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## Innovations in Agripreneurship: A Systematic Literature Review with Special Reference to Assam

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### ABSTRACT

Agripreneurship is increasingly recognized as a driver of agricultural innovation and sustainability in India. This paper systematically reviews existing literature on agripreneurship, with a focus on Assam, to examine innovation patterns, sustainability practices, and region-specific challenges. The review emphasises that Assam follows a resource-based, sustainability-centered innovation trajectory distinct from higher technology-driven states. The findings highlight key gaps in research and suggest areas for policy intervention and future studies.

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### Introduction

Agriculture remains a central livelihood source in many developing economies but often fails to deliver stable incomes, value-addition, or resilience against structural constraints such as fragmented landholdings, market inefficiencies, and environmental vulnerability. In this light, agripreneurship has been increasingly recognized as a strategy to transform farming into sustainable agri-businesses. As argued by Oshin Gulsia (2019), agripreneurship can unlock the potential of agriculture by integrating enterprise-oriented thinking, market linkage, and value-chain development rather than relying solely on subsistence farming.

In India, the agripreneurship paradigm has gained traction through both academic interest and policy emphasis. For instance, U. Arumugam and M. Manida (2023) stress that agripreneurship offers a pathway to sustainable economic development, addressing rural unemployment, food security, and environmental sustainability. Similarly, initiatives towards entrepreneurship development, capacity building and institutional support are being recognized as crucial to motivate agricultural households to



adopt agribusiness models. According to M. S. Nain et al. (in their feasibility analysis), farmers' own innovations along with entrepreneurship training, market information, and institutional linkages can significantly enhance farm profitability.

However, agripreneurial uptake and innovation diffusion remain uneven across regions. States with agro-industrial infrastructure, better extension services and market linkages tend to fare better, while regions with ecological or infrastructural constraints struggle. The northeastern Indian region represents a case where agripreneurship could benefit greatly from localized, context-sensitive innovations due to its unique agro-ecological conditions, small landholdings, frequent floods, and market isolation. Yet, literature focusing specifically on agripreneurship innovation in Assam (or broader North-East India) remains sparse. This gap underlines the need for a systematic review of global, national and regional evidence to identify innovations transferable or adaptable to Assam's context.

Therefore, this paper undertakes a systematic literature review of agripreneurship innovations and explores their relevance for Assam. By synthesizing diverse strands of research, we aim to map the innovation landscape, understand enabling factors and constraints, and propose region-appropriate agripreneurship pathways.

## **Literature Review**

### **Concept and Importance of Agripreneurship**

Agripreneurship refers to entrepreneurial ventures in agriculture and allied sectors where farmers or agripreneurs engage in value-addition, processing, business diversification, and market-oriented agriculture rather than subsistence-based farming. According to Gulsia (2019), agripreneurship serves as a tool to convert agriculture into business, helping rural communities overcome economic stagnation and unemployment.

As highlighted by Arumugam & Manida (2023), agripreneurship can contribute to sustainable economic development by improving farm incomes, providing rural employment, ensuring food security, and promoting environment-friendly practices, thereby linking agriculture to broader socio-economic and ecological objectives.

### **Empirical Evidence on Agripreneurship and Farmers' Innovation**

In a seminal empirical study, Nain et al. (year) demonstrated that entrepreneurship development combined with recognition of farmers' innovations can significantly maximize farm profitability. Their



study emphasizes capacity building, institutional linkages, market information, and value-chain facilitation as critical enablers for transforming farmers into agripreneurs.

Similarly, in a comparative analysis of farm and non-farm sectors, F. Kobba, Nain, Singh, Mishra and others (2021) identified key determinants of entrepreneurial success, including training, access to resources, socio-economic background, and institutional support which influence whether farm households succeed when transitioning to agribusiness.

From a more grassroots, institutional-support perspective, Shreekant Sharma, K. Suryaprakash Goud & Ram Datt (2017) studied the role of agrarian extension agencies, specifically Krishi Vigyan Kendras (KVKs), in fostering agripreneurship. Their meta-analysis of case studies suggests that KVKs through skill development, extension services, and ICT-based support have successfully catalysed agripreneurship in various districts.

### **Agripreneurship, Value-Chain Innovation and Rural Livelihoods**

Recent studies underline the potential of agripreneurship to revamp rural economies, especially when value-chain innovations (processing, packaging, branding, market linkages) are adopted. For instance, Babita Kaundal, Saurav Vyas & Sukhjinder Singh (2022) show that agribusiness entrepreneurship adopting innovative business models and market orientation significantly enhances farm income and reduces rural poverty.

Further, a recent 2025 article by Swetha B., Leela Krishna Chaithanya & Subhash Kumar Saurav argues that agripreneurship can revitalize rural economies by combining entrepreneurship, market linkages, agro-processing, and sustainable practices especially in regions facing low productivity, fragmented landholdings and uncertain markets.

Additionally, in the context of crises like the COVID-19 pandemic, agripreneurship has shown resilience: Ayushi Pal & Shivani Jha (2024) point out that agri-startups, digital marketplaces and e-extension services helped cushion the shock for farmers by providing alternate marketing channels, advisory and supply-chain solutions when traditional markets were disrupted.

### **Institutional, Policy and Extension-based Innovations**

Recognizing limitations of individual farm-level innovation, institutional support has been acknowledged as a major enabler of agripreneurship. In their institutional analysis, Sujay Kademani, Manjeet Singh Nain, Rashmi Singh & Surjya Kanta Roy (2024) mapped agri-business incubation systems, extension



agencies, and supportive institutions that promote agripreneurship, arguing that a robust institutional framework is vital for scaling agripreneurship interventions.

Studies such as by Ch Jyothi Sreedhar & T Siva Sri Mani Kanta (2022) highlight persistent problems including financial constraints, lack of infrastructure, market access issues which limit the prospects of agripreneurs, especially in underdeveloped or remote regions, implying that policy support and enabling infrastructure are critical for success.

### **Synthesis: Emerging Trends, Gaps, and Relevance for Regions like Assam**

The body of literature thus indicates that agripreneurship when supported through institutional mechanisms, innovation adoption, market linkages, and capacity building can significantly enhance farm profitability, generate rural employment, add value, and improve livelihoods. However, much of the empirical evidence originates from relatively developed or well-connected regions. Studies that focus on agro-ecologically sensitive, geographically remote or infrastructurally weak regions (like Assam) are limited or absent. This reveals a critical research gap: context-sensitive agripreneurship frameworks adapted to flood-prone, smallholding-dominant, market-isolated areas.

Moreover, while value-chain innovation, business models, and institutional support receive attention, fewer studies rigorously examine adoption of digital agriculture, climate-smart practices, or sustainability-oriented innovations by agripreneurs. Given increasing climate vulnerability, especially in regions like Assam, this gap is significant.

Therefore, there is a pressing need for systematic review and synthesis of global and national evidence through the lens of transferability to vulnerable and under-researched regions such as Assam.

### **Objectives of the Study**

The present study attempts to address the following objectives:

1. To review existing academic literature on agripreneurship with a focus on innovation-led agricultural development.
2. To assess the extent and nature of innovations in agripreneurship in India and specifically in Assam based on secondary evidence.
3. To analyze sustainability outcomes associated with agripreneurship innovations.



4. To identify research gaps and future research possibilities for agripreneurship in the North-Eastern region of India.

### **Research Methodology**

This study adopts a **systematic literature review (SLR)** approach covering peer-reviewed journal articles, doctoral research, government reports, and institutional publications.

### **Data Collection**

Secondary data was collected from:

- ❖ Scopus and Web of Science databases
- ❖ Google Scholar articles
- ❖ Reports of Ministry of Agriculture & Farmers' Welfare
- ❖ NABARD publications
- ❖ FAO and World Bank agricultural innovation publications, etc.

### **Inclusion Criteria**

- ❖ Studies published between 2005–2025
- ❖ Studies related to agripreneurship, innovation, sustainability, rural entrepreneurship or agricultural value chains
- ❖ Indian and international studies with relevance for Assam

### **Method of Analysis**

Themes were identified through descriptive analysis and comparison of conceptual patterns including innovation typologies, technological adoption, sustainability practices and impacts on agricultural livelihoods.

### **Discussion and Analysis**

A review of scholarly work indicates that agripreneurship is gradually moving beyond traditional farming practices and shifting towards a more innovation-oriented and enterprise-driven agricultural framework.



The literature demonstrates that innovations are emerging in forms such as digital advisory tools, improved market connectivity, agri-startups, climate-resilient production, and value-addition to farm produce (Prasad & Rao, 2020). This shift also reflects the wider policy agenda of the Indian government, where entrepreneurship, technology adoption and value chain development are increasingly prioritised.

In the context of Assam, however, scholars argue that innovation is influenced predominantly by region-specific resources, geographical conditions and climatic vulnerabilities. Dutta and Neog (2021) note that agripreneurs in the state often pursue activities rooted in comparative natural advantages such as organic agriculture, tea-based entrepreneurship, fishery, piggery or bamboo-based industries rather than high-tech industrial farming. This indicates a distinct pattern of innovation development driven by ecological and cultural strengths rather than advanced mechanisation, which is more prominent in states like Karnataka or Maharashtra (Sharma, 2022).

Sustainability emerges as an equally important dimension. Many authors emphasise that in Assam, sustainable agricultural practices are not only environmentally suitable but also essential for dealing with climate-related risks such as recurring floods, extreme rainfall and soil degradation (Ahmed & Choudhury, 2020). As a result, innovations such as organic practices, water-management systems, diversified cropping and climate-resilient strategies are now positioned as core components of agripreneurial activity.

Despite these encouraging developments, several challenges still restrict innovation in the state. Limited access to finance, lack of advanced extension services, weak supply chains and infrastructural barriers continue to slow down widespread adoption of modern entrepreneurial practices. While national policies such as AIF, PM-FME or RKVY are designed to stimulate agripreneurship, their effectiveness depends on regional institutional capacity and proper implementation mechanisms.

Taken together, the evidence suggests that India is witnessing two relatively different innovation pathways: technology-driven agripreneurship in comparatively developed agricultural states, and resource-driven, sustainability-anchored agripreneurship in Assam and the broader Northeast. This distinction is theoretically relevant for understanding regional variations in agricultural innovation within emerging economies.

### **Key Findings of the Review**

The synthesis of literature yields several significant insights:



## **1. Growth of innovation is evident but geographically imbalanced**

India, as a whole, shows clear progress in agri-innovation, particularly in the domain of agri-tech and digital markets. However, such development is concentrated mostly in technologically advanced states, indicating a regionally uneven innovation landscape.

## **2. Assam follows a resource-oriented innovation trajectory**

Innovation patterns in Assam rely more heavily on natural resources, agro-ecological competitiveness and traditional strengths. Domains such as tea, horticulture, aquaculture, organic farming and bamboo provide the primary basis for agripreneurial activities, distinguishing the region from high-tech agri-startup clusters elsewhere.

## **3. Sustainability and agripreneurship are organically interconnected**

Due to frequent climatic stress, agripreneurship initiatives in Assam tend to incorporate sustainability elements more integrally. Thus, sustainability is not simply a policy agenda but a practical necessity for agricultural livelihoods in the state.

## **4. Institutional policies require localised adaptation**

Although national programs support agricultural entrepreneurship, effective utilisation depends on regional infrastructure, extension capacity and training support. Without these, innovation is harder to scale, especially in geographically diverse regions like the Northeast.

## **5. Absence of sufficient empirical studies**

The review highlights a lack of detailed empirical research on innovation adoption, income effects and sustainability outcomes in Assam. This gap presents important academic opportunities for future studies, particularly longitudinal and field-based research.

## **6. Strong prospects for future development**

Even though structural constraints persist, the natural agro-ecological strengths of Assam position the region favourably for long-term innovation-led agricultural entrepreneurship, especially if technology access, policy support and market linkages continue to improve over time.

## **Implications of the Study**

***Policy implications***

Strengthening extension services, improving infrastructure, encouraging digital literacy, developing regional incubation facilities and supporting climate-resilient agribusiness models can create a more enabling ecosystem in Assam.

***Academic implications***

There is substantial scope for empirical inquiry into innovation adoption, technology-led entrepreneurship, sustainability outcomes and comparative studies across northeastern states.

***Industry implications***

Scope exists in value-added organic products, agro-processing, tea innovations, cold-chain development and digital agricultural services targeted at small producers.

**Conclusion**

Agripreneurship in India is entering a phase of structural transformation driven by innovation, technology and changing market dynamics. The case of Assam reflects a distinct model where agripreneurship is rooted in ecological strengths and shaped by sustainability concerns. Although several constraints hinder rapid innovation diffusion, the region possesses substantial potential for future expansion. Continued policy support, market development and capacity-building are likely to strengthen innovation-led agricultural entrepreneurship in Assam.

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