

**Article Review****Organic Farming as a Model of Sustainable Entrepreneurship**

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**Abstract**

*Organic farming is being proposed as one model of sustainable entrepreneurship because it combines environmental benefits, rural livelihoods, and market-based incentives. This review synthesizes the scientific evidence regarding organic agriculture's performance along environmental, economic, and social dimensions and explores how organic systems create both opportunities and constraints for entrepreneurs. I review meta-analytic and review evidence on yields, profitability, ecosystem services, and resilience; discuss practical and structural barriers related to certification, knowledge, scalability, market access, and policy; and outline strategic responses that entrepreneurs and policymakers can use in scaling sustainable agricultural businesses while minimizing trade-offs. The review draws on peer-reviewed meta-analyses and high-quality reviews and concludes with actionable recommendations for entrepreneurs, investors, and policy makers, along with an agenda for future research.*

**Keywords:** *Entrepreneurship, Organic Farming, Sustainable Development.*

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**Introduction**

The United Nations has articulated a comprehensive framework of Sustainable Development Goals (SDGs) that guide progress across key sectors, including healthcare, agriculture, and economic development. Within this framework, agriculture holds a strategic position, particularly through the lens of sustainable entrepreneurship. This approach emphasizes the creation of business models that are not only economically viable but also environmentally responsible and socially inclusive. In this context, agricultural enterprises are encouraged to balance profit generation with ecological stewardship and community well-being, aligning commercial success with broader sustainability objectives [1–5].

One prominent pathway toward achieving these goals is organic agriculture, which is increasingly recognized as a viable model for sustainable agribusiness. Organic farming systems avoid the use of synthetic fertilizers and pesticides, instead relying on natural processes such as

crop rotation, composting, and biological pest management. These practices are often supported by certification schemes that assure consumers of adherence to established organic standards. Over the past few decades, the global demand for organic products has expanded significantly, creating favorable market conditions and price premiums that enhance the economic attractiveness of organic enterprises for both farmers and investors [6–7].

Despite its potential advantages, the transition to organic agriculture is not without challenges. Concerns remain regarding potential yield reductions, higher labor and certification costs, and the scalability of organic systems in meeting global food demand. Additionally, questions persist about land-use efficiency and the ability of organic farming to consistently deliver environmental benefits across diverse contexts. This review therefore seeks to critically examine existing scientific evidence related to organic agriculture as a sustainable entrepreneurial model, with particular attention to productivity, profitability, ecological impacts, social value creation, and the institutional factors that influence its long-term success.

## **Materials and Methods**

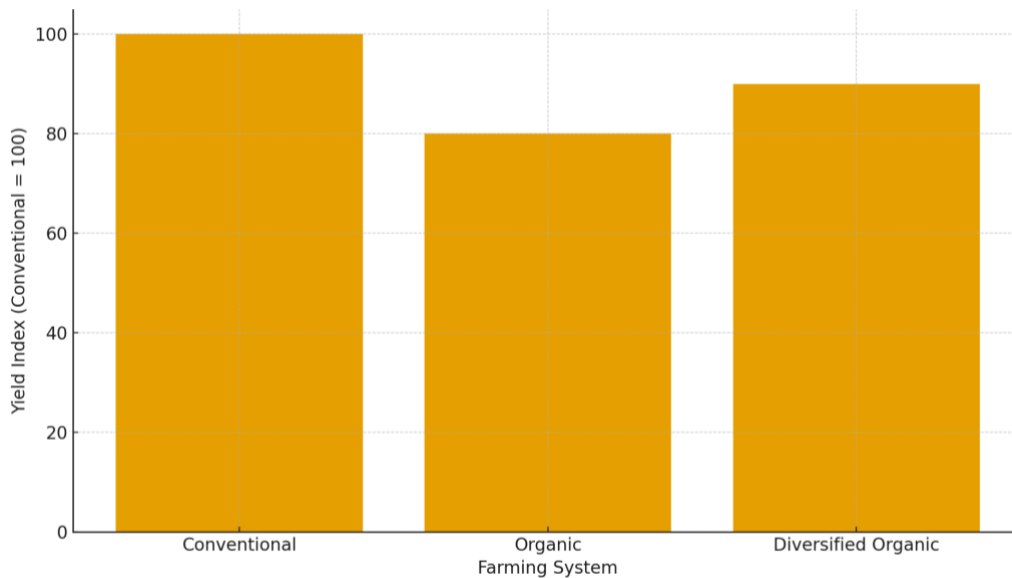
This narrative review is based on high-quality synthesis literature, such as major meta-analyses and review articles, and empirical studies laying the foundation for current scientific understanding. In general, I prioritized meta-analyses and authoritative reviews on the productivity, environmental effects, and economics of organic agriculture, such as Seufert, Ramankutty, & Foley [8], Crowder & Reganold [7], Reganold & Wachter [6], and Meemken & Qaim [9]. In addition, there is literature on agroecology and socio-economic performance, including that by Altieri [10] and FAO/HLPE [11]. Where appropriate, I draw in more recent empirical papers which refine or contextualize findings (e.g., analyses of landscape context and biodiversity outcomes). My aim is to synthesize robust, policy-relevant findings for entrepreneurs and other stakeholders, not to exhaustively catalogue all primary studies.

## **What organic farming delivers: evidence on sustainability metrics**

A foundational review of organic farming evaluates performance across multiple sustainability indicators: productivity (yields), environmental impact-soil health, biodiversity, use of energy, and emissions-economic viability (costs, prices, profitability), and social outcomes (rural livelihoods, food safety) [6]. The key empirical patterns emerging from synthesis studies being:

### ***1. Yield differences***

On average, organic cropping systems tend to have lower yields than conventional intensive systems, though the magnitude varies by crop type, management, and context. A landmark meta-analysis found that organic yields are often lower (the so-called “yield gap”), but that gaps vary: perennial and legume-rich systems and diversified rotations show smaller gaps or parity with conventional systems in some contexts. Yield differences are complexly mediated by crop type, management (diversification, length of rotation), and environmental conditions [8]. More recent reviews also find an average yield penalty but highlight pathways (diversification, improved organic fertility management) that narrow the gap [8,9]. Organic systems often have lower yields than conventional systems, but the size of these gaps varies with crop type, management practices, and environmental context. Figure 1 presents a conceptual comparison of yields between organic and conventional systems; it also shows how diversification strategies can potentially reduce the productivity gap.



**Figure 1.** Conceptual comparison of crop yields under different farming systems. This conceptual diagram illustrates typical yield differences reported in meta-analyses.

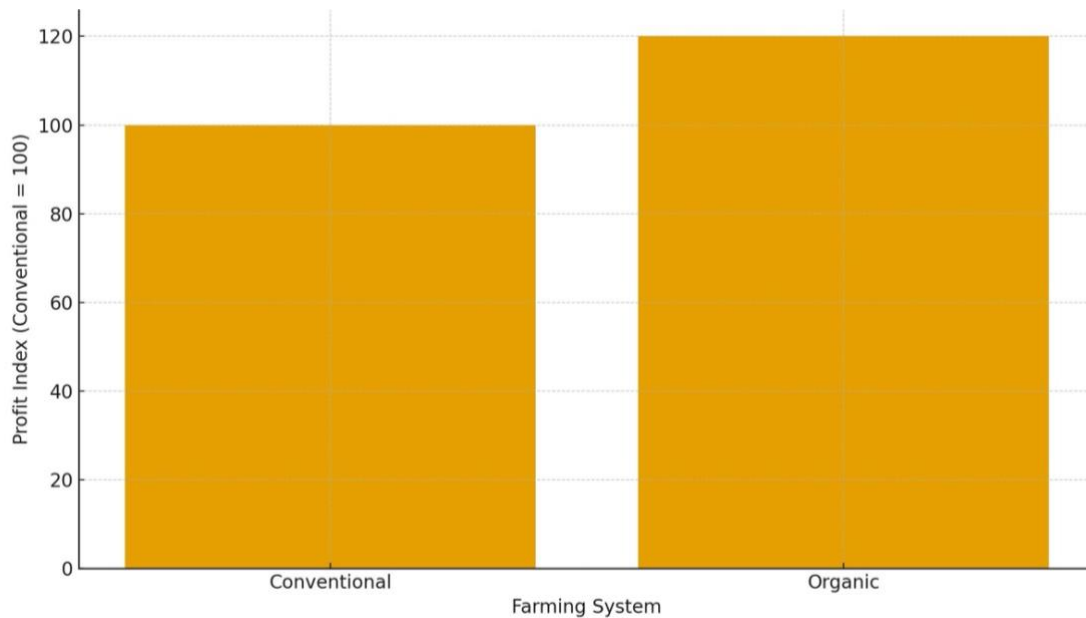
## 2. *Environmental outcomes and ecosystem services*

Organic farming generally performs better than conventional systems on several ecosystem service indicators per unit area: greater soil organic carbon, improved soil structure and water retention, higher on-farm biodiversity (both above- and below-ground), and reduced pollution from pesticide and nutrient runoff. However, when measured per unit of product (e.g., per kg of crop produced), greenhouse-gas emissions and some other pressure indicators may be similar or in some cases higher because of lower yields [6,9]. This distinction land-based vs. output-based assessment is critical for entrepreneurs and policy makers when designing sustainability claims and calculating environmental footprints.

## 3. *Market*

Despite lower average yields, organic farming often yields higher farm-gate returns due to price premiums and in many analyses' higher profitability. A comprehensive meta-analysis covering many crops and regions concluded that when organic price premiums are realized, organic systems are on average more profitable and have higher benefit/cost ratios than conventional counterparts; the breakeven premium needed to offset yield shortfalls is often small relative to observed market premiums [7]. That said, organic systems can have higher labor costs and transition periods of reduced marketability and income that entrepreneurs must manage.

Resilience and risk-reduction. Organic systems that build soil health and biodiversity can show greater resilience to shocks such as drought; several syntheses report improved water retention in organic soils and better performance in drought-stressed environments [6]. This resilience is commercially relevant: enterprises that internalize ecosystem service value can reduce risk and stabilize supply. Organic farming systems, though often yielding less, usually attain higher profitability because of the price premiums and reduced input costs [7]. Figure 2 shows that the profitability edge becomes clear once market premiums are gained.



**Figure 2.** Conceptual farm profitability comparison. Organic premiums often compensate for yield gaps, leading to higher profitability.

#### **4. Opportunities for sustainable entrepreneurship**

Organic agriculture offers entrepreneurs multiple, interlinked opportunities: from farm-level producers to processors, retailers, and service providers. Strong and growing consumer demand for organic products supports price premiums that can translate into attractive margins for producers and processors [7]. Those entrepreneurs who can reliably certify, brand, and access consumer or institutional markets—supermarkets, food service, export markets, schools, and hospitals—can capture considerable value. Vertical integration and short supply chains, like community-supported agriculture or direct-to-consumer models, further strengthen margins and consumer trust.

Organic agriculture creates opportunities for value addition in product development—processed organic foods, specialty crops, organic inputs, bio stimulants, composting services—and service sectors like certification facilitation, organic consultancy, and soil health monitoring. Startups will have the ability to unlock growth for organic farming systems by developing low-cost organic fertilizers, digital advisory tools tailored toward organic management, or scalable biological pest control solutions.

With the increasing value of carbon sequestration, biodiversity, and water quality to society, monetizing ecosystem services—for example, carbon credits, payments for ecosystem services, or sustainability-linked loans—could generate more revenues for organic farmers. Social entrepreneurs or social enterprises can also serve as aggregators for smallholders and structure financing or certification to access green finance instruments.

Organic farming models can create local employment based on higher labor intensity, re-localize supply chains, and foster community entrepreneurship through collectives or cooperatives. Social enterprises can combine income generation with better food safety, health outcomes from reduced pesticide use, and increased food sovereignty for rural communities. Firms and farms whose branding is based on resilience for example, reliably supplying during climatic variability can obtain long-term contracts with supply-chain-continuity-sensitive buyers. Organic practices that build soil organic matter may provide this competitive edge.

#### **5. Challenges and trade-offs for entrepreneurs**

While opportunities are huge, organic agriculture also places constraints that all entrepreneurs must understand and manage. Lower yields in many organic systems imply either accepting reduced output and thereby scaled revenue, or area expansion to maintain production

levels. The latter raises land-use and environmental concerns. If targeting commodity staples at scale, entrepreneurs should carefully deliberate on whether organic systems suit their business model or if the hybrid/smart-ecological intensification approaches are preferable [8,9].

Conversion to organic usually means a multi-year transition in which yields are lower, and products cannot yet be sold as organic. This creates cash-flow challenges for producers that require bridging finance or alternative revenue sources a classic entrepreneurial financing problem. Third-party certification gives access to markets and builds trust but charges fees, costs of auditing, and bureaucratic burden, being particularly burdensome for smallholders. Multiple standards and a proliferation of private labels fragment markets and raise transaction costs. To respond, entrepreneurs might organize themselves into cooperatives or use group certification models but often need institutional support.

Organic farming is knowledge-intensive: designing rotations, managing fertility via compost and legumes, and using biological pest management require competencies often lacking in communities accustomed to input-based conventional systems. To be able to scale, farmer training, extension, and strong advisory services will need to be invested in by entrepreneurs. Organic premiums have traditionally been strong, but market saturation, changes in consumer behavior, or policy changes (e.g., subsidies for conventional inputs) can squeeze premiums. Crowder & Reganold [7] illustrate that organic profitability relies on premiums; entrepreneurs should consider planning for variations in premiums, and also diversification and value-added strategies.

Environmental benefits from organic farming may be contextual and depend upon the broader landscape or surrounding natural habitats. Some biodiversity benefits accrue only when organic farms are embedded in heterogeneous landscapes [12]. Entrepreneurs pursuing ecological claims should consider landscape-level strategies and partnerships to amplify benefits. Scaling organic production to global quantities demanded for many commodity markets poses technical and land-use trade-offs. As discussed, many authors have cautioned that organic alone might not be a panacea for global food security but rather agroecological principles or hybrid pathways that combine best-practice elements; these are more realistic for large-scale food systems transformation [6,9].

## **6. Evidence-Based Strategies for Entrepreneurs**

Given the opportunities and constraints, the literature provides a number of strategies that sustainable entrepreneurs can adopt:

Perennial crops, horticulture, niche, and specialty crops (e.g., herbs, berries, organic vegetables) generally exhibit smaller yield gaps and carry higher premiums. Diversification through intercropping and rotations, including legumes, reduces yield penalties while improving soil fertility [8]. Entrepreneurs should favor crop portfolios where methods of organic production provide a distinct competitive advantage.

In contrast, firms can capture larger shares of the consumer dollar and buffer against premium volatility by shortening the value chain, such as through farmers' markets, CSAs, and online direct sales, or by integrating processing and branding. Because organic methods are knowledge-intensive, investment in extension, digital advisory tools, farmer field schools, and peer learning accelerates the transition and improves productivity and predictability.

Credit facilities tailored to the transition period—grants, low-interest loans, revenue-sharing agreements—can bridge cash-flow gaps. Investors should design patient capital instruments that recognize delayed but durable returns tied to soil building and resilience.

By forming cooperatives or producer groups, farmers can share certification costs, standardize quality, and achieve the minimum volumes needed to supply institutional buyers. They can diversify revenue through carbon markets, biodiversity credits, or payments for water-quality improvements by partnering with environmental NGOs, governments, or corporate buyers seeking verified metrics of sustainability. Since environmental benefits are context-dependent and management-dependent, such claims need to be evidence-based and transparently measured, for

example, soil organic carbon or reduction of pesticide residues. Independent verification strengthens brand credibility and reduces reputational risk.

### **7. Policy and institutional levers that matter for entrepreneurs**

Scientific syntheses stress that the policy environment strongly shapes whether organic entrepreneurship can scale equitably and sustainably:

Subsidies, targeted payment schemes, or transition support-technical and financial-reduce the barriers to adoption faced by farmers switching to organic systems. It includes the following: Harmonizing and subsidizing certification: Streamlining certification, supporting group certification, and subsidizing audits for smallholders reduce transaction costs. Government procurement policies (schools, hospitals) that favor organic or sustainably produced foods can stabilize demand and reduce market risk for entrepreneurs. Public funding of organic-specific agronomy, soil fertility innovations, and biological pest control is essential organic systems have historically received less research attention than conventional systems. Policies that incentivize landscape heterogeneity (e.g., fallow patches, agroforestry corridors) augment biodiversity benefits of organic farms [12]. The new century ushers in a period of great change and transformation, marking the true beginning of African American migration from the rural South to northern urban centers.

### **8. Case examples and empirical signals**

Several large syntheses and meta-analyses illustrate how the academic evidence maps to entrepreneurial realities:

This meta-analysis shows that diversified and perennial cropping systems tend to perform relatively well under organic management, informing crop selection strategies for entrepreneurs. This global meta-analysis found organic systems can be significantly more profitable when premiums are realized, but profitability is sensitive to premium levels and crop type supporting business models that secure premiums through branding or contracts. The reviews outline that organic agriculture performs well for many sustainability indicators but that claims must be contextualized by yield differences and system design [6,9]. Taken together, these findings confirm that well-designed organic enterprises targeting the right markets and crops within appropriate landscapes can be both sustainable and profitable.

### **Research gaps and an agenda for further work**

There are some research needs that are urgent for better decision-making by entrepreneurs and investors:

1. Comparative Long-term Socio-economic Case Studies: More longitudinal studies are needed that track income, labour, and resilience during and after conversion across diverse contexts.
2. Landscape-scale assessments: Studies of how landscape configuration and surrounding land use boost or dampen the ecological gains of organic farms.
3. Ecosystem Service Valuation for Business Models: Standardized methods to quantify and monetize carbon sequestration, biodiversity, and water quality benefits at farm and supply-chain scales.
4. Innovations reducing certification costs. Studies testing scalable group-certification models, community auditing, and digital traceability to reduce transaction costs for smallholders.
5. Hybrid models & ecological intensification: Comparative work on integrated approaches which combine elements, for example, organic and precision nutrient management to maximize both productivity and ecological outcomes.

### **Conclusion**

Attrition Entrepreneurship Theory acknowledges that certain businesses may encounter difficulties. However, Organic farming represents a compelling model for sustainable entrepreneurship, though its success relies on strategic decisions and supportive conditions.

Entrepreneurs should prioritize high-value, diversified crops, identify premium marketing channels such as direct sales or contract farming, and engage in robust training and knowledge systems. Financial planning must account for the transition period and potential price fluctuations, supported by patient capital and tailored financial products. Collaborative models like cooperatives and shared certification schemes help smallholders' lower costs and enhance market power. Strong policy support through transitional subsidies, public procurement, research investment, and streamlined certification processes amplifies both private and societal benefits. In addition, transparent metrics and evidence-based performance indicators, such as soil carbon levels and reduced pesticide residues, strengthen brand credibility and facilitate access to sustainability finance. While organic agriculture is not a universal solution for sustainable food systems, when guided by sound enterprise strategies, institutional backing, and landscape-level planning, it offers a viable and profitable route to sustainability that benefits individual entrepreneurs and society alike.

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