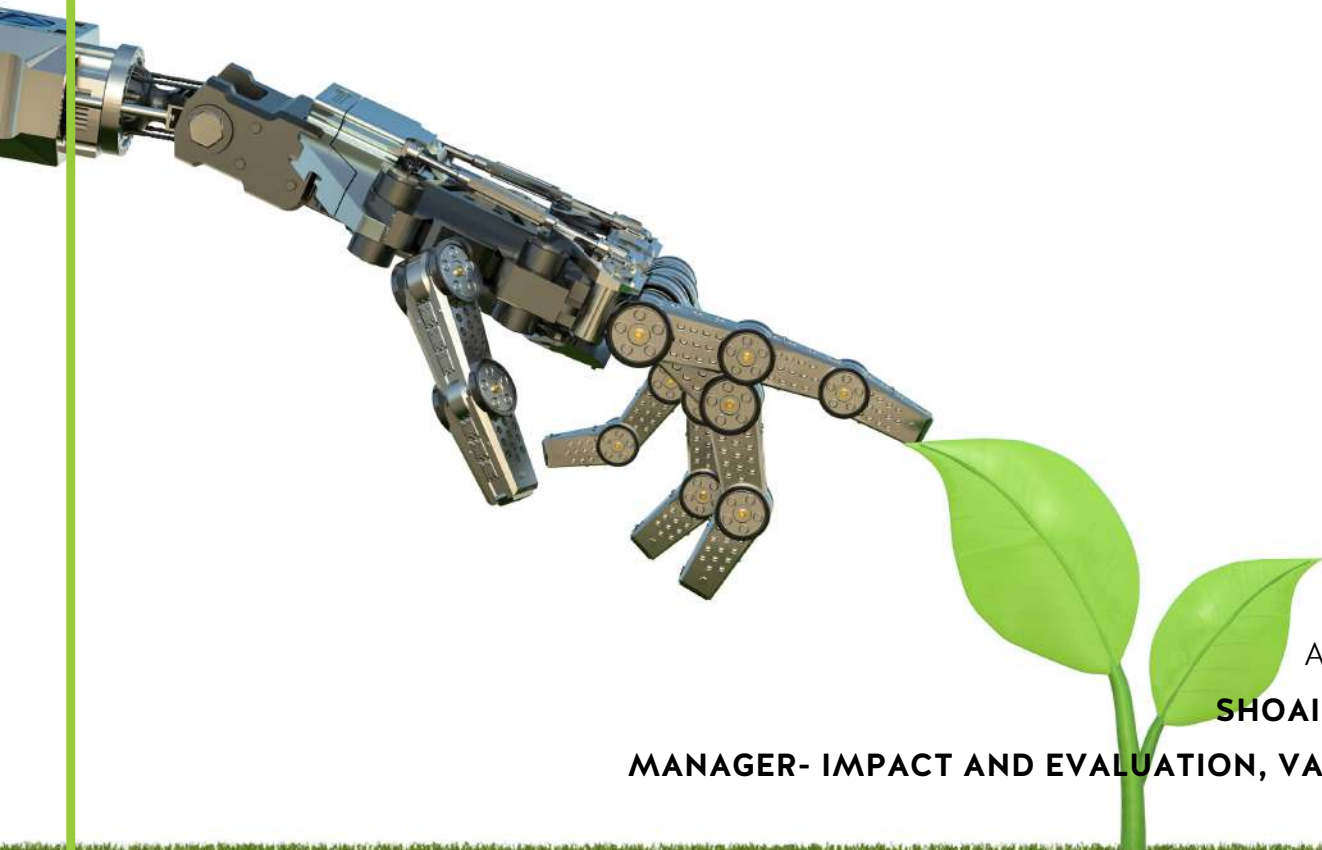


AGRI-TECH AND ITS RISE: THE INDIAN CONTEXT



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India is recognized as a prominent global force in agriculture owing to its extensive spectrum of agro-ecological variations. With its diverse agricultural landscapes, India's agricultural sector plays a substantial role, constituting roughly 16% of the nation's GDP and engaging approximately 44% of its workforce, thus making a noteworthy economic contribution. Additionally, India stands as one of the top 15 nations globally in terms of agricultural commodity exports.

According to an Ernst & Young Study, India's agri-tech start-ups represent a \$ 24 billion opportunity, yet the market is still mostly untapped (with 1.5 per cent penetration). The Agri-tech industry has been given priority by the Indian government, which has been working towards a comprehensive approach to sustainable development. To boost productivity and efficiency while lowering their reliance on unpredictable factors like the weather and socio-economic uncertainties, the government is aggressively encouraging all sector stakeholders to use digitalization. From December 2019 to March 2021, the rural microfinance sector grew from INR 1.22 trillion to INR 1.46 trillion. Due to this, private equity investments in agri-tech companies have grown by 50% to a total of INR 66 billion.

Initiated in September 2021, the Digital Agriculture Mission (DAM) initiative leverages cutting-edge advancements in cloud computing, earth observation, remote sensing, data analytics, and artificial intelligence/machine learning models to provide substantial support to agri-tech start-ups. Consequently, this sector could tap into novel prospects and effectively tackle urgent challenges within the realm of agriculture. This, in turn, holds the promise of significantly enhancing food production, elevating profitability for all stakeholders, and reducing operational expenditures.

With the assistance of technology and digitalization, agri-tech companies are constantly updating and innovating on current agricultural methods. The National Agricultural Market (e-NAM) scheme provides the Agriculture Produce Market Committee (APMC) mandi with free software as well as financial support of INR 75 lakh each for related hardware, such as quality-assuring tools and the establishment of infrastructure for cleaning, grading, sorting, packing, composting, etc.

Drones and artificial intelligence have also received incentives from the government for use in innovative farming practises. Custom Hiring Centres under Cooperative Society of Farmers, Farmer Producer Organizations, and Rural Entrepreneurs offer financial help at 40% up to a maximum of INR 4 lakhs for the purchase of drones to make drone services available to farmers on a rental basis. The creation of agricultural yield prediction models that monitor the health of soil and crops is made possible by the usage of drones and AI in agriculture. Also, the government's efforts to digitalize agriculture and to create a digital public infrastructure support solutions that are centred on farmers.

The goal of the Indian government is to develop a knowledge- and technology-based economy. To keep up with the rate at which the industry is evolving globally, the Indian government has been responding to the continuing innovations and developments in the agricultural sector.



Due to its huge demand in India and the international market, the agri-tech sector is one of the most crucial pillars for creating a sustainable future. The Economic Survey of India 2022-23 highlighted that India's agriculture sector has grown 4.6 per cent over the last six years with over 1000 agri-tech start-ups having emerged in the sector. Building a strong agri-tech sector depends in large part on the development of infrastructure. The nation's agriculture fund, which includes the Agriculture Infrastructure Fund (AIF), has provided funding for more than 18,321 projects for a combined INR 13,681 crore.

Additionally, the fund was used to establish 8,076 warehouses, 2,788 primary processing units, 1,860 custom hiring centres, 937 sorting and grading projects, 696 cold store projects, 163 assaying projects, and roughly 3613 other post-harvest management initiatives, community farming assets, and cold storage projects. "The Fund would attempt to deliver innovative and inexpensive solutions for challenges faced by farmers," stated Finance Minister Nirmala Sitharaman. Additionally, it will introduce modern technologies to change agricultural methods and boost productivity and profitability.

The digitization of agriculture and the establishment of an agricultural accelerator fund will usher in fresh opportunities for agribusinesses, individuals, and the broader global community. The agri-tech sector in India presents substantial potential for investment across various fronts, such as emerging technologies, digital infrastructure reinforcement, and burgeoning Agritech start-ups. This expansive landscape offers ample room for growth and innovation, creating a favourable environment for stakeholders to explore and capitalize on.

Why Will Agri FinTech's Thrive in India?

As a Agri FinTech organisation, we can assume that convergence of technological advancements, changing attitudes towards digital solutions, government support, and the unique challenges of the Indian agricultural sector create a promising landscape for agri fintech start-ups to thrive in the coming years. However, success will depend on their ability to understand and cater to the specific needs of farmers, establish strong partnerships, and navigate regulatory and operational challenges. Following are some of the combination of factors that will create a conducive environment for their growth.

1. Digital Transformation in Agriculture- The agriculture sector in India is gradually adopting digital technologies and modern farming practices. As more farmers and agribusinesses become tech-savvy, there's an increasing demand for fintech solutions that can streamline processes and improve financial management within the sector.

2. Financial Inclusion- A significant portion of India's population is still unbanked or underbanked, especially in rural areas. Agri fintech start-ups can bridge this gap by offering innovative financial products and services tailored to the needs of farmers and rural communities, thereby promoting financial inclusion.

3. Access to Credit- Credit access has been a long-standing challenge for farmers in India. Agri fintech start-ups can leverage alternative data sources and advanced algorithms to assess creditworthiness more accurately, making it easier for farmers to access credit for agricultural inputs, equipment, and other necessities.

4. Customized Financial Solutions- Agriculture has various unique financial needs, such as crop insurance, commodity trading, and supply chain financing. Agri fintech startups can develop specialized solutions that cater to these specific needs, providing farmers and agribusinesses with tools to manage risks and improve profitability.

5. Government Initiatives- The Indian government has launched several initiatives to promote digital agriculture and financial inclusion. Programs like the Digital India campaign, Pradhan Mantri Jan Dhan Yojana, and e-NAM (National Agriculture Market) create a favourable environment for agri fintech start-ups to collaborate and integrate with existing systems.

6. Mobile and Internet Penetration- The extensive accessibility of budget-friendly smartphones and the growing reach of the internet in remote regions are creating avenues for agricultural fintech start-ups to provide their services directly to the mobile devices of farmers. This connectivity facilitates instant access to financial updates, market rates, and guidance. Furthermore, a shift between generations is evident, as a new wave of young farmers is embracing smartphones more actively than their older counterparts.

7. Data and Analytics- Agri fintech start-ups can harness data analytics to provide farmers with insights into market trends, weather patterns, and crop performance. This information empowers farmers to make informed decisions, optimize their production, and mitigate risks.

8. Supply Chain Financing- The agricultural supply chain involves multiple stakeholders, and financing often gets bottlenecked at various points. Agri fintech start-ups can develop platforms that facilitate efficient supply chain financing, ensuring that funds reach farmers and suppliers promptly.

9. Climate Resilience- Climate change and its impact on agriculture are becoming more pronounced. Agri fintech start-ups can collaborate with agro-meteorological services to offer climate risk assessments and insurance products that protect farmers against adverse weather events.

10. Investor Interest- Investors are increasingly recognizing the potential of agri fintech start-ups in India. As these start-ups demonstrate growth and positive impact, they are likely to attract investments that will further fuel their expansion and innovation.

It could be said that agri-tech companies could fail due to a range of these factors. Companies that can successfully navigate these challenges and provide relevant and innovative solutions to farmers are more likely to succeed in the long run.



Lessons Learnt

Agrifintech companies could learn some lessons from their experiences in the industry. Here are a few key takeaways:

1. Understand the needs of farmers - Agrifintech companies need to have a deep understanding of the needs and challenges faced by farmers. They should focus on providing products and services that address these needs, such as access to credit, insurance, and market information.
2. Build strong partnerships - Agrifintech companies should develop strong partnerships with other stakeholders in the agriculture ecosystem, such as agricultural input suppliers, commodity buyers, and government agencies. These partnerships can help them to better understand the market and provide more effective solutions to farmers.
3. Leverage technology - Technology can be a game-changer for agriculture, and agrifintech companies should leverage it to the fullest extent possible. This can include using artificial intelligence and machine learning to analyse data and provide insights or developing mobile applications to provide farmers with real-time market information.
4. Focus on user experience - Agrifintech companies should design their products and services with the user in mind. This means making them easy to use, accessible, and intuitive. By doing so, they can increase adoption and usage among farmers.
5. Build trust - Building trust is critical for agrifintech companies. Farmers need to trust that the products and services being offered are reliable and will deliver real value. Companies can build trust by being transparent, delivering on promises, and providing excellent customer service.

