

# An Empirical Study on the Contribution of Financial Literacy in Regional Economic Development

Aakanksha Bharat Padghan<sup>1</sup>, Prof. Dr. Dinkar. P. Takale<sup>2</sup>

<sup>1</sup>Researcher

<sup>2</sup>Research Guide

## Abstract

The financial literacy means making smart financial decisions. The financial sector's development is essential for regional economic development. This research paper will assess the financial literacy and calculate the correlation between financial literacy and regional economic development in Marathwada region of Maharashtra. This study will conduct a test on micro-level for improvement in financial literacy with the help of self-structured questionnaire and information pamphlet. The paired t-test will be used to analyze primary data collected through pre and post test of 40 samples. This t-test will examine that if provided with the related information, can individual financial literacy improved. Improved individual financial literacy will collectively affect regional economic development positively. As Marathwada region lacks resources, its drought prone area, 21.30 % loans are taken for unproductive purposes, 77% farmers are having land less than 5 acres, problem of non-performing assets. These issues can be reduced with financial literacy; it will help in managing budget, property and assets effectively. Therefore expected result of this research is financial literacy improvement leads to regional economic development of Marathwada region. This study will create linear regression model to estimate future expected development data.

**Keywords:** Regional economic development, Financial Literacy, Marathwada region

The amount of money siphoned off by fraudsters was of Rs. 168.5 crore in 2023 in India. India completed its 75 years of independence and has solved the issues regarding literacy faced at the time of independence. But now after Amrit kal the issues like financial literacy low rate is creating havoc in society with increasing scams and frauds in society. This issue is negatively affecting the development of human capital and also the economic growth and development of country. In mid of this the Marathwada region in 2015 suffered heavy losses due to severe drought and faced challenges in covid-19 pandemic. This area lacks natural resources and has low quality soil with drought prone area, but its population is its human capital. Therefore researcher is trying to find if improvement in human capital will lead to regional economic growth. Marathwada region is one of the parts of Maharashtra located in east part of state.

This research paper will focus on the role of financial literacy in regional economic growth of Marathwada region. The correlation coefficient, regression model and paired t-test methods will help in calculation contribution of financial literacy in regional economic growth and development.

### Literature review

The researcher in his research paper, “THE ROLE OF FINANCIAL EDUCATION: THE INDIAN CASE” explained in detail that Financially illiterate people are more likely to make expensive financial planning decisions financial literacy also improves knowledge of business values, tools, actors, and legislation. The primary goal of financial literacy is to provide individuals with the knowledge and understanding of financial goods, including risks and rewards, to take educated decisions. (Reddy, Y. V., 2006)

The researcher in his working research paper, “A LITERATURE REVIEW ON THE EFFECTIVENESS OF FINANCIAL EDUCATION” concludes that some households with low income and less education make mistakes with personal finance decisions and they tend to benefit the most from financial education. As per researcher, the benefits of financial education appear to span a number of areas including retirement planning, savings, homeownership, and credit use. Financial education programs that cover specific topics and teach skills are better than those covering general subjects. The outcomes of financial education efforts are often described as “improved” or “better” results for households, though increased financial knowledge may also result in seemingly worse outcomes, such as the increased use of mortgage default in certain circumstances. (Matthew Martin, 2007)

The researcher in her research Project on, “IMPORTANCE OF FINANCIAL LITERACY AND FINANCIAL LITERACY CONTENT IN CURRICULUM” The survey questioned teachers, administrators, parents, business owners and community members and the results of study shows that there is a definite need for financial education in our schools systems and curriculum areas. There has been a steady growth of exposure to financial education making it even more valuable for the future. By instituting a Personal Finance class in a high school, the youth of today can have knowledge and skills to manage their finances and be aware of financial concepts as they relate to their everyday life. Most important thing is to know what the teachers, administrators, parents, business owners, and community members of Bozeman feel is the value of the content of this type of curriculum and also which content is most important. In the long run, the strength and health of our economy will be determined by how well we educate our young people. (Candice Arrington Tschache, 2009)

The researcher studied the determinant of digital financial literacy in their research named ‘DIGITAL FINANCIAL LITERACY AND ITS DETERMINANT: AN EMPIRICAL EVIDENCE FROM RURAL INDIA’. The data collected from the 500 respondents from the rural area in Aligarh district with the help of survey schedule, telephone interviews by experts and other participatory approach was analyzed by ordinary least square regression and multiple regression models. This study found that level of income, level of education, gender; landholding and type of house are significant determinant of digital financial awareness. Digital financial skills and knowledge is significant related with the gender, landholding, education level, marital status, age and social groups and not significantly related with the income, nature of occupation, type of ration card holder and family size. Financial attitude and behaviour are statistically significantly related with education level, gender, occupation and type of ration card. The study also found that gender, occupation, landholding, income and education, landholding and type of ration card are significant determinants of Digital financial literacy.(Azeez and Akhtar, 2021)

### Objectives

1. To assess the role of financial literacy in regional economic growth and development of Marathwada region

2. To find Correlation between Economic growth and financial literacy
3. To create financial literacy information pamphlet
4. To experiment if knowledge of financial literacy can be improved

### **Hypothesis testing-**

H0 - Financial Literacy is same in pre and post-test

H1 - Financial literacy is not same in pre and post-test

### **Research Gap-**

There is lack of experimental study in financial literacy. Most studies are on status, financial literacy situation but there is lack of research on how to improve it and it's experimentally proven. So this study focuses on how to increase financial literacy in urban society of Marathwada region through improving knowledge of financial literacy and its role in regional economic growth and development.

### **Statement of proposed problem**

To know the financial literacy's role in regional economic growth and development of Marathwada region.

### **Need of the study-**

The research studied the financial literacy of Marathwada region and from observations it's seen that there is a lack of financial literacy knowledge. The scams, frauds are increasing in society; people are regretting not having enough knowledge to differentiate scams and frauds. That is reason to boost economic development on personal level, the knowledge of financial literacy is crucial. Therefore there is need to study this topic of financial literacy in depth.

### **Scope of study**

This research paper highlights the correlation between regional economic growth and financial literacy of Marathwada region. Regression model created through data analysis will help in estimating contribution of financial literacy in regional economic growth rate. Increase in financial literacy shows improvement of human capital on intellectual basis leading to improve per capita income. As skill and ability increases, the value of human capital improves leading to increase in per capita in income. Collective increase of per capita, increases regional economies income, hence results shows increase in the regional economic growth and economic development.

But to improve this policies and government programs are having difficulties due to lack of proper information about regional economies. So, this paper will be collecting the information of financial literacy on regional level.

### **Research Methodology**

#### **1. Quantitative and Qualitative approach-**

Study will be quantitative and Qualitative in nature as the correlation between Financial Literacy and GDP of Marathwada region will be calculated and linear regression model created to estimate future values. The experimental study on knowledge of financial literacy is qualitative in nature.

**2. Variables and Components of study**

Independent variable- Financial Literacy Rate

Dependent Variable- Growth rate

3. **Data-** The Primary and Secondary data is used in this research.

4. **Data collection** - Primary data is collected through Self-structured questionnaire with sample size 40 and secondary data will be collected from authentic websites like RBI

5. **Sampling method-** Stratified random sampling method

6. **Statistical tool** – Correlation, Linear Regression, paired t-test

7. **Geographical area-** Marathwada region of Maharashtra

**Data**

The secondary data of financial literacy and economic growth rate (GDP)

INDIA			MH			Marathwada Region		
Yr	FL (%)	GDP (9%)	yr	FL (%)	GDP (%)	yr	FL (%)	GDP (%)
2013	19.5	5.5	2013	21.6	6.1	2013	10.9	3.1
2015	24	7.4	2015	20.4	6.3	2015	-10	-3.1
2018	25	6.8	2018	16.5	4.5	2018	9.6	2.6
2019	28.5	6.5	2019	19.7	4.5	2019	10	2.3
2021	27	-6.6	2021	0.31	-7.6	2021	0.12	-2.9
2022	27.6	8.7	2022	28.8	9.1	2022	30	9.3

**Chart-1 growth rate and financial literacy rate**

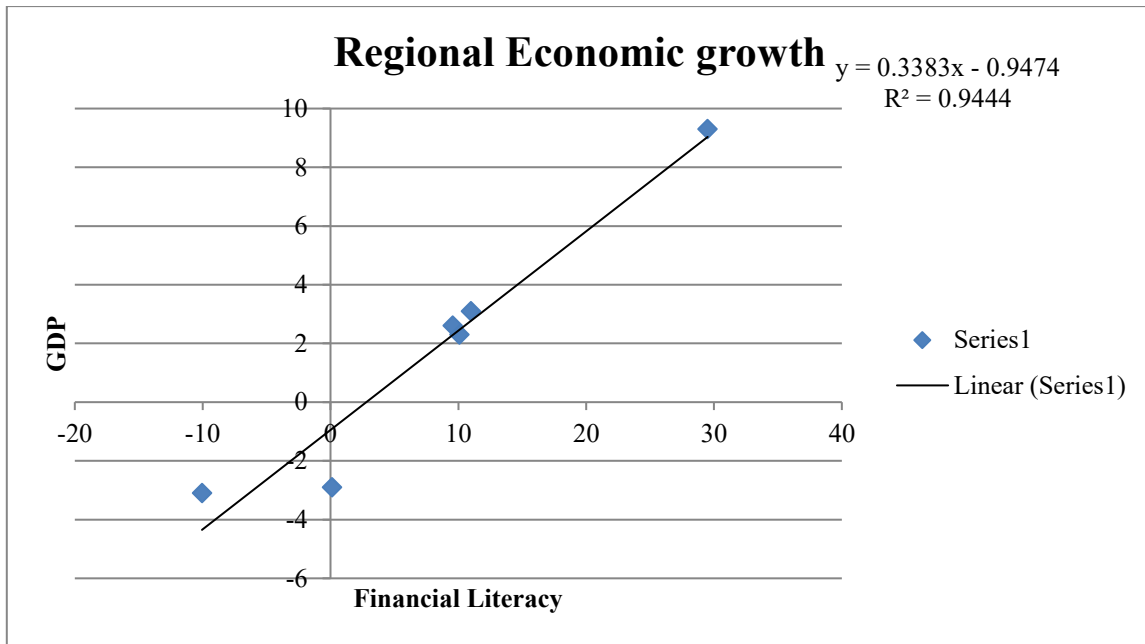
**Data Analysis**

There are 2 parts of data analysis

1. Secondary data analysis
2. Primary data analysis

**1. Secondary data analysis-**

The secondary data is financial literacy rate of India and growth rate of India, Maharashtra and Marathwada. For analysis the correlation and linear regression method are used. From the data analysis the correlation coefficient of financial literacy and growth is **0.971787**, which is close to 1. It means that regional economic growth rate is highly correlated to financial literacy and positive sign(+) shows that it have positive correlation means as financial literacy increases it will positively impact regional economic growth leading to increment in it.



**Fig-1 Regional economic growth**

From the above fig1, as financial literacy increases growth rate increases and as decreases growth rate also decreases. It shows regional economic growth is positively correlated to financial literacy. The growth rate values are close to trending lines proves that correlation between them is high. This fig1, also explains the linear regression model,  $y=0.338x-0.947$  by using this equation the future values of growth rate can be estimated with financial literacy data.

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.971787							
R Square	0.944371							
Adjusted R Square	0.930463							
Standard Error	1.207774							
Observations	6							
ANOVA								
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>			
Regression	1	99.05346	99.05346	67.90447	0.001183			

Residual	4	5.834872	1.458718					
Total	5	104.8883						
	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
Intercept	-0.94744	0.600939	-1.57667	0.190017	-2.615922	0.721032	-2.615922	0.721032
FL	0.338324	0.041057	8.240417	0.001183	0.224332	0.452315	0.224332	0.452315

**Chart-2 Regression**

From fig 1 and chart 2, the regression coefficient ( $R^2$ ) is 0.944, explains that the financial literacy affects the regional economic growth and development highly as value is close to 1. It proves that role of financial literacy positively affects regional economic growth and development of Marathwada region.

**2. Primary data analysis-**

Primary data for this research paper is collected through self-structured questionnaire. This is experimental study, where pre-test and post-test information's are collected to analysis improvement in financial literacy. Research prepared information pamphlet on financial literacy to improve knowledge of financial literacy in Marathwada region. Pre-test is to assess the current knowledge and then research samples will be provided with information pamphlet for their study and again the post-test will be conducted. The paired t-test is used for data analysis from pre-test and post-test.

t-Test: Paired Two Sample for Means		
	<i>pre-test</i>	<i>post-test</i>
Mean	4.8	8.45
Variance	2.830769231	1.074359
Observations	40	40
Pearson Correlation	0.317586624	
Hypothesized Mean Difference	0	
Df	39	
t Stat	-13.80202432	
P(T<=t) one-tail	6.78492E-17	
t Critical one-tail	1.684875122	
P(T<=t) two-tail	1.35698E-16	
t Critical two-tail	2.022690901	

**Chart-3 Paired t-test**

The above chart-3 shows the paired t-test analysis. Calculated t-test value is -13.80 and t-test critical value is 2.02, so the calculated value is higher that critical value. Therefore, H0 is rejected means the fin-

ancial literacy in pre-test and post-test is not same but different.

But to know that if financial literacy improved or not the percentage change values are calculated as below-

Demographic Data				
Factors		Pre-test (%)	Post-test (%)	%change
Gender	Male	49	84	35
	Female	47	85	38
Age	20-30	54	84	30
	30-40	43	85	42
	40-50	46	84	38
	50-60	49	85	36
Education	12th	44	87	43
	Diploma	51	86	35
	Graduation	43	82	39
	Post-Graduation	54	83	29
Income	Below1 lakh	47	86	39
	1 lakh to 5 lakh	52	86	34
	5 lakh to 7.5 lakh	47	84	37
	Above 7.5 lakh	46	82	36
Overall		48	84.5	36.5

**Chart-4 Financial Literacy Factor wise change**

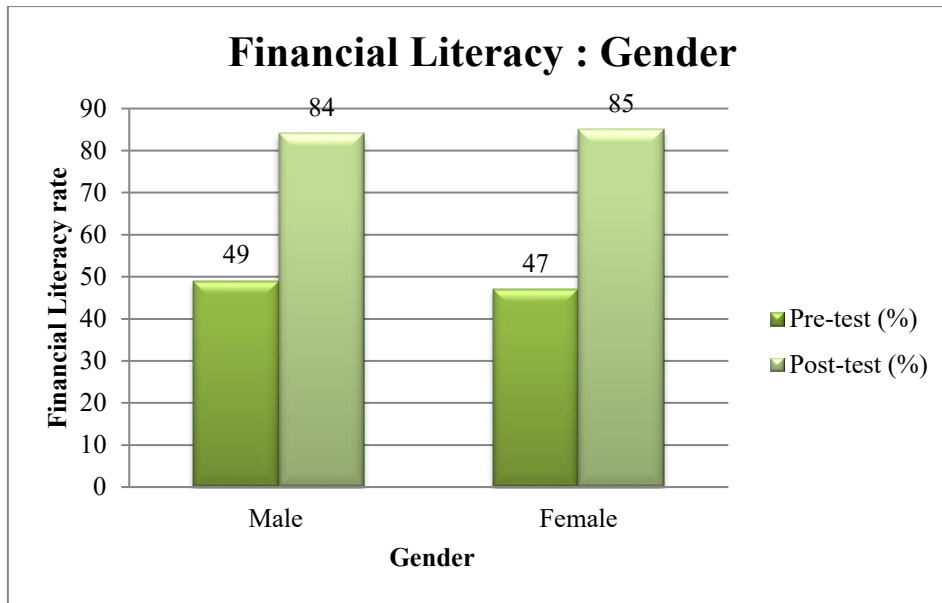
The above chart-4 shows that there is significant increase of 36.5% in financial literacy knowledge level from pre-test and post-test. So if provided with information the knowledge can be increased. It also proves that the campaign of financial literacy initiated by RBI to improve financial literacy is helpful.

**Demographic Data Analysis-**

The demographic factor wise the data analysis is taken place for detailed information on financial literacy status. These four factors are- Gender, Age, Education, Income. Precise data is collected through these factors, so in policy formation exact data group can be focus and by using appropriate resources, efficient increase in financial literacy can be achieved. Therefore their analysis plays important role in resource allocation, policy formation in development.

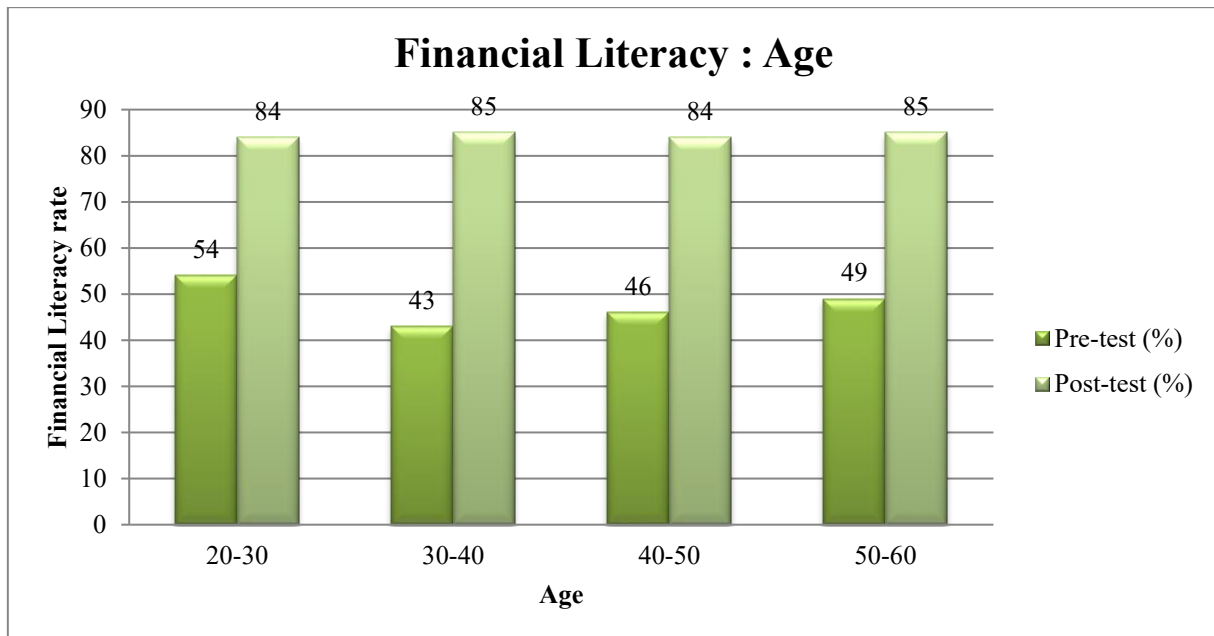
Factors-

1. Gender
2. Age
3. Education
4. Income



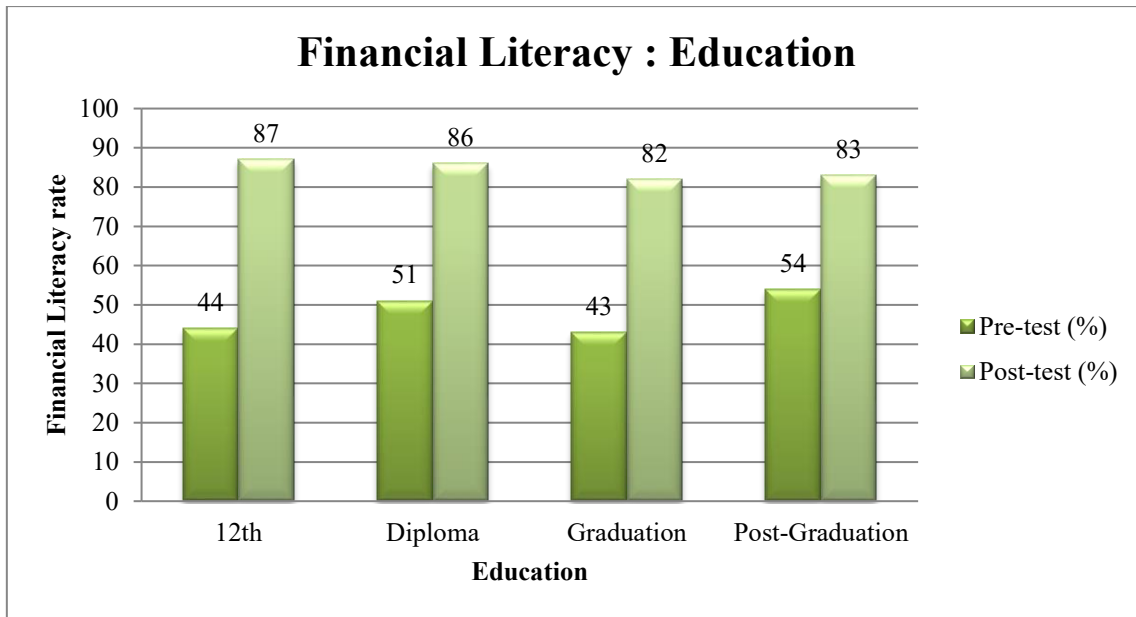
**Diagram-1 Financial Literacy: Gender**

From diagram-1 shows the status of financial literacy according to gender. As gender, financial literacy differs. From pre-test and post-test, financial literacy in male increased to 84 from 49 and in female it is 85 from 47. The increased percentage is higher in female i.e. 38% than in male is 35%. Therefore female have slightly financial literacy than male and improvement rate is higher in female.



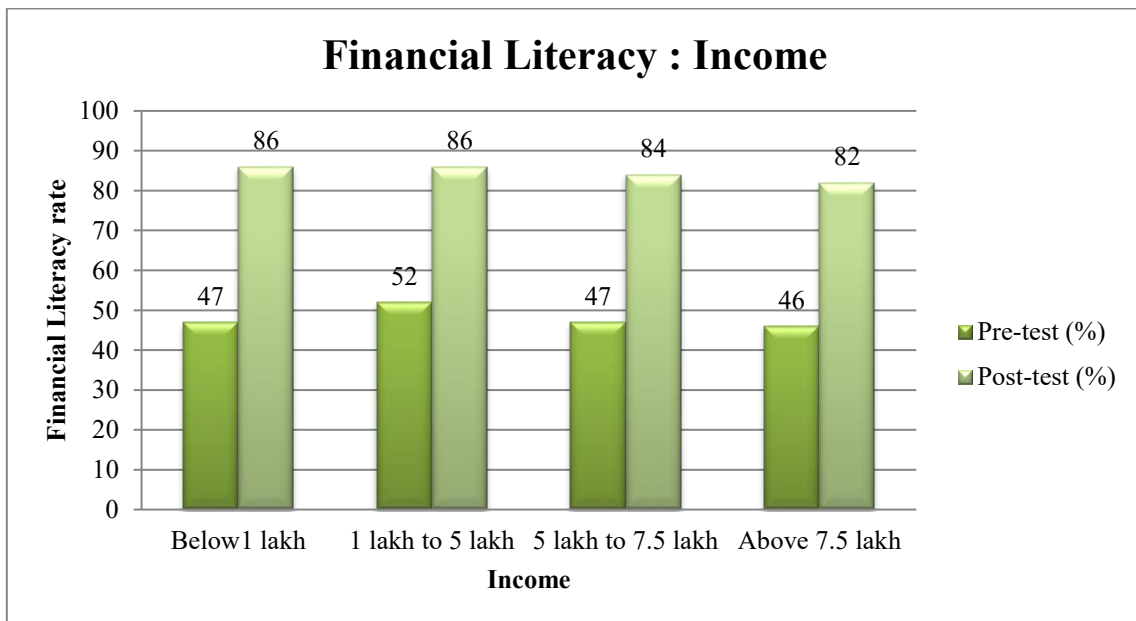
**Diagram-2 Financial Literacy: Age**

Above diagram 2 shows the data of financial literacy according to age. The analysis result concludes that age 30-40 and 50-60 have higher financial literacy than other age group. The age group of 30-40 shows highest improvement of 42% than other age groups. After learning information on financial literacy, every group has shown the improvement. Hence by providing appropriate and efficient information financial literacy can be improved.



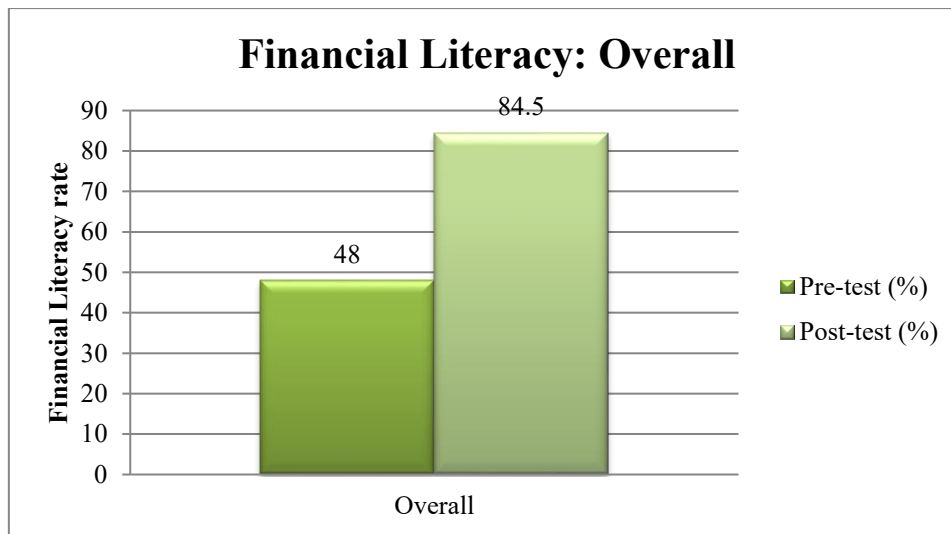
**Diagram-3 Financial Literacy: Education**

From Diagram-3, it shows the effect of education on financial literacy. Higher education shows higher financial literacy, as post-graduate have 54% financial literacy rate in pre-test. But in post-test, people with 12<sup>th</sup> have 87% of financial literacy. Same group of 12<sup>th</sup> shows highest improvement in financial literacy of 43%.



**Diagram-4 Financial Literacy: Income**

From diagram-4, Income affects financial literacy rate. Below 1 lakh income group shows 39% of improvement in their financial literacy. It shows that if disposable income is less, more efficient allocation is done to satisfy wants. The income groups of below 1 lakh and 1 lakh to 5 lakh have higher financial literacy 86% than the other two income groups 84% and 82%.

**Diagram-5 - Financial Literacy: Overall**

From diagram-5, the overall improvement in financial literacy is 36.5%. Therefore financial literacy knowledge plays important role in improvement of financial literacy.

### Results

The study conducted on 2 levels, first is the correlation between regional economic growth and financial literacy and second is if it's correlated then ways to improves financial literacy to boost regional economic growth and development.

The results of study as follows-

1. Strong positive correlation in between regional economic growth and financial literacy.
2. In hypothesis testing,  $H_0$  is rejected showing that financial literacy in pre and post test is not the same.
3. The linear regression model is created to estimate future values of regional economic growth rate from financial literacy data
4. The percentage change in pre and post test is high shows that financial literacy increased after provided with information pamphlet.

### Suggestions

1. Financial literacy syllabus should be included in textbooks of academy
2. Program on Financial literacy awareness should be spread on higher scale
3. Practical and application of economics theories and concepts should be promoted
4. Use of Digital methods should be increased to spread the financial literacy

### Conclusion

This study concludes that improvement in financial literacy leads to increase in regional economic growth and development. The Information pamphlet provided by RBI is helpful in improving financial literacy knowledge. So, with increase in financial literacy, the human capital can be improved in Marathwada region leading to increase in per capital income and it will boost regional income. This study proves that the financial literacy plays a positive and important role in regional economic develop-

ment.

### Limitations

1. **Geographical Limitations:** Only urban society of Marathwada region is included and rural excluded
2. **Factors of Financial literacy:** Only the financial literacy knowledge is assessed. Other factors like behaviour, financial tools and instruments, financial services are not included.

### References

1. Reddy, Y. V. (2006). The Role of Financial Education: The Indian Case.
2. Martin, M. (2007, June). A Literature Review on the Effectiveness of Financial Education. 1-26. W.P. No. 07-03.
3. Tschache, C. A. (2009, July). Importance Of Financial Literacy And Financial Literacy Content In CurricuLUM. 1-58.
4. Azeez and Akhtar (2021) 'digital financial literacy and its determinant: An Empirical evidence from rural India'. June 2021 [South Asian Journal of Social Studies and Economics](#) 11(2):8-22, published-Research gate
5. Global Financial Literacy Excellence Centre
6. Maharashtra Survey
7. NCFE ( National centre for Financial Literacy)
8. RBI [www.rbi.org](http://www.rbi.org)
9. SEBI
10. World Bank