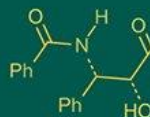


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A comprehensive review on agripreneurial orientation among farm women

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Abstract

Farm women are increasingly recognized as key contributors to agricultural transformation through their participation in agripreneurial activities. Agripreneurial orientation, encompassing entrepreneurial attributes such as innovativeness, proactiveness, decision-making, resource mobilization, market orientation, and leadership, plays a crucial role in enhancing enterprise performance, women's empowerment, and sustainable rural development. Despite growing interest in women's agripreneurship, the literature on agripreneurial orientation among farm women remains fragmented, with limited synthesis of its conceptual foundations, theoretical perspectives, and measurement approaches. This review synthesizes published literature to provide a comprehensive understanding of agripreneurial orientation among farm women. It examines the evolution of the concept, relevant theoretical frameworks, dimensions, and approaches to scale development and measurement. The review further highlights the role of agripreneurial orientation in promoting women's economic empowerment, enterprise performance, technology adoption, and sustainable rural development. It also identifies major research gaps, including the lack of standardized and context-specific measurement instruments, limited empirical evidence from developing countries, and the need for longitudinal and mixed-method research. Future research directions are suggested with emphasis on digital agriculture, climate-resilient entrepreneurship, sustainability, and advanced analytical approaches. The review provides a valuable knowledge base for researchers, extension professionals, policymakers, and development practitioners seeking to strengthen women-led agripreneurship and promote inclusive agricultural development.

Keywords: Agripreneurial orientation, farm women, agripreneurship, scale development, women empowerment, rural development

1. Introduction

Agriculture has been the backbone of rural livelihoods, particularly in developing countries, where millions of households depend directly or indirectly on farming activities. However, changing market conditions, climate uncertainties, rising input costs, and increasing demand for quality agricultural products have transformed agriculture from a traditional production activity into a business-oriented enterprise. This transformation has created the need for entrepreneurial approaches in agriculture, leading to the emergence of agripreneurship as an important pathway for sustainable agricultural development. (Shane & Venkataraman, 2000) [30]. Agripreneurship integrates agricultural knowledge with entrepreneurial skills, enabling farmers to identify opportunities, introduce innovations, manage resources efficiently, and develop market-oriented enterprises. Unlike conventional farming, agripreneurship emphasizes value addition, diversification, commercialization, and creation of employment opportunities through agriculture-based ventures. (Timmons & Spinelli, 2009) [34]. Women play a crucial role in agricultural production and rural economies. Farm women contribute significantly to crop cultivation, livestock management, post-harvest activities, food processing, and household food security. Despite their substantial contribution, women often have limited access to productive resources, institutional credit, technology, markets, and decision-making opportunities, which restricts their entrepreneurial participation. (FAO, 2011) [11]. Women's participation in agripreneurship has gained importance because it provides opportunities for income generation, livelihood diversification, empowerment, and improved socio-economic status. Women-led agricultural enterprises such as dairy farming, mushroom production, food processing, vegetable cultivation, nursery management, and

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value-added products contribute not only to household income but also to rural employment generation (World Bank, 2012) ^[36]. The success and sustainability of agricultural enterprises depend not only on the availability of resources but also on the entrepreneurial characteristics of individuals. The concept of entrepreneurial orientation (EO) explains the behavioural tendencies that influence an individual's ability to identify opportunities, innovate, take calculated risks, and proactively respond to changing environments. (Miller, 1983) ^[22]. Entrepreneurial orientation is generally considered a multidimensional construct consisting of innovativeness, proactiveness, and risk-taking. Later, additional dimensions such as autonomy and competitive aggressiveness were incorporated to provide a broader understanding of entrepreneurial behaviour. (Lumpkin & Dess, 1996) ^[19]. In the context of agriculture, entrepreneurial orientation has been extended to agripreneurial orientation, which reflects the ability of farmers and farm women to recognize opportunities, adopt innovations, mobilize resources, establish market linkages, and manage agricultural enterprises effectively. It incorporates agriculture-specific challenges such as production uncertainty, climatic risks, seasonal variations, and limited resource availability (McElwee, 2006) ^[20]. Farm women require specific entrepreneurial competencies because their participation in agricultural enterprises is influenced by socio-economic conditions, family support, access to training, extension services, financial resources, and social networks. Strengthening agripreneurial orientation among farm women can enhance their capacity for innovation, decision-making, enterprise management, and sustainable livelihood development (Kumar & Lilesh, 2014) ^[18]. Although research on women entrepreneurship and agripreneurship has increased, studies specifically focusing on agripreneurial orientation among farm women remain limited. Existing studies vary considerably in terms of conceptualization, dimensions, and measurement approaches. The absence of standardized and validated measurement tools makes comparison among studies difficult and highlights the need for systematic research in this area (Lumpkin & Dess, 1996) ^[19]. Therefore, this review aims to synthesize existing knowledge on agripreneurial orientation among farm women by examining its conceptual foundations, dimensions, measurement approaches, determinants, and future research directions. A comprehensive understanding of this construct can support researchers, extension professionals, and policymakers in designing effective strategies for strengthening women-led agricultural enterprises.

2. Concept of Agripreneurship and Agripreneurial Orientation

Concept and Evolution of Agripreneurship

Agripreneurship is a combination of agriculture and entrepreneurship, referring to the application of entrepreneurial principles in agricultural activities for creating value, generating income, and improving livelihood opportunities. It involves identifying agricultural opportunities, introducing innovations, managing resources efficiently, developing market linkages, and transforming farming activities into commercially viable enterprises (McElwee, 2006) ^[21]. Traditional agriculture was primarily focused on production and subsistence, whereas modern agriculture increasingly emphasizes commercialization,

value addition, processing, branding, and market orientation. Agripreneurship enables farmers to move beyond production-oriented farming towards entrepreneurial activities involving input supply, production, processing, marketing, and service-based agricultural enterprises (Swetha *et al*, 2025) ^[32]. Agripreneurship has gained importance due to increasing challenges in agriculture, including fragmented landholdings, climate variability, declining profitability, and changing consumer preferences. By promoting innovation, diversification, and efficient resource utilization, agripreneurship contributes to sustainable agricultural development and rural economic growth (Rao & Kumar, 2016) ^[26].

Role of Farm Women in Agripreneurship

Farm women are recognized as significant contributors to agricultural production and rural economic activities. Their involvement extends from crop cultivation and livestock management to post-harvest processing, food preservation, marketing, and management of household resources. Increasing participation of women in agricultural enterprises has created new opportunities for income generation and empowerment (FAO, 2011) ^[11]. Women agripreneurs contribute to rural development by establishing enterprises such as dairy farming, mushroom cultivation, vegetable production, seed production, food processing, handicrafts, and other value-added activities. These enterprises improve household income, enhance livelihood security, and strengthen women's role in economic decision-making (World Bank, 2012) ^[36]. Despite their contribution, farm women face several constraints including limited access to land ownership, financial resources, technology, training opportunities, market information, and institutional support. Social norms and restricted mobility further influence their entrepreneurial participation and enterprise expansion (Kabeer, 2005) ^[15].

Concept of Agripreneurial Orientation

Agripreneurial orientation refers to the behavioural tendency and entrepreneurial capability of individuals involved in agricultural enterprises to identify opportunities, introduce innovations, take calculated risks, mobilize resources, and respond proactively to market changes. It represents the mindset and strategic approach that enables farmers and farm women to transform agricultural activities into sustainable enterprises (Miller, 1983) ^[22]. The concept of agripreneurial orientation is derived from entrepreneurial orientation but incorporates agriculture-specific dimensions. Agricultural enterprises operate under unique conditions such as biological uncertainty, seasonal production, climatic risks, and dependence on natural resources. Therefore, agripreneurial orientation requires additional competencies related to resource management, market access, networking, and technological adaptation (Lumpkin & Dess, 1996) ^[19]. For farm women, agripreneurial orientation represents their ability to recognize agricultural opportunities, adopt improved technologies, make enterprise decisions, access institutional support, and manage farm-based businesses effectively. Higher agripreneurial orientation can improve enterprise performance, increase income opportunities, and contribute to women's empowerment (Brush *et al*, 2009) ^[5].

Importance of Studying Agripreneurial Orientation among Farm Women

Understanding agripreneurial orientation among farm women is important because entrepreneurial success depends not only on physical resources but also on behavioural characteristics, skills, motivation, and decision-making abilities. Assessment of agripreneurial orientation helps identify strengths and limitations of women entrepreneurs and supports the development of need-based interventions (Ajzen, 1991) ^[1]. The study of agripreneurial orientation provides valuable insights for agricultural extension systems, entrepreneurship development programmes, and policymakers. Strengthening entrepreneurial capabilities among farm women can promote inclusive agricultural growth, rural employment, and sustainable livelihood development (United Nations, 2015) ^[35].

3. Theoretical Foundations of Agripreneurial Orientation among Farm Women

Understanding agripreneurial orientation requires a strong theoretical foundation because entrepreneurial behaviour is influenced by psychological characteristics, knowledge, social environment, resource availability, and institutional conditions. Several theories from entrepreneurship, behavioural science, innovation studies, and rural development explain how farm women develop entrepreneurial capabilities and participate in agricultural enterprises.

Entrepreneurial Orientation Theory

Entrepreneurial Orientation (EO) theory provides the primary theoretical foundation for understanding agripreneurial behaviour. Miller proposed that entrepreneurial firms are characterized by three behavioural dimensions: innovativeness, proactiveness, and risk-taking. These dimensions explain an individual's willingness to introduce new ideas, explore opportunities, and undertake calculated risks for enterprise development. In agriculture, these characteristics are important because successful farm enterprises require continuous innovation, adoption of improved technologies, and proactive responses to changing market conditions. For farm women, entrepreneurial orientation reflects their ability to move from traditional agricultural roles towards active enterprise management (Miller, 1983) ^[22]. Lumpkin and Dess further expanded the entrepreneurial orientation framework by adding two additional dimensions: autonomy and competitive aggressiveness. They suggested that entrepreneurial orientation is context-dependent and may vary according to environmental conditions and organizational settings. In the context of farm women, autonomy reflects their ability to independently initiate enterprise activities, while competitive behaviour helps them improve product quality, marketing strategies, and enterprise sustainability.

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior explains how individual intentions influence actual behaviour. According to Ajzen, human behaviour is guided by behavioural intention, which is influenced by three major factors: attitude towards behaviour, subjective norms, and perceived behavioural control. This theory is highly relevant for understanding women's participation in agripreneurship. A farm woman's

decision to start or expand an agricultural enterprise depends on her attitude towards entrepreneurship, support received from family and society, and confidence in managing resources and overcoming challenges (Ajzen, 1991) ^[1]. Perceived behavioural control is particularly important among farm women because factors such as training, financial access, extension support, and previous experience influence their confidence and ability to establish enterprises (Ajzen, 2002) ^[2].

Diffusion of Innovation Theory

Diffusion of Innovation Theory explains the process through which new ideas, technologies, and practices are adopted by individuals and communities. Rogers identified five important characteristics influencing adoption behaviour: relative advantage, compatibility, complexity, trialability, and observability. Agricultural entrepreneurship is closely associated with innovation adoption because successful enterprises require improved production technologies, value addition techniques, digital tools, and new marketing approaches (Rogers, 2003) ^[28]. For farm women, access to extension services, demonstrations, training programmes, and farmer networks facilitates the adoption of innovative practices. Women with higher innovative orientation are more likely to diversify enterprises and adopt improved agricultural technologies (Feder *et al*, 1985) ^[10].

Human Capital Theory

Human Capital Theory emphasizes that education, knowledge, skills, and experience enhance an individual's productivity and economic performance. In agripreneurship, human capital represents technical knowledge, managerial skills, financial literacy, and entrepreneurial competencies required for enterprise success. For farm women, investment in education, skill development, and entrepreneurship training improves their ability to manage agricultural enterprises, access information, and make effective decisions (Becker, 1964) ^[4]. Training exposure and capacity-building programmes are therefore considered important strategies for strengthening agripreneurial orientation among rural women. Development of human capital improves confidence, innovation ability, and enterprise management skills (Schultz, 1961) ^[29].

Social Capital Theory

Social Capital Theory explains the role of social relationships, networks, trust, and collective action in accessing resources and opportunities. Social networks provide information, financial support, knowledge sharing, and institutional connections. For rural women entrepreneurs, membership in Self-Help Groups (SHGs), farmer organizations, cooperatives, and community groups enhances confidence, leadership ability, and access to markets (Coleman, 1988) ^[7]. Social capital is particularly important for farm women because collective organizations help overcome individual limitations related to finance, mobility, information access, and market participation (Putnam, 1993) ^[25].

Resource-Based View (RBV) Theory

The Resource-Based View explains that sustainable competitive advantage depends on the availability and effective utilization of valuable resources. In agricultural enterprises, resources include land, financial capital,

knowledge, technology, skills, networks, and institutional support.

For farm women, the ability to mobilize and efficiently utilize available resources is an important component of agripreneurial orientation. Women who possess better resource management capabilities are more likely to develop successful and sustainable enterprises (Barney, 1991)^[3].

Integrated Theoretical Perspective

Agripreneurial orientation among farm women cannot be explained by a single theory. Entrepreneurial Orientation Theory explains behavioural characteristics, Theory of Planned Behavior explains entrepreneurial intentions, Diffusion of Innovation Theory explains technology adoption, Human Capital Theory explains the role of knowledge and skills, Social Capital Theory explains networking advantages, and Resource-Based View explains resource utilization. Together, these theories provide a comprehensive framework for understanding the development of agripreneurial orientation among farm women.

4. Measurement Approaches and Scale Development of Agripreneurial Orientation among Farm Women

Measurement of agripreneurial orientation is essential for understanding the entrepreneurial capabilities, behavioural tendencies, and managerial competencies of farm women. Since agripreneurial orientation is an abstract and multidimensional psychological construct, its assessment requires systematic scale development procedures involving conceptualization, item generation, validation, reliability testing, and statistical analysis.

Concept of Measurement in Agripreneurial Orientation

Agripreneurial orientation cannot be measured directly because it represents underlying behavioural characteristics such as innovativeness, opportunity recognition, risk-taking ability, decision-making capacity, and resource management skills. Therefore, researchers generally use structured scales consisting of multiple statements or indicators to measure the intensity of entrepreneurial orientation among individuals. Measurement scales provide a systematic approach for assessing differences among farm women entrepreneurs and help identify factors influencing enterprise development (DeVellis, 2017)^[9]. The development of a reliable and valid scale is important because inappropriate measurement tools may lead to inaccurate conclusions regarding entrepreneurial behaviour. A scientifically developed instrument should demonstrate content validity, construct validity, and reliability (Nunnally & Bernstein, 1994)^[23].

Evolution of Measurement Approaches

Early measurement of entrepreneurial orientation was primarily developed in business management studies. Miller conceptualized entrepreneurial orientation through three dimensions: innovativeness, proactiveness, and risk-taking. This framework became the foundation for several later studies measuring entrepreneurial behaviour (Miller, 1983)^[22]. Lumpkin and Dess expanded the entrepreneurial orientation framework by incorporating additional dimensions such as autonomy and competitive aggressiveness. Their work influenced subsequent studies

that adapted entrepreneurial orientation measures to different sectors, including agriculture.

Scale Development Process for Agripreneurial Orientation

A scientifically developed agripreneurial orientation scale generally follows a series of systematic steps:

i. Conceptualization of the Construct

The first step involves defining agripreneurial orientation and identifying its theoretical dimensions. Literature review, theoretical frameworks, expert opinions, and field observations are used to determine relevant components. For farm women, dimensions should reflect agricultural realities such as innovation adoption, resource management, market behaviour, networking, and enterprise decision-making (Churchill, 1979)^[6].

ii. Item Generation

Item generation involves developing statements that represent different dimensions of the construct. Items may be collected from previous literature, expert suggestions, interviews with respondents, and observations of entrepreneurial activities (Hinkin, 1998)^[13].

For example:

- “I try new methods to improve my agricultural enterprise.”
- “I actively search for new market opportunities.”
- “I take initiative to expand my enterprise activities.”

A comprehensive item pool improves the representation of the construct.

iii. Content Validation through Expert Judgement

Content validity was assessed through expert judgment using a relevancy weightage approach. Subject matter experts rated each item on a four-point scale ranging from “Not Relevant” (1) to “Most Relevant” (4). The relevancy weightage for each item was calculated by assigning weights to expert responses and dividing the obtained score by the maximum possible score. Items with a relevancy weightage of 0.80 or above were considered highly relevant and retained for further analysis (Thurstone & Chave, 1929)^[33].

iv. Pilot Testing

Pilot testing is conducted before final administration to identify ambiguous statements, estimate reliability, and examine the initial structure of the scale.

A pilot study among respondents similar to the target population helps improve the clarity and applicability of items (Kline, 1999)^[17].

v. Reliability Assessment

Reliability indicates the consistency and stability of a measurement instrument. Internal consistency is commonly assessed using Cronbach's alpha coefficient. Generally, an alpha value above 0.70 is considered acceptable for research purposes, although interpretation depends on the nature of the construct and number of items (Cronbach, 1951)^[8].

vi. Construct Validation through Factor Analysis

Factor analysis is widely used to examine the underlying dimensions of agripreneurial orientation scales.

Exploratory Factor Analysis (EFA)

EFA identifies hidden factors and determines whether items group according to theoretically expected dimensions. The suitability of data for factor analysis is commonly assessed using:

- Kaiser-Meyer-Olkin (KMO) measure (Kaiser, 1974)^[16]
- Bartlett's Test of Sphericity

Confirmatory Factor Analysis (CFA)

CFA is used to confirm whether the proposed factor structure fits the collected data. It evaluates relationships between observed indicators and latent constructs (Hair *et al*, 2019)^[12].

5. Challenges in Measuring Agripreneurial Orientation among Farm Women

Despite advances in scale development, several challenges remain:

1. **Lack of standardized measurement frameworks:** Different researchers use different dimensions and indicators.
2. **Context dependency:** Entrepreneurial behaviour varies according to agricultural systems, cultural conditions, and institutional environments.
3. **Self-report bias:** Responses may be influenced by social desirability and personal perceptions.
4. **Limited longitudinal studies:** Most studies measure entrepreneurial orientation at a single point of time. (Podsakoff, 2003)^[24].

6. Future Directions in Measurement Research

Future studies should focus on developing agriculture-specific and gender-sensitive measurement frameworks that incorporate emerging dimensions such as:

- Digital entrepreneurship skills
- Climate resilience orientation
- Sustainability orientation
- Financial literacy
- Innovation capability
- Market intelligence

Advanced statistical approaches such as structural equation modelling and mixed-method research designs can further improve understanding of agripreneurial orientation among farm women.

7. Role of Agripreneurial Orientation in Women Empowerment, Enterprise Performance and Rural Development

Agripreneurial orientation among farm women has emerged as an important pathway for improving livelihood security, strengthening women's economic participation, and promoting sustainable rural development. Entrepreneurial characteristics such as innovation, opportunity recognition, decision-making ability, resource management, and market orientation enable women to transform traditional agricultural activities into profitable enterprises.

Contribution to Women's Economic Empowerment

Agripreneurship provides farm women with opportunities to generate independent income, diversify livelihood sources, and improve their economic status. When women participate in agricultural enterprises, they gain greater control over

financial resources and contribute more actively to household economic decisions.

Economic empowerment through entrepreneurship enhances women's confidence, bargaining power, and participation in social and economic activities.

Women-led agricultural enterprises such as dairy farming, food processing, horticulture, mushroom production, and value-added product development have demonstrated potential for increasing rural women's income and improving livelihood security (FAO, 2011)^[11].

Enhancement of Decision-Making Power

Agripreneurial activities improve women's participation in household and farm-level decision-making. Women involved in enterprise management develop skills related to planning, financial management, investment decisions, and marketing.

Increased involvement in economic activities strengthens women's agency and their ability to influence decisions related to production, income utilization, and family welfare (Kabeer, 2005)^[15].

Improvement in Enterprise Performance

Agripreneurial orientation contributes significantly to enterprise performance by improving innovation capacity, opportunity recognition, market responsiveness, and resource utilization. Women entrepreneurs with higher entrepreneurial orientation are more capable of adopting improved technologies, introducing new products, and responding to market changes.

Innovative practices such as processing, packaging, branding, and direct marketing improve the competitiveness and profitability of agricultural enterprises (Lumpkin & Dess, 1996)^[19].

Entrepreneurial orientation has been positively associated with business growth because proactive and innovative entrepreneurs are better prepared to identify opportunities and overcome environmental challenges (Rauch *et al*, 2009)^[27].

Employment Generation and Rural Development

Women-led agripreneurship contributes to rural employment generation by creating opportunities within agricultural value chains. Enterprises related to processing, livestock, horticulture, and agro-based activities often involve family members and local workers.

Promotion of women entrepreneurship supports inclusive economic growth and reduces dependency on limited agricultural income sources (World Bank, 2012)^[36].

Agripreneurship also encourages local resource utilization, value addition, and development of rural enterprises, contributing to overall rural economic transformation (McElwee, 2011)^[21].

Role in Sustainable Agricultural Development

Agripreneurial orientation promotes diversification, efficient resource utilization, and adoption of sustainable agricultural practices. Women entrepreneurs engaged in integrated farming systems, organic production, nutrition gardens, and value-added enterprises contribute to environmentally sustainable agricultural development.

Entrepreneurial behaviour encourages farmers to adopt strategies that improve productivity while maintaining resource sustainability.

Strengthening Innovation and Technology Adoption

Agripreneurially oriented women are more likely to adopt improved agricultural technologies, digital tools, and innovative production methods. Their openness towards new practices improves productivity and enterprise efficiency.

Extension services and training programmes play an important role in facilitating technology adoption among women entrepreneurs.

Role of Agricultural Extension System

Agricultural extension systems have traditionally focused on technology dissemination; however, changing agricultural scenarios require extension approaches that promote entrepreneurship development, business skills, and market linkages (Swanson, 2010)^[31].

Extension organizations can strengthen agripreneurial orientation through:

- Entrepreneurship development training
- Skill enhancement programmes
- Market information services
- Financial literacy programmes
- Digital agriculture training
- Networking opportunities

Contribution to Sustainable Development Goals (SDGs)

Women's agripreneurship contributes to several Sustainable Development Goals, particularly:

- **SDG 1:** No Poverty
- **SDG 2:** Zero Hunger
- **SDG 5:** Gender Equality
- **SDG 8:** Decent Work and Economic Growth
- **SDG 12:** Responsible Consumption and Production

Promoting women's entrepreneurial capabilities in agriculture supports inclusive and sustainable development (United Nation, 2015)^[35].

Overall Perspective

Agripreneurial orientation acts as a bridge between agricultural knowledge, entrepreneurial behaviour, and enterprise success. While financial resources and infrastructure provide necessary support, the entrepreneurial mindset of farm women determines their ability to identify opportunities and utilize available resources effectively.

Therefore, strengthening agripreneurial orientation should be considered an important strategy for achieving women empowerment, agricultural diversification, rural employment generation, and sustainable development.

Conclusion

Agripreneurial orientation is a multidimensional construct that plays a pivotal role in enhancing the entrepreneurial capabilities of farm women and promoting sustainable agricultural development. This review synthesizes the existing literature on its conceptual foundations, theoretical perspectives, dimensions, measurement approaches, determinants, and developmental outcomes. The evidence indicates that agripreneurial orientation is influenced by a combination of socio-economic, psychological, institutional, and market-related factors, while significantly contributing to enterprise performance, women's empowerment, and rural livelihood improvement.

Despite the growing interest in agripreneurship, research specifically addressing agripreneurial orientation among farm women remains limited. Existing studies lack conceptual uniformity, standardized measurement instruments, and comprehensive empirical validation across diverse agricultural contexts. Future research should therefore focus on developing agriculture-specific, gender-sensitive measurement scales, examining causal relationships through longitudinal and mixed-method approaches, and integrating emerging dimensions such as digital entrepreneurship, sustainability orientation, climate resilience, and value-chain participation.

Strengthening agripreneurial orientation through targeted capacity building, extension interventions, institutional support, financial inclusion, and market integration will be essential for fostering resilient women-led agricultural enterprises and achieving sustainable rural development.

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