

Decline of Animal Husbandry in Uttarakhand: A Study of Socio-Economic and Policy Determinants

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Abstract:

Historically, animal husbandry has been one of the core practices of the mountain economy of Uttarakhand, which supports rural lives based on an integrated mixed farming, cultural, and ecological art. The past few decades have however been characterized by a serious decline of the industry not only economically but also socially. This paper looks at the socio-economic and policy-based factors behind degradation of livestock livelihoods in Uttarakhand. Relying on official data on the 20th Livestock Census (2019) and the Department of Animal Husbandry, Uttarakhand (2025), along with the domain-level analysis, the study discovers a paradox, as, in spite of the marginal increase in the production of milk, meat, and eggs, this sector has negatively affected the contribution to the Gross State Domestic Product, dropping to 2.14 - 2.62% between 2019- 20 and 2024. The most important factors are the outmigration, the change in the labour and gender relations, the profitability decline, the limitation of grazing lands, and insufficient infrastructure, veterinary and market facilities. The sector has been further marginalized by giving priority to the development of tourism and hydropower over animal farming. The paper argues that the fall is more socio-economic and even institutional in nature as opposed to ecological. It deals a blow resolute that animal husbandry in Uttarakhand requires the opinion of a multidimensional policy sculpture encompassing community grazing rights, improved veterinary services, localised dairy cooperatives and livestock solutions stressing the impacts of climate change. These measures may restore animal husbandry as a practical and respectable source of livelihood among the communities living in the mountains and consequently improving on food security and ecological sustainability.

Keywords: Uttarakhand, Animal Husbandry, Animal Farming, Rural Livelihoods, Socio-economic Change, Mountain Economy, Sustainable Development, Livestock Economy, Climate Resilient Livelihoods.

Introduction:

In the rural economy of Uttarakhand, animal husbandry has remained a mainstay in the past, particularly in hill districts where agricultural land is limited and fragmented. Animal farming

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is a traditional sustainable alternative to agricultural production, which produced milk, wool, meat, and manure and at the same time represented wealth, security, and social status. The practice has been an important way of keeping households economically stable for generations, of providing adequate nutrition and of keeping the ecological basic structure of the mountain ecosystem intact.

However, in the last few decades, animal husbandry has been drastically losing its prominence across the state. Despite Uttarakhand's geography which still holds enormous potential for livelihoods based on animal farming, the sector's livelihoods have been adversely impacted by socio-economic changes and policy shifts which have eroded the sector's livelihood base. According to the 20th Livestock Census (2019) of Uttarakhand, the livestock population declined by 7.67% compared to 2012, indigenous cattle declined by 15.46%, buffaloes by 12.30% and sheep by 22.82%, which indicates a steady downward trend in the number of rearing households. Economically, the contribution of the sector to Gross State Domestic Product (GSDP) declined from 2.62% in 2019-20 to 2.14% in 2024-25, even though the levels of production of milk, eggs and meat registered a modest growth (Government of Uttarakhand, Department of Animal Husbandry, 2025).

This is an example of a paradoxical state of affairs: absolute production of livestock products has increased, while the relative significance of livestock to the state economy and societal structures has decreased. The reasons for this change are firmly rooted in changing social attitudes and different economic structures as well as policy shifts of the state.

Out migration of people from the rural areas has significantly reduced the labour force for the maintenance of animals which has made livestock rearing difficult. So, while once the symbol of economic prosperity, animal farming has become more and more associated with social and economic backwardness due to its physically challenging nature. The ancient position of women as the main carers has acquired a greater weight under the impact of migration and redistribution of domestic tasks.

Policy interventions have also played a very significant role in this decline. Grazing land in forest areas has been restricted, veterinary infrastructures are still limited and the state has shifted its orientation towards tourism, horticulture and hydropower, thus mobilizing institutional resources away from animal husbandry. Moreover, the social basis of livestock has been further affected by the prohibition of animal sacrifice in temples and fairs, which in turn have undercut the cultural and ritual importance of livestock.

As a result, there is a corresponding disintegration of the combined system of mixed farming and livestock raising, which had previously supported rural families. The decline of animal husbandry in Uttarakhand, thus, is not just an economic issue but a symptom of a deep social shift in attitudes, livelihood priorities and policy directions of the Himalayan regions.

This study attempts to make an analysis of these changes by combining quantitative data and field-level observations incorporating thereby an understanding of the combined effects of socio-economic factors and policy mechanisms at play in the degradation of animal-based livelihoods in the hilly region of Uttarakhand.

Methodology:

This research uses a mixed-method design by combining both quantitative data and qualitative field data in an attempt to address the question of why animal husbandry is declining in Uttarakhand. Data on the primary sources were collected in the 20th Livestock Census (2019), the Department of Animal Husbandry Reports (2019-2025), and the Economic Survey of Uttarakhand (2023-24). To clarify the social and livelihood changes involved in this degradation, complementary field notes and non-structured interviews were conducted in the choice of hilly districts- Pithoragarh, Almora and Bageshwar districts.

The sampling approach used was purposive where the focus was on areas that had a strong tradition of animal husbandry, and where there was significant decline in the practice. The quantitative trends were examined by calculation of percentage change and comparative analysis, but the qualitative data were analyzed by theoretical interpretation to obtain the implications of migration, labour burdening by gender, and unaddressed policies.

Field activities were all ethical in terms of informed consent and anonymity. This conceptual approach helps to have a coherent understanding of socio-economic and institutional factors that led to the decline of animal farming in Uttarakhand.

Literature Review:

Historical Role and Importance of Livestock in Uttarakhand:

The economic and social system of hill areas of Uttarakhand have been dominated by deep rooted relations between people, land and livestock for a long time. In addition, livestock rearing was not just an economic pursuit but an essential component of the mountain livelihood system, in which subsistence agriculture, use of forests and pastoral activity were integrated in a well-balanced cycle of production over centuries. Manure from cattle and sheep was used on agriculture lands, cattle and sheep were used as draught animals, and food security was assured through milk and meat products. In regions that could not produce a sufficient quantity of food, due to steep terrain, cold climate and poor soil fertility, animal farming provided a more consistent, secure and flexible livelihood.

However, the ownership of livestock was traditionally a sign of wealth and status. It has been known to use the ownership of cows or buffaloes as a measure of the prosperity of a family and its position in the village society. Animals were also significant in cultural and ritual life - cattle and goats were used in festivals, weddings and religious ceremonies, as a symbol of prosperity and devotion. In many hill communities, livestock were viewed as sacred companions, associated with local deities and traditional belief systems that focused on harmony with nature.

Animal rearing had traditionally been a woman dominated sector in Uttarakhand. They fed, milked and tended fodder on a daily basis, making livestock raising a gendered but also social activity. The direct participation of women in the household economy not only helped to provide a stable economy for the family but also helped to reinforce the social fabric through cooperation and sharing of labour.

A system of mixed farming and open grazing led to a system of sustainable agriculture, suitable to the conditions of the mountain region. Forests were used for fodder and bedding material, and farm animals brought organic matter to fertilize the soil. The interdependence of forests, fields and herds created a natural balance which, for generations, supported the life of rural folks.

In the past, especially before the large-scale migration and modernization, the livestock economy still had an important position in the rural income structure of the state. Animal products like milk, wool and ghee were sold in local markets which supported small-scale trade networks in the hill districts. Livestock fairs and the old barter system connected the remote mountain villages to the plains and allowed a unique rural economy of mobility, cooperation, and self-sufficiency.

Thus, animal husbandry in Uttarakhand has been a sort of historical representation that includes more than an income generating occupation, it was a multidimensional livelihood system linking economic survival, social prestige and ecological balance. This historical background is important to an analysis of the factors that have contributed to its current decline, and the problems of restoring it under changing social, economic and policy conditions.

Socio-economic reasons of the decline of animal husbandry in Uttarakhand:

The rural economy of Uttarakhand has shown a parallel with the social and economic transformations in their economy, being closely linked with the downfall of animal farming. Although the state's mountainous geography still provides strong ground for livestock rearing, the process of a constellation of interrelated socio-economic transformations including migration, changing values of labour, imbalances in gender relationships and declining profitability has eroded the traditional base for animal farming livelihood.

1. Migration and Decline in Active Livestock Keepers

Large outmigration from hilly regions has created a situation of critically reduced labour pool for taking care of animals. The rural youth, in search of an education and of better employment opportunities, have abandoned traditional occupations. The 2019 Livestock Census shows that Uttarakhand had 44.27 lakh livestock, which is a decline of 7.67% as compared to the previous census of 2012. The number of households involved in livestock rearing has also shrunk drastically; total livestock - keeping families were 2,18,469 and only about 8.45 lakh were active livestock and husbandry (animal rearing) households (20th Livestock Census, 2019).

This decline in participation follows the demographic changes that have been brought because of outmigration, as working age men leave, women and the elderly become responsible for managing the livestock with low capacity and support. Over the years many families have chosen to reduce the size of their herds or to completely abandon animal husbandry, because of a lack of labour availability.

2. Shifting Social Attitudes and waning Occupational Prestige

A critical social change that has contributed to this decline is the changing view of people on manual labour. Traditionally livestock ownership reflects wealth and respect in the village

community. However, when economic aspirations have become modernised, physical work such as that involved with feeding the animals, milking and grazing them is increasingly seen as socially inferior.

State livestock statistics also show this change as the number of indigenous cattle has decreased by 15.46%, buffaloes by 12.3%, and sheep by 22.82% between 2012 and 2019, while goats only, typically reared by less affluent households, showed a marginal increase of 0.33%. The latter statistic is not only indicative of economic limitations but also a cultural distance from work-intensive jobs. Social and economic backwardness has become synonymous with raising animals, which were once an indication of wealth and self-reliance.

3. Gender Burden and Forging Declining Female Engagement

Within the traditional mountainous economy women were the backbone of the livestock management, performing the daily tasks like fodder collection, milking, and cleaning. With the outmigration of men, their workload significantly increased, but with no corresponding support or social or financial reward. The data for the year 2019 shows that in certain districts like Pithoragarh, Almora and Champawat, cattle-headed households by women are relatively high; however, the overall stock of livestock per household has been consistently declining.

The increasing physical pressure and decreasing profitability had caused women to become demoralized and many of them tended to prefer wage labour or small business over herding the animals. This feminisation of responsibility combined with the breakdown of the communal support system has led to a weakening of the social sustainability of livestock-based livelihoods.

4. Decreasing Profitability and Market Constraints

Economic viability is one of the greatest deterrents. Even though there has been a moderate increase in production volume, returns are still moderate in comparison to other sectors. In 2023-24, Uttarakhand produced 1.897 million tonnes milk, 5940.78 lakhs eggs, 2.45 lakh tonnes meat and 0.46 million kg wool but the contribution of livestock sector to the GSDP of the state declined from 2.62 % in 2019-20 to 2.14 % in 2024-25.

This gap between going production and declined economic contribution highlights lack of required market access, infrastructural deficit and low level of value addition in the Hill areas. Transportation costs are high, there are inadequate cold chain networks, and the organised cooperative systems of dairies or meat are concentrated in the plains. As a result of this, animal farming in the mountains has become a low profitable activity, incapable of competing with tourism, service roles or horticulture in terms of the potential for income.

5. Patterns of Lifestyle and Consumption Changing

Increasing incomes and exposure to urban lifestyles have also changed food and consumption patterns in rural households. Official data prove that per-capita availability of milk is increasing from 370 grams per day in 2017-18 to 471 grams in 2023-24 in Uttarakhand as against the national average. Nevertheless, this increase is mostly due to commercial dairies in the plains as opposed to small hill producers. In the hills, the shift towards packaged foods, dairy from

milled sources and the decreased dependence on local products represents the lower domestic demand for livestock products produced locally.

In this sense, the emergence of aggregate production indicators is positive, however, hides the subsidy of withdrawal of small rural producers in the livestock economy.

The socio-economic reasons responsible for the decline of animal husbandry are based on a combination of labour deficit caused by migration, the change of social values, the gender imbalance of the workload, the low profitability, and the modern consumption habits. Official data on livestock and economy of the state of Uttarakhand confirms that despite steady production increase, the sector has steadily lost its economic relevance and social legitimacy. This dual degradation, both succeeding material and symbolic, had changed the animal husbandry from a pillar of mountain living to a residual occupation fighting for survival in the modern economy in hilly rural areas.

Policy Factors Contributing to the Decline of Animal Husbandry in Uttarakhand:

While socio - economic transformations have played a large role in the decline of animal husbandry, the problems of the sector are also deeply affected by policy choices and institutional negligence. Despite the importance of this sector in the overall primary sector, animal husbandry has received comparatively less attention in the state planning and budgetary allocation. Official data show a gradual shift of policy from livestock and agriculture towards tourism, horticulture and hydropower as areas of dominant economic focus.

1. Dropping Policy Priority and Budgetary Emphasis

According to state GSDP data (2019-25), the livestock sector's contribution to total Gross State Domestic Product in Uttarakhand also came down from 2.62% in 2019-20 to 2.14% in 2024-25. In contrast, the combined agriculture, forestry and fisheries sector retained a much larger share (more than 25% of primary sector output). These figures show that despite livestock's contribution to the household level income and nutrition, livestock has not been proportionately given priority in the effort of developing more policies.

Moreover, the annual growth rate of the livestock sector in constant prices was not very high- in 2022-23 it was 2.62%, in 2023-24 it was 2.44 %, and the projected growth rate in 2024-25 is 3.07%. This standstill stands in stark contrast to the fast growing sectors of tourism, hydropower and service oriented industries, which are the main focus of the state's development agenda. Such patterns represent a structural policy bias in Favor of those sectors that promise a quick revenue, against those that secure livelihood stability for rural people.

2. Restrictions on Grazing and Decline of the Common Property Resources

An under noticed and very critical policy factor is the limitation on traditional grazing lands. Much of the area of Uttarakhand is classified as forest or protected area where government rules restrict or prohibit free grazing in an effort to prevent deforestation and soil degradation. While ecologically sensible, such restrictions have caused a drastic decline in access to common property resources - vital as grazing grounds previously home to the community's herd.

The 2019 census data on livestock show a drastic decrease in the number of livestock's relying on grazing: sheep (-22.82%), horses and ponies (-54.44%) and donkeys (-60.97%), which shows the direct effect of grazing constraints. Without accessible pastures, smallholders are forced to depend on stall feeding which results in increased cost and labour of animal care making rearing livestock economically unsustainable in many areas.

3.Lack of Veterinary and Breeding Infrastructure

The state is still struggling with serious limitations in veterinary and breeding services. Even though Uttarakhand has a total population of more than 44.27 lakh of livestock in 2019, the respective count of breeding centres and veterinary units has not increased with the demand. Limited veterinary outreach in areas of high altitudes and remote villages in the hills lead to high mortality and poor productivity and adoption of improved breeds. Data reveals that crossbred cattle have increased up to 15.92% in between 2012 and 2019 which is not much given the high rate of decline in the number of indigenous breeds making it bringing out the limited impact of genetic improvement and artificial insemination programmes at the grass-root level.

4.Weak Market Linkages and Value Chains Development

Although there has been gradual growth in production indicators such as milk, egg, meat and wool, a lack of a good marketing and processing infrastructure made it difficult for livestock owners to not get any fair prices for their produce. Uttarakhand's total milk output stood at available: 1.897 million tonnes, i.e., 0.79% of total India, whereas egg and meat production share of each is 0.42% and 0.24% of total India. These restricted national shares prove the livestock sector of this State, despite production efforts, is still marginal on the market.

Most hilly districts have no milk collection centres, cold storage and efficient transport system to transport perishable products to the plains. As a result, middlemen and informal traders dominate the market, which results in small producers losing their profit margins. Without the linkages with good, secure and enduring markets, the sector does not foster incentives for investment or youth participation.

5.Policy Changes in Cultural and Religious practices

Policies affecting religious and cultural practices have also affected livestock demand. The prohibition on animal sacrifice both in temples and fairs - a critical part of the traditional ritual in these communities, has reduced the cultural and symbolic importance of animal life in many hill communities. While such reforms do reflect changing ethical and environmental values, they have also diminished the ritual demand for goats, sheep and poultry, and have an indirect effect on the small economies of rural communities which depend on these practices.

A policy framework around animal husbandry in Uttarakhand makes a pattern of gradual negligence and misalignment evident. Reduced priority in development planning, limited access to grazing resources, lack of veterinary infrastructure and poor functioning market systems have contributed to reducing sustainability of the animal husbandry sector. The collapse of livestock keeping relying on grazing and the decreasing percentage of animal husbandry in the GSDP confirms that the sector's crisis is policy induced and not ecological.

However, there is a need for reinstating state policy oriented to inclusive and mountain-sheep particular livestock progress. This requires the need to restore community grazing rights, expand veterinary networks and to incorporate animal husbandry within wider livestock livelihood and climate resilience strategies.

Empirical and Case Insights: Statistics and Observation of Case Experiences:

The decline in animal husbandry in Uttarakhand, as also confirmed by official statistical data, also gets reflected in the ground level experiences across the various hilly districts. While macro-level data depicts a general pattern of net decline, site specific case studies identify the human and structural dimensions which are important to this transition.

1. Statistical Trends Based on Official Statistics

Empirical data, which were taken from 20th Livestock Census (2019) and successive reports published by the Department of Animal Husbandry, Uttarakhand (2025), highlight continuous reduction in the livestock population as well as number of rearing households, i.e., the total livestock population declined from 47.94 lakh in 2012 to 44.27 lakh in 2019 (overall decline 7.67%). Indigenous species were down by 15.46%, swamp cattle 12.3% and sheep 22.82% while caprines were up slightly with 0.33%. The equine and asinine people had suffered losses of 54.44% and 60.97% respectively, meaning that pack animals, of great importance for transport and agrarian purposes in the mountains, had all but been eradicated. Though livestock has shown a fractional increase, livestock's contribution only by 2.14% to the total GSDP of the state is a decline from 2.62% in the fiscal year 2019-20 despite the marginal increase in the production still showing a downward trend in the sector. Production of Milk stood at 1.897 million tonnes, Eggs at 5,940.78 lakh, Meat at 2.45 lakh tonnes and Wool production at 0.46 million kgs. Combined, this data sets out a paradoxical state of quantitative rat race without economic or social payoff: aggregate production gains (calibrations with ambiguity) cannot overcome arbitrations (corrosions of economic contribution and livelihood pride) of the sector.

2. Field-Level Insights (Qualitative Observations)

A basic survey at the grassroots level of villages in the hilly districts of Pithoragarh, Almora and Bageshwar shows that the official statistics reflect the reality of life. An across-the-board pattern of village respondent responses argues that once a viable livelihood and one which was considered respectable, animal husbandry has by and large become economically and socially untenable.

a) Labour and Migration: Respondents discussed the fact that keeping as little as two or three cattle requires a huge amount of daily labour that younger generations are unwilling to carry out. With the shifting of the mindsets of younger generations to wage jobs, the responsibility for caring for the livestock now falls mainly on women and the old.

b) Loss of Common Grazing Lands: Limited access to forest pastures has been recognized by many communities as one of the major constraints. At the same time, the application of forest conservation policies has led to the fencing or transformation of communal grazing grounds converted into forestry reserves, which forced the households to reduce their herd size.

c)Increasing Costs of Inputs: Households also identified the increasing unavailability of fodder and increasing cost of stall feeding as the main reasons behind the reduced profitability of animal husbandry.

d)Cultural Changes: Respondents also mentioned that livestock work is seen as a symptom of "backwardness" among the younger generations. With a change in aspirations toward the urban way of life, all traditional practices become devoid of social respect and labour support. These local experiences are in close accord with the statistical evidence of declining numbers of livestock and stagnant productivity.

3.Spatial Fluctuation within the State

Empirical evidence is found showing that the decline is not identical for all districts. Agrarian districts like Haridwar and Udham Singh Nagar have continued to sustain or in some regions have even expanded livestock productivity whereas the hilly districts of Pithoragarh, Almora and Chamoli have shown a sharp decline in livestock productivity. This trend is related to differing access to infrastructure and markets, the plains regions are well-served by good roads, veterinary services and formal dairy co-operatives, whereas the remote hilly regions are still left with traditional and subsistence production with little attention being paid by the government. Such spatial differentiation highlights that the crisis of animal husbandry is a problem mainly of the mountains, a problem attributable to isolation and out-migration and institutional institutions.

4.Connection of Data and Field Narratives

The results of quantitative data analysis combined with qualitative findings strengthen the hypothesis that the low rate of livestock raising in Uttarakhand is structurally determined. The decrease of animal herds, stagnation in the amount of GSDP share, and collapse of livestock-based systems are not independent effects, but are rather interwoven across the domain of political policy, migration, and social change. Thus, empirical data supports the main proposition of the study that what has led to the decline of animal husbandry in Uttarakhand is not the environmental constraint but socio-economic change and policy mismatch which has led to the deterioration of the status and viability of the sector.

Recommendations for Policy Review for Sustainable Livelihoods and Revival:

Resurrection of animal husbandry is required in Uttarakhand which requires a multidimensional policy framework incorporating social, economic and environmental imperatives. Official statistics suggest that the share of the sector in the Gross State Domestic Product declined from 2.62% in 2019-20 to 2.14% in 2024-25; however, its potential contribution towards livelihoods and nutritional security of the rural population is still large. Accordingly, the objectives of institutional reforms should not be just getting more and more profit in a short time, but to rebuild the socio-economical structures through which livestock rearing did prove viable and prestigious in the Himalayan context.

1.Protection of Grazing Rights and Common Resources

Building a grassroots-based good governance of grazing grounds is an important contributor

to recovery. The 2019 livestock census shows a significant decrease in ruminant (sheep 22.82%) and equine (horses 54.44%, donkeys 60.97%) animals, a fact which is directly linked to the decrease in access to the traditional pastures. The Government will need to take into account:

- a) Reviewing forest use policies with the aim of permitting regulated grazing by the community in certain areas.
- b) Encouraging the Joint Forest Management (JFM) models where local cooperatives play an important role in co-managing forest areas for ecological balance along with continuing fodder for livestock.
- c) Creating Panchayati Raj Institutions for mapping and demarcation of village-level pastures for equitable access to fodder.

This would make stall feeding cheaper, promote the growth of herds, and improve the traditional mountain livelihood.

2. Improving Veterinary and Breeding Sector

Thus, the low level of growth in crossbreeding cattle during the 2012-2019 period (15.92%) reflects that modern breeding and health services have not yet succeeded in reaching rural regions. The state must:

- a) Provide increase in outreach (mobile) veterinary services and tele-veterinary services in remote districts.
- b) Create block-level breeding and fodder development centres in order to enhance productivity.
- c) Provide all farmers, particularly marginal and small holders, vaccination programmes and disease control programmes free of charge.

Not only improvement of veterinary care would decrease mortality, but also improvement of productivity, resulting in the restoration of the economic sustainability of animal farming.

3. Creating Mountain Specific Market Linkages

Despite the increase in milk, egg, and meat production in 2023-24, their combined contribution in the total output in India is less than one percent of the gross output of the country, indicating a poor market integration. To resolve this, policies should be directed at:

- a) Taking the example of Amul, to create hill dairy cooperatives suited to small-scale producers.
- b) Inadequate cold chain and rural transport system: Investing in cold-chain infrastructure, rural transport networks to connect villages of close-by urban markets.
- c) Assisting micro-enterprises for wool, cheese, and organic ghee, that will improve the rural incomes and younger generation's involvement.

With enhancement of value addition and market linkages, animal husbandry can once again be a profitable part of the hill income planning process.

4. Rewards and Social Recognition of Livestock Farmers

Lack of recognition alone could explain the decay of animal farming. The government's ability to recover its social and economic status means that:

- a) Implement livestock-based livelihood incentive schemes such as fodder, insurance and equipment subsidy.
- b) Recognize the contribution of women to livestock management by means of training, micro-credit and membership of cooperatives.
- c) To initiate awareness and dignity campaigns on animal husbandry as a sustainable livelihood and as a self-reliant way of living.

Social prestige also has to be restored as much as the reconstruction of the economy; a positive narrative about animal farming activities can help in attracting younger generations to this field.

5. Livestock as Climate and Rural Development Policy Solution

Livestock can be part of a major solution in climate resilient mountain development. With the ecological fragility in the state of Uttarakhand, animal husbandry needs to be integrated with forest conservation, soil fertility and organic farming. Policy actions may include:

- a) Supporting the development of integrated systems of farming which combine crops, cattle and forestry to build up synergies.
- b) Promoting organic certification of livestock products so that they can benefit from markets that are more aware of their environmental impact; Subsuming livestock development objectives under the Sustainable Development Goal (SDG-2) of "Zero Hunger" already alluded to above is represented by the livestock report 2025.

Such an integration would put animal husbandry not only as an economic activity but as part of a sustainable development in the wider sense of the term.

Uttarakhand will show growth in animal husbandry only if there is a perfect mix of policy correction, social change and institutional assistance. Allowing livestock to graze freely, building up veterinary capacity, establishing markets that are specific to mountain livestock and artifacts, and acknowledging that work with livestock is actually dignified work can all be helpful in restoring the strength of the sector.

The available data suggest that even though Uttarakhand shares 2.14% of GSDP from livestock, the scope for revival remains very high provided the policies are made in keeping with the peculiar socio-ecological and economic context of the hills.

This shows that a complete and comprehensive policy framework can turn the animal husbandry, which is now considered as a declining tradition, into a systematic modern-day livelihood base for the mountain community of Uttarakhand.

Conclusion:

The decreasing trend in animal husbandry in Uttarakhand cannot be explained in terms of

geographic constraints or the ecological unsuitability, rather it is due to socio-economic change and policy disregard influential in completely changing patterns of the pillars of rural livelihoods. Although the livestock sector traditionally represented a key element of the economic system of the hill, nowadays, it has taken a secondary role within the economy and in the value system of society. This structural deterioration has been confirmed empirically. The total livestock population in the state fell by 7.67% from 2012 to 2019 and the indigenous cattle (15.46%), indigenous buffalo (12.30%) and sheep (22.82%) fell more considerably. Although total milk production covered 1.897 million tonnes and output of eggs and meat was marginally raised, the share of earnings of livestock and poultry sector in the Gross State Domestic Product dropped from 2.62% in 2019 - 20 to 2.14% in 2024 - 25. This paradox of increasing production with decreasing economic importance describes the heart of Uttarakhand's livestock problem.

On the societal level, rural migration, changing aspirations and changing notions of dignity have eroded away the labor and prestige attached to livestock rearing. Those animals have been traditionally the sphere of occupation of women and among the young, animal husbandry is increasingly seen as a backward and low-status activity, limited access to natural resources, and a burden of household duties. As a result, retirees have quietly withdrawn from a way of life that conjures notions of economic security, gender involvement, and cultural transmission.

This decline has been further accelerated by poor policy frameworks. Limited livestock production due to government restriction on their grazing lands, poor veterinary infrastructure and overdependence on tourism and hydropower as an alternative form of animal-based primary local economic activity have shifted institutional interest from livestock. Such policy-induced barriers have directly contributed to a decline in the numbers of grazing dependent livestock (sheep, ponies, donkeys). Moreover, the lack of efficient market linkages has kept animal farming at the level of subsistence with smallholders failing to take advantage of the increased demand in urban centres.

However, the results of this study also underline the great revival potential. The verified information shows that the livestock base of Uttarakhand is still intact and the region is still producing high quality milk, wool and organic animal products which would be the mainstay of sustainable mountain livelihoods. For this sector to recover, it requires a multi-dimensional approach: recovering access to controlled grazing areas, scaling up veterinary and breeding services, establishing localized dairy and meat cooperatives, and recognizing the role of livestock in inserting them in climate resilient rural development strategies.

This is therefore the conclusion of a study that confirms the main hypothesis:

As a result, the decline of animal husbandry in Uttarakhand has little to do with any natural limitations, but rather socio-economically and more importantly policy factors have downgraded its cultural, as well as economic, significance.

With inclusive and region-specific changes, animal husbandry can become a life-support option once again - for its contribution to economic resilience, food security and ecological balance of the hill populations of Uttarakhand.

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