

ECONOMIC ENHANCEMENT OF RURAL COMMUNITY OF PUSA BLOCK THROUGH GOAT REARING

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ABSTRACT: *Livestock plays an important role in Indian economy. About 20.5 million people depend upon livestock for their livelihood. In India, livestock production is largely in the hands of women. In fact animal husbandry is becoming feminized. Being the 5th largest goat population state, Bihar contributes about 7.63% of India's total goat population. The state is also a habitat of 42.6% people below poverty line and hence there is a tremendous scope of goat farming to meet up the large gap between demand and supply of meat. Around 574000 goats are slaughtered annually in recognized slaughterhouses contributing 31.17% of total meat production of the state (175 thousand tons of meat in 2003). Objectives of the study are. To establish „1 HAMLET 1 GOAT FARM“ model to commercialize the goat rearing for improving income level, To study and develop a grazing land solution to the goats to reduce the feeding cost, To enhance the Income level of minority and landless community of Pusa Block through Goat rearing. Keeping in view the objectives of study, a report on Focused group discussion is written in descriptive form with thorough observations of the discussion. The data collected through personal interview and survey which were further tabulated and statistically analyzed by the percentage analysis and graphical representation and the results were interpreted for conclusion.*

KEYWORD: livestock, SHG, goat, economic enhancement.

INTRODUCTION

Indian Livestock Scenario

Livestock plays an important role in Indian economy. About 20.5 million people depend upon livestock for their livelihood. Livestock contributed 16% to the income of small farm households as against an average of 14% for all rural households. Livestock provides livelihood to two-third of rural community. It also provides employment to about 8.8% of the population in India. India has vast livestock resources. Livestock sector contributes 4.11% GDP and 25.6% of total Agriculture GDP. The livestock plays an important role in the economy of farmers.

The farmers in India maintain mixed farming system i.e. a combination of crop and livestock where the output of one enterprise becomes the input of another enterprise thereby realize the resource efficiency. India is an agriculture based country and livestock sector is an integral component of it and livestock is generally considered a key asset for rural livelihoods. It offers advantages over other agricultural sectors and is an entry point for promoting gender balance in rural areas. In most societies, all household members have

access to livestock and are involved in production as well as livestock production systems offer the potential for introducing a wide range of project activities to both genders. Gender refers to the socially constructed roles and status of women and men, girls and boys. It is a set of culturally specific characteristics defining the social behavior of women and men, and the relationship between them. Gender roles, status and relations vary according to place (countries, regions and villages), groups (class, ethnic, religious and caste), generations and stages of the lifecycle of individuals. Gender relations determine household security, well-being of the family, planning, production and many other aspects of life.

In India, livestock production is largely in the hands of women. In fact animal husbandry is becoming feminized. About 70% of the agricultural workers, 80% of food producers, and 10% of those who process basic foodstuffs are women and they also undertake 60 to 90% of the rural marketing; thus making up more than two-third of the workforce in agricultural production (<http://www.wikigender.org>). Most of the animal farming activities such as fodder collection, feeding, watering, and health care, management, milking and household-level processing, value addition and marketing are performed by women. Despite their considerable involvement and contribution, significant gender inequalities also exist in access to technologies, credit, information, inputs and services probably because of inequities in ownership of productive assets including land and livestock. The rapidly increasing demand for livestock products creates opportunities for empowerment of women (Taneja, 2013). Therefore, there is a need to correct gender bias in livestock sector, veterinary education research and service delivery systems as to enhance the effectiveness of women-oriented livestock development programs (Anonymous, 2012-17). This review covers the role of women in livestock and dairy sector. Role of Women in Entrepreneur Activities in Livestock Women constitute about 69% of workforce engaged in livestock sector.

Emergence of Self Help Group in India

In the 1980s, policy makers took notice and worked with development organizations and bankers to discuss the possibility of promoting these savings and credit groups. Their efforts and the simplicity of SHGs helped to spread the movement across the country. State Governments established revolving loan funds which were used to fund SHGs. There is no definitive data has been determined for the actual conception and propagation of SHGs, the practice of small groups of rural and urban people banding together to form a savings and credit organization is well established in India. In the early stages, NGOs played a pivotal role in innovating the SHG model and in implementing the model to develop the process fully; Aga Khan Development Network is among the standing stone in this development. The Indian Self Help Group movement initiated by NABARD is one of the largest SHG movements in the world. As per 2011 census there are 11.96 lakh SHG's helping nearly 14,547.73 crore poor households to access suitable financial services from the formal banking system in the country.

Goat scenario of India

Goats are among the main meat-producing animals in India, whose meat (chevon) is one of the choicest meats and has huge domestic demand. Besides meat, goats provide other products like milk, skin, fiber and manure. Goats are important part of rural economy,

particularly in the arid, semi-arid and mountainous regions of the country. With more than 124 million population, goats account for more than 25 per cent of the total livestock in the country and contribute Rs 1, 06,335 million annually to the national economy. They provide food and nutritional security to the millions of marginal and small farmers and agricultural laborers. However, the productivity of goats under the prevailing traditional production system is very low (Singh and Kumar, 2007). It is because they are maintained under the extensive system on natural vegetation on degraded common grazing lands and tree lopping. Even these degraded grazing resources are shrinking continuously. Moreover, adoption of improved production technologies/ management practices in the farmers' flock is very low. Therefore, rearing of goats under intensive and semi-intensive system using improved technologies for commercial production has become imperative not only for realizing their full potential but also to meet the increasing demand of chevon (goat meat) in the domestic as well as international markets.

Goat Scenario in Bihar

Bihar is the 5th largest goat population state contributes about 7.63% of India's total goat population. The state is also a habitat of 42.6% people below poverty line and hence there is a tremendous scope of goat farming to meet up the large gap between demand and supply of meat. Around 574000 goats are slaughtered annually in recognized slaughterhouses contributing 31.17% of total meat production of the state (175 thousand tone of meat in 2003). However, goat rearing is not well accepted by all classes of people in Bihar. It is mostly confined to backward classes and landless laborers who are unable to rear large animals. As a result, goat rearing has not been developed as an industry. Holding size is generally 1-3 goats per family depending on availability of surplus labor in the family. Village goat is mostly of Bengal breed.

Table 1. Socio-economic features of Bihar

Features	Attributes	Figures
Physical features	Total area, sq.km	94,163
	Rural area, sq.km	90,000
	Height above sea level, feet	173
	Normal rainfall, mm	1,326
	Average number of rainy days	52.5
Social features	Number of revenue villages	45,103
	Population (million)	82.9
	Male (million)	43.2
	Female (million)	39.7
	Literacy rate, %	61.80
	Decadal population growth, % (1991-2001)	28.43
	Density of population	880 per sq km
	Average population of a district (million)	2.24

Source: Government of Bihar

Project Rationale

Bihar is one of the poorest states in India and highest numbers of citizens living below poverty line that is 53.5 percent against national average of 29 percent (AKRSPI- APR-

2017). It is third lowest state as far status of hunger is considered in India. It ranks amongst the lowest in terms of overall human development index. One third of its population of 104 million people belonging to the socially and economically disadvantaged scheduled caste and Muslim minority communities, among the highest concentrations in the country. While the organized sector in the state employees only 2 percent of the total workforce, 78 percent is occupied in the agriculture sector.

The project, “community-led rural livelihood transformation program” aims to work with the most marginalized communities of Pusa block of Samastipur district in Bihar. The project targets SC, minorities and other backward classes and will ensure that over 80% of the project beneficiaries avail from these backward communities. Overall goal of the project is **“Economic and social empowerment of 21000 households of 37 villages in Pusa block particularly women from most marginalized sections of society through promoting community based institutions and providing opportunities of sustainable livelihoods enhancement”**.

This proposal is broadly divided into five major components which are layered on various community based institutions.

Agriculture production enhancement:

Agriculture production enhancement would be achieved through provision of irrigation of irrigation for rain-fed farmers along with extension of best practices to increase the productivity of existing crops.

Development of vegetable value chains:

Vegetable farmers will be organized into producers groups to access competitive market in addition to reduction of post-harvest losses incurred by farmers.

Financial security and Women empowerment:

Women Self Help Groups will be promoted to ensure financial security of the households along with platform for encouraging their participation in mainstream developmental activities. To make SHG's as a platform will also be used for extension of agricultural and livestock practices and promotion of micro-enterprises.

Enhancing the goat/poultry health management and productivity:

Productivity of existing goat rearing in the region can be increased substantially through integrated provisions of preventive healthcare system, improved housing, and improved feeding and breeding practices. Community managed system will be evolved to ensure above components of an ideal goat rearing production system.

Micro enterprises for poorest:

Micro-enterprises like petty-trades or skills based enterprises will be promoted as alternative source of income. Households not having adequate income sources from agriculture will benefit from this activity.

AKRSPI and Income enhancement through Livestock

Livestock is integrated part of rural livelihood systems in India particularly for small and marginal farmers. Livestock plays very critical role in risk mitigation in addition to income source for rural people. In the regions where adequate land and water resources are available dairy has emerged as important income source for the farmers. Goat rearing and poultry are less input intensive hence suitable for farmers having low resource base. Over the period of time AKRSP (I) has worked with all three sector; goat rearing, dairy and poultry.

96% of goat rearers are landless and marginal farmers, with a majority belonging to scheduled caste and minority households. Goats are primarily reared to serve as a financial asset to be sold when cash is required by the household. The predominant breed is Black Bengal, and variants of this breed type, though Sirohi and Jamunapari cross-breeds are also found. The Black Bengal goat breed is one of India's finest meat breeds, and is also known for its specialty leather (primarily used to make chamois). Goats are primarily reared by grazing on fallow agriculture land, available commons and crop residue supplemented by a handful of maize or wheat grain. Feed for goats is a constraint during the monsoons. Since most goat rearers are landless, goats reside within the homestead and share living quarters with family members. These practices increase the vulnerability of goat rearers to zootoxic diseases, particularly Brucellosis which is transmitted to humans living in close proximity to goat flocks. The practice of rearing goats under a 'posia' (sharing) system is also prevalent in the area. The Project will provide sensitive support and facilitating structure leading to building the levels of social capital among the poor and consequently formation of good quality organizations of the poor and hence delivery of services to the real beneficiaries.

Major interventions done by AKRSP (I)

- Creating a cadre of women extension workers called PashuSakhis to provide preventive health services for goats. Services include de-worming, vaccination and knowledge extension.
- Creating a platform for women by forming goat rearing groups (GRG's) so that best extension practice and collective actions can be achieved.
- Facilitation of government schemes including vaccination drives and health camps in village.
- Extension work includes marketing of goats through producer organizations to ensure better price for farmers.
- Achieved more than 15000 goat rearing household through goat rearing groups.
- Within a year mortality rate decreased drastically around 6% in villages this led to direct impact on goat rearing households.

Statement of the Problem

Goats play an important role in the rural economy at national level. More than 70 percent of the landless agricultural laborers' and marginal and small farmers of the rural area rear them. The socio-economic value of goat rearing as compared to other livestock species has been immense, for the poor farmers. The low input, high fecundity, easy marketing and unprejudiced social acceptance of their products are few of many advantages of this enterprise that provides assured higher income. Goats are also among the main meat-

producing animals in India, whose meat (chevon) is readily preferred irrespective of caste, creed and religion. They produce a variety of products, mainly meat, milk, skin, fiber and manure.

Being the 5th largest goat population state, Bihar contributes about 7.63% of India's total goat population. The state is also a habitat of 42.6% people below poverty line and hence there is a tremendous scope of goat farming to meet up the large gap between demand and supply of meat. Around 574000 goats are slaughtered annually in recognized slaughterhouses contributing 31.17% of total meat production of the state (175 thousand tonnes of meat in 2003). However, goat rearing is not well accepted by all classes of people in Bihar. It is mostly confined to backward classes and landless laborers who are unable to rear large animals. As a result, goat rearing has not been developed as an industry. Holding size is generally 1-3 goat per family depending on availability of surplus labor in the family. Village goat is mostly of Bengal breed. However, crosses with other breeds like Jamunapari, Barbari, Sirohi and Jakharana are also available. Male Bengal breed comes in puberty at the age of 8-9 months where as the age of 1st kidding is on an average 14-15 months. Lactation length of this breed of goat at farmer's field has been recorded as 80-120 days and kidding interval at 250 days. This breed is highly prolific and twining percentage has been recorded as 45. Goats are raised on grazing. No vaccination of FMD or PPR is given at farmer's field. Goat has also been playing a significant role in rain-fed farming system. Marketing of goat is under the hand of unorganized sector and middleman oriented so there is urgent need to develop strategy in respect of breed conservation, management, health care, credit insurance and marketing system of goat in Bihar, especially in the Pusa block of Samastipur district. The livestock population of Pusa block is 35733 altogether except the livestock and out of this 14716 number of goats are reared. But the mortality rate of live stock and the expenses to maintain or to rear them are more.

Hence there exist the need of the study, an integrated work on goat health management and productivity through enhancements in preventive health care system, housing, feeding practices and breeding practices, marketing linkages resulting in supplementary income.

Objectives

- i. To establish '1 HAMLET 1 GOAT FARM' model to commercialize the goat rearing for improving income level.
- ii. To study and develop a grazing land solution to the goats to reduce the feeding cost.
- iii. To enhance the Income level of minority and landless community of Pusa Block through Goat rearing.

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Limitations of the study

As this research is pilot study of the project formulated to commercialize community goat farming the area of study is very confined to small geographic region. The most important constraint in this study is unavailability of land. Also it was very hard to convince the community to unite together to make some good cause for their society.

LITERATURE REVIEW

The basis for any research lies in the previous work done in the subject area. Review of past studies would help to conceptualize various research issues and its application. In-depth knowledge on the concepts would guide in pursuing the present work successfully. This chapter brings in previous work done on the areas of goat rearing and its allied.

Nibash, D.*et al.* (2018), In their study conducted on the topic “*Performance of growing Black Bengal Goats under different management systems of Rearing*” in Tripura, a North Eastern state of India. Thirty female Black Bengal kids were selected randomly at the age of 2 months and divided equally into three groups with having ten kids in each group and maintained from 2 to 12 month of age under three different management systems, viz., extensive, semi-intensive and intensive systems Black Bengal goats reared under extensive management system showed a better performance in terms of body weight gain, body measurements and biochemical profiles as compared to the goats reared under semi-intensive and intensive management system.

Mahfuz S. U. *et al.* (2017) A total sixteen female Black Bengal goats (BBG) considering average live weight were randomly divided into four equal treatments to study the effect of different level of concentrates supplementation on production and reproduction performance of BBG. The animals were assigned to ad libitum green grass and supplemented with different levels of concentrates at 150, 200, 250 and 300 g respectively. Live weight gain, Dry matter (DM) intake, Crude protein (CP) intake were increased significantly with concentrate supplementation. Average daily milk yield of doe were increased significantly. Supplementation of concentrate mixture with 300 gm could be beneficial for BBG in Bangladesh condition.

Hossain, M. M.*et al.* (2017) The study aimed to examine the feeding, management, income and livelihood improvement through goat rearing in Mymensingh district in Bangladesh. The study was conducted at different unions namely Gazirvita, Koichapur and Norail of Haluaghat Upazila in Mymensingh district. The farmer's families were poorest of the poor and illiterate. The annual total cost of production of Black Bengal goat was Tk. 2154, while gross return and net return per household were Tk. 4296 and Tk. 2142, respectively. Educational status, employment for men, employment for women, social dignity and social acceptance were increased at 35, 24, 58, 26 and 23% through goat rearing in the study area. The result clearly indicates that livelihood increases dramatically through goat rearing in the study area.

Saxena, R. and Singh, N. P. (2017) conducted a study on the topic “*Can Livestock Sector be the Game Changer in Enhancing the Farmers Income Reinvesting Thrust with Special Focus on Dairy Sector*” The livestock sector provides promising opportunities and is assumed to bring desired growth in farmers' income, especially in less and poor endowed regions. The present study has delineated the entire country into four zones, viz. Least Performing Zone (LPZ), Average Performing Zone (APZ), Good Performing Zone (GPZ) and Well Performing Zone (WPZ) based on district level livestock income for effective policy formulation and implementation. The drivers of livestock income were identified through multiple regression frameworks for regional interventions. Crossbred adoption and

crossbred milk yield with elasticity of 0.09 and 0.42, respectively, are found to significantly contribute to enhancing livestock income. Thus, crossbreeding should be geared up especially in LPZ as an income enhancement strategy. The buffalo farming has emerged as an important contributor in raising farmers' income through meat production. The productivity enhancement strategy for buffaloes along with indigenous cattle will be a win-win situation as these animals are well adapted to tropical climate of the country. Further, special attention is required for strengthening marketing network through co-operatives for better procurement and prices with utmost priority in LPZ, as only 12 per cent of milk produced is sold to the co-operatives.

DIXIT A. K. *et al.* (2017) In the present paper, an attempt was made to explore the role of small ruminants rearing in livelihood and nutritional security of millions of landless, marginal and small farmers. Goat is the second largest livestock species after cattle in terms of number. Goat and sheep constitute 67.5% (135.17 million) and 32.5% (65.07 million) of total small ruminant's population (200 million) of the country respectively making 10 percent of the world small ruminant's population. Faruque M. O. *et al.* (2016) The study was undertaken to investigate the performance of Black Bengal goats and livelihood generated through goat rearing at GPS: 24.9500°N and 90.3500°E of Mymensingh district in Bangladesh. The study revealed that, most of the goat owners were housewives. The average net profit from one goat in a year was Tk.754. The expenditure on food purchase, health care, education, clothing, housing condition and social status of the farmers were increased due to increase of their income from goat rearing. Baidoo, S. T. *et al.* (2016) This paper investigates the effect of smallholder livestock production on income among farm households in northern Ghana. We found that smallholder livestock production and farm size increase income whilst distance to market and dependency ratio reduce income. Based on evidence of the positive relationship between livestock production and household income in this paper, it is recommended that policies to promote smallholder livestock production should be embarked upon to increase income. This is likely to improve livelihood and reduce poverty among the poor rural folks in the northern regions of Ghana.

Islam AFMF *et al.* (2016) The present study was conducted to know the breeding and performance profile of Black Bengal goat in 4 upazila of Mymensingh district. On an average, goat per family at Mymensingh district was found to be 3.56 ± 1.77 where the percentage of does and bucks were 90.61% and 9.39% respectively. Most of the farmers were found not to keep male kid for bad odor and difficult management and hence castrate them. Almost all farmers depend on natural mating to serve their does by passing a significant distance. The average service charge was found BDT 70.90 ± 1.77 , which differs significantly ($P < 0.05$) among four upazilas. From this study, it became evident that acute shortage of Black Bengal breeding bucks exists in the rural areas which may represent the overall situation of the country.

Steven J. Staal (2015) The study was carried on the topic "*Livestock Marketing and Supply Chain Management of Livestock Products*". Some of the most dynamic markets both globally and in South Asia are for livestock and livestock products. This is being driven largely by demand due to growth in purchasing power, but other factors play a role as well. The vast bulk of these markets are domestic, do not cross international boundaries and are

driven by local demand. Managing these supply chains requires addressing the complexity of handling and regulating highly perishable products, which at times also present greater human health implications than crop products. I do attempt nevertheless to raise some of the key issues that emerge from these trends, point to the challenges and opportunities they raise, and suggest possible strategies for addressing them.

Rewani S. K. and Tochhawng (2014) The present study was conducted in Ranchi district of Jharkhand to assess the social empowerment of Women Self Help Group members engaged in livestock rearing. The study revealed that majority of the members were middle aged, illiterate, belonging to Scheduled Tribe category, having small sized family, low level of extension contact and mass media exposure and possessing marginal land holding with agriculture as primary occupation. The study also revealed a leap of change in the social empowerment of the members after joining the groups. There was a positive and significant change in self confidence level, participation in decision making within family and social participation of the members. On the other hand there was a positive but non-significant change in economic independency, control over their income and participation of the members in decision making at group or community level.

Birthal P. S. (2014) The study was conducted on the topic “*Livestock Marketing and Supply Chain Management of Livestock Products*”. Rising incomes, fast growing urban population, and globalization of agri-food markets are opening up new opportunities for faster growth of livestock sector. Nonetheless, these are being accompanied by a complex set of challenges including producers’ access to technologies, markets - financial and non-financial services. Markets for live animals and their products have remained unorganized and fragmented even after decades of economic development. The small-scale producers who contribute around 70 per cent to total livestock production are constrained to establish market linkages with processors/marketing firms. Livestock products are perishable and need to be transported immediately to the consumption centre’s or converted into less perishable forms, but the processing, storage and refrigerated transport is underdeveloped. It is therefore essential to develop value chains for livestock products.

Singh M. K. *et al.* (2013) Five hundred goat-keepers of selected villages were provided training on different aspects of goat-rearing under the NAIP, along with establishing goat-farmers based self-help groups. The impact analysis of goat-keepers has revealed net income of ` 19,000 with a unit of 5 adult goats. Prophylactic supports to all livestock species and fodder interventions have provided additional income of ` 3204 and ` 4285/household/year, respectively. The integrated goat- rearing could generate employment of 224 person-days annually besides milk for household consumption.

Ramesh D. *et al.* (2012) This study examines the marketing system of small ruminants in three different agro-climatic zones of Karnataka in India. The results of the study revealed that marketing of small ruminants is haphazard in the study areas. Majority of the respondents (85%) sold their animal when they needed cash for home consumption followed by to pay off loan (28.3%) was the main reason to sell their animals. Important marketing channels were relatives and friends, local markets and village collectors. Escareño, L. *et al.* (2012) Goat production concentrated in developing countries (tropics, dry areas),

contributes largely to the livelihoods of low and medium income farmers. In developing countries the dairy goat sector requires a systemic approach, whereby nutrition, animal health, breeding, knowhow, inputs and technologies must be assembled. This would allow the optimization of natural and local resources and would promote the transition from a risk reduction strategy towards an increased productivity strategy. Such an increase would privilege production efficiency based on clean, green and ethical practices for responsible innovation. Ayele S. *et al.* (2012) Fodder scarcity is a perennial problem for many smallholder farmers in developing countries. Fodder innovation, being only one element of livestock value chains, is sustainably enhanced when linked to other innovations and market-oriented activities that optimize productivity gains. Yet innovation in smallholder farmers faces systemic constraints to access markets, and need to organize in groups to exploit opportunities.

Khatun M.A. *et al.* (2012) In this study the factors influencing marketing of goats at different age and weight by different categories of farmers were investigated. Landless and marginal farmers sold 58.81% of their goats at 6 months, 42.94% of small farmers at 10.5 months and 50% of medium farmers at 15.5 months of age. The potential market weight of goats was found 17.10 kg at the age of 15.5 months. About 84% of farmers of all categories sold their goats for cash income, 15% for rearing problems and only 1% for disease prevalence. Kumar A. *et al.* (2012) The Livestock Revolution is expected to make a significant contribution towards livelihood security and reducing rural poverty. The rural poor have little access to land and thus there are limited opportunities for them in crop production. On the other hand, livestock wealth is more equitably distributed compared to land, and the expanding demand for animal food products generates significant opportunities for the poor in overcoming poverty through diversifying and intensifying livestock production. Survey revealed that private practitioners played a major role in maintenance of general health and management of livestock. Public Animal Health Centers were the second most utilized source for health care services, particularly on medium and large farm households.

Nirmala G. *et al.* (2012) Women as Livestock keepers 'possess capabilities that are mostly skill in traditional practices but have high motivation and aspirations for improvement. In semi-arid areas livestock components provide various benefits such as household income, stability and increased productivity from integrated farming and women role in livestock development is widely recognized. Nandi D. *et al.* (2011) Bengal Goat is a precious germplasm of West Bengal. Mostly the women (91.3%) of the farming families in West Bengal rear goat. Goat rearing is a subsidiary income source to rural poor along with agriculture. Black Bengal Goats have natural resistant power to many diseases but are vulnerable to cold, water logging situation, diarrhoea, ecto and entro parasitic infestation and respiratory diseases. Under field condition mortality rate is 9.63%

Khan N. and Iqbal A. (2010) The study was conducted on the topic "*Livestock Revolution and its impacts on the sustainability of marginal and small farmers in india: a case study*" in Aligarh a micro geographical unit from the Upper Ganga plain of Uttar Pradesh. The study revealed that the region witnessed growth in livestock husbandry with selected species during 1993-1994 to 2003-2004. Buffalo and goats showed a positive change due to

enhancement in the demand of milk and meat on account of increasing urban consumers, liberalization of agri-business and the changing of food habits over the decades.

Moyo S. and Swanepoel F.J.C. (2010) Livestock play multiple roles in the livelihoods of people in developing communities, especially the poor. With the livestock sector experiencing rapid change – mainly driven by the rapidly changing livestock production systems, demographics, environmental impacts, technologies, policies and institution – this “multi-functionality of livestock” becomes an even more complex issue, intertwined with other research and development challenges. Aziz M. A. (2010) This article offers information on the present status of goat populations and their productivity. The overview discusses number of goats in different parts of the world as well as the top countries having goats. The article also reviews the status of goat milk and meat production over the globe. In addition, breeding objectives and genetic improvement programs for milk and meat are discussed giving some examples of the reputable goat breeding projects. Several selection criteria serving the proposed breeding objectives are also suggested. Advantages of goat keeping and the reasons for their expansion are reviewed. Dey A. *et al.* (2007) Being the 5th largest goat population state, Bihar contributes about 7.63% of India's total goat population. The state is also a habitat of 42.6% people below poverty line and hence there is a tremendous scope of goat farming to meet up the large gap between demand and supply of meat. Around 574000 goats are slaughtered annually in recognized slaughterhouses contributing 31.17% of total meat production of the state (175 thousand tones of meat in 2003). However, goat rearing is not well accepted by all classes of people in Bihar. It is mostly confined to backward classes and landless laborers who are unable to rear large animals. As a result, goat rearing has not been developed as an industry. Holding size is generally 1-3 goats per family depending on availability of surplus labor in the family. Village goat is mostly of Bengal breed. No vaccination of FMD or PPR is given at farmer's field. Marketing of goat is under the hand of unorganized sector and middleman oriented. So, there is urgent need to develop strategy in respect of breed conservation, management, health care, credit, insurance and marketing system of goat in Bihar.

Kumar S. (2007) The status, economics and prospects of commercialization of goat production in the country have been analyzed using primary data from 18 commercial goat farms in different states. It has been revealed that several large and progressive farmers, businessman and industrialists have adopted commercial goat farming. Intensification and commercialization of goat enterprise has been recorded important because of shrinking of resources for extensive grazing. Commercialization would help in increasing the goat productivity and bridging the demand-supply gap.

ABOUT THE ORGANIZATION

The Vision

"AKRSP(I) can contribute in India to the creation of an enabling environment in which rural people can identify their needs and priorities and with professional support, organize themselves to improve the quality of their lives"

- His Highness the Aga Khan

Mission

"AKRSP (I) exists to enable the empowerment of rural communities and groups, particularly the under-privileged and women, to take control over their lives and manage their environment, to create a better and more equitable society"

VALUES

- Empowerment
- Equity
- Transparency
- Collaboration
- Professional Excellence
- Responsive to Change

Aga Khan Rural Support Programme (India) is a non-denominational, non-government development organization. AKRSP (I) works as a catalyst for the betterment of rural communities by providing direct support to local communities. AKRSP (I) is active in over 2400 villages of Gujarat, Madhya Pradesh and Bihar. It has impacted lives of over 1.5 million people from marginalized sections of society. Over 80% of the households impacted by AKRSP (I)'s work belong to marginalized communities like tribal's, dalit's, and minorities. Over 60% of beneficiaries are women who form a core group for program interventions.

AKRSP (I) has pioneered various participatory development approaches in the country and has won various national and international accolades for this. The backbone of AKRSP (I)'s work is the empowerment of rural communities, particularly in underprivileged communities and for women - through collectivization as well as promotion of individual enterprises. Building self-reliant people's institutions for financial inclusion, livelihoods enhancement and improved rural governance is the heart of the organization's approach. Currently AKRSP (I) has major interventions in the areas of:

- | | |
|-----------------------------------|-------------------------|
| ➤ | Women empowerment |
| ➤ | Sustainable agriculture |
| and livestock development | |
| ➤ | Natural resources |
| management | |
| ➤ | Early childhood |
| development and primary education | |
| ➤ | Skills and enterprise |
| development for youths | |
| ➤ | Renewable energy |
| ➤ | Rural governance |
| ➤ | Drinking water and |
| sanitation | |

The BEGINNING

The genesis of AKRSP(I) is the inspiring vision of His Highness the Aga Khan to uplift the quality of lives of the most marginalized communities in remote rural locations of the country. In 1983, he envisioned an expert professional agency in India which can facilitate

SETTING THE FOUNDATION (1985-1990)



Two villages received Indira Gandhi Priyadarshini award for forest protection. The villages also reaped benefits of forest protection in form of grass/fodder harvest and bamboo harvest

SPREADING ITS WINGS (THE 2000'S)

NEW GEOGRAPHIES

Initiated work in tribal dominated districts of Madhya Pradesh in 2004, flood prone districts of Bihar in 2007 and the tribal dominated Dangs district in Gujarat in 2010.



EARTHQUAKE RELIEF WORK

After the massive earthquake in 2001, AKRSP (I) initiated earthquake relief work activities like construction and food support.



COASTAL SALINITY

Persistent efforts were made to halt or reduce the impact of coastal salinity through various interventions. AKRSP(I) revived the dried Meghalriver in Junagadh. Set up Coastal Salinity Prevention cells in partnership with the Sir Ratan Tata Trust.

DISSEMINATING KNOWLEDGE

Two training centers set up in Gujarat to share the lessons taught through years of field interventions with other organizations, government departments etc.

DRINKING WATER

20

Worked extensively to provide drinking water to drought and salinity affected areas of Gujarat. Pioneered successfully Roof rain water harvesting structures for drinking water. Started Water testing laboratory at Sayla, Gujarat to address water quality issues

RESPONDING TO NEEDS (2010 ONWARDS)

PRIMARY EDUCATION

Work on education started in Bihar and Gujarat. Focus on Early Childhood Development, School improvement program, Right to Education and Integrated Child Development.



SKILLS FOR YOUTH

The skill development programme christened as Yuva Junction reaches out to rural youth by skills training and providing for opportunities of gainful wage or self-employment.



RENEWABLE ENERGY

The alternate energy program focuses on reducing energy deficit in rural areas. Promotion of solar lanterns and decentralized solar lighting systems is being done on a entrepreneurship model to promote sustainability. Solar pumps are being promoted for irrigation.`



SANITATION

Furthering the nation's commitment of becoming ODF free, AKRSP(I) is focused on improving overall health and hygiene of field areas by inducing behavioral change among communities and by building sanitation units



GOAT REARING

Goat Rearing is increasingly being promoted for landless and small land holding families. Pashu Sakhis or village level para vets are trained locally to provide for basic veterinary services, which not only reduces mortality but provides livelihood to women.



AKRSPI BIHAR

Started in 2008, Bihar programme has grown rapidly in these recent years. AKRSP(I) continues to implement developmental activities through Multiple Input Area Development (MIAD) approach. At the end of year 2016, we are operational in 350 revenue villages of 12 blocks in 2 districts of Bihar. In Bihar Muzaffarpur and Samastipur are the districts were the organization works.

Major interventions in Bihar include:

- ❖ Drinking water and sanitation
- ❖ Goat rearing
- ❖ Agriculture extension and farmer's institutions
- ❖ Irrigation
- ❖ Promoting women savings groups
- ❖ Renewable Energy
- ❖ Early childhood development and primary education
- ❖ Skills development for youths

RESEARCH -METHODOLOGY

This chapter contemplated the research design used for the study. The research design comprised mainly of sampling procedure, method of data collection and the statistical tools applied for the analysis. In table 4.1 Profile of the study area is shown in tabulated data form. Gangapur village comes under Gangapur Panchayat of Pusa block under Samastipur District of Bihar. Total population of village was 5375 out of which 2814 was male population and 2559 was female population. Total number of houses in the village was 1145. Literacy rate of the village was 68.18%. In terms of livestock, Gangapur holds 4th position in Goat population in Pusa block preceded by Harpur, Chandauli and Md. Koari ranking 1st, 2nd and 3rd position respectively. Goat population of the village was 820 goats. Cow and Buffalo population of village was 464 and 523 respectively. Here was also one poultry farm in the village which was not registered.



Profile of the study area:**Table 4.1 Profile of study area.**

Area Profiling of selected villages in Pusa block															
District :- Samastipur															
Block :- Pusa															
Compo nts	Name of Villages														
	Har pur	Dig hra	Chakle Waini	Kai jia	Rep ura	Chan dauli	Kha ira	Kh airi	Kubauli ram	Chak Milki	Madhopur Khairi	Gang apur	Srira mpur	Md. Kuari	Diga mbra
Livestock															
Goat	2294	418	756	639	50	1330	220	33	362	165	121	820	403	1223	104
Cow	1483	213	777	453	224	1368	214	78	491	105	101	464	352	558	95
Buffalo	1284	58	399	182	64	810	73	29	217	12	34	523	243	294	38
Poultry Farm	0	0	6	0	0	0	0	0	2	0	0	1	1	0	0
Literacy %	73.1 2	70	63.86	67. 58	75.4 1	72.74	74.7	73.5 7	73.7	71.96	77.92	68.18	69.34	75.45	95.36
No. of Houses	2401	602	1722	722	220	2339	469	128	1126	164	179	1145	727	1885	130
Populatio n Total	1128 5	267 8	8055	351 5	862	12038	2,30 6	675	5,725	710	894	5373	4036	9895	548
Male	5947	136 7	4226	183 3	449	6181	124 8	368	3007	382	460	2814	2104	5202	275
Female	5338	131 1	3,829	168 2	413	5857	1,05 8	307	2718	328	434	2559	1932	4693	273

Selection of Study Area

For the selection of study area for 1 hamlet 1 goat farm pilot study, have used the following process of selection. Locale of study- The study will be carried out in North Bihar. There are 38 districts in Bihar, out of which Pusa Block of Samastipur district have been purposefully allocated by AKRSPI for the study.

Location: Bihar-Samastipur- Pusa.

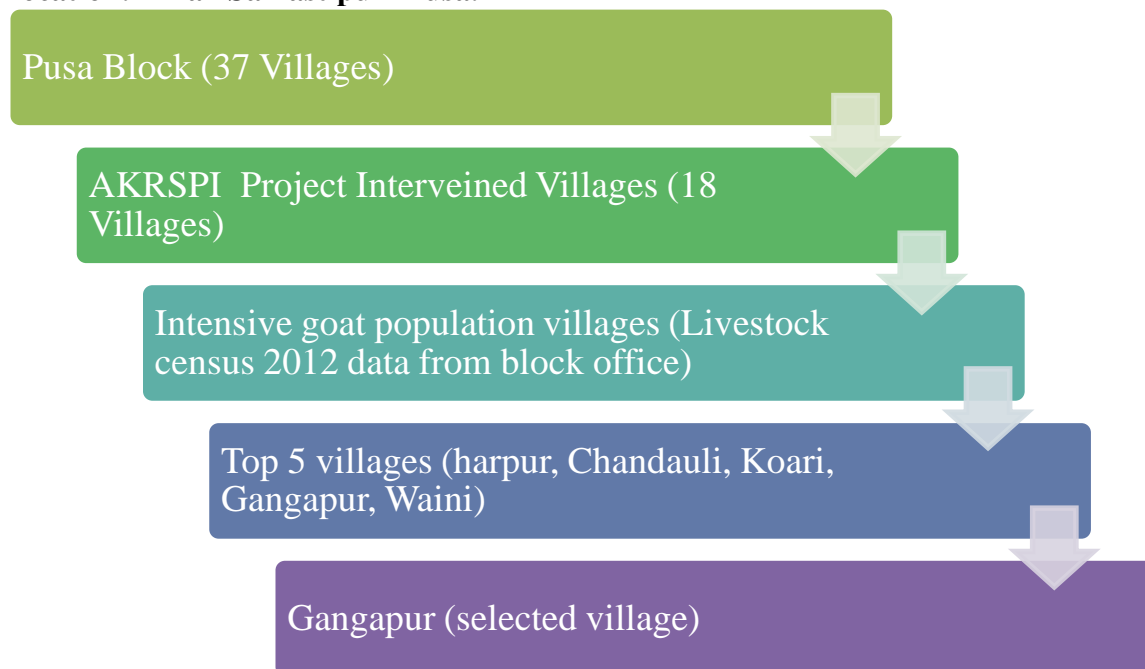


Figure 4. 1Process of village selection

In Pusa block there are 37 villages out of which 18 villages, which are the part of AKRSPI intervention, are purposefully allocated by thematic officer of livestock department. From the 18 villages under AKRSPI INTERVENTION Project, top 5 goat populated villages were selected according to the data taken from the Livestock census, Block office, Pusa. Out of top 5 goat populated villages Gangapur Village is selected for the pilot study.

Selection of Tola & SHG+

In Gangapur village there are 16 SHG+ spread over 8 Tolas, out of which only 8 SHG+ in 4 Tolas are the part of AKRSPI INTERVENTION Project. From the above 8 SHG+ NIRMAL GANGA SHG+ of Kasturba tola is selected for the pilot study of the project.

Method of data collection

Data collected using both primary and secondary data sources

The Primary data was collected using Focused Group Discussion in 5 village's viz. Harpur, Chandauli, Md. Koari, Gangapur and Waini with SHG+ members. Survey met 25 used structured questionnaire in Google Forms for present economic analysis of SHG+ selected for pilot study and Personal Interview of field staff of all 5 villages to figure out the current interventions through the organization in goat sector.

The secondary data was collected from various sources as follows:

1. Govt. Livestock Census Data
2. Organization MIS Data
3. Govt. Websites
4. Other educational websites like CeRa, Shodhganga etc.
5. Annual report of the organization
6. Project proposal of the given project
7. Organization Website

Sampling method: Purposive Sampling and Simple random sampling

Sample Size: For general study top 5 goat populated villages and for pilot study 1 SHG+ (all the group members).

Period of study

Total study period was 4 months from February 13, 2019 to June 15, 2019. The work structure was divided into various parts like Literature preparation, secondary data collection, Primary data collection, Data analysis, Pilot implementation and report writing.

Information about SHG+ selected for pilot study

NIRMAL GANGA SHG+ selected for the pilot study of the project. The SHG+ was started on 25/03/2017 and running successfully from last 2+ years. The president of group is Mrs. Poonam Kumari and secretary is Mrs. Kavita Devi. There are total 20 members in the group out of which 13 members are from SC category and 7 are from Minority community. They started savings from 27/03/2017 with Rs. 20/week and now they are saving Rs. 50/week. All the member families are engaged in goat rearing in this group.

Method of data analysis

Keeping in view the objectives of study, a report on Focused group discussion is written in descriptive form with thorough observations of the discussion. The data collected through personal interview and survey which were further tabulated and statistically analyzed by the percentage analysis and graphical representation and the results were interpreted for conclusion. The detailed analysis is discussed in next chapter.

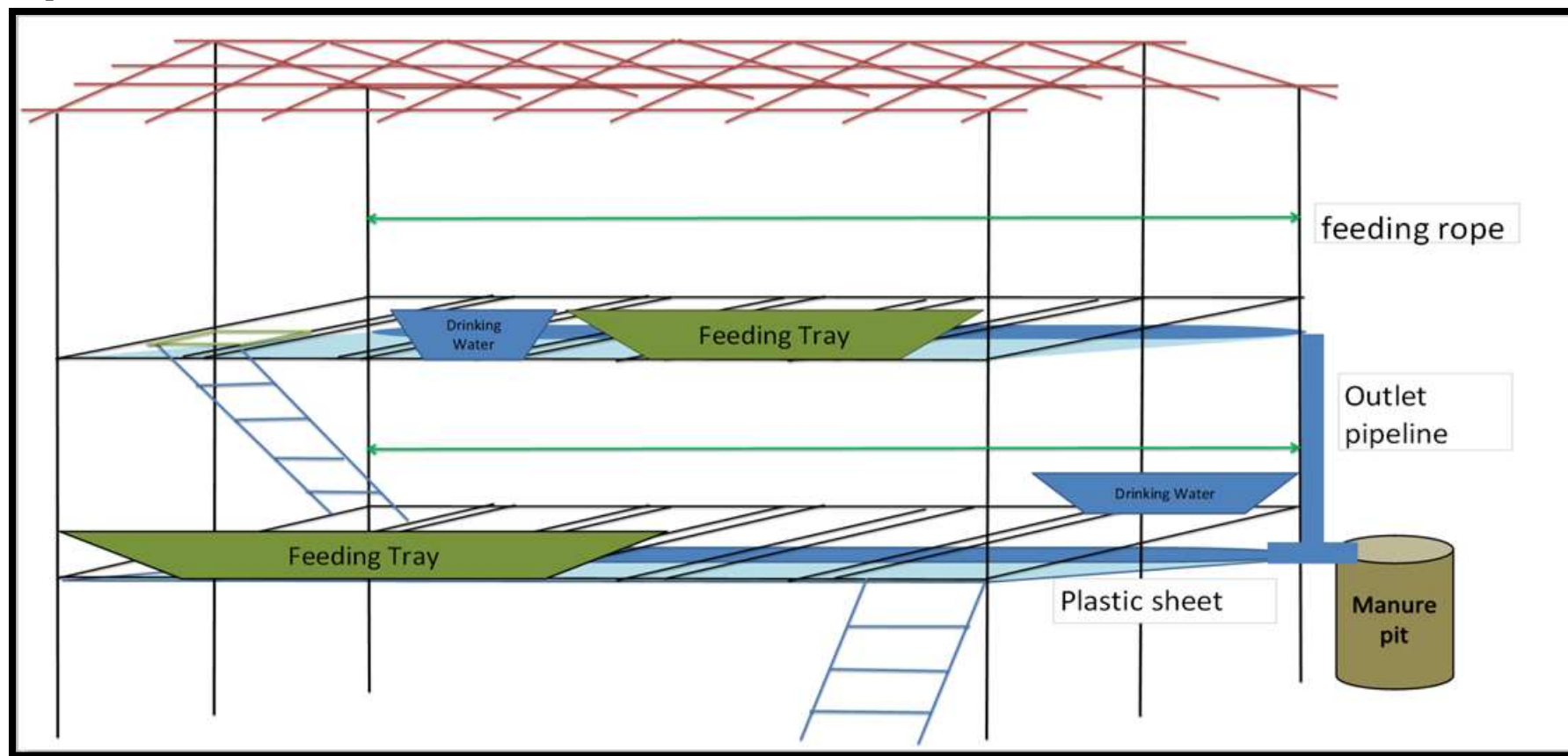
RESULTS AND DISCUSSION

The data collected for present study entitled **“Economic Enhancement of Rural Communities of Pusa Block through Goat Rearing”** were been statistically analyzed with reference to variables stated in the chapter Research Methodology and the results obtained through analysis are discussed in this chapter. The present study is confined to the pilot study of commercialization of community goat farming through a model “1 hamlet 1 goat farm”, for this study 1 Hamlet/Tola and 1 SHG+ group were selected. The selected SHG+ group was interviewed through questionnaire in Google form and the information collected was tabulated, analyzed and interpreted.

The results are presented and discussed under five sections

1. Proposed model and estimated cost
2. Variables studied for the selection of Area.
3. Variables studied for the SHG+ selection for pilot study.
4. Variables studied for the grazing land solutions in the selected village and SHG+.
5. Variables studied for the economic status of the SHG+.

Proposed model and estimated cost



Estimated Cost

Model Goat House Costing					
Item	Qty	Price			
Wooden frame	2	2000			Source: woodcutter shop gangapur
Wooden Floor	Double decker	10000			
Cement Pillar					source: Pillar shop Digambra
a. Full length	6	6000	80/sq ft	2-14ft	4- 12ft
b. Half length	6	1440	80/sq ft	3ft size	
Feeding tray	2	1500			
Water tub	2	800			
Asbestos roofing	10	4000	400/piece	3*1	
Double plastic sheet					
Cement	2	560			
sand		500			
Manure pit			cost included in cement sand and labor		
Aluminum rope	13 mtr	234	18/mtr		<u>1feet=0.305mtr</u>
Plastic pipe	15 mtr	570	38/mtr		
Bamboo	20	2800	140		
Nails & wire		1000			
labor	6	3600	300/day	2 days	
transportation		2000			
misc.		2000			
Green net	150 mtr	3750	25/sq mt		Source: Indiamart
Total		42754			

Village wise goat census study of Pusa block

A village wise goat population of Pusa block is shown in the figure 5.1. Correlation between goat population, total number of families and goat rearing families is analyzed in the figure.

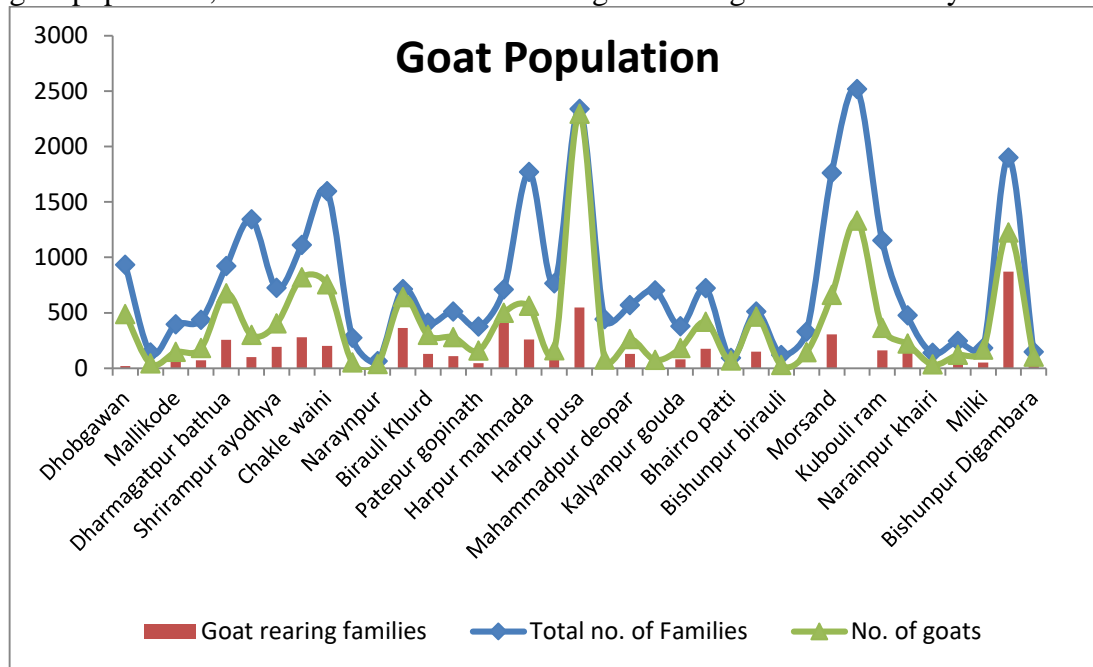


Figure 5.1 Goat Population of Pusa Block

It is observed from the figure 5.1 that the number of families engaged in goat rearing is only 20% to the total number families in the block. From the Focused group discussion it is revealed that only SC and Muslim community are majorly engaged in goat rearing, which constitutes 90% of the goat rearing community. From the data taken above top 5 goat populated villages are segregated for further study.

AKRSPI intervened Villages

In this figure 5.2 statistics of goat population in Bihar Socio-economic Development Project is shown

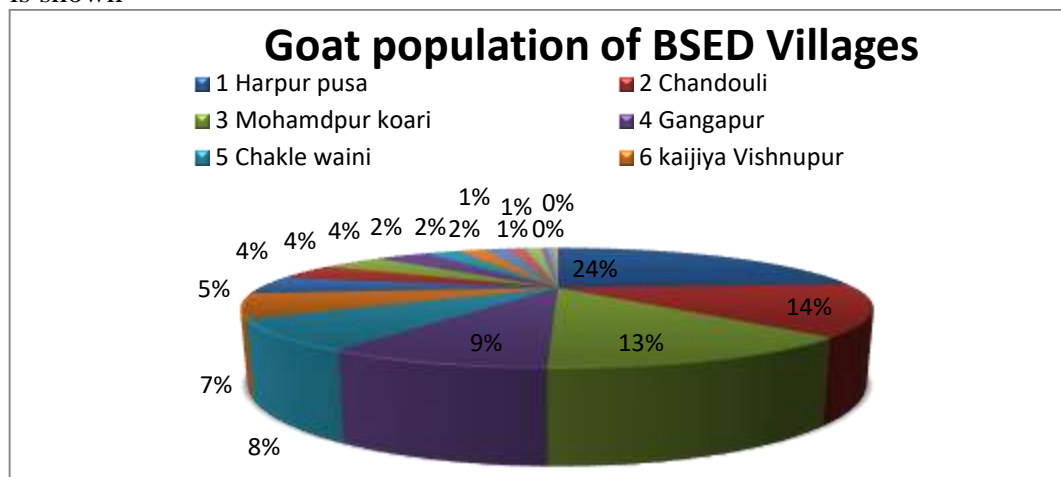


Figure 5.2 Goat Population of AKRSPI intervened Villages

Figure 5.2 is studied and analyzed mainly for the selection of study area. This study satisfies the condition instructed by thematic guide that study area should belong to AKRSPI INTERVENTION intervened area. Also the data shows goat population of all the villages from which have segregated top 5 goat populated villages among AKRSPI INTERVENTION intervened villages. This data also reveals that top 3 goat populated villages constitute about 61% of the goats and remaining 39% in rest 15 villages. That also shows the goat population is confined to specific geographic area where SC and Muslim community is situated.

Focused Group Discussion Report

Focus group discussion was conducted in 5 villages namely Harpur, Chandauli, Md. Koari, Gangapur and Waini. The reason behind selecting these 5 villages out of 37 villages in Pusa Block are:

1. These were the top 5 goat populated villages of Pusa block. (Livestock census, 2012)
2. This villages are also the part of Bihar Socio-economic Development Project, as this was the criteria instructed by thematic officer for selection of study area.
3. The FGD was done with SHG+ members in each village. Members from all groups were present and all were the part of SHG+ of AKRSPI and was engaged in goat rearing.

Sl. No.	Name of SHG +	Tola	Village	Age group	Category	Source of Income	No. of group members	No. of Goat farmers	Total No. of goats	Average expenses per Goat rearing	Average Income from goat rearing
1	Taaj	Muslim	Harpur	18-58	SC, OBC, Muslim	Agriculture, Livestock, Labor	20	20	63	813	1040
2	Mehdi	Chak	Chandauli	23-55	Muslim	Labor & Livestock	18	18	42	905	980
3	Mehdi	Nadwada	Md. Koari	22-53	OBC, SC, Muslim	Agriculture, Livestock, Labor	20	20	48	798	1000
4	Ganga	Kasturba	Gangapur	25-51	SC, OBC	Agriculture, Livestock, Labor	15	15	60	1050	880
5	Shyam	Kaijiya	Waini	26-59	SC	Labor & Livestock	20	20	65	998	910

The general socioeconomic profile of the participants: All the participants were the part of SC and minority community, which fulfills the criteria in project rationale for beneficiary selection. All the participants who rearers goat were women of age group 22 years and above all. 95% of the participants were landless and the average landholding of 5 % land holder participants were 2-3 katta. The sources of family income of 95 % participants were labor and livestock and 5% were engaged in agriculture and livestock.

The points considered for the FGD was:

1. General socio-economic profile of the participants
2. Goat rearing practices in the village
3. Challenges in Goat rearing
4. Average expenses on goat rearing
5. Average Income from goat rearing and marketing practices
6. Medical facilities for the goats
7. Shelter availability for the goats
8. Availability of grazing land for the goats
9. Interventions from AKRSPI for goats in the village

The observations from the Focused Group Discussion:

The discussion was mainly focused on the goat rearing practices. The outcomes of group discussion are stated below.

1. General socio-economic profile of the participants is described in above paragraph.
2. The present scenario of goat rearing practices in the village is not much influential or profit generating. Conventional rearing practices are ongoing. Mostly women are engaged in rearing practices. Black Bengal breed is mostly available in rural area.
3. There are many challenges in the goat rearing. The issues are discussed in point in this report. Issues related to shelter, feeding, medication and marketing.
4. Expenses on goat rearing are affordable to rearer but they do not know where to spend money, what is more important priority wise and what is not. Also they do not care about from where they can take facilities with low cost.
5. Average income from goat rearing was observed very low, the main reason was goat is ATM for rural population. They don't care about proper management and selling of goats. They used to sell their goats as and when they need money for any emergency they face like hospital, food etc. Buyer will come to their house to buy their goat and the price will be decided by the buyer, that's how they get less profit from goat rearing.
6. Medical facilities for the goats were not available before, now due to AKRSPI interventions many facilities are there at the rearer's place. Facilities provided by private players are taking more cost from the rural peoples. Govt. support is not available according to time of emergency.
7. Shelter facility is not available for the goats. They are keeping their goats in the same house where they are living. That is harmful to humans also because of the illness spread by the goats and the small insects and pests enter the house with goats.
8. Grazing land availability is very lacking in the selected villages. In Harpur there is some land availability due to the river basin and some Pasteur land of University is there besides. But in other villages there are need to develop the grazing solutions.

9. The SHG+ groups engaged in goat rearing are getting much support from the AKRSPI. Harpur, Chandauli and Md. Koari were the villages got many facilities through the AKRSPI. The facilities include model goat house and low cost goat house for the intensive goat rearing groups in the village. Kitchen garden facilities for all the group members. Various seeds for fodder availability to the goats like Jackfruit, Guava, Subabul and Genera. Available facilities in very reasonable rate De-worming, Vaccination, Medicine, Castration. Various trainings for goat rearing members like CS and Gender training are provided by the AKRSPI. Pashusakhis are also available in the village for goat health services.

Intervention analysis

Personal Interview of field staff of selected 5 villages for the Focused group discussion was conducted to analyze the interventions facilitate by AKRSPI in their respective villages.

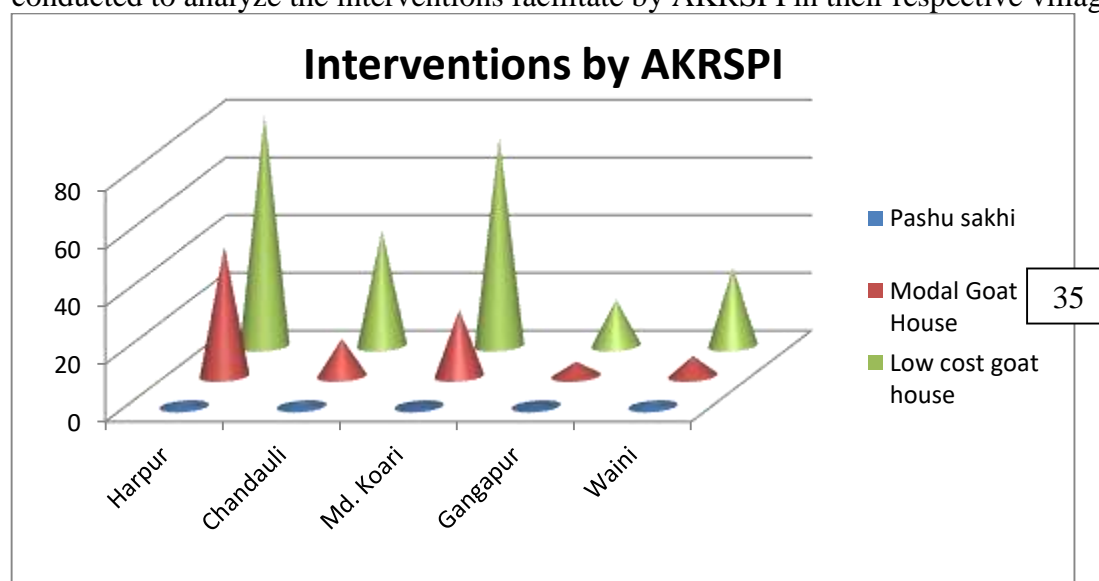


Figure 5.3 Interventions by AKRSPI.

Figure 5.3 indicates that even though Gangapur is having higher number of goat population the interventions by AKRSPI are very negligible. There were only 5 Model Goat Houses and 16 low cost goat houses which were constructed in 2 SHG+ groups out of 16 SHG+ in Gangapur Village, which was found to be least intervened among the AKRSPI INTERVENTION villages. That's was the reason behind selection of Gangapur village for the pilot study of the commercial community goat farm project.

Study of SHG+ in Gangapur Village

All the SHG+ in Gangapur village was studied with the basic components to finalize the SHG+ for the pilot study of Commercial Community Goat Farm.

From the table 5.1 it is observed that SC, OBC and Muslim community were engaged in the goat rearing business. There were total 16 SHG+ in the village which was confined to only 8 Tolas. Out of 16 SHG+ only 8 SHG+ were the part of Bihar Socio-economic Development Project (AKRSPI INTERVENTION).

SHG+ study of Gangapur village.

S.N	Group Name	Village	Tola	MIN	Gen	SC	OBC	Total Member	Meeting Day	Meeting Time	SHG+ in AKRSPI INTERVENTION Project (Y/N)
1	Ram Janki	Gangapur	Das Tola	4		5	8	17	Saturday	10:30am	Y
2	Durga	Gangapur	Das Tola			15		15	Saturday	11:00Am	Y
3	Ganga	Gangapur	Das Tola			6	9	15	Saturday	11:00am	Y
4	Sarashwati	Gangapur	Kasturba			18		18	Sunday	11:00Am	N
5	Uday	Gangapur	Kasturba			18	2	20	Wednesday	11:00Am	N
6	Mahavir	Gangapur	Kasturba			5	10	15	Saturday	10:00am	Y
7	Chetana	Gangapur	Kasturba	8		6	6	20	Saturday	2:00pm	Y
8	Nirmal Ganga	Gangapur	Kasturba	7		13		20	Monday	1:00pm	Y
9	Khushboo	Gangapur	Paswan			13		13	Thuesday	12:00Pm	N
10	Sarashwati	Gangapur	Paswan			11		11	Monday	7:00Am	N
11	Abhilasha	Gangapur	Ram Tola			8	5	13	Wednesday	3:00Pm	N
12	Sri Ram	Gangapur	Ram tola			13		13	Monday	10:00Am	N
13	Rajani	Gangapur	Ray Tola			15	5	20	Saturday	12:00pm	Y
14	ShubhLabh	Gangapur	Sahtola			3	17	20	Friday	11:00am	N
15	Garima	Gangapur	Sahni				19	19	Wednesday	10:00Am	N
16	Jai Ma Durga	Gangapur	Thakur	1		18		19	Tuesday	2:00pm	Y

Final SHG+ selection

In table 5.2, SHG+ in Gangapur Village in AKRSPI INTERVENTION project was selected and studied on Number of goat rearing group members, category wise group members and goat population in the group.

S.N	Group Name	Village	Tola	MIN	Gen	SC	OBC	Total Member	Goat rearer's	No. of Goats	No. of goats/tola
1	Ram Janki	Gangapur	Das Tola	4		5	8	17	16	68	180
2	Durga	Gangapur	Das Tola			15		15	13	52	
3	Ganga	Gangapur	Das Tola			6	9	15	14	60	
4	Mahavir	Gangapur	Kasturba			5	10	15	15	58	208
5	Chetana	Gangapur	Kasturba	8		6	6	20	18	67	
6	Nirmal Ganga	Gangapur	Kasturba	7		13		20	20	83	
7	Rajani	Gangapur	Ray Tola			15	5	20	15	53	53
8	Jai Ma Durga	Gangapur	Thakur	1		18		19	9	36	36

Table 5.2 elucidates that there were 8 SHG+ in 4 Tolas of Gangapur village which was the part of AKRSPI INTERVENTION project. 85.10% of total SHG+ members were engaged in goat rearing business. From the personal interview of field staff it was drawn that only 1 SHG+ out of above 8 got the benefits from the organization.

“Nirmal Ganga” SHG+ was selected for the pilot study of the Commercial Community Goat Farm with some reasons visible in the table 5.2. It has highest number of Goats. All the members were engaged in goat rearing. All the group members belong to SC and Muslim community. This SHG+ even though was selected under AKRSPI INTERVENTION project, but not received any type of benefits related to goat rearing.

Detailed survey of SHG+ selected

A detailed study of “Nirmal Ganga” SHG+ was conducted regarding pilot study of commercial community goat farm. Various factors were studied to run the pilot of Commercial Community Goat farm, analyzed and discussed below.

Category wise distribution

All the members of Nirmal Ganga SHG+ belong to SC and Muslim category. It can be seen from figure 5.4 that 64.3% members belong to SC category and 35.7% belong to Muslim category. SC and Muslim category mainly belongs to goat rearing in the area.

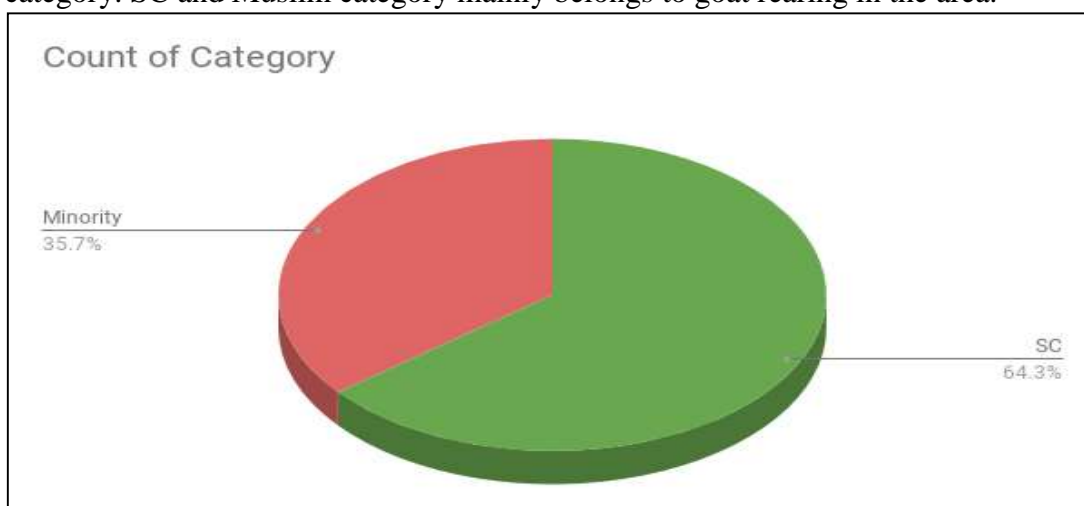


Figure 5.4 Count of Category

Income comparison

Income comparison of members of Nirmal Ganga SHG+ was studied, analyzed and shown in figure 5.5

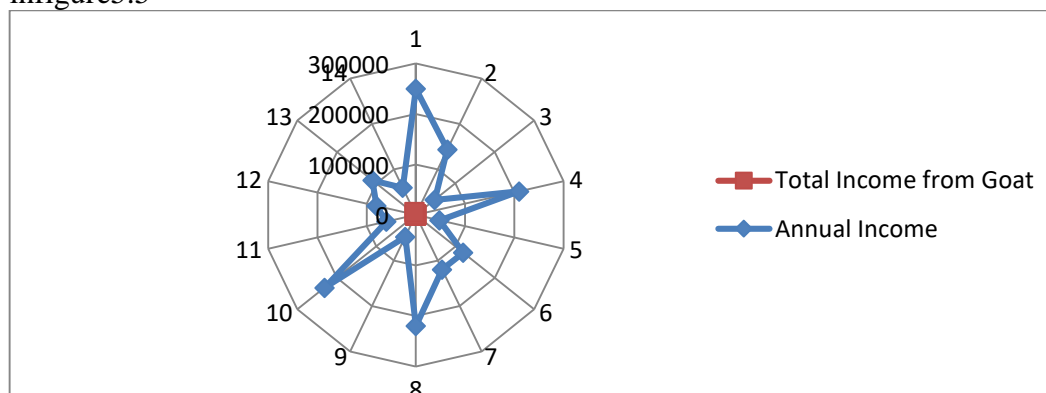


Figure 5. 5 Income Assessment

Figure 5.5 shows the contribution of income generated from goat rearing to the annual income of family. It is clearly visible from the radar above that there is very negligible contribution of income generated from goat rearing to the annual income of the family. On an average 1.42% income is contributed in the families of members studied in Nirmal Ganga SHG+. That is not even sufficient to feed the goats. Profit is far away at present situation.

Landholding of the Respondents

All the members of SHG+ surveyed during study are from SC and Muslim community and 71.42% of the respondents were landless. Only 28.57% were landholders. Total landholding of the all the respondents was 40 katta. Out of which PoonamKumari the President of Nirmal Ganga SHG+ is ready to provide land for community goat house.

It also includes the grazing land solution for the goats in group as the members having land is nearby railway track so the boundary of the land is not under cultivation which also has Pasture which will be beneficial for grazing purpose.

Goat population of SHG+ selected for pilot study

Goat population of Nirmal Ganga SHG+ is described in the figure 5.6.

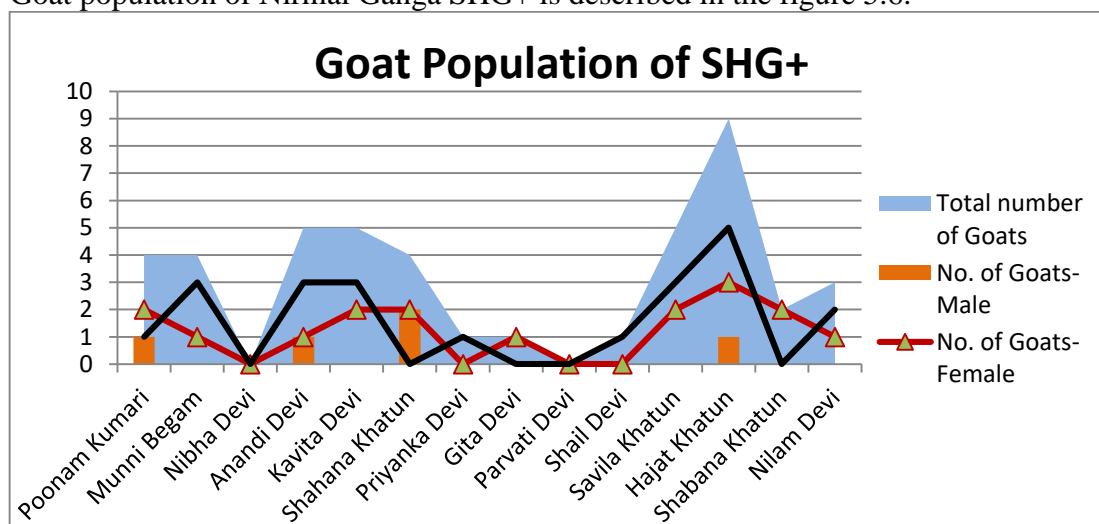


Figure 5.6 Goat population of SHG+ selected.

Figure 5.6 show that total number of male goats is 5 in the group that will be very useful for commercial community goat farm. Total goat kids are more in number which shows scope for future business.

Expenditure comparison of goats

In figure 5.7 analysis of expenditure on goats is shown. Average expense on goat in Nirmal Ganga SHG+ was Rs. 1250. Due to individual approach to the veterinary services the expenses were increasing but that can be reduced with common approach to the medical facilities. They are not much aware about nutrition and necessary vaccination and medication practices. On an average expense on fodder and mineral block for goats was Rs. 500/goat/year. Average expense on vaccination, medication and de-worming was Rs.

398/goat/year.

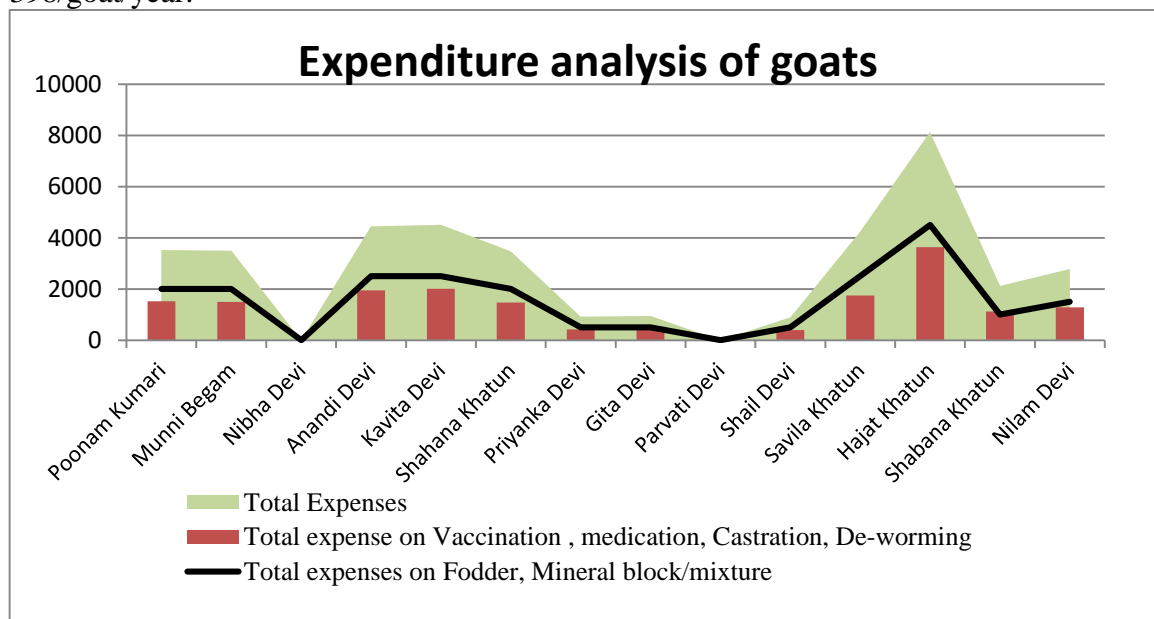


Figure 5.7 Expenditure analysis of goats

Income and Expenditure comparison of goats

The comparative analysis between Income and Expenses of goat is shown in figure 5.8

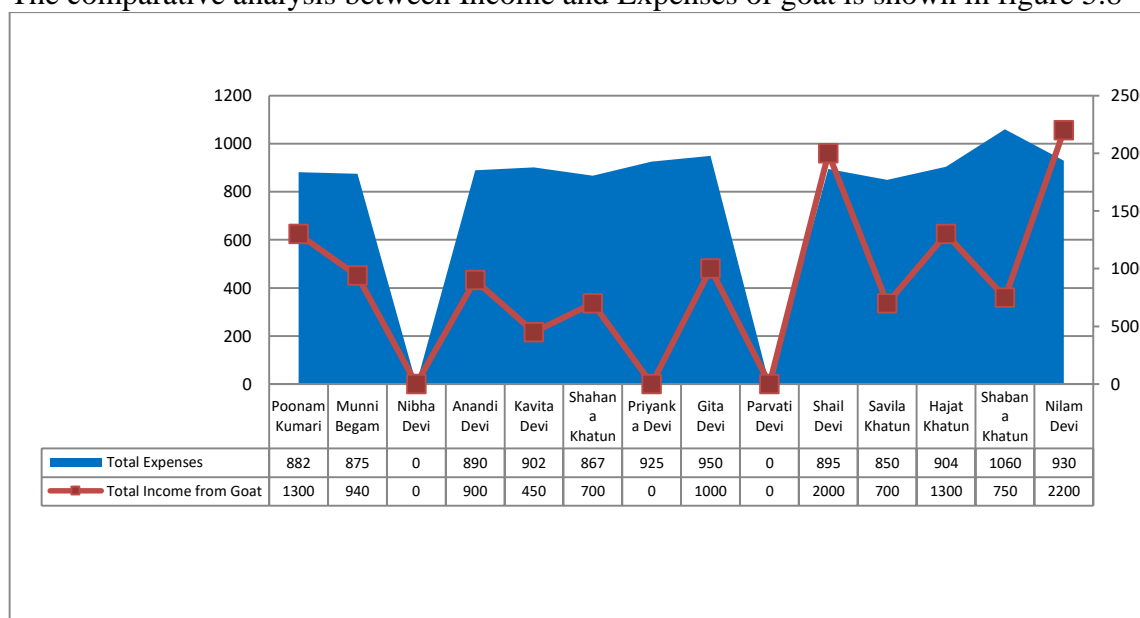


Figure 5.8 Income expense comparison.

Figure 5.8 elucidates that, for majority of the members expenses on goat are 41 r than income generated from them. Average total expense on goat was Rs. 898/y⁴¹ average income generated was Rs. 398/goat, the data calculated from Nirmal Ganga SHG+ goat sell in last one year. The average age of selling goat was around 6 months. According to that the

expenses will reduce to half i.e. Rs. 449/goat. Still we can see that the average income generated is lower than the cost of rearing.

No. of goats and shelter availability

In figure 5.9 study on shelter availability for goats in Gangapur village is shown. The study was confined to only one SHG+ selected for the pilot study, but the observations shows enough matter to generalize it to the situation of the whole village.

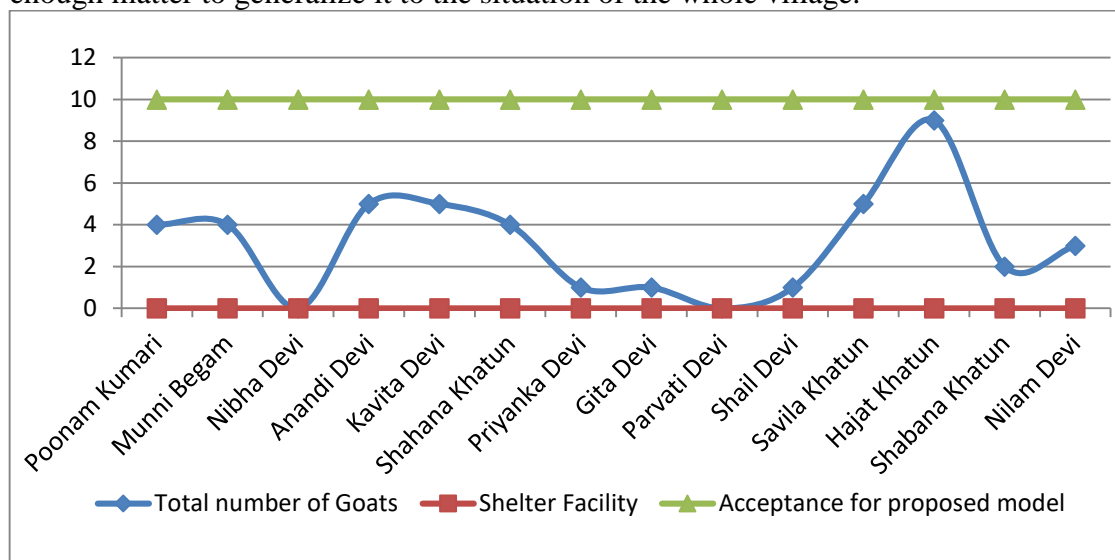


Figure 5.9 Shelter availability for goats.

Figure 5.9 obvious that in SHG+ selected for pilot study there were no shelter for goat at any member family. The percentage analysis of goat shelter unavailability was 100%. The situation is also generalized to whole Gangapur village as verified by FGD and 42 in field visits only 21 families in whole Gangapur village had a goat shelter and that was also provided by AKRSPI. There were 5 modal oat house and 16 low cost goat house.

Major support from Selected SHG+

There were many positive feature that resulted in selection of “Nirmal ganga” SHG+ those were;

1. Acceptance from beneficiaries- All 14 members were ready to go for this model, they were made aware about the benefits of the suggested model. President of the group was ready to give her land for construction of the goat house and all the beneficiaries were ready to keep their goat under same roof.
2. Availability of inputs and back support- The president of the SHG+ was ready enough to give her land for setting up the goat house and was giving freely.
3. Positive attitude of the beneficiaries towards the model and showed interest to pilot the study.

CONCLUSION AND RECOMMENDATION

India is an agrarian and developing country with huge population from rural areas. The agricultural marketing guides provide new opportunities and encourage innovation and

improvement in response to demand and prices. But unfortunately many Indian farmers are unknown about problems and cost involved in agricultural marketing, particularly the goat marketing. A middleman or marketing agent usually exploit the poverty and necessity of goat owners and take away most of the profit of the livestock. India is the domain of small holders having huge population of goat. The total goat population in India and Bihar is about 135.17 million and 12.154 million, respectively. Goat population in Samastipur district and Pusa block is 287886 and 14716 respectively. Considering the areas of research work Pusa block is having majority of goat population of Black Bengal goat.

The study entitled “Economic Enhancement of Rural Communities of Pusa Block through Goat Rearing” was carried out to study various aspects related to socio-economic conditions of goat rearers, income and expenditure involved in goat rearing and constraints faced by the rearers are analyzed with the help of primary data collected from the selected villages and Goat rearers of the study area with the following objectives.

- I. To establish ‘1 HAMLET 1 GOAT FARM’ model to commercialize the goat rearing for improving income level.
- II. To study and develop a grazing land solution to the goats to reduce the feeding cost.
- III. To enhance the Income level of minority and landless community of Pusa Block through Goat rearing.
- IV.

From study conducted with objectives stated above it can be concluded that the present socio-economic status of goat rearing in study area is not in a favor of goat rearers. It was analyzed during the study period that there is serious need of implicating interventions in goat rearing. It is obvious that the area selected for the pilot study was in a serious need of 1 Hamlet 1 Goat Farm Intervention, which also shows the successful attainment of first objective of the study. Study also furnish that there are more expenses incurred by goat rearers as compared to income generated through them. So there is more need of availing proper grazing solutions and cumulative health service availability to the goats, which also achieves the second objective of study viz. study and develop grazing land solution to goats and reduce expenses for the same.

From the study it is obvious that contribution of income from goat rearing to annual income is only 1.42%. The reason was rearing practice they follow. From the analysis during study it was observed that there is serious need of implementing commercial goat rearing practices and also the practices should be cumulative with the group of people sharing same group or tola. here it comes to an end at accomplishment of third and last objective of t 44 ly to enhance the income level of minority and landless community of Pusa block through goat rearing. The ways out to enhance income level and pilot study model of goat rearing are discussed below in recommendation part.

Recommendation

1 Hamlet 1 Goat farm (Commercial Community Goat Farm)

The model is proposed for the commercialization of goat farming in rural areas of Bihar where the average holding size of goats is 2-3 goats per household. The rearing practice of goats in the state actually doesn't have any specific pattern or way. Economic condition of

the people is very low that they can't even afford to have separate shelter for the goats. They are keeping their goats under the same roof where their family is living. There are various disadvantages of sharing the shelter with ruminants regarding sanitation and health. The proposed model is shown in the figure.

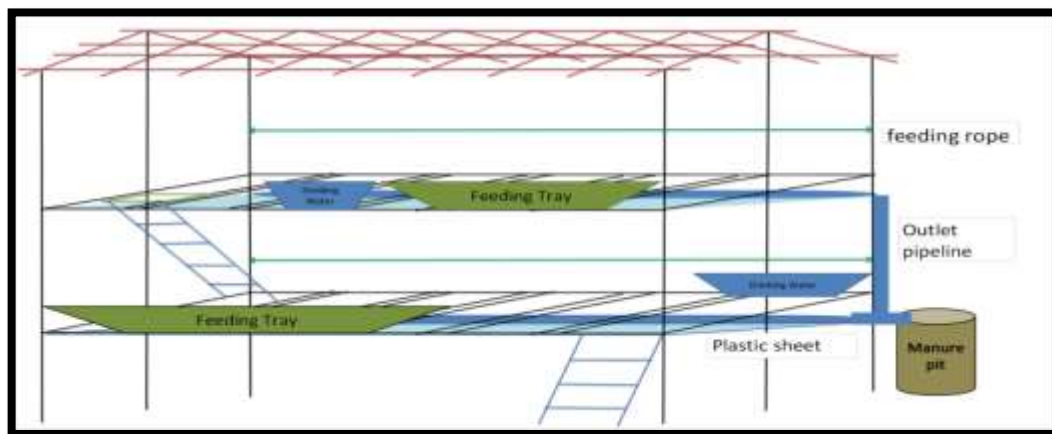


Figure 6. 1 Model shed design

Advantages of proposed model

These models have various advantages over the present goat rearing practices in the area described as below

1. Model is proposed to commercialize the goat rearing:

Since the people in the study area had the regular practice of goat rearing, but the traditional method of goat rearing was not economical and the contribution of income from goat rearing was 1.42%, which resulted in the decline of interest among the community to rear goats.

2. Minimum usage of land:

The proposed model is 2 storied building, depending upon the number of goats to be accommodated partitions can be made to accommodate goats. In general model goat houses the area outside the shed is used for excreta and urination but in this model proper way out is given inside shed for the same.

3. Benefits over constraints in existing goat rearing practices:

In existing goat rearing practices in all SHG+ in Gangapur village 87.5% SHG+ don't have shelter facility for the goats. 12.5% of SHG+ has shelter facility provided by AKRSPI.

- The basic benefit over the model implemented by AKRSPI is space required by already implemented model. They provided each member with model or low cost goat house. So at each household the space is required. If one goat shed is prepared of 100 sq. ft. then for 20 members there will be 20 times space will be occupied.

- The cost required for one model goat shed of 91 sq. ft. by AKRSPI is around Rs. 15000 to Rs. 18000. For comparative costing of 14 such goat houses it will cost around Rs. 200000. Instead of that if we opt for commercial community goat farm it will use only 25 to 40% of the total amount.

❖ “As a unit we can go far with few resources used.”

4. Proper care and nurturing of goats:

In commercial goat rearing the care and nurturing is given to the goats to make them profitable business. The members of SHG will be trained properly to feed the goats, special care and nurturing will be given to pregnant goats and kids.

5. Proper feeding practices are followed.

The goats will be taken for grazing in open land twice a day, water and choker along with calcium and the required minerals will be provided along with the feeds, the male goats will be separately fed for commercial and breeding purpose.

6. Goat waste will be collected and used for manuring purpose.

The proposed model is designed such that the waste, excreta and urine will be collected outside in separate pits using pipes.

7. Cumulative medical services available at one place.

One among the SHG members will be trained to provide medical services like, de-worming, vaccinations and other required services on time.

8. Collective selling and marketing practices.

The goats are sold at very minimal price by the owners in times of their needs and knowing this the marketers takes the advantage over them.

9. More labor hours can be saved.

In traditional model of goat rearing minimum one woman is fully engaged in management, even though she is fully engaged the labor is not counted and no substantial income is received. To solve all these persisting issues, all the goats will be gathered under one shed and 3-4 members of the SHG will be employed to take care of the goat. This saves the time and energy of other members.

10. Proper goat breed can be preserved.

The proper take care and feeding pattern of male goats and mother goat selection results generation of healthy and disease resistant young ones.

11. Income generation and employment opportunity

The model is suggested solely in view to enhance the income through commercialization of goat rearing. This creates employment opportunities.

12. Open up scope for various new businesses related to goat sector.

The major business enlargement from the current model will be, fodder land and feeding, manure prepared from goat waste, marketing of kids and mature goats, slaughter house, export of skin and hairs and etc.

This model is proposed for commercialization of goat rearing practice and through which income level of goat rearers can be enhanced.

Major Recommendations

➤ Pilot study location is selected in Kasturba toa, Gangapur. Beneficiary SHG+ is ready for the goat farm construction and site is also selected. Just need to construct the goat house.

➤ During study period other SHG+ and villages also were interested in Commercial Community Goat Farm. The villages were Harpur, md. Koari and Srirampur.

➤ Local milk marketing channel can be developed with SHG+ members. Harpur, Chandauli and Morsand are the villages having highest goat and buffalo population. Milk collection centers of existing dairy players in the area having major portion of milk collection from this three villages. Small milk collection centre will be opened in ownership of SHG+. Village wise milk will be collected and will be sold through collection centers. The reason behind this recommendation is during a study period it was observed that the milk collection centers were paying a price of Rs. 23/lit of milk. Price of packet milk is Rs.

44/lit. so the price gap can be reduced and the economic level of SHG+ members will be improved.

✚ Form the model suggested in the study microenterprises on goat can be developed. Some I have discussed below:

1. Manure from goat waste can be prepared and marketing of the same.
2. Goat urine can be collected and marketed.
3. Goat slaughter can be developed from the commercial goat house.
4. Goat skin and hairs can be exported from slaughter house developed.

✚ Value chain for vegetables should be developed. Cold storage facility with zero energy cool chambers can be developed so that farmer will get a time to fetch a better price of his produce.

✚ Individual commercial goat farms can be developed of SHG+ members. Loan can be making available from various schemes of government and banking institutions. It will help to improve economic status of SHG+ members.

“The major recommendations described above are the topics can be used for further study or research purpose.”

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ANNEXTURE

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