

Economic Outcomes of Differently Abled Food-Processing Entrepreneurs in Central Kerala

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Abstract

Differently Abled Persons face persistent structural barriers to employment and livelihood opportunities, particularly in developing contexts (Jones & Latreille, 2011). Entrepreneurship, especially small home-based businesses, has emerged as a practical approach to economic inclusion (Cooney, 2008; Pagan, 2009). This study assesses the economic outcomes of people with disabilities involved in food-processing businesses in central Kerala (Palakkad, Thrissur, Kottayam, Ernakulam, and Idukki). Data were collected from 36 entrepreneurs using a structured questionnaire comprising 12 Likert-scale items measuring income change, financial stability, savings, and asset building. Reliability analysis showed excellent internal consistency ($\alpha = .912$). Exploratory factor analysis (Principal Component Analysis with Varimax rotation) yielded a clear three-factor structure: income improvement and stability, financial security and risk management, and saving and asset building, which explained 78.54% of the total variance. The KMO (.672) and Bartlett's test ($\chi^2(66) = 378.846$, $p < .001$) confirmed the suitability of the data. Descriptive statistics showed positive economic outcomes across all dimensions, with savings and asset formation scoring the highest. The findings provide empirical evidence that entrepreneurship in food processing improves the financial independence, resilience, and long-term economic capacity of people with disabilities in central Kerala.

Keywords: differently abled, food-processing, entrepreneurship, Kerala, economic outcomes

Introduction

In developing economies, differently abled persons face high levels of unemployment, social exclusion, economic insecurity, and limited participation in the labour market (Jones & Latreille, 2011; Singal, 2016). In India, despite policy frameworks that promote inclusion, differently abled persons continue to encounter significant barriers to formal employment due to mobility restrictions, workplace discrimination, and infrastructural deficiencies (Maroto & Pettinicchio, 2014). These challenges often lead them to opt for self-employment or small businesses that offer flexibility, remote work, and autonomy (Cooney, 2008; Pagan, 2009).

Entrepreneurship represents an important livelihood strategy for people with disabilities, as it adapts to diverse abilities and allows individuals to structure their work in ways that accommodate their physical, cognitive, or sensory limitations (Renko et al., 2016). Kerala, known for its strong social development indicators, decentralized governance structures, and active civil society networks, offers an enabling environment for small businesses, including those run by people with disabilities. In this context, the food-processing sector stands out as a viable and expanding livelihood option. It requires limited capital, facilitates home-based production, and integrates well with local agricultural supply chains (George & Nair, 2019).

Despite the potential of entrepreneurship, few empirical studies in India have systematically evaluated the economic outcomes of entrepreneurs with disabilities. Even fewer have focused

on specific sectors such as food processing, which has considerable local economic importance in Kerala. This lack of empirical evidence hinders the design of inclusive entrepreneurship policies, support programs, and monitoring mechanisms tailored to people with disabilities.

This study addresses this gap by analysing the economic outcomes of people with disabilities working in food-processing enterprises in central Kerala. The present study employs Exploratory Factor Analysis to validate a multidimensional scale of economic outcomes and quantify the perceived benefits in terms of income, financial security, savings, and wealth building.

Literature Review

Research shows that people with disabilities often choose entrepreneurship because of the functional flexibility and autonomy it offers. Cooney (2008) described entrepreneurs with disabilities as an underserved but resourceful segment capable of achieving sustainable livelihoods with the right support. Studies also indicate that people with disabilities are more likely to be self-employed than people without disabilities when barriers persist in formal labour markets. Pagan (2009) concluded that self-employment can effectively mitigate mobility restrictions and allow individuals to adapt work processes to their abilities. Furthermore, entrepreneurship can improve psychological well-being, self-esteem, and social participation. Renko, Parker Harris, and Caldwell (2016) demonstrated that people with disabilities actively participate in forming entrepreneurial intentions and gain non-economic benefits such as a sense of purpose and social connection.

Despite the potential benefits, entrepreneurs with disabilities face numerous barriers. Jones and Latreille (2011) highlighted limited access to credit, discriminatory attitudes from lenders, and inadequate training as key obstacles in the UK. Similar challenges have been documented globally: a lack of accessible workplaces, limited market connections, restricted mobility, and stigma continue to constrain entrepreneurial success. Employment disadvantage also affects asset accumulation and long-term financial stability (Maroto & Pettinicchio, 2014). In India, infrastructural limitations, a lack of information about government programs, and social prejudices pose additional obstacles. While Kerala's decentralised development model has made progress in social protection for people with disabilities, support for entrepreneurship among people with disabilities have only limited studies.

Food processing is a crucial subsector in India's unorganized manufacturing economy. It is characterised by low barriers to entry, easy access to raw materials, and compatibility with home-based production. For people with disabilities, these characteristics make food processing particularly suitable. In Kerala, the traditional production of snacks, pickles, masala powders, and bakery products constitutes a popular microenterprise. National programs such as the PM Formalization of Micro Food Processing Enterprises (PMFME) offer subsidies and training, but evidence on their impact on entrepreneurs with disabilities is limited.

The economic outcomes of entrepreneurship include both immediate and long-term dimensions, such as increased income, financial stability, financial security, savings, and asset accumulation. Previous studies on economic empowerment (Malhotra & Schuler, 2005) emphasize multidimensional rather than unidimensional measurement frameworks. Factor analysis approaches are used to validate such dimensions. While these methods have been applied to women's empowerment, microfinance clients, and rural entrepreneurs, their

application to differently abled entrepreneurs remain limited. This study fills this methodological and empirical gap.

Objectives of the Study

1. To understand the socio-economic demographic profile of respondents in the study area.
2. To identify the underlying dimensions of economic outcomes using Exploratory Factor Analysis.
3. To describe the levels of perceived economic outcomes among differently-abled food-processing entrepreneurs.

Research Design

The present study followed a descriptive and exploratory research design to examine the economic outcomes of differently abled individuals engaged in food-processing enterprises in central Kerala. A descriptive approach was used to understand the demographic profile and of the respondents in the study area while an exploratory design was adopted to identify the underlying dimensions of economic outcomes using Exploratory Factor Analysis (EFA).

The study was conducted in the central districts of Kerala, namely Palakkad, Thrissur, Kottayam, Ernakulam, and Idukki. A total of 36 differently abled individuals engaged in food-processing enterprises were selected using purposive sampling. Data were collected through a structured questionnaire, and the analysis was carried out using SPSS. The statistical tools employed included descriptive statistics, Cronbach's alpha for reliability, the Kaiser–Meyer–Olkin (KMO) measure and Bartlett's test for sampling adequacy, and Exploratory Factor Analysis (Principal Component Analysis with Varimax rotation) to identify the underlying dimensions of economic outcomes.

Analysis of Data

Table:1 Demographic Profile of Respondents in the Study Area

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Male	10	27.8	27.8	27.8
	Female	26	72.2	72.2	100.0
	Total	36	100.0	100.0	
Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
	18-25	3	8.3	8.3	8.3
	26-35	13	36.1	36.1	44.4
	36-45	11	30.6	30.6	75.0
	46-55	9	25.0	25.0	100.0
	Total	36	100.0	100.0	
Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Illiterate	4	11.1	11.1	11.1
	School leve	26	72.2	72.2	83.3
	College level	3	8.3	8.3	91.7
	Professional	1	2.8	2.8	94.4

	Diploma	2	5.6	5.6	100.0
	Total	36	100.0	100.0	
Family					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Nuclear	24	66.7	66.7	66.7
	Intermediate	12	33.3	33.3	100.0
	Total	36	100.0	100.0	
Years in business					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Upto 1 year	9	25.0	25.0	25.0
	1-3 years	8	22.2	22.2	47.2
	Above 3 years	17	47.2	47.2	94.4
	4	2	5.6	5.6	100.0
	Total	36	100.0	100.0	
Monthly Income					
		Frequency	Percent	Valid Percent	Cumulative Percent
	Upto 10000	10	27.8	27.8	27.8
	10001-20000	18	50.0	50.0	77.8
	20001-30000	8	22.2	22.2	100.0
	Total	36	100.0	100.0	

Source: Primary Data

The demographic profile shows that the majority of respondents were women (72.2%), while men accounted for 27.8%. This pattern reflects the general trend in Kerala, where women frequently participate in home-based food-processing activities due to cultural norms, domestic responsibilities, and the suitability of food businesses for home environments (George & Nair, 2019). Regarding the age distribution, the majority of respondents were in the 26–35 age group (36.1%) and the 36–45 age group (30.6%), indicating that middle-aged adults form the core of the entrepreneurial sector. This is consistent with previous findings suggesting that people in their productive middle years are more likely to engage in self-employment, particularly when barriers to formal employment exist for people with disabilities (Pagan, 2009).

Regarding educational qualification 72.2% had completed schooling, while only a small proportion had attained university (8.3%) or professional (2.8%) education. This aligns with evidence that micro-entrepreneurs in the informal sector typically start businesses with basic or moderate levels of education rather than advanced qualifications (Suresh & Ram, 2020). With regard to family structure around 66.7% belonged to nuclear families which may influence their business decisions.

Regarding entrepreneurial experience, 47.2% of respondents had managed their businesses for more than three years, reflecting stability and continuity in their business activity. Meanwhile, 25% had up to one year of experience, indicating the presence of new entrants in the sector. Monthly income data reveal that half of the respondents (50%) earned between ₹10,001 and ₹20,000, while 27.8% earned up to ₹10,000 and 22.2% earned between ₹20,001 and ₹30,000. This suggests that food-processing entrepreneurs with disabilities generally achieve modest but stable income levels, an expected outcome for small, home-based businesses (Cooney, 2008).

Overall, the demographic characteristics highlight that food processing provides an accessible and economically significant livelihood option for people with disabilities in central Kerala.

Table.2 Reliability Analysis

Item	No. of Items	Cronbach's Alpha
Overall Cronbach's Alpha	12	0.912
Income Improvement & Stability	5	0.919
Financial Security	4	0.809
Savings	3	0.728

Source: Primary Data

Reliability analysis was conducted to assess the internal consistency of the overall scale and its sub factors, which measure the economic outcomes and challenges of entrepreneurs with disabilities in food processing. The 12-item overall scale yielded a Cronbach's alpha of 0.912, which indicates good internal consistency. According to Nunnally (1978), a Cronbach's alpha value of 0.70 or above is considered acceptable for social science research, confirming that the complete set of items measures the intended constructs.

The subscale Income Improvement and Stability, consisting of 5 items, showed an alpha value of 0.919, which reflects excellent reliability. Such a high coefficient indicates that the items measuring income variation, income regularity, and overall financial improvement are strongly correlated and consistently measure the same underlying dimension. The Financial Security factor, which contains 4 items, also demonstrated strong internal consistency ($\alpha = 0.809$), suggesting that the items effectively capture respondents perceived financial protection, their preparedness for emergencies, and their risk-management capabilities.

The Savings factor, composed of 3 items, have an alpha of 0.728, which falls within the acceptable range for exploratory research. This supports the reliability of the items that assess consistent saving behaviour and reinvestment practices.

Overall, the reliability results demonstrate that the instrument exhibits an excellent internal consistency in most dimensions. This confirms that the scale is reliable for analysing the economic outcomes of food-processing entrepreneurs with disabilities in central Kerala.

Exploratory Factor Analysis

An exploratory factor analysis was performed using principal component analysis with Varimax rotation to identify the underlying dimensions of the economic outcomes scale. Sampling adequacy was assessed using the KMO and Bartlett's test.

Table 3. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.672	
Bartlett's Test of Sphericity	Approx. Chi-Square	378.846
	df	66
	Sig.	.000

Source: Primary Data

The KMO value (0.672) indicates acceptable sampling adequacy, and Bartlett's test is significant ($p < 0.001$), confirming that the dataset is suitable for factor analysis (Hair et al., 2010). The Varimax-rotated factor solution identified three components.

Table:4. Rotated Component Matrix

	Component		
	1	2	3
My income has increased after starting my food-processing business.	.852		
My business provides a regular and stable income.	.750		
I feel financially more secure after starting my enterprise.	.752		
My monthly income has become more predictable.	.842		
I earn more than I did before starting entrepreneurship.		.692	
I am able to meet household expenses more comfortably.		.605	
My business has improved my ability to manage financial risks.		.880	
I am able to handle emergencies better due to my business income		.873	
Entrepreneurship has improved my long-term economic prospects.		.791	
I am able to save money consistently.			.849
My business has helped me acquire assets			.825
I can reinvest profits into my business.			.672
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

Source: Primary Data

The KMO value (0.672) indicates acceptable sampling adequacy, and Bartlett's test is significant ($p < 0.001$), confirming that the dataset is suitable for factor analysis (Hair et al., 2010).

Factor 1 Income Improvement and Stability

This factor includes variables related to increased income, regular and predictable income, and overall household financial support. Respondents experienced notable improvements in their short-term financial stability.

Factor 2: Financial Security and Risk Management

This factor includes emergency management capabilities, risk management, and long-term economic prospects. The results indicate that entrepreneurship in the food-processing sector improves the financial resilience of people with disabilities.

Factor 3: Savings and Wealth Accumulation

This factor includes saving, acquiring assets, and reinvesting profits. Respondents demonstrated better long-term financial planning and wealth creation.

Table 5: Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.459	53.828	53.828	6.459	53.828	53.828	3.811	31.759	31.759
2	1.750	14.587	68.415	1.750	14.587	68.415	3.541	29.512	61.270
3	1.214	10.120	78.535	1.214	10.120	78.535	2.072	17.264	78.535

Extraction Method: Principal Component Analysis.

Source: Primary Data

The identified three factors collectively explain 78.53% of the total variance, indicating a strong factor solution. The structure confirms the economic performance scale effectively

measures three distinct dimensions relating to the economic outcomes of food-processing units operated by differently abled entrepreneurs.

Discussion

The study's findings provide strong evidence that food-processing entrepreneurship has a positive economic impact on people with disabilities in central Kerala. The three-factor structure derived from exploratory factor analysis, viz, Income Improvement and Stability, Financial Security and Risk Management, and Savings and Wealth Accumulation indicates that entrepreneurship contributes not only to increased short-term income but also to long-term economic empowerment.

The first factor, Income Improvement and Stability, shows that respondents experienced increases in their income, greater predictability of that income, and an improved ability to cover household expenses. These results are consistent with previous studies that highlight entrepreneurship as a viable path to financial independence for people with disabilities (Cooney, 2008; Pagan, 2009). The income stability observed in this study suggests that food-processing activities, being home-based and flexible, are well-suited to differently abled persons.

The second factor, Financial Security and Risk Management, demonstrates that respondents acquired a greater capacity to manage risks, handle emergencies, and perceive improvements in long-term economic prospects. This aligns with the findings of Renko et al. (2016), who highlighted that entrepreneurship not only fosters economic benefits but also enhances self-confidence and a sense of control over life's circumstances. The ability to withstand financial crises is important for people with disabilities, who often face higher healthcare costs and greater exclusion in the labour market (Maroto & Pettinicchio, 2014).

The third factor, Savings and Wealth Accumulation, highlights improvements in systematic saving habits, asset acquisition, and profit reinvestment. This suggests that entrepreneurship allows respondents to move beyond subsistence income and achieve gradual asset accumulation. These results are vital to long-term financial inclusion and align with prior frameworks emphasizing multidimensional economic empowerment (Malhotra & Schuler, 2005).

Overall, the findings reveals that food-processing entrepreneurship offers a viable economic opportunity for differently abled people in Kerala, providing both immediate and sustained financial benefits. Demographic profiles, such as high female participation and strong representation of middle-aged adults, further suggest that this sector promotes inclusion across diverse demographic groups.

Conclusion

The study examined the economic outcomes of people with disabilities working in food processing entrepreneurial ventures in central Kerala and identified three main dimensions that contribute to their economic well-being: income improvement and stability, financial security and risk management, and saving and wealth accumulation. Reliability and factor analysis confirmed that the scale used is consistent and valid for assessing these economic outcomes.

The findings indicate that entrepreneurship in the food-processing sector provides significant economic benefits to people with disabilities, helping them generate stable income, improve their financial security, and build long-term economic assets. These results are a clear evidence

that food-processing businesses represent an accessible and effective livelihood option, especially given the flexibility and home-based nature of the work.

The study also highlights the need for targeted policy interventions to strengthen inclusive entrepreneurship for differently abled people in Kerala. Improving access to credit, training, market linkages, and support infrastructure can further empower entrepreneurs with disabilities and reduce barriers to business growth. Furthermore, government programs and community initiatives, to monitor economic progress and identify areas for support.

While the findings provide valuable information, they are based on a relatively small sample and focus exclusively on the food-processing sector. Future research could benefit from broader comparative studies across different sectors and regions, as well as longitudinal approaches to monitor economic progress over time.

To conclude, the study establishes that entrepreneurship in food processing has significant potential to promote economic independence, stability, and long-term financial growth among differently abled persons in central Kerala, contributing to a more inclusive and equitable economic environment.

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