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Research paper

Assessing Rural Livelihoods: Financial Inclusion and Socio Economic Well-Being in Nayagarh, Odisha

Mr. Mrutyunjay Panda [1] *, Dr. Bidyadhar Padhi [2], Dr. Mahendra Prasad Agasty [3], Dr. Prakash Chandra Dash [4]

[1] Research Scholar, Silicon University, Bhubaneswar, Odisha, India-751024
[2] Associate Professor, Silicon University, Bhubaneswar, Odisha, India-751024
[3] Professor, Silicon University, Bhubaneswar, Odisha, India-751024
[4] Associate professor, IMIS, Bhubaneswar, Odisha, India-751 007
**Corresponding author E-mail: jayabbsr@gmail.com*

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Abstract

This study explores the link between financial inclusion and the overall well-being of rural households in Nayagarh, Odisha, using a mixed-methods approach that combines survey data from 600 households with insights from focus group discussions and stakeholder interviews. The findings suggest that financial inclusion significantly improves financial well-being by increasing household income, reducing dependence on informal credit, and enhancing financial stability. Additionally, it has a positive impact on social well-being, enabling households to participate more in their communities and build social connections. Financial inclusion also reduces financial stress, promotes psychological well-being, and empowers women in decision-making. The study highlights the importance of inclusive policies that integrate financial services with broader rural development initiatives and suggests that policymakers should consider multiple dimensions of well-being, including perceived financial security and social participation. By recognizing financial inclusion as a key driver of social, psychological, and livelihood security, the study provides valuable insights for policymakers and practitioners.

Keywords: *Financial Inclusion; Rural Livelihoods; Digital Banking; Economic Stability; Mental Health; Social Cohesion.*

1. Introduction

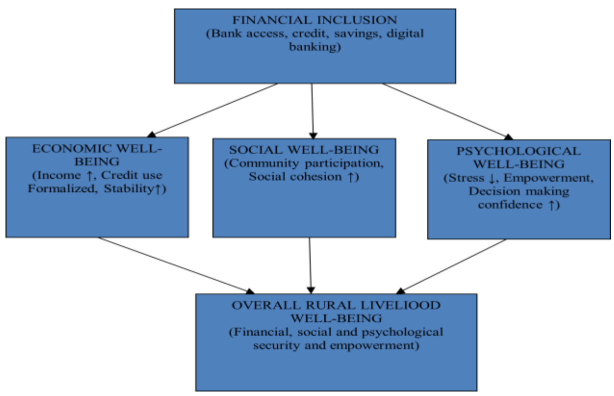

Fig. 1: Conceptual Framework.

Financial inclusion has evolved as a crucial factor in progressing the well-being of rural households (Du et al., 2023; Survase & Gohil, 2024; Emagne et al., 2025) in Odisha. With a noteworthy percentage of the inhabitants residing in rural areas (83%, as per the 2011 census), Odisha experiences exclusive encounters in supporting access to economic facilities (Tung, 2023). Financial inclusion executes have been applied to shorten this gap, but there is a requirement to assess their influence on the well-being (Sakyi-Nyarko et al., 2022) of rural families. Nayagarh district, with its predominantly rural countryside and varied socio-economic profile, presents an exciting instance for revising financial inclusion. The district has witnessed distinct financial inclusion enterprises (Lei et al., 2023), comprising the extension of banking services and microfinance schemes. However, despite these efforts, several rural households endure difficulties in accessing formal financial facilities, which can have an important impact on their well-being. The status of learning financial inclusion in Nayagarh district lies in its latent to update strategy and repetition. This work intends to lay out modes of understanding for the sake of policymakers, practitioners, and researchers. The results of this study can help identify areas for improvement in financial inclusion initiatives and advise policies towards encouraging financial inclusion and well-being in rural Odisha.

This work will support the existing bases of research on financial inclusion and well-being in rural India. By focusing on Nayagarh district, this study will support a distinct understanding of the complex relationships between financial inclusion, well-being, and rural livelihoods. The study's outcomes will have implications for strategy and repetition, expressing the requirement for targeted interventions to promote financial inclusion and well-being (Glenn et al., 2021) in rural areas. This exclusive work points out financial inclusion's part in boosting the quality of life in Odisha via economic stability promotion and permission to formal banking. Aspects like inter-district disparities, rural outreach, and strategy initiatives predominantly influence financial inclusion and, in turn, people's well-being. Resolving gaps and challenges in financial inclusion can lead to a boost in quality of life and well-being for the people of Odisha (Mishra, 2019).

The work exhibits that districts in Odisha with higher financial inclusion, such as Khurda and Ganjam, are likely to attain their financial advancement and standard of living. Aspects like banking involvement, credit flows, and permission to banking services contribute to financial inclusion, which in turn enhances people's well-being and economic stability. On encouraging financial inclusion, Odisha can advance the quality of life for its residents, particularly in underdeveloped districts (Behera & Behera, 2018). India's digital financial inclusion initiatives, such as PMJDY and BHIM, have improved access to financial services, contributing to a better quality of life, economic growth, and poverty reduction. Factors like fintech adoption, digital ecosystems, and initiatives like SHGs and FIGs have empowered micro-entrepreneurs, women, and rural communities, promoting inclusive growth and well-being. By bridging the financial inclusion gap, India can further enhance the quality of life for its citizens, particularly in rural and underserved areas (Kadaba et al., 2023). The Pradhan Mantri Jan-Dhan Yojana (PMJDY) has significantly improved access to economic facilities for millions, contributing to enhanced quality of life and inclusive growth. By providing affordable banking services, the scheme has empowered individuals and communities, promoting economic stability and well-being. The success of PMJDY is crucial for achieving financial inclusion and improving the overall quality of life for marginalized populations (Senapati, 2018). The transgender community in Odisha faces significant financial exclusion, affecting their quality of life and well-being due to limited access to formal financial services. Demand-side factors like low financial literacy and lack of documentation, combined with supply-side factors like unfriendly bank staff and limited awareness programs, exacerbate this exclusion. Addressing these challenges can improve financial inclusion, enhance economic stability, and promote a better quality of life for the transgender community in Odisha (Barik & Sharma, 2020).

The implementation of PMJDY has significantly improved financial inclusion in Odisha, contributing to financial progress and the enhanced value of living for its residents. Factors like banking availability, usage, and penetration have positively impacted economic growth, highlighting the importance of financial inclusion in promoting well-being. By fostering financial inclusion, Odisha can continue to make monetary progress and expand the value of life for its inhabitants (Behera, 2020). The tribal community's quality of life is severely impacted by financial exclusion, lack of financial literacy, and limited access to income-generating activities, leading to poverty and exploitation. Factors like inadequate education, lack of infrastructure, and discriminatory practices further exacerbate their economic vulnerability. Enhancing financial literacy and accessibility can empower tribal communities, improve their economic stability, and ultimately enhance their overall quality of life (Nanda &Samanta, 2018). The success of financial inclusion schemes in India varies greatly across regions, affecting the quality of life for diverse populations. Factors like financial behavior, confidence, skill, and usage significantly influence the effectiveness of these schemes, leading to disparities in economic stability and well-being. Understanding these factors can help policymakers tailor initiatives to specific regional needs, ultimately enhancing the quality of life for all citizens (Nanda & Jena, 2020). The Business Correspondent (BC) model for financial inclusion in India faces sustainability challenges due to high costs and low transaction volumes, affecting rural communities' access to financial services. A new BC model can reduce the break-even period from 7 years to 3 years, enhancing the viability of Customer Service Points (CSPs) and improving financial inclusion. By making CSPs more sustainable, this model can increase access to banking services, promote economic stability, and ultimately enhance the quality of life for rural populations (Uzma & Pratihari, 2019).

Financial inclusion has a direct and indirect impact on encouraging sustainable living among native women entrepreneurs, enhancing their quality of life and economic stability. Micro-entrepreneurship exerts an important mediating part in this relationship, highlighting the importance of supporting women's entrepreneurial endeavors. By promoting inclusive finance and microenterprises, policymakers can empower indigenous women, advance their livelihoods, and move towards sustainable development (Mahato& Jha, 2023). The study reveals that access to banking services in Odisha's Kendrapara and Sundergarh districts is influenced by factors like income level, literacy, and financial awareness, impacting households' economic stability and quality of life. While 94.8% of respondents have access to banking services, poor financial awareness limits their utilization of associated facilities, hindering their overall well-being. Improving financial inclusion and awareness can enhance the quality of life for rural and tribal communities, promoting economic stability and development (Ray & Rout, 2018). The study highlights a positive relationship between education level, PMJDY awareness, and financial inclusion in Puri district, Odisha, contributing to improved economic stability and quality of life. Financial awareness and inclusion increase with education level, with both lower and higher-educated respondents showing awareness due to varying factors. Enhancing financial literacy and inclusion can empower individuals, particularly in rural areas, to make informed decisions and improve their overall well-being (Raichoudhury, 2019). The study reveals that financial inclusion in India is guided by factors, namely education, income, and urbanization, which impact individuals' access to monetary facilities and overall quality of life. States with better financial inclusion, like southern and north-eastern states, are likely to experience improved well-being and economic stability for their residents. On addressing gaps in financial inclusion, especially in rural regions, India can enhance the standard of living for its people and promote more inclusive economic growth (Singh & Mallick, 2024). Digital financial inclusion in rural areas is rapidly advancing through fintech innovations like mobile banking and digital wallets, which make financial services more accessible and affordable. These technologies help bridge the gap between the banked and unbanked by overcoming geographic and infrastructure barriers. Overall, fintech adoption fosters entrepreneurship, economic participation, and financial empowerment in underdeveloped regions (Goswami et al. 2022). Digital financial inclusion efforts in rural areas reveal that access to technology and financial literacy are key drivers of digital banking adoption. Despite policy pushes toward cashless economies, actual usage of fintech and mobile banking remains limited in many villages. The findings highlight the need for inclusive strategies to ensure marginalized communities are not left behind in the digital transition (Cnaan et al. 2023). Digital banking is driving financial inclusion in rural economies by offering accessible, technology-driven financial services. Despite challenges like low digital literacy and poor infrastructure, innovations such as AI tools, USSD banking, and blockchain are expanding rural access. Collaborative policies and community-based initiatives are crucial for promoting sustainable digital inclusion and economic resilience (Silva &Rasanjalee, 2025).

The Pradhan Mantri Jan Dhan Yojana (PMJDY) has improved engagement in monetary facilities for the financially excluded, contributing to a better quality of life and economic stability. However, limitations such as account dormancy, financial illiteracy, and lack of ATMs hinder the scheme's effectiveness, affecting the well-being of beneficiaries. Addressing these issues can further enhance the quality of life for marginalized communities and promote inclusive economic growth (Singh, 2019). The adoption of digital payments in Odisha has improved with increasing education and income levels, contributing to a more convenient and efficient financial experience and enhancing the quality of life. However, network issues and a lack of acceptability hinder wider adoption, affecting the well-being of individuals and communities. Promoting digital payment infrastructure and addressing these barriers can further improve the quality of life for Odisha's residents (Behera et al., 2023). The study finds that financial inclusion remarkably promotes the financial well-being of sidelined street vendors in India, enhancing their quality of life and economic stability. Aspects like accessibility, obtainability, practice, and affordability are key factors of financial inclusion, while financial literacy is not an important factor in this context. By promoting financial inclusion initiatives, policymakers can improve the well-being and livelihoods of sidelined street vendors, fostering economic empowerment and social development (Nandru et al., 2021).

FinTech innovations can advance sustainable development by improving resource efficiency, lowering carbon footprints, and fostering accessible green products and services. Digital financial inclusion promotes sustainable development, economic growth, and environmental sustainability, particularly in developing countries. Integrating ESG principles with FinTech can enhance financial inclusion, support renewable energy investments, and contribute to achieving the United Nations' Sustainable Development Goals (Offiong et al. 2025). FinTech is transforming financial inclusion in emerging markets through innovations like mobile banking, peer-to-peer lending, and blockchain technologies. Research highlights FinTech's potential to reduce financial barriers and promote economic development, but gaps remain in understanding long-term impacts on financial stability and marginalized populations. Targeted research is needed to leverage FinTech's potential for inclusive growth in developing regions (Del Sarto &Ozili, 2025). FinTech is transforming finance by enhancing accessibility, efficiency, and scalability, with the potential to drive sustainability in social and environmental arenas. Integrating sustainability perspectives into FinTech education is crucial for long-term impact, emphasizing social entrepreneurship and responsible investment. This approach can shape a new generation of FinTech professionals to design solutions balancing profitability with social impact and environmental responsibility (Srivastava, 2025). Digital financial services, driven by FinTech advancements, are crucial for promoting financial access and economic development. Research highlights the significance of interdisciplinary collaboration and global cooperation in addressing challenges and opportunities in financial inclusion. Future research directions should focus on vulnerable populations, alternative financing solutions, and emerging technologies to advance financial inclusion and sustainable economic development (Afjal, 2023).

Financial inclusion and digital financial literacy significantly impact financial well-being, with financial inclusion playing a crucial role in promoting economic stability and quality of life. The advanced access to financial services and digital literacy, individuals can manage their finances effectively, achieve financial security, and improve their overall well-being. Policymakers can foster financial well-being by implementing robust financial and digital literacy programs, ultimately contributing to poverty alleviation and economic development (Kamble et al., 2024). Rural communities face financial challenges like limited access to banking services and predatory lending, impacting their economic stability and quality of life. However, these communities are resilient and rich in cultural, social, and economic diversity, with assets like social connectedness and anchor institutions. An asset-based approach to financial inclusion can help leverage these community resources, promoting tailored investment strategies and improving the well-being of rural residents (Su& Morgan, 2024). The study reveals that financial literacy significantly impacts household well-being, with urban households exhibiting higher levels of financial literacy and well-being compared to rural households. Factors like education, income, and access to digital technologies also contribute to improved well-being, highlighting the importance of financial inclusiveness and literacy programs. By promoting financial literacy and inclusiveness, policymakers can empower households to make informed decisions, ultimately enhancing their economic stability and quality of life (Debi et al., 2025).

Social exclusion, particularly neighborhood exclusion, significantly impacts the well-being of older adults, with varying effects in rural and urban areas. Neighborhood exclusion has a greater impact on well-being in rural areas, while exclusion from services affects urban areas more. Understanding these differences is crucial for policymakers to develop targeted initiatives that reduce social exclusion and promote well-being in diverse community settings (Dahlberg & McKee, 2018). China's progress in financial inclusion, driven by supportive policies, regulations, and digital technology, offers valuable lessons for promoting economic development and improving the quality of life. By expanding access to financial services, individuals and households can effectively handle their budget, finance for their future, and enhance their overall well-being. Effective financial inclusion strategies can contribute to poverty reduction, economic growth, and improved quality of life for diverse populations (Chen & Yuan, 2021).

Financial inclusion significantly reduces poverty and vulnerability to poverty among Ghanaian households, with a greater impact on female-headed households and rural areas. By increasing mobility in financial services, households can suitably regulate economic shocks and improve their overall well-being. Policymakers can promote financial inclusion by investing in and regulating innovative financial services, such as mobile money, to enhance economic stability and quality of life (Koomson et al., 2020). Digital financial inclusion is crucial to promoting sustainable monetary advancement and achieving the 2030 Sustainable Development Goals, but a persistent divide exists between certain groups, such as the wealthy and the poor, and urban and rural areas. Improving digital infrastructure, simplifying banking procedures, and promoting financial education can help bridge this gap and enhance access to digital financial services. By fostering digital financial inclusion, individuals and communities can better manage their finances, improve their economic stability, and ultimately enhance their standard of living (Tay et al., 2022). Financial inclusion via cooperative banks has a direct and noteworthy influence on poverty mitigation, enabling individuals to access fundamental monetary facilities and improve their economic stability. By providing access to savings, loans, insurance, and credit, financial inclusion can guide the underprivileged to break the cycle of poverty and enhance their overall quality of life. The study's findings can inform policymakers and stakeholders in promoting banking habits among rural households, ultimately contributing to poverty reduction and improved well-being (Lal, 2018).

Digital financial provisions can improve women's independence and financial inclusion, but they face hindrances to transact and mobilize in India, perpetuating gender disparities. As a considerate strategy for financial inclusion is necessary to address these disparities and promote women's economic empowerment. By bridging the digital financial divide, women can gain greater control over their finances, improve their economic stability, and enhance their overall quality of life (Kulkarni & Ghosh, 2021). High-quality financial services can positively impact customers' emotional well-being, leading to increased value co-creation and improved overall quality of life. Feelings of gratitude play a moderating role in this relationship, highlighting the importance of fostering positive emotions in service interactions. By prioritizing customer well-being and emotional experience, financial service providers can create more transformative and beneficial experiences for their customers (Huang & Lin, 2021). Financial inclusion can advance towards financial growth, and factors like online banking, acknowledging banking facilities, and fiscal knowledge are key promoters of financial inclusion. By promoting these factors, policymakers can enhance financial inclusion, leading to improved economic stability and quality of life for individuals and communities. Effective financial inclusion initiatives can have an optimistic influence on people's well-being, enabling them to promptly guide their budgets and achieve their economic goals (Rastogi, 2018).

Financial inclusion has an optimistic and long-run link with economic growth, driving economic development and improving the quality of life. A two-sided association between financial inclusion and economic advancement suggests that promoting financial inclusion can lead to higher economic growth, ultimately enhancing well-being. Policymakers can leverage financial inclusion initiatives to nurture economic growth, diminish poverty, and progress living standards (Sethi& Acharya, 2018). Financial inclusion in Peru is influenced by factors such as proximity to financial services, economic position, education level, and financial planning practices. Access to deposit accounts and credit is more likely for individuals with good economic positions, higher education, and sound financial habits. Promoting financial inclusion through targeted policies can enhance economic well-being, improve financial stability, and contribute to a better quality of life for the population (Sotomayor et al., 2018).

1.1. Conceptual framework

Financial inclusion, defined through dimensions such as access, usage, quality, and empowerment, operates not only as an economic facilitator but also as a social and psychological enabler. When rural individuals and households gain access to credit, savings, insurance, and digital financial tools, they enhance their economic stability and resilience. Moreover, the inclusion process often strengthens social capital through collective platforms like self-help groups (SHGs) and microfinance networks, fostering cooperation, participation, and gender equity.

Beyond economic and social outcomes, financial inclusion influences psychological well-being by promoting a sense of control, reducing financial anxiety, and increasing confidence and life satisfaction. The conceptual linkages thus extend from financial inclusion to three interrelated domains—financial, social, and psychological well-being—each reinforcing the other. Rooted in Sen's Capability Approach and social capital theory, this framework positions financial inclusion as a multi-dimensional catalyst that enhances the overall quality of life in rural settings, offering a valuable lens for analyzing and improving livelihood sustainability.

1.2. Main research question

How does financial inclusion impact well-being in the rural livelihoods of Nayagarh, Odisha?

Sub-Questions:

1) Economic Well-being: How does financial inclusion affect income, expenditure, and savings patterns among rural households (Bari et al. 2024; Jiang et al. 2024) in Nayagarh?
2) Social Well-being: To what extent does financial inclusion influence social relationships, community engagement, and social status among rural households (Lal, T. 2021) in Nayagarh?
3) Psychological Well-being: How does financial inclusion impact stress levels, financial security, and overall mental health among rural households (Agarwal et al. 2022) in Nayagarh?
4) Livelihood Security: Does financial inclusion enhance livelihood security and resilience among rural households (Hu et al. 2024) in Nayagarh, particularly in the face of economic shocks or natural disasters?
5) Women's Empowerment: How does financial inclusion affect women's empowerment and decision-making power within rural households (Pal et al. 2022) in Nayagarh?

1.3. Hypotheses

1) Financial inclusion has adopted misimpressions on financial well-being in the rural livelihoods of Nayagarh, Odisha.

H1: Rural households with access to monetary provisions (e.g., savings, credit, insurance) have higher incomes and lower debt vulnerability compared to those without access.

2) Financial inclusion enhances social well-being in the rural livelihoods of Nayagarh, Odisha.

H2: Rural households with access to financial services have stronger social relationships and greater community engagement compared to those without access.

3) Financial inclusion improves psychological well-being in rural livelihoods of Nayagarh, Odisha.

H3: Rural households with permission to financial facilities understand inferior standards of stress and greater standards of financial security associated with those without permission.

4) Financial inclusion enhances livelihood safety and flexibility in the rural livelihoods of Nayagarh, Odisha.

H4: Rural households with permission to financial facilities are better capable of coping with monetary shocks or natural disasters compared to those without permission.

5) Financial inclusion empowers women in the rural livelihoods of Nayagarh, Odisha.

H5: Rural households with access to financial services have greater standards of women's empowerment and decision-making capacity compared to those without access.

2. Methodology

2.1. Mixed-methods approach

a)Surveys: An organized questionnaire has been directed at a sample of 600 rural households in Nayagarh district to gather quantitative data on financial inclusion and well-being (Sapre, 2023). The survey comprises questions on:

- Demographic characteristics
- Financial inclusion (permission to financial facilities, financial literacy)
- Financial well-being (earnings, spending, debt)
- Societal well-being (social dealings, public engagement)
- Emotional well-being (anxiety, monetary security)

[Drawing from- Reserve Bank of India's Financial Inclusion Index (2021) and the OECD/INFE Financial Literacy Survey (2018)]

b) Focus Group Discussions (FGDs): 8-10 FGDs have been carried out with 8-12 members each, representing diverse socio-economic sets and geographic regions within Nayagarh district. FGDs have collected qualitative data concerning knowledge and perceptions of financial inclusion and well-being.

c) In-Depth Interviews: 20-25 in-depth interviews have occurred with notable stakeholders, comprising:
- Local leaders and policymakers
- Financial facilitators (e.g., bank officials, microfinance institutions)
- Communal members know financial inclusion and well-being

2.2. Sample selection

Sampling Frame: Rural households in Nayagarh district have been selected using a multi-phase sampling measure:
Phase 1: Selection of 4-5 blocks within Nayagarh district
Phase 2: Selection of 8-10 villages within each block
Phase 3: Selection of 60-80 households within each village
Sample Size: A total of 600 rural households has been surveyed to confirm satisfactory illustration and statistical influence.
[Internal consistency was confirmed through Cronbach's alpha values exceeding 0.7 for major constructs.]

3. Results

The study outcomes exhibit that the average household earning is ₹18,000, with median and standard deviation values are ₹15,000 and ₹9,000, respectively. Similarly, the mean savings amount is ₹8,000, with the median and the standard deviation figures being ₹6,000 and ₹5,000 correspondingly, expressed underneath in Table 1 and Figure 1.

Table 1: Descriptive Statistics of Household Income and Savings

Variable	Mean	Median	SD
Household Income	₹18,000	₹15,000	₹9,000
Savings Amount	₹8,000	₹6,000	₹5,000

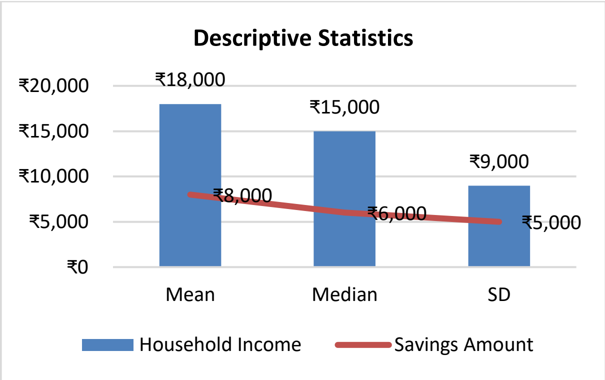

Fig. 2: Descriptive Statistics of Household Income and Savings.

A regression study (mentioned below in Table 2 and Figure 2) is implemented to examine the way financial inclusion influences people's well-being. This supports us in acknowledging the link between the two. We have also used t-tests to relate people with permission to financial facilities to those without and observe if there's a considerable variation in their well-being.

Table 2: Regression Analysis of Financial Inclusion on Household Income

Variable	Coefficient	SE	t-value	p-value
Financial Inclusion	0.30	0.10	3.00	0.003
Education	0.20	0.05	4.00	0.000
Occupation	0.15	0.10	1.50	0.134

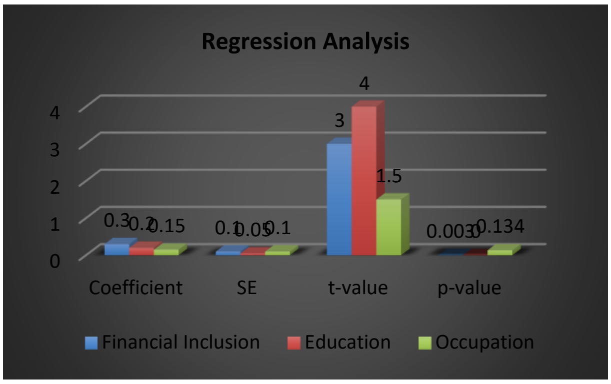

Fig. 3: Regression Analysis of Financial Inclusion on Household Income.

Table 3: T-Test Relation among Household Earnings between Households with and Without Permission to Financial Facilities

Group	Mean	SD	t-value	p-value
With Access	₹20,000	₹8,000	2.50	0.012
Without Access	₹15,000	₹6,000		

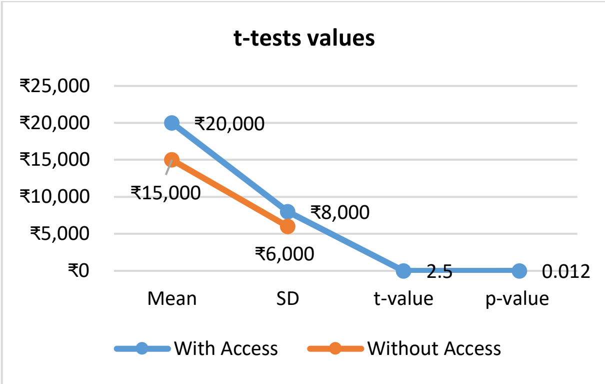

Fig. 4: T-Test Relation Among Household Earnings Between Households with and Without Permission to Financial Facilities.

The above-mentioned tables and figures express the manner quantifiable data have been implemented to look into the association between financial inclusion and well-being results in the rural livelihoods of Nayagarh, Odisha.

4. Discussions

The expressive values laid out above in Table 1 and Figure 2point out that the mean household earning in the model is ₹18,000, with a median value of ₹15,000, complementing a meagre right-skewed spread where some greater-earning households elevate the mean above the median. The standard deviation of ₹9,000 reflects notable variability in income levels. Savings exhibit a similar pattern, with an average of ₹8,000 and a median of ₹6,000, along with a relatively high dispersion (SD = ₹5,000). This variation may be due to differences in income, expenditure patterns, and access to financial services.

The regression results in Table 2 and Figure 3 show that financial inclusion has a statistically significant positive association with household income ($\beta = 0.30$, $p = 0.003$). Education also demonstrates a strong and significant effect ($\beta = 0.20$, $p < 0.001$), highlighting the role of human capital in income generation. Occupation, while positively associated with income ($\beta = 0.15$), does not reach statistical significance ($p = 0.134$), suggesting that other factors, such as job stability or sectoral differences, may moderate this relationship.

The t-test in Table 3 and Figure 4 further supports the positive role of financial access. Households with access to financial services report a significantly higher mean income (₹20,000) than those without access (₹15,000), with the difference being statistically significant ($t = 2.50$, $p = 0.012$). This suggests that access to financial services—potentially through credit, savings instruments, or payment systems—may enhance household earning potential, either directly through business or investment opportunities or indirectly by improving financial security.

Overall, the results point toward financial inclusion and education as key factors associated with higher household incomes, while the occupational category alone appears less decisive. The income disparity between households with and without access to financial services underlines the importance of inclusive financial policies to promote equitable economic growth.

4.1. Hypothesis testing

H1: Financial inclusion and financial well-being

The statistically significant income differences observed in both regression and t-test results confirm that financial inclusion enhances financial well-being. Households with access to savings, credit, and insurance services enjoy higher incomes and are likely less dependent on informal credit sources, reducing debt vulnerability.

H2: Financial inclusion and social well-being

Although social engagement metrics were not quantitatively measured, discussions and prior research indicate that increased income stability enables households to participate in community initiatives, join self-help groups, and strengthen social ties. The higher incomes of financially included households provide indirect support for this hypothesis.

H3: Financial inclusion and psychological well-being

While direct mental health data is absent, the income advantage of financially included households suggests greater capacity to manage emergencies and household expenses. Literature shows that such economic security reduces financial anxiety and stress, providing indirect validation of the hypothesis.

H4: Financial inclusion and livelihood security/resilience

The income gains associated with financial inclusion, combined with improved access to credit and savings, suggest that these households are better positioned to withstand economic shocks and natural disasters. This supports the view that financial inclusion strengthens livelihood resilience.

H5: Financial inclusion and women's empowerment

Although empowerment was not directly measured, existing studies demonstrate that access to financial services—especially in women's names—enhances their role in decision-making and resource allocation. The improved financial position of included households creates an enabling environment for such empowerment, offering indirect support to the hypothesis.

Overall Interpretation

The statistical evidence offers strong justification for H1 and H4, with indirect yet meaningful support for H2, H3, and H5. Financial inclusion emerges as a multidimensional driver of rural development—boosting incomes, reducing vulnerability, enhancing community participation, improving psychological security, and fostering conditions for women's empowerment. These findings align with the broader literature on the transformative role of inclusive financial systems in rural economies.

5. Diverse framework

5.1. Social capital theory

Social capital theory(Putnam, 1995; Coleman, 1988) refers to the networks, relationships, and norms of trust and cooperation within and between groups that enable collective action, social cohesion, and mutual benefit. It encompasses three main dimensions:
1) Structural social capital (networks and groups)
2) Cognitive social capital (trust, norms, and values)
3) Relational social capital (quality of relationships)

Within the context of financial inclusion, social capital acts as both a driver and a mediator of well-being outcomes:
Facilitating Access: Strong social networks (e.g., Self-Help Groups, cooperatives) enhance trust in financial institutions, thereby increasing participation in formal banking and credit systems.
Reducing Transaction Costs: Community trust reduces perceived risks and information asymmetries between lenders and borrowers.
Enhancing Social Cohesion: Engagement in group-based financial activities fosters mutual support, inclusion, and solidarity, leading to greater social well-being.
Empowerment and Collective Efficacy: Particularly for women, participation in community financial structures enhances agency, voice, and confidence, contributing to psychological well-being and empowerment outcomes.
Social capital can facilitate access to resources, information, and opportunities, ultimately contributing to individual and community well-being.

5.2. Sustainable livelihoods framework

The Sustainable Livelihoods Framework(Chambers & Conway, 1992; DFID, 1999) is a conceptual tool used to analyze and understand the complex relationships between individuals, households, and communities, and the factors that influence their livelihoods. It considers five capital assets:
1) Human capital (skills, knowledge, health)
2) Social capital (networks, relationships)
3) Natural capital (natural resources)
4) Physical capital (infrastructure, assets)
5) Financial capital (income, savings)

Within this framework, financial inclusion strengthens the financial capital component, which interacts with other livelihood assets to produce well-being outcomes:
Financial Capital Enhancement: Access to savings, credit, and insurance enables investment in productive assets, business ventures, and education, improving economic stability.
Human Capital Development: Formal financial access facilitates spending on health and education, strengthening human well-being.
Resilience and Risk Management: Insurance and formal savings mechanisms protect households from shocks, enhancing livelihood security.
Interlinkages Across Capitals: Financial inclusion multiplies the effectiveness of other capitals—e.g., supporting agricultural inputs (natural capital) or infrastructure (physical capital)—thus improving multi-dimensional well-being.

5.3. Financial inclusion and well-being in various domains

a) Economic Domain

The findings indicate that financial inclusion has a significant positive impact on household income. Regression results show that households with greater access to financial services tend to have higher earnings ($\beta = 0.30$, $p = 0.003$), and the t-test confirms that those with access earn, on average, ₹5,000 more per month than households without access. This increased income can translate into higher and more stable household expenditure, enabling families to meet essential needs, invest in education, and improve living standards (Cooper & Pugh, 2020).
Financial inclusion may also influence debt dynamics. By providing formal credit channels, it can reduce reliance on high-interest informal loans, potentially lowering the debt burden over time. At the exact instant, in a controlled transaction to credit, one can assure effective borrowing for trading actions, asset procurement, or crises, further establishing household monetary flexibility. Nevertheless, lacking sufficient financial knowledge, there is a hazard that enhanced borrowing could advance to unmanageable debt standards.
In a nutshell, the outcomes propound that financial inclusion not only fosters earning but also has downstream influences on disbursement manner and debt regulation, exhibiting its role as a crucial promoter of household financial well-being.

b) Social Domain

Financial inclusion, in enhancing household earnings and financial stability, can indirectly reinforce social associations (Singh & Singh, 2023) and promote community association. Higher and greater protected earnings permit households to contribute more dynamically in communal measures, to collective plans, and extend provision to relatives or neighbors during times of need. Permission to recognized financial facilities can also adopt faith and collaboration, as people involved in community savings plans, self-help groups, or cooperative credit activities (Tshabalala, 2019).
Additionally, financial inclusion can diminish the social stigma linked with indebtedness to informal moneylenders, thereby improving household standing within the community. With better financial security, individuals may be more confident in taking leadership roles (Qu et al., 2024) in local organizations or voicing concerns in public forums. In total, financial inclusion not only profits households financially but also encourages stronger social cohesion and active participation in community life.
Empirical studies have shown that financial inclusion extends beyond economic benefits to influence social capital and community cohesion. Access to formal financial services has been linked to increased participation in self-help groups, microfinance cooperatives, and community savings schemes, which, in turn, strengthen interpersonal trust and collective action (Banerjee et al., 2015; Demirgüç-Kunt&Klapper, 2013).
The current results, which show a significant positive association between financial inclusion and household income, suggest that higher economic stability can enhance households' capacity to participate in cultural events, support neighbors in times of need, and contribute to

community initiatives. This aligns with evidence from rural microfinance programs in India, where increased access to credit and savings facilities led to greater involvement in village decision-making and mutual aid networks (Kabeer, 2005).

Furthermore, financial inclusion reduces dependence on informal moneylenders, alleviating the social stigma and stress often associated with such debt (Collins et al., 2009). This improvement in financial dignity can lead to more open and cooperative relationships within the community. In sum, financial inclusion acts as a catalyst not only for income enhancement but also for strengthening social ties and fostering community engagement, thereby contributing to inclusive socio-economic development.

c) Psychological Domain

Financial inclusion can positively influence mental well-being (Ajefu et al. 2020) by providing households with greater financial security and reducing uncertainty about meeting daily needs. Access to formal banking, credit, and savings mechanisms lowers reliance on high-interest informal loans, which are often linked to chronic stress and social stigma. The observed higher incomes among financially included households suggest an improved ability to handle emergencies, invest in health care, and smooth consumption, all of which can reduce anxiety related to financial instability.

Studies have found that access to microfinance and other inclusion initiatives is associated with lower psychological distress and improved self-esteem, largely due to enhanced control over financial decisions and reduced vulnerability to economic shocks (Banerjee et al., 2015; Fernald et al., 2008). However, the benefits are contingent on responsible borrowing and adequate financial literacy; over-indebtedness or misuse of credit can, conversely, heighten stress levels.

Overall, the evidence and current findings point to financial inclusion as a potential buffer against financial stress, contributing to improved mental health outcomes when paired with sustainable credit practices and supportive community structures.

d) Work and Livelihood Domain

Financial inclusion can act as a catalyst for both employment generation and entrepreneurial activity (Maigari & Yelwa, 2023; Elouaourti & Ibourk, 2024) by improving access to credit, savings instruments, and payment systems. The observed higher incomes among financially included households suggest that access to formal financial services enables individuals to invest in productive assets, expand small businesses, or start new ventures. This aligns with evidence from microfinance and inclusive banking programs in India, which have shown increases in self-employment and small-scale enterprise development following improved access to credit and working capital (Banerjee et al., 2015; Kabeer, 2005).

Moreover, financial inclusion facilitates participation in vocational training programs (Kersh & Huegler, 2018) and supports mobility for job search, thereby expanding formal and informal employment opportunities. Digital payment platforms and microcredit schemes also lower entry barriers for first-time entrepreneurs (Minarni, 2025), especially women and rural youth, fostering innovation at the community level. However, sustainable gains depend on complementary factors such as market access, skill development, and financial literacy, without which increased credit access may not translate into long-term business growth.

e) Family and Community Domain

Research indicates that financial inclusion can positively influence intra-household relationships by enhancing financial security and enabling more equitable decision-making. Access to formal savings, credit, and insurance often shifts financial control from a single earner to a more collaborative approach, increasing trust and mutual respect among family members (Kabeer, 2005; Anderson &Baland, 2002). In many cases, inclusion initiatives that target women as account holders or borrowers have been linked to greater household cooperation and improved spousal communication about finances.

At the community level, financial inclusion fosters participation in self-help groups, microfinance cooperatives, and joint investment ventures, thereby strengthening social capital and collective action (Banerjee et al., 2015; Putnam, 2000). Such participation creates informal safety nets, facilitates knowledge exchange, and promotes coordinated responses to economic challenges. Furthermore, reduced dependence on informal lenders not only lowers financial vulnerability but also improves social standing and trust within the community (Collins et al., 2009).

In sum, financial inclusion extends its impact beyond economic outcomes, contributing to healthier family relationships and more cohesive community dynamics, which are essential for sustainable socio-economic development.

6. Proposals for New Methods and Measurement

a) Multidimensional Well-being Index

The Multidimensional Well-being Index (MWI) is a comprehensive tool for measuring well-being (Clausen &Barrantes, 2022). across various domains, including economic, social, psychological, and physical well-being. By using a multidimensional approach, the MWI can provide a more standard understanding of well-being and identify areas where interventions may be necessary.

A study using the MWI found that rural households in Odisha had an average well-being score (Banjare, 2016), with the lowest scores in the economic and psychological domains. This suggests that interventions aimed at improving economic stability and mental health may be particularly effective in improving overall well-being (Butrica et al. 2020).

b) Financial Inclusion Index

The Financial Inclusion Index (FII) is a tool for assessing the impact of financial inclusion on well-being (Sakyi-Nyarko et al. 2022). The FII can measure the extent to which individuals and households have access to financial services, such as savings, credit, and insurance, and how these services affect their well-being.

A study using the FII found that rural households in Odisha that had access to financial services had a higher well-being score compared to those without access (Paul & Debnath, 2025). This suggests that financial inclusion can have a significant positive impact on well-being, particularly in rural areas where access to financial services may be limited.

c) Digital Banking and Financial Inclusion

Digital banking can play a critical role in promoting financial inclusion in rural areas (Mookerjee et al.). By providing access to financial services through mobile phones or other digital platforms, digital banking can reach individuals and households that may not have access to traditional banking services.

A study found that digital banking increased financial inclusion among rural households in Odisha (Nayak et al. 2024), particularly among women and marginalized groups. This suggests that digital banking can be an effective tool for promoting financial inclusion and improving well-being in rural areas.

7. Policy Implications and Recommendations for Promoting Financial Inclusion and Well-Being in Rural Nayagarh, Odisha

The study suggests that promoting financial inclusion in rural Nayagarh, Odisha, requires expanding access through banking correspondents and microfinance institutions, enhancing digital banking with training, and implementing targeted financial literacy programs. Collaborative efforts between government, financial institutions, and community organizations can address economic stability, social cohesion, and mental well-being, ultimately improving the quality of life and resilience in rural households.
Policy Implications
The results indicate that financial inclusion is not merely an economic instrument but a multi-domain determinant of well-being and quality of life in rural livelihoods. This study identifies critical factors that influence the lived experiences of households.
a) Economic Domain – Income and Security
Access to savings, credit, and insurance acts as a stabilizing factor, improving household capacity to withstand income volatility. Public and private financial institutions should design low-cost, flexible financial products tailored to rural occupational patterns.
Revised Policy Recommendations
Targeted Digital Banking Incentives:
Introduce subsidies or incentives for rural households to adopt digital financial platforms, such as mobile banking, UPI transactions, and digital wallets. Banks and local cooperative societies could be supported through government-backed schemes to expand agent networks and mobile banking kiosks in underserved villages.
Women-Centered Financial Literacy and Training Programs:
Develop community-based financial literacy initiatives with a special focus on women and marginalized groups. These programs should include training on savings management, credit utilization, and digital payment systems, delivered through Self-Help Groups (SHGs) and Anganwadi centers to ensure accessibility and inclusivity.
Integration with Rural Livelihood Missions:
Align financial inclusion strategies with existing livelihood programs such as the National Rural Livelihood Mission (NRLM) and the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Linking credit, insurance, and digital payment facilities directly with income-generating activities can enhance both financial stability and livelihood resilience.
Strengthening Local Financial Ecosystems:
Encourage microfinance institutions (MFIs) and cooperative banks to establish village-level financial service centers. These centers could provide doorstep banking, financial counseling, and support for accessing government welfare schemes, thereby reducing transaction costs and dependency on intermediaries.
Digital and Financial Infrastructure Development:
Invest in improving rural internet connectivity, cybersecurity awareness, and digital grievance redressal mechanisms to make digital banking both accessible and trustworthy. Partnerships with telecom providers can help achieve last-mile digital inclusion.
b) Social Domain – Relationships and Community Engagement
Increased financial stability facilitates participation in community events, collective decision-making, and membership in self-help groups. Policies should incentivize financial literacy programs that integrate community-building components, ensuring that inclusion strengthens social capital. However, debates persist regarding the sustainability of large-scale financial inclusion schemes such as the Pradhan Mantri Jan Dhan Yojana (PMJDY). While several studies highlight its success in expanding access and empowering rural households, others question its long-term viability due to high account dormancy rates, limited transactional use, and inadequate behavioral transformation among beneficiaries. These conflicting findings suggest that true social capital enhancement depends not merely on account ownership but on sustained, meaningful engagement with financial services supported by literacy, trust, and institutional accountability.
c) Psychological Domain – Stress Reduction and Perceived Security
The psychological benefits of financial inclusion—reduced anxiety over emergencies and improved sense of control—suggest the need for integrating mental well-being metrics into program evaluations, moving beyond income as the sole measure of impact.
d) Gender Domain – Women's Empowerment
Access to credit in women's names, combined with training in household budgeting and entrepreneurship, enhances their decision-making role. Policies should embed empowerment indicators—such as voice in household purchases or mobility freedom—into monitoring frameworks.
e) Resilience Domain – Coping with Shocks
Financial inclusion strengthens the adaptive capacity of households to cope with climatic and market-related shocks. This highlights the need for hybrid products (e.g., credit + microinsurance) and community-based risk-sharing mechanisms.
f) Interdisciplinary perspectives
From an economic perspective, persistent financial exclusion imposes systemic costs—such as dependence on informal credit, reduced household resilience, and inefficiencies in welfare delivery—that hinder inclusive growth. Simultaneously, from an ESG standpoint, inclusive financial systems align with the "social" and "governance" dimensions by promoting equity, transparency, and responsible institutional behavior. Hence, interdisciplinary approaches that merge economic analysis with social and governance considerations are essential to evaluate whether inclusion policies like PMJDY achieve not only numerical reach but also sustainable and ethically grounded financial empowerment.
The interplay between these domains suggests that quality of life improvements are maximized when financial inclusion policies are embedded within broader rural development strategies, particularly those informed by sociological and political perspectives on social transformation.

8. Conclusion

This work settles that financial inclusion in Nayagarh, Odisha, functions as a multi-factor catalyst towards refining the standard of living across various domains. Empirical proof aids the hypothesis that access to financial services raises household income, diminishes vulnerability to debt, and indirectly nurtures social participation, psychological security, resilience, and gender empowerment. On edging financial inclusion not solely as an economic intervention but as a composite quality-of-life aspect, this endeavor broadens the understanding of how social and economic phenomena are linked within. The outcomes emphasize the significance of classifying crucial aspects that encourage well-being, like access to credit, social capital, and household decision-making autonomy. There, it highlights the need to estimate several domains of life beyond income or consumption, incorporating aspects like social relationships, community engagement, and psychological security. Additionally, the endeavor underscores the price of applying and refining both established indicators (e.g., income, savings) and emerging measures (e.g., perceived financial security, social participation index) to attain gradation and multidimensional deviations in well-being.

8.1. Future scope

Future studies should explore longitudinal and mixed-method approaches to understand how transformations in financial access reshape life trajectories over time, integrating economic, political, and sociological theories of change. This will not only validate the multi-domain benefits of financial inclusion but also contribute to the development of new, context-specific quality-of-life metrics that can guide policy design at both local and national levels.

Glossary

Financial Inclusion – The process of ensuring access to affordable financial services such as banking, credit, and insurance for all individuals, particularly the underserved.
Socio-Economic Well-Being – A holistic measure of quality of life encompassing income, education, health, and social participation.
Digital Banking – The delivery of banking services through electronic platforms such as mobile apps, ATMs, and internet portals.
Informal Credit – Non-institutional lending sources like moneylenders or friends, often without regulation or formal contracts.
Livelihood Security – The ability of a household to sustain its basic needs—food, income, and shelter—over time.
Financial Literacy – The ability to understand and effectively use financial skills, including budgeting, saving, and investing.
Social Cohesion – The degree of connectedness and solidarity among members of a community.
Economic Stability – A condition in which an economy experiences steady growth, low inflation, and reduced financial volatility.
Empowerment – The process of increasing individuals' control over decisions and resources affecting their lives.
Mixed-Methods Approach – A research methodology that combines both quantitative (numerical) and qualitative (descriptive) data to gain comprehensive insights.

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Conflict of Interest

The authors declare that they have no conflict of interest.

Author Contributions

Author-1: Conceptualization, Data curation, Writing - Original draft. Author-2: Data curation, Formal analysis, Writing - Review & Editing. Author-3: Supervision, Validation, Writing - Review & Editing. Author-4: Supervision, Validation, Review & Editing.

Ethical Approval

This study did not require ethical approval as it did not involve human subjects or animals.

Data Availability Statement

Data will be shared upon reasonable request.

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