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REVIEW ARTICLE

Sowing seeds of empowerment: The role of microfinance in strengthening rural livelihoods

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Abstract

Microfinance has become a transformative instrument for tackling poverty, fostering social inclusion and facilitating rural development, particularly among marginalized and underserved populations. This review article offers an in-depth examination of the multifaceted effects of microfinance across three essential domains: poverty reduction, social advancement and rural economic growth. It highlights how microfinance not only provides access to credit and savings for low-income households but also fosters entrepreneurial activities, improves household incomes and enhances overall living standards. Through capacity building, financial literacy, health care support, livelihood promotion and vocational training, microfinance institutions (MFIs) extend their role beyond credit providers to agents of holistic development. This review highlights the significant roles of Self-Help Groups, NGOs, NABARD and MFIs in expanding microfinance outreach and social impact. Government initiatives like Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM), Micro Units Development and Refinance Agency (MUDRA), Pradhan Mantri Jan Dhan Yojana (PMJDY) and Rashtriya Mahila Kosh (RMK) further strengthen the ecosystem. Despite its benefits, microfinance faces challenges such as exclusion of the poorest, repayment pressure and limited sustainability. While not a universal remedy, it remains a vital tool for rural empowerment, inclusive growth and progress toward sustainable development. Strengthening policy, implementation and financial literacy can enhance its long-term impact in India.

Keywords: government schemes; India; microfinance institutions (mfis); microfinance; poverty alleviation; rural development; social development; self-help groups (shgs)

Introduction

Microfinance initiatives are designed to provide financial services-including credit, savings, insurance and training to individuals with limited financial resources, especially those excluded from formal banking systems. These include self-employed individuals, landless laborers and rural entrepreneurs. Originating from principles of cooperation, equity and mutual aid, microfinance has evolved as a tool to empower underprivileged groups, particularly women and low-income households, by promoting financial inclusion and self-sufficiency (1, 2).

Microfinance institutions (MFIs), Self-Help Groups (SHGs) and Non-Governmental Organizations (NGOs) are the primary actors delivering these services, particularly in rural and semi-urban regions. Traditional banks often fail to reach such populations due to high operational costs, lack of collateral and perceived risk. In contrast, microfinance bridges this gap by extending small loans and offering savings mechanisms tailored to low-income clients (3).

Microfinance is not limited to credit-unlike microcredit, which refers strictly to lending. It encompasses a broader range of services, including capacity building, financial literacy and community development interventions (4, 5). These initiatives have been shown to enhance household income, improve health and educational outcomes and reduce dependency on informal moneylenders(6-8).

When well-structured, microfinance programs can contribute significantly to poverty alleviation and rural development by enabling access to capital, promoting entrepreneurship and empowering marginalized populations(9, 10). However, their success depends on proper implementation, financial literacy and support from public policy frameworks.

Microfinance plays a crucial role in strengthening rural plant-based livelihoods by facilitating access to financial resources for agriculture, horticulture, medicinal and aromatic plant cultivation and other agro-based enterprises. In regions where formal credit is scarce or inaccessible due to lack of collateral or institutional reach, MFIs and SHGs bridge the gap by providing timely credit, promoting entrepreneurship and supporting sustainable rural practices (11-13). These services help smallholder farmers invest in quality inputs, post-harvest processing and value-added activities, thereby improving productivity and income generation (14). Microfinance also promotes inclusive development by empowering women and landless labor engaged in plant-based occupations through group-based lending and capacity-building initiatives (15, 16). As such, microfinance is not only a financial tool but a catalyst for livelihood enhancement and rural economic resilience.

This study adopts a narrative review approach, synthesizing findings from existing literature, policy reports, government schemes and institutional case studies related to microfinance in India and globally. The review includes sources published between 2000 and 2024, with emphasis on recent studies post-2020. Peer-reviewed journal articles, government documents (e.g. PMJDY, MUDRA) and credible organizational reports were accessed through databases such as Google Scholar, JSTOR, ResearchGate and official government websites. Keywords used for the literature search included "microfinance in India," "poverty alleviation," "SHGs," "financial inclusion," and "rural development."

Microfinance in India

Theorist Lysander Spooner first introduced the term microfinance in the mid-1800s, advocating for small credit facilities to support farmers and entrepreneurs in overcoming (17). He specified small credit benefits for entrepreneurs and farmers to reduce their poverty. Muhammad Yunus started microfinance as we know it today in the 1970s. He created the Grameen Bank in Bangladesh, which became a well-known example of how to lend money to poor people without needing them to offer anything as security. Because of his new ways to fight poverty by giving poor people access to financial services, he won the Nobel Peace Prize in 2006 (18). They helped poor people improve their standard of living, thereby alleviating poverty. In India , microfinance was initiated by Shree Mahila SEWA (The Association of Autonomous Women) Co-operative Bank in Gujarat, aiming to uplift rural poor and non-working women (19). The Indian microfinance sector has witnessed substantial operational growth through increased lending capabilities and expanded outreach. This expansion contributes to rural economic development, poverty reduction, employment creation and the augmentation of national income (20). The microfinance sector in India primarily operates through two key channels: MFIs, which provide financial services directly and SHGs, which are small community-based groups that access microcredit through MFIs or banks (21). MFIs play a significant role and achieve notable success in enhancing the living standards of rural populations through increased income and consumption (22). Despite the challenges of higher interest rates still microfinance outreach sustainability (22). The MFIs received substantial support from numerous commercial and other sector banks, with private sector banks and foreign funding agencies contributing the most (23). MFIs have increased overall saving and credit allocation in the economy, also reducing income inequalities and poverty (24). Financial sectors and domestic banking also influence the performance of MFIs for additional benefits.

Importance of Microfinance

Microfinance is instrumental in providing financial services and assistance to individuals with low incomes, particularly in developing nations where access to traditional banking systems is limited (21). It provides a wide range of services including loans, savings and insurance, with the purpose of poverty alleviation, rural development, employment creation and women empowerment (25). Microfinance's significance extends to rural development which enables engagement in small business growth and productive activities (26). Microfinance is also essential for micro-enterprise development and for business establishment (27). In many countries, microfinance programs have received acceptance as poverty alleviation strategies (28). Microfinance initiatives and their interventions have garnered support from governmental bodies, philanthropic foundations, non-governmental organizations and community development collectives, positioning microfinance as a pivotal instrument in poverty reduction and the advancement of rural economies. The data are given in Fig. 1.

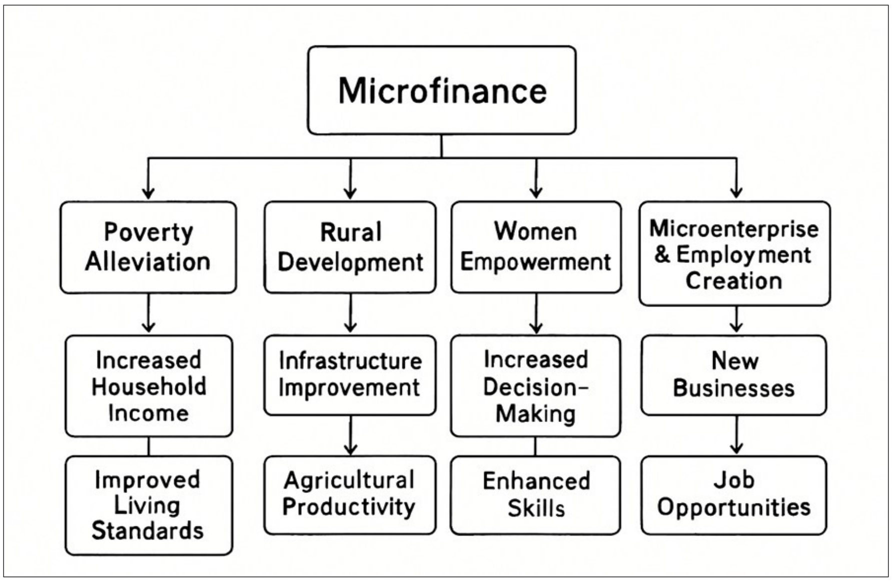

Fig. 1. Conceptual framework illustrating the impact pathways of microfinance on poverty alleviation, rural development, women's empowerment and employment creation (29).

Key players of microfinance

Microfinance in India performs a major role in alleviating poverty, empowering women and rural development. Key players in the microfinance sector include the RBI, NABARD, NGOs, SHGs and MFIs (Fig. 2).

Reserve Bank of India (RBI)

RBI serves as the apex institution in the Indian banking sector, responsible for formulating and implementing monetary policy and providing regulatory guidance to other banks. (11). It determines key interest rates such as the bank rate, repo rate and reverse repo rate. The RBI plays a vital role in setting policy frameworks, ensuring financial stability and facilitating the credit delivery system across various sectors of the economy (12).

National Bank for Agricultural and Rural Development (NABARD)

NABARD plays a pivotal role in advancing microfinance and promoting rural development in India. Established with a mandate to facilitate credit flow for agricultural and allied activities, NABARD acts as a key refinancing agency for regional rural banks, cooperative banks and other financial institutions involved in rural credit delivery. Its interventions span across credit planning, infrastructure development, institutional strengthening and policy formulation to enhance rural financial inclusion (31).

Microfinance contributes significantly to agricultural development by providing rural farmers and smallholders with access to timely credit for plant-based activities such as crop cultivation, horticulture and medicinal and aromatic plant farming. These credit facilities enable farmers to purchase quality seeds, fertilizers, farm machinery and adopt modern technologies that enhance productivity and sustainability. By bridging the financial gap for input acquisition and innovation, microfinance supports both short-term cultivation cycles and long-term agricultural resilience (11, 12, 14, 16).

In the context of agriculture, NABARD supports a wide range of initiatives, including the refinancing of loans for crop production, farm mechanization, irrigation, animal husbandry and agro processing. It also implements specialized schemes like the Producers' Organization Development Fund (PODF) and the Rural Infrastructure Development Fund (RIDF), which aim to strengthen agri-based livelihoods and improve rural infrastructure. By linking microfinance with agricultural development, NABARD enables farmers and rural entrepreneurs to access affordable credit and technical assistance, fostering long-term productivity and sustainability.

Moreover, NABARD plays a crucial role in poverty alleviation by integrating microfinance with capacity-building, financial literacy and livelihood diversification strategies. Its financial support and monitoring mechanisms have been instrumental in scaling up SHG-bank linkage programs and in enhancing the outreach of MFIs across underserved regions. As highlighted by (32), NABARD serves as a catalyst in empowering rural communities, bridging credit gaps and reinforcing the rural credit ecosystem through inclusive and targeted interventions.

Non-Governmental Organizations (NGOs)

NGOs play a crucial role in promoting microfinance as a tool for sustainable rural development and women's empowerment (33). With a broader vision of serving the poorest and most marginalized communities, NGOs offer a diverse range of financial products and actively advocate for inclusive microfinance practices. They also contribute significantly to entrepreneurial development, particularly among women, by facilitating access to credit, training and capacity-building opportunities (34).

Self-Help Groups (SHGs)

SHGs have emerged as key players in the microfinance

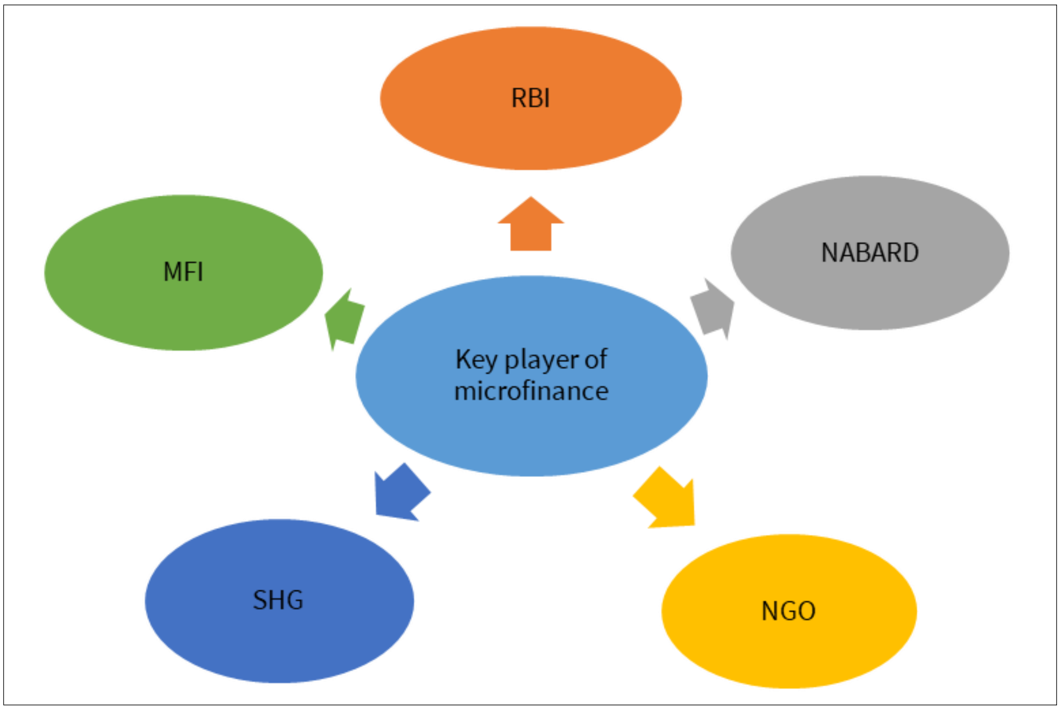

Fig. 2. Key Players of microfinance (30).

ecosystem, serving as a cost-effective mechanism for delivering financial services to the rural poor. They have demonstrated a positive impact in providing financial assistance, promoting savings habits and facilitating access to credit among low-income households (35). SHGs play a promising role in poverty reduction and financial literacy and are widely recognized as one of the most effective community-based approaches to addressing financial exclusion, second only to formal banking institutions (36).

Microfinance Institutions (MFIs)

MFIs play a vital role in extending financial services to low-income, rural and underserved populations who are often excluded from the formal banking system (5, 16). Operating through models such as Joint Liability Groups (JLGs) and Self-Help Groups (SHGs), MFIs offer small-scale credit, savings, insurance and financial literacy support to promote economic self-reliance and livelihood generation (37). In India, MFIs function under various legal structures including Non-Banking Financial Companies (NBFC-MFIs), societies, trusts and cooperatives with NBFC-MFIs forming the dominant segment regulated by the Reserve Bank of India (RBI) (38). MFIs specialize in offering collateral-free loans at the doorstep, tailored to meet the needs of self-employed individuals, small farmers, women entrepreneurs and micro-business owners (26). By bridging the credit gap left by commercial banks, MFIs contribute significantly to rural development, income enhancement and women's empowerment (2). Many MFIs now integrate technology such as mobile banking and digital repayment systems to streamline operations, reduce costs and expand outreach (20).

Apart from financial services, several MFIs deliver non-financial support such as capacity-building, market linkages, vocational training and health education (2, 5). This integrated approach enhances the resilience of vulnerable communities and supports broader goals of social development. Despite their progress, MFIs face operational challenges, including high interest rates, repayment pressures and the need for regulatory compliance (37, 38). Addressing these issues through responsible lending practices and client-centric innovations is crucial for sustaining their impact and promoting inclusive financial growth (24).

Poverty and poverty alleviation

Poverty is not merely about low income-it is a state of multidimensional deprivation where individuals lack access to essential needs such as food, clean water, sanitation, healthcare, housing and secure employment (39). It reflects both economic and social exclusion, leading to chronic vulnerability, especially in rural areas where infrastructure and services are scarce.

The nature of poverty differs by context. It manifests uniquely in rural versus urban settings, across gender and among different age groups. Rural poverty is often shaped by dependence on low-return agriculture, seasonal jobs and weak market access. In contrast, urban poverty typically involves informal employment, overcrowded housing and high living costs (40). Women and children often face deeper poverty due to unequal access to education, property and credit.

It's important to note that raising income does not automatically reduce poverty. Increased income, if not sustained or complemented by improved services and assets, may not enhance long-term well-being (41). Effective poverty reduction demands integrated efforts addressing both income and non-income factors.

Microfinance offers a potential solution, but its impact depends on how loans are used. When borrowers invest in income-generating activities-such as farming, livestock, or small businesses-they may improve their living standards. However, if funds are diverted to consumption or emergencies, it can lead to debt and worsen their situation (41).

The Grameen Bank model illustrates effective poverty targeting through microfinance. By lending without collateral and focusing on women, it promotes entrepreneurship, group accountability and social support systems. This model has demonstrated that microfinance, when combined with training and community engagement, can foster lasting improvements in income and empowerment (42). In essence, microfinance can be a powerful tool for poverty alleviation-but only when delivered alongside financial literacy, skill development and supportive policies. Tailoring interventions to the needs of the poorest is key to maximizing its potential impact.

Impact of microfinance on poverty alleviation

Microfinance has both positive and negative impacts on poverty alleviation and its members. Microfinance and its programs and interventions can increase the standard of living of rural poor and other low-income client groups and can enhance the social condition of participants (43). It also faced several challenges including vulnerability due to the high debt-service ratio and lack of implementation mechanisms (Fig. 3). The impact of microfinance varies based on income levels, households and low-return assets (44).

Positive impact of microfinance on poverty alleviation

Credit supply through various self-help groups and micro-financial institutions is determined as a promising tool for the development of poor and rural areas including women. It has a positive impact on raising income levels, reducing borrowing of money from informal money lenders or other sources at higher interest rates and conserving the interest of the rural poor in borrowing money in various micro-financial institutions and self-help groups (45). Microloans help to increase the household income of cliental groups (46). Microfinance led to reduced poverty by providing credit along with the provision of skill, development and training (47). It also helps to stimulate self-employment among the rural poor. It also promotes business activities and the fulfilment of food and other expenditure for children (48). Microcredit disbursed through NGOs has a positive impact on the development of the standard of living people, better education and better health facilities. It also provides funds to alleviate poverty and empower the poor. The empowerment of rural women plays a major role in eradicating poverty. Microfinance interventions have demonstrated a positive influence on beneficiaries by alleviating poverty, fostering income generation, diminishing reliance on informal moneylenders and cultivating social values among participants, thereby establishing their efficacy as a tool in poverty eradication.

Negative impact of microfinance on poverty alleviation

Microfinance has demonstrated potential in poverty reduction by augmenting the income and consumption of impoverished households, thereby exerting a positive influence; however, the most economically vulnerable households often remain

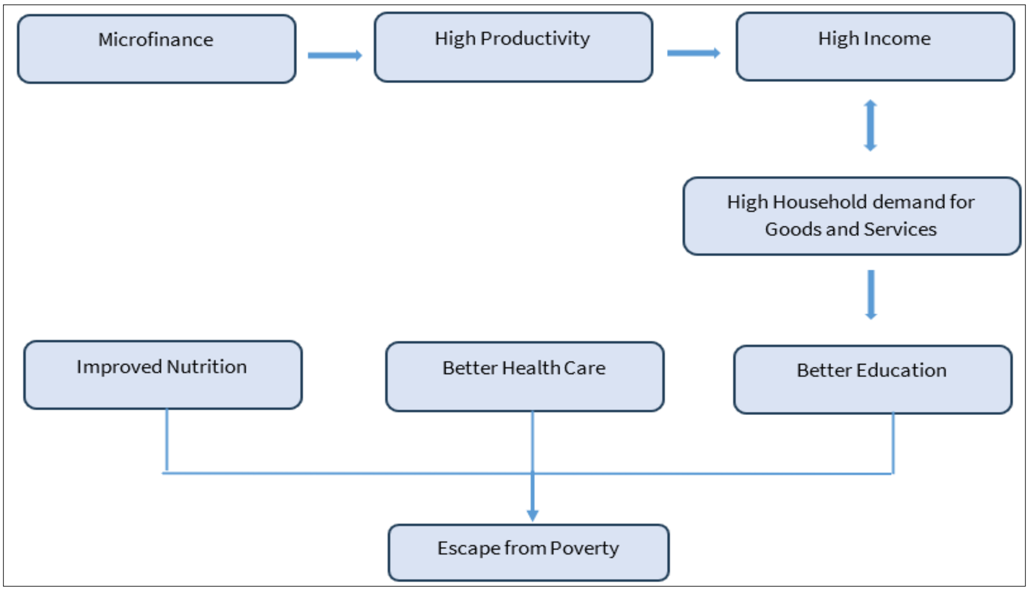

Fig. 3. Impact of microfinance on agricultural productivity and poverty (14).

excluded from accessing microfinance services (49). Microcredit lent through NGOs does not fulfil the needs of very poor households. It offers credit to the people who have good repayment ability and ignores the defaulters (50). Microfinance aggravates existing socioeconomic inequalities. It offers short-term loans with tight repayment cycles which hinders its effectiveness; it is not considered as an effective strategy for poverty alleviation and growth (51). Microfinance cannot be considered as a magic bullet to eradicate poverty, it lags in catering to the needs of the rural poor on a sustainable basis (13). It also increases the problem of benefits in terms of economic, social and environmental terms (52). To repay the loans of micro-financial institutions borrow loans from the informal market at the highest interest rates than the market rates and it increases the indebtedness of participants, it affects their living standards basis (52) . Microfinance has some negative impacts in catering to the needs of the rural poor and does not help them with sustainability.

Challenges in poverty alleviation

This section primarily addresses the challenges and opportunities inherent in poverty alleviation. Several challenges were identified, including deficiencies in program implementation, monitoring and evaluation, as well as inadequate funding, a lack of a comprehensive approach, insufficient governmental intervention, gender disparities and environmental degradation. Despite these challenges, opportunities exist to mitigate the issues associated with poverty alleviation. A significant challenge lies in effectively targeting client groups, as individuals outside these designated groups often do not benefit. Furthermore, the absence of rigorous monitoring, evaluation and inspection of programs contributes to a lack of awareness (53, 54). Lack of funding is consistently identified as a major challenge in implementing poverty alleviation. Insufficient training skills, lack of market access for products and poor record keeping also pose a challenge to implementing poverty alleviation (55). Effectiveness of implemented program is hindered by corruption and a lack of transparency (56). Furthermore, governmental intervention and bureaucratic processes pose additional challenges. The gender gap, particularly the restricted access for women to participate in income-generating activities within households, significantly impedes poverty alleviation efforts (57, 58). These are the challenges which hinders the poverty alleviation and poverty alleviation programs.

Social development

Social development is a multifaceted concept encompassing economic, political, social and cultural aspects, aiming to improve community well-being. The major focus is to address the various social issues (59). Social development majorly targets areas like education, women's empowerment, health care, capacity building and community development. Many organizations and governments have given more attention to social development to achieve the desired outcomes. The concept provides a useful framework for understanding and managing social problems and helps to integrate community development.

Social development initiatives

Social Development initiatives include a wide range of efforts aimed at improving human well-being and addressing global challenges. These initiatives encompass diverse strategies, including capacity-building, financial literacy enhancement, improved water and sanitation infrastructure, livelihood promotion, preventive healthcare measures and skills development. Furthermore, microfinance plays a role in elevating social standing and enhancing overall living standards (2, 60). Furthermore, microfinance facilitates rural and entrepreneurial development by promoting social development and decision-making related to health and education (61) (Table 1).

Capacity-building

Capacity building is one of the most important social initiatives, it involves enhancing knowledge, skills and institutional framework to address social challenges. It concentrates on sustainable training and building infrastructure (63). Effective capacity building is a context-sensitive approach that fosters knowledge sharing and institutional growth. It is considered a pillar of microfinance, the combination of microfinance and capacity-building efforts enables the community to mobilize

Table 1. Social development initiatives (62)

	Social Development Initiatives
1	Capacity-Building
2	Financial Literacy
3	Water and Sanitation
4	Livelihood Promotion
5	Preventive Healthcare
6	Training

resources and improve the quality of life (64). Apart from financial services microfinance engages in capacity-building, livelihood promotion and other social interventions (65).

Financial literacy

Financial literacy, a crucial social development initiative within microfinance, addresses the prevalent lack of knowledge regarding formal financial transactions among poor populations and farmers. Inadequate financial literacy can hinder financial inclusion, potentially leading to indebtedness and financial instability (66). Most of the financial literacy campaigns are conducted by many MFIs. It includes Ujjivan Financial Service Pvt Ltd., Annapurna Mahila Sakh Sahakari Sansath Maryadit, Growing Opportunity Finance Pvt. Ltd., Hand in Hand India, Jagaran Microfin Pvt. Ltd., Suryodaya Microfinance Pvt. Ltd., Yukti Samaja Sewa Society (62). Enhancing financial literacy positively influences both financial inclusion and the advancement of rural communities (67). Enhancing financial literacy is crucial for enabling individuals to make well-informed financial choices and fostering comprehensive economic development (66).

Water and sanitation

Microfinance has a potential solution for improving water and sanitation in developing countries. In India microfinance plays a major role in social initiatives such as capacity building, health care and water sanitation projects (65). Microfinance has emerged as a potential tool for improving water and sanitation in low-income areas. Water and Sanitation are strong collective goods and microfinance loans may help to address these struggles (68). Microfinance shows its promising effect on its application in water and sanitation in local contexts.

Livelihood promotion

Microfinance plays a significant role in poverty reduction and livelihood development in rural areas. Microfinance shows a positive trend in increasing total family income, improving economic conditions and the standard of living of the rural poor (69, 70). Microfinance also facilitates the microbusiness creation, productive investment, women's empowerment and social and rural development (70). Overall microfinance plays a crucial role in enhancing the livelihood status of the rural population and contributes to sustainable rural development and poverty reduction (8, 69).

Preventive healthcare

Microfinance shows its significant contribution to improve access to preventive healthcare and health-seeking behaviour. Microfinance helps to increase health access and enhance health knowledge (71). Microfinance and MIFs demonstrated health-related practices including the use of antenatal café, family planning and immunization services (72). Additionally, microfinance also lends loans to private clinics and hospitals to improve the quality of health care and drug availability and maintain cleanliness and confidentiality (73). Microfinance has a positive impact on preventive health care for long-term sustainability.

Training

Microfinance also plays a significant role in contributing to several different training and training programs including business training and others. It also contributes to improving various micro and small enterprise performance, including sales, income and employment (74). The Effectiveness of training can help to develop the rural poor in rural areas. Several MFI conducts training programs like Grameen Development & Finance Pvt. Ltd, Mahila Sakha Sahkari Sanstha Maryadit training program, etc help in developing rural poor (62). Overall, microfinance plays a major role in promoting skill training and vocational education program helps in the sustainable development of rural areas.

Microfinance's impact on social development

Generally, microfinance is well known for its financial services to poor cliental groups, including these activities it also extends its services for social development (75). Microfinance plays a major role in social development to empower the marginalized section of people in society. Other than economic and financial services microfinance plays a major role in providing capacity-building programmes, financial literacy, livelihood promotion, health care, water and sanitation, etc. Microfinance is involved in social development initiatives to encourage the group of marginal sections of people in society. Government agencies, banks and financial institutions come forward to help microfinance expand their contribution towards social development.

Rural development

In developing countries like India rural development has received special attention (76). Rural development primarily aims to enhance the well-being of rural populations through poverty reduction, increased employment prospects, improved infrastructure and better access to essential services such as healthcare, education, clean water, sanitation, road connectivity and housing. (77, 78). Rural development is the process of expanding real freedom for the rural poor to enjoy (79). Rural development is one of the important segments of economic development (80). Rural development is not only about changes in the economic position of the rural poor, but it also includes changes in social, psychological and cultural aspects. It is a collective process of improving the well-being and self-realization of the rural poor (80, 81). Rural development plays a very crucial role in overall economic growth, backwardness of rural areas hinders the national growth and development (82). To address all the issues related to rural development government implements various policies and programs to increase well-being and self-employment and to alleviate poverty, while also incorporating various scientific and technological interventions (81).

Microfinance's impact on rural development

In developing countries like India microfinance emerged as a powerful tool for rural development and poverty alleviation. Microfinance extends its financial support to underserved communities and rural households especially rural women to pursue self-employment opportunities and enhance economic stability (83, 84). It facilitates income generation, job creation and entrepreneurship development, leads to an improved standard of living and reduces migration (83). Microfinance often operates with self-help groups to promote financial inclusion and empower women by increasing their participation in economic activities and decision-making processes (15, 84). The impact of microfinance on rural development tends to increase economic benefits, contribute to better health outcomes, increase community participation and improve the overall development of rural people and rural areas (84). To improve and maximize their effectiveness, microfinance programs should inculcate ethical practices that cater to social needs and ensure sustainable empowerment and social development. Microfinance and MFI should undergo various capacity-building and other development training programs for suitable development. Microfinance has also played a pivotal role in promoting plant-based enterprises in rural areas by enabling SHGs and MFIs to support cultivation, processing and marketing activities. For example, women-led SHGs in Odisha and Tamil Nadu, backed by microfinance support, have successfully engaged in the cultivation of medicinal and aromatic plants such as tulsi, ashwagandha and lemongrass, improving income levels and community health outcomes (13, 16). MFIs such as Grameen Development & Finance Pvt. Ltd. and Mahila Sakha Sahkari Sanstha Maryadit have facilitated group-based lending for sustainable agro-enterprises like organic vegetable farming and vermicomposting, particularly in Maharashtra and Madhya Pradesh (62). These initiatives not only boost rural income and employment but also promote biodiversity and ecological sustainability (Fig. 4).

Challenges in microfinance for agricultural development

While microfinance has shown considerable promise in enhancing rural livelihoods, particularly in plant-based enterprises, several persistent challenges limit its effectiveness in agricultural development. One of the foremost issues is financial exclusion among agricultural communities, where smallholder farmers, tenant cultivators and landless laborers are often left out due to lack of collateral, formal credit history, or documentation (26, 37). This exclusion undermines their ability to invest in critical farm inputs or adopt improved practices.

Another key challenge is the limited access to agricultural and plant science innovations. Many rural clients supported by SHGs or MFIs are unaware of advancements such as climate-resilient crop varieties, integrated pest management, or low-cost post-harvest technologies. Without the convergence of financial support and agricultural extension services, the benefits of microfinance for plant-based livelihoods remain underutilized (11, 13). Addressing these gaps requires integrated strategies that not only expand access to credit but also improve agricultural literacy, facilitate innovation diffusion and foster public-private partnerships in rural areas.

Policy Framework: Government schemes supporting plant-based rural development

The Indian government has implemented a range of policies and schemes that promote plant-based rural development by integrating microfinance with agricultural innovation, sustainability and livelihood enhancement. Key programs such as the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) and National Horticulture Mission (NHM) focus on improving irrigation efficiency, promoting horticultural crops and providing financial and technical support to small and marginal farmers. These schemes are often linked with microfinance networks like SHGs and MFIs to improve credit access for input purchase, cultivation and post-harvest value addition (Ministry of Agriculture, GoI, 2020).

Furthermore, Paramparagat Krishi Vikas Yojana (PKVY) encourages organic farming through cluster-based approaches and financial incentives, often channeled through SHGs and community institutions. Schemes such as MUDRA Yojana and DAY-NRLM also emphasize enterprise-based plant production including medicinal and aromatic plants, floriculture and nursery businesses. By linking microfinance mechanisms with sector-specific agricultural schemes, these policies aim to strengthen rural livelihoods and promote environmentally sustainable development.

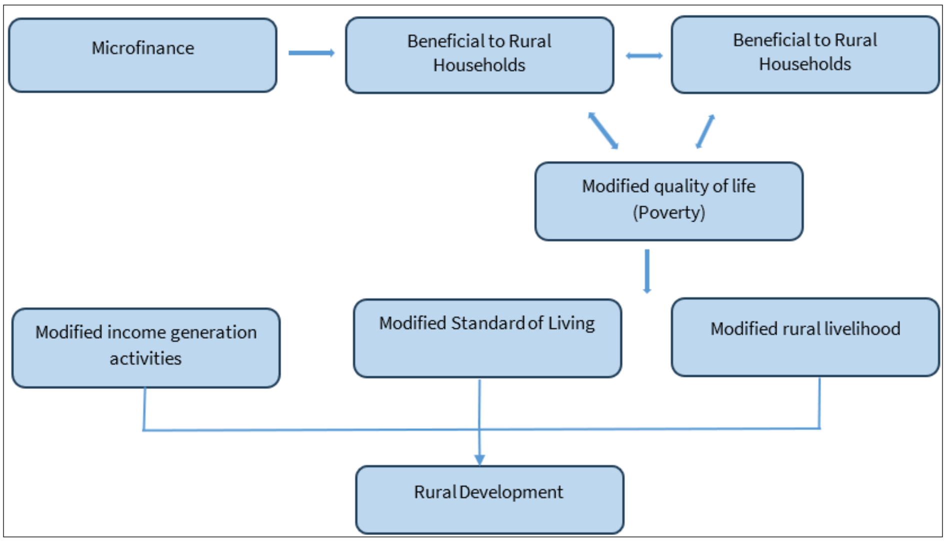

Fig. 4. Impact of microfinance on rural development (85).

Government programmes for rural development through microfinance

Government schemes like SGSY show partial effectiveness in reducing poverty and vulnerability in rural households (86). MFIs provide micro-credit to improvise individuals, enabling them to engage in various production and small business activities (15). These schemes particularly benefit the show women and improve women's empowerment, increasing participation in economic activities and decision-making processes (15, 87). The formation of self-help groups (SHGs) has been instrumental.

- To address the financial constraints faced by small business, the Indian government launched MUDRA Banks, which aims to empower various microfinance schemes. Despite progress, there is still a need for better management and adequate financing and government support is needed for MFIs to fulfil the needs of the poor and alleviate poverty (88).
- The Deendayal Antyodaya Yojana - National Rural Livelihoods Mission is designed to alleviate poverty by facilitating access to both self-employment and skilled wage employment for impoverished households. This mission prioritizes the organization of the rural poor into Self-Help Groups and aims to strengthen their capabilities through training and enhanced access to financial services (89).
- Rashtriya Mahila Kosh (RMK)- RMK provides microcredit to poor women for income-generating activities (90).
- PMJDY is a nationwide scheme aimed at increasing financial inclusion by providing affordable access to financial services such as bank accounts, remittances, credit, insurance and pensions (91).

Future research direction

- Prioritize the inclusivity of microfinance programs to better reach underserved populations.
- Design customized financial products and training programs that address the unique challenges faced by diverse client groups.
- Expand microfinance initiatives beyond just financial access, including capacity-building programs, technical training and entrepreneurial support.
- Enhance market access and agricultural productivity through targeted microfinance interventions.
- Conduct further studies to investigate and develop effective and efficient policies that enable microfinance to achieve economic development goals.

Conclusion

Microfinance has proven to be a transformative force for reducing poverty and advancing social and rural development, particularly among India's marginalized populations. Its impact goes beyond micro-loans, supporting financial inclusion, entrepreneurship, women's empowerment and livelihood creation-including in the agricultural sector, were access to credit and training boosts productivity and resilience for small farmers. By integrating financial services with capacity building, financial literacy, health care and vocational training, MFIs play a crucial role in uplifting communities and fostering inclusive growth. despite significant achievements, challenges such as limited outreach to the ultra-poor and regulatory gaps remain. Strengthening policy frameworks, expanding tailored products and training and targeting underserved groups-especially in agriculture-are essential for maximizing long-term impact. With innovation and integrated approaches, microfinance can continue to be a powerful tool for poverty alleviation and sustainable rural transformation.

Overall, microfinance serves as a catalyst for inclusive agricultural growth, especially in plant-based livelihoods, by facilitating access to credit, inputs and extension services for smallholders and landless farmers. Through targeted support for horticulture, floriculture, organic farming and medicinal plant cultivation, microfinance empowers rural communities to adopt sustainable practices, increase productivity and participate in agro-value chains. When effectively aligned with government schemes and innovation platforms, microfinance not only uplifts marginal populations economically but also drives broader goals of food security, ecological sustainability and rural prosperity.

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Authors' contributions

J wrote the initial draft of the manuscript, ST conducted the final formatting, proofreading and reviewed the article and handled the final formatting. MC, RP and GSR reviewed and approved the final version of the manuscript.

Compliance with ethical standards

Conflict of interest: Authors do not have any conflict of interests to declare.

Ethical issues: None

References

1. Sapovadia VK. Micro finance: The pillars of a tool to socio-economic development. Dev. Gateway. 2006.
2. Ullah M. Women empowerment and social development in Afghanistan through micro finance. Int J Acad Res Bus Soc Sci. 2020;10(12):377-89. https://doi.org/10.6007/IJARBSS/v10-i12/8324
3. Boateng GO, Boateng AA, Bampoe HS. Microfinance and poverty reduction in Ghana: Evidence from policy beneficiaries. Rev Bus Finance Stud. 2015;6(1):99-108.
4. Rutherford S. Raising the curtain on the 'microfinancial services era'. Enterp Dev Microfinance. 2000;11(1):13-25.
5. Jha S. Role of microfinance institutions in social development. SSRN Electron J 2019. https://ssrn.com/abstract=3369817
6. McKernan SM. The impact of microcredit programs on self-employment profits: Do noncredit program aspects matter? Rev Econ Stat. 2002;84(1):93-115. https://doi.org/10.1162/003465302317331982

7. Appah EJ, Wisdom S. An analysis of microfinance and poverty reduction in Nigeria. Arab J Bus Manag Rev. 2012;1(7):38-57.

8. Chapagain R, Sapkota P, Gautam MR. Impact of micro-finance intervention on livelihood status of women households. J Nepal Bus Stud. 2018;11(1):45-56. https://doi.org/10.3126/jnbs.v11i1.24200

9. Mosley P, Hulme D. Microenterprise finance: Conflict between growth and poverty alleviation? World Dev. 1998;26(5):783-90. https://doi.org/10.1016/S0305-750X(98)00021-4

10. Dhungana BR. Perceived impact of microfinance on livelihood improvement. Interdiscip J Innov Nepal Acad. 2023;2(1):81-95. https://doi.org/10.3126/idjina.v2i1.55968

11. Bradosti USSH. Agricultural sector financing and challenges for bankers. 2015.

12. Subramaniam S, Subramaniam S. Role of banks in agricultural lending-India. SSRN Electron J. 2009. https://ssrn.com/abstract=1544416

13. Chanu AI. Linkage between microfinance and rural development in India. J Rural Ind Dev. 2013;1(2):20-3.

14. Tenaw S, Islam KZ. Rural financial services and effects of microfinance on agricultural productivity and on poverty. Univ Helsinki Dept Econ Manag Disc Pap. 2009;1:28.

15. Yadav RK. Significance of microfinance institutions in rural development of India. Int. Lett. Soc. Humanist. Sci. 2014;(10):84-90. https://doi.org/10.18052/www.scipress.com/ILSHS.21.84

16. Arabi U. Micro finance initiatives (models) in India: A performance appraisal. SEDME. 2009;36(4):71-95. https://doi.org/10.1177/0970846420090406

17. Thacker N. Microfinance management of Indian companies. Int J Multidiscip Res. 2022.

18. Jung DH. Microfinance in India: SHG-bank linkage program. IntArea Rev. 2008;11(2):127-52. https://doi.org/10.1177/223386590801100206

19. Verma S, Aggarwal K. Financial inclusion through micro finance institutions in India. Int J Innov Res Dev. 2014;3(1):178-83.

20. Goel R, Aggarwal DM. The relationship between microfinance institutions and group lending model in Uttar Pradesh, India. Int J Trend Sci Res Dev. 2020;4(4):1088-94.

21. Kumar RJ. Repayment performance of SHGs microfinance borrowers: A review of literature.

22. Mittal A. Current scenario of microfinance industry in India. Int J Inf Res Rev. 2016;3(8):2681-5.

23. Ivatury G, Abrams J. The market for foreign investment in microfinance: Opportunities and challenges. 2005.

24. Abrar-ul-Haq M, Asad M, Natarajan V, Sankar JP, Asif MU. Microfinance and empowerment: A case study on beneficiaries of a community development program. Hamdard Islamicus. 2020;43:378-88.

25. Al-Maamari OA, Vedava P, Alrefaei N. The importance of microfinance institutions in the development of developing countries. J Econ. 2022;10(4):28-35. https://doi.org/10.34293/economics.v10i4.5147

26. Yadav RK. Significance of microfinance institutions in rural development of India. Int Lett Soc Humanist Sci. 2014. https://doi.org/10.18052/www.scipress.com/ILSHS.21.84

27. Mohd Shariff MN, Nawai N. The role of intermediary model in financing micro enterprise sector in Malaysia. 2011.

28. Kaleem A, Ahmed S. The Quran and poverty alleviation: A theoretical model for charity-based Islamic microfinance institutions (MFIs). Nonprofit Volunt Sect Q. 2010;39(3):409-28. https://doi.org/10.1177/0899764009332466

29. CGAP. The impact of microfinance. 2003.

30. Bhura PK, Jha AK. Role of microfinance in eradication of poverty in India: An overview. Int J Adv Res. 2019;5(5):313-8.

31. Jayalakshmi MS, K. Role of NABARD in rural development. ZENITH Int J Multidiscip Res. 2014;4(6):189-97.

32. Raj DS, SK. National Bank for Agriculture and Rural Development: The engine of promoting the micro finance. Int. J. Res. Soc. Sci. 2016;6(10):969-78.

33. PT D, Jayasheela. Non-government organisations as a catalyst of micro finance. SEDME. 2009;36(4):63-70. https://doi.org/10.1177/0970846420090405

34. O'Brien B. The role of non-government organisations in microfinance. Sav Dev. 2008:103-15.

35. Keshava DS. A study on trends in economic inequalities in India and the measures to reduce it. Int J Soc Sci. Manag Stud. 2024:23-31.

36. Shylendra H, Guha S. The role of SHGs as microfinancial intermediaries-a study in Sabarkantha District of Gujarat. 2010.

37. Mazumder MSU. Role of microfinance in sustainable development in rural Bangladesh. Sustain Dev. 2015;23(6):396-413. https://doi.org/10.1002/sd.1588

38. Mittal A. Current scenario of microfinance industry in India. Int J Inf Res Rev. 2016;3(8):2681-5.

39. Agbola FW, Acupan A, Mahmood A. Does microfinance reduce poverty? New evidence from Northeastern Mindanao, the Philippines. J Rural Stud. 2017;50:159-71. https://doi.org/10.1016/j.jrurstud.2017.02.017

40. Jung DH. Microfinance in India: SHG-bank linkage program. Int Area Rev. 2008;11(2):127-52. https://doi.org/10.1177/223386590801100206

41. Wright GA. The impact of microfinance services-increasing income or reducing poverty? Small Enterp Dev. 1999;10:38-47.

42. Mamun A, Uddin MR, Islam MT. An integrated approach to Islamic microfinance for poverty alleviation in Bangladesh. Univ Park Bulten. 2017;6(1):32.

43. Mago S. Microfinance and poverty alleviation: An empirical reflection. J Asian Finance Econ Bus. 2014;1(2):5-13.

44. Mosley P. Microfinance and poverty in Bolivia. J Dev Stud. 2001;37(4):101-32.

45. Jha S. Role of microfinance institutions in social development. SSRN Electron J. 2019. https://ssrn.com/abstract=3369817

46. Chan SH, Abdul Ghani M. The impact of microloans in vulnerable remote areas: Evidence from Malaysia. Asia Pac Bus Rev. 2011;17(1):45-66. https://doi.org/10.1080/13602381.2011.533504

47. Singh R, Bhar C. System dynamics to turnaround an Indian microfinance institution. Kybernetes. 2016;45(3):411-33. https://doi.org/10.1108/K-09-2014-0191

48. Prasad Parajuli R. Effect of microfinance on enterprise level of poor people: An empirical study. J Adv Acad Res. 2016;3(3):22-30.

49. McGuire PB, Conroy JD. The microfinance phenomenon. Asia Pac Rev. 2000;7(1):90-108. https://doi.org/10.1080/13602389908724553

50. Ahmad MM. Distant voices: The views of the field workers of NGOs in Bangladesh on microcredit. Geogr J. 2003;169(1):65-74. https://doi.org/10.1111/1475-4959.00039

51. Rathnam BR. Micro finance: An analytical study. SEDME. 2009;36(4):31-41.

52. Banerjee SB, Jackson L. Microfinance and the business of poverty reduction: Critical perspectives from rural Bangladesh. Hum Relat. 2017;70(1):63-91. https://doi.org/10.1177/0018726716658969

53. Barroco Fontes Cunha F, Arrais de Miranda Mousinho MC, Carvalho L, Fernandes F, Castro C, Santana Silva M, et al. Renewable energy planning policy for the reduction of poverty in

Brazil: Lessons from Juazeiro. Environ Dev Sustain. 2021;23:9792-810. https://doi.org/10.1007/s10668-020-01046-z

54. Huang Y, Huang B, Song J, Xu X, Chen X, Zhang Z, et al. Social impact assessment of photovoltaic poverty alleviation program in China. J Clean Prod. 2021;290:125208. https://doi.org/10.1016/j.jclepro.2021.125208
55. Tshitangoni M, Okorie A, Francis J. Assessment of challenges facing poverty alleviation projects in Vhembe District of Limpopo Province in South Africa. Sci Res Essays. 2010;5(17):2375-83.
56. Samuel OB. The challenges of poverty implementation policy and programmes in Nigeria. Univ Libr Multidiscip. 2024;1(1).
57. Afriyie K, Ganle JK, Segbefia AY, Kamau P, Wamue-Ngare G. Contextual factors which affect the success of microcredit programs among women. J Dev Soc. 2020;36(2):229-54. https://doi.org/10.1177/0169796X20923394
58. Appiah-Kubi J. Poverty alleviation programs for female slum dwellers in Ghana: The case of Ashaiman. Glob Soc Welf. 2021;8(3):221-9. https://doi.org/10.1007/s40609-020-00172-5
59. Midgley J. Social development: The intellectual heritage. J Int Dev. 2003;15(7):831-44. https://doi.org/10.1002/jid.1045
60. Kashif DM, Sridharan P. Microfinance: The challenges and opportunities in rural India. SSRN Electron J. 2012.
61. Parray ZA, Rather RAA, Bhat SA, Ahmad PS. Investigating the rural and entrepreneurial development through microfinance. Int Res J Bus Stud. 2022;15(2):177-90. https://doi.org/10.21632/irjbs.15.2.177-190
62. Sa-Dhan. The Bharat Microfinance Report 2015. 2015.
63. McNeil M, Woolcock M, editors. Capacity enhancement for social development: A strategy for building on local context and process. Prepared for CESI Technical Review Meeting, Paris; 2004.
64. Nikkhah HA, Abu S, Redzuan M. The impact of NGO functions on women participation in capacity building programmes in Iran J Am Sci. 2010;6(10):752-61.
65. Jha B. Impact of demonetisation on microfinance institutions in India: A study. AAYAM J Am Sci. 2017;7(1):15.
66. Ramakrishnan D. Financial literacy-the demand side of financial inclusion. SSRN Electron J. 2011.
67. Gautam RS, Rastogi D, Rawal A. Study of financial literacy and its impact on rural development in India: Evidence using panel data analysis. Iconic Res Eng J. 2022;5(9):483-92.
68. Mader P. Attempting the production of public goods through microfinance: The case of water and sanitation. J Infrastruct Dev. 2011;3(2):153-70. https://doi.org/10.1177/097493061100300205
69. Satsangi R, Anand N. Human capital formation through microfinance: An impact assessment. Academicia. 2021;11(1):632-42.
70. Dhungana BR. Perceived impact of microfinance on livelihood improvement in Kaski District of Nepal. Interdiscip J Innov Nepal Acad. 2023;2(1):81-95.
71. Geissler KH, Leatherman S. Providing primary health care through integrated microfinance and health services in Latin America. Soc Sci Med. 2015;132:30-7. https://doi.org/10.1016/j.socscimed.2015.03.037
72. Bhuiya MMM, Khanam R, Rahman MM, Nghiem S, editors. Microfinance, health seeking behaviour and health service of rural households: Evidence from a cross-sectional study in Bangladesh. Proceedings of the 37th Annual Australian Health Economics Society Conference; 2015: University of Southern Queensland.
73. Seiber EE, Robinson AL. Microfinance investments in quality at private clinics in Uganda: A case-control study. BMC Health Serv Res. 2007;7:1-12. https://doi.org/10.1186/1472-6963-7-168
74. Haider H. Innovative financial technologies to support livelihoods and economic outcomes. K4D Helpdesk Rep. 2018.
75. Brennan M, Israel GD. The power of community. Community Dev. 2008;39(1):82-98. https://doi.org/10.1080/15575330809489747
76. Abrar A, Hasan I, Kabir R. Finance-growth nexus and banking efficiency: The impact of microfinance institutions. J Econ Bus. 2021;114:105975. https://doi.org/10.1016/j.jeconbus.2020.105975
77. Divya U, Jogish D, Mankar MM, Meti MNG. Impact of PMJDY scheme on the financial empowerment of rural poor: A study across Bangalore rural district in Karnataka, India J Inform Educ Res. 2024;4(2).
78. Jyothi P, Savitha B. Delivery of microcredit to self-help groups by regional rural banks in Andhra Pradesh. Res J Soc Sci. Manag. 2013;3(6):128-34.
79. Sen A. Violence, identity and poverty. J Peace Res. 2008;45(1):5-15. https://doi.org/10.1177/0022343307084920
80. Saviour F. Key issues of rural development: A review. Stud Indian Place Names. 2020;40(18):2127-32.
81. Gangopadhyay D, Mukhopadhyay AK, Singh P. Rural development: A strategy for poverty alleviation in India. India Sci Technol. Online. 2008.
82. Chauhan S. Access to finance in Madhya Pradesh: An exploratory study. Indian J Commer Manag Stud. 2014;5(2):8-17.
83. Gupta S, Singhal J. Evaluation of credit risk management for sustainability of microfinance institutions. Educ Adm Theory Pract. 2024;30(5):12791-5.
84. Shrestha H. Assessing the impact of microfinance on women's empowerment: A critical review of the literature. Innov Res J. 2024;3(1):1-7.
85. Mazumder MSU. Role of microfinance in sustainable development in rural Bangladesh. Sustain Dev. 2015;23(6):396-413. https://doi.org/10.1002/sd.1588
86. Kundu A. Effectiveness of microfinance under SGSY scheme to reduce poverty and vulnerability of rural households: A natural experiment. 2010.
87. Kanungo M, Kanungo MK. Rural development through microfinance, MGNREGA and women empowerment. 2012.
88. Ghose P. Microfinance with reference to micro units development and refinance agency banks (MUDRA banks). Int J Eng. Manag. Res. 2018;8(1):111-3.
89. Ministry of Rural Development, Government of India. Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM): Framework for implementation. 2011.
90. Ministry of Women and Child Development, Government of India. Rashtriya Mahila Kosh: A review of microfinance initiatives for women empowerment. 1993.
91. Ministry of Finance, Government of India. Pradhan Mantri Jan Dhan Yojana: A step towards universal banking access. 2014.

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