

**RESEARCH ARTICLE**

# An Investigation with Reference to Tamil Nadu that Examines Agricultural Crowdsourcing as a Tool for Rural Development

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**Received:** April 30, 2026 | **Revised:** May 19, 2026 | **Accepted:** June 04, 2026

**Index Terms:** Agricultural Crowdfunding | Rural Development | FinTech | Financial Inclusion

## Abstract

The agricultural sector remains an important livelihood option for those living in rural regions of Tamil Nadu; however, farmers with small and marginal holdings face difficulties in securing the credit they require. Conventional banking organisations and financial organisations tend to ask for various types of documentation when it comes to lending money, and it takes a significant amount of time to complete the process. In this case, agricultural crowdfunding serves as a solution to the above-mentioned issue. This method of crowdfunding implies that farmers are offered financing by means of interaction with individual investors through online channels. The research paper under discussion aims to investigate the potential that the discussed type of crowdfunding holds when it comes to fostering rural development in Tamil Nadu. Different types of literature, including the reports provided by NABARD, state-specific studies, and data regarding digitalisation in Tamil Nadu, will be used for analysis.

This study examines the present status of agricultural credit, the contribution of fintech towards sustainability within the agricultural sector, and the knowledge gap among rural inhabitants regarding the use of technology. According to the findings, even though people have become increasingly interested in digitised financial services, issues such as limited internet connectivity, poor awareness regarding the usage of digitised tools, and uncertainty concerning the legitimacy of such applications continue to persist. The authors claim that through the integration of agricultural crowdfunding and the existing financial infrastructure, and with proper policy guidance, access to financial services will be enhanced, which would facilitate rural development in Tamil Nadu. Moreover, the researchers recommend several measures for improving digital networks, implementing educational campaigns, and fostering partnerships between fintech firms and agricultural entities.

## 1 INTRODUCTION

Agricultural activities are important contributors to the Tamil Nadu GDP, which makes up 14%. Agriculture is also responsible for sustaining more than 40% of the total population that lives in the rural parts of the state. Although the Government has made efforts to ensure that people get loans for their farming operations via financial institutions like NABARD, PACBs, and MFI firms, farmers have continued to struggle in terms of access to finance. This is because traditional means of raising funds are associated with a lot of value addition procedures, involve a lengthy application process, and lack flexibility. Crowdfunding has recently revolutionised the way funds are generated in various industries. In the agricultural sector, crowdfunding assists farmers, farmer cooperatives, and inventors of new agricultural technology to finance themselves in purchasing equipment, installing irrigation systems, cultivating diverse crops, and creating high-value agricultural products. Crowdfunding platforms such as Rang De, Milaap, and Ketto have initiated campaigns for agricultural activities that enable individuals to contribute financially to facilitate sustainable agriculture and enhance the living standards in rural settings. This research explores the feasibility of employing agricultural crowdfunding as a strategy for fostering the development of rural areas in Tamil Nadu. Existing literature will be employed to analyse the level of application of the approach, its growth opportunities, and limitations.

## 2 SCOPE OF THE STUDY

The research takes into account the issues related to agricultural crowdfunding in Tamil Nadu with regard to various parameters such as geographical spread, participants, types of crowdfunding activities taking place, role of digital technologies in such activities, and outcomes produced by them. Geographically, it involves regions that have extensive dependence on agriculture, namely Coimbatore, Thanjavur, Erode, Tirunelveli, and Villupuram districts of Tamil Nadu. The research covers small farmers and also involves other stakeholders

associated with farming activities, namely Farmer-Producer Organisations, Agri-startups, and rural community organisations engaging in agricultural initiatives. Also considered in the research are various methods of agricultural crowdfunding, including reward-based, donation-based crowdfunding, and peer-to-peer financing. The research evaluates the involvement of small farmers in agricultural crowdfunding concerning the availability of financial services provided via digital channels like mobile banking and online transactions using platforms such as UPI.

This research also explores the influence of agricultural crowdfunding on the farmers' earnings, loan opportunities, production capacity, and empowerment level. Moreover, this research also explores the potential for collaboration between agricultural crowdfunding and conventional financial institutions such as banks and government-sponsored organisations, including the National Bank for Agriculture and Rural Development. All these perspectives will be considered together to provide an idea about the benefits that agricultural crowdfunding could offer to enhance financial inclusion, rural communities, and sustainable agricultural development in Tamil Nadu.

## 3 RESEARCH METHODOLOGY

- **Type of Study:** Descriptive and analytical, based entirely on secondary data.

### Data Sources:

- i) Institutional reports include the following: NABARD State Focus Paper (2024-25), Ministry of Agriculture and Farmers' Welfare, and RBI annual reports.
- ii) Crowdfunding platforms will include the following: Rang De Milaap Ketto Wish Berry (campaigns accessible online).
- iii) Data on Digital/Internet and Economic statistics can be taken from the following sources: Digital Reportal (2024) for internet penetration, TRAI - Telecom statistics, NPCI - Unified Payments Interface (UPI), and Digital Payments Statistics

iv) Academic Journals would include the following: ICRIER, Elsevier, Frontiers in Sustainable Finance, Indian Journal of Economics.

### Data Analysis Tools

- i) Trend Analysis: Agricultural credit disbursement vs. digital finance growth (2018–2024).
- ii) Comparative Analysis: Tamil Nadu vs. National crowdfunding readiness indicators (digital access, rural literacy, farmer population).

## 4 REVIEW OF LITERATURE

Rang De (2020) researched the impact of P2P lending platforms in India, specifically, their influence on agriculture. According to the findings, farmers who received loans via P2P sites were able to have a considerable rise in their incomes. It can be explained by the opportunity to acquire funds promptly and use them for purchasing seeds, irrigating fields, and post-harvest crop processing. Furthermore, the report highlights that the prompt repayment of microloans leads to improved credit scores of the borrowers, thus making them eligible for larger sums.

In the report on blended finance mechanisms, the NABARD (2021) explained how such strategies, combining funds from the public sector, private players, and donations, can be used for bridging the credit gap for agriculture in India. This strategy includes providing cheap financing, grants, and investments that are helpful for farmers and FPOs to initiate large-scale projects such as drip irrigation systems, cold storage facilities, and solar energy. Moreover, NABARD emphasised the importance of digital channels of banking in rural areas that enable the provision of loans, reduce costs, and improve the availability of funds for farmers. In other words, the usage

of smartphones, digital wallets, and online lending platforms was found by NABARD (2021) to be essential in increasing the efficiency and transparency of transactions in farm financing.

According to Kumar and Srinivasan (2023), the readiness to utilise online finance among farmers in rural Tamil Nadu has been significantly higher than actual utilisation. While smartphones are present in 80% of the villages, there is very little utilisation of online finance among farmers. This is due to their lack of understanding and knowledge about applications related to digital payments and borrowing from financial institutions, fear of scams, and reliance on traditional sources such as co-operative banks or lenders for monetary needs.

The findings in the study emphasise the requirement of training and education to increase awareness and utilisation of digital financial technologies among rural farmers. The authors further note that crowdfunding platforms should be designed simply and made available in vernacular languages to enhance their utility and increase acceptance among the target population. This can be achieved through various interventions that must be incorporated in Tamil Nadu for the successful adoption of online financing platforms by farmers.

## 5 ANALYSIS

### Trends in Agriculture in Tamil Nadu

The understanding of agricultural trends can be approached from various angles. For instance, the size of the farm cultivated, production, productivity, and ownership of land have a strong correlation with rural poverty. This has been an effort to understand the trend of agriculture in Tamil Nadu in relation to these aspects.

**Table 1: Changes in Area under Food and Non-Food Crops in Tamil Nadu**

| Year    | Area in 000 hectares |           |         | Growth Rate in Per cent |           |         |
|---------|----------------------|-----------|---------|-------------------------|-----------|---------|
|         | FG Crops             | NFG Crops | GG Area | FG Crops                | NFG Crops | GG Area |
| 1960-61 | 5651                 | 1752      | 7403    | -                       | -         | -       |
| 1970-71 | 5196                 | 2188      | 7384    | -0.81                   | 2.49      | -0.03   |
| 1980-81 | 4109                 | 2360      | 6470    | -2.09                   | 0.79      | -1.24   |
| 1990-91 | 3901                 | 2731      | 6632    | -0.51                   | 1.57      | 0.25    |
| 2000-01 | 3633                 | 2884      | 6517    | -0.69                   | 0.56      | -0.17   |
| 2008-09 | 3191                 | 2633      | 5824    | -1.22                   | -0.87     | -1.06   |

**Note: FG stands for Foodgrain, NFG stands for non-Foodgrain, GC stands for Gross Cropped.**

**Source: Computed from Season and Crop Reports, Tamil Nadu (various years).**

There is a steady reduction in the land utilised in growing crops and the Gross Cropped Area, which demonstrates the poor performance in agriculture as far as production is concerned. The reduction in Gross Cropped Area shows that there is not much space

available for growing crops anymore, and that too in a short period of time. It is evident from the trends in crop performances that agriculture in Tamil Nadu is in a bad condition. Actually, the growth in the crop yield is considerable and increasing steadily.

**Table 2: Trend Analysis: Agricultural Credit Disbursement vs. Digital Finance Growth (2018 - 2024)**

| Year | Agricultural Credit Disbursement (₹ Crore) | Annual Growth (%) | Digital Finance Adoption* (Transactions in Billion) | Annual Growth (%) | Source       |
|------|--|-------------------|---|-------------------|--------------|
| 2018 | 80,500                                     | -                 | 0.25  | -                 | NABARD, NPCI |
| 2019 | 86,500                                     | 7.45              | 0.35  | 40                | NABARD, NPCI |
| 2020 | 92,000                                     | 6.36              | 0.45  | 28.57             | NABARD, NPCI |
| 2021 | 98,000                                     | 6.52              | 0.55  | 22.22             | NABARD, NPCI |
| 2022 | 1,05,000                                   | 7.14              | 0.70  | 27.27             | NABARD, NPCI |
| 2023 | 1,09,500                                   | 4.29              | 0.80  | 14.29             | NABARD, NPCI |
| 2024 | 1,12,500                                   | 2.74              | 0.90  | 12.50             | NABARD, NPCI |

**Table 3: Comparative Analysis: Tamil Nadu vs. National Crowdfunding Readiness**

| Parameter                          | India (2024) | Tamil Nadu (2024)           | Source                |
|------------------------------------|--------------|-----------------------------|-----------------------|
| Internet Penetration               | 66%          | 78%                         | Data Reportal 2024    |
| Smartphone Users (million)         | 650          | 62                          | TRAI 2024             |
| Agricultural Credit Flow (₹ crore) | 18,30,000    | 1,12,500                    | NABARD 2024           |
| Active Crowd funding Platforms     | 80+          | 6 majors (3 active in Agri) | Startup India, 2023   |
| Average Agri Campaign Amount       | ₹2-₹5 lakh   | ₹3.2 lakh                   | Milaap / Rang De Data |
| UPI Transaction Volume (monthly)   | 14.9 billion | 0.9 billion                 | NPCI 2024             |

## Interpretation

The state of Tamil Nadu is highly digitally literate and has an abundance of smartphone users; therefore, it is a suitable market for crowdfunding. However, farmers have limited awareness of these trends. Agritech initiatives constitute under 2% of all the crowdfunding projects undertaken in the country; hence, it can be seen that there is a large scope for improvement. As per the statistics released by NABARD, small farmers lack access to credit in sectors such as machinery and operations.

## Impact Of the Uzhavan App on Farmers In Tamil Nadu

In essence, ICTs have emerged as an indispensable tool to enhance the living standards of farmers through the provision of information and the sharing of knowledge. To help the farming community, the Government of Tamil Nadu introduced the "Uzhavan" mobile app. The Uzhavan app has been instrumental in providing elaborate information concerning numerous government subsidy schemes of agricultural inputs such as seeds, farm machinery, solar pumps, plastic mulching, shade nets, hives, polyhouses, micro irrigation systems, cold storages, custom hiring centres, water harvesting systems, crop insurance, mushroom shade nets, and nurseries, among others.

Also, the app provides an overview of the amount of subsidy available to small, marginal, and large farmers as percentages. In general, the Uzhavan app has received many users due to its usability. The application has helped farmers handle difficulties after the lockdown period. For example, it encouraged sustainable and efficient means of selling their agricultural products under social distancing. Furthermore, the adoption rate of the Uzhavan application has drastically improved from 2020 to 2023.

## 6 FINDINGS

**Digital Readiness:** Tamil Nadu has good digital connectivity; rural adoption of smartphones and mobile banking is higher than the national average.

**Credit Gap:** According to NABARD data, there is 12% to 15% unmet agricultural credit requirement; therefore, there is scope for crowdfunding in addition to institutional finance.

**Awareness and Trust Concerns:** Secondary sources and literature point out that there is little awareness regarding crowdfunding sites amongst rural farmers.

**Regulatory Challenges:** Lack of specific regulations by SEBI or RBI on agricultural crowdfunding discourages institutional involvement in crowdfunding schemes.

**Possible Synergy:** Involvement with FPOs, self-help groups (SHGs), and cooperative banks could increase transparency and accountability.

**Sustainable Aspect:** Crowdfunding has been used effectively in financing sustainable agriculture practices such as solar pumps, organic farming, and water conservation projects.

## CONCLUSION

Crowdfunding is one way through which financial inclusion could be achieved and help to build sustainable rural communities in Tamil Nadu. While this practice has become more common globally, its success in Tamil Nadu depends on the ability to overcome barriers such as low literacy levels, internet usage, and poor awareness of crowdfunding platforms by farmers. One such application that is crucial to assisting farmers in this aspect is the Uzhavan application, since it provides useful information in different farming areas.

It can serve farmers in many ways because the platform offers vital information in agriculture. From this research, it can be concluded that crowdfunding in agricultural

finance could be successfully implemented as long as necessary measures, such as the provision of digital technology and training for farmers, are put in place. Another strategy that would be crucial for the successful implementation of this method includes linking crowdfunding and financial institutions, such as NABARD.

## LIMITATIONS OF THE STUDY

The limitations of the study are as follows -

1. The research is based only on published material, information from platforms, and academic references, and might be unable to reflect actual farmer behavior or include all rural communities.
2. The crowdfunding websites usually do not offer information about the number of users state-wise, and for different campaigns, thus the assessment of adoption and impacts in Tamil Nadu becomes problematic.
3. Despite smartphone usage in rural settings, differences in digital literacy and internet connection could prevent generalisation.
4. The use of informal lending and trust problems among farmers, along with a lack of awareness about online financial services, might be hard to quantify.

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