

Role of NABARD in Farmer Empowerment Through Training and Institutional Support

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Abstract

The agricultural sector in India, particularly among small and marginal farmers, faces persistent challenges including limited access to modern technology, institutional support, and financial services. This research examines the pivotal role of the National Bank for Agriculture and Rural Development (NABARD) in empowering farmers through training and institutional mechanisms, with a focused study on the Sagar Division of Madhya Pradesh. Employing a mixed-method approach, data were collected from 438 farmers across six districts through structured questionnaires and interviews. The study identifies key areas of training such as organic farming, crop management, and rural entrepreneurship that significantly enhance farmers' technical skills and confidence. Using Chi-square analysis, a strong statistical association was found between the perceived utility of training and increased self-confidence among farmers. Furthermore, NABARD's institutional support—through Self Help Groups, Farmers' Clubs, and Farmer Producer Organizations—was observed to foster collective empowerment, improve market linkages, and promote socio-economic development. The study concludes that NABARD's integrated model of combining training with grassroots institutional support is crucial in transforming the agricultural landscape and enhancing rural livelihoods.

Keywords: NABARD, Farmer Empowerment, Agricultural Training, Institutional Support.

1. INTRODUCTION

India's agricultural landscape forms the cornerstone of the nation's economy, providing sustenance and employment to over half of its population. Despite its critical importance, the agricultural sector in many regions of the country continues to face multifaceted challenges ranging from erratic monsoons and insufficient irrigation infrastructure to limited access to formal financial systems, scientific knowledge, and modern technology. These challenges contribute to low productivity, economic vulnerability, and a lack of self-reliance among small and marginal farmers. Addressing these structural issues requires not only financial assistance but also institutional interventions focused on skill development and knowledge dissemination.

In this regard, the National Bank for Agriculture and Rural Development (NABARD) has emerged as a transformative institution. Established in 1982, NABARD operates as an apex development bank with a mandate to promote sustainable and equitable rural development. While NABARD is widely known for its role in refinancing rural credit institutions and supporting agricultural infrastructure, it has increasingly focused on the empowerment of farmers through capacity building, training programs, and institutional development. These efforts are directed at equipping farmers with the technical know-how, entrepreneurial skills, and institutional linkages needed to thrive in an increasingly competitive and

knowledge-driven agricultural economy.

One of the most significant contributions of NABARD lies in its emphasis on training and skill enhancement. In many rural regions, farmers continue to rely on traditional methods of farming passed down through generations. Though rich in experience, these methods often fall short of addressing modern challenges like climate change, pest resistance, water scarcity, and declining soil fertility. NABARD bridges this gap by organizing and sponsoring training programs that focus on improved farming techniques, efficient water management, use of organic fertilizers, diversification of crops, post-harvest handling, and market-oriented production. These trainings are designed not just to impart technical knowledge but also to build confidence and decision-making ability among farmers.

NABARD's commitment to institutional support has played a crucial role in strengthening the rural social fabric. By promoting and nurturing grassroots-level institutions such as Self Help Groups (SHGs), Farmers' Clubs, Joint Liability Groups (JLGs), and Farmers Producer Organizations (FPOs), NABARD fosters a sense of collective responsibility and enhances the bargaining power of rural communities. These institutions serve as platforms for knowledge exchange, collective action, access to credit, and improved market linkage. They empower farmers not only economically but also socially, enabling them to become active stakeholders in the rural development process.

In states like Madhya Pradesh, especially in its relatively less developed regions such as the Sagar Division, NABARD's role becomes even more critical. The area is characterized by a predominantly agrarian economy, with a large number of small and marginal farmers who depend heavily on seasonal rains and face limitations in accessing modern inputs and agricultural services. In such regions, institutional interventions like those offered by NABARD are not merely supportive they are transformative. The exposure to structured training, demonstration-based learning, and participation in organized farmer groups enhances the adaptability and resilience of local farmers.

NABARD plays a significant role in the dissemination of government schemes and agricultural innovations. It acts as a bridge between the government and the rural population, ensuring that benefits of schemes such as the Pradhan Mantri Krishi Sinchai Yojana (PMKSY), Soil Health Card Scheme, and various agri-business development programs reach the intended beneficiaries. The convergence of financial support with training and institutional development ensures that farmers are not only recipients of aid but also partners in development.

NABARD's collaborations with NGOs, cooperative societies, Krishi Vigyan Kendras (KVKs), and Panchayati Raj Institutions help in localizing its initiatives to suit the socio-economic conditions of different regions. This decentralized and participatory approach enhances the relevance and effectiveness of its interventions, making them more impactful on the ground.

In essence, NABARD's multifaceted strategy centered around training, skill development, and institutional empowerment represents a holistic model of rural development. By going beyond credit and adopting an integrated approach, it addresses the root causes of rural poverty and agricultural stagnation. Its efforts not only help farmers adopt better practices but also enable them to navigate changing agricultural landscapes with greater confidence, awareness, and resilience.

2. Objective of Study

- To evaluate the key areas of agricultural training provided by NABARD to farmers in Sagar Division.
- To assess the impact of agricultural training on farmers' confidence and skill development.

- To identify and describe the agricultural schemes and projects implemented by NABARD in Sagar Division.

3. Literature Review

NABARD has emerged as a pivotal institution in the holistic development of rural India, playing a transformative role in infrastructure development, financial inclusion, institutional support, and climate finance. It has successfully transitioned from a refinancing body to a multifaceted development institution, aligning with the vision of "Growth with Social Justice" (Parvesh Kumar Goyal, 2015). Goyal emphasizes NABARD's 360-degree development model that addresses both financial and social dimensions of rural development, proving its relevance and effectiveness in bridging the rural-urban divide.

The Farmer Producer Organizations (FPOs) promoted under NABARD's guidance are increasingly seen as effective institutions for promoting collective bargaining and improved market access. Agarwal and Goyal (2022) highlight the government's initiative to establish 10,000 FPOs by 2023, especially in states like Madhya Pradesh, Maharashtra, and Karnataka. These FPOs not only target crop-specific strategies but also offer tailored support to farming communities. Furthermore, the introduction of Cluster-Based Business Organizations (CBBOs) enhances timely decision-making and input delivery, bringing technical and managerial expertise closer to grassroots levels (Subodh Agarwal & S.K. Goyal, 2022).

Further, Agarwal and Goyal (2022) observe the uneven growth of FPOs across India. Madhya Pradesh leads with over 10% of the national share of registered FPOs, followed by Karnataka and West Bengal. While states like Tripura show higher farmer participation per FPO, Punjab lags behind. They stress the necessity for youth participation in agriculture to sustain the future of farming.

The functional efficiency of Farmer Producer Companies (FPCs) is another significant area of concern. According to Anand, Ghosh, and Mukherjee (2023), FPCs with diverse activities and longer operational periods show better performance in terms of turnover and profitability. Their study supports the idea of diversification and early-stage support to improve operational sustainability.

On the microfinance front, initiatives like SHG-Bank Linkage Programs and women-centric schemes such as the Stree Shakti and Kudumbashree have shown considerable promise. Navyashree and Dr. Suresh Mani (2025) document that although informal lending still dominates in some regions, formal financial access is growing. However, their study points out that SHG participation in direct lending is limited in certain areas, suggesting the need for program restructuring to reach the grassroots effectively. NABARD's Tribal Development Fund (TDF), launched with a corpus of ₹50 crore, has expanded remarkably, reaching over 5.5 lakh tribal families through 791 projects. Punjani (2022) documents that in tribal villages like Pathasingapoor and Nagapoor, Wadi-based farming has shown high plant survival rates and fruitful mango harvests. He emphasizes community participation and farmer commitment as critical success factors while advocating for locally adaptable project designs.

International perspectives also support farmer empowerment as a path to income growth and productivity. In West Java, empowerment programs and agribusiness training have been shown to increase agricultural output and profitability, driven by collective decision-making and capacity-building interventions (Ivonne Ayesha et al., 2024).

Conversely, Hanggana (2024) critiques the Indian government's farmer empowerment schemes, pointing to poor communication and execution. His findings indicate that despite receiving subsidies and services, farmers remain unaware of crucial strategies like marketing systems and land consolidation. He

recommends realignment of outreach strategies and stronger cooperative development through field-level extension services.

Narayanasamy (2025) underscores the need for structural, operational, and technological reforms within NABARD. While praising its achievements, he notes challenges such as bureaucratic inefficiencies, regional disparities, and inadequate innovation. He advocates for NABARD’s transformation into a "development orchestrator" leveraging climate finance, digital platforms, and stakeholder coordination.

In a comparative evaluation of beneficiaries and non-beneficiaries of rural development programs, significant socio-economic and empowerment improvements were seen among the former. Beneficiaries reported increased income, better decision-making, higher education priority for children, and stronger social cohesion, while non-beneficiaries lagged on these indicators. This finding supports the critical role of inclusive development interventions in rural India.

4. Research Methodology

This study adopts a mixed-method approach, combining both qualitative and quantitative methods to assess the role of NABARD in farmer empowerment through training and institutional support in six districts of the Sagar Division (Sagar, Damoh, Panna, Chhatarpur, Tikamgarh, and Niwari).

A stratified sampling technique was used to ensure fair representation across different farmer groups. The sample size consists of 438 farmers, proportionately selected from each district.

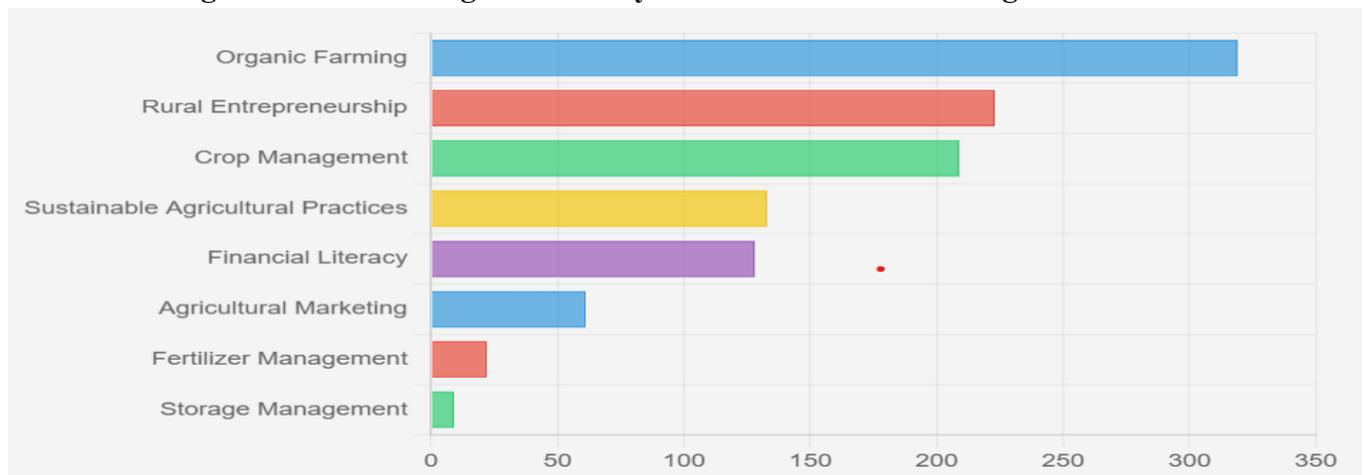
Primary data was collected using structured questionnaires, interviews, and focus group discussions, while secondary data was sourced from NABARD reports, government records, and published studies. SPSS and Microsoft Excel were used for data entry, analysis, and interpretation. The Chi-square test was applied to test hypotheses and examine relationships between training, institutional support, and indicators of farmer empowerment.

4.1 Hypotheses

H₀: There is no significant relationship between the utility of training and the level of self-confidence among farmers.

H₁: There is a significant relationship between the utility of training and the level of self-confidence among farmers.

5. Areas of Agricultural Training Provided by Nabard to Farmers in Sagar Division



Graph 1: Farmer Participation in Training Program of NABARD in Sagar Division

The graph 1 represents the participation of farmers in various training programs organized by NABARD and other institutions aimed at enhancing their skills and promoting self-reliance in of Sagar Division. The graph highlights that the highest number of participants, 319, attended training sessions on organic farming, reflecting a growing interest among farmers in reducing dependency on chemical fertilizers and pesticides while adopting sustainable agricultural practices. This suggests that farmers are becoming increasingly aware of the benefits of environmentally friendly farming methods, aligning with NABARD's initiatives to encourage sustainable farming techniques.

In addition to organic farming, a significant number of farmers, 223, participated in rural entrepreneurship training, which indicates a shift towards diversifying income sources beyond traditional farming. This is further supported by the 209 participants in crop management and technical knowledge training, demonstrating farmers' willingness to embrace scientific methods to improve crop yield and quality. While there was a lower participation in areas such as agricultural marketing (61 participants) and fertilizer management (22 participants), it highlights critical areas where more awareness and training are needed to optimize resource utilization and improve the marketing of agricultural products.

Overall, the graph emphasizes NABARD's role in fostering farmer empowerment through targeted training programs. By providing farmers with diverse skill sets such as financial literacy, crop management, and entrepreneurship, NABARD is helping them enhance their productivity and income, thus promoting economic stability and self-sufficiency in rural areas.

6. Impact of Agricultural Training on Farmers' Confidence and Skill Development

Hypotheses Testing:

Justification for Using the Chi-Square Test: In this study, the responses received from the respondents are of a categorical nature, such as "Very Useful," "Somewhat Useful," "No Confidence," "Yes, Fully Confident," "Yes, Somewhat Confident," and "No Confidence." These responses represent distinct categories and do not involve numerical or average measurements. The study's aim is to determine if there is a statistically significant association between the perceived utility of NABARD's training programs and the level of self-confidence reported by the farmers after completing the training.

Since both variables (the utility of training and the level of self-confidence) are categorical and nominal, the Chi-Square Test of Independence is the most appropriate statistical technique for this analysis. The Chi-Square test evaluates whether the two categorical variables are independent or if there is an association between them. If the p-value resulting from the test is less than the significance level of 0.05, we can conclude that a significant relationship exists between the variables.

Table 1: Crosstabulation – NABARD Training Utility vs. Farmers' Confidence Levels

Training Utility	No Training	Somewhat Confident	Fully Confident	Total
No Training	154	7	0	161
Somewhat Useful	0	21	0	21
Very Useful	0	28	273	301
Total	154	56	273	483

The Table 1 shows the cross-tabulation of the training utility perceptions and the corresponding self-confidence levels reported by farmers. It displays how the farmers have rated the utility of the training programs and their confidence levels.

"Very Useful" Training: Out of 301 farmers who considered the training "Very Useful," 273 (approximately 90.7%) of them reported being fully confident. This suggests a strong association between the perceived usefulness of training and the confidence levels among farmers.

"No Training" Group: Among the 161 farmers who reported receiving no training, 154 farmers expressed that they had no confidence, which indicates that the lack of training is associated with a lack of confidence.

"Somewhat Useful" Training: For the 21 farmers who found the training somewhat useful, they showed partial confidence, with 21 farmers reporting some level of confidence, which further implies that the effectiveness of the training plays a role in boosting confidence.

Table 2: Chi-Square Statistical Test Results

Test Name	Value	Df	p-value (Asymp. Sig.)
Pearson Chi-Square	623.285	4	0.000
Likelihood Ratio	661.010	4	0.000
Linear-by-Linear Association	453.617	1	0.000
Valid Cases	483		

The Pearson Chi-Square value of 623.285 and the p-value of 0.000 (which is less than the significance level of 0.05) indicate that the association between the utility of training and the level of self-confidence is statistically significant. This means that there is a strong relationship between the perceived usefulness of NABARD's training programs and the self-confidence levels reported by the farmer

The Chi-Square Test has provided statistically significant results with a p-value of 0.000, which is less than the typical significance level of 0.05. This means that there is a strong association between the perceived utility of NABARD's training programs and the level of self-confidence reported by the farmers. Therefore, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1), which states that there is a significant relationship between training utility and self-confidence, is accepted.

The findings of this study underscore the significant role of NABARD's training programs in enhancing farmers' self-confidence. Farmers who rated the training as "Very Useful" showed a much higher level of self-assurance, demonstrating that the effectiveness of the training is closely linked to the confidence they gain from applying the skills learned. This suggests that quality training programs are essential for not only imparting knowledge but also fostering the confidence needed to apply that knowledge in practice. The empowerment gained through such programs contributes to the overall development of the agricultural sector, ultimately improving the economic well-being of farmers.

7. Promotion of Agricultural Projects and Technologies by NABARD in the Sagar Division

The National Bank for Agriculture and Rural Development (NABARD) has undertaken various projects and technological initiatives in the Sagar Division with the primary aim of enhancing agricultural productivity, diversifying income sources, and fostering self-reliance among farmers.

Irrigation Projects: NABARD has extended financial assistance for micro and minor irrigation projects across various regions of the Sagar Division. This support includes the development of water resources, repair of canals, and construction of tube wells and wells. These initiatives ensure timely water supply to the fields, thereby enhancing agricultural productivity.

Watershed Development: Under watershed development programs, activities such as rainwater

harvesting, soil conservation, and afforestation are undertaken. NABARD provides both technical and financial assistance for these projects. These efforts help improve groundwater levels, increase soil fertility, and expand cultivable land.

Crop Diversification: NABARD encourages farmers to shift from traditional crops to high-value alternatives such as cash crops, horticulture, medicinal plants, and floriculture. This diversification reduces risk and enhances income streams. The bank supports this through training, credit facilities, and marketing assistance.

Farmer Producer Organizations (FPOs): FPOs are a means of organizing farmers to enable collective action across the entire value chain from production to marketing. NABARD provides financial support for their formation, registration, training, and working capital. This helps small farmers gain better market prices, share resources efficiently, and secure stable incomes.

Farmer Training on Modern Agricultural Practices: NABARD conducts training programs to educate farmers on advanced agricultural techniques such as organic farming, soil testing, water management, pest control, and the use of modern equipment. These programs are delivered through local agricultural science centers and NGOs. They enhance farmers' knowledge and make their practices more scientific and profitable.

Self Help Groups (SHGs): SHGs serve as a model for economic empowerment, especially for rural women and small farmers. NABARD helps link SHGs with banks for credit access, provides entrepreneurship training, and promotes group savings. This enables rural women to start small-scale agricultural and non-agricultural ventures, opening new avenues for income.

Agriculture-based Skill Development Programs: NABARD offers skill training to rural youth and farmers in fields such as dairy management, mushroom cultivation, animal husbandry, and agricultural machinery repair. These programs prepare individuals for self-employment, reducing rural unemployment and encouraging local job creation.

Heritage-based Eco-Tourism (Orchha, Niwari): NABARD has provided financial support to develop heritage sites like Orchha (in Niwari district) into eco-tourism hubs. Initiatives include promoting homestays, local handicrafts, and organic farm tours in rural areas. This generates tourism-based employment for local communities and gives regional culture global visibility.

Organic Farming: To promote organic farming, NABARD offers technical training, assistance with certification processes, and marketing support. Organic methods replace chemical fertilizers and pesticides with natural alternatives, making the farming process environmentally sustainable and increasing the demand and price for organic produce.

Drip Irrigation System: Drip irrigation delivers water directly to plant roots with minimal usage. NABARD supports the adoption of this technology through financial assistance and subsidies. It conserves water and enhances yields, particularly in horticultural and vegetable farming.

Crop Rotation System: In crop rotation, different crops are cultivated in succession on the same land across seasons. NABARD raises awareness among farmers about its benefits—such as maintaining soil fertility, preventing pests and diseases, and improving land utilization. This approach contributes significantly to sustainable agricultural development.

Infrastructure Projects: NABARD, under the Rural Infrastructure Development Fund (RIDF), finances the development of rural infrastructure such as roads, bridges, warehouses, markets, and primary health centers (PHCs). While some projects may not directly relate to agriculture, they play a vital role in transportation of produce, healthcare access, and improving living standards.

Use of High-Yielding Variety Seeds: High-yielding variety (HYV) seeds help farmers achieve better yields and improved crop quality. NABARD facilitates their usage by providing credit, distributing seeds, and offering training. This enables farmers to produce more even on smaller plots, thereby increasing income.

Use of IoT in Agriculture (e.g., Drones): NABARD promotes the use of modern technologies like drones, GIS, sensor-based irrigation systems, and crop health monitoring tools. With drones, activities such as pesticide spraying, field surveillance, and digital mapping become more precise and efficient, making agriculture safer, smarter, and more productive.

8. Challenges Faced by NABARD in the Implementation of Promotional Schemes

NABARD plays a critical role in the promotion of sustainable and equitable agriculture and rural development across India. Through its promotional schemes such as financial literacy campaigns, capacity-building programs, watershed development projects, rural entrepreneurship promotion, and skill development initiatives NABARD aims to uplift rural livelihoods and support grassroots-level institutions. However, the implementation of these promotional schemes faces several challenges that limit their reach, effectiveness, and long-term impact. These challenges can be broadly classified into administrative, financial, technical, awareness-related, and socio-cultural categories.

Administrative and Institutional Challenges: One of the major barriers in implementing promotional schemes is the lack of effective coordination between NABARD and the state-level implementing agencies like NGOs, Panchayati Raj Institutions (PRIs), Self-Help Groups (SHGs), and Cooperative Societies. Often, the local-level bodies lack adequate administrative capacity, trained staff, and consistent monitoring mechanisms to properly carry out the schemes. Delays in approvals, fund disbursement, and reporting create operational bottlenecks. Moreover, NABARD's dependency on external agencies for field-level implementation reduces its direct control over execution, often leading to sub-optimal results.

Financial Constraints: Though NABARD is a refinancing institution with access to significant funds, the allocation for promotional schemes is relatively limited compared to its credit-based operations. Budgetary constraints often restrict the scale and continuity of developmental projects like skill training centers, Farmer Producer Organizations (FPOs), and SHG promotions. Further, in many cases, beneficiaries are not able to contribute the minimum required share (in cost-sharing models), leading to either incomplete projects or reduced impact.

Awareness and Accessibility Issues: A significant portion of the rural population remains unaware of NABARD's promotional initiatives. Due to low literacy levels, poor media penetration, and limited grassroots-level outreach, many potential beneficiaries are unable to access these schemes. Even when information is available, it is often not in the local dialect or not communicated in an understandable manner. As a result, uptake of schemes like micro-enterprise development, women empowerment programs, and financial literacy initiatives remains low.

Technical and Capacity Limitations: Many of NABARD's schemes require technical inputs like training in farm mechanization, organic farming, agri-marketing, or rural entrepreneurship. However, there is often a lack of trained professionals and infrastructure (training centers, digital resources, skilled trainers) in rural areas to deliver these inputs effectively. Furthermore, the absence of follow-up support or handholding services post-training leads to knowledge gaps and failure to sustain the promoted activity.

Monitoring and Evaluation Gaps: Monitoring and evaluation (M&E) are critical to ensure that the schemes are being implemented efficiently and achieving their intended outcomes. However, NABARD faces challenges in developing robust M&E frameworks, especially in geographically remote or socio-economically backward areas. Lack of real-time data collection, weak grievance redressal mechanisms, and insufficient impact assessment limit feedback loops and hinder scheme improvement over time.

Socio-Economic and Cultural Barriers: In many rural areas, entrenched social norms, gender discrimination, and caste-based exclusion act as indirect barriers to the implementation of inclusive promotional schemes. Women and marginalized communities often face resistance in participating in SHGs or capacity-building programs. Additionally, migration of youth to urban areas for employment also reduces the target group for rural skill development initiatives.

Climate and Infrastructure Challenges: Environmental factors such as droughts, floods, or erratic monsoons also affect the performance of schemes related to agriculture or water resource development. Furthermore, poor rural infrastructure like inadequate roads, lack of internet connectivity, or non-availability of electricity hampers awareness generation, timely training, and adoption of new technologies.

9. Conclusion

The present study underscores the pivotal role played by NABARD in transforming the agricultural landscape of the Sagar Division through targeted interventions in training, skill development, and institutional support. By equipping farmers with updated technical know-how, entrepreneurial skills, and improved farming practices, NABARD has significantly enhanced both the productivity and confidence levels of small and marginal farmers. The findings reveal a strong and statistically significant relationship between the perceived utility of training programs and the self-confidence of farmers, thereby affirming the effectiveness of NABARD's capacity-building initiatives.

NABARD's emphasis on promoting sustainable practices like organic farming, entrepreneurship, and scientific crop management has led to a progressive shift in rural mindsets—from traditional subsistence farming to a more diversified, market-oriented agricultural model. The formation and strengthening of grassroots institutions such as SHGs, FPOs, and Farmers' Clubs have empowered farmers socially and economically, enhancing their collective bargaining power and facilitating better access to credit and markets.

In regions like the Sagar Division characterized by rain-dependent agriculture and socio-economic challenges NABARD's role becomes even more transformative. Its decentralized approach, collaboration with NGOs, KVKs, and Panchayati Raj Institutions, and effective dissemination of government schemes ensure that the benefits reach the last mile. The bank's initiatives have not only bridged the knowledge gap but have also laid the foundation for a resilient and self-reliant rural economy.

In conclusion, NABARD's integrated model combining financial assistance, training, and institutional empowerment represents a sustainable path forward for rural and agricultural development. Continued investment in such holistic development strategies will be crucial in ensuring inclusive growth, enhancing rural livelihoods, and achieving long-term agricultural sustainability in India.

Reference

1. Agarwal, Subodh, & Goyal, S. K. (2022). Progression of farmer producer organisations in India. *Indian Journal of Agricultural Sciences*, 92(12), 1490–1495. <https://doi.org/10.56093/ijas.v92i12.118068>
2. Ahmed, A. S., & Chakraborty, S. (2024). An Analysis of the Implementation, Outcomes, and Challenges of NABARD's SHG Bank Linkage Programme in Assam. *International Journal of Economics and Finance*, 4(2), 45–52.
3. Anand, Shreya, Ghosh, Souvik, & Mukherjee, Anirban. (2023). Effectiveness of Farmer Producer Organizations (FPOs) at different growth stages in transitioning to secondary agriculture. *Indian Journal of Extension Education*, 59(3), 90–96. <https://doi.org/10.48165/IJEE.2023.59317>
4. Anitha, J. (2020). A Study on Financial Initiatives Taken By NABARD to Empower Rural Economy. SSRN.
5. Anshulika, & Azami, Shabana. (2025). Rural microfinance in North India: Achievements and challenges. *European Economic Letters*, 15(1), 2552-2561.
6. Ayesha, Ivonne, Harahap, Gustami, & Cahya, Darmawan Listya. (2024). Effect of farmer group empowerment and agribusiness training program on productivity and income of coffee farmers in West Java. *West Science Interdisciplinary Studies*, 2(9), 1823–1832.
7. Bansal, S., & Tiwari, A. (2024). Technological and Infrastructure Gaps in Agricultural Schemes: A Review of NABARD's Initiatives. *Agricultural Systems Review*, 7(1), 35-47.
8. Bishnoi, B. K. (2018). Role of NABARD in Rural Development. *Journal of Emerging Technologies and Innovative Research*, 5(5), 1512-1516.
9. Caritas India. (2023). Growing resilience: Inside the workshop shaping climate-smart farming. <https://www.caritasindia.org/growing-resilience-inside-the-workshop-shaping-climate-smart-farming/>
10. Das, Mithun. (2021). Role of commercial banks on financial assistance towards EWSHG: A study on some selected banks. *Journal of Emerging Technologies and Innovative Research (JETIR)*, 8(5), 849–858.
11. Dubey, Deepali, Ara, Alam, & Jahanara (2019). Role of National Bank for Agriculture & Rural Development (NABARD) in women empowerment in Rewa District of MP. *Journal of Emerging Technologies and Innovative Research (JETIR)*, 6(6), 136–140.
12. Financial Express. (2023). Digital transformation: Digital documentation and Bharat making India more effective and efficient. <https://www.financialexpress.com/business/digital-transformation-digital-documentation-and-bharat-making-india-more-effective-and-efficient-3223033/>
13. Goyal, Parvesh Kumar. (2015). The role of NABARD in agriculture and rural development: An overview. *International Research Journal of Commerce Arts and Science*, 6(10), 53–58.
14. Hanggana, Sri. (2024). Farmer assessment of the effectiveness of empowerment strategies to increase farming profits. *AGRARIS: Journal of Agribusiness and Rural Development Research*, 10(2), 156–172. <https://doi.org/10.18196/agraris.v10i2.79>
15. Jahan, Tarannum, Jahan, Arfath, Manjula, L., Ruheen, Lubna, Sravanthi, Madigani, & Maryam, Madiha Fatima. (2024). A study on agricultural loans offered by NABARD to farmers. *International Research Journal on Advanced Engineering and Management*, 2(4), 860–865. <https://doi.org/10.47392/IRJAEM.2024.00115>
16. Kumar, A., & Singh, P. (2022). Institutional Coordination and Beneficiary-Level Constraints in Rural

- Development Programs. *Journal of Rural Development*, 34(4), 210-225.
17. Mathavan, R., & Prema, G. (2023). A Study of NABARD's Financial Performance and Impact on Agriculture and Rural Development. *KUEY Journal*.
 18. Ministry of Rural Development. (2021). 152 SAKSHAM Centres (Centre for Financial Literacy & Service Delivery) launched under Amrit Mahotsav. <https://rural.gov.in/en/press-release/152-saksham-centres-centre-financial-literacy-service-delivery-launched-week-part-amrit>
 19. Narayanasamy, P. (2025). National Bank for Agriculture and Rural Development: Performance, achievement and failures. *International Journal of Novel Research and Development*, 10(4), 550–561.
 20. Nema, Piyushi. (2024). Impact of NABARD's interest subsidy schemes on farmers' debt burden in Sagar Division. *Bundelkhand Research Journal*, 2(1), 1–9.
 21. Nema, Piyushi. (2024). NABARD's role in promoting financial inclusion in rural India: A review. *Bundelkhand Research Journal*, 2(2), 124–140.
 22. Nema, Piyushi. (2023). The impact of credit facilities on small farmers' livelihoods in Sagar Division. *Bundelkhand Research Journal*, 1(2), 1–9.
 23. N. S., Navyashree, & Mani, Suresh. (2025). Micro finance and women empowerment: A study on self-help groups with special reference to Ramanagar District, Karnataka. *Journal of Neonatal Surgery*, 14(9s). 239-249
 24. Pagare, M., & Gawande, V. (2025). Role of NABARD and Central Bank of India in Effective Implementation of KCC Scheme in Vidarbha Region. *Periodico di Mineralogia*, 94(1), 362–370.
 25. Punjani, Nimesh G. (2022). A study of schemes taken by Government of India in association with NABARD for tribal development in India. *International Journal of Multidisciplinary Research and Technology*, 12–15.
 26. Satyasai, K. J. S., & Premi, S. (2014). Rainfed Areas Institutional Credit in Southern States. NABARD Working Paper 2014.
 27. Selvaperumal, S., Prabhakaran, J., Ravi, P., & K., Balasubramanian. (2025). The impact of refinance scheme of NABARD on the socio-economic conditions of the farmers. *Journal of Information Systems Engineering and Management*, 10(32s), 167-173.
 28. Sehgal Foundation. (2014). Decoding rural governance in India. S M Sehgal Foundation. <https://www.smsfoundation.org/wp-content/uploads/2020/10/Decoding-Rural-Governance.pdf>
 29. Singh, R., & Patel, M. (2022). Agricultural Development and Financial Inclusion: Challenges and Strategies. *Journal of Rural Economics and Development*, 18(2), 123-140.