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### Unlocking the constraints and developing effective strategies for milletpreneurship in Odisha

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#### Abstract

Millet the crop of revitalisation is gaining popularity in the modern growing world. The study aims to understand the challenges and opportunities faced by millet entrepreneurs and to identify the potential strategies for their empowerment and sustainable growth. This research was conducted in two districts of Odisha, where millet-based community approaches have been implemented. A purposive sampling technique was employed for selecting the respondents involved in millet-based activities in the operational area, which includes both millet farmers as well as people engaged in millet-based activities. The data was collected through a structured interview schedule and analysed using Garret's raking technique. The results highlighted major challenges of the milletpreneurs in availing credit at the right time, market accessibility, poor infrastructure, procurement of non-ragi produce, hand-operated machineries, payback period of produces, etc. Policy interventions are recommended to address these challenges through skill development, adequate financial assistance, timely advisory services, and market linkages. These initiatives can further strengthen and contribute to sustainable livelihood, food security, self-employment, and economic development.

**Keywords:** Entrepreneurship, milletpreneurs, millets, constraints, Garrett's ranking, strategies

#### Introduction

Millets were the ancient crops to be grown before wheat and rice became dominant staples and crucial sources of consumption in Asia and Africa, particularly in regions with semi-arid and dry climates (Scott, 2015) <sup>[1]</sup>. But over time the cultivation of millets has declined due to the shift towards lucrative marketable crops and modern agricultural practices, leading to unintended consequences for both human health and the environment (Gayathri and Manimozhi 2024) <sup>[2]</sup>. Millet cultivation is undertaken in resource-constrained areas where the farmers often grapple with low yields and limited access to advanced agricultural techniques (Gebreyohannes *et al.*, 2021) <sup>[3]</sup>. Recent statistical trends revealed that millet productivity has increased in the last 5 decades especially in India (182%), China (132%), Nigeria (80%), and Uganda (40%) (Opole, 2023) <sup>[4]</sup>. India's population has topped the world and the responsibility of food growers has increased as they need to produce more in a patch of land which is decreasing every subsequent year. There is enhanced pressure upon policymakers to focus on the matter that can bring sustainability. Millet entrepreneurs are the individuals engaged in millet cultivation, processing, and commercialization of millets. The success of a venture is crucial for economic growth, job creation, and innovation.

The community approach plays a crucial role in the enterprise's success (Hassan *et al.*, 2023) <sup>[5]</sup>. Stakeholder convergence is essential for venture success, as it ensures collaboration and shared commitment among key stakeholders. Stakeholder engagement plays a vital role in fostering innovation management and entrepreneurship development (Leonidou *et al.*, 2020) <sup>[6]</sup>. A lot of challenges hinder the growth and development of millet entrepreneurs. A detailed insight is essential for planning and implementing development programs and policy making. Understanding specific needs, challenges, and opportunities; policymakers and developmental agencies can tailor interventions to address their unique requirements and foster sustainable growth. Developmental agencies including NGOs can optimise resource allocation by tackling key constraints through interventions like training and capacity-building programs, technical assistance and financial support. These initiatives can empower milletpreneurs to adopt sustainable driving long-term growth and resilience. Milletpreneurs encounter multifaceted challenges like production, market difficulties, environmental issues, and infrastructural gaps. Addressing these underlying factors is crucial to enhance the livelihoods of milletpreneurs and determining the success and failure of their enterprises.

**Materials and Methods**

The study was conducted in two districts of Odisha, viz. Sundargarh and Rayagada, which are traditional millet-cultivated areas and millet-based activities are promoted predominantly through community approaches. The purposive sampling technique was employed for the selection of respondents who are involved in millet-based entrepreneurial activities, including millet growers and personnel in millet-based enterprises. Three blocks were chosen purposively within the selected districts. Out of these three blocks, two blocks were selected which has been exposed to the community approaches for the past 5 years and the third block was selected where the community approach has been initiated since the past 1-2 years to analyse in a more diversified manner. A total of 20 milletpreneurs were selected from each 6 blocks, together constituting 120 millet entrepreneurs. A structured interview schedule has been developed which involves direct questioning and focused group discussion. In order to understand the constraints of the milletpreneurs, a list of statements was developed based on the pilot study and review of literature. The constraints were ranked with Garret’s ranking technique. The proposed technique employed a numerical scoring mechanism to quantify constraints enabling a nuanced prioritisation based on perceived importance by respondents. To convert the ranks into percentages the below formula was used.

$$\text{Percent Position} = \frac{100(R_{ij}-0.5)}{N_j}$$

Where,

$R_{ij}$  = Rank given for the  $i^{\text{th}}$  item by the  $j^{\text{th}}$  respondent

$N_j$  = Number of items ranked by the  $j^{\text{th}}$  respondent

After the derivation of the percentage position of each rank was transformed into a numerical score using the standardized table of Garret and Woodworth (1969) [7]. For each constraint, individual respondent score was aggregated and normalized by the total number of respondents. Thus,

the average scores of all constraints were ranked and the most important constraint was prioritized.

**Results and Discussion**

Milletpreneurs encounter a significant number of challenges for their sustainable economic development in the long term. Inadequate financial support during crop failure or enterprise losses emerged as the highest-ranked constraint depicted in Table 1. Despite its climate resilience, millet cultivation remains vulnerable to severe conditions but lacks adequate insurance coverage leading to significant economic losses for farmers and hindering effective risk management strategies (Ankrah *et al.*, 2021) [8]. Insurance has a direct impact and strengthens people’s decision-making (Cole *et al.*, 2018) [9]. Findings of Madagascar highlight the importance of livestock in the lean season, which acts like crop insurance during crop loss. Establishing emergency funds can mitigate the impact of unforeseen adversities and ensure enterprise sustainability (Wang, 2024) [10]. This was followed by constraints such as market distance which significantly impacts transportation cost. The milletpreneurs also face significant transportation costs due to distant markets, negatively impacting profitability and hindering smallholder farmers’ economic viability (Noopur *et al.*, 2023) [11]. The lack of non-ragi procurement options is also a major constraint identified. Milletpreneurs perceive the decreasing importance of non-ragi millets due to procurement challenges, low minimum support prices, and inadequate policy support. There is a need for awareness and attention to non-ragi millets, collective action can play a crucial role in developing the minor millets market, and by providing incentives for consumption and production (Gruère *et al.*, 2009) [12]. Successful collective action contributes to the conservation of underutilized crops while generating additional income for local communities. These were identified as the three major constraints. Furthermore, time-consuming hand-operated machinery and the untimely payback period of community-based organizations are also among the top five major constraints.

**Table 1:** Distribution of respondents according to the constraints faced related to entrepreneurial promotion through community approach

Sl. No	Statements	Total Sample (n=120)	
		Mean Score	Rank
1	Entrepreneurs are unable to maintain the FAQ (Fair average quality) of millets	35.26	IX
2	Unaware of all possible products prepared out of millets	52.13	VII
3	Distance markets are directly proportional to the high cost of transportation	72.37	II
4	Non-ragi products are not procured by the government	68.90	III
5	It’s difficult to convince people to shift completely toward a millet diet	40.33	X
6	There are differences of opinion/ interest among the group members, that sometimes lead to conflicts/clash	44.18	IX
7	Lack of financial support during the crop failure or losses in enterprise	74.36	I
8	Untimely payback period of the produce in community-based organizations and marketing agencies	59.52	V
9	Men get the benefit of training, as trainings are not conducted according to the time suitability of women workers	32.85	XII
10	The quality of input is not good nor the services provided by extension personnel are up to the mark	17.38	XIV
11	The rental charges for machinery by CHCs are high	28.98	XIII
12	The hand operated machineries are time-consuming	65.71	IV
13	Millet processing units for value addition are not easily available	49.10	VIII
14	Difficult to make 100% pure millet-based products	59.96	VI

The visual presentation in fig.1 presents a comprehensive framework for milletpreneurship, the resulting suggestion is based on the synthesized insight from various studies and

comparing them with the constraint analysis. This analysis aims to provide a comprehensive view of the milletpreneurship and recommend strategies for further

fostering a conducive environment for sustainable enterprise development. The enablers foster the entrepreneurship journey facilitating and propelling the entrepreneurial journey. Conversely, the inhibitors represent areas of critical intervention and improvement to enhance the resilience and sustainability of the millet entrepreneurial ecosystem.

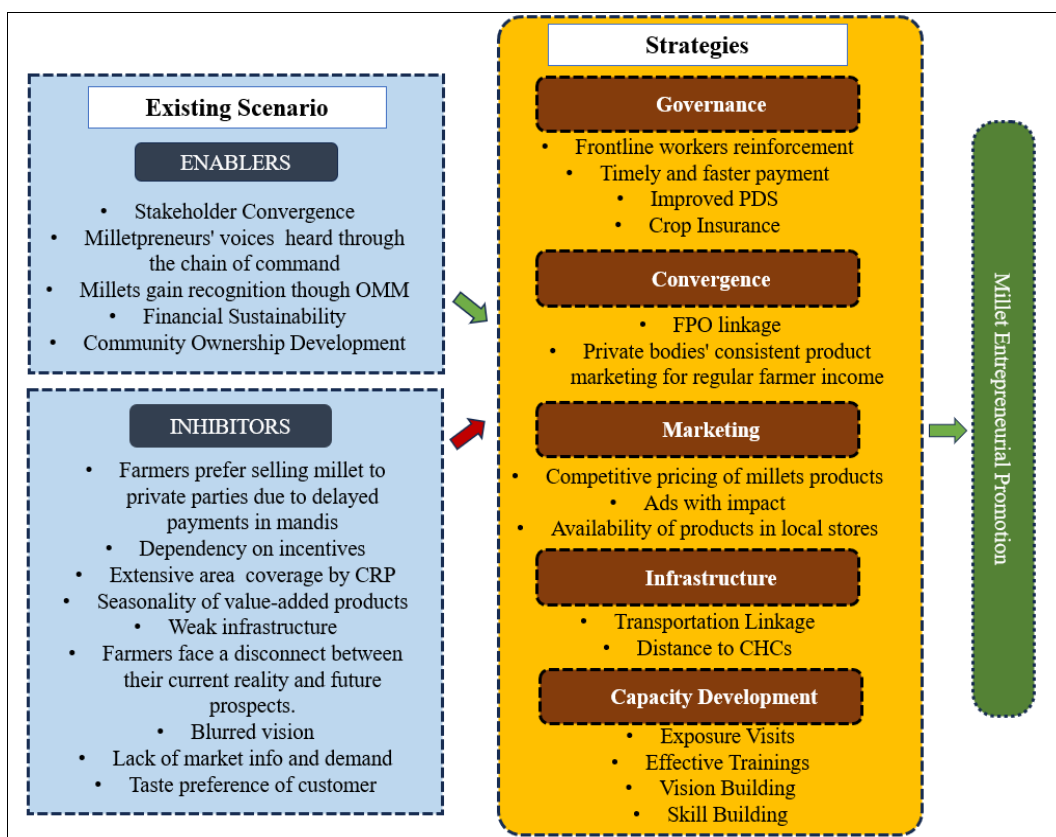
The entrepreneurial journey is inherently characterized by dynamic shifts (Newey and Shaker 2009) [13], the presence of an ill-defined market structure exacerbates the challenges faced by milletpreneurs, potentially hindering their growth and profitability. Due to the absence of timely payments, most of the milletpreneurs try to engage with private parties to sell at sub-optimal prices as they get direct in-hand cash after they sell it to the seller. Further, incentives have pushed milletpreneurs to initiate their business, a similar finding was found by Roman *et al.*, (2019) [14] but this has somehow lacked the vision for proper skill building, and due to this most of the enterprises failed soon after the handholding is over. Even most of the small milletpreneurs lack the proper vision to act in the long run, which limits their growth. Similar findings were reported by Gary and Faruk (2015) [15]. To address these issues timely capacity development programs are necessary.

Inadequate market infrastructure and distance market impact farmers. (Fischer and Qaim 2010) [16] A disconnected producer-market linkage system disrupts the continuous

flow of millet products to the market, thus restricting milletpreneurs income streams. Their reliance on sporadic scales at local seasonal fairs (*Mela*) limits their potential revenue generation. Integrating milletpreneurs with FPO (Farmer Producer Organizations) or other entities with global market access is crucial to expanding their market reach and enhancing their profitability (Khushwaha *et al.* 2023) [17].

The preference of the taste also plays a significant role in demand creation. High millet product pricing has limited the target audience. To fix this competitive pricing problem of millet, it is required to make it feasible to purchase for most people. Availability of these products in the local store with good packaging can attract more customers.

It can be inferred from Table 1 that finance unavailability is the major constraint faced by milletpreneurs which showcase that there are no such facilities available for crisis management of an enterprise. It can either be mitigated through insurance facilities, making the fund available at the right time with a simpler process, or by the creation of an emergency fund that can strengthen the enterprise and independent. Similarly, faster payment and improved PDS systems including procurement and storage can encourage millet farmers to sell them not just to keep them for self-consumption. All of these will help in promoting millet entrepreneurship and enhance profitability.



**Fig 1:** Strategic framework for milletpreneurship formation

**Conclusion**

India being the largest millet producer has now spearheaded millet promotion initiatives to revitalize millets by innovatively taking them from farm to fork. Millets being rich in nutrients provide health benefits, essential for climate

resilience, and have the potential to become future food by sustainably enhancing the food systems. Milletpreneurs who transform the millet produce face challenges like inadequate financial support, distance market and non-procurement of millets, and lack of timely payback. Fostering the vibrant

milletpreneurship ecosystem necessitates a multi-pronged approach addressing the identified enablers and inhibitors. Strengthening market infrastructure, ensuring timely payment, and improving producer-market linkages are critical to enhancing market access and profitability for milletpreneurs. Capacity development, vision building, competitive pricing, and product availability at the local stores, addressing financial constraints through various mechanisms can create a conducive environment for sustainable millet enterprise creation. Milletpreneurs can be empowered by these strategies while promoting the consumption of this sustainable crop, which can contribute significantly to the economic growth of the region.

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