

RESEARCH ARTICLE

Challenges in raising indigenous cow breeds, does value addition can be solution for conservation of our local indigenous cows

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ABSTRACT

Before the Union Government of India began the Integrated Cattle Development Programme as part of Operation Flood, which attempted to crossbreed the local indigenous cattle with the exotic European cattle, the rural economy had been centred around indigenous cattle. The World Bank, which had predicted that crossbreeding Indian Zebu Cattle with European Exotic Cattle would eventually end rural poverty in India, backed the crossbreeding scheme. The crossbreeding policy, which sought to boost milk production in rural areas in response to the growing urban population's demand for milk, also improved the lot of many small and marginal farmers. But recent studies reveals that the number of native cattle breeds unique to each state is declining at a startling rate. However, increased maintenance expenditure in raising the exotic cow breeds it is becoming a challenge for the dairy farmers in running the dairy unit resulting which many dairy farmers facing huge loss. "Desi Cow Milk," a new wave of native milk has been steadily gaining traction over the past six years alongside the more established market for cross-breed milk. This paper is an attempt to study the various value additions from Desi Cow and awareness among consumers. Findings reveal that not only milk can be value added but even dung and cow waist can also be created value and there is good response in the market. Proper awareness among farmers about indigenous cow can help to lose our indigenous cow breeds.

Keywords: Desi cow, value addition, dairy industry, exotic cattles, cross breeding

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INTRODUCTION

In terms of overall milk production, India ranks first in the world in 2022–2023 with 230.58 million tonnes produced. Over the previous year (2021–2022), there was a 3.83% rise in milk output. The average daily yield for exotic/crossbred animals is 8.55 kg, whereas the average daily yield for native/nondescript animals is 3.44 kg. Compared to the previous year, the milk production from native/nondescript cattle has increased by 2.63% while the milk production from exotic/crossbred cattle has increased by 3.75%. In addition, the amount of milk produced by buffaloes rose by 3.69% over the previous year. The top five states that

produce the most milk are Andhra Pradesh (6.70%), Madhya Pradesh (8.73%), Rajasthan (14.44%), Uttar Pradesh (15.72%), and Gujarat (7.49%). Collectively, they account for 53.08% of the nation's milk production. A significant portion of India's expanding population's milk need is met by cows (Basic Animal Husbandry Statistics, 2023).

The cost of producing milk has increased for dairy farmers in Tamilnadu by 100% due to rising paddy and straw prices. For a very long time, producers have been demanding incentive programs. Future years will see a sharp decline in milk production if the price of milk is not increased. Most government initiatives for the welfare of rural residents would fail if there was no capable system in place to deal with this problem. The issues surrounding milk production need to be seriously and sustainably addressed in order to meet the growing demand. In order to address the severe issues with milk marketing and livelihood that exist in Tamilnadu, corrective action needs to be implemented (Tamila et al., 2022).

Farm innovations are new methods, goods, or practices that are economically feasible and appropriate for a given environment, animal physiological stage, or way to increase the per diem productivity of the animals. Even while innovations are common, the situation regarding their application is quite dire; the most of them have not yet reached the general public at the grassroots level (Nimbalkar et al., 2021). There are 39 recognized indigenous cow breeds in the nation. Of them, four are of the milch type, twenty-two are of the draft type, and the rest are of the dual type. There is still a sizable, ill-defined population. The majority of local cattle breeds in India are renowned for their ability to withstand high temperatures, strong draughts, and resistance to diseases carried by ticks. These breeds are also capable of surviving in adverse agroclimatic conditions. Important national breeds like Ongole, Gir, and Sahiwal drew imports of this material from Brazil, the USA, Argentina, and Mexico in order to give their native breeds more resistant to heat and illness. (Sharma, 2016).

In the Tamil Nadu districts of Villupuram, Tiruvallur, and Kancheepuram, short, robust native cattle known as natikutai cattle are raised using a zero-input system. Cattle are essential to the ecology and the means of subsistence for small and marginal farms (Athilakshmy et al., 2021). The cattle from Pulikulam have short legs and a compact body, making them robust and energetic. The coat color of cows is often gray or white, while bulls have a dark grey color. The Pulikulam cow's average daily milk output was found to range between 0.5 and 3.0 kg. These animals are vital to the rural livelihoods of communities that raise them for organic agricultural production, particularly in the production of spices, and for draught (Singh et al., 2012).

The Alambadi cattle was a medium-sized animal with a thin, cylindrical body, an iron-grey coat, and a distribution of white patches around the eyes and above the muzzle. Selective breeding, the creation of breed organizations, the provision of superior Alambadi bulls and semen straws, and nutritional management to maximize the innate milking capacity for profit are workable strategies to fortify the foundation and contribute to genetic security in the future (Parameswari et al., 2021). Tamil Nadu is home to the well-known Kangeyam draught breed of cattle. The daily milk production of a pure Kangeyam cow is less than two litres. Owned pasture land is open to this breed's grazing. An estimated 470,000 Kangeyam cattle are in existence. In the past, garden land crops were irrigated with water drawn from open wells by kangeyam bullocks. These days, they're employed for transporting farm produce and ploughing. Pure breed cows provide less milk than hybrid cows, hence in order to increase milk yields, Jersey cows are inevitably mixed with them (Jayanthi et al., 2010).

The Umblachery cow breed is highly regarded for its strength and durability. They are distinguished by a white star marking on their forehead, white socks markings on all of their limbs, and a white tail switch. The Cauvery delta region, particularly the districts of Thanjavur, Thiruvarur, and Nagapattinam, is Umblachery's home tract. Major obstacles to raising cattle in Umblacheries include a scarcity of grazing land, a decline in the number of purebred Umblachery bulls for breeding, resistance on the part of Umblachery cattle rearers towards artificial insemination, the high expense of natural mating, and the farmers'

preference for high-yielding cattle over native animals (Sridhala et al., 2024). There are currently only a few thousand Bargur, or South Indian hill cattle, left in the wild after a sharp decline of more than 93% over the previous three decades. A genetic bottleneck may have resulted in the population losing a number of uncommon alleles, indicating the necessity of conserving this valuable cow germplasm (Ganapathi et al., 2015).

In order to boost milk production during the milk revolution, foreign semen was cross-pollinated with native cows. As a result, the number of the rare Indian breed of cows started to decline, which had a cascading effect on the market's purity of cow milk. In India, for decades this practice went unchallenged, and people drank the milk that was readily available without question. Chronic illnesses like cancer, diabetes, obesity, high cholesterol, and skin allergies have become more common in India in recent years. The general public's eating habits and health-related behaviours have altered. The market observation suggests that there is a growing trend among consumers to favour A2 indigenous milk (Iyengar, 2024).

Value Additions

The livestock industry is a significant and expanding source of pollution not just in India but all over the world as a result of the growing demand for animal products, which is driving livestock operations to concentrate geographically, intensify, and diverge from plant agriculture. Because there is a greater demand for animal goods, the outputs of the livestock sector are expanding more quickly. However, there is a lot of promise for using animal wastes in both conventional and cutting-edge ways as value-added products. This will open up new revenue streams for farmers and help them become more economically independent. India is incredibly promising in this area (Pradesh, 2022). The purpose of the study was to study the various awareness about value added products from native cows. 400 hundred structured questionnaires were distributed at various super markets and organic stores. 360 eligible questionnaires were used as sample for the study .

MATERIALS AND METHODS

The survey was conducted between January 2024 to March 2024. The purpose of the study was to study the various awareness about value added products and the top products produced from native cows. 400 hundred structured questionnaires were distributed at various super markets and organic stores. 360 eligible questionnaires were used as sample for the study.

Percent position and garret value

The Garret ranks were calculated by using appropriate Garret Ranking formula. The Garret table value is calculated on the basis of the Garret table value is presented. The preference and ranking for important factors influencing the consumer buying behaviour by the Value Additions produced from indigenous cows are shown in Table No 1.

RESULTS AND DISCUSSIONS

From the table 1, it is understood that Panchagavya being the more known value added products from cow followed by Vermicompost and Cowdung cakes follows the ranks. Agarbatti, Dhoop Cones , Soaps, dungpowder and oil lamps follow the ranks.

Table 1: Respondents ranking of preferred value added products

Value Added Products	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	Total Score	Mean Weight	Rank
Panchagavya	19680	2856	540	742	2303	0	0	0	26121	72.56	1
Cowdung Cakes	2640	10200	3600	3498	799	680	132	260	21809	60.58	3
Agarbatti	1680	2584	8940	1696	3290	960	561	180	19891	55.25	4
Dhoop cones	1040	4420	1860	7314	1833	1200	462	600	18729	52.03	5
Handmade soap	2480	2380	2220	1802	4841	2880	825	460	17888	49.69	6
Vermicompost	1280	2244	720	742	2820	8440	462	7200	23908	66.41	2
Oil Lamps	640	68	240	1590	235	5200	3003	1820	12796	35.54	8
DungPowder	2240	544	1440	1537	1692	2080	2805	1960	14298	39.72	7

Cow dung has been utilized for many things since ancient times, and because of its high quantity of humid chemicals and readily available fertilizing biological ingredients, it plays a major role in crop growth. Panchagavya increases soil health by boosting macronutrients, micronutrients, and beneficial microbes. This improves soil fertility status. It works as organic manure, increasing the soil's ability to store water. Because the microorganisms presenting the rhizosphere environment around the roots influence plant growth and agricultural yield, the beneficial microorganisms from Panchagavya and their establishment in the soil increased the sustainability of agriculture. (Krishnakumar et al., 2020)

Farmers see vermicompost as a waste management approach, which policymakers may use to build future policies that would embrace and spread the vermiculture technique to the nation's general farmers.(Hasan et al.,2021).

Cow dung products are completely safe, environmentally friendly, and give rural residents a way to raise their standard of living. The peasants can find work on new pathways, and rural women can take up new sources of income-generating activities to supplement their meager incomes in their homes.(Bajpai et al., 2021)

CONCLUSION

The main challenge the dairy farmers face is increased cost of maintain the exotic cows which reduces the margin and creates burden on rural family, on the other hand our indigenous cows are easy to raise at very minimal cost and more than they grow by grassing which reduces fooder cost etc, but the milk yielding capacity is less, Value addition products is best solutions to address the both issues, More than milk there are many products which can be made from even cow dung also and there is good awareness also available in market. So farmers should focus on Value additions and Government initiatives in training in value additions can boost their confidence and also we can save our native cow breeds from loosing.

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