

The Impact of the Uzhavan App on Farmers in Tamil Nadu

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ABSTRACT

Information and Communication Technologies (ICTs) are increasingly functioning as an essential instrument in transforming the lives of farmers by enhancing access to information and facilitating knowledge exchange. The Government of Tamil Nadu introduced the "Uzhavan" mobile application to support the agricultural community. This application provides comprehensive information on various subsidy schemes related to agricultural inputs such as seeds, farm machinery, solar pump sets, plastic mulching, shade nets, beehives, polyhouses, micro-irrigation systems, cold storage units, custom hiring centers, water harvesting systems, crop insurance, mushroom shed nets, and hi-tech nurseries. It also details the subsidy amount and percentage applicable to small, marginal, and large-scale farmers. The Uzhavan application has been widely adopted due to its user-friendly design and practicality. Notably, the platform has proven effective in assisting farmers to overcome challenges beyond the lockdown period, promoting sustainable and efficient marketing practices while maintaining social distancing protocols. Furthermore, the Uzhavan application demonstrated a significant increase in its user base between 2020 and 2023, reflecting its growing relevance and impact among farmers.

Keywords: Uzhavan app; ICT's; Benefits; Utilization; Usage; Challenges

Background

Agriculture serves as the backbone of the Indian economy, contributing approximately 6.2 percent to the national GDP. Nearly 70 percent of India's population relies on agriculture as their primary source of livelihood. Therefore, the necessity for timely and accurate access to information to support decision-making in agriculture and its allied sectors is crucial. In the current digital era, smartphones have emerged as an effective medium for delivering agricultural information. The integration of Information and Communication Technologies (ICTs) through mobile applications has become increasingly significant in the agricultural sector. These technologies have provided innovative solutions to address various challenges faced by rural farmers by developing a range of mobile applications focused on production technology, agro-advisory services, marketing, and allied sectors.

A variety of agricultural applications are now utilized to support multiple farming activities such as seed procurement, weather forecasting, crop management, pesticide and fertilizer usage, and market information dissemination. This study specifically focuses on the "Uzhavan" mobile application, which was launched by the Government of Tamil Nadu on April 5, 2018. The application aims to provide farmers with agricultural information in their

local language (Tamil and English), ensuring accessibility and inclusivity. The Uzhavan app offers twenty-four key services, including farm subsidy, beneficiary registration, Tamil Mannvalam, crop insurance, fertilizer stock updates, seed stock status, agricultural machinery rentals, market price updates, weather advisories, farmer-officer communication programs, farm guides, organic product listings, Farmer Producer Organization (FPO) product availability, reservoir levels, agricultural news, feedback submission, pest and disease monitoring and management, ATMA training and demonstration, Uzhavan e-market, sericulture department updates, agricultural budget information, the Kalaigiar Agricultural Development Programme, Kalnadai Maruthuvar services, and the Tamil Nadu Green Mission tree seedling initiative.

The Uzhavan application also provides comprehensive details on subsidy schemes available for various agricultural inputs and crop insurance options tailored to specific village crops. Furthermore, it facilitates affordable access to tractors and farming equipment through custom hiring centers integrated with J-Farm services. Additional features include weather forecasts and updates on agricultural department officials' visits to rural areas. The app also disseminates information on the availability of organic and FPO products within nearby regions. Recently, two new features—ATMA training and demonstration programs—were added to enhance the Uzhavan app's functionality and effectiveness in supporting farmers' needs.

Literature Review

The integration of Information and Communication Technologies (ICTs) in agriculture has significantly reshaped traditional farming systems into more information-oriented and data-driven enterprises. According to Mittal and Mehar (2016), ICTs play a crucial role in empowering farmers by improving access to real-time information related to crop management, weather forecasts, and market dynamics. These technologies bridge the gap between agricultural research and rural farmers, enabling better decision-making and higher productivity.

Mobile-based agricultural applications have emerged as essential tools in enhancing information dissemination. As Aker (2011) and Qiang et al. (2012) observed, mobile phones have become transformative instruments in agricultural development, providing farmers with cost-effective access to information and services that were previously difficult to obtain. Such innovations have proven instrumental in reducing market asymmetry and transaction costs, contributing to improved livelihoods for rural communities.

In India, the government has launched several mobile-based agricultural platforms, such as mKisan, Kisan Suvidha, and Pusa Krishi, designed to provide localized and updated information on crop management, weather conditions, and agricultural schemes. Research by Meera, Jhamtani, and Rao (2012) demonstrated that these ICT-driven extension services have increased farmers' awareness and improved communication between agricultural

departments and farming communities. However, challenges remain, including issues of digital literacy, connectivity, and the need for content in local languages (Anandajayasekeram et al., 2020).

The Uzhavan App, introduced by the Government of Tamil Nadu in April 2018, exemplifies a region-specific digital initiative that supports farmers in their local language (Tamil and English). Studies such as Selvaraj and Ramasamy (2021) highlight the app's comprehensive service offerings—ranging from subsidy details, market prices, and crop insurance to weather forecasts and machinery rental—making it an all-in-one agricultural support system. Additionally, Kumar et al. (2022) note that Uzhavan's integration of farmer-officer communication enhances transparency and participatory governance within the agricultural sector.

Despite its potential, the effectiveness of agricultural mobile applications largely depends on adoption rates and usability. Sulaiman et al. (2019) found that rural farmers often face challenges such as limited awareness, inconsistent internet access, and lack of training on mobile technologies. Similarly, Reddy and Ramasamy (2020) emphasized the need for continuous government support, frequent app updates, and localized feedback mechanisms to ensure long-term engagement and impact.

Overall, existing literature underscores the transformative role of ICTs in agriculture, particularly in developing countries. The Uzhavan App represents a promising step toward digital empowerment of farmers in Tamil Nadu. However, sustained innovation, capacity-building, and user feedback are essential to optimize its effectiveness and ensure that it remains relevant in addressing the evolving needs of rural communities.

Method

This study employs a qualitative approach utilizing a literature review method to examine Ridwan Kamil's leadership in realizing a Smart City-based government, with a focus on identifying the collaboration between governmental and non-governmental actors. Data collection was carried out through an extensive review of relevant literature from various credible sources. This study is based on secondary data collected from various reliable sources such as books, academic journals, newspapers, official websites, and online databases. The research aims to examine whether the Uzhavan app serves as a boon for farmers in Tamil Nadu. Employing a descriptive research design, the study relies solely on secondary data to assess the role of the Uzhavan app in supporting and improving agricultural practices among farmers in the region.

The collected data were systematically organized into key thematic areas, including access to government subsidies, promotion of sustainable farming practices, market connectivity, and the app's relevance during critical situations such as the COVID-19 pandemic. The analysis draws upon literature reviews and previously documented case

studies to validate findings related to the app's effectiveness and user adoption. This methodological approach ensures a comprehensive and in-depth evaluation of the Uzhavan app, highlighting its importance as a transformative Information and Communication Technology (ICT) tool that contributes to agricultural development and farmer empowerment in Tamil Nadu.

Result and Discussion

From 2020 to 2023, the Uzhavan application exhibited substantial growth in its user base, indicating the progressive adoption of digital technologies among farmers in Tamil Nadu. This development underscores the pivotal role of Information and Communication Technologies (ICTs) in transforming agricultural practices. The application has effectively bridged the information divide by providing farmers with seamless access to essential data on subsidy programs, input costs, crop insurance, and custom hiring services. During the COVID-19 lockdown, it proved to be an indispensable tool for maintaining agricultural operations, enabling farmers to obtain market information and access services remotely while adhering to social distancing measures. Moreover, its features that promote sustainable agricultural practices—such as water harvesting systems, solar-powered pumps, and micro-irrigation facilities—have further enhanced its overall impact.

The success of the Uzhavan app can be attributed to its user-centric interface and the Tamil Nadu Government's proactive efforts in promoting its utilization. Serving as a comprehensive digital platform for diverse agricultural needs, the app empowers farmers through timely and transparent access to government programs. Nonetheless, certain challenges remain, including limited digital literacy, inadequate network coverage in rural areas, and language barriers. Addressing these limitations through offline functionalities, interactive training modules, and improved rural connectivity would significantly strengthen its effectiveness. Beyond enhancing accessibility, the application contributes to inclusivity by assisting small and marginal farmers while supporting sustainable and eco-friendly agricultural practices. Consequently, policymakers can leverage its potential to design more targeted interventions, ensuring continued digital transformation and socio-economic advancement for the farming community.

Years Wise Uzhavan App Beneficiaries in Tamil Nadu

The user trend of the Uzhavan application between 2020 and 2023 reflects a dynamic pattern of adoption among farmers in Tamil Nadu. The number of registered users experienced a notable decline from 334,948 in 2020 to 231,166 in 2021, indicating a temporary decrease in engagement during that period. However, user adoption rebounded in subsequent years, with a significant increase from 192,458 in 2022 to 304,582 in 2023. Overall, the data demonstrates a consistent upward trajectory in the app's user base over the four-year period, signifying renewed interest and sustained growth. As of the most recent record, the total number of Uzhavan app users has reached 1,786,601, highlighting its expanding role as a key digital platform supporting agricultural activities in Tamil Nadu.

SI. No	Years	Users
1	2020	3,34,849
2	2021	2,31,166
3	2022	1,92,458
4	2023	3,04,584

(Source: tnagrisnet.tn.gov.in)

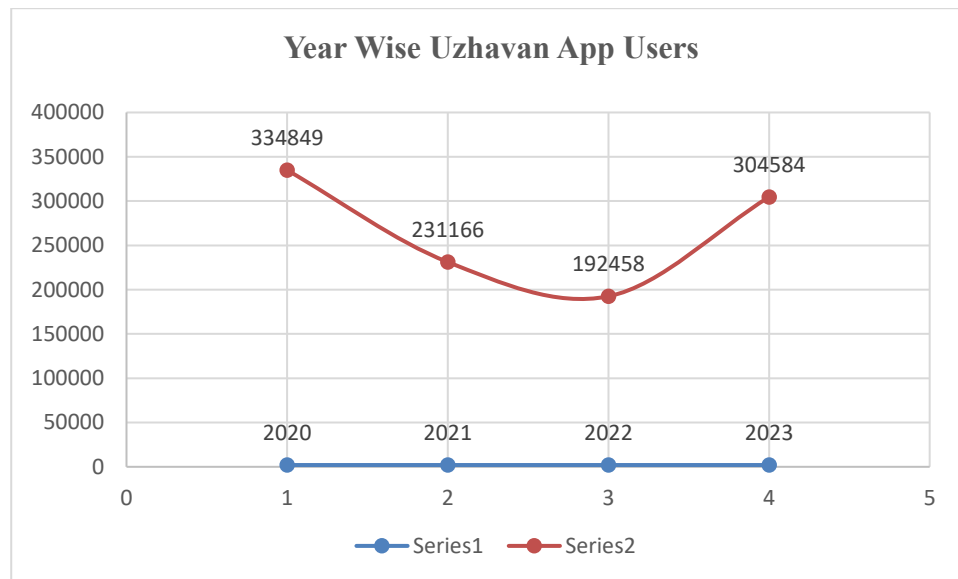
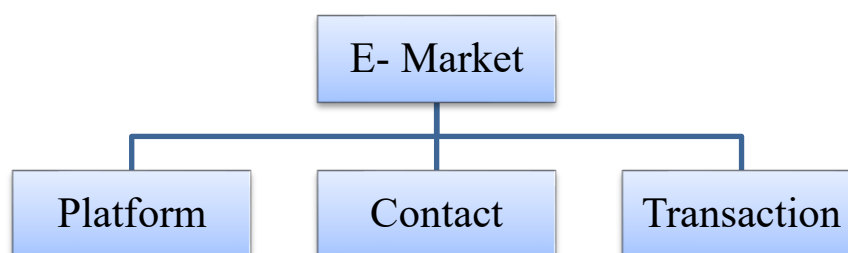


Fig. 1- Years wise Uzhavan App user's status

(Source: tnagrisnet.tn.gov.in)

Impact of Uzhavan App by Lock down

The e-market feature of the Uzhavan application, introduced during the COVID-19 lockdown, played a crucial role in supporting farmers by facilitating direct connections with online consumers. This platform enabled farmers to market their produce without intermediaries, thereby ensuring fair pricing and stable income even amid mobility restrictions. By bridging the gap between producers and buyers, the e-market function significantly contributed to maintaining the continuity of agricultural trade and promoting a more transparent and equitable marketing system during the pandemic period.



Review on impact of Mobiles Apps

Among various Information and Communication Technologies (ICTs), mobile phones have demonstrated remarkable penetration in many developing nations, significantly transforming agricultural communication processes. For the first time, mobile technology has provided both men and women – regardless of their economic status or whether they reside in rural or urban areas – direct and personal access to communication tools (Colle, 2011). In Uganda, for example, a government-led initiative promotes the use of ICTs to enhance agricultural productivity and improve farmers' livelihoods (Writer, 2015). Through this program, village agents utilize smartphones equipped with GPS functions to gather essential data, including demographic details and information on cultivated lands.

Findings from a study by Aravindh, Karthikeyan, and Verma (2022) revealed that a majority of farmers (66.67%) used up to seven different features available on the Uzhavan app, while approximately one-third (33.33%) actively utilized the platform. Farmers primarily benefited from the market price feature, which enabled them to sell their produce at fair and competitive prices. However, many farmers expressed the need for more comprehensive and detailed information on all crops, market prices for various agricultural and horticultural commodities, value addition, sericulture rearing techniques, cocoon prices, and other agribusiness-related practices to increase farm profitability. Additionally, farmers showed interest in expanding the app's content to include information on cattle rearing and animal husbandry (Nandhini and Rohini, 2022). According to Aravindh Kumar and Karthikeyan (2020), the Uzhavan app has significantly reduced the time required for information retrieval and increased farmers' awareness of government agricultural schemes. The app serves as an effective extension tool, offering essential and practical agricultural services. Its use of regional language enhances accessibility and comprehension, allowing users to fully utilize its content. This model represents a strong foundation for replication in other regions.

Furthermore, timely access to information on improved seed varieties, fertilizers, agricultural machinery, market prices, weather forecasts, pest and disease management, and nutrient management is crucial for supporting all stages of agricultural activities—from production to marketing. The growing number of mobile applications providing such agricultural and allied sector information demonstrates the expanding role of ICTs in empowering farmers and modernizing agricultural practices.

Conclusion

The Uzhavan app functions as a crucial digital resource for farmers, supporting the enhancement of agricultural practices through the provision of comprehensive information spanning various aspects of farming—from production techniques to marketing strategies. The app holds significant potential in strengthening the agricultural community by improving access to knowledge and resources.

To further optimize its impact, it is essential to intensify promotional efforts and raise awareness of the Uzhavan app through social media platforms. Findings indicate that smartphone users typically spend around 4–6 hours daily engaging with digital content on platforms such as YouTube, Facebook, and WhatsApp. Utilizing these channels for outreach initiatives can effectively increase the app's visibility and encourage wider adoption among farmers.

In addition, the Uzhavan app should focus on delivering location-specific recommendations to better cater to the diverse agricultural environments across regions. Providing tailored guidance that reflects local soil conditions, climate patterns, and cropping practices would significantly enhance the app's practical value, leading to more efficient farming techniques and improved agricultural productivity.

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