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A Study of Opportunities and Challenges for Betel Leaves Farming in Palghar District

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ABSTRACT: The study focuses on understanding the prospects, problems, and satisfaction levels of betel leaves farmers in the study area. Betel leaves farming is an important traditional agricultural activity with cultural, medicinal, and economic value. Palghar District has suitable climatic and soil conditions that can support betel leaves cultivation, and the crop provides opportunities for income generation, employment creation, market demand, and rural livelihood development. The study is based on primary data collected from 75 betel leaves farmers through a structured questionnaire using a five-point Likert scale. The major variables considered in the study include opportunities, challenges, and farmers' satisfaction. The findings of the study reveal that betel leaves farming in Palghar District has significant opportunities, with a mean score of 68.80, indicating positive perception among farmers. However, the study also found major challenges, with a mean score of 72.69, showing that farmers face difficulties such as high cultivation cost, pest and disease problems, crop damage, unfair market prices, lack of irrigation, and inadequate storage, transportation, and marketing facilities. Correlation and regression analysis show that opportunities have a positive and significant impact on farmers' satisfaction, while challenges have a negative and significant impact on satisfaction. Therefore, the study concludes that betel leaves farming has good potential in Palghar District, but its growth depends on better government support, improved marketing facilities, technical guidance, and effective solutions to production-related challenges.

INTRODUCTION:

Betel leaves farming is one of the important traditional agricultural activities practiced in different parts of India. Betel leaf, commonly known as *paan*, has great cultural, religious, medicinal, and economic importance in Indian society. It is widely used in social functions, religious rituals, traditional ceremonies, and daily consumption habits. In many rural areas, betel leaf cultivation is not only a source of agricultural production but also an important means of livelihood for small and marginal farmers. The crop requires careful cultivation, regular maintenance, suitable climatic conditions, proper irrigation, shade management, and skilled labour. Due to its continuous demand in local and regional markets, betel leaves farming has the potential to provide regular income to farmers when managed properly.

Palghar District of Maharashtra has a unique geographical and ecological environment that may support betel leaves cultivation. The district has coastal climate, moderate to high humidity, fertile soil in certain regions, and availability of traditional farming knowledge among local communities. These factors can create favourable conditions for betel leaves farming. Agriculture is an important livelihood activity in Palghar, especially among rural and tribal communities. Many farmers depend on small landholdings and seasonal crops for their income. In such a situation, betel leaves farming can become a valuable commercial

crop because it can be cultivated on limited land and may provide comparatively better returns than some traditional crops. Therefore, studying the opportunities and challenges of betel leaves farming in Palghar District is important from the point of view of rural development and agricultural sustainability.

Betel leaves farming offers several opportunities to farmers in Palghar District. It can generate income throughout the year because betel leaves are harvested regularly after the vines mature. The crop has a stable demand due to its use in paan shops, religious activities, weddings, festivals, hotels, and local markets. It also creates employment opportunities for family members and local labourers because the cultivation process requires regular activities such as watering, tying vines, shade maintenance, leaf plucking, grading, packing, and transportation. Betel leaves farming can also encourage entrepreneurship among farmers through direct selling, local market linkages, value addition, and collective marketing. If proper support is provided, betel leaves cultivation can become an important income-generating activity for small and marginal farmers of Palghar.

At the same time, betel leaves farming is a sensitive and risk-prone agricultural activity. The crop requires a favourable micro-climate and is highly affected by changes in temperature, humidity, rainfall, pests, and diseases. Excess rainfall, waterlogging, dry weather, poor irrigation, fungal infection, and pest attacks can damage the quality and quantity of leaves. Since betel leaves are delicate and perishable, they require careful handling, proper storage, quick transportation, and timely marketing. Any delay in marketing or poor packing can reduce the freshness and market value of the leaves. These factors increase the risk for farmers and make betel leaves farming more challenging compared to some other crops. Hence, farmers need technical knowledge, scientific guidance, and proper infrastructure to reduce production losses.

Another major challenge in betel leaves farming is the high cost of cultivation. Farmers have to invest in preparing the *bareja* or protected structure, irrigation facilities, planting material, organic manure, fertilizers, pesticides, labour, maintenance, and transportation. The regular maintenance of betel vines requires skilled labour and continuous attention. Small farmers often face difficulty in arranging capital and may depend on local moneylenders or informal credit sources. Lack of easy institutional credit can affect their ability to expand or improve cultivation. In addition, farmers may not always receive fair prices due to market fluctuations, dependence on middlemen, and lack of direct access to larger markets. These economic challenges reduce farmers' profit margins and affect their satisfaction with betel leaves farming.

Betel leaves have significant importance in traditional medicine because they contain several natural bioactive compounds such as essential oils, phenols, tannins, alkaloids, flavonoids, and antioxidants. In Ayurveda and folk medicine, betel leaves are commonly used for improving digestion, reducing bad breath, relieving cough and cold, and supporting oral health. The leaves are also known for their antimicrobial and anti-inflammatory properties, which help in preventing bacterial growth and reducing minor infections. Traditionally, betel leaves are used as a home remedy for stomach discomfort, headache, wounds, and respiratory problems. Due to these medicinal properties, betel leaves are considered more than just a cultural or commercial crop.

The medicinal value of betel leaves also increases their economic importance for farmers. As awareness about herbal and natural products is increasing, betel leaves can be used in value-added products such as herbal extracts, mouth fresheners, Ayurvedic preparations, essential oils, and natural health products. This creates additional opportunities for betel leaves farming, especially in regions like Palghar District where suitable climatic conditions may support cultivation. If proper research, processing units, and market linkages are developed, the medicinal uses of betel leaves can help farmers earn better income and promote the crop as a valuable medicinal and commercial plant.

REVIEW OF LITERATURE:

1. **Guha (2006),** in the research paper titled "Betel Leaf: The Neglected Green Gold of India," concluded that betel leaf is an economically valuable crop in India and has strong potential as a cash crop due to its regular demand, cultural importance, medicinal value, and export possibilities. The study highlighted that betel leaf farming supports a large number of rural families and can provide steady income when proper cultivation, processing, storage, and marketing systems are available. However, the paper also concluded that the crop remains neglected in research, policy support, post-harvest management, and organized marketing. For a study in Palghar District, this paper is useful because it shows that betel leaves farming can become a profitable rural livelihood activity if farmers receive proper technical guidance, market support, and infrastructure facilities.

2. **Das et al. (2016),** in the research paper titled "Biotechnological Intervention in Betelvine (Piper betle L.): A Review," concluded that betelvine has high economic and medicinal importance, but its commercial development is restricted because of limited scientific research, lack of proper characterization of varieties, repeated use of the same planting material, and poor awareness among cultivators. The study emphasized that biotechnology, quality planting material, disease-resistant varieties, and scientific crop improvement programmes are necessary for improving production and sustainability. This review is important for Palghar District because betel leaf farmers may also face problems related to quality planting material, disease management, and lack of scientific cultivation practices, which directly affect productivity and income.

3. **Biswas et al. (2022),** in the research paper titled "Betelvine (Piper betle L.): A Comprehensive Insight into Its Ethnopharmacology, Phytochemistry, and Pharmacological, Biomedical and Therapeutic Attributes," concluded that betelvine has significant economic, medicinal, cultural, and commercial value. The review explained that betel leaves contain bioactive compounds and have wide uses in traditional medicine, food, and cultural practices. The study also highlighted the importance of cultivation and geographical distribution of betelvine. For the present study, this paper supports the opportunity aspect by showing that betel leaves are not only an agricultural product but also a plant with medicinal and market value, which can increase the commercial importance of betel leaves farming in Palghar District.

4. **Dey, Sharma, Gautam, Swain and Singh (2022),** in the research paper titled "Production and Marketing of Betel Leaf in Odisha: An Economic Analysis," concluded that betel leaf farming can be economically beneficial, but farmers face major barriers in both production and marketing. The study found that disease severity was one of the major production constraints, while price fluctuation was a major marketing constraint. It also observed problems such as involvement of middlemen, inadequate storage facilities, lack of market information, inadequate market facilities, and high transportation cost. This study is highly relevant for Palghar District because betel leaves are perishable and farmers require proper storage, transport, fair pricing, and market linkages to improve profitability.

5. **Sathya and Palanichamy (2022),** in the research paper titled "An Economic Analysis on Production of Betel Vine in Karur District of Tamil Nadu," concluded that betel vine cultivation is income-generating but is affected by several serious constraints. The study identified disease and pest infestation as the biggest production problem, followed by non-availability of labour, lack of healthy seed vine, daily maintenance issues, insufficient government support, and absence of a research centre for the crop. It also found price fluctuation as a major marketing problem. This study is useful for Palghar District because it shows that even if betel leaves farming has income potential, farmers need disease control, labour support, quality planting material, credit facilities, and stable market prices.

6. **Kumar, Yadav, Jangid, Gupta, Kumar, Kumar and Shankar (2023),** in the research paper titled "Challenges and Economic Feasibility of Betelvine Cultivation in Uttar Pradesh," concluded that betelvine is a profitable commercial crop with a favourable benefit-cost ratio and can provide employment to small farmers. The study stated that betel vine farming is labour-intensive and capital-intensive, but it can create stable income and work opportunities. At the same time, the main challenges identified were lack of quality planting material, pest and disease infestation, weak market availability, and natural calamities. This paper is relevant for Palghar District because it clearly connects both sides of the study: opportunities in income and employment, and challenges in production risk, market uncertainty, and crop loss.

7. **Paul (2021),** in the research paper titled "Problems and Prospects of Betel Leaf Farming: A Case Study of Alipurduar District, West Bengal," concluded that betel leaf farming provides livelihood support and year-round income to rural farmers, especially where climatic and economic conditions are suitable. The study found that farmers can earn good profit from small landholdings, but they also face problems such as high capital investment, natural calamities, insect attacks, and disease problems. The paper suggested that proper support systems and solutions are necessary to reduce losses and improve the prospects of betel farming. This study is useful for Palghar District because it focuses directly on both problems and prospects of betel leaf farming at the village level.

8. **Ravikumar, Munusamy and Ezhilarasan (2024),** in the research paper titled "A Study on Production and Marketing Challenges of Betel Leaf Cultivation in Namakkal District, Tamil Nadu," concluded that betel leaf cultivation provides substantial income and livelihood to farmers, but production and marketing challenges are very serious. The study found that heavy investment, absence of research stations, lack of crop loans, and disease attacks were major production problems. In marketing, excessive commission, absence of regulated markets, improper payments, and improper bidding

systems were ranked as major challenges. This paper is important for the Palghar study because it shows that farmers' satisfaction depends not only on production, but also on fair marketing systems, credit support, and institutional arrangements.

9. **Mahfuza, Ahamed and Hassan (2023),** in the research paper titled "Impact of Betel Leaf Farming on Livelihood and Income Generation in Some Selected Areas of the Rajshahi District of Bangladesh," concluded that betel leaf farming improves livelihood and income generation for farmers. The study found that many farmers experienced better living standards due to betel leaf production. However, the study also identified major risks such as inadequate capital, market risks, production risks, institutional risks, human risks, and financial risks. This study is useful for the Palghar District topic because it shows that betel leaf farming can improve income and living standards, but farmers require financial support, institutional guidance, and risk management systems for long-term sustainability.
10. **Singh et al. (2023),** in the research paper titled "A Literature Review on Bioactive Properties of Betel Leaf Extracts," concluded that betel leaf has strong bioactive, medicinal, food, and industrial importance due to the presence of useful compounds such as alkaloids, flavonoids, tannins, saponins, polyphenols, and essential oils. The review highlighted that betel leaves have applications in food preservation, pharmaceuticals, and health-related uses. This paper is useful for studying opportunities in Palghar District because it shows that betel leaves have scope beyond traditional paan consumption, including value addition, processing, medicinal products, and commercial diversification. Such opportunities can help farmers improve income if proper training, processing facilities, and market channels are developed.

RESEARCH GAP:

The review of literature shows that many studies have focused on the economic importance, medicinal value, production practices, profitability, marketing problems, pest and disease issues, and livelihood contribution of betel leaf farming in different regions of India such as Odisha, Tamil Nadu, Uttar Pradesh, West Bengal, and also in Bangladesh. However, very limited research has been conducted specifically on betel leaves farming in Palghar District of Maharashtra. Earlier studies have mainly discussed general problems such as high cultivation cost, price fluctuation, lack of storage, market dependency, labour shortage, and disease attacks, but there is a lack of district-level analysis focusing on the actual opportunities and challenges faced by betel leaf farmers in Palghar. Moreover, limited studies have examined farmers' satisfaction in relation to income, market availability, government support, irrigation, and agricultural resources. Therefore, the present study attempts to fill this gap by analysing the opportunities, challenges, and satisfaction levels of betel leaves farmers in Palghar District and by understanding how these factors influence the sustainability and future growth of betel leaves farming in the region.

RESEARCH METHODOLOGY:

The study is based on a descriptive and analytical research design to examine the opportunities and challenges of betel leaves farming in Palghar District. The study uses both primary and secondary data. Primary data was collected from 75 betel leaves farmers through a structured questionnaire, which included demographic factors such as gender, age, years of farming, and yearly income from farming, along with Likert-scale statements related to opportunities, challenges, and satisfaction. Secondary data was collected from research papers, journals, articles, government reports, and online sources related to betel leaves farming and agricultural development. The sampling method used for the study is convenient sampling, as respondents were selected based on their availability and involvement in betel leaves farming. The collected data was analysed using percentage analysis, mean score, one-sample t-test, Friedman test, Pearson correlation, and linear regression. These statistical tools helped to understand the level of opportunities and challenges, identify the major influencing factors, and examine the impact of opportunities and challenges on farmers' satisfaction in betel leaves farming in Palghar District.

Data Analysis:

The following table indicates the demographic factor of the study:

Sr.no	Demographic Factor	Category	Frequency	Percent
1	Gender	Male	44	58.7
		Female	31	41.3
2	Age Group	Up to 30 Years	10	13.3

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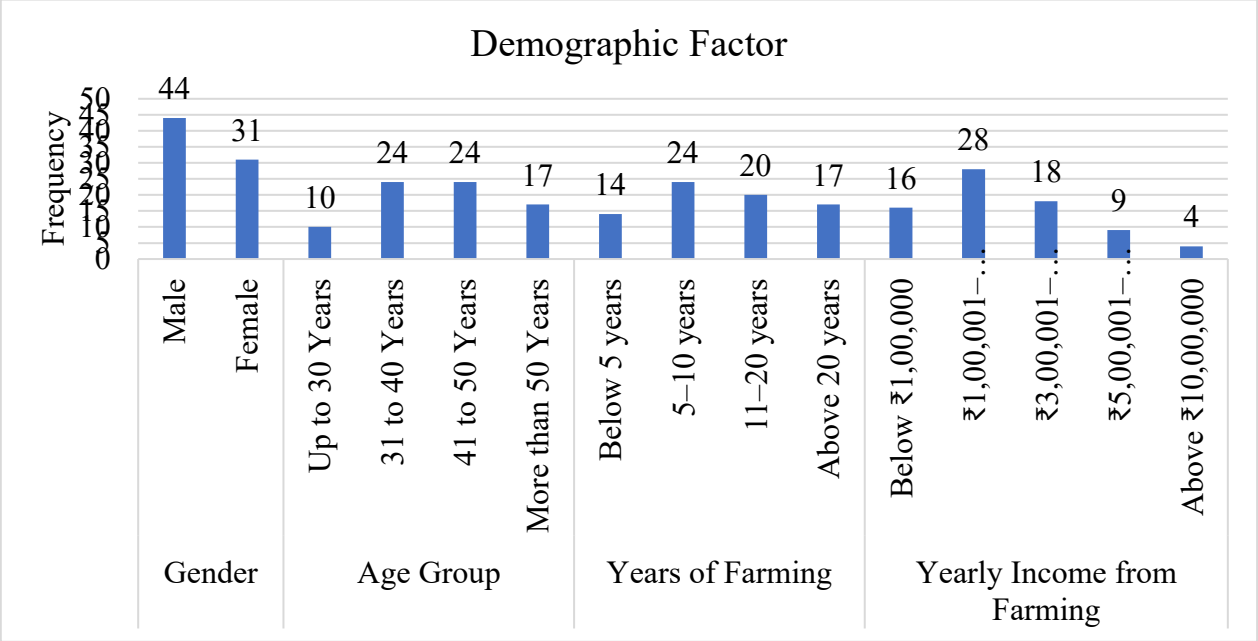
		31 to 40 Years	24	32.0
		41 to 50 Years	24	32.0
		More than 50 Years	17	22.7
3	Years of Farming	Below 5 years	14	18.7
		5–10 years	24	32.0
		11–20 years	20	26.7
		Above 20 years	17	22.7
4	Yearly Income from Farming	Below ₹1,00,000	16	21.3
		₹1,00,001–₹3,00,000	28	37.3
		₹3,00,001–₹5,00,000	18	24.0
		₹5,00,001–₹10,00,000	9	12.0
		Above ₹10,00,000	4	5.3

The demographic profile of the respondents shows that out of 75 betel leaves farmers, the majority were male respondents with 44 farmers representing 58.7%, while female respondents were 31, representing 41.3%. In terms of age, most respondents belonged to the middle-age category, with 24 respondents each in the 31 to 40 years and 41 to 50 years age groups, both accounting for 32.0% each, followed by 17 respondents above 50 years representing 22.7%, and 10 respondents up to 30 years representing 13.3%. Regarding farming experience, the highest number of respondents, 24 farmers or 32.0%, had 5–10 years of farming experience, followed by 20 respondents or 26.7% with 11–20 years of experience, 17 respondents or 22.7% with above 20 years of experience, and 14 respondents or 18.7% with below 5 years of experience. In the case of yearly income from farming, the largest group of respondents, 28 farmers or 37.3%, earned between ₹1,00,001 and ₹3,00,000 annually, followed by 18 respondents or 24.0% earning ₹3,00,001 to ₹5,00,000, 16 respondents or 21.3% earning below ₹1,00,000, 9 respondents or 12.0% earning ₹5,00,001 to ₹10,00,000, and only 4 respondents or 5.3% earning above ₹10,00,000. Overall, the table indicates that betel leaves farming in Palghar District is mainly carried out by middle-aged male farmers with moderate farming experience and mostly low to middle levels of annual agricultural income.



Objective-1: To study the Opportunities of Betel Leave Farming in Palghar District.

Null Hypothesis H_{01}: There is no Opportunities of Betel Leave Farming in Palghar District.

Alternate Hypothesis H_{11}: There is a Opportunities of Betel Leave Farming in Palghar District.

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To test the above null hypothesis, One Sample T-test is applied and results are as follows:

One-Sample Test				
	Test Value = 60			
	t	df	P-value	Mean Difference
Opportunities	3.341	74	.001	8.800

Interpretation: The above results indicate that calculated p-value is 0.001. It is less than 0.05. Therefore One Sample T-test is rejected. Hence Null hypothesis is rejected and Alternate hypothesis is accepted.

Conclusion: There is a Opportunities of Betel Leave Farming in Palghar District.

Findings: To understand the findings, mean scores are obtained and presented as follows:

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Opportunities	75	68.80	22.808	2.634

The one-sample statistics show that the mean score for opportunities of betel leaves farming in Palghar District is 68.80 out of 100, with a standard deviation of 22.808 and a standard error mean of 2.634 for 75 respondents. This mean score indicates that the overall perception of farmers towards opportunities in betel leaves farming is positive and above the average level.

Factors Influencing the Opportunities for Betel Leaves Farming in Palghar District:

Test Statistics[a]	
N	75
Chi-Square	3.830
df	4
P-value	.430
a. Friedman Test	

Interpretation: The above results indicate that calculated p-value is 0.430. It is more than 0.05. Therefore Friedman test is accepted. Hence Null hypothesis is accepted and Alternate hypothesis is rejected.

Ranks	
	Mean Rank
5.1 Betel leaves farming provides a good source of income to farmers in Palghar District.	3.02
5.2 The climate and soil conditions of Palghar District are suitable for betel leaves cultivation.	2.99
5.3 There is good market demand for betel leaves produced in Palghar District.	2.90

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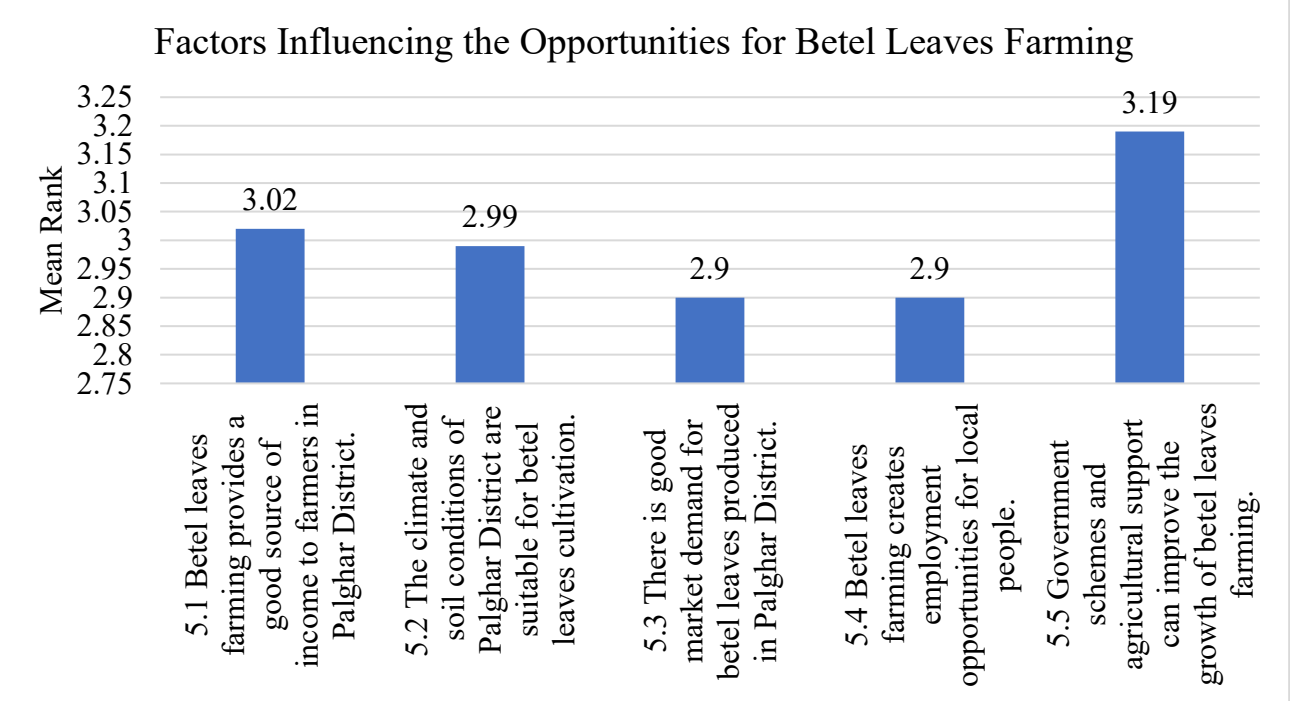
5.4 Betel leaves farming creates employment opportunities for local people.	2.90
5.5 Government schemes and agricultural support can improve the growth of betel leaves farming.	3.19

The mean rank analysis shows the relative influence of different factors on the opportunities for betel leaves farming in Palghar District. Among all the factors, government schemes and agricultural support received the highest mean rank of 3.19, which indicates that farmers consider government support, subsidies, training, and agricultural assistance as the most influential factor for improving betel leaves farming opportunities. The second highest factor is good source of income with a mean rank of 3.02, showing that income generation is also an important opportunity for farmers. This is followed by suitable climate and soil conditions with a mean rank of 2.99, which indicates that the natural environment of Palghar is moderately influential for betel leaves cultivation. The factors good market demand and employment opportunities for local people both received the lowest mean rank of 2.90, suggesting that these factors have comparatively lower influence than the other opportunity factors. Overall, the findings show that government and agricultural support is the strongest factor influencing opportunities, while market demand and employment generation have relatively lower influence in betel leaves farming in Palghar District.



Objective-2: To study the challenges of Betel Leave Farming in Palghar District.

Null Hypothesis H_{02}: There is no challenges of Betel Leave Farming in Palghar District.

Alternate Hypothesis H_{12}: There is a challenges of Betel Leave Farming in Palghar District.

To test the above null hypothesis, One Sample T-test is applied and results are as follows:

One-Sample Test				
	Test Value = 60			
	t	df	P-value	Mean Difference
Challenges	4.785	74	.001	12.693

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Interpretation: The above results indicate that calculated p-value is 0.030. It is less than 0.05. Therefore One Sample T-test is rejected. Hence Null hypothesis is rejected and Alternate hypothesis is accepted.

Conclusion: There is a challenges of Betel Leave Farming in Palghar District.

Findings: To understand the findings, mean scores are obtained and presented as follows:

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
Challenges	75	72.69	22.972	2.653

The one-sample statistics show that the mean score for challenges of betel leaves farming in Palghar District is 72.69 out of 100, with a standard deviation of 22.972 and a standard error mean of 2.653 for 75 respondents. This mean score indicates that farmers experience a high level of challenges in betel leaves farming. It suggests that respondents strongly agree that issues such as high cost of cultivation, pest and disease problems, lack of proper irrigation facilities, difficulty in receiving fair market prices, and inadequate storage, transportation, and marketing facilities affect betel leaves farming in Palghar District.

Challenging Factors for Betel Leaves Farming in Palghar District:

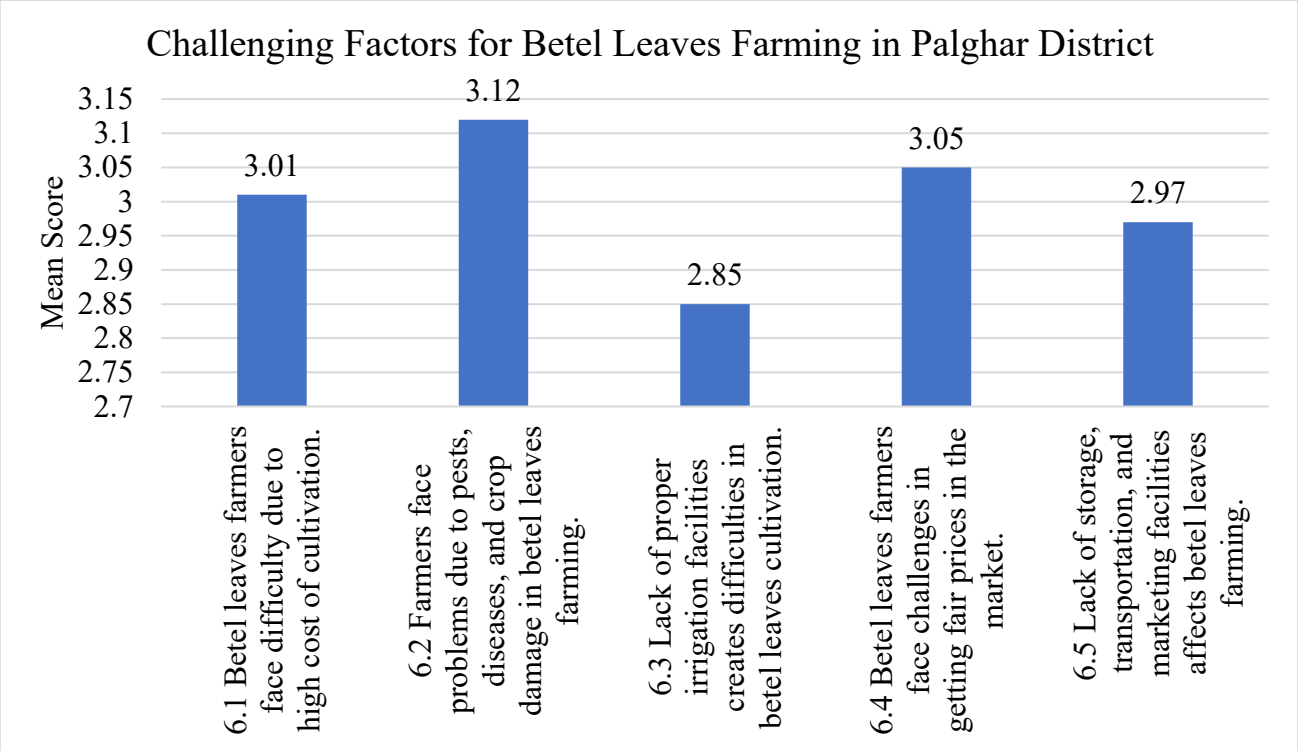
Test Statistics[a]	
N	75
Chi-Square	2.754
df	4
P-value	.600
a. Friedman Test	

Interpretation: The above results indicate that calculated p-value is 0.600. It is more than 0.05. Therefore Friedman test is accepted. Hence Null hypothesis is accepted and Alternate hypothesis is rejected.

Ranks	
	Mean Rank
6.1 Betel leaves farmers face difficulty due to high cost of cultivation.	3.01
6.2 Farmers face problems due to pests, diseases, and crop damage in betel leaves farming.	3.12
6.3 Lack of proper irrigation facilities creates difficulties in betel leaves cultivation.	2.85
6.4 Betel leaves farmers face challenges in getting fair prices in the market.	3.05
6.5 Lack of storage, transportation, and marketing facilities affects betel leaves farming.	2.97

The mean rank analysis shows the relative influence of different challenges faced by betel leaves farmers in Palghar District. Among all the challenges, pests, diseases, and crop damage received the highest mean rank of 3.12, which indicates that this is

the most influential and serious challenge affecting betel leaves farming. The second highest challenge is difficulty in getting fair prices in the market with a mean rank of 3.05, showing that price fluctuation and lack of fair market returns are also major concerns for farmers. This is followed by high cost of cultivation with a mean rank of 3.01, which suggests that expenses related to labour, inputs, irrigation, and maintenance create financial pressure on farmers. Lack of storage, transportation, and marketing facilities received a mean rank of 2.97, indicating a moderate level of influence on farming challenges. The lowest mean rank is for lack of proper irrigation facilities with 2.85, which shows that although irrigation is a challenge, it has comparatively lower influence than pests, diseases, market price issues, and cultivation cost. Overall, the findings indicate that pest and disease problems are the most influential challenge, while lack of irrigation facilities is the least influential challenge in betel leaves farming in Palghar District.



Objective-3: To study the impact of challenges on satisfaction of Farming in Palghar District.

Null Hypothesis H_{03}: There is no impact of challenges on satisfaction of Farming in Palghar District.

Alternate Hypothesis H_{13}: There is a impact of challenges on satisfaction of Farming in Palghar District.

To test the above null hypothesis, Pearson Correlation test is applied and results are as follows:

Correlations				
		Satisfaction	Opportunities	Challenges
Satisfaction	Pearson Correlation	1	.310**	-.293*
	P-value		.007	.011
	N	75	75	75
Opportunities	Pearson Correlation	.310**	1	-.014
	P-value	.007		.907
	N	75	75	75

Challenges	Pearson Correlation	-.293*	-.014	1
	P-value	.011	.907	
	N	75	75	75
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Interpretation: The above results indicate that calculated p-values are 0.000. It is less than 0.05. Therefore Pearson Correlation test is rejected. Hence Null hypothesis is rejected and Alternate hypothesis is accepted.

Conclusion: There is a impact of challenges on satisfaction of Farming in Palghar District.

Findings: The Pearson correlation results show the relationship between satisfaction, opportunities, and challenges in betel leaves farming in Palghar District. The correlation between satisfaction and opportunities is r = 0.310 with a p-value of 0.007, which indicates a positive and statistically significant relationship. This means that when farmers perceive more opportunities in betel leaves farming, such as income generation, suitable climate, market demand, employment opportunities, and government support, their satisfaction level also increases. On the other hand, the correlation between satisfaction and challenges is r = -0.293 with a p-value of 0.011, which indicates a negative and statistically significant relationship. This means that when farmers face more challenges such as high cultivation cost, pest and disease problems, irrigation difficulties, unfair market prices, and lack of storage or transportation facilities, their satisfaction level decreases. Therefore, the findings conclude that opportunities have a positive influence on farmers' satisfaction, while challenges have a negative influence on farmers' satisfaction in betel leaves farming in Palghar District.

Dependent Variable: Satisfaction

Independent Variable: Challenges, Opportunities

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.409[a]	.167	.144	15.543
a. Predictors: (Constant), Challenges, Opportunities				

The model summary shows that the value of R is 0.409, which indicates a moderate relationship between the independent variables, namely opportunities and challenges, and the dependent variable, satisfaction. The R Square value is 0.167, which means that opportunities and challenges together explain 16.7% variation in farmers' satisfaction towards betel leaves farming in Palghar District. The Adjusted R Square value is 0.144, which shows that after adjusting for the number of predictors, the model explains 14.4% variation in satisfaction. The standard error of the estimate is 15.543, which indicates the average difference between the observed satisfaction scores and the predicted satisfaction scores. Overall, the model summary suggests that opportunities and challenges have a meaningful but moderate influence on farmers' satisfaction.

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3492.501	2	1746.251	7.228	.001[b]
	Residual	17393.685	72	241.579		
	Total	20886.187	74			
a. Dependent Variable: Satisfaction						
b. Predictors: (Constant), Challenges, Opportunities						

Above results indicates that p-value is 0.000. It is less than 0.05. It indicates that linear regression model is good to fit.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	53.191	8.265		6.435	.000
	Opportunities	.211	.079	.286	2.655	.010
	Challenges	-.205	.079	-.281	-2.609	.011
a. Dependent Variable: Satisfaction						

The coefficients table shows the individual influence of opportunities and challenges on satisfaction. The constant value is 53.191, which means that when opportunities and challenges are held constant, the predicted satisfaction score is 53.191. The coefficient value of opportunities is 0.211 with a significance value of 0.010, which is less than 0.05. This indicates that opportunities have a positive and significant influence on satisfaction. It means that when opportunities increase by one unit, satisfaction increases by 0.211 units. The coefficient value of challenges is -0.205 with a significance value of 0.011, which is also less than 0.05. This indicates that challenges have a negative and significant influence on satisfaction. It means that when challenges increase by one unit, satisfaction decreases by 0.205 units. Therefore, the findings show that opportunities improve farmers' satisfaction, while challenges reduce farmers' satisfaction in betel leaves farming in Palghar District.

$S = 53.191 + 0.211*O - 0.205*C$

CONCLUSION:

The study conclude that betel leaves farming in Palghar District has both significant opportunities and major challenges. The opportunities mean score of 68.80 indicates that farmers perceive betel leaves farming as a beneficial activity due to income generation, suitable climatic and soil conditions, market demand, employment creation, and government support. At the same time, the challenges mean score of 72.69 shows that farmers face serious difficulties such as high cultivation cost, pests and diseases, crop damage, unfair market prices, lack of irrigation, and inadequate storage, transportation, and marketing facilities. The correlation and regression results further show that opportunities have a positive and significant impact on farmers' satisfaction, while challenges have a negative and significant impact on satisfaction. Therefore, the study concludes that betel leaves farming in Palghar District has good potential for growth, but its sustainability depends on reducing production and marketing challenges, improving government and agricultural support, and strengthening facilities for farmers.

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