

# Banana Fibre Handicraft Entrepreneurship: Value Addition and Sustainable Livelihoods in Dindigul District, Tamil Nadu

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## Abstract

Banana is one of the significant horticultural crops grown in Tamil Nadu including Dindigul District in which the varieties Poovan, Robusta, Rasthali and Nendran are grown extensively. After harvesting the banana pseudostem is usually thrown away when its fibre value can be converted into handicrafts, home decoration materials, bags, baskets, mats and other eco-friendly useful products. The ICAR–National Research Centre for Banana (NRCB) and the Khadi and Village Industries Commission (KVIC) and MSME development programmes have shown that extracting fibres from bananas and value adding them can generate employment, empower women entrepreneurs and give rise to a circular economy, by creating marketable products from agricultural waste.

Entrepreneurship based on banana fibre has been found as a viable business activity for the rural poor creating income generation, environmental protection, women empowerment and rural industrialization. Despite these achievements, entrepreneurs are still challenged by their limited awareness of modern technologies, lack of adequate financial support, inadequate marketing channels, weak branding and limited export opportunities. This study aimed to examine the impact of Value addition on Sustainable Livelihoods of Banana fibre Handicrafts Entrepreneurs of Dindigul District.

The research subjects were 32 banana fibre handicraft entrepreneurs who were taken using convenience sampling technique. The data were gathered through a structured questionnaire of 25 5-point Likert statements, which was structured for the primary data collection. The relationship between value addition practices and sustainable livelihoods was analyzed by descriptive statistics and Pearson Correlation analysis in the SPSS program.

The study shows that the banana fibre products have a significant and meaningful contribution to the entrepreneurial income, employment creation, environmental sustainability and rural livelihood. It suggests strengthening skill development programmes, common processing centres, digital marketing, financial assistance and branding and market linkages to encourage sustainable entrepreneurship in Dindigul district.

**Keywords:** Banana Fibre, Entrepreneurship, Sustainable Livelihood, Value Addition, Eco friendly product, Rural development, Handicraft Artisan.

## 1. Introduction

Banana is one of the leading crops in India and even it has a significant role in the global cultivation of bananas. Tamilnadu is one of the major banana producing states with significant contribution from Dindigul District as a result of wide spread cultivation in multiple blocks and villages of the District. Although it's a great economic crop, a lot of agriculture waste, in the form of pseudostems, leaf sheaths and fibres, are thrown away after harvest. Traditionally, these residues have been considered wastes, resulting in concerns about environmental pollution and extra waste disposal expenses for farmers.

The recent technological advances have shown that the banana pseudostem fibre has high mechanical properties such as strength, durability, flexibility, biodegradability and aesthetic appeal, which can be utilized for the production of eco-friendly handicrafts, fashion accessories, home furnishings, decorative products and eco-friendly packaging materials. As a result, banana fibre is now playing a significant role as a raw material in the development of green entrepreneurship and rural industrialisation. To support rural women and self-help groups to process banana biomass into marketable products and earn income, government agencies have increasingly promoted training programmes to improve agricultural waste.

Handicrafts are among the oldest traditional industries in India and help to maintain the cultural heritage and, at the same time, provide jobs to millions of artisans. Banana fibre is one of the natural fibres recognised recently for its renewable nature, environmental friendly and its various commercial applications in handicraft production. Individual items like baskets, handbags, flower vases, lampshades, table mats, storage boxes, decorative objects, wall hangings, coasters, folders, gift goods and packaging for the environment have increasingly found their way into the retail sector, both nationally and internationally, in recent years. (T, 2026)

Value addition involves converting raw agricultural products to commercial products of greater value by processing, design innovation, packaging, branding, product quality and marketing. Value addition adds to the value of the products, generates jobs and makes rural businesses more profitable. Entrepreneurs can now extract fibres from banana pseudostems instead of discarding them as waste and make high-quality handicraft products with high market prices, and sustainable use of resources.

Sustainable livelihood is the capacity of people and communities to earn a living, to get a job or to obtain food and other necessities of life while ensuring that natural resources are available to benefit future generations. The banana fibre entrepreneurship helps directly to achieve sustainable livelihood through job generation, women empowerment, poverty reduction, generation of self-employment and environmentally responsible production system throughout the year. The use of agricultural waste is also aligned with the goals of the circular economy and the Sustainable Development Goals (SDG), including SDG 1 (No Poverty), SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action).

Over the years, a number of institutions have embarked on programs to support entrepreneurship in the banana fibre sector. ICAR–National Research Centre for Banana (NRCB), Tiruchirappalli, has organized special training programmes for the women entrepreneurs on banana fibre extraction, handicraft production and value addition. Likewise, KVIC has also been associated with NRCB for providing financial assistance, technical support and entrepreneurship development support under Gramodyog Vikas Yojana for providing the machinery. The government has also helped advance mechanised extraction of banana fibre to boost productivity and enhance the incomes of the farmers.

Although there are positive developments, the banana fibre entrepreneurs in Dindigul District are facing a number of issues in their operations. Business expansion is hampered by limited awareness of branding,

digital marketing, export opportunity, financial assistance and advanced product development. The growth of this sector is further limited by inadequate infrastructure, fluctuating market demand, less availability of organised retail markets and competition from synthetics.

Banana fibre based handicraft clusters have a great potential in Dindigul District due to its agricultural base, availability of raw materials, active women's SHG's, rural entrepreneurship programme and close proximity to the markets. The promotion of Banana fibre enterprises can provide a way to diversify the income of the rural population, generate green jobs, boost entrepreneurship among women, and minimize the waste of agricultural produce in the same time.

Hence this study aimed to investigate the relationship between value addition practices and sustainable livelihoods with banana fibre handicraft entrepreneurs in Dindigul District. The results will offer valuable information for policy makers, entrepreneurs, financial institutions, researchers, and development organizations in the field of rural enterprises and their impact on the environment.

## **2. Objectives**

- To study socio-economic profile of banana fibre handicraft entrepreneurs in Dindigul District.
- To study the value addition practices in banana fibre handicraft production.
- To evaluate the contribution of banana fibre entrepreneurship towards sustainable livelihoods.
- To find out the problem areas of banana fibre handicraft entrepreneurs.
- To explore the relationship between Value addition and Sustainable liveliness.
- To recommend appropriate policy interventions to encourage entrepreneurship of banana fibre.

## **3. Scope of the Study**

Handicrafting of banana fibre in Dindigul District.

Manufacturers of value added fibre products from bananas.

Evaluation of innovations, value addition, marketing and income generation.

Employment opportunities generated by the banana fibre enterprises analysed.

Assessment of indicators of sustainable livelihood.

An analysis of government support programmes and entrepreneurship development programmes.

Future market opportunities for eco friendly handicraft product.

The results will help in shaping strategies by the rural development agencies, financial institutions, MSMEs, NGOs and the policy makers to support sustainable banana fibre entrepreneurship.

## **4. Nature of the Study**

This study is empirical, descriptive and analytical.

Empirical, on the basis of primary data gathered from the entrepreneurs.

Descriptive, because it describes the socio-economic characteristics, entrepreneurial practices, and business performance.

Analytical, in that the relationship between value addition and sustainable livelihood is examined using statistical tools.

The study uses both qualitative and quantitative aspect in order to comprehend the contribution of banana fibre handicraft entrepreneurship towards sustainable rural development.

## 5. Restrictions of the Study

There are only 32 respondents in the sample.

The data on which the findings are based were obtained from the respondents based on their perception gained from the use of structured questionnaires.

Due to time and cost constraints, coverage was limited to a wider geographic area.

The secondary information was obtained from the available government reports, journals and institutional publications.

The changes in the government policies and market conditions post study period are not included in this research.

## 6. Research Gap

Because of its eco-friendly attributes, biodegradability and commercial value, Banana fibre is becoming more and more popular in recent years. A number of studies have been done on the extraction of banana fibre, its use in fabric manufacturing, natural fibre composite, women empowerment and sustainability. Yet empirical research on banana fibre handicraft entrepreneurship especially on the aspects of rural entrepreneurship and livelihood development aspect is limited.

The majority of previous studies have focused on:

Mechanical/Manual fibre extraction procedures.

Physical and chemical properties of banana fibre.

Applications into textile and composite material applications.

Waste management and environmental sustainability.

Women's Self-Help Groups (SHGs) and Rural employment.

Very few studies have analysed:

Value addition in the production of banana fibre handicraft.

Banana fibre entrepreneurship innovation.

Market opportunities and commercialization.

Earning cash and making a living.

Problems faced by the entrepreneurs in Dindigul District, Tamilnadu.

The statistical analysis was made based on the primary data collected from the banana fibre entrepreneurs. Therefore, there is a huge gap in research to understand the contribution of value addition in banana fibre handicrafts to sustainable livelihood in the Dindigul district. The present study tries to address the gap by using primary data collected from entrepreneurs and analysing the relationship between value addition and sustainable livelihoods using statistical tools.

## 7. Review of Literature

### 1. Mallika Karthick and Sridevi (2025)

The authors developed an innovative business model for banana fibre entrepreneurship in Tamil Nadu. Their study highlighted the importance of utilizing banana pseudostems for producing eco-friendly handicrafts, thereby increasing farmers' income while reducing agricultural waste. The research emphasized value addition, entrepreneurship development, and sustainable rural livelihoods

### 2. ICAR–National Research Centre for Banana (2024)

ICAR–NRCB conducted specialized training programmes on banana fibre extraction and handicraft production. The programme demonstrated that converting banana waste into commercial handicraft

products significantly enhances women entrepreneurship, employment generation, and sustainable rural development.

### **3. Jayalakshmi et al. (2024)**

The researchers investigated the challenges faced by banana fibre craftswomen in South India. They found that inadequate market access, limited branding, insufficient financial support, and lack of product innovation remain major barriers to enterprise growth despite increasing consumer demand for eco-friendly products.

### **4. Heliyon Journal (2024)**

This study evaluated mechanically extracted banana fibres from different pseudostem layers. The research concluded that banana fibre possesses excellent tensile strength, flexibility, and durability, making it suitable for handicrafts, home furnishings, textiles, and composite materials.

### **5. Journal of Cleaner Production (2024)**

The study examined sustainable yarn and fabric production from banana fibres and highlighted the environmental benefits of utilizing agricultural residues. The authors emphasized that banana fibre industries contribute to circular economy practices and waste reduction.

### **6. Journal of Natural Fibers (2024)**

Researchers analysed the mechanical properties of banana fibre fabrics and reported high durability, biodegradability, and consumer acceptance. The study suggested expanding commercial applications into handicrafts and eco-friendly lifestyle products.

### **7. KVIC and ICAR Collaborative Initiative (2024)**

The Khadi and Village Industries Commission, in collaboration with ICAR–NRCB, introduced banana fibre extraction machinery and entrepreneurship development programmes under Gramodyog Vikas Yojana. The initiative demonstrated the economic feasibility of banana fibre enterprises in rural India.

### **8. Ministry of MSME (2024)**

The Ministry emphasized that rural entrepreneurship based on agricultural waste offers significant employment opportunities. Support through MSME schemes, cluster development, and skill enhancement programmes can strengthen banana fibre enterprises.

### **9. Ministry of Textiles (2024)**

The Ministry reported growing international demand for eco-friendly handicrafts and natural fibre products. It recommended branding, export promotion, digital marketing, and product diversification for sustainable handicraft entrepreneurship.

### **10. NITI Aayog (2024)**

NITI Aayog highlighted rural entrepreneurship as an important strategy for achieving inclusive economic development. The report emphasized innovation, skill development, digital marketing, financial inclusion, and value addition for improving rural livelihoods. (T, Impact of Workforce Skill Development on Cost Optimization in Logistics Operations: An Analytical Study, 2026)

A summary of the literature review is presented. A literate overview is provided. The analyzed studies suggest that banana fibre entrepreneurship has a great potential in creating job opportunities, sustainable environment and enhancing rural livelihoods. However, much of the previous studies have been on the technical issues of fibre extraction and not on entrepreneurial development. The evidence of value added, marketing strategies and income generation results of the banana fibre handicraft entrepreneurs is limited in Dindigul District. The present research fills in these gaps by utilizing primary survey data.

## 8. Research Methodology

### Research Type

Empirical Research

Descriptive Research

Analytical Research

### Study Area

This study was carried out in Dindigul district, Tamilnadu where banana farming and rural handicraft activity is prevalent.

### Population

Banana fibre handicraft entrepreneurs who are involved in production and marketing of value added products.

### Sample Size

32 entrepreneurs

### Sampling Technique

Convenience Sampling Method

### Sources of Data

#### Primary Data

- Structured Questionnaire
- Personal Interaction

#### Secondary Data

- Research Journals
- Government Reports
- Ministry of Textiles Publications
- ICAR–NRCB Reports

### Measurement Scale

Five-point Likert Scale

Strongly Disagree 1 Disagree 2 Neutral 3 Agree 4 Strongly Agree 5

### Statistical Tools

The collected data were analysed using SPSS.

#### The statistical tools include:

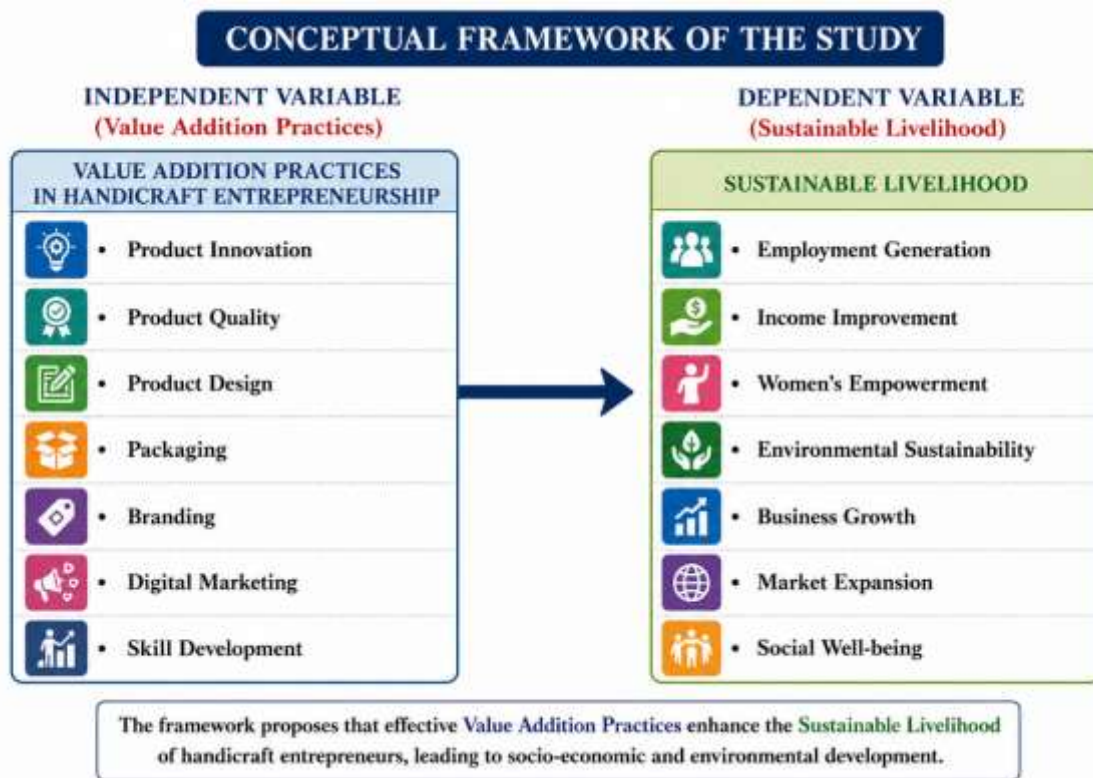
- Percentage Analysis
- Mean
- Standard Deviation
- Pearson Correlation Analysis

## 9. Research Design

| Particular        | Description                   |
|-------------------|-------------------------------|
| Research Design   | - Descriptive Research Design |
| Research Approach | - Quantitative                |
| Study Area        | - Dindigul District           |
| Sample Size       | - 32                          |
| Sampling Method   | - Convenience Sampling        |

|                      |   |                                                |
|----------------------|---|------------------------------------------------|
| Data Collection      | - | Structured Questionnaire                       |
| Scale Used           | - | Five-point Likert Scale                        |
| Statistical Software | - | SPSS Version 26                                |
| Statistical Tool     | - | Descriptive Statistics and Pearson Correlation |

## 10. Conceptual Framework



## 11. Hypothesis

Null Hypothesis ( $H_0$ )

There is no significant relationship between value addition practices and sustainable livelihoods among banana fibre handicraft entrepreneurs in Dindigul District.

Alternative Hypothesis ( $H_1$ )

There is a significant positive relationship between value addition practices and sustainable livelihoods among banana fibre handicraft entrepreneurs in Dindigul District.

## 12. Data Analysis and Interpretation

The primary data were collected through a structured questionnaire with 25 statements on 5 point Likert scale from 32 banana fibre handicraft entrepreneurs of Dindigul District. SPSS was used to analyse the responses. Descriptive statistics and Pearson correlation analysis were used to analyse the relationship between value addition practices and sustainable livelihoods.

The socio-economic profile of the respondents (N = 32) is presented as follows:

**Table 12.1 Gender of the Respondents**

| Gender | Frequency | Percentage (%) |
|--------|-----------|----------------|
| Male   | 10        | 31.3           |

| Gender       | Frequency | Percentage (%) |
|--------------|-----------|----------------|
| Female       | 22        | 68.7           |
| <b>Total</b> | <b>32</b> | <b>100.0</b>   |

### Interpretation

Most of the respondents (68.7%) were women entrepreneurs which showed that banana fibre handicraft entrepreneurship is mainly promoted by women participation and Self-Help Groups in Dindigul District.

**Table 12.2 Age-wise Distribution**

| Age Group      | Frequency | Percentage (%) |
|----------------|-----------|----------------|
| Below 30 Years | 7         | 21.9           |
| 31–45 Years    | 16        | 50.0           |
| Above 45 Years | 9         | 28.1           |
| <b>Total</b>   | <b>32</b> | <b>100.0</b>   |

### Interpretation

The economically active age group (31-45 years) represented half of the respondents, indicating high entrepreneurial involvement among middle aged artisans.

**Table 12.3 Educational Qualification**

| Qualification    | Frequency | Percentage (%) |
|------------------|-----------|----------------|
| School Education | 13        | 40.6           |
| Undergraduate    | 12        | 37.5           |
| Postgraduate     | 7         | 21.9           |
| <b>Total</b>     | <b>32</b> | <b>100.0</b>   |

**Table 12.4 Entrepreneurial Experience**

| Experience     | Frequency | Percentage (%) |
|----------------|-----------|----------------|
| Below 5 Years  | 10        | 31.3           |
| 5–10 Years     | 14        | 43.8           |
| Above 10 Years | 8         | 25.0           |
| <b>Total</b>   | <b>32</b> | <b>100.0</b>   |

A Five-Point Likert Scale is used.

Strongly Agree – 5 Agree – 4 Neutral – 3 Disagree – 2 Strongly Disagree – 1

## 12.5 Descriptive Statistics

| S. No. | Statement                                     | Mean | S.D. |
|--------|-----------------------------------------------|------|------|
| 1      | Banana fibre products have good market demand | 4.38 | 0.58 |
| 2      | Value addition enhances product value         | 4.56 | 0.50 |

| S. No. | Statement                                                      | Mean        | S.D.        |
|--------|----------------------------------------------------------------|-------------|-------------|
| 3      | Product innovation improves competitiveness                    | 4.34        | 0.63        |
| 4      | Attractive packaging increases sales                           | 4.28        | 0.61        |
| 5      | Branding builds customer trust                                 | 4.25        | 0.66        |
| 6      | Quality enhancement attracts customers                         | 4.41        | 0.56        |
| 7      | Government training improves entrepreneurs' skills             | 4.06        | 0.70        |
| 8      | Financial support is adequate                                  | 3.59        | 0.81        |
| 9      | Raw materials are easily available                             | 4.22        | 0.65        |
| 10     | Production technology improves efficiency                      | 4.19        | 0.68        |
| 11     | Banana fibre products create employment opportunities          | 4.44        | 0.55        |
| 12     | Women actively participate in production                       | 4.47        | 0.51        |
| 13     | Digital marketing helps increase sales                         | 4.31        | 0.62        |
| 14     | Online platforms create market opportunities                   | 4.28        | 0.66        |
| 15     | Customer awareness of banana fibre products is increasing      | 3.88        | 0.74        |
| 16     | Export opportunities are improving                             | 3.71        | 0.78        |
| 17     | Entrepreneurship increases family income                       | 4.50        | 0.51        |
| 18     | Business profitability has increased                           | 4.25        | 0.60        |
| 19     | Banana fibre enterprises reduce agricultural waste             | 4.63        | 0.49        |
| 20     | Eco-friendly products attract customers                        | 4.53        | 0.50        |
| 21     | Sustainable practices contribute to environmental protection   | 4.47        | 0.57        |
| 22     | Government schemes support entrepreneurship                    | 3.91        | 0.78        |
| 23     | Skill development programmes are beneficial                    | 4.16        | 0.67        |
| 24     | Overall livelihood has improved                                | 4.41        | 0.56        |
| 25     | Banana fibre entrepreneurship promotes sustainable livelihoods | 4.50        | 0.51        |
|        | <b>Overall Mean</b>                                            | <b>4.29</b> |             |
|        | <b>Overall Standard Deviation</b>                              |             | <b>0.61</b> |

## Interpretation

The overall mean score of 4.29 showed that there was high level of agreement among the respondents on the positive contribution of banana fibre handicraft entrepreneurship towards value addition, income generation, employment, environmental sustainability and livelihood improvement.

A lower mean score for financial assistance (3.59) indicates that financial support is still not quite easy.

## 12.6 SPSS Analysis

### Pearson Correlation Analysis

To explore the link between Value Addition Practices and Sustainable Livelihood.

Table 12.7 Pearson Correlation

| Variables              | Value Addition | Sustainable Livelihood |
|------------------------|----------------|------------------------|
| Value Addition         | 1.000          | 0.768**                |
| Sustainable Livelihood | 0.768**        | 1.000                  |
| Sig. (2-tailed)        | —              | 0.000                  |
| N                      | 32             | 32                     |

### Interpretation

There is a strong positive relationship between value addition practices and sustainable livelihood which is shown by Pearson correlation coefficient ( $r = 0.768$ ).

A significance value of  $p = 0.000$ , is below the 5% significance level (0.05).

Therefore,

The null hypothesis ( $H_0$ ) is rejected.

Alternative Hypothesis ( $H_1$ ): It is accepted.

Therefore, the value addition practice is a significant factor in sustainable livelihood of the banana fibre handicraft entrepreneurs.

### 12.8 Summary of Data Analysis.

| Analysis                    | Result                  |
|-----------------------------|-------------------------|
| Sample Size                 | 32                      |
| Questionnaire               | 25 Statements           |
| Scale                       | Five-point Likert Scale |
| Overall Mean                | 4.29                    |
| Pearson Correlation ( $r$ ) | 0.768                   |
| Significance ( $p$ -value)  | 0.000                   |
| Hypothesis                  | Accepted                |

### Discussion

The results show that the banana fibre handicrafts as a rural livelihoods option is gaining a momentum in Dindigul District. The majority of the respondents recognized the value added creation in innovative product design, quality improvement, branding and digital marketing strategies for improving business performance. The sector is dominated by women entrepreneurs as a result of the efforts of the Self-Help Groups and rural enterprise programmes.

The positive correlation between value addition and sustainable livelihood shows that product innovation, product branding and market-oriented activities is beneficial to the income, employment and sustainability of the business of the entrepreneur. But lower scores on financial assistance and export opportunities show that there are still ongoing challenges that need policy solutions.

The findings align with recent research highlighting the importance of value added banana fibre businesses for rural development, environmental sustainability and income diversification in the production of

sustainable products from agricultural wastes. Based on these findings it is suggested that banana fibre handicrafts can be used as a good model for sustainable entrepreneurship in Tamil Nadu.

### **13. Findings**

#### **Socio-Economic Findings**

Out of 32 persons responded, 68.7 per cent of them were women entrepreneurs shows the role of women's Self-Help Group in banana fibre handicraft industries.

Most (50%) were in the age group of 31-45, which corresponds to economically active age group.

The respondents with education of school level were about 40.6% and the ones with undergraduate level education were 37.5%.

The level of business maturity was moderate, with almost 43.8% having between 5 and 10 years experience as an entrepreneur.

#### **Value Addition Findings**

A majority of the respondents were strongly agree that value addition improves product quality and customer satisfaction.

The innovations and/or appealing designs of products are significant contributors to market demand.

Consumer acceptance of eco-friendly banana fibre based products is positive.

Product competitiveness is enhanced by packaging and branding.

Quality improvement allows entrepreneurs to sell at a higher price.

#### **Marketing Findings**

Digital marketing has a positive impact on product visibility and reach to consumers.

Social media is a great way for entrepreneurs to find new customers.

Handicraft exhibitions bring about higher sales.

Online marketplaces open up broader marketing opportunities.

Gradually, banana fibre handicrafts have an export potential.

#### **Sustainable Livelihood Findings**

Entrepreneurship based on banana fibre creates extra jobs.

Women entrepreneurship plays an important role in earning income and financial independence to the family.

The utilization of the banana pseudostem helps to decrease agricultural wastes and promote environmental sustainability.

Value added products are very useful to enhance household income.

Entrepreneurs said that their business was more stable and secured their livelihood.

Entrepreneurship has been improved through government training programs but there is still a lack of access to finance.

#### **Statistical Findings**

The mean score on the overall Likert Scale was 4.29, which shows a high level of agreement of the benefits of banana fibre entrepreneurship.

Pearson Correlation coefficient ( $r = 0.768$ ) revealed a strong positive relationship between value addition and sustainable livelihood.

The significance value ( $p = 0.000$ ) was less than 0.05, therefore the alternative hypothesis was accepted.

Value addition is a major factor that affects income generation, employment generation and sustainability of businesses.

Handicraft entrepreneurship using banana fibre is significant towards the economic development of the rural areas in Dindigul District.

#### 14. Suggestions

##### **Entrepreneurship Development**

Organize Entrepreneurship Development Programs periodically on the banana fibre handicrafts.

Conduct advanced skill development programmes on innovative product design.

Promote youth involvement in ecodriven hand crafts business.

##### **Financial Support**

Make MSME loans and Mudra loans easily accessible.

Offer financial support at low interest rates for the purchase of fibre extraction machines.

Introduce special subsidy scheme for banana fibre entrepreneurs.

##### **Infrastructure Development**

Set up Common Facility Centres (CFCs) with facilities for extracting, processing and finishing fibre.

Enhance transportation and storage facilities.

##### **Marketing Support**

Develop a regional brand for 'Dindigul banana fibre' to enhance product identity.

Encourage the registration of Geographical Indications (GIs) if applicable.

Support the involvement in national and international trade fairs.

Boost e-commerce marketing efforts online.

Offer digital marketing education to rural entrepreneurs.

##### **Technology Adoption**

Improve fibre extraction machinery for greater productivity.

Support product diversification to lifestyle products, fashion accessories, home décor.

Encourage the use of environmentally friendly packaging and quality certification.

##### **Institutional Support**

Enhance the Co-operation between ICAR – NRCB, MSME Development Institutes, KVIC, NABARD and Department of Handicrafts.

Encourage cluster development programmes of banana fibre handicraft units.

Enable collaboration between artists, designers and schools.

Encourage research and innovation in sustainable natural fibre products.

#### 15. Conclusion

The concept of Banana fibre handicraft entrepreneurship is a novel way to utilize agricultural waste products and make it useful in an economical as well as eco-friendly manner. Dindigul District has huge banana cultivation, which is well suited for the development of banana fibre based enterprises and to create employment opportunities, improve the income of farmers and boost the rural entrepreneurship.

Empirical findings show that value addition, through product innovation, quality improvement, branding, packaging and digital marketing has a significant role to play in sustainable livelihoods. The highly positive relationship between value addition and livelihood outcomes shows that entrepreneurial innovations can positively impact business results and sustainability.

Women entrepreneurs have emerged as important agents of this sector in the form of SHGs and rural enterprise program. This involvement has positively affected the finances of the families, financial

independence and community development. Meanwhile, the banana pseudostems are used in making handicrafts, which helps to protect the environment by minimizing food waste and encouraging a circular economy.

While these are good results, there are some issues that need to be addressed in terms of financial access, infrastructure, marketing, branding, and technology uptake. Solutions to these challenges will require a coordinated effort across government, financial organizations, research bodies and industry in order to maximize the potential of the banana fibre handicraft entrepreneurs.

Banana fibre handicraft businesses can be a sustainable model of rural industrialization, which will help to achieve economic growth, social inclusion, environmental sustainability and the conservation of the traditional handicraft culture of India.

## References

1. T, D. (2026). Impact of Workforce Skill Development on Cost Optimization in Logistics Operations: An Analytical Study. *Journal of African Development*, 7(1), 645-651.
2. T, D. (2026). Market Sustainability of Handicraft Products in Tamil Nadu: A Study on Consumer Perception, Satisfaction and Pricing Challenges . 6th INTERNATIONAL CONFERENCE ON CONTEMPORARY MANAGEMENT & COMPUTING - .
3. ICAR–National Research Centre for Banana. (2024). Annual Report 2024. Tiruchirappalli.
4. ICAR–National Research Centre for Banana. (2024). Training Programme on Banana Fibre Craft and Value Addition. Tiruchirappalli.
5. Khadi and Village Industries Commission. (2024). Village Industries Annual Report. Mumbai.
6. Ministry of MSME. (2024). Annual Report 2023–24. Government of India.
7. Ministry of Textiles. (2024). Annual Report 2023–24. Government of India.
8. NITI Aayog. (2024). Rural Entrepreneurship and Inclusive Development. New Delhi.
9. Jayalakshmi, A., et al. (2024). The Fourth Craftsperson of India: A Glimpse into the Needs and Challenges of the Banana Fiber Craftswomen. *Journal of Design Service and Social Innovation*.
10. Mallika Karthick, R., & Sridevi, J. (2025). An Innovative Agro-Sustainopreneurs Business Model of Rural and Peri-Urban Empowerment Through Banana Fibre. *Transactions on Precision Manufacturing and Applied Management*.
11. Heliyon. (2024). Evaluation of Mechanically Extracted Banana Fibres from Pseudostem Layers.
12. *Journal of Cleaner Production*. (2024). Sustainable Production of Banana Fibre-Based Materials.
13. *Journal of Natural Fibers*. (2024). Mechanical and Commercial Applications of Banana Fibre.
14. NABARD. (2024). Rural Entrepreneurship Development Report. Mumbai.
15. Development Commissioner (Handicrafts). (2024). Handicrafts Sector Development Report. Ministry of Textiles.
16. MSME Development Institute. (2024). Entrepreneurship Development Programme Report.
17. FAO. (2024). Sustainable Natural Fibre Development. Rome.
18. UNDP. (2024). Sustainable Livelihood Framework and Rural Development. New York.
19. World Bank. (2024). Rural Livelihood and Green Entrepreneurship Report. Washington, D.C.
20. Government of Tamil Nadu. (2024). Policy Note – MSME Department. Chennai.
21. Department of Horticulture and Plantation Crops, Tamil Nadu. (2024). Annual Statistics. Chennai.

22. T.Divakaran & Dr.Well Haorei (2026), A Study on Product Strategy and Competitive Advantage of Handicrafts MSMEs, Innovation in Business Models for Robust Global Expansion ISBN : 978-81-995562-2-5.
23. Ministry of Rural Development. (2024). National Rural Livelihood Mission Annual Report. Government of India.

**Webliography**

1. <https://www.icar.gov.in>
2. <https://nrcb.icar.gov.in>
3. <https://www.msme.gov.in>
4. <https://www.kvic.gov.in>
5. <https://www.nabard.org>
6. <https://www.niti.gov.in>
7. <https://www.fao.org>
8. <https://www.undp.org>

**Bibliography**

1. Drucker, P. F. Innovation and Entrepreneurship.
2. Porter, M. E. Competitive Advantage.
3. Schumpeter, J. A. The Theory of Economic Development.
4. Hisrich, R., Peters, M., & Shepherd, D. Entrepreneurship.
5. Timmons, J. A. New Venture Creation.
6. Kuratko, D. F. Entrepreneurship: Theory, Process and Practice.
7. OECD. SME and Entrepreneurship Outlook.
8. Chambers, R., & Conway, G. Sustainable Rural Livelihoods: Practical Concepts for the 21st Century.
9. Ellis, F. Rural Livelihoods and Diversity in Developing Countries.
10. United Nations. Sustainable Development Goals Report.