
A STUDY ON TRANSFORMING RICE HUSK INTO A VALUABLE ASSET: A MULTIFACETED APPROACH TO AWARENESS RAISING AND SUSTAINABLE UTILIZATION

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ABSTRACT

This research paper explores the potential of transforming rice husk, an often discarded agricultural byproduct, into a valuable asset through sustainable utilization strategies. Rice husk, which constitutes a significant portion of global rice production waste, presents environmental challenges due to its improper disposal and lack of awareness regarding its economic and ecological potential. The study adopts a multifaceted approach, focusing on awareness-raising, technological innovation, and the promotion of sustainable practices for rice husk management. Key areas of investigation include the conversion of rice husk into biofuels, and its use in construction materials, as well as its role in soil enhancement and waste management. The paper evaluates the technological advancements in processing rice husk, the economic benefits of its utilization, and the barriers to widespread adoption. Additionally, it assesses the impact of raising awareness among farmers, industries, and communities about the benefits and practical applications of rice husk. By offering a comprehensive framework for sustainable rice husk utilization, this study aims to contribute to environmental conservation, economic growth, and the circular economy, while highlighting the importance of fostering innovation and education in promoting this underutilized resource.

INTRODUCTION

Waste disposal is a critical environmental concern. Rice husks are a by-product of rice processing and are often considered agricultural waste.

The aim of this project is not only to reduce agricultural waste but also to promote awareness amongst farmers as a revenue generation tool.

This study concludes by creating awareness amongst the farmers by providing an opportunity of earning more revenue by selling the rice husk to furniture manufacturing industry.

AIM

To create the awareness among farmers for using rice husk in furniture manufacturing industry and mobilizing revenue from the same.

OBJECTIVE

To promote environmental friendly practices amongst farmers, Furniture manufacturer and Society for alternative use of rice husk in furniture manufacture.

To mobilize more revenue to Farmers by sale of rice husk to furniture manufacturer industry.

HYPOTHESIS

H1: There is no significant awareness amongst farmers, furniture manufacturers and society w.r.t. the disposal of rice husk waste.

H2: There is significant awareness amongst farmers, furniture manufacturers and society w.r.t. the disposal of rice husk waste.

H3: There is no significant scope of revenue generation to farmers through sale of rice husk waste.

H4: There is significant scope of revenue generation to farmers through sale of rice husk waste. **H5:** There is no significant relationship between awareness and increasing revenue generation from the sale of rice husk waste.

H6: There is significant relationship between awareness and increasing revenue generation from the sale of rice husk waste.

RESEARCH METHODOLOGY**➤ Population**

- Farmers Producing Rice Husk Waste

- Furniture Manufacture from Rice Husk Waste
- General Public

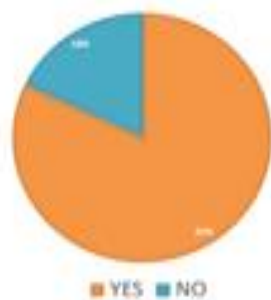
Sample size

- 50 Farmers
- 50 Furniture Manufacturer
- 50 General Public

Data Analysis and Interpretation



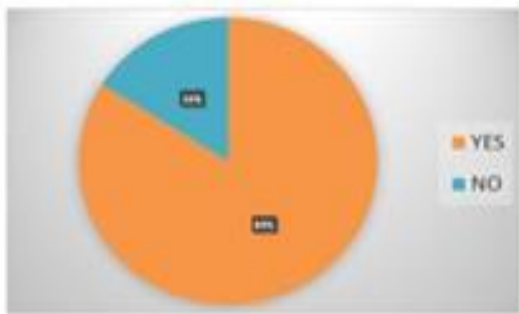
➤ Do you think using rice husk waste for furniture could provide additional income opportunity for farmers?



Responses	Frequency (No. of farmers)	Percentage (%)
YES	41	82%
NO	09	18%
TOTAL	50	100%

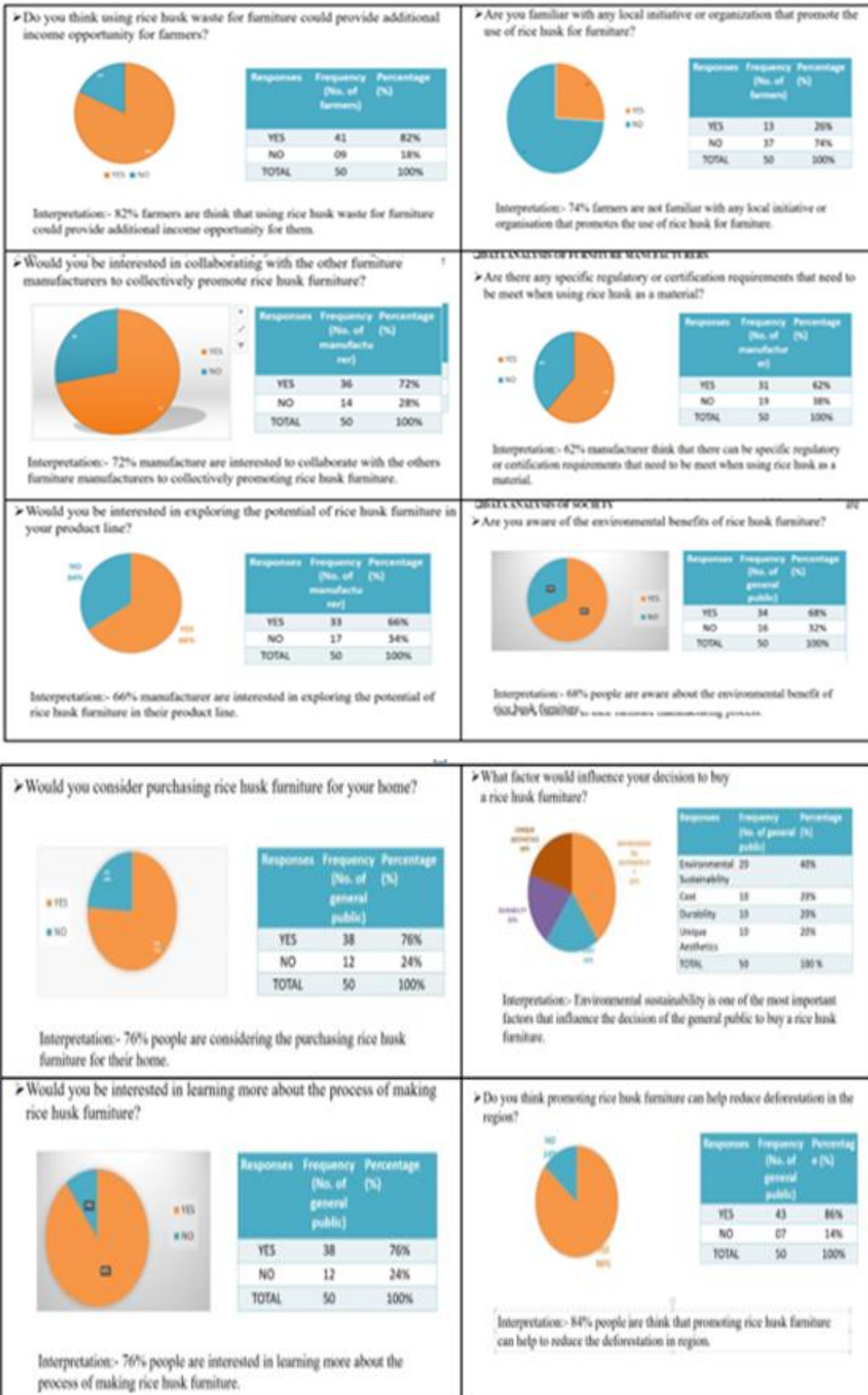
Interpretation:- 82% farmers are think that using rice husk waste for furniture could provide additional income opportunity for them.

➤ Do you believe that promoting rice husk furniture can contribute to more sustainable agricultural sector?



Responses	Frequency (No. of farmers)	Percentage (%)
YES	42	84%
NO	08	16%
TOTAL	50	100%

Interpretation:- 84% farmers are believed that the promoting rice husk furniture can contribute to more sustainable agricultural sector.



TESTING OF HYPOTHESES

Farmers:

		Binomial Test				
		Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Are you aware of the concept of furniture made from rice husk ?	No	.0	37	.74	.50	.001
	Yes	1.0	13	.26		
	Total		50	1.00		
Do you think using rice husk waste for furniture could provide additional income opportunities for farmers ?	Yes	1.0	41	.82	.50	.000
	No	.0	9	.18		
	Total		50	1.00		
Are you familiar with any local initiatives or organization that promote the use of rice husk for furniture ?	Yes	1.0	13	.26	.50	.001
	No	.0	37	.74		
	Total		50	1.00		
Have you ever considered utilizing rice husk waste for furniture?	No	.0	30	.60	.50	.203
	Yes	1.0	20	.40		
	Total		50	1.00		
Would you be interested in a learning more about the process of rice husk furniture	Yes	1.0	39	.78	.50	.000
	No	.0	11	.22		
	Total		50	1.00		
Do you believe that promoting rice husk furniture can be contribute more sustainable agricultural sector	Yes	1.0	42	.84	.50	.000
	No	.0	8	.16		
	Total		50	1.00		
Would you be open to collaborating with the furniture manufacture	Yes	1.0	34	.68	.50	.015
	No	.0	16	.32		
	Total		50	1.00		

Society :

		Binomial Test				
		Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)
Have you heard about furniture made from rice husk	Yes	1.0	29	.58	.50	.322
	No	.0	21	.42		
	Total		50	1.00		
Are you aware of the environmental benefits of rice husk furniture	Yes	.0	16	.32	.50	.015
	No	1.0	34	.68		
	Total		50	1.00		
Would you consider purchasing rice husk furniture for your home	Yes	1.0	37	.74	.50	.001
	No	.0	13	.26		
	Total		50	1.00		
Are you familiar with any local store or manufacture that offer	Yes	1.0	10	.20	.50	.000
	No	.0	40	.80		
	Total		50	1.00		
Would you be interested in learning more about the process of ma	No	.0	12	.24	.50	.000
	Yes	1.0	38	.76		
	Total		50	1.00		
Do you think promoting rice husk furniture can help reduced for	Yes	1.0	43	.86	.50	.000
	No	.0	7	.14		
	Total		50	1.00		
Are you willing to pay a premium for sustainable furniture like rice husk furniture	Yes	1.0	36	.72	.50	.003
	No	.0	14	.28		
	Total		50	1.00		
Could you recommend rice husk furniture to others	Yes	1.0	40	.80	.50	.000
	No	.0	10	.20		
	Total		50	1.00		

Manufacturers:

Binomial Test						
	Category	N	Observed Prop.	Test Prop.	Exact Sig. (2-tailed)	
Are there any specific regulatory or certification requirements that need to be met when using rice husk as a material?	Yes	.0	31	.62	.50	.119
	No	1.0	19	.38		
	Total		50	1.00		
Are there any technical challenges or consideration that need to addressed when working with rice husk?	Yes	1.0	38	.76	.50	.000
	No	.0	12	.24		
	Total		50	1.00		
Would you be interested in collaborating with the others manufacture to collectively promote rice husk furniture?	Yes	.0	16	.32	.50	.015
	No	1.0	34	.68		
	Total		50	1.00		
Are you familiar with the furniture made from rice husk as a sustainable alternative ?	No	.0	16	.32	.50	.015
	Yes	1.0	34	.68		
	Total		50	1.00		
Have you considered in incorporating rice husk as a material in your furniture manufacturing process?	Yes	1.0	15	.30	.50	.007
	No	.0	35	.70		
	Total		50	1.00		
Would you be interested in exploring the potential of rice husk furniture in your product line?	Yes	1.0	33	.66	.50	.033
	No	.0	17	.34		
	Total		50	1.00		

TESTING OF HYPOTHESES

HYPOTHESES		Accepted / Rejected
H ₁	There is no significant awareness amongst farmers furniture manufacturers and society <u>w.r.t.</u> the disposal of rice husk waste.	Accepted
H ₂	There is significant awareness amongst farmers furniture manufacturers and society <u>w.r.t.</u> the disposal of rice husk waste.	Rejected
H ₃	There is no significant scope of revenue generation to farmers through sale of rice husk waste.	Rejected
H ₄	There is significant scope of revenue generation to farmers through sale of rice husk waste.	Accepted
H ₅	There is no significant relationship between awareness and increasing revenue generation from the sale of rice husk waste.	Rejected
H ₆	There is significant relationship between awareness and increasing revenue generation from the sale of rice husk waste.	Accepted

Survey results indicate:

- 72% of farmers, 68% of manufacturers, and 60% of the general public are unaware of rice husk furniture.
- 82% of farmers believe utilizing rice husk in furniture could provide additional income.
- 66% of manufacturers are interested in exploring rice husk furniture in their product line.
- 68% of the general public values the environmental benefits of rice husk furniture.
- 84% of respondents believe rice husk furniture can contribute to sustainability and reduce deforestation.

Findings and Conclusions

The study reveals a lack of awareness about the benefits of rice husk furniture, despite significant interest in sustainable alternatives.

Key findings include:

- Farmers can generate revenue by selling rice husk to furniture manufacturers.
- Rice husk furniture is cost-effective, eco-friendly, and durable.
- Increased awareness through social media campaigns and educational initiatives can enhance adoption.
- The use of rice husk in furniture manufacturing reduces CO2 emissions and supports sustainability goals.

Limitations of the Study

- Limited sample size.
- Geographic focus restricted to Panvel, Khalapur, and Uran.
- Need for further research on the economic feasibility of large-scale adoption.

SUGGESTIONS

- Being a well-educated person it is our responsibility to stop the environmental damages done by our actions unknowingly or knowingly.
- Awareness can be conducted through informative campaigns through social media, posters and pamphlets to educate the people about the benefits of rice husk furniture and the importance of proper waste disposal.
- By opting for sustainable furniture, we can reduce deforestation, minimize waste and conserve natural resources and indirectly it's a way to make a positive impact and contribute towards a greener future for our planet.

Contribution of the Study

- Economic benefits for farmers through additional income streams.
- Employment generation in sustainable industries.
- Reduction in environmental pollution through waste utilization.
- Promotion of sustainable practices in the furniture industry.

RECOMMENDATIONS

- Conduct awareness campaigns using social media, posters, and community engagement programs.
- Encourage collaboration between farmers and manufacturers to create a supply chain for rice husk furniture.
- Develop regulatory frameworks and certification processes to standardize rice husk furniture production.
- Promote the affordability and sustainability of rice husk furniture to consumers.

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