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Constraint analysis in value added palmyra production in Tutucorin District of Tamil Nadu

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Abstract
Palmyra (*Borassus flabellifer* L.,) is one of the world's oldest flowering plant known to mankind. Generally, it is also known as “Toddy Palm” or “Sugar palm”. The other is considered as ‘Kalpaga tharu’. Indian Palmyra palm trees, estimated at 102 million, are found in semi-arid regions including Tamil Nadu, Andhra Pradesh, Gujarat, Odisha, West Bengal, Bihar, Karnataka, and Maharashtra. Tamil Nadu has 90 million palm trees, with over 50% in Thoothukudi district, In Tamil Nadu, there are 9,674.46 hectares of Palmyra palm area with a production of 142,328. 40 tonnes yielding 14.71 tonnes per hectare. An economically important for its nutritional value but has not been commercialized due to its slow growth and wild nature. The study was conducted in Tutucorin district of Tamil Nadu state, India. As this district It’s a significant hub for Palmyra value-added products. Even though Particularly Udangudi block have been selected Totally 8 Villages having Highest area under Palmyra Palm production Were Purposively selected. A total number of 80 respondent's were Identified from selected Eight villages by Using Proportionate random sampling method. The constraint overall problem in Palmyra production faced by farmer, in. This study assists in identifying the issues have with value addition and marketing. The findings also offer suggestions about how farmers might get around the challenges they face. The survey's findings reveal that the main constraints to value addition are identified by the lack of raw material availability and value addition, limited equipment and machinery, and the absence of export avenues and infrastructure facilities are key constraints for value-added products in the research area.
Additionally, the shortage of competent laborers, inadequate worker training and technical guidance, and insufficient research and technology are further obstacles to producing and marketing value added goods made from Palmyra.

Keywords: Palmyra, *Borassus flabellifer* L., toddy palm, sugar palm

Introduction

PALMYRA (*Borassus flabellifer* L.,) is one of the world's oldest flowering plants known to mankind. Generally, it is also known as “Toddy Palm” or “Sugar palm”. The other is considered as ‘Kalpaga tharu’ [3]. The Palmyra a widely grown plant in southern India, is economically important for its nutritional value but has not been commercialized due to its slow growth and wild nature. Understanding its physic-chemical properties and developing value-added products is crucial. India's Palmyra palms, estimated at 102 million, are found in semi-arid regions like Tamil Nadu, Andhra Pradesh, Gujarat, Odisha, West Bengal, Bihar, Karnataka, and Maharashtra. Out of 51.90 million palms in Tamil Nadu, over 50% are concentrated in the Southern district of Thoothukudi [4].Government of Tamil Nadu in the year 1978 recognized Palmyra as State Tree [2].

In Tamil Nadu state, Palmyra palm Area (9674.46 ha), Production 142328.40 tones and Productivity 14.71 tonnes /ha. (Tamil Nadu State Department of horticultural crops: Area, Production and Productivity of Horticulture Crops FINAL ESTIMATES 2021-22 Plantation Crops).

Palmyrah palm is an underexploited crop with high nutritional value, potentially addressing malnutrition in developing countries like India. Its fresh and value-added forms, like palm flour and jaggery, can generate income and improve food security for the poor and marginal farmers. Popularization through value addition can also boost income generation and livelihood security [9, 10].

Value addition is a process that alters the physical form of agricultural produce, enhancing its acceptability, availability, market viability, and cost-to-benefit ratio for growers. This process also increases the produce's spatial and temporal availability, making it less sensitive to market fluctuations. This process, known as secondary agriculture, benefits both producers and consumers, making it a desirable practice in the United States Department of Agriculture.

Materials and Methods

The Study was Conducted in Tutucorin district of Tamil Nadu state. As this district It's a significant hub for Palmyra value-added products. Even though Particularly Udangudi block have been selected In this block villages are namely Kuthiraimozhi, Paramankurichi, Manadu Thandupathu, Laxmipuram, Chettiapattu, Udangudi, Vengatramanujapuram and Mathavankurichi Totally 8 Villages having Highest area under Palmyra Palm production Were Purposively selected. A total number of 80 respondent's were Identified from selected Eight villages by Using Proportionate random sampling method. The constraint overall problem in Palmyra production faced by farmer. A well structured interview schedule for Assessing the identified constraint were administrated through a three point continuum as Major constraint, Somewhat constraint, Not a constraint with scores of 3, 2 and 1 respectively. The score for each constraint was obtained. The data collected through interview was tabulated analyses using the mean score. Based on the mean score and rank order, the constraint were assessed.

Results and Discussion

Constraints encountered by Palmyra Production Farmers in Value addition.

The mean score and rank order of the constraints are presented in Table 1.

Table 1: Constraints encountered by Palmyra Production Farmers in Value addition (n = 80)

S. No.	Constraints	Mean score	Rank
1.	Non-availability of raw materials	3	I
2.	Non-availability of equipment's and machineries required for preparation of value added products	2.23	II
3.	Lack of export avenues for value added Products.	2.91	III
4.	Lack of infrastructure facilities to sell value added products	2.79	IV
5.	Lack of time available for preparation of value added products due to involvement in Farming.	2.7	V
6.	Lack of skilled laborers	2.51	VI
7.	Lack of research in value addition	2.2	VII
8.	Lack of remunerative price for value added produces	2.05	VIII
9.	Lack of market for non-branded products.	1.96	IX
10.	Difficult to prepare	1.85	X
11.	Lack of training in value addition	1.82	XI
12.	Inadequate technology for commercial production	1.73	XII
13.	Extension personnel not assisting in value addition	1.56	XIII

It could be seen from Table-1 that among all the Questionnaires of constraints studied,

1. Non-availability of raw materials Mean score is (3), one of the main physical obstacles mentioned was the lack of raw material availability. Value addition has not gained significance in the study area. The government may take action to ensure that raw resources are available in the research area, which might increase Palmyra's capacity to produce value-added goods.
2. Non-availability of equipment's and machineries required for preparation of value added products Mean score is (2.23), When it came to limitations, a sizable portion of the respondents cited the lack of equipment and machinery necessary for the preparation of value-added products
3. Lack of export avenues for value added products Mean score is (2.91), Lack of export avenues for value added products is not available in the study area. Lack of export avenues for value added products was reported as the third major marketing constraint
4. Lack of infrastructure facilities to sell value added products Mean score is (2.79), regarding marketing constraints, lack of infrastructure facilities to sell value added products was the major constraint expressed by most of the respondents. The research area has a high level of popularity for value addition in Palmyra. Therefore, there are insufficient infrastructural resources available. As a result, the respondents identified this as a limitation.
5. Lack of time available for preparation of value added products due to involvement in farming Mean score is (2.70), Lack of time available for preparation of value added products due to involvement in farming was one of the constraint expressed by majority of the respondents. They said there isn't enough time to prepare value-added items.
6. Lack of skilled laborers Mean score is (2.51), one main extension barrier mentioned was a shortage of competent laborers. Worker training and technical guidance for Palmyra's value- added products are inadequate in this research area.
7. Lack of research in value addition Mean score is (2.20),Lack of research in value addition so do not have sufficient technology supported by research findings so It cannot be able to produce of value added products in Palmyra palm.
8. Lack of remunerative price for value added Product Mean score is (2.05), Producer farmer's statement from Palmyra value addition over the lack of a fair price for value-added output due to lack of remunerative pricing for value-added product.
9. Lack of market for non-branded products is (1.96), Farmers who manufacture Palmyra value- added products and the government both cited the lack of a market for non-branded goods and the need for marketing department support as significant marketing barriers. This discovery coincides with the results of D. Kanthimathi, Hence cooperative federation shows their

existence by propaganda and creating awareness among the producers, provide advance like private traders, take up their issues or problem to the government in an organized manner, conduct series of market surveys and research, and then only they can attract the Palmyra product producer. The producer should also realize the fact that cooperative society are the only hope to them to derive fair price in the market in future [11].

10. Difficult to prepare Mean score is (1.85),This is followed by personal constraints like lack of confidence in the preparation of product to the standards accepted by public difficult to prepare as expressed by the Palmyra Value added product producer.
11. Lack of training in value addition Mean score is (1.82), In terms of extension limits, the majority of respondents cited a lack of training in value addition as the main obstacle. It's probable that the absence of training facilities in the area is the cause.
12. Inadequate technology for commercial production Mean Score is (1.73), for commercial manufacturing, the majority of respondents cited insufficient technology as the main technological barrier.
13. Extension personnel not assisting in value addition mean score is (1.56), Extension personnel not assisting in value addition were also reported as other important extension constraint by majority of the respondents.

Conclusion

The study's findings reveal that the main constraints to value addition are identified by the lack of raw material availability and value addition, limited Equipment and machinery, and the absence of export avenues and infrastructure Facilities are key constraints for value-added products in the research area.

Additionally, the shortage of competent laborers, inadequate worker training and Technical guidance, and insufficient research and technology are further obstacles to producing and marketing value-added goods made from Palmyra.

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