

Role of Women's Education in Economic Growth: An Empirical Analysis Using NFHS Data

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ABSTRACT

Background: Women education is crucial for the economic growth of the nation. Educating women boost the economy of the country. This study is to investigate the role of women's education in economic growth in India.

Methods: Descriptive statistics and comparative analysis among the two rounds of National Family Health Survey (NFHS-4) and (NFHS-5) data were used for the analysis. The study is based on women in India to examine the women education and economic growth. The data analysed on excel sheet and SPSS by applying t-test and regression and the correlation analysis on women education and economic growth indicators in India extracted from NFHS-4 and NFHS-5.

Results: The data analysis reveals that women education has significant impact on economic growth. The NFHS-5 showing improvement in women literacy and education which has significant positive effect on women employability, health awareness, decision making and economic participation.

Conclusion: Women education has essential role in economic growth of the nation. They are actively participated in employability, entrepreneurship and work to increase the growth of the country.

KEYWORDS:

Women education, women empowerment, socio-economic status, NFHS Data, economic growth

INTRODUCTION:

Education is a key aspect and the powerful tool that empowers the nation, drives economic growth and fostering progress. It fosters critical thinking, creative thinking, problem solving and skills development. Education creates civilization, it provides values in life, promote progress, equality and growth. It leads to healthy life style, good food and good health. Education is important for creating an informative, productive and sustainable development.

Women education is very essential for the development of the nation. Educated women promotes family education, health, child health and awareness, social and economic growth of the family. Education empowers women to make decision, build confidence in them. It reduces the gender difference, increase the role of women in social, political, industrial, health and other factor. Education equips women with skills for self-depending and remarkable role in society.

Women education ensuring women participation in economic empowerment by increasing role of women in economic decision making from home to international role. Their participation essential increase the economic growth. For sustainable development women participation in work should be increase and gender discrimination should be decreases.

Women's economic empowerment increases the economy and income equality. Closing gender gap increases women participation and open the opportunities for women job and business. Increasing women education, upskilling and re-skilling them transform the market, women participation in labour market, generating opportunities for income, health well-being. Women economic equality benefit by increasing employability, leadership opportunities.

Women and the sustainable development goals (SDGs)

SDG -8: Decent work and economic growth. SDGs promote sustained economic growth, higher productivity and technology innovation. Encouraging entrepreneurship, creating job, productive employment and work. Enhance economic productivity by upgrading technology uses and innovation through value added and labours intensive sector.

SDG- 5: Achieve gender equality and empower all women and girls. It ensures closing of discrimination and providing equal rights to all women on health, land, property, etc. It provides access to education, work, health care, decision-making in political, economic, social issues, public life, human rights of women and girl children. Enhance the technology use to empower the women. Adopting the policies that promote gender equality and empowerment of women.

SDG -4: Ensuring inclusive and equitable quality education and promote lifelong learning opportunities for all. Ensuring equal opportunity of studying primary and secondary education for all. It promotes vocational program, acquiring of knowledge and skills needed for sustainable development, promotion of culture, heritage and gender equality.

In India National Family Health Survey (NFHS) is a survey conducted in multi round phase in all India. It provides state-wise data about health, nutrition, education, socio-economic indicators. NFHS is conducted by Ministry of Health and Family Welfare, Government of India and coordinated by International Institute for Population Science (IIPS) Mumbai.

Women education plays crucial role in economic growth. Education access to women employment, entrepreneurship, leadership. Higher rate of women literacy and education expand the economic growth of the nation. Educate women are more likely to get employment, make informed health and economic decision, increases labour force participation, increase productivity and reduces poverty. Women education is an investment for better society and national progress.

REVIEW OF LITERATURE:

Education is very essential for the growth of the nation and human civilisation. Education is equally important for both male and female. For a family growth women education is playing core essential role. Education and socio-economic status walking hand in hand as education improve socio economic status of women. (Debnath J., 2020). Progress of a family is based on the women's education, educated women have progressive mindset. Educated women boost the family as well as society through various perspective like cultural, social, etc. women who are self- financing and educated are tends to be decision maker in building the economic status of the family. Women education resulting in economic empowerment. (Meena R. & Tiwari V.,2021). A study suggested that education and employment both are important in changing socio-economic status of women. (Vimlesh,2020). Education is a transformative power that support women to overcome socio economic obstacles and contribute in development of the family and the society. Education helps women to become economically independent, health conscious, social and politically active. Educational interventions, vocational training, proper implementation of policy enhance women education and their role in improving socio-economic status. (Bv H., 2023). Women education bridging the gap of gender biased, and promoting gender equality. Women education leads to women empowerment and increasing their economic progress. Educated women become more health conscious. (Asadullah M. & Yeasmin M., 2022). Socio economic status of women including the quality of life. Women who are educated at least up-to higher secondary education are becoming self- independent by earning money and participating in economic development. (Premchand T. et al.,2025). Women empowerment enables women status in their family and society. Education plays significant role in women empowerment. Higher education in women influence women's decision making capacity and empowering women (Akki S. &Saviranath BV., 2025). Education in women gain their confidence, living a respectful life and contributing in family advancement. (Pandey, A. and Tiwari, R. ,2023). Women education is necessary to overcome the gender discrimination and violence against the women in society. Education empowering the women and empowering women leads to betterment of the family and nation. Family finance strengthened when women earns and it shows positive attitude

towards women's economic empowerment. (Sharma N., et al., 2023). A study suggested the women empowerment can contribute to sustainable development goals for 2030. Various strategies and plans by government boost the women education and empowerment. (Dey A.et al.,2018)

OBJECTIVES OF THE STUDY:

1. To determine the status of women's education in India using NFHS-4 and NFHS-5 Data.
2. To find out the relationship between women's education and their economic participation.
3. To assess the empirical contribution of women's education to their economic growth.

DATA AND METHODOLOGY:

The main objective of this study is to analyse the role of women education in economic growth by analysis data from NFHS (National Family Health Survey).

This study used secondary data from NFHS-4 (2015-16)⁹ and NFHS-5 (2019-21)⁸, focusing on women in India. Key variables used women who are literate, women with 10 or more years of schooling, women age 20-24 years married before age 18 years, currently married women who usually participate in three household decisions, women owning house and/or land, women having a bank or saving account that they themselves use, women having a mobile phone that they themselves used, women age 15-24 years who use hygienic methods of protection during their menstrual period.

Descriptive statistics and comparative analysis across between the two NFHS rounds are employed to assess trends and associations. The data analysed on excel sheet by applying t- test and Regression test on women education and economic growth indicators in India from NFHS-4 and NFHS-5.

INDICATORS	NFHS-4 (India)	NFHS-5(India)
women who are literate (age 15-49) (%)	68.4	71.5
women with 10 or more years of schooling (age15-49) (%)	35.7	41
women age 20-24 years married before age 18 years (%)	26.8	23.3
Currently married women who usually participate in three household decisions	84	88.7
Women owning house and /or land (alone or jointly with others)	38.4	43.3
Women having a bank or saving account that they themselves use	53	78.6
Women having a mobile phone that they themselves used	45.9	54
Women age 15-24 years who use hygienic methods of protection during their menstrual period (%)	57.6	77.3

RESULT AND ANALYSIS:

Figure-01: Table showing NFHS-4 and NFHS-5 data showing women education and economic growth in India.

The data indicates that in India the rate of women literacy (age 15-49) % increases in NFHS-5 as compare to NFHS-4. There is increase in percentage of women with 10 or more years of schooling from 35.7% in NFHS-4 to 41 % in NFHS-5. National family Health Survey states that early marriage in decreasing in India. Women age 20-24 years married before age 18 years is reduced in NFHS-5. In regards of women empowerment women participation in household decisions increases. There are significant increase women owing house/land and having bank / saving account. There is visible increment in percentage of women having a mobile phone that they themselves used. Women age 15-24 years who use hygienic methods of protection during their menstrual period percentage improve significantly which is 77.3% in NFHS – 5.

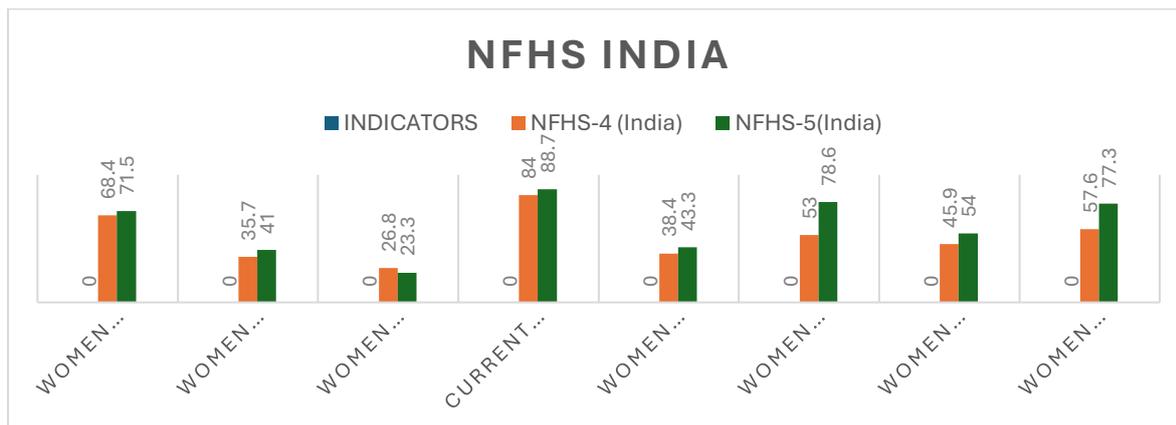


Figure-2

This graph represented the NFHS-4 and NFHS-5 data on women education and indicators of women growth in India.

t-Test: Paired Two Sample for Means		
	NFHS-4 (India)	NFHS-5(India)
Mean	51.225	59.7125
Variance	349.0592857	517.6155357
Observations	8	8
Pearson Correlation	#N/A	
Hypothesized Mean Difference	0	
df	7	
t Stat	-2.532879404	
P(T<=t) one-tail	0.019534123	
t Critical one-tail	1.894578605	
P(T<=t) two-tail	0.039068246	
t Critical two-tail	2.364624252	

Regression Statistics	
Multiple R	0.9208679
R Square	0.8479978
Adjusted R Square	0.8175973
Standard Error	8.002018
Observations	7

Figure-03

The data analysis interpretation shows $P(T \leq t)$ one tail 0.0195341 and $P(T \leq t)$ two tail 0.039068 which signifies, positive improvement on women education and economic growth in NFHS-5 compare to NFHS-4 in India.

This study conducting multiple linear regression analysis to examine the impact of women education on economic growth in India. Women education and economic growth indicators shows there is significant improvement in NFHS-5 as compare with NFHS-4 data. The economic growth is explained by women’s education and other variable. The study suggests that women’s education has strong influence on economic growth. Also increase in percentage of women literacy and education shows improvement in economic growth.

	<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	7.105834667	8.448863553	0.841040292	0.438684	-14.61266051	28.82432985	-14.61266051	28.82432985
71.5	0.718018605	0.135949729	5.281500815	0.003241	0.368548701	1.067488509	0.368548701	1.067488509

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1786.132824	1786.132824	27.89425	0.003240944
Residual	5	320.1614614	64.03229229		
Total	6	2106.294286			

Correlations			
		NFHS-4 (India)	NFHS-5(India)
NFHS-4 (India)	Pearson Correlation	1	.914**
	Sig. (2-tailed)		0.001
	N	8	8
NFHS-5(India)	Pearson Correlation	.914**	1
	Sig. (2-tailed)	0.001	
	N	8	8
**. Correlation is significant at the 0.01 level (2-tailed).			

The above table is showing the strong positive correlation at 0.01 level between NFHS-4 and NFHS-5.

Correlations				
			NFHS-4 (India)	NFHS-5(India)
Spearman's rho	NFHS-4 (India)	Correlation Coefficient	1.000	.905**
		Sig. (2-tailed)	.	.002
		N	8	8
	NFHS-5(India)	Correlation Coefficient	.905**	1.000
		Sig. (2-tailed)	.002	.
		N	8	8
**. Correlation is significant at the 0.01 level (2-tailed).				

The Spearman’s rho correlation show significant at 0.01 which signifies positive correlation between NFHS-4 and NFHS-5.

DISCUSSION:

Women education and economic growth outline by using NFHS-4 and NFHS-5 data. The study reveals that in India women literacy and education increases with years 2015-2021. The percentage of women completing 10 or more years of schooling show improvement over time. The economic growth factors such as early marriage decreases. Women participation in decision making increases, women own bank account increases and the hygiene in women increases during mensuration cycle. It shows positive effect of women education on economic growth. The study suggests that education equips women to become confident and decision maker. It provides a status in society and awareness in women.

CONCLUSION:

Women education is important for economic growth of the nation. Educating women is an investment which results in growth of the nation. The NFHS- 4 and NFHS-5 data analysis show the increasing rate of women literacy and education attainment tend to increase women labour participation, decision making capacity, income, awareness about health and economy. Women education open the door of opportunities for women to work, having their own income, bank balance. Education creates awareness among women for good health and hygiene.

RECOMMENDATION:

Promoting women education at primary, secondary as well as tertiary level by the government of India.

Integrating education with market demand to develop essential skills and vocational programs for targeting employment among women.

Promoting digital literacy and awareness among women to increase women active participation in economic growth.

Providing financial, social and moral support to girls and women for education.

Encouraging women labour force participation, providing safe environment to work, stopping gender biased system and supporting women in growth.

REFERENCES:

1. Dey A, Majumdar KK, Chakraborty AK, Mandal AK. Women Empowerment in India – A Perspective. Natl J Community Med [Internet]. 2018 Aug. 31 [cited 2026 Feb. 4];9(08):574-9. Available from: <https://njcmindia.com/index.php/file/article/view/768>

2. Hemamalini Bv. (2023). ROLE OF EDUCATION IN EMPOWERING WOMEN: A MULTIDIMENSIONAL ANALYSIS ACROSS SOCIO-ECONOMIC CONTEXTS IN INDIA. *ShodhKosh: Journal of Visual and Performing Arts*, 4(2), 4555–4562. <https://doi.org/10.29121/shodhkosh.v4.i2.2023.5364>
3. International Institute for Population Sciences (IIPS) and ICF National Family Health Survey (NFHS-5), 2019-21: India: Volume I IIPS, Mumbai (2021) <https://dhsprogram.com/pubs/pdf/FR375/FR375.pdf>
4. International Institute for Population Sciences National Family Health Survey (NFHS-4), 2015–16: India (2017) Mumbai, India <https://dhsprogram.com/pubs/pdf/FR339/FR339.pdf>
5. Jharna Debnath (2020) A Study on Educational Status and Socio-Economic Condition of Women at Bihpuria Block Under Lakhimpur District. *Solid State Technology*, Vol. 63 No. 2s (2020)
6. M. Asadullah, Dr. Minara Yeasmin 2022 Socio-Economic Impact of Women Education in India. *International Journal of Research Publication and Reviews*, Vol 3, no 2, pp 785-788, February 2022, ISSN 2582-7421/ <https://doi.org/10.55248/gengpi.2022.3.2.9>
7. Meena, R., & Tiwari, V. (2021). Contribution of Education in Women's Participation in Social Sectors - A Study. *Revista Review Index Journal of Multidisciplinary*, 1(2), 08-10. <https://doi.org/10.31305/rrijm2021.v01.n02.003>
8. Pandey, A. and Tiwari, R. (2023). Impact of Education on Health, Security and Social Status of Family. *TechnoLearn: An International Journal of Educational Technology*, 13(01): 01-08.
9. Shakuntala Akki, Veeramma Basayya Saviramath (2025) Impact of Higher Education on Socio- Cultural Empowerment of Women: A Case Study of Dharwad District. Volume 7, Issue 2, March-April 2025/ <https://doi.org/10.36948/ijfmr.2025.v07i02.41379>
10. Sharma N., Sharma A.& Jain D.(2023) An Empirical Study on Status of Women Empowerment in India. Vol. 44 No. 2 (2023)/ <https://doi.org/10.52783/tijpt.v44.i2.146>
11. Tongbram Premchand, Chanam Sonia Devi, Sharmila Thingbaijam(2025) Socio-Economic Status of Women in Imphal West District: A Case study of Naoriya Pakhang Lakpa Constituency. *Anusandhanvallari Journal* / <https://doi.org/10.52783/anuval.426>
12. Vimlesh, (2020). Impact of Education and Women's Employment on Changing Socio-Economic Status of Women: A Sociological Study of Rural Haryana. *Think India journal* Vol 22 No 1 (2019): Vol-22-Issue-1-January-March-2019