Digital Platform for Farmers – A Financial Eye-Opener

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Abstract:The research aims to focus on how digital platform can yield good returns in terms of financial numbers to the farmers. Our country's robust economic growth also depends on both digitalisation and agricultural sector's growth. The researchers here try to attempt in blending the financial technology and farming. The researchers intend to find the awareness of digital avenues available in farm financing among the farmers. In line with this, they conducted a study among the farmers across Tamilnadu. (N=50). The mode chosen for the study is convenient sampling. The other objectives of the research are to study various financial institutions which can help the farmers to reach the digital customers and to suggest the glocal initiatives for financial institutions to help the farmers to go digital. The researchers have also relied on secondary sources and government data to support the study. This study will ensure to be an eye-opener for both farmers as well as financial institutions in farm finance.

Keywords: digital, financial technology, farm finance, glocal initiatives.

1. INTRODUCTION:

Agriculture has been one of the major sectors in India contributing to 17% of the country's GDP, where 56% of the workforce are employed, still it remains unorganised and fragmented. Smallholder farmers who hold less than 5 acres constitute 80% of the entire farming community. Though the Government and the private sectors have taken initiatives the small farmers face many problems while marketing their products. An amalgamation of agritech and fintech could create an impact on the masses especially on those working in the agricultural sector. User - friendly, affordable apps and other digital solutions should be provided by companies from granting loans, enabling savings to providing crop insurance to expand their usage.

It is looked as a hard nut to crack to access financial services in the farming sector in the emerging markets.With the data received from the farmers across Tamilnadu, it is evident that their story is challenging and less profitable and the return on investment in farming is also on the decline. **Farm finance** is the provision of multiple types of services dedicated to supporting both on- and off-**farm agricultural** activities and businesses including input provision, production, and distribution, wholesale, processing and marketing. Yet the Digital avenue opens up a new pathway and technology can be a game changer in providing the necessary support for farmers. The research also brings a light to farmers on how well they can optimise the use of digital resources available to them, in a way to create awareness and bring a change in their traditional methods of farm finance.

Need of the Study:

This study is initiated from both MDG (Millennium Development Goals) and SDG (Sustainable Development Goals)which poses the first goal as End Poverty and NO hunger and the socio-economic growth of a country depends on fulfilling the same as well. The context of the research is also in the same notion and it is a sincere attempt to blend financial technology and farming. So the researchers decided to collect the primary data from the farmers regarding their awareness and willingness to use to digital platforms in enhancing their farm finance activity.

Objectives of the Study:

- To identify the awareness of digital avenues available in farm financing among the farmers.
- To study the various financial institutions which can help the farmers to reach digital customers
- To suggest glocal initiatives for financial institutions to help the farmers to go digital.

Methods and Materials:

The mode of sampling chosen for the study is convenient sampling.
The sample is 50 (N=50)
The sample includes the data received from the farmers across Tamilnadu.
The Research design is Descriptive.
The researchers relied on both primary and secondary sources to support their study. The Primary source includes a questionnaire which was received from the farmers. And the secondary sources were collected from various websites and government portals relating to farm finance.

Limitations of the Study:

The data was collected through convenient sampling due to lack of time. The researchers have been working for the past one month. The sample

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size was also not in proportion with the universe. The study is conducted only in Tamilnadu.

Conceptual Framework:

1. Agriculture is the science, art and practice of farming, which includes the cultivation of soil for the growing of crops and the rearing of animals to provide food and other products.
2. Farming is the activity/business of growing crops and raising livestock.
3. Agricultural finance/farm finance is a small part of rural finance related to activities such as input supply, production, distribution, processing and marketing.
4. Agritech is the use of technology in horticulture, agriculture, and aquaculture etc.to improve the yield, efficiency and profitability. Agritech can be products, services and applications derived from agriculture that improve various input/output processes. Agricultural technology also means the technology for the production of machines used on a farm to help farming.
5. Fintech /financial technology are computer programs and other technology used to support or enable banking and other financial services. Financial technology is the innovation that aims to compete with the traditional delivery methods in financial services. It is an emerging industry which uses technology to improve activities in finance.
6. Digital systems records or transmits information in the form of thousands of very small signals.
7. Glocal reflects both local and global considerations. A glocalinitiative means presenting global knowledge within a local context.
8. Initiative means the ability to assess and initiate things independently.

2. REVIEW OF LITERATURE:

Technology: A key driver for sustainable agriculture. India is one of the leading contributors to the global food basket.India is the world's largest sourcing destination for the information technology (IT) industry, accounting for approximately 67% of the US$124– 130 billion markets.However, the emergence of farm technologies integrated with a sturdy data and communication technology (ICT) framework remains evolving in Republic of India and it holds tremendous potential to each absolutely impact agricultural performance and enhance farmers' financial gain. Statistics as received from the Agriculture Ministry and Food grain Production data stated, The country's food grain production stood at 252.23 million tonnes in 2015–16, and has a record production of 271.98 million tonnes in 2016–17. Aided by a normal monsoon last year, India's production of food grains touched a record 279.5 million tonnes in 2017-18, the agriculture ministry said in its third advance estimate of crop production released in the mid of last year. Buoyed by the forecast of a normal monsoon in 2018, the agriculture ministry has targeted a record 283.7 million tonnes of food grain production in 2018-19.Technology has been instrumental in the growth history of Indian agriculture from time to time to overcome productivity stagnation, strengthening market linkages, and enhancing farm management.

In the past to the recent times, Indian farming is facing a formidable challenge to grow more food, however it faces harder challenge these days and for the future: to grow not just in adequate food production but sustainably and inclusively.

Major challenges hitting Indian agriculture includes declining total productivity, diminishing and degrading natural resources, a rapidly growing demand for food (not just for quantity but also for quality), stagnating farm incomes, fragmented land holdings, and unprecedented climate change.It has been established that technology adoption modernizes farmers' production practices and results in uniform annual returns for farmers, reduced risk of crop failure, and increased yields.Direct applications of digital technology include remote sensing (via satellites), geographic information systems, crop and soil health monitoring, livestock and farm management, among other applications.

At the pre-harvest stage, digital technology can recommend crop and available options selection and assisting in obtaining credit and insurance.

At the on-farm stage, farmers need assistance regarding weather advisories and disease and pest-related issues

And at the post-harvest stage, real-time data on selling options both domestic and export markets are needed.

The growth of competitive markets and demand for consistent food quality is creating the adoption of such technology based solutions imperative for the Indian farmer. Much of the scope for application and innovation remains to be explored and exploited. The application of digital technology in farming business has been instrumental in promoting information and data generation further because the advanced analytics that enable farmers to create good options and opportunities concerning farming

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and to benefit from an economical use of inputs and labour.

A developed agriculture system is based on three key pillars: knowledge, infrastructure, and a robust delivery mechanism. Supporting the research and development ecosystem in agriculture directly contributes to creating knowledge and preparing for the future. To strengthen the supporting framework for growth, it will be important to focus on creating new physical markets, improving storage and transport facilities, making better roads, and ensuring a continued electricity and water supply.

3. FINTECH THE WAY FORWARD:

Fintech is the use of software solutions for financial transactions. Some global examples include Google Wallet, Apple Pay, Wonga and many other solutions that are offered online or via mobile phones. Some examples include Paypal, M-Pesa, SnapScan and Nomanini, to name a few. To indicate the growth of Fintech, back in 2014 already, investment in the US had tripled to $9,89 billion, with Europe investing $1,5 billion.

The traditional financial institutions had the risk of disruption, as Fintech companies make use the internet, mobile phones, cloud computing and open-source software to make banking and investing more efficient and effective. These Fintech start-ups provide existing financial services at lower costs along with new tech-driven solutions. Financial institutions like both legacy and the start-ups are also driving technology-focused solutions such as peer-to-peer payments, crowdfunding, mobile payments and transfers, and on-demand insurance.

Financial Institutions offering Financial Technology for Farmers:

The outlook for farmers and their financial services institutions is undergoing fundamental change. No longer do farmers desire only credit services. They also want insurance, lease financing, trust, brokerage, merger and acquisition, financial management and other services.

With regard to this, ADBI (Asian Development Bank Institute) Working paper series, have also stated that the finance sector can play an important role in helping agriculture contribute to economic growth and poverty reduction. Since credit and risk are important dimensions of agriculture, the financial technology can be useful in bringing out new products in credit and risk markets to promote agricultural growth with the use of mobile money, financial literacy, National and Biometric

identification systems and block chain technology in credit reporting and agricultural supply chain International Finance Corporation (IFC) has given priority to the agribusiness because of its potential to develop and to help in reducing poverty. IFC invests in agribusiness from farm to retail – to increase production, liquidity, improve logistics and distribution and expand access to credit for small farmers.

AIFI-All India Financial Institutions includes, Small Industries Development Bank of India (SIDBI)

Export –Import Bank of India (EXIM)

National Bank for Agriculture and Rural Development (NABARD)

National Housing Bank (NHB)

In the list e-choupal is one of the best example of efficient supply chain system with timely and relevant information enabling them to get better returns for their produceand itgives other offerings to the farmers' like- insurance and farm management practice, etc.

Pradhan MantriFasalBimaYojna

Pradhan MantriFasalBimaYojana (PMFBY) provides a comprehensive coverage to the farmers against the many such unforeseen crop losses like weather vagaries, large rain fed area, pests and diseases.

In Tamilnadu, there are 587 e-seva centres in almost all the districts. In each district there are Training centres for farmers known as KrishiVigyanKendras (KVK).They have Mobile Advisory Services, giving farmers information on weather, cultivation, livestock, marketing, awareness.

The Gandhigram KVK near Dindigul has the followingphone no. 0451 2452160 and e-mail *kvkdindigulpc@gmail.com*

PasumaiVikatan, gives the farmers information on cultivation techniques,zero budget farming and cattle raising, disease control. For each it hasnine numbers (1 to 9) to get specific information. Ex. No 1 to be pressedfor zero budget cultivation, then no 9 for mulching etc. The contact no isPasumai Oli: 044 6680 2917

National Marketing Network of the Government of India gives information on the market. (e-NAM).

The Agricultural University of Tamilnadu has also developed mobile applications for farmers like Uzhavan app.

All the above are all live (Glocalexamples that are helping the farmers to get better returns for their produce.

Main Findings of the Study:

Demographic details as per the data received from the farmers across Tamilnadu shows the following

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findings namely: Nearly half of the respondents (44%) possess 1 to 3 acres of land for farming.

Other Major findings include:

- Nearly half of the respondents (45%) depend on bank loan as source of investment for farming.
- More than half of the farmers **(56.9%)** have responded that they did not get back what they have invested.
- More number of respondents **(60.8%)** are not aware of any digital technology useful for farming and also not aware of Government's Digital India Campaign too.
- Most of the respondents **(94%)** have mentioned that they have not used any digital technology for farming till date.
- Almost all the respondents **(98%)** state that they have no idea about the e-seva Kendra portals available online for farming.
- More than half of the respondents (**58.6%**) state that they use Wholesaler channel of distribution for selling their products.
- Majority of the respondents (**80.3%**) feel that their traditional methods of distribution is profitable only to some extent.
- Majority of the respondents (**76.5%**) are ready to use financial technology if introduced to them.
- Invariably, more than **one-fourth** of the respondents **(29.1%)** have said they would prefer fintechnology before cultivating and at the time of selling their products.

Suggestions of the Study:

- The Government should take initiatives to do research to understand the local needs of the farmers to go digital and exploit the fintechnology like accessing computers, basic education for handling online services.
- The Government should set aside more funds for farm finance and encourage financial institutions (both banking and non-banking) that are ready to use fintechnology exclusively for farmers.
- Government should take pain in getting the actual usage of digital avenues already in place from the farmers through camps, awareness campaigns, and orientations sessions to get more enrolment
- The Below model is an Integrated approach to have the collective efforts of both government and private entities brought under one roof.
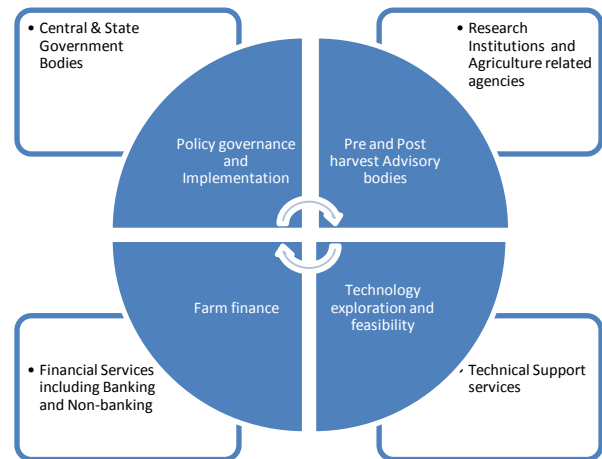
Farmer's Exclusive Integrated Model

4. CONCLUSION:

Though many of the active farmers may not be much educated, it is in their interest to learn the basics of computer. Knowing how to use the computer and the internet, will help them to get information on farming, marketing their goods, the availability of loans and government subsidies. The farmers need not spend time and effort standing in long queues to get their loans. They can also be connected to the probable customers easily and get payment for their products online. Usage of facilities like green cards can also be taught to the farmers.

However, this implies some education and creation of awareness about probable swindling, frauds etc. The government and NGOs should offer short – term training at accessible places in each district and at affordable costs, if not for free.

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