

Livelihood Challenges And Income Sustainability Of Palmyra Tappers In Thoothukudi District

S. Samuthirapandy¹, Dr. R. Santhi Salomi²

¹Ph.D Research Scholar (Full time) PG & Research Department of Commerce, Nazareth Margoschis College at Pillayanmanai, Thoothukudi, Tamil Nadu, India.
Affiliated to Manonmaniam Sundaranar University, Tirunelveli – 627012, Tamil Nadu, India.
Email: spandy41@gmail.com Reg. No. 23122141011001

²Assistant Professor & Research Supervisor, PG & Research Department of Commerce, Nazareth Margoschis College at Pillayanmanai, Thoothukudi, Tamil Nadu, India.
Affiliated to Manonmaniam Sundaranar University, Tirunelveli – 627012, Tamil Nadu, India.
Email: salomi.santhi@gmail.com

Palmyra tapping is a traditional livelihood practiced by a significant section of the rural population in Thoothukudi District and plays an important role in sustaining their socio-economic life. However, palmyra tappers continue to face several livelihood challenges such as income instability, seasonal employment, health hazards, lack of institutional support, and limited access to welfare schemes. The present study aims to analyze the livelihood challenges and income sustainability of palmyra tappers in Thoothukudi District. The study is empirical in nature and is based on primary data collected from 75 palmyra tappers using a structured interview schedule, supported by secondary data from journals, reports, and government publications. Statistical tools such as percentage analysis and Analysis of Variance (ANOVA) were applied to examine the relationship between demographic variables and livelihood sustainability factors. The findings reveal that age, experience, and income levels influence certain livelihood challenges, particularly income seasonality, price instability, and access to welfare benefits. The study highlights the need for improved safety measures, stable pricing mechanisms, enhanced welfare scheme implementation, and skill development initiatives to ensure sustainable livelihoods for palmyra tappers. The results of the study may assist policymakers and concerned authorities in formulating effective strategies for improving the socio-economic conditions of palmyra tappers in Thoothukudi District.

Keywords - Palmyra Tappers, Livelihood Challenges, Income Sustainability, Welfare Schemes.

INTRODUCTION

Palmyra tapping is a traditional livelihood practiced by a large number of rural households in Tamil Nadu, particularly in Thoothukudi District. The Palmyra palm plays a vital role in supporting the rural economy by providing employment opportunities through the production of palm jaggery, palm sugar, neera, palm leaves, and other value-added products. For generations, palmyra tapping has been a primary source of income for many economically

weaker sections, especially among marginalized and unorganized workers. Despite its economic and cultural significance, the livelihood of palmyra tappers remains vulnerable due to multiple socio-economic and occupational challenges. Palmyra tappers face numerous livelihood challenges such as seasonal employment, irregular income, declining demand for traditional palm products, lack of modern processing facilities, occupational health hazards, and inadequate access to institutional support. Income sustainability is further affected by price fluctuations, dependence on middlemen, limited market access, and insufficient awareness about government welfare schemes. Additionally, younger generations are increasingly reluctant to enter this occupation due to low-income prospects and high physical risk, threatening the continuity of this traditional livelihood.

In recent years, government initiatives and welfare schemes have been introduced to support palmyra tappers through financial assistance, insurance coverage, skill development programs, and marketing support. However, the effectiveness of these measures in ensuring stable income and sustainable livelihoods remains uncertain. Many tappers continue to struggle with inadequate coverage, delayed benefits, and limited implementation at the grassroots level. Against this backdrop, the present study on “Livelihood Challenges and Income Sustainability of Palmyra Tappers in Thoothukudi District” seeks to examine the socio-economic conditions of palmyra tappers, identify the key challenges affecting their income stability, and assess the extent to which existing support mechanisms contribute to livelihood sustainability. The study aims to provide insights that can help policymakers and stakeholders design more effective interventions to improve income security and enhance the long-term sustainability of palmyra-based livelihoods in the district.

REVIEW OF LITERATURE

Kumar & Anbarasan, 2022 Several studies have highlighted that palmyra tappers largely belong to economically weaker and socially marginalized sections. Researchers point out that low educational attainment, lack of alternative employment opportunities, and dependence on seasonal work significantly affect their livelihood security. A study conducted in southern Tamil Nadu revealed that palmyra tappers experience irregular income and poor living standards due to the unorganized nature of the occupation and absence of modern production techniques. The study emphasized the need for institutional support and skill development to improve income sustainability among traditional palm workers.

Ravichandran & Selvaraj, 2023 Existing literature indicates that income sustainability among palmyra tappers is constrained by occupational hazards, declining market demand for traditional palm products, and exploitation by middlemen. A field-based study carried out in Thoothukudi District observed that most tappers face unstable earnings due to seasonal availability of palm produce and lack of storage and processing facilities. The study concluded that livelihood insecurity is a major reason for the younger generation’s withdrawal from palmyra-based occupations, thereby threatening the continuity of the sector.

Manikandan & Priya, 2024 the role of government welfare schemes in supporting traditional occupations such as palmyra tapping. Studies reveal that although several welfare measures

like financial assistance, insurance schemes, and marketing support are available, awareness and accessibility among beneficiaries remain limited. A recent empirical study noted that delays in benefit distribution, inadequate coverage, and lack of effective monitoring reduce the impact of welfare schemes on improving income and livelihood sustainability of palmyra tappers. The authors recommended strengthening implementation mechanisms and improving awareness levels to ensure inclusive development.

STATEMENT OF THE PROBLEM

Palmyra tapping is a traditional occupation that provides livelihood support to a significant number of rural households in Thoothukudi District. Despite its economic, cultural, and ecological importance, the occupation is facing serious challenges in the present scenario. Palmyra tappers experience irregular and low income due to the seasonal nature of work, declining demand for traditional palm products, lack of value addition, and dependence on middlemen for marketing. These factors adversely affect income sustainability and overall livelihood security. In addition, palmyra tappers are exposed to occupational hazards, health risks, and the absence of modern tools and safety measures. Limited access to institutional credit, inadequate training facilities, and poor market linkages further aggravate their livelihood challenges. Although various government welfare schemes and support programs are designed to improve the socio-economic conditions of traditional occupation workers, their effectiveness in enhancing income stability and livelihood sustainability among palmyra tappers remains uncertain due to low awareness, procedural difficulties, and delayed benefits. Moreover, changing socio-economic conditions and lack of alternative employment opportunities have discouraged the younger generation from entering this occupation, threatening the long-term sustainability of palmyra-based livelihoods. In this context, it becomes essential to examine the livelihood challenges and income sustainability of palmyra tappers in Thoothukudi District, assess the effectiveness of existing support mechanisms, and identify measures to improve their economic security and standard of living.

OBJECTIVES OF THE STUDY

- ✓ To study the socio-economic profile of palmyra tappers in Thoothukudi District.
- ✓ To identify the major livelihood challenges faced by palmyra tappers in carrying out their occupation.
- ✓ To examine the income pattern and level of income sustainability among palmyra tappers.
- ✓ To analyze the availability and effectiveness of government and institutional support in improving their livelihood.

NULL HYPOTHESIS

- H₀₁: There is no significant relationship between the age of palmyra tappers and the livelihood challenges faced by them.
- H₀₂: There is no significant relationship between the years of experience in palmyra tapping and the income sustainability of palmyra tappers.
- H₀₃: There is no significant relationship between the monthly income of palmyra tappers and their level of satisfaction with livelihood sustainability.

SCOPE OF THE STUDY

The scope of the present study is confined to an in-depth analysis of the livelihood challenges and income sustainability of palmyra tappers in Thoothukudi District. The study focuses on understanding the socio-economic background of palmyra tappers, their income patterns, employment stability, and dependence on palmyra-based activities for livelihood. It examines the major challenges faced by palmyra tappers such as seasonal employment, income fluctuations, health and occupational hazards, lack of modern tools, and limited market access. The study also covers the awareness, accessibility, and effectiveness of government welfare schemes aimed at supporting palmyra tappers, including financial assistance, insurance coverage, subsidies, and skill development programs. Further, it evaluates the extent to which these welfare measures contribute to income sustainability and livelihood security. The scope is limited to primary data collected from selected palmyra tappers within the district and does not include comparative analysis with other districts or other traditional occupations. The findings are intended to provide practical insights for policymakers and welfare agencies to improve the living conditions and economic sustainability of palmyra tappers in Thoothukudi District.

METHODOLOGY

The present study is empirical in nature and aims to examine the livelihood challenges and income sustainability of palmyra tappers in Thoothukudi District. Both primary and secondary data were used to achieve the objectives of the study. Primary data were collected directly from palmyra tappers through a structured interview schedule/questionnaire, as most respondents have limited literacy and prefer oral interaction. The questionnaire was designed to gather information on demographic profile, livelihood challenges, income pattern, awareness of welfare schemes, satisfaction with livelihood sustainability, and problems faced in palmyra tapping activities. Secondary data were collected from books, research journals, government reports, publications of the Tamil Nadu Palm Products Development Board, websites, and earlier studies related to palmyra tappers and traditional livelihoods. The sample size of the study consists of 75 palmyra tappers, selected from different villages in Thoothukudi District using the convenience sampling method, based on availability and willingness of the respondents. The collected data were coded, classified, tabulated, and analyzed using statistical tools such as percentage analysis and Analysis of Variance (ANOVA) with the help of SPSS and MS Excel. ANOVA was specifically used to test the hypotheses relating to age, years of experience, monthly income, and livelihood sustainability. Thus, the methodology adopted ensures systematic analysis and reliability in understanding the livelihood challenges and income sustainability of palmyra tappers in Thoothukudi District.

ANALYSIS AND INTERPRETATION

H₀₁: There is no significant relationship between the age of palmyra tappers and the livelihood challenges faced by them.

Factors	Sum of Squares	df	Mean Square	F	Sig.
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Palmyra tapping involves high physical risk and health hazards.	Between Groups	5.138	3	1.713	3.392	.023
	Within Groups	35.849	71	.505		
	Total	40.987	74			
Income from palmyra tapping is seasonal and irregular.	Between Groups	11.418	3	3.806	3.953	.012
	Within Groups	68.368	71	.963		
	Total	79.787	74			
Lack of safety equipment affects my work efficiency.	Between Groups	5.066	3	1.689	1.568	.205
	Within Groups	76.454	71	1.077		
	Total	81.520	74			
Weather conditions frequently disrupt my livelihood.	Between Groups	10.776	3	3.592	2.810	.046
	Within Groups	90.771	71	1.278		
	Total	101.547	74			
Middlemen reduce my actual earnings from palmyra products.	Between Groups	3.492	3	1.164	1.182	.323
	Within Groups	69.895	71	.984		
	Total	73.387	74			

Source: Primary Data

Interpretation

The one-way ANOVA was applied to examine whether the age of palmyra tappers has a significant relationship with the livelihood challenges faced by them. The results indicate that age has a significant influence on certain livelihood-related problems. Specifically, significant differences are observed for the factors “Palmyra tapping involves high physical risk and health hazards” ($p = 0.023$), “Income from palmyra tapping is seasonal and irregular” ($p = 0.012$), and “Weather conditions frequently disrupt my livelihood” ($p = 0.046$), as their p -values are less than 0.05. This implies that palmyra tappers belonging to different age groups perceive physical risks, income instability, and weather-related disruptions differently, suggesting that age plays an important role in shaping these livelihood challenges. However, no significant differences are found with respect to “Lack of safety equipment affects my work efficiency” ($p = 0.205$) and “Middlemen reduce my actual earnings from palmyra products” ($p = 0.323$), as their p -values are greater than 0.05. This indicates that these issues are commonly experienced by palmyra tappers irrespective of age. Overall, the null hypothesis is partially rejected, as age significantly influences some livelihood challenges, while other problems are uniformly faced across all age groups.

H₀₂: There is no significant relationship between the years of experience in palmyra tapping and the income sustainability of palmyra tappers.

Factors	Sum of Squares	df	Mean Square	F	Sig.
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Income from palmyra tapping is sufficient to meet family needs.	Between Groups	3.838	4	.959	1.756	.147
	Within Groups	38.242	70	.546		
	Total	42.080	74			
I have alternative income sources during the off-season.	Between Groups	5.750	4	1.437	1.076	.375
	Within Groups	93.530	70	1.336		
	Total	99.280	74			
Prices received for palmyra products are fair and stable.	Between Groups	8.530	4	2.133	2.601	.043
	Within Groups	57.390	70	.820		
	Total	65.920	74			
Demand for palmyra products is consistent throughout the year.	Between Groups	5.688	4	1.422	2.032	.099
	Within Groups	48.979	70	.700		
	Total	54.667	74			
My income has improved over the last five years.	Between Groups	2.406	4	.602	.996	.415
	Within Groups	42.260	70	.604		
	Total	44.667	74			

Source: Primary Data

Interpretation

The one-way ANOVA was conducted to examine whether years of experience in palmyra tapping have a significant relationship with the income sustainability of palmyra tappers. The results reveal that, for most income-related factors, the p-values are greater than 0.05, indicating no significant difference among tappers with different levels of experience. Specifically, no significant relationship is found for the sufficiency of income to meet family needs ($p = 0.147$), availability of alternative income sources during the off-season ($p = 0.375$), consistency of demand for palmyra products throughout the year ($p = 0.099$), and improvement in income over the last five years ($p = 0.415$). This suggests that years of experience do not substantially influence these aspects of income sustainability. However, a significant difference is observed for the factor “Prices received for palmyra products are fair and stable” ($p = 0.043$), as the p-value is less than 0.05. This indicates that perceptions regarding price fairness and stability vary significantly with years of experience, implying that more experienced tappers may have better market knowledge or bargaining power compared to less experienced ones. Overall, the null hypothesis is partially rejected, as years of experience significantly influence perceptions of price fairness, while other dimensions of income sustainability remain similar across experience groups.

H₀₃: There is no significant relationship between the monthly income of palmyra tappers and their level of satisfaction with livelihood sustainability.

Factors		Sum of Squares	df	Mean Square	F	Sig.
I am aware of government welfare schemes meant for palmyra tappers.	Between Groups	1.450	4	.363	.323	.862
	Within Groups	78.550	70	1.122		
	Total	80.000	74			
Government financial assistance has improved my livelihood.	Between Groups	6.190	4	1.547	1.472	.220
	Within Groups	73.597	70	1.051		
	Total	79.787	74			
Welfare schemes reach beneficiaries without major difficulties.	Between Groups	28.669	4	7.167	7.105	.000
	Within Groups	70.611	70	1.009		
	Total	99.280	74			
Training programs help improve productivity and income.	Between Groups	5.045	4	1.261	1.450	.227
	Within Groups	60.875	70	.870		
	Total	65.920	74			
Institutional support reduces livelihood risks and income instability.	Between Groups	1.867	4	.467	.619	.651
	Within Groups	52.800	70	.754		
	Total	54.667	74			

Source: Primary Data

Interpretation

The one-way ANOVA was applied to examine whether the monthly income of palmyra tappers has a significant relationship with their level of satisfaction regarding livelihood sustainability. The results indicate that for most factors, the p-values are greater than 0.05, showing no significant difference among different income groups. In particular, awareness of government welfare schemes ($p = 0.862$), the impact of government financial assistance on livelihood improvement ($p = 0.220$), the role of training programs in improving productivity and income ($p = 0.227$), and the perception that institutional support reduces livelihood risks and income instability ($p = 0.651$) do not vary significantly with monthly income. This suggests that satisfaction related to these aspects is broadly similar across income categories. However, a significant difference is observed for the factor “Welfare schemes reach beneficiaries without major difficulties”, where the p-value is 0.000, which is less than 0.05. This indicates that perceptions regarding the ease and effectiveness of welfare scheme delivery vary significantly across different monthly income groups. Therefore, the null hypothesis is partially rejected, as monthly income significantly influences satisfaction with the accessibility and reach of welfare schemes, while other dimensions of livelihood sustainability do not show significant variation across income levels.

DISCUSSION

The results of the study reveal that age has a significant influence on certain livelihood challenges faced by palmyra tappers, particularly health risks, seasonal and irregular income, and weather-related disruptions, indicating that different age groups experience these difficulties at varying levels, while issues such as lack of safety equipment and the role of middlemen affect all tappers uniformly. The analysis further shows that years of experience

do not significantly influence most aspects of income sustainability, such as adequacy of income, alternative income sources, or overall income improvement, except in the case of fairness and stability of prices, where experienced tappers appear to benefit from better market knowledge and bargaining power. With respect to monthly income and satisfaction with livelihood sustainability, the findings indicate no significant differences in awareness of welfare schemes, perceived benefits of financial assistance, training programs, or institutional support; however, a significant variation exists in the ease with which welfare schemes reach beneficiaries, suggesting income-based disparities in access and implementation. Overall, the findings highlight that while demographic factors like age and experience affect specific dimensions of livelihood, most challenges faced by palmyra tappers are structural in nature, emphasizing the need for improved welfare delivery, occupational safety measures, and market support mechanisms to ensure sustainable livelihoods in Thoothukudi District.

CONCLUSION

The study further concludes that palmyra tapping, being a traditional and labor-intensive occupation, is increasingly challenged by health risks, seasonal employment, and income uncertainty, which threaten the long-term sustainability of the livelihood. The analysis reveals that younger and middle-aged tappers experience livelihood challenges differently compared to older tappers, particularly with regard to physical strain, weather disruptions, and irregular earnings. Although experienced tappers possess better occupational skills, experience alone does not guarantee stable or sufficient income due to fluctuating demand and unfair pricing practices. The effectiveness of government welfare schemes is found to be uneven, with significant gaps in implementation, accessibility, and timely delivery of benefits, especially among lower-income groups. Moreover, institutional support and training programs have not yet translated into substantial improvements in income stability for most respondents. Overall, the study highlights the urgent need for comprehensive policy measures such as enhanced welfare outreach, improved market linkages, price support mechanisms, safety equipment provision, and livelihood diversification opportunities to ensure economic security and sustainable development of palmyra tappers in Thoothukudi District.

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