120**	**100**

Source: Primary Data

Interpretation

It is clear that, 23% of the respondents have thatched with coconut leaves,38% of the respondents Thatched asbestos sheets, 30% havethatched with grass and 9% of the respondents have open place. Majority of the respondents have Thatched asbestos sheets (38%).



B. CHI-SQUARE TEST:

TABLE NO.: 5
GENDER AND LEVEL OF AWARENESS OF GOAT FARMING OPERATIONS
(TWO WAY TABLE)

S. NO.	GENDER		LEVEL OF AWARENESS			TOTAL
			LOW	MEDIUM	HIGH	
1	Male	No. of Respondents	56	26	13	95
		Percentage	59.0%	27.3%	13.6%	100.0%
2	Female	No. of Respondents	12	8	4	24
		Percentage	50.1%	33.3%	16.6%	100.0%
3	Transgender	No. of Respondents	0	0	1	1
		Percentage	0%	0%	100%	100.0%
TOTAL		No. of Respondents	68	34	18	120
		Percentage	57.0%	28.7%	14.3%	100.0%

Source: Primary Data

Interpretation

From the gender and level of awareness of goat farming operations table, it is clear that 56 respondents are male, of which majority of them have low level of awareness (59.0%) and few (13.6%) of the respondents have high level of awareness. 12 respondents are female, of which majority of them have low level of awareness (50.1%) and few (16.6%) of the respondents have high level of awareness and 1 respondent is transgender of which majority of them have high level of awareness (100%). In order to study the relationship between gender and level of awareness, a chi-square test has been employed below.

TABLE NO. 5(a) CHI-SQUARE TEST

Gender	Pearson Chi-Square	d.f.	P.Value	S/NS	Remarks
	6.339	4	.175	2	Rejected

Source: Primary Data

*** - Significant at 5% level S-Significant**

It has been divulged from the chi-square test that the p-value (.0175) has been less than 0.05 and the result has significance at 5%level. Hence, the null hypothesis (H_0) has been rejected and the alternative hypothesis (H_1) has been accepted. From the analysis it has been concluded that there is a relationship between gender and level of awareness towards production and marketing practices of goat farming.

C. ANOVA – ONE WAY CLASSIFICATION:

TABLE NO.: 6

AGE AND LEVEL OF AWARENESS OF GOAT FARMING OPERATIONS

S. NO.	AGE		LEVEL OF AWARENESS			TOTAL
			LOW	MEDIUM	HIGH	
1	Upto 20 Years	No. of Respondents	19	2	13	34
		Percentage	56.0%	6.0%	38.0%	100.0%
2	21 to 40 Years	No. of Respondents	33	10	12	55
		Percentage	60.0%	18.2%	21.2%	100.0%
3	41 to 60 Years	No. of Respondents	12	10	1	23
		Percentage	52.8%	43.2%	4.00%	100.0%
4	Above 61 Years	No. of Respondents	5	2	1	8
		Percentage	63%	25%	12%	100.0%
TOTAL		No. of Respondents	69	24	27	120
		Percentage	57.5%	20.0%	22.5%	100.0%

Interpretation

From the Age and Level of awareness of goat farming operations table, it is clear that 34 respondents' age is Upto 20 Years of which majority of them have low level of awareness (56.0%) and few (38.0%) of the respondents have high level of awareness. 55 respondent's age is 21 to 40 Years of which majority of them have low level of awareness (60.0%) and few (21.2%) of the respondents have high level of awareness. 23 respondents' age is 41 to 60 years of which majority of them have high level of awareness (52.5%) and few (4.00%) of the respondents have high level of awareness and 8 respondents' age is Above 61 years of which majority of them have high level of awareness (63%) and few (12%) of the respondents have high level of awareness. In order to study the relationship between age and level of awareness, a ANOVA test has been employed below.

TABLE NO.: 6 (a)

ANOVA TEST

Descriptive								
Level of Awareness								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Upto 20 Years	34	1.59	.701	.120	1.34	1.83	1	3
21 to 40 Years	55	1.62	.828	.112	1.39	1.84	1	3
41 to 60 Years	23	1.52	.593	.124	1.27	1.78	1	3
above 61 years	8	1.50	.756	.267	.87	2.13	1	3
Total	**120**	**1.58**	**.740**	**.068**	**1.45**	**1.72**	**1**	**3**

TABLE NO.: 6 (b)
ANOVA TEST

ANOVA					
Level of Awareness					
	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	.210	3	.070	.125	.945
Within Groups	64.956	116	.560		
Total	**65.167**	**119**			

Source: Primary Data

*** -Significant at 5% level Sig.-Significant**

It has been divulged from the ANOVA test that the F-value (.0125) has been less than 0.05 and the result has significance at 5% level. Hence, the null hypothesis (H_0) has been rejected and the alternative hypothesis (H_1) has been accepted. From the analysis it has been concluded that there is a relationship between age and level of awareness towards production and marketing practices of goat farming.

RESULTS OF THE STUDY

- Majority of the respondents are belonging to the age group of 21 to 40 years (46%) and minimum of the respondents are the age group is 61 Years & Above (7%).
- Regarding the educational level of the respondents that the majority of the respondents (54%) are illiterate and least of the respondents are their educational level is (6%) Graduate.
- Maximum of the respondents belong to the occupational status of Business (26%), and Minimum of the respondents are belonging to the occupational status is both (8%) House wife and Labour and others.
- In this study area is mostly having the family size of the respondent is Four members (49%) and Above Six members (6%) of family size is very rarely.
- Majority of the respondents (30%) are earning the monthly income is Above Rs.30,000 and 20% of the respondents are earning the monthly income is Rs.10,001-Rs.20,000.
- Most of the respondents (38%) are choosing the Thatched asbestos sheet type of shed and only few respondents (9%) are choosing the Open place for Goat farming.
- Most of the respondents (42%) are choosing the Public tap water facilities and minimal percentage of the respondents (22%) are choosing the Open well water facilities for Goat farming in study area.
- Majority of the respondents have own land (56%) and only few respondents are purchasing the land from outsource for the purpose of Goat farming.
- Through this study conducted most of the respondents (60%) are have Sheep and only 40% of the respondents are have Goat.
- In this study area have (56%) of the respondents have technical knowledge and remaining respondents are not having any technical knowledge about the Goat farming.

Results from Chi-Square Analysis:

- From the analysis it has been concluded that there is a relationship between gender and level of awareness towards production and marketing practices of goat farming.

Results from ANOVA:

- From the analysis it has been concluded that there is a relationship between age and level of awareness towards production and marketing practices of goat farming.

SUGGESTIONS OF THE STUDY:

Based on the field survey, analysis of the data and obtained finding of the present study the researcher offers the following suggestions and measures for the future development of Goat rearing.

- The present study found that the majority of the selected respondents are illiterate. Hence it is suggested that a suitable system of education is to be arranged.
- This study found a clean, well-ventilated shed, elevated to prevent water logging, is crucial. Consider using slatted floors for better waste management.
- A Goat farmer must be providing a balanced diet should include good quality roughage, green fodder, and should be concentrate a health feed and to provide clean and fresh water for the goat.
- The goat farmers are lacking the knowledge of vaccination schedule, breeding, the nutritional needs, the hygienic food of the animals, proper management system, the health care process, etc. So, the government and other related institutions are take action for improving the knowledge of an goat farmers.
- A goat farmer should provide proper disposal of manure and urine is essential to prevent the environmental contamination.
- Kanniaadu and Kodiaadu are hardy, well adapted breeds for the Tamil Nadu climate. And also, this study suggests to the goat shepherd secure fencing is important to protect goats from predators and ensure they don't stray.
- This study is conducted is mostly on the rural area so the government should be provide various training and awareness programme to the rural goat farmers.

CONCLUSION

Sustainable goat farming practices are essential for the long-term viability of this agricultural activity in Namakkal district, Tamil Nadu. By adopting best practices, such as breeding and selection, feed and nutrition, housing and health management, and marketing and support, farmers can improve productivity and profitability. Government schemes and support can also play a crucial role in promoting sustainable goat farming practices. Addressing the challenges and constraints faced by farmers is essential to ensure the sustainability of goat farming in the region.At present goat farming is looked upon as a profitable business in the state of Tamil Nadu where the farmers are rearing large number of goat and are marketing them through various marketing channels including wholesalers, middlemen, butchers and consumers. The increased standard of living has provided a good social status to the farmers.

BIBLIOGRAPHY

Reference

1. Jhonson et al. (2013), in their article "Sheep and Goats in Tropical and Subtropical Agricultural Systems"
2. Mehmad and Ahmad (2013), in their article "Economic Analysis of Sheep Farming Activities in Turkey"
3. Folasade Temitops Ogunkoya (2014), in the dissertation "Socio-Economic Factors that Affect Livestock Numbers: A Case Study of Small Holder cattle and Sheep Farmers in the Free State Province of South Africa"
4. Folasade Temitops Ogunkoya (2014), in the dissertation "Socio-Economic Factors that Affect Livestock Numbers: A Case Study of Small Holder cattle and Sheep Farmers in the Free State Province of South Africa"
5. Kate Downie-Meirose (2014), in the dissertation "Bio Economic Feasibility Study of Sheep Dairy

Systems in Canterbury”

6. R.Mallikarjuna, V.Rajaganapathy, R.Ganesan, P.Ponnuvel and D.Sreekumar “Socio-economic profile of goat farmers in Puducherry” International Journal of Advanced Research in Biological Sciences ISSN: 2348-8069 DOI: 10.22192/ijarbs Coden: IJARQG (USA) Volume 8, Issue 5 -2021

Website

https://en.wikipedia.org/wiki/Goat_farming

https://www.agrifarming.in/goat-farming-in-tamil-nadu-how-to-start-breeds

https://www.asianagrihistory.org/pdf/articles/manivannan.pdf

file:///C:/Users/ADMIN/Downloads/ojsbio,+8+RT+August+2020+Thangadurai++et+al.pdf

https://www.researchgate.net/publication/325244072_Indigenous_Knowledge_in_Sheep_and_Goat_Farming_Systems_in_Tamil_Nadu_India

https://eeramerode.in/aboutdistrict-inner.html

http://hdl.handle.net/10603/293528

https://en.wikipedia.org