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Exploring the Role of Domesticated Bio-Resources in Shaping the Economy of Batadraba Village in Nagaon District of Assam

Arup Jyoti Bora[1*], Amrit Borah[2], Monija Nasrin[3]

[1*,2]Research Scholar, Department of Geography, Gauhati University, Guwahati, Assam, Pin-781014

[3]Research Scholar, Department of Geography, Bhattadev University, Bajali, Assam, Pin- 781325

Corresponding author E-mail: arupjyotibora@gauhati.ac.in

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ABSTRACT

With an emphasis on a rural hamlet, this study investigates how domesticated faunal bioresources influence rural communities' patterns of subsistence. The study looks into how domesticated animals like cattle and poultry are used in farming, food production, revenue generation, and cultural customs. The study emphasizes these animals' importance in maintaining rural lives by examining their social, nutritional, and economic aspects. The study also looks at issues that communities face, such as environmental changes, breeding methods, and disease control. In addition to providing insights into sustainable practices that can improve the long-term viability of rural economies and food systems, the findings highlight the significance of domesticated faunal bioresources in promoting rural resilience.

INTRODUCTION

Rural livelihoods primarily revolve around agriculture and related activities (Kannaiyan, 2007). Diversifying their economic activity is a common strategy used by people to get extra revenue (Chaudhury *et al.,* 2021). Many resort to fish farming, dairying, and cow breeding in order to do this (Pandey, 1995). Using faunal resources as bio-resources helps farmers cope with climate anomalies that might affect the production of food crops and is a good method to make extra money (Freed and Freed, 1972). Utilizing bioresources can act as a safeguard against unanticipated risks (Nimachow *et al.,* 2008). Local programs and initiatives frequently promote diversified activity (Chauhan *et al.,* 2021).

The management and use of domesticated bio-resources, such as crops, cattle, and other cultivated species, are integral to rural communities' livelihoods (Singh *et al.,* 2018). In addition to being essential for rural families' everyday survival, these resources form the basis of local economies, influencing commerce, social structures, and revenue production (Bhattacharjya *et al.,* 2017). The economic contribution of domesticated bioresources to Batadraba village, a rural community where agriculture and animal husbandry serve as the main pillars of economic activity, is the main topic of this study article. This study intends to clarify how these bio-resources support the community's economic well-being by investigating the connection between the management of these resources and the village's livelihood strategies.

The potential and difficulties the villagers confront in managing these resources sustainably will be examined in this article, taking into account local policies, market accessibility, and climate change. In the end, this study aims to shed light on how to improve Batadraba village's rural livelihoods' sustainability and resilience while also providing lessons that can be useful for other rural communities. The current study assesses how Batadraba's people use bioresources to support and produce additional revenue streams, mostly from farming poultry, dairying, fishing, and cow husbandry.

Materials and Methods

Study area

Mahapurush Srimanta Sankardeva was born in the historically and culturally significant village of Batadraba (Bordowa), which is the study area. The research location is located 20 kilometers from the town of Nagaon in the Dhing Revenue Circle district of Nagaon, Assam. The study region extends longitudinally from 92°28'59" East to 92°35'10" East and latitudinally from 26°21'12" North to 26°28'33" North. The study area is encircled by the following villages: Bhumura Guri in the east; Dhania Bheti Pathar, Dhania Bheti Gaon, and Kuji Satra in the south; Meleka Dhing, Sonaibera Gaon, Sola Pathar, Rampur Satra, and Kadamani Gaon in the north; Haidubi Pathar, Keri-Meri, and Batamari village in the northeast; and Dhupa Guri Gaon in the west. Its location with reference to Nagaon District, Assam and India is presented in figure 1.

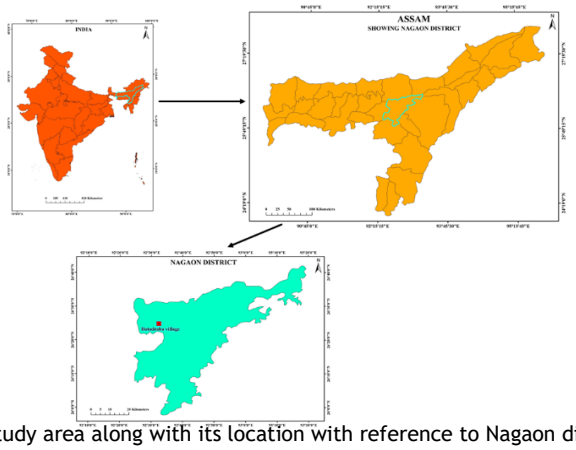

Fig. 1: Location map of study area along with its location with reference to Nagaon district, Assam and India.

Database and Methodology

The study is mainly based on primary survey. Interview schedule was prepared. Personal interview as well as focused group discussion was employed. Purposive sampling method was employed to discover the households engaged in bio-resource utilization. Out of 500 households, 200 households were taken into consideration. Mainly how many households were engaged in raising livestock were thoroughly documented. Where they sell their livestock and how they manage through thick and time was also taken into consideration.

Fig. 2: Household surveys and interviews in the study area.

Results and Discussion

Diversity of Domesticated Bioresources

In Batadraba village, it is evident that the majority of households involved in farming confidently choose to raise livestock in their backyards. When asked why they prefer to raise livestock, they explained that it provides them with a significant advantage in managing their time. They sell their products at the weekly market, and occasionally, buyers come directly to their homes to purchase poultry and dairy items. Additionally, the households sell their milk to the nearest milk procuring company, which collects an average of five liters from each household.

Table 1: species which are found in local fisheries

Sl. No.	Types of Domesticated Bioresources	Total Numbers of Bioresources	Total Numbers of households	Purpose (House Hold use/market purpose)
1	Cows (including calves)	275	55	Both (Milk production)
2	Goats	540	90	Market (Meat/Milk)
3	Ducks	300	25	Market (Meat)
4	Pigeon	150	10	Market (Meat)
5	Fisheries	40	20	Market

Source: Personal interviews held with local people.

Table 2: Some fish species which are found in local fisheries

Local Name	Scientific Name
Bata/ bhangon	*Labeo bata*
Rohu	*Labio rohita*
Dhekera	*Catla catla*
Sitol/ Khoriya	*Chitala Chitala*
Common carp	*Cyprinus carpio*
Grass carp	*Ctenopharyngodon idella*
Silver carp	*Hypophthalmichthys molitrix*
Barali	*Wallago attu*
Xol	*Channa maurulius*
Chanda	*Chanda nama*
Bighead carp	*Hypophthalmichthys nobilis*
Pabda fish	*Ompok bimaculatus*

Source: Personal interviews held with local people.

Fig. 3: Rearing of cattles and other bio-resources.

In Figure 3, a general description of the livestock and their uses have been registered. Out of 200 households, 55 have a total of 275 cows, primarily for selling milk (Table 1). Any leftover milk is used to meet the household's nutritional needs. Additionally, 90 households raise goats, totalling 540 goats (Table 1). These households consume the milk and sell the goats in the nearest market. There are also 25 households that raise 300 ducks and 10 households with 150 pigeons (Table 1), all for selling purposes. Furthermore, 20 households are involved in fishing activities, managing a total of 40 fisheries.

Bioresources and Livelihood Income

The management of faunal animals, especially cattle, goats, and poultry, is a major source of livelihood income for rural households in Batadraba. The community depends on these animals for both nourishment and revenue. The main purpose of raising cattle is to provide milk, which is a vital food source and a significant source of income. Meat is produced to a lesser degree. A significant portion of household income comes from the sale of milk and dairy products, particularly for individuals who work in dairy farming.

In contrast, goats serve a variety of purposes, including producing milk and meat. They are also frequently sold for their flesh, which is highly sought after in local markets. Because they thrive in a variety of terrains and require less upkeep than cattle, goats are prized for their environmental adaptability. Another significant economic activity is the raising of poultry, primarily hens, whose meat and eggs are sold locally to generate steady revenue. Poultry farming also protects households from financial distress by providing a quick-return and reasonably priced alternative.

The aggregate revenue from these animals makes a substantial contribution to Batadraba households' financial security and frequently serves as a buffer when crop failure or other agricultural setbacks. But there are drawbacks to the livelihoods that come with raising cattle, goats, and chickens. Diseases, a lack of access to veterinary care, shifting market pricing, and the effects of the climate on grazing areas can all have an impact on these faunal livestock's capacity to produce and generate revenue. The contribution of cattle, goats, and poultry to Batadraba livelihoods, their financial influence on household income, and their sustainability in the face of shifting economic and environmental situations are all examined in this section of the article.

Fishery products are an important source of nourishment (Gogoi *et al.*, 2015) and a substantial source of revenue for local communities in the study area, helping to sustain their way of life. Because of the village's proximity to the Santijan stream, which is now a wetland, a variety of fish species, as well as other aquatic resources like freshwater prawns, can be cultivated and harvested. In order to catch a variety of fish, such as carp, catfish, and others (Table 2), local fishermen mostly use traditional methods or small-scale commercial fishing. These fishes are then either consumed locally or sold in regional markets throughout Assam, particularly in upper Assam and Guwahati.

Fig. 4: Processing of the dairy products and fisheries.

Economics of Faunal Bio-resources

Faunal bioresources, such as fish, small animals like ducks and pigeons, and livestock like cows, goats, and chickens, are essential to the local economy of Batadraba hamlet. These tools support cultural activities, employment, money creation, and food security and nutrition. The "Santijan Bazar" is a local market that draws clients from Nagaon town and other neighbouring native villages. It is where the local people sell their livestock and faunal resources.

The locals rely heavily on fish and other aquatic items for protein, which enhances their diets and provides a sustainable, reasonably priced food source. The local economy also benefits greatly from the sale of fish, as many households rely on this sector as their main or secondary source of income. Fish processing techniques like drying, smoking, or fermenting enhance the value of the catch by allowing goods to be moved or stored over greater distances, expanding the market, and boosting profits.

However, issues including overfishing, declining water quality, climate change, and restricted access to contemporary fishing methods pose problems for Batadraba's fishing industry. These elements may have an effect on fish populations and lower local fishing productivity, which could have an effect on income and food security. Notwithstanding these obstacles, fisheries products continue to be a vital component of the village's economy, and initiatives to support ethical fishing methods and expand market accessibility are essential to ensuring the resource's long-term sustainability. This section of the article looks at the socioeconomic effects, the potential and challenges for ensuring sustainable management of local aquatic resources, and the role that fishery products play in supporting livelihoods in Batadraba.

Cows are usually raised for their milk in the village where dairy farming is prevalent. Because they can be sold for breeding in addition to providing milk, these animals are frequently a huge asset to households. Cheese and curd are examples of dairy products that can be sold in neighbourhood markets to generate extra cash. The community maintains a cold storage system in a building for the preservation of milk and dairy products and later on supplies the products to their distributors in the market.

In the research region, goats are a multipurpose and rather low-maintenance livestock. They produce meat and milk, and because of their diminutive size, they are perfect for tiny land areas. For many locals, selling goat products especially meat is their main source of income.

In the village, raising poultry, such as ducks and pigeons, is prevalent. Pigeons also supply meat, and ducks produce both meat and eggs. For many smallholder farmers, raising poultry provides an additional source of income and food security.






Fig. 5: Bio-resources available within the local market.

CONCLUSION

The economy and way of life of rural villages are greatly influenced by the domestication of bioresources. These communities are able to meet their everyday needs and enhance their economic circumstances by depending on locally accessible plants, animals, and other natural resources. Opportunities for employment, revenue creation, and food security are created when domesticated bioresources are incorporated into farming, livestock, and other regional sectors. But obstacles like market access, climate change, and few resources still limit their potential. For these rural economies to continue to succeed, it is crucial to promote sustainable practices, improve infrastructure, and bolster local expertise.

The significance of fish, milk, goats, ducks, and pigeons as important elements of the village economy would be emphasized in the study's conclusion. Despite the significant economic advantages of these resources, issues including disease outbreaks, feed prices, market accessibility, and climate change require creative solutions and legislative backing. Additionally, projects like training programs, cooperatives, and better infrastructure would greatly increase these bio-resources' economic viability and raise rural populations' standard of living.

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