



FinTech *for the* Last Mile

Financial Inclusion in the Era of Amrit Kaal

Dr. B. Indira Priyadharshini

Mr. A. Prakalathan

Dr. D. Saranya

Dr. M. Nirmala

FinTech for the Last Mile : Financial Inclusion in the Era of Amrit Kaal

Dr. B. Indira Priyadharshini

Assistant Professor

Department of Commerce (CA), NGM College, Pollachi

Mr. A. Prakalathan

Assistant Professor

Department of Commerce (CA), NGM College, Pollachi

Dr. D. Saranya

Assistant Professor

Department of Commerce (CA), NGM College, Pollachi

Dr. M. Nirmala

Assistant Professor

Department of Commerce (CA), NGM College, Pollachi

First Edition : January 2026

ISBN : 978-93-94004-59-7

Price : Rs. 850/-

Copyright All rights reserved. No part of this book may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, mechanical, photocopying, recording or otherwise, without prior written permission of the author.

Printed at

CAUVERITECH Computerised Print Shop

21/2, Rajamill Road, Pollachi – 642 001.

Ph : 04259 – 221734

E-Mail : cauveritech@gmail.com

10.	FINTECH INNOVATIONS IN RURAL INDIA : A CATALYST FOR SOCIAL IMPACT AND FINANCIAL INCLUSION IN THE ERA OF AMRIT KAAL Mr. S.P. Gokulnath, Mr. B. Saran Vishnu & Mr. N. Dinesh Kumar	74
11.	EMPOWERING MARGINALIZED COMMUNITIES THROUGH DIGITAL FINANCIAL INCLUSION : STRENGTHENING ORGANIC FOOD SYSTEMS IN THE AMRIT KAAL ERA Dr. E. Renuga	80
12.	LOW-CODE AND NO-CODE PLATFORMS AS CATALYSTS FOR DIGITAL TRANSFORMATION IN INDIA Dr. S. Sathiyapriya	87
13.	EMPOWERING MARGINALISED COMMUNITIES THROUGH DIGITAL FINANCIAL INITIATIVES Mr. R. Senthilkumar	94
14.	DIGITAL FINANCIAL INCLUSION MEETS CLIMATE INTELLIGENCE : A MACHINE LEARNING - BASED WEATHER PREDICTION FRAMEWORK FOR MARGINALIZED COMMUNITIES Ms. S. Saranya & Dr. M. Rajasenathipathi	101
15.	A STUDY ON THE IMPACT OF PMMY ON FINANCIAL INCLUSION AMONG MARGINALIZED COMMUNITIES (2015–2024) Ms. V. Poornima	108
16.	THE CONNECTIVITY PARADOX : ADDRESSING INTERSECTIONAL BARRIERS AND RURAL-URBAN DISPARITIES FOR DIGITAL REVOLUTION Ms. S. Lavanya	115
17.	SOCIO ECONOMIC DETERMINANTS OF DIGITAL EXCLUSION Dr. E. Renuga, Dr. G. Akilandeswari & Dr. K. Priyatharsini	126
18.	INDIAN DIGITAL PUBLIC INFRASTRUCTURE (DPI) STACK : ENABLING FORMAL AND INFORMAL SECTORS Ms. T. Saranya	133

EMPOWERING MARGINALIZED COMMUNITIES THROUGH DIGITAL FINANCIAL INCLUSION : STRENGTHENING ORGANIC FOOD SYSTEMS IN THE AMRIT KAAL ERA

Dr. E. RENUGA

Assistant Professor in Commerce (Finance), NGM College, Pollachi.

Mail Id: charukavi1@gmail.com, Mobile No. 9976961355.

ABSTRACT

The Amrit Kaal era represents a transformative period for India, marked by inclusive growth and sustainable development. One of the key pillars of this vision is the empowerment of marginalized communities, particularly in rural areas, through digital financial inclusion. This paper explores the intersection of digital financial services and organic food systems, demonstrating how technology and digital tools can empower marginalized farmers to transition into organic farming. By integrating digital financial services such as mobile banking, micro-credit, insurance, and savings plans, marginalized communities can overcome financial barriers, gain access to essential resources, and achieve economic stability. The growing demand for organic food in India presents a unique opportunity to uplift these communities by creating avenues for sustainable livelihoods. Digital financial tools can help organic farmers access markets, receive fair prices, and streamline transactions through digital payment systems, reducing the reliance on traditional intermediaries. Moreover, digital platforms can provide crucial training, agricultural inputs, and market intelligence, enabling farmers to optimize production and adopt environmentally friendly farming practices.

Keywords: Digital Financial Inclusion, Marginalized Communities, Organic Food Systems, Amrit Kaal Era, Sustainable Development.

INTRODUCTION

The vision of Amrit Kaal marks a decisive phase in India's development journey, emphasizing inclusive growth, digital transformation, and sustainable development. Central to this vision is the need to empower marginalized communities, particularly rural and smallholder populations, by reducing socio-economic inequalities and enhancing access to essential resources. In this context, digital financial inclusion has emerged as a

powerful instrument for bridging the digital divide and enabling equitable participation in economic activities.

Despite significant progress in financial inclusion through initiatives such as Pradhan Mantri Jan Dhan Yojana (PMJDY) and the Digital India mission, a large segment of marginalized communities continues to face barriers in accessing formal financial services. Limited digital literacy, inadequate infrastructure, and dependence on informal credit systems restrict their ability to benefit fully from economic opportunities. Addressing these challenges is crucial for achieving the broader goals of inclusive and sustainable growth envisioned during the Amrit Kaal era.

Simultaneously, the organic food sector in India has witnessed substantial growth due to increasing consumer awareness of health, environmental sustainability, and food safety. Organic farming offers a viable pathway for marginalized farmers by promoting low-input, eco-friendly agricultural practices and ensuring better price realization. However, participation in organic food systems requires access to finance, markets, certification processes, and reliable payment mechanisms—areas where digital financial inclusion plays a transformative role.

Digital financial tools such as mobile banking, digital payments, micro-credit, crop insurance, and online marketplaces can significantly strengthen organic food systems by connecting marginalized producers to formal financial networks and broader markets. These tools not only enhance income security but also improve transparency, reduce transaction costs, and support sustainable livelihood generation.

Against this backdrop, this study examines how digital financial inclusion can empower marginalized communities and strengthen organic food systems in the Amrit Kaal era. It seeks to highlight the synergies between digital finance and sustainable agriculture, emphasizing their collective role in fostering inclusive growth, economic resilience, and environmental sustainability in India's evolving digital economy.

INTERLINKAGE BETWEEN DIGITAL FINANCIAL INCLUSION AND ORGANIC FOOD SYSTEMS

Digital financial inclusion plays a vital role in strengthening organic food systems by enabling marginalized communities to access essential financial and market resources. Through digital credit, mobile banking, and direct benefit transfer systems, small and marginal farmers can secure timely

financial support for adopting organic farming practices and meeting certification requirements.

Digital payment platforms enhance market access by facilitating transparent, cashless transactions and enabling direct-to-consumer sales through e-commerce and digital marketplaces. Additionally, digital insurance and risk management tools help organic farmers mitigate uncertainties related to weather and crop failure, thereby improving income stability.

The integration of digital technologies within organic supply chains also enhances traceability, accountability, and consumer trust. Overall, digital financial inclusion acts as a catalyst for empowering marginalized communities, promoting sustainable organic agriculture, and supporting the inclusive development goals of the Amrit Kaal era.

ROLE OF DIGITAL PLATFORMS IN STRENGTHENING ORGANIC FOOD VALUE CHAINS

- Enable **direct market access** for organic farmers through e-commerce platforms, reducing dependence on intermediaries
- Facilitate **digital payments** (UPI, mobile wallets) ensuring transparency, timely settlements, and fair price realization
- Support **traceability and certification** of organic products using QR codes, blockchain, and digital records
- Improve **price discovery** through online marketplaces and real-time market information
- Provide **access to digital credit and insurance** linked to production and sales data
- Enhance **supply chain efficiency** by integrating farmers, processors, distributors, and retailers on a single platform
- Promote **farmer aggregation and cooperatives** through digital producer platforms and Farmer Producer Organizations (FPOs)
- Enable **direct-to-consumer (D2C) models**, increasing farmer income and consumer trust
- Offer **digital training and advisory services** on organic farming practices and quality standards

- Strengthen **export opportunities** by meeting international organic compliance and documentation requirements digitally

OPPORTUNITIES FOR SUSTAINABLE LIVELIHOODS THROUGH ORGANIC FARMING

- Provides **stable and higher income** through premium pricing of organic products
- Reduces **input costs** by minimizing dependence on chemical fertilizers and pesticides
- Generates **employment opportunities** in farming, processing, certification, and marketing
- Promotes **women's participation and empowerment** through self-help groups and organic cooperatives
- Encourages **youth entrepreneurship** in organic farming, agri-tech, and digital marketing
- Supports **long-term soil fertility and productivity**, ensuring sustainable farm incomes
- Enhances **access to niche domestic and export markets** for organic products
- Strengthens **community-based farming models** and Farmer Producer Organizations (FPOs)
- Improves **health and food security** for farming households and consumers
- Aligns with **environmental sustainability and climate-resilient livelihoods**

CHALLENGES IN IMPLEMENTING DIGITAL FINANCIAL INCLUSION IN ORGANIC FOOD SYSTEMS

Despite its potential benefits, implementing digital financial inclusion within organic food systems faces several challenges, particularly among marginalized communities. Limited digital infrastructure in rural areas, including poor internet connectivity and lack of access to smartphones, restricts farmers' ability to use digital platforms effectively. Low levels of digital and financial literacy further hinder the adoption of mobile banking, digital payments, and online marketplaces. Additionally, many small and

marginal farmers lack formal documentation, which complicates access to digital credit, insurance, and certification-linked financial services. Trust and security concerns related to digital transactions, fear of fraud, and inadequate grievance redressal mechanisms also discourage participation. Moreover, the cost and complexity of organic certification, combined with fragmented digital platforms and limited institutional support, reduce the effectiveness of digital financial tools in strengthening organic food systems. Addressing these challenges requires coordinated efforts in infrastructure development, capacity building, policy integration, and farmer-centric digital solutions to ensure inclusive and sustainable outcomes in the Amrit Kaal era.

GOVERNMENT INITIATIVES SUPPORTING DIGITAL FINANCE AND ORGANIC AGRICULTURE

The Government of India has launched several **digital financial and agricultural initiatives** that collectively support the growth of both inclusive finance and organic farming—key components of the Amrit Kaal vision. On the digital finance front, schemes such as **Digital India, Pradhan Mantri Jan Dhan Yojana (PMJDY)**, and the expansion of **Unified Payments Interface (UPI)** have significantly increased access to formal banking and digital payments for rural and marginalized populations. These initiatives enable farmers to receive subsidies, loans, and insurance payouts directly into their accounts through digital channels, reducing dependency on informal credit sources and enhancing financial transparency.

To bolster agriculture broadly, and organic farming specifically, the government has implemented programs like **Paramparagat Krishi Vikas Yojana (PKVY)** and **National Programme for Organic Production (NPOP)**, which promote organic cultivation, certification, and market linkage support for farmers. Under these schemes, farmers receive training, cluster-based support for organic production, and financial assistance for inputs and certification, helping them transition to sustainable practices.

Complementary schemes such as **Pradhan Mantri Kisan Samman Nidhi (PM-Kisan)** provide income support to farmers, while crop insurance programs like **Pradhan Mantri Fasal Bima Yojana (PMFBY)**, increasingly accessible through digital enrollment and claim processing, help mitigate risk associated with organic agriculture. Additionally, digital

agricultural platforms such as **eNAM (National Agriculture Market)** facilitate transparent pricing and wider market access for organic produce.

Together, these initiatives create an enabling environment where digital financial inclusion and organic agriculture reinforce one another—enhancing market access, reducing financial barriers, and promoting sustainable livelihoods for marginalized communities in the Amrit Kaal era.

FUTURE PROSPECTS OF DIGITAL FINANCIAL INCLUSION IN ORGANIC AGRICULTURE

The future prospects of digital financial inclusion in organic agriculture are highly promising, particularly in the context of India's Amrit Kaal vision of inclusive and sustainable development. Advancements in fintech, mobile technologies, and digital infrastructure are expected to further expand access to affordable credit, insurance, and savings products tailored to the needs of organic farmers. Data-driven lending and alternative credit scoring models can enable small and marginal farmers to secure finance without traditional collateral, encouraging wider adoption of organic farming practices.

The integration of digital platforms with organic supply chains is likely to enhance traceability, quality assurance, and consumer trust, thereby improving market competitiveness. Emerging technologies such as blockchain, artificial intelligence, and Internet of Things (IoT) can support transparent certification, efficient logistics, and real-time monitoring of organic production. Additionally, the growth of e-commerce and direct-to-consumer models will open new domestic and global markets for organic produce, ensuring better price realization for farmers.

Improved digital financial literacy and targeted policy support will play a crucial role in maximizing these opportunities. As government initiatives, private sector innovation, and cooperative models converge, digital financial inclusion can become a catalyst for strengthening organic agriculture, promoting sustainable livelihoods, and empowering marginalized communities in the evolving digital economy of the Amrit Kaal era.

CONCLUSION

Digital financial inclusion has emerged as a critical enabler in strengthening organic food systems and empowering marginalized

communities in the Amrit Kaal era. By improving access to digital credit, payments, insurance, and market platforms, digital finance addresses long-standing barriers faced by small and marginal farmers, enabling their effective participation in organic agriculture. The integration of digital technologies with organic farming enhances transparency, efficiency, and market connectivity, while also supporting sustainable and eco-friendly agricultural practices.

Government initiatives and digital platforms have created a supportive ecosystem that links financial inclusion with agricultural sustainability. However, challenges related to infrastructure, digital literacy, and institutional coordination must be addressed to ensure equitable access and long-term impact. With continued policy support, technological innovation, and capacity-building efforts, digital financial inclusion can act as a catalyst for inclusive growth, resilient livelihoods, and environmental sustainability. Ultimately, strengthening the synergy between digital finance and organic agriculture will contribute significantly to achieving the broader developmental goals envisioned under India's Amrit Kaal framework.

ACKNOWLEDGEMENT

I Acknowledge and thank the Management of Nallamuthu Gounder Mahalingam College, Pollachi for the receipt of funding seed money for this research work.

REFERENCE

- Kumari, D., Giri, A. K., & Malesios, C. (2025). *Impact of digital financial inclusion on environmental sustainability in Asian economies. Discover Sustainability*, 6(1122). <https://doi.org/10.1007/s43621-025-01922-2>
- <https://www.sciencedirect.com/science/article/abs/pii/S154461232401643X?via%3Dihub>
- <https://www.sciencedirect.com/science/article/pii/S0927538X2500068X?via%3Dihub>
- https://www.mdpi.com/2071-1050/14/18/11450?utm_source=chatgpt.com
