



## LITTLE MILLETS EXPORTS-AN ANALYSIS

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### INTRODUCTION

Little Millet, scientifically known as *Panicum sumatrense*, hails from the Eastern Ghats of India and has become a dietary staple in tribal communities. Its adaptability has extended its influence to Sri Lanka, Nepal, and Myanmar. Cultivated in Madhya Pradesh, Chhattisgarh, and Andhra Pradesh, it plays a vital role in food security and livestock feed. Little Millet's nutritional value supports a balanced diet, contributing to food security and dietary diversity. Despite its widespread cultivation, there is untapped potential. Research and sustainable farming practices could unlock its benefits, enhancing food security and livelihoods. Little Millet embodies resilience, adaptability, and cultural heritage, highlighting the intricate connection between agriculture, culture, and sustainable food practices.

- Minimal water, fertiliser, and pesticide requirements.
- Health-promoting with a superior micronutrient profile.
- Low Glycogenic Index, associated with diabetes prevention.
- Good source of minerals: iron, zinc, and calcium.
- Gluten-free, suitable for celiac disease patients.
- Beneficial for managing and preventing hyperlipidemia.
- It helps with weight, BMI, and high blood pressure reduction.
- Mutual supplementation of protein when consumed with legumes.
- Enhances overall protein digestibility.
- Easily accessible millet-based ready-to-cook products.
- Used for both food and fodder, making it farming efficient.
- Contributes to reducing the carbon footprint.

### BENEFITS OF SMALL MILLETS

- Highly adaptive to various ecological conditions.
- Thrive well in rain-fed and arid climates.

### LITTLE MILLET CONSUMPTION IN INDIA

A table shows the consumption pattern of little millets in Kilogram with the perspective states in the year 2018.

States	All India		Rural		Urban	
	Kg/hsh/m	Rs/hsh/m	Kg/hsh/m	Rs/hsh/m	Kg/hsh/m	Rs/hsh/m
Andhra Pradesh	6.52	80.39	7.06	84.68	1.11	37.86
Assam	18.82	381.96	18.82	381.96	-	-
Bihar	18.69	354.04	18.69	354.04	-	-
Chhattisgarh	4.18	55.14	4.22	55.41	1.97	40.71
Gujarat	0.39	17.82	0.48	19.81	0.36	16.69
Himachal Pradesh	2.00	50.00	2.00	50.00	3.80	47.03
Karnataka	7.12	87.45	8.41	103.37	1.05	119.96
Madhya Pradesh	1.71	96.48	1.88	90.08	0.86	44.89
Maharashtra	1.06	44.31	1.13	44.11	-	-
Orissa	4.06	48.69	4.06	48.69	-	-
Punjab	3.00	60.00	-	-	3.00	60.00
Rajasthan	0.75	30.00	-	-	0.75	30.00
Tamil Nadu	1.77	33.77	2.60	44.12	0.99	24.05
Uttarakhand	4.15	41.02	4.15	41.02	-	-
Uttar Pradesh	4.78	50.01	4.78	50.01	-	-
West Bengal	2.00	160.00	-	-	2.00	160.00

source: NSSO, MOSPI, Gol



## REVIEW OF LITERATURE

**Cyerin Priya Samarpitha, Reddy Madhavi, Chandana K.C (2023), Physico, Chemical and Functional Properties of Different Millets and their Suitability for Preparation of Enhanced Nutritious Laddu:** Millets gelatin temperature is higher. It has more wettability, and cohesiveness is found higher. Food processing includes packing, storage, transportation operations, and post-harvest processes. So, these should be considered and make everything good. It concludes that sprouted millets are better at cooking than unsprouted millets.

**Z. M. Hassan, N. A. Sebola and M. Mabelebele (2021), The nutritional use of millet grain for food and feed:** Millet's richness in nutrient-rich and serves as a staple in many Asia and African countries used for various food products like porridge Coursers and as an effective feed ingredient in poultry production. The overview and core objective of this review is to provide insight into the selection of millet for different purposes to maximise their potential for food and feed. Pearl and finger millets often energy in paltry diets boats nutrients. Comparable to cereals and aid livestock performance.

**Sourav das, Rituraj khound, Meenakshi santra, Dipak K santra (2019), Beyond Bird Feed:** Proso Millet For Human Health and Environment. Proso millet, once overlooked, is now gaining attention due to its nutritional benefits like a low glycemic index and gluten-free nature and its use in various food applications, from bakery goods to infant food append distilleries. Proso millet, often underestimated, offers health benefits and diverse starch properties sub-table for various food applications and agricultural systems. This Requires successful collaboration among experts from diverse disciplines, such as breeders, geneticists, food chemists, and food industry partners.

**R.V. Jaybhaye, I.L. Pardeshi, P.C. Vengaiiah and P.P.Srivastav (2014):** Processing and Technology for Millet

Based Food Products. Millet divers small grains like pearl millet and finger millet are crucial for food security due to their resilience in harsh climates. Rich in nutrients, they aid in managing health conditions. While popular in Asia and Africa, their global utilisation is increasing. This paper examines millet-based traditional and convenience food, exploring processes and characteristics of ready-to-eat products. Advances in post-harvest processing highlight the potential of millet and sorghum, especially finger millet, for diverse value-added products yet minor millet.

**Bhat S., Nandini C., Srinathareddy S., Jayarame G. and Prabhaka (2019):** Proso millet (*Panicum miliaceum* L) a climate resilient crop for food and nutritional security. The genus *Panicum* encompasses over 400 grass species, notable proso millet, believed to have origins in Egypt and Arabia. It was domesticated in China at 10000 BP, and its cultivation spread across Asia, Europe, and eventually; therefore, this work attempts to compile the merged information available on crop history, phylogeny germplasm resources, and present status to make the crop comprehensive and revamp its cultivation. Proso Millet, a versatile crop with high nutrition and low resource needs, holds promise for global food security.

**K. Navya, Jessie Suneetha W, B. Anila Kumari and P. ReddyPriya (2023), SENSORY EVALUATION OF GERMINATED GROUNDNUTS TO LITTLE MILLETS POWDER LADDU:** The appearance, colour, flavour, taste, texture, aroma, sweetness and overall acceptability may affect the laddu's sensory scores. Regarding acceptability, the highest score was 8.80, and the lowest was 6.53. Anuradha and Laxmi reported that germinated laddu is made with 50% ragi, 30% soybeans, 15% groundnuts, and 5% black gram. This study persuades food sectors to utilise powdered germinated groundnuts and minor millets to enhance the nutritional and sensory quality of the product.

## LITTLE MILLET SYNOPSIS

Table 1: Little Millets Exports for 2012- 2013 to 2021-2022

YEAR	QUANTITY (Y)	X	XY	X <sup>2</sup>	YES
2012-2013	436	-5	-2180	25	
2013-2014	430	-4	-1720	16	
2014-2015	386	-3	-1158	9	
2015-2016	391	-2	-782	4	
2016-2017	442	-1	-442	1	
2017-2018	439	0	0	0	
2018-2019	333	1	333	1	
2019-2020	371	2	742	4	
2020-2021	347	3	1041	9	
2021-2022	370	4	1480	16	
2022-2023	0	5	0	25	
<b>TOTAL</b>	<b>1683127.87</b>		<b>-2686</b>	<b>110</b>	
	153011.6245		-24.41818182		

Source: APEDA



Show the quantity and value percentage of small millet exported for 2012-2022. The quantity percentage for the years 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017 was 0.025, 0.025, 0.022, 0.023, 0.026, and the quantity percentage for 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 was 0.026, 0.019, 0.022, 0.020, 0.021, respectively. The highest quantity percentage was achieved in 2016-2017, and the lowest was achieved in 2018-2019. The value percentage of minor

millet for the years 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, was 8.3, 8.10, 9.3, 8.6, 10.2 and 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022 was 11.5, 10.2, 11.5, 10.4, 11.5 respectively. The highest value percentage was achieved in 2021-2022 and the lowest in 2012-2013. There is a negative growth rate in the years 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017. The highest negative growth rate was -2180 in the year 2012-2013.

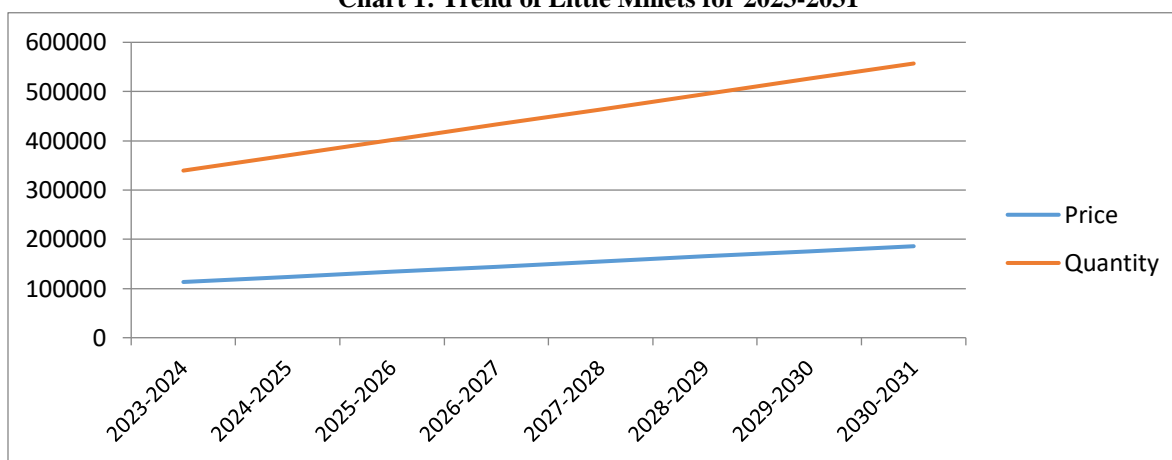
**Table 2: Trend Projection of Little Millets Exports for 2023-2031**

YEAR	Price	Quantity
2023-2024	113240.1	339478.6
2024-2025	123615.8	370556.4
2025-2026	133991.5	401634.2
2026-2027	144367.2	432712.1
2027-2028	154742.8	463789.9
2028-2029	165118.5	494867.7
2029-2030	175494.2	525945.5
2030-2031	185869.9	557023.4

Little Millets are projected to rise steadily over the next seven years, from 113240.1 in 2023-2024 to 185869.9 in 2029-2030. The quantity also increases progressively, indicating a growing

demand for this commodity. This upward trend suggests a positive outlook for the Little Millets market.

**Chart 1: Trend of Little Millets for 2023-2031**



The graph projects the positive result of both quantity and value of the Little Millets for 2023 to 2031, ensuring the market growth and export needs of Little Millets.

## FINDINGS

Studies show millets possess elevated gelatin temperature, wettability, and cohesiveness in germinated groundnuts to little millets powder laddu. Proso millet emerges as a climate-resilient, nutrition-rich crop with potential for global food security. Millets, particularly finger millet, play a vital role in food security and offer diverse value-added products. These findings collectively underscore the versatility and nutritional significance of millets across various applications in the culinary and agricultural domains.

## SUGGESTIONS

Consider incorporating sprouted millets for improved cooking outcomes. In laddu preparation, align ingredient proportions for optimal sensory appeal, aiming for a balance between appearances, flavour, and overall acceptability. Embrace Proso millet's resilience and nutritional benefits for enhanced global food security. Explore diverse value-added products leveraging millets, especially finger millet, to maximise their potential in contributing to both food and feed applications for sustainable agricultural systems.

## CONCLUSION

In conclusion, the studies collectively emphasise the exceptional properties of millets, such as higher gelation temperature and



improved wettability. Crafting laddu recipes with specific ingredient proportions enhances both nutritional and sensory qualities. Proso millet emerges as a valuable resource for global food security, presenting a resilient and nutrient-rich option. Leveraging millets in diverse applications, from cooking to value-added products, underscores their potential contribution to global sustainable and nutritious food systems.

## REFERENCE

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