

**A STUDY OF ORGANIC FARMING AND
ENTREPRENEURSHIP: PROBLEMS AND OPPORTUNITIES IN
MIZORAM**

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**A STUDY OF ORGANIC FARMING AND ENTREPRENEURSHIP:
PROBLEMS AND OPPORTUNITIES IN MIZORAM**

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**In partial fulfillment of the requirement of the degree of Doctor of Philosophy in
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CERTIFICATE

This is to certify that the thesis entitled — A Study of Organic Farming and Entrepreneurship: Problems and Opportunities in Mizoram written by **Mark Lalduhsaka** has been completed under our supervision.

He has fulfilled all the required norms laid down under the Ph.D. regulation of Mizoram University. The thesis is the result of his own work and investigation. Neither the thesis as a whole nor any part was ever submitted to any University for any degree or award

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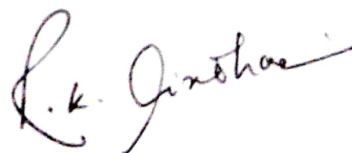
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ABBREVIATION

HYVs - High Yielding varieties.

OFAI - Organic Farming Association of India. NPOP - National Program for Organic Production. Ha - Hectare.

MOVCD-NER - Mission Organic Value Chain Development for North Eastern Region.

SLA - State Lead Agencies.

MOM - Mission Organic Mizoram.

NMSA - National Mission for Sustainable Agriculture. FPOs - Farmers Producer Organizations.

SLEC - State Level Executive Committee. SLA - State Lead Agency.

FIGs - Farmers Interest Groups.

EDS- Entrepreneurship Development Scheme.

MEDMOC - Mizoram Entrepreneurship Development Monitoring Committee.

PKVY - Paripatkrishat Krishi Vikas Yojana. RKVY - Rashtriya Krishi Vikas Yojana.

ZBNF - Zero Budget Natural Farming.

APEDA - Agricultural and Processed Food Products Export Development Authority.

PGS - Participatory Guarantee System LAC - Large Area Certification.

GMOs - Genetically Modified Organisms. NMNF - National Mission on Natural Farming.

PLISFPI - Production Linked Incentive Scheme for Food Processing Industry.

MD - Mission Director. SC - State Coordinator.

RCT-I - Randomized Controlled Trials -I.

G.I Tag - Geographical Identification Tag. SHU - Scoville Heat Unit.

MRB - Mizoram Rural Bank. SBI - State Bank of India.

NGOs - Non Governmental Organization.

FASSAI - Food Safety and Standards Authority of India. EDS - Entrepreneurship
Development Society.

CHAPTER - I
INTRODUCTION

1.1 Concept of Organic Farming

Organic farming is an agricultural approach that emphasizes the use of naturally derived inputs and ecological processes to maintain soil health, plant vitality, and environmental harmony, while strictly avoiding synthetic fertilizers, pesticides, and genetically modified organisms (Joben, 2019). The essence of "organic" lies in its dependence on natural, living materials, highlighting the method's commitment to sustainable and environmentally responsible farming (FAO, 2020). According to Chandrakala (2018), organic farming integrates a wide range of practices such as applying organic manure, using biological pest control, maintaining accurate records, and adhering to a formal certification system to ensure compliance with standards. She further emphasizes that the regenerative nature of organic farming is essential for restoring degraded soils and securing long-term fertility.

This method goes beyond food production to uphold ecological integrity by increasing biodiversity, improving soil biological activity, and safeguarding water resources (Lal, 2020). It also addresses pressing environmental concerns such as soil erosion, water pollution, and the decline in biodiversity (Altieri, 2018). At its core, organic farming is grounded in the principles of sustainability—promoting closed-loop nutrient cycles, minimizing ecological harm, and fostering a thriving farm ecosystem (Pimentel et al., 2005). Additionally, it significantly reduces agriculture's carbon footprint by decreasing the reliance on fossil-fuel-based inputs and enhancing the soil's ability to store carbon (Scialabba & Müller-Lindenlauf, 2010). Ultimately, organic farming seeks to create a farming model that is not just environmentally and economically viable but also socially equitable (IFOAM, 2019), offering farmers both sustainable income and livelihood security (Joben, 2019; FAO, 2020).

In addition to its ecological and economic benefits, organic farming has been shown to deliver comparable yields to conventional agriculture over the long term, particularly under conditions of environmental stress. Studies have demonstrated that organic

systems tend to be more resilient to droughts and extreme weather due to improved soil structure, organic matter content, and water-holding capacity (Reganold & Wachter, 2016). Furthermore, organic farms typically require lower energy inputs and produce fewer greenhouse gas emissions per unit area, making them more energy-efficient and climate-friendly. As global agriculture faces increasing challenges from climate change, resource depletion, and environmental degradation, organic farming offers a scientifically validated path toward a more sustainable and resilient food system.

1.2 Introduction of Organic Farming in India

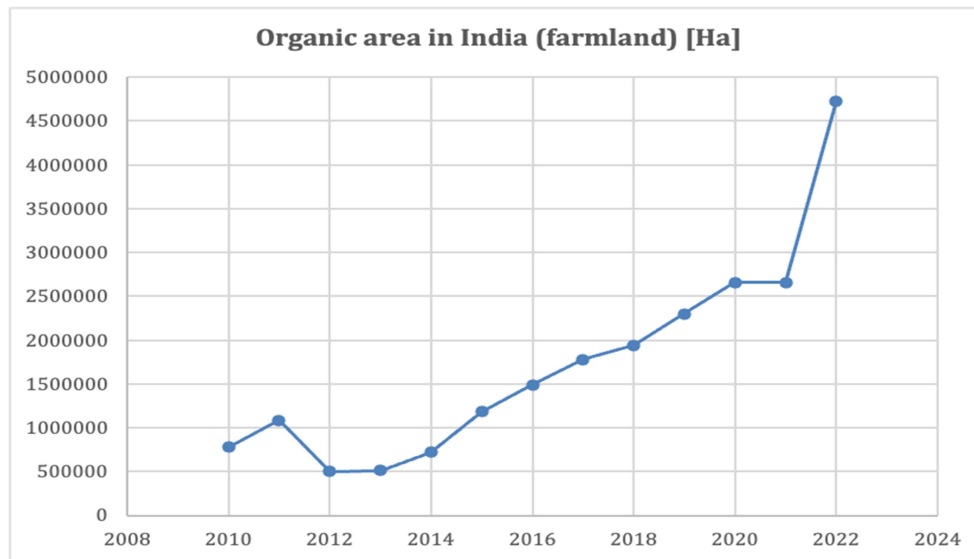
India has a rich tradition of organic agriculture, with natural farming practices forming the foundation of its agricultural heritage for thousands of years. Before colonial influence, Indian farmers relied on organic inputs such as compost, animal manure, and plant-based pest control methods. The cow held a central role in this system, contributing not only milk and draft power but also dung used as an essential organic fertilizer (Shiva, 2005). These traditional methods sustained Indian agriculture until the mid-20th century, when the farming landscape underwent a dramatic transformation with the onset of the Green Revolution in 1966, led by scientist M.S. Swaminathan. This movement introduced high-yielding varieties (HYVs) of seeds, along with intensive irrigation and chemical fertilizers, which, while increasing crop production, also created dependence on synthetic inputs (Newman, 2007).

Although the Green Revolution succeeded in achieving food self-sufficiency, it also triggered a series of long-term consequences. These included the degradation of soil quality, depletion of water tables, contamination of food and ecosystems with pesticide residues, and a loss of traditional seed varieties. The use of toxic agrochemicals, such as organophosphates and organochlorines, has been linked to serious human health issues, including disruptions to the nervous, endocrine, and reproductive systems (John & Babu, 2021). In addition, rising input costs created

economic burdens for farmers, contributing to cycles of debt and distress, and leading to increased incidences of farmer suicides in certain regions (Nelson et al., 2019).

Despite these setbacks, the organic movement in India experienced a revival in the 1990s, driven by progressive farmers and grassroots organizations advocating for more sustainable agricultural practices. To strengthen this movement, the Organic Farming Association of India (OFAI) was founded in 2003, providing a platform for networking, training, and policy advocacy. To institutionalize organic farming standards, the Ministry of Commerce launched the National Program for Organic Production (NPOP) in 2000, which led to the establishment of the “India Organic” certification mark in 2001 (IFOAM, 2019). A landmark in India's organic journey was achieved by Sikkim, which became the first fully organic state in 2003, benefiting over 66,000 farmers and earning international accolades, including the FAO-IFOAM “Best Policy” award in 2018 (Lal, 2020). Building on this momentum, the Ministry of Agriculture and Farmers Welfare launched the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) in 2015, targeting the conversion of 50,000 hectares of land to organic cultivation by 2019, especially across states like Mizoram, where traditional knowledge and biodiversity provide fertile ground for organic farming expansion.

Figure 1.1: Growth of Organic Area Farmland in India



Source: Forschungsinstitut für biologischen Landbau (FiBL) Statistic 2020 “The world of Organic Agriculture report”

According to a report by IFOAM (2019), India has significant potential for organic farming, particularly in the North-Eastern hilly regions, where approximately 10 million hectares of land are suitable for organic certification. The report further noted that India has 1.78 million hectares of farmland under third-party organic certification, with over 835,000 organic producers—the largest number of organic producers in the world. However, despite this impressive growth, organic farming still represents only a fraction of India’s total agricultural land, indicating that there is considerable room for expansion in the future.

Figure 1 shows the steady growth of organic farmland in India since 2012. The exponential growth from 2021 to 2022 was mainly due to the participation and adoption of State-level organic schemes in various States of India. The State-wise organic area under cultivation and their percentages to total area (2022-23) for the top 10 States are given below.

Table 1.1: Top ten state wise organic area under cultivation and their percentages to total area (2022-23)

Sl. No	State Name	Organic Area (In 000' Ha)	% to Total Organic Area	Total Area (Organic + Conversion) (In 000' Ha)	% to Total Area
1	Madhya Pradesh	686.21	38.9	1517.38	28.1
2	Maharashtra	258.64	14.7	1284.31	23.8
3	Gujarat	84.4	4.8	935.93	17.4
4	Rajasthan	216.44	12.3	580.68	10.8
5	Odisha	77.95	4.4	195.08	3.6
6	Uttarakhand	32.63	1.8	98.39	1.8
7	Telangana	7.29	0.4	84.47	1.6
8	Karnataka	44.34	2.5	82.02	1.5
9	Sikkim	75.45	4.3	75.48	1.4
10	Uttar Pradesh	52.42	3	68.01	1.3
	Total	1535.77	100	4921.75	100

Source: Study of Indian organic market and export promotion strategy 2024

Table 1 highlights the leading ten states in India for organic farming during 2022–23. Madhya Pradesh stands out at the top with 686.21 thousand hectares under organic cultivation, making up 38.9% of the country's total organic area and 28.1% of the

combined organic and conversion area. Maharashtra ranks second with 258.64 thousand hectares, contributing 14.7% to the organic area and 23.8% to the total area. Gujarat takes third place with 84.40 thousand hectares under organic farming.

Rajasthan, with 216.44 thousand hectares, represents 12.3% of the organic area and 10.8% of the total area. Odisha covers 77.95 thousand hectares, contributing 3.6% to the total area, while Uttarakhand accounts for 32.63 thousand hectares—1.8% of both the organic and total areas.

Telangana has 7.29 thousand hectares under organic cultivation, comprising 0.4% of the organic area and 1.6% of the total area. Karnataka contributes 44.34 thousand hectares, accounting for 2.5% of the organic area and 1.5% of the total. Sikkim, a pioneer in organic farming, has 75.45 thousand hectares, making up 4.3% of the organic area and 1.4% of the total area.

In total, these ten states collectively contribute 1,764.68 thousand hectares of organic farmland, forming a combined area (including conversion) of 5,391.79 thousand hectares.

1.3 Organic Farming in Mizoram

The concept of organic farming and the need for sustainable agricultural practices first gained attention among the political and bureaucratic leadership in Mizoram in 1996. Recognizing the environmental and economic benefits of organic farming, the first Organic Farming Project was launched in Lungmuat village that same year. This project included contour trench farming, an agricultural technique designed to prevent soil erosion and improve water retention. The promising results of this trial sparked a growing interest in the development of organic farming as a state-wide practice.

In 2004, in a move to make Mizoram a fully organic state, the Mizoram Organic Farming Bill-2004 was introduced and subsequently passed by the Mizoram Legislative Assembly in July of that year. This legislative step was followed by the establishment of

the Mizoram Organic Commodities Board, a state-level committee, in June 2007. However, despite these positive steps, the progress of organic farming initiatives in Mizoram was slow. In the 2008-2009 budget, funds were allocated to the Mizoram Organic Commodities Board under the State Plan MIP (Mizoram Intodelhna Project), but the shift in the Ministry in 2009 led to the neglect and eventual discontinuation of the organic farming initiatives at that time (Economic Survey of Mizoram, 2020).

A renewed interest in organic farming was sparked in 2016 with the introduction of MOVCD-NER scheme. The Government of Mizoram assigned the Department of Agriculture the responsibility to implement the scheme, aiming to revitalize organic farming efforts in the state. In 2017, the State Lead Agency (SLA) for MOVCD-NER was officially established in Mizoram and was named Mission Organic Mizoram (MOM). MOM began implementing the MOVCD-NER scheme during the 2017-18 periods, with a strong focus on converting agricultural land to organic certification.

By 2019, MOM had successfully converted 7,039.89 hectares of agricultural land into organic farming under the MOVCD-NER initiative. This represented approximately 4% of the total cultivated land in Mizoram, as recorded in the Economic Survey of Mizoram 2019-20, which estimated that 1,47,009 hectares of land were being cultivated in the state. Despite this progress, the percentage of organic land remained relatively low. However, MOM set an ambitious target to increase the area under organic certification to 14,000 hectares by the end of 2021, aiming to double the organic share of Mizoram's total agricultural land from 4% to 8% (Economic Survey of Mizoram, 2020). Through the implementation of MOVCD-NER, Mizoram is poised to become a significant contributor to India's organic farming movement, creating sustainable agricultural practices that benefit both the environment and the economic well-being of its farmers. With the continued support of the government and the active participation of local farmers, the expansion of organic farming is expected to play a crucial role in Mizoram's agricultural future.

1.4 About MOVCD-NER Scheme

Recognizing the potential of organic farming and its role in improving the economic conditions of farmers, the Government of India has been promoting organic agriculture through the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) since 2015-16. This scheme functions under the broader National Mission for Sustainable Agriculture (NMSA) and aims to promote certified organic production in a value chain mode. The scheme facilitates the connection between organic growers and consumers by supporting the development of the entire organic value chain. This includes aspects such as inputs, seeds, certification, and the creation of infrastructure for collection, aggregation, processing, marketing, and brand-building initiatives (Government of India, 2020; Ministry of Agriculture & Farmers Welfare, 2021).

Under MOVCD-NER, assistance is provided to farmers in a value chain mode. The scheme begins with the formation of Farmers Producer Organizations (FPOs) and includes support for both on-farm and off-farm input production. In addition, MOVCD-NER facilitates the supply of seeds and planting materials and enhances post-harvest infrastructure, including collection, sorting, and grading facilities. It also supports the establishment of integrated processing units, refrigerated transportation, pre-cooling and cold storage chambers, and provides services for branding, labelling, and packaging.

The scheme is implemented through State Governments at the district and village levels, based on the interest and participation of farmers in organic farming. Since 2015-16, MOVCD-NER has been operational in the North-Eastern states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura. These states have benefited significantly from the scheme, with improvements in organic farming practices and better economic outcomes for local farmers (Ministry of Agriculture & Farmers Welfare, 2021).

MOVCD-NER supports the transformation of agriculture in the North Eastern region by

promoting environmentally sustainable farming practices. It not only encourages organic production but also provides the necessary infrastructure and market access to create a viable organic farming ecosystem. The initiative is expected to foster long-term economic and environmental sustainability for farmers, contributing to the overall development of the agricultural sector in the region (IFOAM, 2020).

1.4.1 The MOVCD-NER Scheme Implementing Structure in Mizoram

The implementation of the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) in Mizoram is designed to operate through a structured and multi-tiered system, ensuring that the objectives of the mission are achieved efficiently. The scheme's governance in Mizoram primarily involves the State Level Executive Committee (SLEC), which is responsible for the overall oversight, planning, and decision-making processes at the state level.

The SLEC holds the authority to create and nominate a State Lead Agency (SLA), which is essential for the effective execution of the scheme's objectives. Once established, the SLEC provides the necessary authorizations and sanctions to the State Lead Agency, allowing it to implement the mission components and utilize allocated funds. The SLA operates as an independent entity, managing its own finances through a dedicated bank account. Furthermore, specific funds are allocated for the management of the SLA to ensure smooth operations. This agency acts as the nodal body responsible for overseeing and ensuring that the mission components are realized effectively, aligning with the scheme's overall goals (Ministry of Agriculture & Farmers Welfare, 2021).

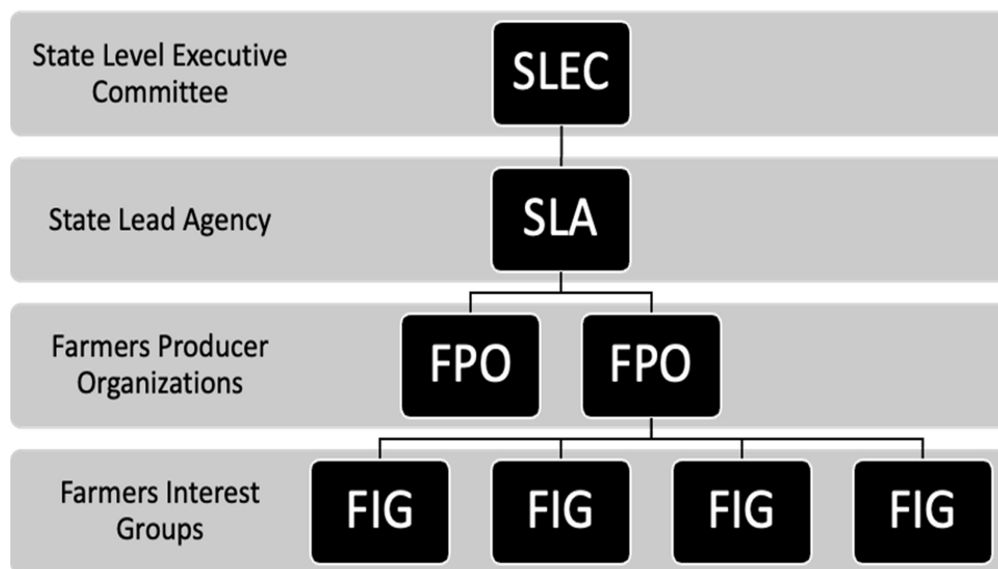
The SLA plays a crucial role in facilitating the formation and development of Farmer Producer Organizations (FPOs), which are voluntary, farmer-controlled organizations. These FPOs consist of smallholder, marginal, and landless farmers who come together to form cooperative groups. These groups are instrumental in improving the economic strength of farmers by enhancing their market linkages, facilitating better access to inputs, and creating avenues for collective decision-

making. By joining FPOs, farmers can leverage economies of scale, making their farming operations more commercially viable and sustainable. The collective nature of FPOs allows farmers to negotiate better prices for their produce, access improved agricultural inputs, and engage in value-added processing, thereby boosting their overall income.

At a more localized level, Farmers Interest Groups (FIGs) operate as production clusters. These groups are formed based on common farming interests and are designed to focus on the commercial viability of specific farm produce. FIGs are groups of farmers who share a similar interest in particular crops or farming activities and their purpose is to improve collective productivity and market access. In the context of the MOVCD-NER scheme, FIGs are an integral part of the production process, operating in a concentrated mode to achieve economies of scale. As these groups develop, multiple FIGs are federated into larger FPOs at either the district or state level, enhancing coordination and market access on a larger scale.

By integrating FPOs and FIGs into the broader structure of MOVCD-NER, the scheme ensures that the benefits of organic farming reach farmers in a systematic and scalable manner. The aggregation of farmers into these groups allows for more organized production, better management of resources, and stronger market linkages. This, in turn, helps improve the income and livelihood of smallholder and marginal farmers in Mizoram.

Figure 1.2: The MOVCD-NER scheme implementing structure in Mizoram



Source: Mission Organic Value Chain Development for North East Region Guideline.

1.4.2 MOVCD-NER Scheme Components

The scheme comprises of four main components such as;

A. Value Chain Production

This component focuses on cluster development, FPO formation, farm input assistance, assistance for quality planting material, setting up of input delivery centres, training, hand holding and Organic certification.

B. Value Chain Processing

This component focuses on asset and infrastructure development. It aids FPOs and entrepreneurs for setting up of processing units for value addition of organic farming produce under the scheme.

C. Value Chain Marketing

This component focuses on brand building, marketing, and awareness campaigns through seminars and exhibition and publicity.

D. Value Chain Support Agencies

This component is mainly for setting up and operating a dedicated State Lead Agency.

1.5 Entrepreneurship in Mizoram

Entrepreneurship in Mizoram is still an emerging field, with formal government efforts to promote it beginning in 2017. Before that, entrepreneurship was largely informal, driven by small-scale businesses and local enterprises without significant state support or structured frameworks. The turning point came with the launch of the Entrepreneurship Development Scheme (EDS) by the Government of Mizoram, which marked the state's formal commitment to fostering entrepreneurship as a vital component of economic development. The scheme is implemented by the Planning and Programme Implementation Department, and aims to create a conducive environment for new ventures and support entrepreneurial initiatives in various sectors.

In order to monitor and support the development of entrepreneurship in the state, the Mizoram Entrepreneurship Development Monitoring Committee (MEDMOC) was established. The role of this committee is to oversee the implementation of entrepreneurship programs, provide guidance to aspiring entrepreneurs, and ensure that the state's resources and policies are effectively directed towards supporting new business ventures.

The Entrepreneurship Development Scheme (EDS) introduced two flagship programs to foster entrepreneurship:

- 1. Mizoram Rahbi (Micro Start-up Capital Competition):** This program is designed to support micro-start-ups by providing them with initial capital to kick-start their business ideas. Entrepreneurs are selected through a competitive process, where they present their start up ideas, and winners are granted funding to help them launch and scale their businesses. Since the inception of the Mizoram Rahbi program in 2017, 55 entrepreneurs or start-ups have been selected as winners and received financial support (Up to Rs 7.5 Lakh grant). The program plays a critical role in addressing the funding gap faced by small-scale start-ups, enabling them to move from idea to execution (Mizoram Planning Board, 2020).
- 2. Mizoram Kailawn (Business Plan Contest):** Mizoram Kailawn is a business plan contest aimed at identifying and supporting entrepreneurs with innovative and viable business ideas. Entrepreneurs participate in a rigorous competition where they present their business plans, and the winners receive funding and mentorship to develop their ideas into sustainable businesses. The program seeks to encourage innovation and attract new entrepreneurial talent across sectors in Mizoram, helping to diversify the local economy (Planning and Programme Implementation Department, 2021).

These programs have helped to promote entrepreneurship across various sectors, including agriculture, food processing, handicrafts, and technology. They have also contributed to raising awareness about entrepreneurship as a viable career option, particularly among the youth of Mizoram.

The Entrepreneurship Development Scheme (EDS) is significant not only for its role in funding and promoting start-ups but also for its broader impact on building an entrepreneurial ecosystem in Mizoram. By creating opportunities for young entrepreneurs, providing access to capital, and supporting business development, the state government aims to foster a culture of entrepreneurship that can drive economic

growth and job creation in the region (Mizoram Planning Board, 2020).

Despite these positive steps, challenges remain. Entrepreneurs in Mizoram often face difficulties such as limited market access, infrastructure constraints, and a lack of technical expertise. However, initiatives like Mizoram Rahbi and Mizoram Kailawn are important starting points that have begun to address these issues by providing the necessary resources and support structures for budding entrepreneurs. As entrepreneurship continues to evolve in Mizoram, the government's commitment through schemes like the EDS is expected to play a crucial role in unlocking the potential of local businesses, fostering innovation, and building a resilient and diversified economy in the state.

1.6 Government Intervention On Organic Farming

This chapter examines government policies and schemes that promote agricultural entrepreneurship in India, with a particular focus on Mizoram and the Mission Organic Value Chain Development for the North Eastern Region (MOVCD-NER). MOVCD-NER is a crucial initiative designed to establish a sustainable organic value chain, providing farmers with resources and support to practice organic farming profitably (Reddy, 2021). By offering assistance with certification, capacity building, and market linkages, the scheme aims to transform traditional agriculture into a structured, organic, and market-oriented approach, thereby fostering entrepreneurship in the region (Kumar et al., 2013).

Key government agencies, such as the Ministry of Agriculture and Farmers' Welfare and state agricultural departments, play pivotal roles in implementing policies that sustain organic farming ecosystems. These agencies collaborate with MOVCD-NER to provide financial support, training, and infrastructural assistance, empowering local farmers to adopt organic practices (National Mission on Sustainable Agriculture, 2010). Complementary schemes like the Paramparagat Krishi Vikas Yojana (PKVY) and Rashtriya Krishi Vikas Yojana (RKVY) further bolster these efforts by offering

subsidies, training, and infrastructure to enhance the region's organic agriculture potential (Chauhan & Yadav, 2021).

In assessing the impact of these policies, this chapter considers how they have fostered entrepreneurial growth among farmers by providing the necessary resources to adopt organic farming and value-added practices (Mazumdar & Roy, 2025). These initiatives help farmers increase their income while encouraging the establishment of agri-business ventures, thereby boosting employment and economic growth in Mizoram (Swami & Parthasarathy, 2024). Finally, recommendations are offered to strengthen these programs, including strategies to raise awareness, simplify access to subsidies, and improve market connections, ensuring the sustainability and growth of the organic farming ecosystem in the North Eastern region (Bhattacharya & Gupta, 2022; Chakraborty & Bhowmik, 2022).

1.6.1 Organic Farming Policies in India

India's approach to organic farming has evolved with a focus on sustainability, environmental conservation, and enhancing farmers' incomes. To mitigate the environmental impacts of conventional farming and meet the global demand for organic products, the Government of India has introduced policies aligned with the National Mission on Sustainable Agriculture (NMSA). These policies aim to reduce chemical dependence and ensure food security in an eco-friendly manner, forming part of a larger strategy to address climate change and promote sustainable agricultural practices across the country (National Mission on Sustainable Agriculture, 2010; Azam & Shaheen, 2019).

Key national initiatives include the Paramparagat Krishi Vikas Yojana (PKVY), the National Programme for Organic Production (NPOP), and Zero Budget Natural Farming (ZBNF). PKVY encourages organic cluster formation, financial support for organic practices, and market linkages (Chauhan & Yadav, 2021). NPOP, managed by the Agricultural and Processed Food Products Export Development Authority (APEDA),

focuses on certification standards and global market access for Indian organic produce (Mazumdar & Roy, 2025). ZBNF promotes natural farming practices with minimal input costs, helping small and marginal farmers enhance profitability (Swami & Parthasarathy, 2024). Additionally, digital platforms like the Jaivik Kheti Portal support these initiatives by providing market access, government resources, and direct buyer connections, creating a more equitable marketplace for organic farmers (Bhattacharya & Gupta, 2022).

In the North Eastern states, the Mission Organic Value Chain Development for the North Eastern Region (MOVCD-NER) addresses region-specific challenges and opportunities. MOVCD-NER aims to create a robust organic value chain encompassing certification, production, processing, and marketing, thereby empowering local farmers to transition to organic farming profitably (Reddy, 2021). The initiative supports certification, capacity-building, and market linkages, enabling farmers in Mizoram and surrounding areas to access national and international markets. This targeted program not only promotes sustainable agriculture but also stimulates rural entrepreneurship, leveraging the North East's rich biodiversity to align with India's broader organic agriculture vision (Kumar et al., 2013; Economic Times, 2022).

i. Paramparagat Krishi Vikas Yojana (PKVY)

The Paramparagat Krishi Vikas Yojana (PKVY) is a government initiative launched in 2015 to promote organic farming in India. It encourages farmers to adopt eco-friendly, low-cost technologies to produce chemical-free agricultural products. Under PKVY, groups of at least 50 farmers form clusters covering a minimum of 50 acres to collectively practice organic farming. Each cluster receives financial assistance totalling ₹50,000 per hectare over three years, supporting organic inputs, training, and certification.

The scheme utilizes the Participatory Guarantee System (PGS), a cost-effective, farmer-centric certification model based on mutual trust, involving producers and consumers in

the certification process. Funding for PKVY is shared between the Central and State Governments in a 60:40 ratio. For North-eastern and Himalayan States, the ratio is 90:10, and for Union Territories, the Central Government provides full assistance. The scheme aims to cover an additional 6, 00,000 hectares under organic farming by 2025-26. By promoting organic farming, PKVY seeks to reduce farmers' reliance on chemical fertilizers and pesticides, lower input costs, and produce healthier, chemical-free food for consumers. This approach benefits the environment and enhances the socio-economic status of farmers by linking them to better market opportunities.

ii. The National Programme for Organic Production (NPOP)

The Programme was initiated in 2001 by the Ministry of Commerce and Industry, Government of India, serves as a cornerstone in promoting organic agriculture across the country. Implemented by the Agricultural and Processed Food Products Export Development Authority (APEDA), NPOP establishes comprehensive standards for organic production, certification, and marketing, aligning Indian organic products with international benchmarks. A significant milestone in NPOP's timeline is the recognition of its standards and accreditation system by the European Commission and Switzerland for unprocessed plant products, underscoring the program's credibility and facilitating smoother export processes for Indian organic produce.

In the 2020-21 fiscal year, NPOP introduced the Large Area Certification (LAC) program, targeting traditional organic regions such as hills, islands, tribal areas, or desert belts with no history of GMO and agrochemical use. This initiative aims to transform these regions into certified organic production hubs, thereby expanding the organic farming landscape in India.

Despite these advancements, specific budget allocations for NPOP are not detailed in the available sources. However, the program's on-going efforts continue to bolster India's organic agriculture sector, benefiting farmers, consumers, and the environment alike.

iii. Zero Budget Natural Farming (ZBNF)

Zero Budget Natural Farming (ZBNF), developed by Subhash Palekar, is a cost-effective approach that encourages farmers to minimize financial inputs by using locally sourced organic materials. This method promotes the use of natural fertilizers, homemade pesticides, and soil-preserving techniques to maintain sustainable soil health without relying on costly chemical inputs. Key methods of ZBNF include:

- Jeevamrut: A microbial culture made from cow dung and urine to enhance soil fertility.
- Beejamrut: A seed treatment solution made with cow urine and herbs.
- Mulching: Retaining soil moisture through organic matter.
- Whapasa: Aerating the soil to reduce the need for irrigation.

ZBNF has gained momentum in states such as Andhra Pradesh and Karnataka. In June 2018, Andhra Pradesh launched an ambitious plan to transition 6 million farmers to 100% chemical-free agriculture by 2024, aiming to become India's first state to practice 100% natural farming. Similarly, Karnataka initiated ZBNF on a pilot basis, implementing it across 2,000 hectares in each of its 10 agro-climatic zones.

In November 2024, the Union Cabinet approved a new National Mission on Natural Farming (NMNF) with a budget allocation of ₹2,481 crore. This mission aims to promote natural farming practices on a national scale, targeting around 1 crore farmers by consolidating previous efforts in this direction. Additionally, the 2025-26 budget allocated ₹616 crore to the National Mission on Natural Farming, an increase from the previous year's allocation.

While ZBNF has demonstrated potential to reduce input costs and improve soil fertility, adoption remains limited in areas like Mizoram due to initial transition challenges and

uncertainties about long-term yield sustainability. Continued efforts in policy support, farmer education, and infrastructure development are essential to facilitate broader adoption across diverse regions.

iv. Jaivik Kheti Portal and Jaivik Bharat Certification

The Jaivik Kheti Portal is an online platform developed by the Government of India to facilitate direct transactions between organic farmers and buyers, eliminating intermediaries and promoting organic farming practices. Launched as part of the Paramparagat Krishi Vikas Yojana (PKVY), the portal serves as both a knowledge repository and a marketing platform, offering resources such as certification assistance, best practice information, and updates on government schemes. As of recent reports, over 623,000 farmers have registered on the platform, reflecting its significant reach and utility.

While specific budget allocations and timelines for the Jaivik Kheti Portal and the Jaivik Bharat logo are not distinctly outlined in public sources, these initiatives are integral components of broader government efforts to promote organic farming in India. For instance, the Production Linked Incentive Scheme for Food Processing Industry (PLISFPI), approved in March 2021 with a budget of ₹10,900 crore for implementation from 2021-22 to 2026-27, includes support for innovative and organic products.

The overall budget allocation for the Ministry of Agriculture & Farmers Welfare has seen substantial increases, from ₹27,662.67 crore in 2013-14 to ₹132,469.86 crore in 2024-25, indicating enhanced financial support for various agricultural initiatives, including organic farming. These initiatives, including the Jaivik Kheti Portal and the Jaivik Bharat logo, are part of the government's ongoing efforts to promote sustainable agricultural practices, support organic farmers, and provide consumers with authentic organic products.

1.6.2 Organic Farming in Mizoram: Policies, Schemes, and Impact

i. The Mizoram Organic Farming Act, 2004

The Mizoram Organic Farming Act, enacted in 2004, is a pivotal legislative measure aimed at advancing organic farming within the state. This act strives to create a supportive environment for sustainable agricultural development, with a focus on organic practices. It establishes a regulatory framework to guide organic farming activities, ensuring adherence to standards that improve food quality and safety. By setting these guidelines, the act encourages farmers to transition from conventional farming methods to more sustainable and environmentally friendly practices (Department of Agriculture, Mizoram, 2004).

Complementing this legislation, the state has introduced initiatives such as the Mission Organic Mizoram (MOM). MOM is designed to further promote organic agriculture by offering farmers training, access to organic inputs, and financial assistance. This initiative aims to increase the state's agricultural output while safeguarding Mizoram's unique biodiversity and ecosystem. Together, the act and these initiatives have contributed to a cultural shift toward organic farming, positioning Mizoram as a prominent leader in this sector within India (Bharati & Bhattacharya, 2020).

ii. Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) in Mizoram

The Mission Organic Value Chain Development for the North Eastern Region (MOVCD-NER) is a significant initiative introduced by the Government of India to boost organic agriculture in Mizoram, particularly across six key districts: Aizawl, Lunglei, Champhai, Kolasib, Serchhip, and Mamit. The mission aims to support farmers in shifting to organic farming by forming community-based organic clusters, which enable shared resource management, collective learning, and improved access to

inputs. Financial assistance is provided for organic seeds, fertilizers, and essential equipment, helping reduce the burden of transition costs. Moreover, MOVCD-NER emphasizes building strong market linkages to connect farmers with both domestic and international markets, ensuring better returns and sustainable livelihoods.

The scheme's implementation is structured around building robust organic value chains and empowering farmers through the creation of Farmer Producer Organizations (FPOs) and Farmers' Interest Groups (FIGs). These groups encourage collaboration, knowledge sharing, and collective enterprise development, strengthening farmers' capacities to adopt best practices and engage effectively with markets. Additionally, MOVCD-NER promotes specialization in crop-specific organic production to improve quality, yield, and marketability. Strategic partnerships with organic businesses further enhance market access and price stability, ultimately creating a more resilient and profitable organic farming ecosystem in Mizoram.

iii. Mission Organic Mizoram (MOM)

Recognizing the potential of organic farming to improve farmers' economic conditions, the Government of India has promoted organic farming through the Mission Organic Value Chain Development for the North Eastern Region (MOVCD-NER) under the National Mission on Sustainable Agriculture (NMSA) since 2015.

16. This initiative supports farmers within a value chain model, beginning with the formation of Farmer Producer Organizations (FPOs) and extending to on-farm and off-farm input production, seed and planting material supply, post-harvest infrastructure such as collection, sorting, grading facilities, integrated processing units, refrigerated transport, pre-cooling and cold storage chambers, as well as branding, labeling, and packaging (Department of Agriculture, Mizoram, 2016).

MOVCD-NER is implemented by State Governments at district and village levels, depending on farmers' interest, across the northeastern states, including Arunachal

Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, and Tripura, since 2015-16. In line with MOVCD-NER guidelines, Mizoram established the State Level Executive Committee (SLEC) on February 18, 2016. Following an SLEC meeting, the State Lead Agency, Mission Organic Mizoram (MOM), was formed on February 29, 2016. The agency is led by two officials from the Directorate of Agriculture, who serve as Mission Director (MD) and State Coordinator (SC), ensuring effective implementation of organic farming initiatives across Mizoram (Mizoram Department of Agriculture, 2016).

Table 2: Type of organic crops and their season

Main Crop	Description	Sowing Time	Harvesting Period	Total Area Covered	Expected Yield
Turmeric	Turmeric is an ideal crop for poor farmers due to its short gestation period and high market value. Mizoram produces some of the highest quality turmeric in India with high curcumin content (2.5%-5.5%). Popular varieties include RCT-I, local varieties, and Lakadong.	March to May	February to March	3,090 ha	5,500 MT

Ginger	Cultivated extensively in Mizoram, ginger is a high-demand culinary spice with high pungency and longevity. Mizoram's unique ginger varieties, Thingpui & Thinglaidum, have received a G.I. tag and are cultivated organically for export	March to May	January to March	2,242 ha	8,968 MT (fresh)
Mizo Chilli	Known for its extreme pungency and small size, Mizo Chilli has a G.I. tag and is highly suited for the snacks industry with a Scoville Heat Unit (SHU) of over 200,000. This chili variety is widely used as chutney, pickled, or as dried and ground flakes.	March to May	November to February	7,160 ha	57,280 quintals (fresh)

Tea	Darbilhi Orthodox Tea- is produced organically without chemical fertilizers or pesticides. The tea cultivation dates back to the 1920s in Darzo, Lunglei District. The varieties planted are of the China type,producing high- quality organic orthodox and green teas.		April to September	508 ha	400 qui tals (Org anic Tea)
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Source: The Mizoram statistical database

1.7 Agricultural Entrepreneurship

Agricultural entrepreneurship refers to the application of entrepreneurial principles to the agricultural sector, where farmers and agricultural producers act as business owners, seeking not only to produce food and other agricultural products but also to innovate and add value to their operations. The concept has gained significant attention in recent years as it has become clear that modern agriculture requires not just farming skills but also business acumen, innovation, and adaptability to market demands. Agricultural entrepreneurship represents a dynamic approach to farming, emphasizing the role of farmers as decision-makers who strategically align their operations with market opportunities and environmental sustainability.

According to De Lauwere (2005), agricultural entrepreneurship can be broken down into four distinct orientations: strategic orientation, social orientation, growth orientation, and

financial conservatism. These dimensions serve to characterize the entrepreneurial activities and mindset of farmers in their efforts to make farming more profitable, sustainable, and resilient in the face of changing economic, social, and environmental conditions.

1. **Strategic Orientation:** Farmers who exhibit strategic orientation are those who actively seek to align their agricultural activities with long-term goals and market trends. These entrepreneurs focus on identifying opportunities within the agricultural sector, such as expanding into organic farming, agro-tourism, or agro-processing. They also develop strategies to manage risks, such as fluctuating market prices, climate change, or pest infestations. Strategic orientation involves a willingness to innovate and adapt, whether through technological adoption, diversification of farm products, or expanding market reach through digital platforms.
2. **Social Orientation:** Agricultural entrepreneurs with a social orientation are those who prioritize their relationships with their community, customers, and stakeholders. They may engage in activities that promote community development, sustainable farming practices, or ethical treatment of workers and animals. Social orientation also involves a focus on building strong relationships within the supply chain and fostering a sense of social responsibility. These entrepreneurs often balance profit motives with a desire to make a positive impact on their local communities or contribute to broader social and environmental causes (Phelan et al., 2019).
3. **Growth Orientation:** Growth-oriented agricultural entrepreneurs aim to expand their operations and increase profitability. This may involve scaling up production, entering new markets, or investing in value-added products such as organic produce, processed goods, or branded agricultural products. Growth orientation is often driven by a desire for innovation and expansion, where

farmers seek to differentiate themselves in competitive markets by offering unique, high-quality, or specialized products. It reflects an ambition to achieve higher economic returns by leveraging entrepreneurial strategies and scaling farm activities beyond traditional practices (Alsos et al., 2011).

4. Financial Conservatism: In contrast to the growth orientation, financial conservatism emphasizes cautious financial management and risk aversion. Agricultural entrepreneurs with this orientation are more likely to focus on the preservation of financial stability rather than aggressive expansion. They prioritize managing costs, maintaining a steady income, and minimizing debt. These farmers may be more cautious in adopting new technologies or expanding their operations and instead focus on ensuring the sustainability and long-term viability of their farms through conservative financial strategies (De Lauwere, 2005).

Agricultural entrepreneurship is thus not a one-size-fits-all approach but rather a flexible and multifaceted framework. Farmers may exhibit varying levels of these orientations depending on their individual goals, market conditions, and the specific challenges they face. In modern agriculture, entrepreneurship involves not only improving productivity but also responding to evolving consumer demands, navigating environmental challenges, and contributing to rural development (Morris et al., 2017).

With the growing emphasis on sustainable practices and the increasing demand for organic and locally-sourced products, agricultural entrepreneurship has become a critical driver of innovation and economic development in rural areas. Entrepreneurs in the agricultural sector play a key role in transforming traditional farming into a modern, dynamic business that can adapt to global trends, create value-added products, and contribute to the economic resilience of rural communities (Clark et al., 2020).

1.7.1 Financial Impact

The transition to organic farming under the Mission Organic Value Chain Development for the North Eastern Region (MOVCD-NER) has generated substantial financial benefits for farmers in Mizoram, creating new income opportunities and improved market access.

1. **Higher Income from Premium Prices:** Organic farming has enabled farmers to achieve premium prices due to increased consumer preference for organic products. Certified organic goods typically sell for 20-30% more than conventionally grown products. Mizoram's organic turmeric and ginger, known for their high curcumin content, have accessed both domestic and international markets. With organic certification, farmers in Mizoram have entered high-demand markets like Europe and North America, where organic produce is valued for its quality. Consequently, farmers report notable income increases from the sale of these certified products, supported by rising export opportunities (Bhattacharya & Gupta, 2022).
2. **Formation of Farmer Producer Organizations (FPOs):** Establishing FPOs is a key component of MOVCD-NER's strategy to enhance farmers' financial standing. By organizing into groups, farmers gain collective bargaining power, enabling them to negotiate better prices and access larger markets. FPOs streamline resource procurement, such as seeds, fertilizers, and machinery, often at discounted rates through bulk purchases. In Mizoram, FPOs collaborate to secure organic certification and marketing agreements, reducing costs and expanding market reach. This collective effort allows farmers to benefit from economies of scale, which are essential for financial improvement (Reddy, 2021).
3. **Access to Financial Support:** Government schemes under MOVCD-NER offer essential financial assistance to farmers transitioning to organic farming. These initiatives provide subsidies of up to 75% for infrastructure development, such as

processing units, easing the financial burden of transitioning to organic methods. Additionally, financial support is available for certification, training, and post-harvest processing costs, reducing initial investment requirements and minimizing debt risk for farmers. This financial support enables Mizoram farmers to adopt organic farming practices with reduced financial exposure (National Mission on Sustainable Agriculture, 2010).

1.7.2 Market Linkages and Export Opportunities

The government's emphasis on post-harvest infrastructure and value addition for organic products has strengthened market linkages, primarily through initiatives like MOVCD-NER. This strategy has enabled farmers to produce high-quality organic products that meet the demands of both domestic and international markets.

1. **Infrastructure Development:** MOVCD-NER offers up to 75% subsidies for Farmer Producer Organizations (FPOs) to establish post-harvest processing units, such as sorting, packaging, and storage facilities. This infrastructure improves the handling and quality of organic products, extending shelf life and reducing spoilage, making produce more competitive in national and international markets. Enhanced processing facilities preserve product quality, appeal to quality-conscious consumers, and reduce wastage, supporting farmers in achieving premium pricing (Chakraborty & Bhowmik, 2022).
2. **Export Potential:** Organic certification under MOVCD-NER opens access to lucrative export markets, especially in Europe and North America, where demand for organic products is rising. Certification assures international buyers of adherence to stringent organic standards, boosting confidence in product quality and traceability. This expanded market access enables farmers in Mizoram and other northeastern states to sell products at competitive prices, raising income and enhancing the reputation of Indian organic produce on the global stage. Increased recognition and export opportunities significantly contribute to the

growth of Mizoram's organic farming sector (Mazumdar & Roy, 2025).

1.8 Challenges in Organic Agripreneurship in Mizoram

1.8.1 Financial and Institutional Barriers

Financial constraints are among the most significant challenges faced by agripreneurs in Mizoram, particularly in the organic sector, where expenses can be high due to costs associated with certification, maintenance, and scaling operations. Access to formal financial services remains limited, compelling many agripreneurs to depend primarily on personal or family funds, which may be insufficient for expanding their operations. Although financial institutions like Mizoram Rural Bank (MRB) and State Bank of India (SBI) offer some credit facilities, these are often difficult for small-scale agripreneurs to access due to strict eligibility criteria, the need for collateral, or high-interest rates (Bhattacharya & Gupta, 2022).

Alternative funding options, including grants and low-interest loans from NGOs and government programs, are available but remain underutilized due to barriers like limited awareness, eligibility requirements, and complex application processes. Additionally, financial literacy programs are sparse, which restricts many agripreneurs' capacity to make informed financial decisions, responsibly use loans, and expand their operations. This limitation hinders agripreneurs from investing in essential resources such as organic inputs, labor, or technology, thereby affecting the scalability and long-term viability of their ventures (Azam & Shaheen, 2019).

1.8.2 Logistics and Infrastructure

Mizoram's rugged, mountainous landscape presents significant logistical obstacles for agripreneurs, affecting transportation and market access. Many agripreneurs and farmers operate in remote areas where road infrastructure is either poorly maintained or non-existent, making it difficult to transport produce efficiently. The resulting high transportation costs and unreliable logistics systems increase both the time and

expense required to bring products to market, which adversely impacts profit margins and product quality—especially for organic produce, which requires fresher, high-quality delivery (Kumar et al., 2013).

Furthermore, cold storage and processing facilities, essential for preserving organic products, are limited. Although there are improvements near larger towns, rural areas still lack adequate infrastructure. Cold storage allows farmers to store perishable goods, extending shelf life and reducing post-harvest losses, but the high costs and maintenance requirements of these facilities limit accessibility for smaller farms. In addition, the lack of processing facilities compels many agripreneurs to sell raw produce at lower prices, preventing them from adding value through processing, which could yield higher returns. Addressing these issues would require infrastructure investment, cooperative transportation initiatives, and subsidies or partnerships for storage facilities, all of which would help alleviate these logistical challenges (Chakraborty & Bhowmik, 2022; Reddy, 2021).

1.9 Chapterization

Chapter 1: Introduction

This chapter introduces the research problem, providing a detailed background on the topic of agricultural entrepreneurship in Mizoram, specifically in the context of the organic farming scheme MOVCD-NER. This chapter focuses on the government policies and schemes that support agricultural entrepreneurship, with particular emphasis on the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) in Mizoram. It provides an overview of the historical and current interventions aimed at promoting organic farming and entrepreneurial activities. Additionally, it explores the roles of various government agencies, committees, and development schemes, analyzing their effectiveness in fostering a sustainable organic farming ecosystem and driving entrepreneurial growth among farmers.

Chapter 2: Review of Literature

The second chapter presents a comprehensive review of existing literature on agricultural entrepreneurship, organic farming, and value chain development. It synthesizes various studies, reports, and scholarly articles that provide insights into entrepreneurship traits, the impact of government schemes, and the challenges faced by farmers in adopting entrepreneurial approaches. By examining prior research, this chapter identifies gaps in the literature that the current study aims to address, establishing a strong theoretical foundation for the research.

Chapter 3: Research Methodology

This chapter outlines the objectives of the study, the research questions, and the hypotheses that guide the investigation. The chapter also includes the research design and methodology, detailing the data collection methods, the population sample, and the tools used for analysis. The primary focus is on understanding how organic farming schemes contribute to entrepreneurship in Mizoram, using a combination of qualitative and quantitative research methods.

Chapter 4: Data Analysis and Interpretation

In this chapter, the data collected from field surveys, interviews, and questionnaires are systematically analyzed using various statistical tools. The chapter interprets the findings from descriptive statistics, regression analysis, Mann-Whitney U tests, and qualitative content analysis. The goal is to assess the impact of organic farming on agricultural entrepreneurship in Mizoram, identify key entrepreneurial traits, and evaluate the challenges faced by farmers in the organic sector. The chapter provides a detailed interpretation of the results, linking them back to the research questions and hypotheses.

Chapter 5: Findings, Conclusions, and Suggestions

The final chapter summarizes the key findings of the research and draws conclusions based on the analysis. It answers the research questions, confirming or refuting the hypotheses related to entrepreneurial traits, the effectiveness of the MOVCD-NER Scheme, and the role of organic farming in entrepreneurship development. Based on these findings, the chapter offers recommendations for policy makers, entrepreneurs, and stakeholders to further strengthen agricultural entrepreneurship in Mizoram. It also outlines the study's limitations and suggests areas for future research.

CHAPTER - II
LITERATURE REVIEW

2.1 Organic Farming

2.1.1 Introduction to Organic Farming

Organic agriculture is one of the diverse methods of production that supports environmental sustainability. For many developing countries, agriculture is essential for economic development, playing a critical role in ensuring food security, reducing poverty, and preserving the natural resources vital for current and future generations' survival and well-being. As the world's population is expected to double by the mid-21st century—within just two generations—over 90% of people in developing nations, particularly in Asia, will increasingly reside in urban areas. This shift is likely to continue following the green revolution strategy (Rothschild, 1998).

Organic farming is an agricultural method that emphasizes ecological balance, soil fertility, and biodiversity conservation by using natural processes and inputs. Unlike conventional farming, which often relies on synthetic chemicals, fertilizers, and genetically modified organisms (GMOs), organic farming seeks to harmonize with the natural environment, avoiding artificial enhancements that may disrupt ecosystems. This method aligns with the principles of sustainability, recognizing that agricultural productivity must be compatible with the health of the surrounding ecosystem (IFOAM, 2019). The term “organic” thus signifies practices that use organic, living inputs to cultivate crops and raise animals, ensuring that agricultural systems remain sustainable and resilient over time (Lal, 2020).

The primary objective of organic farming extends beyond mere food production; it aims to create a self-sustaining, ecologically balanced agricultural environment. Organic farming integrates practices such as crop rotation, green manure, composting, and biological pest control to enhance soil health, minimize pest problems, and improve crop yields. Crop rotation, for instance, helps maintain soil fertility and prevent soil-borne diseases by varying the types of crops planted each season (Chandrakala, 2018). Green manure—planting cover crops that enrich the soil—is often used to naturally

fertilize and protect the soil from erosion. Similarly, composting organic waste materials, such as crop residues and animal manure, creates rich humus that improves soil structure, water retention, and nutrient availability. Biological pest control, where natural predators are encouraged to control pest populations, replaces synthetic pesticides and contributes to a balanced ecosystem (Altieri, 2018).

Organic farming not only benefits the local environment but also contributes to long-term sustainability by improving soil health, protecting biodiversity, and conserving water. By avoiding synthetic chemicals, organic practices help preserve soil quality and ensure its ability to support crops for years to come. Organic farms also tend to have more diverse plant and animal life, which strengthens ecosystems. This diversity plays a key role in natural pest control, pollination, and nutrient cycling, all of which are essential for maintaining healthy, sustainable food systems (IFOAM, 2020).

The key principle of organic farming is creating a closed nutrient cycle, where waste from one part of the farm is used as a resource elsewhere. This reduces the need for outside inputs and minimizes waste. For example, animal manure is used as natural fertilizer for crops, and crop residues are added back to the soil to improve its organic matter. This practice helps soil health by increasing nutrients, improving water retention, and preventing erosion (Pimentel et al., 2005). By reusing resources within the system, organic farming reduces reliance on chemical fertilizers, which can harm the environment.

Organic farming is increasingly seen as a climate-resilient practice that helps mitigate climate change by focusing on carbon sequestration in the soil. Unlike conventional farming, which relies on synthetic fertilizers and pesticides, organic farming emphasizes techniques such as crop rotation, cover cropping, and reduced tillage, all of which promote carbon storage, enhance soil fertility, and improve resilience to extreme weather events. These practices reduce greenhouse gas emissions and lower the overall carbon footprint of agriculture (IFOAM, 2020). Organic

farming also prioritizes soil health and environmental protection by avoiding genetically modified crops and using natural methods to provide nutrients, such as rotating legumes to increase nitrogen levels. Pest control is achieved through practices like rotating animals to fresh pastures and using natural remedies. This holistic approach not only conserves soil but also supports biodiversity, making organic farming a key solution in adapting to and mitigating climate change while ensuring sustainable agricultural practices.

Organic farming also addresses the growing consumer demand for food produced in environmentally friendly ways. As consumers become more aware of the environmental and health impacts of their food choices, demand for organic products has surged. Studies indicate that organic farming can meet this demand while also benefiting farmers by enabling them to sell their produce at premium prices. By participating in organic certification programs, farmers can access markets that reward sustainable practices, which in turn can improve their income and economic resilience (Clark et al., 2020).

While organic farming has many benefits, it also comes with challenges. It usually requires more labor and expertise than conventional farming, as farmers must manage soil health and pest control without synthetic chemicals. Additionally, organic yields may be lower in the short term, which can make the transition difficult for farmers. However, over time, organic practices can improve soil health, reduce pest problems, and lead to higher yields and lower costs (IFOAM, 2020). Organic farming takes a holistic approach, focusing on working with natural processes instead of relying on chemical solutions.

Another key component of organic farming is the certification process, which serves to guarantee that products labelled as organic meet specific standards. Certification typically involves an assessment of farming practices, including soil management, pest control, and animal welfare, to ensure they align with organic principles. This

certification process not only fosters transparency but also helps build consumer trust, as buyers can be confident that products labelled as organic are produced according to rigorous environmental and health standards (NPOP, 2021).

2.1.2 Organic Farming in India

Organic farming is deeply embedded in India's agricultural heritage, where traditional practices were largely organic for thousands of years. Ancient Indian farming relied on natural resources such as cow manure, green manure, crop rotation, and biological pest control, forming a self-sustaining, ecologically balanced system (Joben, 2019). However, the landscape of Indian agriculture dramatically shifted in the 1960s with the introduction of the Green Revolution. This movement aimed to increase food production through the widespread use of high-yield crop varieties, synthetic fertilizers, and chemical pesticides. While the Green Revolution successfully boosted crop yields and addressed food security concerns, it also led to significant environmental and health impacts. The excessive use of chemical inputs contributed to soil degradation, water contamination, and biodiversity loss, alongside health concerns from pesticide residues in food (John & Babu, 2021).

In the late 1990s, organic farming re-emerged as a response to the challenges posed by conventional agriculture. Farmers, researchers, and policymakers began recognizing the need for sustainable farming practices that would address soil health, environmental conservation, and food safety. The government, in collaboration with civil society organizations, initiated efforts to promote organic farming as a viable and sustainable alternative. In 2000, these efforts culminated in the launch of the National Program for Organic Production (NPOP), which set standards for organic certification, production, and trade in India. NPOP provided guidelines for organic farming certification, created a regulatory framework, and facilitated the growth of organic exports. The program marked a milestone in India's organic movement, making it easier for farmers to transition to organic practices while ensuring that their produce met global

standards (Government of India, 2020).

The National Program for Organic Production paved the way for increased awareness and adoption of organic farming practices. Over time, farmers have increasingly recognized the economic and environmental benefits of organic farming, leading to the establishment of organic farming clusters and cooperative models. These clusters enable small farmers to pool resources, share knowledge, and access markets, making organic farming a viable livelihood option. The support of the NPOP has also helped India establish itself in the global organic market, with Indian organic products gaining popularity in regions like Europe and North America due to their quality and certification (IFOAM, 2019).

A prominent success story in Indian organic farming is Sikkim, which in 2003 became the first state in India to adopt a fully organic approach. By banning chemical fertilizers and pesticides, Sikkim paved the way for a large-scale transformation that benefited thousands of farmers, boosted rural incomes, and preserved the region's unique biodiversity. This achievement not only positioned Sikkim as a pioneer in organic agriculture but also gained international recognition as a model of sustainable development. The state's transition to organic farming resulted in healthier soils, cleaner water, and improved resilience against climate change impacts. Additionally, Sikkim's organic products have gained a premium position in both national and international markets, contributing to the state's economic growth (IFOAM, 2019).

Following Sikkim's success, other states, particularly in India's north-eastern region, have also embraced organic farming. States like Mizoram, Arunachal Pradesh, and Meghalaya have shown considerable progress in transitioning to organic agriculture, supported by both state and central government initiatives. The Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER), launched by the Ministry of Agriculture & Farmers Welfare, has played a crucial role in

promoting organic farming in these areas. The MOVCD-NER program provides financial and technical support to farmers, enabling them to adopt organic practices, form farmer producer organizations, and access better market opportunities. This initiative has encouraged thousands of farmers to move away from fochemical-intensive farming, contributing to the ecological health of the region while increasing farmers' incomes (Ministry of Agriculture & Farmers Welfare, 2021).

The success of organic farming in India, however, extends beyond the north-eastern states. Other states such as Kerala, Rajasthan, and Uttarakhand have implemented policies that support organic agriculture through subsidies, training programs, and market linkages. For instance, Kerala has focused on promoting organic spices and coffee, while Uttarakhand has invested in organic produce as part of its rural development strategy. Rajasthan, with its organic farming policy, has aimed to promote desert-friendly organic crops, leveraging the unique climatic conditions of the region to produce high-quality organic products.

In addition to government initiatives, various non-governmental organizations (NGOs) and private sector players have also contributed to the organic movement in India. NGOs such as Navdanya, founded by Dr. Vandana Shiva, have been instrumental in promoting organic farming, seed conservation, and sustainable agriculture. Navdanya's programs focus on empowering farmers with knowledge about agro-ecology and biodiversity conservation, emphasizing the importance of preserving traditional farming practices that are naturally organic. Private sector involvement has further accelerated the organic sector's growth, with companies supporting farmers in obtaining organic certification, developing value-added products, and connecting with markets that value sustainably produced goods.

Furthermore, India has become one of the largest exporters of organic products, with organic food items like tea, coffee, spices, and cotton reaching international markets. The demand for organic products is driven by both domestic and international

consumers who seek safe and environmentally friendly products. The Jaivik Bharat certification mark, introduced by the Food Safety and Standards Authority of India (FSSAI), further enhances consumer confidence by assuring the authenticity and quality of organic products. This branding, along with India's rigorous certification standards, has positioned Indian organic products as competitive and reliable in the global marketplace (Government of India, 2020).

Despite the progress, organic farming in India faces several challenges. Small farmers, who form the majority of India's agricultural workforce, often struggle with the initial costs of transitioning to organic practices, including expenses related to certification, organic inputs, and training. Although government subsidies and support programs exist, limited access to information and financial resources can prevent small farmers from fully benefiting from these schemes. Additionally, the lack of infrastructure, such as cold storage and processing facilities, poses logistical challenges for organic farmers, particularly those in remote areas. The absence of a robust supply chain for organic products often results in post-harvest losses and limits market access.

In conclusion, organic farming in India has witnessed significant growth, shaped by the country's rich agricultural heritage and modern policy interventions. Government programs, like the NPOP and MOVCD-NER, have provided crucial support to farmers and positioned India as a key player in the global organic market. The success of states like Sikkim and the northeast region highlights the potential for organic farming to contribute to sustainable rural development, environmental conservation, and economic growth. While challenges remain, the ongoing efforts by the government, NGOs, and the private sector are helping to build a resilient organic farming sector that aligns with India's commitment to sustainable development and food security.

2.1.3 Organic Farming in Mizoram

Mizoram's journey toward organic farming began in the mid-1990s, driven by recognition of the environmental and economic benefits of sustainable agriculture. The state's first formal foray into organic farming took place in 1996 with the Organic Farming Project in Lungmuat village. This project focused on contour trench farming—a technique that helps prevent soil erosion on hilly terrain—highlighting Mizoram's unique ecological challenges and the suitability of organic practices to address them. The success of the Lungmuat project increased interest in organic farming across Mizoram, showing that sustainable agricultural methods could be effectively adapted to the region's geography and soil conditions (Economic Survey of Mizoram, 2020).

In 2004, building on this momentum, the Mizoram government passed the Mizoram Organic Farming Bill, a landmark legislation aiming to transform Mizoram into a fully organic state. The bill laid the groundwork for a shift towards organic practices by providing a regulatory framework for sustainable agriculture, promoting the use of natural inputs, and reducing dependency on synthetic fertilizers and pesticides. However, progress in implementing organic farming statewide was initially slow due to limited financial and institutional resources, along with a lack of technical support for farmers. The high costs associated with organic certification, training, and market access posed significant barriers, especially for smallholder farmers who often operate on limited budgets (Economic Survey of Mizoram, 2020). The state's organic farming efforts gained new momentum in 2016 with the launch of the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER), an initiative led by the Ministry of Agriculture and Farmers Welfare. MOVCD-NER provided comprehensive support to farmers interested in transitioning to organic farming. The scheme focused on key areas such as organic certification, value chain development, and market access, addressing the critical challenges that had previously slowed the expansion of organic farming in Mizoram. Through MOVCD-NER, farmers received

financial assistance for organic inputs and were connected with training resources to learn about organic techniques suitable for the region's unique agro-climatic conditions (Mission Organic Mizoram, 2020).

A significant component of MOVCD-NER in Mizoram has been the establishment of Farmer Interest Groups (FIGs) and Farmer Producer Organizations (FPOs), which help small farmers pool their resources and enhance their collective bargaining power. These groups have facilitated the establishment of organic production clusters, enabling farmers to access markets more efficiently and secure better prices for their produce. By organizing farmers into clusters, MOVCD-NER has allowed for better management of resources, coordinated training sessions, and more streamlined access to certification services. This cluster-based model has proven effective, particularly in Mizoram's hilly terrain, where collective farming efforts can improve efficiency and sustainability (Mission Organic Mizoram, 2020). As of 2019, over 7,000 hectares of land in Mizoram had been converted to organic farming under MOVCD-NER, accounting for approximately 4% of the state's total cultivated land. The state government has set ambitious goals for expanding this figure, aiming to reach 14,000 hectares by 2021. This target underscores Mizoram's commitment to organic agriculture, with an increasing number of farmers transitioning from conventional to organic methods. The state's focus on organic farming aligns with its broader environmental goals, as Mizoram seeks to preserve its biodiversity, improve soil health, and reduce chemical pollution through sustainable practices (Economic Survey of Mizoram, 2020).

Mizoram's organic farming practices are particularly notable for their focus on high-value crops that are well-suited to the region's agro-climatic conditions. Key organic crops in Mizoram include ginger, turmeric, passion fruit, and oranges, all of which have strong market demand domestically and internationally. These crops are not only economically valuable but also ecologically compatible with Mizoram's hilly, forested landscape. By focusing on these high-value crops, Mizoram's organic farming

strategy aims to increase farmer incomes while promoting biodiversity and soil conservation (Mission Organic Mizoram, 2020).

The impact of organic farming in Mizoram's rural economy has been significant. Farmers participating in organic farming schemes have reported higher income levels due to the premium prices that certified organic products command in the market. Additionally, organic farming has reduced farmers' dependency on costly synthetic inputs, resulting in lower input costs and improved financial resilience. With support from MOVCD-NER, farmers in Mizoram have gained access to better storage and processing facilities, which help reduce post-harvest losses and ensure that organic products maintain their quality and freshness for extended periods (Ministry of Agriculture & Farmers Welfare, 2021).

The government of Mizoram has also recognized the tourism potential associated with organic agriculture. As an ecologically rich region, Mizoram attracts eco-tourists who are interested in sustainable and organic practices. The state's emphasis on organic farming aligns well with its eco-tourism initiatives, creating opportunities for agri-tourism activities that can further boost local incomes. Tourists visiting Mizoram can explore organic farms, participate in farm activities, and learn about the sustainable practices that form the backbone of Mizoram's agricultural system. This integration of organic farming with eco-tourism has the potential to diversify rural income streams and strengthen the overall rural economy (Economic Survey of Mizoram, 2020).

However, the path to a fully organic Mizoram is not without challenges. The high costs associated with organic certification, lack of advanced infrastructure, and limited access to national and international markets remain significant obstacles. Certification costs can be prohibitive for small farmers, many of whom operate on limited budgets. Additionally, the absence of cold storage facilities and efficient transportation networks can lead to post-harvest losses, which affect the profitability of organic farming. To address these issues, the Mizoram government has proposed

further investments in rural infrastructure, including the development of cold storage units and better transportation facilities to help farmers maintain product quality and reach markets effectively (Mission Organic Mizoram, 2020).

In conclusion, Mizoram's commitment to organic farming is a testament to its dedication to sustainable agriculture and environmental preservation. Through the successful implementation of policies like the Mizoram Organic Farming Bill and schemes such as MOVCD-NER, the state has laid a strong foundation for organic agriculture. By continuing to expand organic farming practices, Mizoram can improve rural livelihoods, preserve its natural resources, and serve as a model for sustainable agriculture in other regions. With on-going support from the government and continued investment in infrastructure and market development, Mizoram has the potential to fully realize its goal of becoming a leading organic state in India.

2.1.4. Challenges and Opportunities in Organic Farming

Organic farming presents a range of challenges, particularly for smallholder farmers in developing regions such as Mizoram. One of the most significant challenges is the high cost of transitioning to organic farming, which often requires investments in certification, specialized inputs, and new farming techniques (Nelson et al., 2019). Additionally, organic farmers may face difficulties in accessing markets, as organic produce is often sold at premium prices, but farmers need established market linkages to realize these prices (Cheng & Tian, 2017). Despite these challenges, organic farming offers numerous opportunities, particularly in the area of value-added processing and export. Organic products are in high demand in international markets, and India has become a major exporter of organic spices, tea, and cotton (IFOAM, 2020). In Mizoram, organic farming offers the potential to develop new markets for high-value crops such as ginger, turmeric, and vegetables, particularly in the North-Eastern region where organic farming is gaining traction.

2.1.5 Impact of Organic Farming on Rural Economies

The impact of organic farming on rural economies can be transformative, particularly when implemented through value chain models that enable farmers to capture greater value from their produce. Organic farming contributes to environmental sustainability by reducing dependence on synthetic inputs and enhancing soil health, leading to long-term productivity gains. Additionally, organic farming promotes rural development by creating employment opportunities in sectors like processing, marketing, and distribution. This is particularly effective when small farmers organize into cooperatives or Farmer Producer Organizations (FPOs), which allow them to pool resources, access better markets, and secure more favourable prices (IFOAM, 2020).

In Mizoram, the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) scheme has highlighted the potential of organic farming to improve livelihoods for smallholder farmers. Through this scheme, FPOs have been established to support farmers with market access, certification, and resource sharing, which has led to increased incomes and enhanced economic stability in rural areas. The scheme has also enabled farmers to gain training in organic practices, which has improved product quality and allowed them to tap into niche markets that offer premium prices for certified organic products. As a result, organic farming in Mizoram not only sustains the environment but also enhances rural prosperity and resilience (Economic Survey of Mizoram, 2020).

2.1.6 Sustainability and Organic Farming

Sustainability is a core principle of organic farming, which aims to balance environmental health, economic profitability, and social equity. It promotes the use of renewable resources, enhances soil fertility, and fosters biological diversity through techniques such as crop rotation, intercropping, and the application of organic manure. These practices contribute to improved soil health and reduced

dependency on external inputs, making organic farming an environmentally friendly approach, particularly suited to fragile ecosystems like the hilly regions of Mizoram (Lal, 2020).

The regenerative nature of organic farming enhances soil fertility, contributing to the long-term sustainability of agricultural systems. Organic farming methods increase soil organic matter, prevent erosion, and improve water retention, which are essential for maintaining productivity over time. Soil carbon sequestration—a benefit of organic farming—is critical for mitigating climate change as it helps remove atmospheric carbon and stores it in the soil. This practice not only improves soil health but also reduces greenhouse gas emissions, underscoring organic farming's role in climate resilience (IFOAM, 2020; Lal, 2020).

Organic farming also promotes economic and social sustainability. Unlike industrial farming, which often focuses on scale and efficiency, organic farms tend to operate on a smaller scale, prioritizing quality over quantity. This allows organic farmers to adapt more readily to market demands and access niche markets where they can sell at premium prices, thereby securing better economic returns (IFOAM, 2019). Social sustainability is another benefit of organic farming, as it emphasizes community engagement, fair labor practices, and the development of local food systems. By fostering community-oriented and inclusive practices, organic farming contributes to rural social cohesion and strengthens local economies (Altieri, 2018).

The case of Mizoram illustrates how organic farming can support sustainable rural development. By participating in the MOVCD-NER scheme, farmers in Mizoram have adopted sustainable agricultural practices that improve their economic resilience. The scheme's emphasis on value-added production and branding has enabled farmers to enhance the value of their produce, while government support has facilitated the creation of supply chains that connect farmers to broader markets. As a result, Mizoram's organic farming initiatives not only promote ecological sustainability

but also support economic growth and social well-being in rural areas (Mission Organic Mizoram, 2020).

2.1.7 Challenges in Scaling Organic Farming

Although organic farming has many benefits, the shift from conventional methods to organic practices can be challenging. One major obstacle is the cost of organic certification, which is needed to label products as "organic." The certification process is strict and expensive, requiring farmers to meet specific standards, document their farming practices, and undergo regular audits. This can be difficult for small farmers who may not have the resources to cover these costs or keep the necessary records (Chandrakala, 2018; IFOAM, 2020).

In Mizoram, as in many other regions, the infrastructure necessary to support organic farming is underdeveloped. Farmers often face limited access to essential organic inputs like seeds, compost, and natural pest control products. Furthermore, there is a scarcity of processing and packaging facilities for organic produce, which hinders farmers' ability to add value to their products and extends shelf life. This lack of infrastructure, combined with the high transportation costs in hilly areas, increases the difficulty of reaching distant markets and maintaining product quality (Mission Organic Mizoram, 2020).

Another significant challenge is market access. Organic farmers must compete with conventional farmers who can produce food at lower costs due to the use of synthetic chemicals and economies of scale in industrial farming. Organic products are typically priced higher, which can be a barrier in local markets where consumers may not be willing or able to pay premium prices. The lack of effective marketing and branding support for organic products also limits the ability of organic farmers to differentiate their products and capture market value. Without strategic marketing initiatives, many organic farmers struggle to reach consumers who would be willing to pay for certified organic produce (Nelson et al., 2019).

In Mizoram, the MOVCD-NER scheme has made progress in addressing these challenges by providing resources and support to farmers transitioning to organic farming. The scheme's focus on value chain development—including post-harvest infrastructure, branding, and marketing support—has helped farmers enhance market access and increase their profitability. Investments in cold storage facilities and training programs on packaging and branding have also allowed farmers to reduce post-harvest losses and meet quality standards. However, additional efforts are necessary to make organic farming accessible to all farmers and to maximize the benefits of organic certification and market opportunities (Ministry of Agriculture & Farmers Welfare, 2021).

2.2 Entrepreneurship

2.2.1 Introduction to Entrepreneurship

Entrepreneurship is a dynamic and multifaceted process through which individuals identify, create, and exploit opportunities to introduce new products or services into the market, with objectives that range from generating profit to achieving social impact (Shane & Venkataraman, 2000). Entrepreneurs play a vital role in economic growth, driving innovation, job creation, and social development. Through the establishment of new businesses, they contribute to competition, stimulate technological advancement, and ultimately enhance societal well-being. Their role as catalysts in the economy is crucial, as they not only develop innovative solutions but also often lead the charge in transforming industries and creating new markets (Hisrich, Peters, & Shepherd, 2017).

The concept of entrepreneurship has evolved significantly over time. Initially, it focused primarily on profit generation, but it has since broadened to encompass the creation of social and environmental value (Drucker, 1985). This evolution reflects an increasing awareness of the diverse roles that entrepreneurs can play in addressing complex global challenges, such as developing sustainable business models and creating solutions for pressing social issues through innovative approaches. Today, entrepreneurship spans a

spectrum of activities, from traditional commercial ventures to social enterprises focused on community and environmental improvement (Zahra et al., 2009).

Entrepreneurship is often described in varied terms depending on the discipline. Onuoha (2007) defines it as the process of creating new organizations or revitalizing existing ones, driven by an ability to recognize and seize opportunities. Economists view entrepreneurs as individuals who combine resources—labour, materials, and capital—in ways that increase their value, often introducing innovations that drive economic growth and industry transformation. From a psychological perspective, entrepreneurs are motivated by a strong need for achievement, experimentation, and competition. In the business context, they may be viewed as collaborators or competitors who enhance resource efficiency, generate employment, and contribute to wealth creation (Vesper, 1980).

Ronstadt (1984) characterizes entrepreneurship as a dynamic process of wealth creation, where individuals take significant risks in terms of equity, time, or career, with the goal of adding value through new products or services. This value may arise from creating something entirely new or by optimizing existing resources. Such activities often involve substantial uncertainty and risk, which entrepreneurs are uniquely equipped to navigate due to their willingness to make bold decisions and pursue untested paths.

Entrepreneurs are frequently distinguished by their capacity to recognize opportunities, innovate, and take calculated risks in uncertain environments. These traits set them apart from managers or business owners, who may focus more on maintaining and optimizing current operations than on exploring new opportunities and driving change. This distinction highlights a critical difference between entrepreneurship and business management: while the latter emphasizes stability and efficiency, the former thrives on dynamism and the pursuit of new possibilities (McClelland, 1961; Stevenson & Jarillo, 1990). As Schumpeter (1934) famously noted, entrepreneurship is not just about business creation; it also involves strategic transformation, or “creative

destruction,” where entrepreneurs dismantle outdated systems and practices to introduce new, competitive innovations.

In recent decades, research has increasingly examined the personal traits and characteristics that influence entrepreneurial intentions and behaviours. This area of study seeks to understand why certain individuals are more likely to become entrepreneurs than others, focusing on traits such as self-efficacy, risk tolerance, and the need for achievement. Self-efficacy, or an individual’s belief in their ability to succeed, is often cited as a driving force behind entrepreneurial pursuits. High self-efficacy can inspire individuals to undertake challenging projects, even in the face of uncertainty. Similarly, the need for achievement—a desire to accomplish goals and measure oneself against high standards—is a common characteristic among entrepreneurs. This need pushes them to constantly strive for improvement, whether by innovating in product development or by optimizing operational processes (Koe Hwee Nga & Shamuganathan, 2010).

Risk tolerance is another critical trait often associated with entrepreneurs. Unlike individuals who prefer security and predictability, entrepreneurs are generally more willing to navigate uncertain environments and make decisions with incomplete information. This tolerance for risk allows them to capitalize on opportunities that others might avoid, often leading to significant rewards in the form of business growth and financial success. By studying these traits, researchers have gained insights into the psychological and behavioural aspects of entrepreneurship, which in turn help inform policies and programs aimed at fostering entrepreneurial activity (GEM, 2020).

The importance of understanding entrepreneurial traits extends beyond academic interest; it has practical implications for policy development and economic growth. By identifying the characteristics that drive entrepreneurship, governments and institutions can create targeted initiatives to support budding entrepreneurs, particularly in emerging economies where entrepreneurial activities can spur socio-economic

development. Programs focused on enhancing self-efficacy, providing risk management training, and fostering a culture of innovation can help equip individuals with the skills and confidence needed to pursue entrepreneurial ventures. This is especially relevant in regions with high unemployment or limited economic opportunities, where entrepreneurship can serve as a pathway to economic empowerment and social mobility.

2.2.2 Entrepreneurial Traits in Social Entrepreneurship

Building on previous research linking personality traits to entrepreneurial behaviour, Koe Hwee Nga and Shamuganathan (2010) explored the specific personality traits that are particularly influential in social entrepreneurship. They identified five critical traits—empathy, moral judgment, self-efficacy, social responsibility, and the need for achievement—that significantly shape the intentions of social entrepreneurs. Unlike traditional entrepreneurs, who may focus solely on profit maximization, social entrepreneurs aim to address societal issues through sustainable business models, requiring a unique combination of traits that support both business acumen and a deep commitment to social impact. In psychology, personality is defined as a set of consistent behavioural patterns and psychological traits that shape how individuals respond to their environment. Notable theories of personality, such as those presented by Allport and expanded by Burger (2006), emphasize that personality traits influence one's motivation, behaviour, and decision-making processes (Robbins & Judge, 2012). The Big Five Personality Model, developed by Costa and McCrae (1985), categorizes personality into five core dimensions: neuroticism, extraversion, openness, conscientiousness, and agreeableness. These dimensions help us understand how individuals, including social entrepreneurs, respond to challenges and opportunities, particularly when dealing with complex social issues.

Neuroticism, which involves emotional stability, is an essential trait for social entrepreneurs who often face volatile, high-stress situations. Lower levels of neuroticism help social entrepreneurs manage stress, enabling them to remain resilient and

focused on their mission despite setbacks (Burger, 2006). Emotional stability is especially important in social entrepreneurship, where resources are often scarce, and the problems being addressed are complex and deeply rooted.

Extraversion, characterized by sociability, assertiveness, and enthusiasm, is beneficial for entrepreneurs who need to build networks, inspire teams, and engage stakeholders. Social entrepreneurs, in particular, benefit from extraversion, as they often work closely with community members, donors, and other stakeholders. The ability to engage and communicate effectively is critical for building trust and securing support, which are vital for sustaining social ventures (Costa & McCrae, 1992; Caliendo & Kritikos, 2008).

Openness to experience reflects creativity, a preference for novelty, and a willingness to take risks. This trait is particularly relevant for social entrepreneurs who need to identify innovative solutions for social issues. Openness drives creativity and adaptability, enabling social entrepreneurs to think outside the box and develop solutions that may not align with conventional business practices. However, while openness supports innovation, it can sometimes conflict with the patience and persistence required for long-term results in social impact projects, where change is often gradual (Burger, 2006; Costa & McCrae, 1997).

Conscientiousness, associated with discipline, responsibility, and organization, is essential for achieving long-term goals. Social entrepreneurs who score high in conscientiousness are likely to be methodical, reliable, and goal-oriented, attributes that are vital for the sustainability of their ventures. However, conscientiousness may sometimes inhibit the pursuit of high-risk ventures like social entrepreneurship, especially in cultures where stability is prioritized over innovation (Ciaverella et al., 2004; Hisrich, 2013). Nevertheless, in social entrepreneurship, conscientiousness aids in ensuring that projects are well-planned and that resources are used effectively. Agreeableness, defined by empathy, cooperation, and trustworthiness, is especially

critical for social entrepreneurs who work closely with communities and other stakeholders. Social entrepreneurs often rely on partnerships and collaborations to achieve their goals, making the ability to build trust and cooperate with others indispensable. Agreeableness enables social entrepreneurs to create strong, trusting relationships, fostering an environment of collaboration that is essential for social impact (Caliendo & Kritikos, 2008; Basim et al., 2009).

These traits, identified in the Big Five model, provide a broad framework for understanding how social entrepreneurs handle challenges, develop relationships, and create sustainable impact. However, the specific traits identified by Koe Hwee Nga and Shamuganathan (2010)—empathy, moral judgment, self-efficacy, social responsibility, and the need for achievement—offer additional insights that are especially relevant in the context of social entrepreneurship.

Empathy is a cornerstone of social entrepreneurship, as it enables social entrepreneurs to understand and respond effectively to the needs of their beneficiaries. Empathy fosters solutions that are more aligned with community needs, enhancing the relevance and impact of social ventures. It allows social entrepreneurs to adopt a beneficiary-centered approach, which is essential for addressing social issues in a manner that is sensitive and inclusive (Koe Hwee Nga & Shamuganathan, 2010).

Moral judgment guides social entrepreneurs in making ethical decisions, a necessity when navigating the challenges inherent in social ventures. Social entrepreneurs often face ethical dilemmas that require them to balance competing interests or make decisions that have far-reaching implications for communities. Moral judgment ensures that their actions align with ethical principles and that their ventures contribute positively to society, even if it means sacrificing potential profits or taking a more challenging path. Self-efficacy, or the belief in one's ability to succeed, is another essential trait. High self-efficacy empowers social entrepreneurs to persist in the face of

adversity, remaining committed to their mission even when resources are limited, or obstacles are significant. This sense of personal agency motivates social entrepreneurs to push through difficulties and continue striving toward their goals, knowing that their efforts can lead to meaningful change (Koe Hwee Nga & Shamuganathan, 2010).

Social responsibility reflects a deep commitment to contributing positively to society, often motivating social entrepreneurs to prioritize social impact over personal gain. Social entrepreneurs driven by a strong sense of social responsibility are more likely to focus on creating long-lasting, positive change rather than merely achieving short-term success. This commitment to societal welfare distinguishes social entrepreneurs from conventional entrepreneurs, as their ventures are primarily oriented toward addressing social and environmental needs.

The need for achievement is also significant for social entrepreneurs, as it drives them to set ambitious goals and measure their success against high standards. This trait fuels their determination to not only establish their ventures but also to ensure that they create tangible, positive outcomes for the communities they serve. The need for achievement keeps social entrepreneurs focused on continuous improvement, whether through expanding the reach of their projects, increasing impact, or innovating new solutions to address emerging issues.

Koe Hwee Nga and Shamuganathan's (2010) findings on these traits have been further validated by studies, such as those conducted by Mair and Martí (2006), which confirm that traits like empathy, moral judgment, and social responsibility are essential for the resilience and success of social enterprises. These studies demonstrate that social entrepreneurs' unique combination of personal traits enables them to create ventures that not only address social issues but also sustain themselves over time. By fostering empathy, ethical standards, self-belief, and a strong drive for social good, these traits position social entrepreneurs to navigate the complexities of the social sector effectively and to maximize their impact.

2.2.3 Entrepreneurship in Agriculture

Entrepreneurship has historically played an essential yet underappreciated role in agriculture. Often perceived as a unique sector due to its complex market regulations and distinct economic characteristics, agriculture has seen limited interaction with traditional fields of entrepreneurship, agricultural economics, and rural sociology. However, recent shifts driven by policy liberalization, evolving consumer demand, and technological advancements have brought to light the need to apply entrepreneurial theories to agriculture, focusing on farmers' attitudes and adaptive strategies (Shucksmith & Herrmann, 2002). Studies have criticized a narrow 'post-productivity' focus, advocating for a broader understanding of entrepreneurship to improve rural household strategies and economic resilience (Evans et al., 2002). In recent years, agricultural entrepreneurship has gained attention as farmers increasingly adopt innovative, market-oriented, and value-added practices. Modern agricultural entrepreneurs are recognized for their ability to identify and leverage opportunities within the sector, managing risks effectively while adapting to evolving market demands (Clark et al., 2020). This shift from conventional farming to a more entrepreneurial approach has been transformative for rural economies, contributing to higher incomes, diversified production, and improved market access, particularly for smallholders who have traditionally been marginalized in the global supply chain. De Lauwere (2005) provides a useful framework for understanding agricultural entrepreneurship, identifying four primary orientations: strategic, social, growth, and financial conservatism. Each orientation reflects different entrepreneurial approaches within farming:

1. Strategic orientation involves aligning farming activities with long-term objectives and market trends, such as shifting to high-demand crops or organic production, to ensure sustained profitability.
2. Social orientation emphasizes the role of community relationships, networks, and

supply chains in farm operations, supporting resilience through collective engagement and resource sharing.

3. Growth orientation is driven by the desire to scale production and access new markets, pushing farmers to expand their business and explore value-added products.
4. Financial conservatism highlights a more cautious approach, focusing on prudent financial management, risk minimization, and maintaining financial stability even if it means slower growth.

These orientations illustrate the diversity of entrepreneurial approaches in agriculture, reflecting a blend of business acumen, adaptability, and agricultural expertise that allows farmers to thrive amid changing economic conditions (De Lauwere, 2005).

In the context of organic farming, entrepreneurial farmers often take proactive steps to enhance the value of their products. They may seek certification, engage in branding efforts, or adopt eco-friendly practices that appeal to environmentally conscious consumers. This not only differentiates their products in competitive markets but also aligns with broader sustainability goals, as organic practices contribute to environmental stewardship and support for biodiversity (Altieri, 2018). Through these methods, agricultural entrepreneurs have begun to transform farming from a low-margin, high-risk activity into a dynamic sector where strategic innovation drives both profitability and sustainability.

2.2.4 Agricultural Entrepreneurship in Mizoram

Mizoram has experienced a growing focus on entrepreneurship in the agricultural sector, particularly through government initiatives aimed at fostering economic self-sufficiency. A landmark initiative, the Entrepreneurship Development Scheme (EDS), was launched in 2017 to create a favorable environment for new ventures, especially in

agriculture, food processing, and handicrafts (Mizoram Planning Board, 2020). This scheme provides financial assistance, access to training, and market linkages, addressing critical gaps that have traditionally limited entrepreneurship in Mizoram's rural areas.

Historically, Mizoram's economic data reflects a steady shift towards entrepreneurial activities. The 4th Economic Census in 1998 reported 24,943 enterprises, with 1,744 in agriculture (excluding crop production and plantations) and 23,199 in non-agricultural sectors. Employment figures indicated that 77,457 people were employed, with 71.1% as hired workers and 70.3% in urban areas. Despite this, the contribution of industry to employment was minimal, with the agricultural sector accounting for about 16% of the state's total workforce of 467,159 (Economic Survey of Mizoram, 2020). By the 5th Economic Census in 2005, the number of enterprises in Mizoram had nearly doubled to 47,378, representing a robust annual growth rate of 9.6% from 1998 to 2005. Agricultural enterprises, excluding production and plantations, comprised about 29% of this total, with employment rising to 106,706 individuals. Notably, agricultural enterprises saw a substantial annual growth rate of 24% in employment, compared to a 3.3% growth rate for non-agricultural enterprises. Although these activities accounted for less than 25% of the workforce, the increase underscores the potential of agricultural entrepreneurship as a significant driver of economic growth in Mizoram.

Two notable programs under the EDS—Mizoram Rahbi and Mizoram Kailawn—have played a pivotal role in promoting agricultural entrepreneurship in the region. Mizoram Rahbi, a micro-startup capital competition, provides initial seed funding to entrepreneurs, enabling them to launch their ventures with reduced financial risk. Meanwhile, Mizoram Kailawn operates as a business plan competition that supports entrepreneurs by refining their business ideas, offering mentorship, and connecting them with funding sources (Planning and Programme Implementation Department, 2021). These programs have nurtured innovation and entrepreneurial spirit within the agricultural community, encouraging farmers to transition from subsistence farming to market-oriented production.

Mizoram's approach to fostering agricultural entrepreneurship is also evident in its focus on value chain development and product diversification. By supporting farmers in gaining access to resources, certifications, and branding assistance, the EDS has enabled them to increase the value of their products and reach broader markets. This focus on market linkage has allowed farmers to move beyond local sales and explore higher-value urban and even export markets. Such efforts are particularly beneficial in sectors like organic farming, where Mizoram's natural environment aligns well with eco-friendly practices and appeals to health-conscious consumers.

The Mizoram government's emphasis on agricultural entrepreneurship aligns with a broader trend observed worldwide, where integrating business principles into farming is increasingly seen as essential for achieving sustainable growth. As Clark et al. (2020) observe, modern agricultural entrepreneurs are characterized by their ability to innovate, adapt to market demands, and manage risks effectively. Mizoram's efforts to cultivate these traits among its farmers represent a strategic investment in the state's agricultural potential, supporting not only economic development but also social stability in rural communities.

Through initiatives like the EDS, Mizoram is working to harness the entrepreneurial traits that drive success in agriculture, such as risk-taking, innovation, and market orientation. By focusing on these attributes, Mizoram aims to build a resilient agricultural sector capable of adapting to changing market conditions and capitalizing on emerging opportunities. These efforts align with global trends towards agricultural entrepreneurship, where the integration of business principles into farming practices is seen as critical for both economic and environmental sustainability. The Mizoram model demonstrates how rural economies can be revitalized through targeted policies that empower farmers to think and act as entrepreneurs, ultimately leading to a more resilient and diversified agricultural sector.

2.3. Research Gap

Despite growing academic and policy interest in both organic farming and entrepreneurship as tools for sustainable rural development, the interconnection between government-led organic farming schemes and entrepreneurship development remains underexplored. Most existing literature addresses these domains in isolation:

1. Organic farming is primarily studied for its ecological and climate-resilient benefits (Altieri, 2018; Lal, 2020), with limited attention to how such schemes cultivate entrepreneurial capacities among farmers.
2. Entrepreneurship research, particularly in rural or agri-based contexts, often emphasizes innovation, market adaptation, and value creation (Shane & Venkataraman, 2000; De Lauwere, 2005), but rarely examines how organic farming frameworks influence these entrepreneurial dynamics.

2.3.1 Specific Gaps Identified:

A major gap in existing research is the absence of empirical evidence on whether participation in organic farming schemes—such as the MOVCD-NER program in Mizoram—contributes to greater entrepreneurial activity among farmers. Areas such as the establishment of agri-enterprises, engagement in value addition, and the marketing of organic products remain insufficiently explored.

There is also limited research on the role of emerging entrepreneurs. Programs like the Entrepreneurship Development Scheme (EDS) and Mizoram Rahbi have created opportunities for entrepreneurship, yet little is known about how these initiatives influence the adoption, scaling, and innovation of organic farming practices.

Most existing studies are either generalized or focused on India's mainland. This has resulted in a lack of region-specific insights on the dynamics of organic farming and entrepreneurship in emerging economies and ecologically sensitive regions like

Mizoram and the wider North Eastern Region (NER). Such contexts require dedicated research to capture their unique challenges and opportunities.

CHAPTER - III
RESEARCH METHODOLOGY

3.1 Scope of the Study

The purpose of this study is to explore the relationship between organic farming schemes and the development of agricultural entrepreneurship in Mizoram, with a specific focus on the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) Scheme, which was implemented in 2016. The scope of the study is limited to analysing the activities and experiences of leaders of Farmers Producer Organizations (FPOs) that operate under the MOVCD-NER Scheme. This is a relevant focus area, as more than 99% of the land under organic certification in Mizoram is directly linked to the MOVCD-NER Scheme, making it a critical driver of the state's organic farming and agricultural entrepreneurship landscape (Economic Survey of Mizoram, 2020).

The study aims to assess how the introduction and implementation of the organic farming scheme have contributed to fostering entrepreneurship at the farm level. By examining the entrepreneurial activities of FPOs, the study provided insights into how organic farming practices have led to the development of new business opportunities for farmers, increased market linkages, and value-added agricultural production.

Additionally, the research evaluated the broader scenario of agriculture entrepreneurship in Mizoram, including the challenges and opportunities faced by FPOs. It investigated how FPO leaders perceive entrepreneurship in the context of organic farming and the extent to which the MOVCD-NER scheme has influenced their entrepreneurial growth. The study aims to highlight the significance of government-supported organic farming initiatives in fostering entrepreneurship and contributing to sustainable agricultural development in the region.

3.2 Research Gap

Despite the expanding literature on organic farming and agricultural entrepreneurship, several critical gaps remain, particularly in the context of Mizoram. One major area that requires deeper exploration is the entrepreneurial traits of organic farmers. While many studies focus on the transition to organic farming and its associated environmental benefits, there is limited empirical evidence on whether organic farmers in Mizoram possess key entrepreneurial characteristics such as risk-taking, innovation, and market orientation. The complex interaction between traditional farming methods and modern entrepreneurial competencies remains largely underexplored, making it difficult to assess the long-term sustainability of organic farming as a business model.

Another significant gap lies in the assessment of the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) scheme. Although this initiative has played a vital role in advancing organic farming in Mizoram, its broader impact on agricultural entrepreneurship has not been thoroughly evaluated. It is unclear how the scheme's support mechanisms—such as subsidies, training, and market linkages—have translated into measurable entrepreneurial outcomes like value chain development, improved cost efficiency, and expansion into new markets for organic products. Furthermore, the link between organic farming and agricultural entrepreneurship remains ambiguous in the existing body of research. Organic farming is often presented as a sustainable alternative with the potential to stimulate entrepreneurial activity, yet there is insufficient analysis of its direct influence on fostering agricultural ventures in Mizoram. Particularly under-examined are the challenges organic farmers face, including high production costs, logistical hurdles, and the need for value addition. These factors raise important questions about whether organic practices are a prerequisite or merely one of many pathways to agricultural entrepreneurship in the region.

3.3 Significance of study

This study is crucial as it explores the link between organic farming and entrepreneurship in Mizoram, a region where agriculture plays a vital role in both livelihoods and the economy. By examining how organic farming can create new business opportunities, the research highlights ways to improve farmers' income and overall quality of life. When farmers adopt entrepreneurial practices, they can move beyond traditional methods and develop more sustainable and profitable ventures.

The study addresses key challenges that organic farmers face, including high production costs, complex logistics, and marketing difficulties. Understanding these obstacles is essential for identifying practical solutions that can help create a more supportive environment where farmers can thrive. By tackling these issues, the research aims to offer strategies that strengthen the organic farming sector and enhance its long-term viability.

The study evaluates the impact of the MOVCD-NER Scheme, a government initiative designed to promote organic farming. By assessing its effectiveness, the research provides valuable feedback for policymakers, enabling them to refine the scheme and develop better support strategies for local farmers and entrepreneurs. Strengthening government support can play a critical role in expanding organic farming and ensuring its success as a business model.

Organic farming contributes not only to environmental sustainability but also to economic growth in rural areas. This research illustrates how organic farming can serve as a foundation for entrepreneurship, encouraging more sustainable development practices that benefit both the economy and the environment.

While many studies have examined organic farming and entrepreneurship separately, few have explored their intersection in Mizoram. This study fills that gap by analyzing how entrepreneurial traits among organic farmers can lead to successful

business ventures. By doing so, it provides valuable insights that can drive policy changes, support rural development, and promote a more sustainable future for the region.

3.4 Statement of the Problem

Agriculture entrepreneurs in Mizoram encounter several challenges, particularly concerning the high costs associated with agricultural production, logistics, and aggregation. These costs often create barriers to entry for smaller players who may

not have the financial resources or the risk tolerance required to operate successfully in the agricultural sector. Despite these challenges, the expansion of organic farming in Mizoram, especially under the MOVCD-NER Scheme, has led to a substantial increase in organic farm production. This expansion opens up significant opportunities for entrepreneurship through the development of sustainable value chains for organic products.

One of the major challenges identified is the marketing and processing of organic produce for value addition, as well as the arrangement of transport and logistics during the conversion period, which requires not only resources but also entrepreneurial skills and risk management abilities (Cheng & Tian, 2017). The MOVCD-NER Scheme actively supports the development of agriculture entrepreneurs by encouraging farmers and farmer groups to extend their role in the value chain through forward integration. This process has contributed to the development of entrepreneurial abilities at the farmer level, which are essential as they adapt to business activities within the organic farming ecosystem.

Research into the intersection of organic farming and entrepreneurship remains limited, particularly in the context of Mizoram. As such, this study focuses on understanding the entrepreneurial traits of farmers engaged in organic farming under the MOVCD-NER Scheme. The study aims to address the following key research questions:

1. Do organic farmers in Mizoram possess the entrepreneurial traits necessary for business success?
2. Has the MOVCD-NER Scheme contributed to the promotion of agricultural entrepreneurship in Mizoram?
3. Is organic farming necessary for the development of agricultural entrepreneurship in Mizoram?

3.5 Objectives of the Study

The specific objectives of this study are as follows:

1. To analyse the impact of organic farming scheme on entrepreneurship development in Mizoram
2. To assess the economic impact of organic scheme in rural livelihood of Mizoram
3. To analyse the impact of subsidy on organic farm development
4. To explore the contribution of farmers managerial capacity on entrepreneurship development
5. To identify the challenges on marketing of organic products from Mizoram

3.6 Hypotheses

The following research hypotheses have been framed for the study:

1. There is a significant relationship between organic farming scheme and entrepreneurial development
2. The organic scheme in Mizoram has positive economic impact on rural economy

3. Subsidy significantly contributes to better organic farm development

3.7 Sources of Data

Both primary and secondary data are utilized in this study:

Primary data was collected through field surveys and telephonic interviews. The study focuses on all 14 FPOs operating under the Mission Organic Mizoram (MOM) scheme, an agency under MOVCD-NER Scheme in its second phase. Additionally, interviews were conducted with the winners of the Mizoram Rahbi (Micro Start-up Capital Competition) who have been recognized as entrepreneurs under the Entrepreneurship Development Centre of Mizoram. The data collections are conducted using structured questionnaires, and the responses are recorded and analysed.

Secondary data are sourced from various government reports, including the Economic Review Report, Economic Survey Report, and other documents published by state and central government bodies, including IFOAM, related to organic farming in Mizoram. In addition, academic journals, books, articles, magazines, newspapers, and published theses are used to gather information relevant to the study.

3.8 Pilot Study

A pilot study was carried out on organic farmers from Mizoram that are registered in Tracenet under the scheme MOVCD-NER till 2019-2020, which are 14,232 registered organic farmers only. A sample of 375 farmers, according to Krejcie and Morgan (1970), were taken out randomly and were surveyed using telephonic interviews. Only 256 respondents were able to participate in the interview and the rest of the phone numbers were not reachable (Out of service and switch-off). From the pilot survey, 177 out of 256 (69.1%) respondents were not aware of the organic scheme, which is the Mission Organic Value Chain for North East Region Scheme. This resulted in many missing variables and most of the questions in the Likert-scale tended toward

the neutral point as the respondents had no clue about the questions related to MOVCD-NER Scheme.

Table 3.1: Awareness among respondents of the pilot survey

Awareness on MOVCD-NER Scheme	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	79	30.9	30.9	30.9
No	177	69.1	69.1	100
Total	256	100	100	

Source: Field Survey

As the study had to be done around farmers having knowledge about the organic scheme, study among Farmers Producer Organizations incorporated within the scheme.

Sample

A census study was conducted on the 84 elected leaders of the 14 FPOs under the MOVCD-NER Scheme in Mizoram. However, only 69 respondents (82.14%) were able to be reached and the rest were either not reachable or unwilling to participate. These FPO leaders are instrumental in implementing entrepreneurial activities at the grassroots level and provide critical insights into the development of entrepreneurship within the organic farming sector.

To draw a comparative analysis of entrepreneurial traits, a similar census study was conducted on the 22 winners of the Mizoram Rahbi (Micro Startup Capital Competition) who have continued their businesses up until 2024. Only 17 out of 22 respondents were

willing to participate in the survey. These entrepreneurs have been recognized as key players in promoting entrepreneurship in Mizoram, making them ideal candidates for comparison only on the entrepreneurial traits with the leaders of FPOs under the MOVCD-NER Scheme.

3.9 Tools for Analysis

The study employs a combination of quantitative and qualitative analytical tools to evaluate the impact of the MOVCD-NER Scheme on agricultural entrepreneurship in Mizoram. This tool helps in deriving meaningful insights from the collected data and tests the proposed hypotheses.

3.9.1 Quantitative Tools

- 1. Descriptive Statistics:** Descriptive statistics was used to summarize and describe the basic features of the collected data. This includes the use of mean, median, mode, standard deviation, and percentages to provide an overview of key characteristics such as the demographic profile of FPO leaders, entrepreneurial traits, and the extent of organic farming practices in Mizoram.
- 2. Frequency Distribution:** Frequency distribution helps in analysing how often certain responses or behaviours occur within the study population. It is useful for determining the prevalence of specific entrepreneurial traits or practices among farmers.
- 3. Chi-Square Test:** The chi-square test is used to assess the relationship between categorical variables. For example, this test helps in determining whether there is a statistically significant association between participation in the MOVCD-NER Scheme and the presence of entrepreneurial traits among farmers.
- 4. Ordinary Least Squares (OLS) Regression:** OLS regression is conducted to understand the influence of independent variables (e.g., training under MOVCD-

NER, support from FPOs, government incentives) on dependent variables (e.g., entrepreneurship development, financial success of agricultural enterprises). This analysis identifies how various factors contribute to the promotion of entrepreneurship in the farming sector.

3.9.2 Qualitative Tools

Content Analysis: Content analysis is employed to interpret the qualitative data gathered through interviews and open-ended questionnaire responses. This tool is instrumental in understanding motivations, challenges, and strategies of FPO leaders and entrepreneurs as they develop their businesses. Key themes like risk tolerance, innovation, and value chain integration were explored.

3.9.3 Data Visualization Tools

- 1. Graphs and Charts:** Data visualization tools such as bar charts, pie charts, and line graphs are used to visually represent quantitative data, making it easier to compare variables like entrepreneurial activities and the outcomes of the MOVCD-NER Scheme.
- 2. Cross-Tabulation:** Cross-tabulation is used to explore relationships between different variables (e.g., entrepreneurial success and access to government support). This helped identify patterns and trends within the dataset.

3.10 Limitations of the Study

1. Geographic and Contextual Limitations

The study is geographically limited to Mizoram, focusing on FPOs under the MOVCD-NER Scheme. The hilly terrain, climate, and policy environment may lead to findings that are not easily generalizable to other regions with different agricultural conditions and market dynamics.

2. Sample Size and Data Constraints

With a sample of 84 elected FPO leaders and 22 Mizoram Rahbi winners, the study provides a focused perspective but may not represent the broader farming community. Additionally, reliance on self-reported data introduces potential biases, while logistical challenges may limit data collection in remote areas.

3. Time Frame and Long-Term Impact

Covering the period from 2017 to 2024, the study may not capture long-term entrepreneurial developments beyond this timeframe. Future economic, policy, and environmental shifts could influence the sustainability and evolution of agricultural entrepreneurship in ways not accounted for in the analysis.

CHAPTER - IV
DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

The present chapter delves into the data description, analysis, and interpretation phase of this research, aiming to derive meaningful insights from the dataset collected from farmers, agripreneurs, and stakeholders engaged in organic farming and agricultural entrepreneurship. By focusing on variables such as investment, income, experience, education, and awareness of government schemes like MOVCD-NER, this chapter seeks to uncover critical patterns, relationships, and trends shaping agripreneurial practices in Mizoram.

This chapter also investigates the interplay between government initiatives, such as the MOVCD-NER scheme, and entrepreneurial traits, highlighting how policy frameworks and awareness influence income levels, investment decisions, and entrepreneurial outcomes. Moreover, the analysis considers the moderating role of farming experience and education in fostering agripreneurial success, providing insights into the socio-economic dynamics of sustainable agriculture.

Through rigorous statistical testing, including correlation studies, regression models, and trend analyses, this chapter not only evaluates the socio-economic drivers of agripreneurial success but also explores the transformative potential of organic farming in the agricultural ecosystem. By bridging the gap between raw data and actionable knowledge, this research contributes to understanding the pathways through which organic farming can serve as a catalyst for entrepreneurship and income enhancement.

As a cornerstone of this research, data analysis provides the empirical foundation for subsequent chapters, fostering a deeper understanding of the dynamics of agripreneurship and contributing to the advancement of sustainable agricultural practices and entrepreneurial development in Mizoram.

4.2 Demographic Profile

The survey data collected from farmer groups in Mizoram indicate a higher prevalence of male farmers, reflecting the traditional role of men as providers while women tend to household and family needs.

Table 4.1 : Gender profile of survey data

Gender profile	Frequency	Percent	Valid Percent	Cumulative Percent
Male	67	97.1	97.1	97.1
Female	2	2.9	2.9	100
Total	69	100	100	

Source: Field survey 2024

The data shows that the sample is overwhelmingly male (97.1%), which indicates that the agricultural practices and survey participation in this region are heavily dominated by males. This skew might reflect the traditional gender roles in rural areas, where men are often more engaged in farming activities.

Table 4.2 : Age profile of the survey data

Age Profile	Frequency	Percent	Valid Percent	Cumulative Percent
24 - <35	3	4.3	4.3	4.3
35 - <45	14	20.3	20.3	24.6
45 - <55	24	34.8	34.8	59.4
55 and above	28	40.6	40.6	100
Total	69	100	100	

Source: Field survey 2024

With 34.8% of respondents aged 45–55 and 40.6% aged 55 and above, the findings indicate that organic and natural farming practices are largely managed by older, more experienced farmers. This suggests that the adoption of such practices may depend on accumulated knowledge and long-term commitment.

Table 4.3 : Education profile of survey data

Education	Frequency	Percent	Valid Percent	Cumulative Percent
Primary to Middle	25	36.2	36.2	36.2
High school to Higher	36	52.2	52.2	88.4
Graduate	5	7.2	7.2	95.7
Post Graduate and above	3	4.3	4.3	100
Total	69	100	100	

Source: Field Survey 2024

More than half of the respondents (52.2%) have an education level ranging from high school to higher levels, while about 36.2% have education from primary to middle school. This varied educational background shows that although many farmers have received a moderate level of formal education, there remains a segment with limited educational opportunities, potentially affecting the adoption of new farming technologies and schemes.

Table 4.4 : Natural farming experience of local farmers according to survey data

Natural Farming Experience	Frequency	Percent	Valid Percent	Cumulative Percent
1 to <3 yr	9	13	13	13
3 to <5 yr	11	15.9	15.9	29
5 to <7 yr	16	23.2	23.2	52.2
7yr and above	33	47.8	47.8	100
Total	69	100	100	

Source: Filed Survey 2024

Nearly half of the respondents (47.8%) have been involved in natural farming for seven years or more, which highlights a significant level of expertise among the local farmers. The spread of experience across various ranges further suggests that both newer entrants and seasoned practitioners contribute to the organic farming sector, potentially

impacting innovation and knowledge transfer within the community.

Table 4.5 : Agriculture land owned by natural farmers according to survey data

Land holding	Frequency	Percent	Valid Percent	Cumulative Percent
1 to <3Ha	27	39.1	39.1	39.1
Ha3 and above	42	60.9	60.9	100
Total	69	100	100	

Source: Filed Survey 2024

A majority of the respondents (60.9%) own three hectares or more, indicating that many natural farmers have substantial land holdings. This could enable them to experiment with or fully adopt organic farming practices, although it might also suggest disparities in land distribution within the community.

Table 4.6 : Primary source of income for the family

Primary Source of Income	Frequency	Percent	Valid Percent	Cumulative Percent
Farming	46	66.7	66.7	66.7
Animal husbandry	1	1.4	1.4	68.1
Daily wages	4	5.8	5.8	73.9
Business	11	15.9	15.9	89.9
Others	7	10.1	10.1	100
Total	69	100	100	

Source: Field Survey 2024

The data reveals that farming is the primary source of income for 66.7% of the respondents, underscoring the central role of agriculture in their livelihoods. The presence of other income sources, such as business (15.9%) and daily wages (5.8%), highlights some diversification, yet the dominance of farming points to a heavy reliance on agricultural activities.

Table 4.7 : Farmer's focus crop for natural farming

Major-Crop	Frequency	Percent	Valid Percent	Cumulative Percent
Ginger	14	20.3	20.3	20.3
Maize	2	2.9	2.9	23.2
Oil Palm	3	4.3	4.3	27.5
Rice	50	72.5	72.5	100
Total	69	100	100	

Source: Field Survey 2024

Rice emerges as the primary crop for 72.5% of the farmers, demonstrating its importance as a staple food and economic crop in the region. The cultivation of crops like ginger (20.3%), maize, and oil palm in smaller proportions indicates some level of crop diversification, which could be important for risk management and market opportunities.

Table 4.8 : Farmer's investment for natural farming

Farmer's investment	Frequency	Percent	Valid Percent	Cumulative Percent
< Rs10000	2	2.9	2.9	2.9
Rs 10000 to < Rs 25000	5	7.2	7.2	10.1
Rs 25000 to < Rs 50000	21	30.4	30.4	40.6
Rs 50000 to < Rs 100000	22	31.9	31.9	72.5
Rs 100000 and above	19	27.5	27.5	100
Total	69	100	100	

Source: Field Survey 2024

Most farmers have invested between ₹25,000 and ₹100,000 in natural farming, suggesting a moderate level of financial commitment to this practice. The range of investment amounts reflects variability in farmers' capacity and willingness to invest, which could be influenced by factors such as available capital, risk appetite, and

expected returns from organic farming practices.

Table 4.9 : Government Subsidy Received

Subsidy Received	Frequency	Percent	Valid Percent	Cumulative Percent
< Rs10000	16	23.2	23.2	23.2
Rs 10000 to < Rs 25000	25	36.2	36.2	59.4
Rs 25000 to < Rs 50000	20	29	29	88.4
Rs 50000 to < Rs 100000	4	5.8	5.8	94.2
Rs 100000 and above	4	5.8	5.8	100
Total	69	100	100	

Source: Field Survey 2024

The highest proportion of farmers (36.2%) received subsidies in the range of ₹10,000 to ₹25,000. This indicates that while government support is present, it is mostly at a moderate level, and the allocation of subsidies may be tailored to different scales of farming operations or varying levels of need among the farmers.

Table 4.10 : Number of Job card holders among farmers

Job Card	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	64	92.8	92.8	92.8
No	5	7.2	7.2	100
Total	69	100	100	

Source: Field Survey 2024

A total of 92.8% of respondents hold MGNREGA job cards, providing 100 days of employment to rural poor, suggesting extensive participation in government employment schemes. This percentage may reflect strong governmental outreach or eligibility criteria that are effectively reaching the farming community.

Table 4.11 : Farmer's awareness of government scheme/ Organic scheme/ Mission organic Mizoram

MOVCD-NER Awareness	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	52	75.4	75.4	75.4
No	17	24.6	24.6	100
Total	69	100	100	

Source: Field Survey 2024

About 75.4% of the respondents are aware of the government-organized organic schemes such as the MOVCD-NER scheme or Mission Organic Mizoram. This relatively high level of awareness points to effective communication or extension efforts by the government, though the remaining 24.6% who are unaware could represent a gap in outreach or access to information.

Table 4.12 : Descriptive statistics on Number of family members

Descriptive	N	Minimum	Maximum	Mean	Std. Deviation
No of Family member	69	2	12	5.8406	2.48894
Valid N (Listwise)	69				

Source: Field Survey 2024

Table 4.13 : Descriptive statistics on Annual income of Family

Descriptive	N	Minimum	Maximum	Mean	Std. Deviation
No of Family member	69	20000	840000	199543.4783	127731.6952
Valid N (Listwise)	69				

Source: Field Survey 2024

The descriptive statistics indicate a diverse socioeconomic profile among the respondents. The average family size of the respondents is around 6 members, with household members ranging from 2 to 12 individuals. This variation can impact labour availability for farming activities and influence decisions regarding the adoption of organic practices. In parallel, the annual income statistics reveal a wide financial disparity, with incomes averaging around ₹199,543 but ranging from as low as ₹20,000 to as high as ₹840,000. This considerable income variability suggests that while some families are financially stable enough to invest in organic farming methods, others might be constrained by limited resources, potentially affecting their ability to adopt or maintain such practices.

4.3 Influence of Educational Qualification on Income Levels

Table 4.14 : Education on Income levels

Income Category	Education Qualification					Total
	Count	Primary to Middle	High school to Higher	Graduate	Post Graduate and above	
Below 100000		6	9	2	1	18
100000 to <200000		13	20	2	2	37
200000 to <300000		4	3	0	0	7
300000 to <400000		0	1	1	0	2
Above 400000		0	2	0	0	2
Total		23	35	5	3	66

Source: Field Survey 2024

Table 4.15 : Chi-Square Tests for Education and Income levels.

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	9.977*	12	0.618
Likelihood Ratio	9.534	12	0.657
N of Valid Cases	66		

*16 cells (80.0%) have expected count less than 5. The minimum expected count is .09.

Source: Field Survey 2024

The Chi-Square analysis includes both the Pearson Chi-Square test and the Likelihood Ratio test to examine the association between education level and income level. The Pearson Chi-Square value is 9.977 with 12 degrees of freedom and a p-value of 0.618, while the Likelihood Ratio value is 9.534 with the same degrees of freedom and a p-value of 0.657. Both p-values are greater than the conventional threshold of 0.05, indicating that there is no statistically significant association between education and income levels among the respondents.

4.4 Influence of Natural Farming Experience on Income Levels

Table 4.16 : Natural Farming on Income levels

Income Category	Natural farming experience					Total
	Count	1 to <3 yr	3 to <5 yr	5 to <7 yr	7yr and above	
Below 100000		2	1	5	10	18
100000 to <200000		6	7	8	16	37
200000 to <300000		1	1	3	2	7
300000 to <400000		0	0	0	2	2
Above 400000		0	1	0	1	2
Total		9	10	16	31	66

Source: Field Survey 2024

Table 4.17 : Chi-Square Tests for Natural Farming and Income levels

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	8.428*	12	0.751
Likelihood Ratio	9.547	12	0.656
N of Valid Cases	66		

*15 cells (75.0%) have expected count less than 5. The minimum expected count is .27.

Source: Field Survey 2024

The Chi-Square analysis between natural farming experience and income levels includes both the Pearson Chi-Square test and the Likelihood Ratio test. The Pearson Chi-Square value is 8.428 with 12 degrees of freedom and a p-value of 0.751, while the Likelihood Ratio is 9.547 with a p-value of 0.656. Since both p-values are greater than the standard significance level of 0.05, the results indicate that there is no statistically significant association between the duration of natural farming experience and income levels among the respondents.

4.5 Influence of Cultivable Land Owned on Income Levels

Table 4.18 : Land owned on Income levels

	Agriculture Land owned			Total
Income Category	Count	1 to <3Ha	3Ha and above	
	Below 100000	10	8	18
	100000 to <200000	13	24	37
	200000 to <300000	1	6	7
	300000 to <400000	0	2	2
	Above 400000	1	1	2
Total		25	41	66

Source: Field Survey 2024

Table 4.19: Chi-Square Tests for Land owned and Income levels

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.509*	4	0.239
Likelihood Ratio	6.36	4	0.174
N of Valid Cases	66		

*6 cells (60.0%) have expected count less than 5. The minimum expected count is .76

Source: Field Survey 2024

The Chi-Square analysis examining the relationship between agricultural land owned and income levels includes the Pearson Chi-Square test and the Likelihood Ratio test. The Pearson Chi-Square value is 5.509 with 4 degrees of freedom and a p-value of 0.239, while the Likelihood Ratio is 6.36 with a p-value of 0.174. Both p-values are greater than the conventional significance level of 0.05, indicating that there is no statistically significant association between the two variable.

4.6 Influence of Scheme Awareness Owned on Income Levels

Table 4.20 : MOVCD-NER awareness on Income levels

	Awareness of MOVCD-NER Scheme/Organic Scheme/Mission Organic Mizoram.			Total
Income Category	Count	Yes	No	
	Below 100000	12	6	18
	100000 to <200000	31	6	37
	200000 to <300000	4	3	7
	300000 to <400000	1	1	2
	Above 400000	1	1	2
Total		49	17	66

Source: Field Survey 2024

Table 4.21 : Chi-Square Tests for MOVCD-NER awareness and Income levels

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	4.601*	4	0.331
Likelihood Ratio	4.487	4	0.344
N of Valid Cases	66		

*6 cells (60.0%) have expected count less than 5. The minimum expected count is .52

Source: Field Survey 2024

The Chi-Square analysis exploring the relationship between awareness of the MOVCD-NER scheme (or related organic schemes) and income levels includes both the Pearson Chi-Square and the Likelihood Ratio tests. The Pearson Chi-Square value is 4.601 with 4 degrees of freedom and a p-value of 0.331, while the Likelihood Ratio is 4.487 with a p-value of 0.344. Since both p-values are greater than the significance threshold of 0.05, the results indicate that there is no statistically significant

association between awareness of the MOVCD-NER scheme and the income levels of the respondents.

4.7 Influence of MOVCD-NER Awareness on Family Income

Table 4.22 : Subsidy and Investment Crosstabulation count

Subsidy	Farm Investment						Total
	Count	< Rs10000	Rs 10000 to < Rs 25000	Rs 25000 to < Rs 50000	Rs 50000 to < Rs 100000	Rs 100000 and above	
	Below 100000	0	2	7	2	5	16
	100000 to <200000	1	2	10	6	6	25
	200000 to <300000	1	0	4	9	6	20
	300000 to <400000	0	0	0	4	0	4
	Above 400000	0	1	0	1	2	4
Total		2	5	21	22	19	69

Source: Field Survey 2024

Table 4.23 : Chi-Square Tests for Subsidy and Farm Investment

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.451*	16	0.162
Likelihood Ratio	24.712	16	0.075
N of Valid Cases	69		

*18 cells (72.0%) have expected count less than 5. The minimum expected count is .12.

Source: Field Survey 2024

The Chi-Square analysis assessing the relationship between the amount of subsidy received and the level of farm investment includes both the Pearson Chi-Square and the Likelihood Ratio tests. The Pearson Chi-Square value is 21.451 with 16 degrees of freedom and a p-value of 0.162, while the Likelihood Ratio is 24.712 with a p-value of 0.075. Since both p-values are greater than the 0.05 significance level, the results indicate that there is no statistically significant association between subsidy amount and farm investment among the respondents. However, with 72% of the cells having expected counts less than 5, the validity of the test results may be limited due to small sample sizes in several categories.

4.8 Contribution of Managerial Capacity on Entrepreneurship Development

Table 4.24 : Correlation between farmers managerial skills and entrepreneurial trait

Correlations		Entrepreneurial Trait	Managerial Skills
Entrepreneurial Trait	Pearson Correlation	1	.384**
	Sig. (2-tailed)		0.001
	N	66	66
Managerial Skills	Pearson Correlation	.384**	1
	Sig. (2-tailed)	0.001	
	N	66	69

**** Correlation is significant at the 0.01 level (2-tailed).**

Source: Field Survey 2024

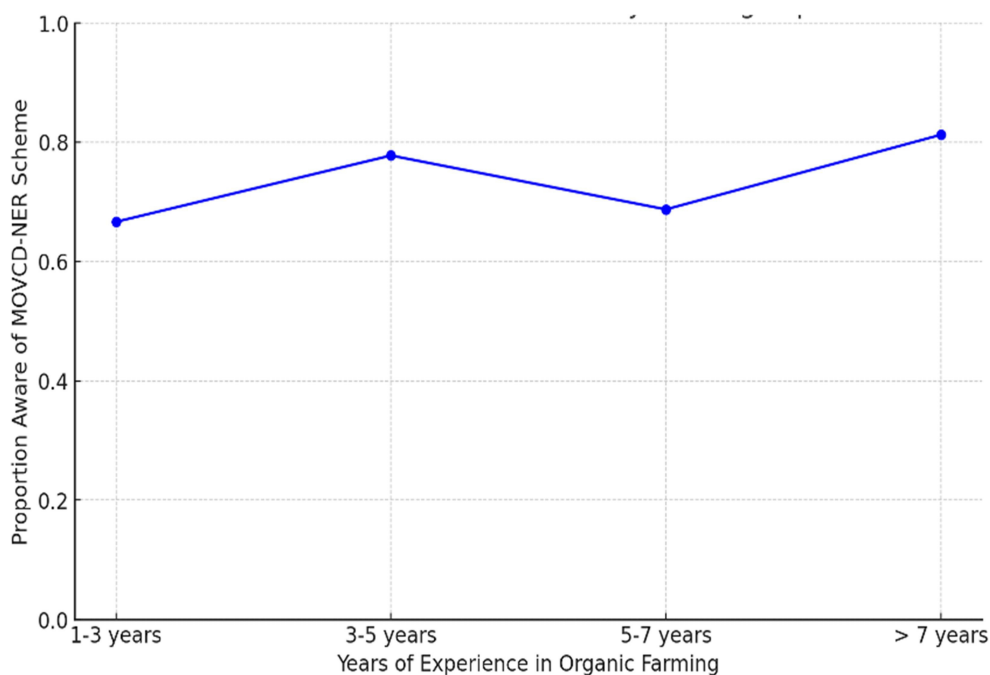
The correlation analysis examines the relationship between farmers' managerial skills and their entrepreneurial traits using Pearson's correlation coefficient. The result shows a positive correlation of 0.384, which is statistically significant at the 0.01 level (2-tailed) with a p-value of 0.001. This indicates a moderate and significant positive relationship, meaning that as farmers' managerial skills increase, their entrepreneurial traits also tend to improve.

4.9 Trend Analysis on How Farming Experience Impacts Awareness of Government Support Programs

Examining how farming experience impacts awareness of government support programs (such as the MOVCD-NER scheme), patterns in awareness levels across different categories of farming experience was explored. Steps followed;

1. *Categorizing Farmers by Experience Level:* Grouping of farmers by their years of experience in organic farming.
2. *Calculating Awareness Proportions:* For each experience category, calculation of proportion of farmers who are aware of the MOVCD-NER scheme was done.
3. *Plot Awareness Trends:* Line chart was used to represent the trend

Figure 4.1 : Trend of awareness of MOVCD-NER by farming experience



Source: Field Survey 2024

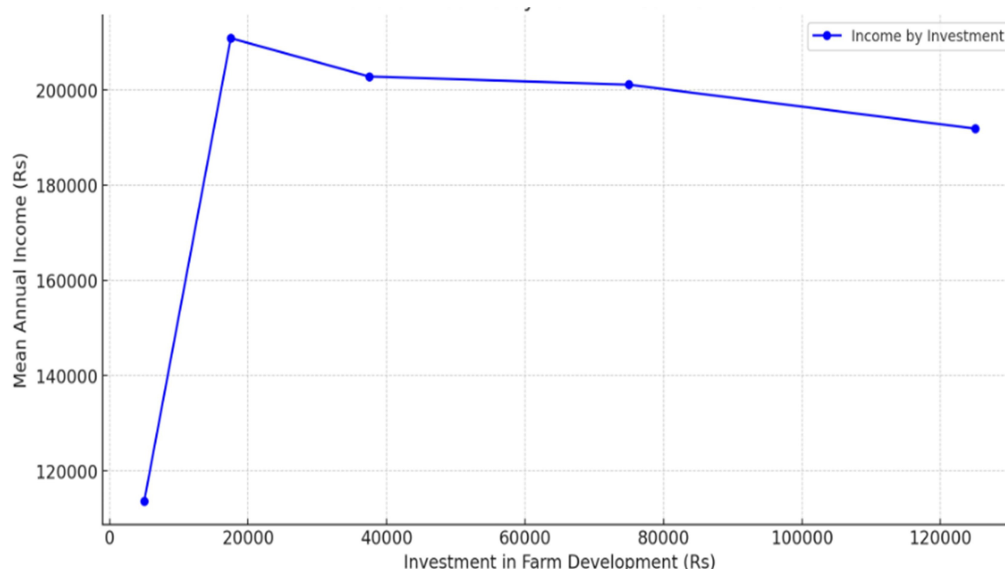
Increasing Awareness with Experience: The trend line generally shows an upward trajectory, indicating that awareness of the MOVCD-NER scheme increases with more years of experience in organic farming.

Highest Awareness in Experienced Farmers: Farmers with the most experience demonstrate the highest awareness, suggesting that familiarity with the agricultural sector and time in the field contribute to better access to information about government programs. This trend implies that experience in farming is positively associated with awareness of government schemes, supporting the idea that experienced farmers are more engaged with available support programs.

4.10 Trend Analysis on Entrepreneurial Potential of Organic Farming Through Income Enhancement Opportunities

Examine Income by Farm Investment: Plotting a line graph to identify trend line for farm investment if it correlates with higher income categories.

Figure 4.2 : Trend of income by farm investment level



Source: Field Survey 2024

The first trend line shows a general increase in income with higher investment in farm development. This positive trend suggests that greater investment may enhance income potential, supporting the entrepreneurial notion that investing in farm development can yield higher returns. Higher farm investment aligns more consistently with income growth, highlighting its potential as an entrepreneurial strategy for income enhancement.

4.11 Hypothesis Testing

Hypothesis 1: There is a positive relationship between organic farming scheme and entrepreneurial development

Table 4.25 : Model Summary for relationship between organic farming and entrepreneurial development

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate
Model	.566*	0.32	0.251	0.33822

* Predictors: (Constant), Training, Marketing, Access to credit, Community support, Policy, Managerial Skills

Source: Field Survey 2024

Table 4.26 : Relationship between organic farming and entrepreneurial development (ANOVA test)

ANOVA ^a	Sum of Squares	df	Mean Square	F	Sig.
Regression	3.177	6	0.529	4.628	.001 ^b
Residual	6.749	59	0.114		
Total	9.926	65			

^a Dependent Variable: Entrepreneurial Trait

^b Predictors: (Constant), Training, Marketing, Access to credit, Community support, Policy, Managerial Skills

Source: Field Survey 2024

Table 4.27 : Relationship between organic farming and entrepreneurial development (Coefficients)

Model Summary	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	2.814	1.151		2.444	0.018
Policy	3.601	1.719	0.253	2.095	0.040
Marketing	-1.502	1.331	-0.138	-1.128	0.264
Access to credit	-0.106	0.823	-0.014	-0.129	0.898
Managerial Skills	3.845	0.84	0.572	4.579	0.000
Community support	-1.555	0.886	-0.217	-1.755	0.084
Training	-2.548	0.854	-0.339	-2.985	0.004

Dependent Variable: Entrepreneurial Trait

Source: Field Survey 2024

The analysis conducted to test the hypothesis that there is a relationship between the organic farming scheme and entrepreneurial development shows strong support. The model explains 32% of the variance in entrepreneurial traits, indicating a moderate relationship. The overall model is statistically significant ($p = 0.001$), suggesting that the included factors—Training, Marketing, Access to Credit, Community Support, Policy, and Managerial Skills—meaningfully contribute to entrepreneurial development. Among these, *Managerial Skills* ($p = 0.000$) and *Policy* ($p = 0.040$) have a significant positive influence, while *Training* ($p = 0.004$) shows a significant negative relationship. Other variables do not have a statistically significant effect. These findings confirm the hypothesis, indicating that specific components of the organic farming scheme are indeed linked to the development of entrepreneurial traits in participants and also have a positive impact on it.

Hypothesis 2: The organic scheme in Mizoram has positive economic impact on rural economy

Table 4.28 : Model summary for the organic scheme in Mizoram has positive impact on rural economy

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate
Model	.404*	0.164	0.079	0.00000718

* Predictors: (Constant), Training, Marketing, Access to credit, Community support, Policy, Managerial Skills
Source: Field Survey 2024

Table 4.29 :The organic scheme in Mizoram has positive impact on rural economy (ANOVA test)

ANOVA ^a	Sum of Squares	df	Mean Square	F	Sig.
Regression	0	6	0	1.923	.092 ^b
Residual	0	59	0		
Total	0	65			

^a Dependent Variable: Annual Income

^b Predictors: (Constant), Training, Marketing, Access to credit, Community support, Policy, Managerial Skills
Source: Field Survey 2024

Table 4.30 : The organic scheme in Mizoram has positive impact on rural economy (Coefficients test)

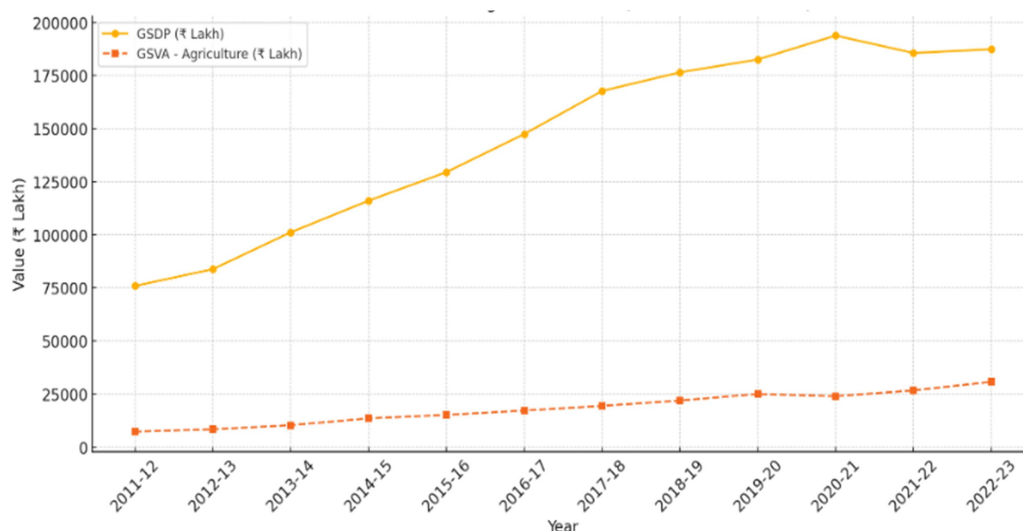
Model Summary	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	-3.52E-06	0		-0.144	0.886
Policy	-2.89E-05	0	-0.106	-0.791	0.432
Marketing	-6.46E-06	0	-0.031	-0.228	0.82
Access to credit	5.17E-05	0	0.367	2.958	0.004
Managerial Skills	1.02E-05	0	0.079	0.573	0.569
Community support Training	-2.04E-06	0	-0.015	-0.108	0.914
	-1.65E-06	0	-0.011	-0.091	0.928

Dependent Variable: Annual Income

Source: Field Survey 2024

The regression analysis aimed at testing the hypothesis that the organic scheme in Mizoram has a positive economic impact on the rural economy shows limited overall support. Although the model explains about 16.4% of the variation in annual income, it is not statistically significant as a whole. However, among the individual variables considered—Training, Marketing, Access to Credit, Community Support, Policy, and Managerial Skills—only *Access to Credit* shows a statistically significant and positive relationship with income. This suggests that while the scheme in its entirety may not strongly predict economic outcomes, improved access to credit under the scheme does contribute meaningfully to raising rural income, offering partial validation of the hypothesis.

Figure 4.3 : Mizoram: GSDP Vs Agriculture GSVA (2011-12 to 2022-23)



Source: RBI Report - Handbook of Statistics on Indian States

Table 4.31 : t-test on GSVA

t-Test: Paired Two Sample for Means

Agriculture GSVA growth	2011 - 2017	2017 - 2023
Mean	0.199912132	0.09082612
Variance	8.02E-03	8.13E-03
Observations	4	4
Pearson Correlation	-0.795108109	
Hypothesized Mean Difference	0	
df	3	
t Stat	1.281684314	
P(T<=t) one-tail	0.1450	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.2900	
t Critical two-tail	3.182446305	

Source: RBI Report - Handbook of Statistics on Indian States

A time series study regarding income was also done to confirm the analysis. By comparing the growth in GSDP and growth of Agriculture GSVA of Mizoram on chart, and using statistical analysis to study the growth of Agriculture GSVA before the implementation of organic scheme and after implementation. We can see that the t-test failed to reject the null hypothesis. This means that there is no significant difference in the mean of the two variables which conclude there is no significant impact of the scheme on Agriculture GSVA.

Hence, the organic scheme in Mizoram does not have a significant economic impact on the rural economy of Mizoram.

Hypothesis 3: Subsidy contributes to better farm development

Table 4.32 : Subsidy and Investment Cross-tabulation count

Income Category	Farm Investment						Total
	Count	<Rs10000	10000 to < Rs25000	Rs 25000 to < Rs 50000	Rs 50000 to < Rs100000	Rs 100000 and above	
< Rs10000		0	2	7	2	5	16
Rs 10000 to < Rs 25000		1	2	10	6	6	25
Rs 25000 to < Rs 50000		1	0	4	9	6	20
Rs 50000 to < Rs 100000		0	0	0	4	0	4
Rs 100000 and above		0	1	0	1	2	4
Total		2	5	21	22	19	69

Source: Field Survey 2024

Table 4.33 : Subsidy and Investment (Chi square tests)

Chi-Square Tests	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	21.451*	16	0.162
Likelihood Ratio	24.712	16	0.075
N of Valid Cases	69		

**18 cells (72.0%) have expected count less than 5. The minimum expected count is .12.*
Source: Field Survey 2024

The analysis for Hypothesis 3, which states that subsidy contributes to better farm development, reveals limited statistical support. The cross-tabulation shows a distribution of farm investments across different income categories, suggesting some visible patterns—higher-income farmers appear to make larger farm investments. However, the Chi-Square test result ($p = 0.162$) indicates that the association between subsidy and level of investment is not statistically significant at the conventional 0.05 level. Additionally, a high proportion of cells (72%) have expected counts less than 5, which weakens the reliability of the test. While there may be an indicative trend suggesting that subsidies could support farm development, the evidence is not strong enough to conclusively validate the hypothesis based on this data.

4.12 Qualitative Analysis of Survey Findings

1. Innovation and Business Practices

Only 9% of the surveyed farmers reported using any innovative or unique practices, while the remaining 91% continue to rely on traditional farming methods. This overwhelming adherence to conventional approaches persists despite the fact that many of these farmers have moderate to long-term experience in organic farming. The reluctance or inability to experiment with new techniques may be attributed to several interrelated factors. Limited access to modern agricultural knowledge or exposure to innovative practices restricts farmers from exploring alternative methods. Additionally, a strong sense of risk aversion, particularly among those who depend on

farming as their primary source of livelihood, discourages deviation from tried-and-tested methods. Educational gaps further compound the issue, as many farmers may lack the technical skills or confidence required to adopt technology-driven or unconventional farming practices. Collectively, these constraints contribute to a low level of innovation within the organic farming sector in Mizoram, potentially limiting productivity gains and entrepreneurial growth.

2. Marketing and Sales Strategies

The data reveals that respondents employ a variety of sales methods, reflecting a degree of adaptability in navigating local market conditions. Specifically, 38.81% of farmers prefer door-to-door or direct sales, while 28.36% engage in commission-based models, and another 28.36% rely on market-based selling. Despite this diversification in approach, the predominance of informal sales channels underscores a deeper issue—namely, the lack of consistent access to structured or digital marketplaces. This gap persists even among experienced farmers, suggesting that factors such as limited education, low levels of digital literacy, and minimal exposure to technology may be impeding the transition to more sophisticated and scalable marketing platforms. As a result, farmers remain confined to localized, low-margin sales systems, which in turn restrict their ability to maximize earnings and expand their entrepreneurial potential.

3. Major Challenges

Out of the 67 respondents who participated in the qualitative questionnaire, the distribution of reported business challenges reveals a complex landscape of both distinct and overlapping issues that significantly affect rural livelihoods. A total of 10 respondents (14.93%) identified water scarcity as their primary concern, highlighting the critical impact of unreliable water sources on agricultural productivity and the overall stability of their farming enterprises. Only 2 respondents (2.99%) specifically raised sales-related difficulties, either independently or in combination with other concerns.

This points to underlying issues such as limited market access, poor buyer networks, or weak value chains. Another 13 respondents (19.4%) cited the lack of government support and poor transport infrastructure as key barriers. These challenges include deteriorating road conditions, high transportation costs, and the absence of meaningful government intervention or support mechanisms. The majority—42 respondents (62.69%)—reported facing multiple, interrelated challenges, such as water scarcity, poor transport, absence of institutional support, soil degradation, pest infestations, and limited access to credit schemes like the Kisan Credit Card (KCC). For this group, constraints do not exist in isolation but rather compound each other, forming a web of systemic problems that make resilience and business growth exceptionally difficult. The findings underscore the need for integrated and multi-sectoral solutions that address these issues holistically, rather than in isolation, to effectively support rural entrepreneurship and agricultural sustainability in Mizoram.

4. Perceptions of Organic Farming

Among the 67 farmer respondents who participated in the qualitative questionnaire, the majority expressed a generally positive attitude toward farming and organic practices. Specifically, 46 respondents (69%) reported satisfaction with their farming activities and viewed the shift toward organic farming as a promising and progressive step. Their responses reflect a sense of motivation and belief in the long-term benefits of sustainable agriculture. In contrast, 19 respondents (28%) indicated that their involvement in farming was driven more by family circumstances—such as land inheritance or a lack of viable alternatives—rather than by personal interest or entrepreneurial intent. Additionally, 2 respondents (3%) cited their age as a limiting factor, expressing reluctance to adopt new methods and a preference for continuing with conventional farming practices. Despite varying motivations and levels of adaptability, a common theme across the responses was the need for stronger government support. Farmers consistently emphasized the importance of interventions in areas such as training, transportation infrastructure, and market linkage. This suggests that while

organic farming holds appeal for many, its successful adoption and expansion are contingent upon more robust institutional and logistical support systems.

5. Support from Schemes and Initiatives

The data indicates that MGNREGS is by far the most widely accessed government scheme, with 67.16% of respondents relying on it for livelihood support. This underscores its universal coverage, accessibility, and perceived reliability among rural households. In contrast, other livelihood-focused schemes such as MOVCD-NER, SEDP, and PMKSY exhibit extremely low uptake, with only 2.99% of respondents reporting any engagement—even among those with relatively higher educational levels. This disparity points to significant challenges in scheme outreach and implementation, including poor visibility at the grassroots level, a lack of adequate handholding and facilitation support, and limited local awareness of available opportunities. Additionally, 22.39% of respondents reported depending on multiple schemes, reflecting a fragmented approach to livelihood support in which beneficiaries access scattered benefits without receiving comprehensive or sustained assistance. These findings highlight the need for better coordination, improved extension services, and more integrated support systems to ensure that rural communities can meaningfully benefit from the full range of government programs intended to enhance agricultural and entrepreneurial outcomes.

6. Government's Role in Agriculture & Entrepreneurship

Among the 67 farmer respondents who shared their views on government support, only 9 individuals (13%) expressed full satisfaction, indicating that a small minority feel adequately supported by existing schemes and services. In contrast, 21 respondents (31%) conveyed dissatisfaction, stating that the government is not doing enough to assist farmers, particularly in areas such as training, infrastructure, and market access. The largest segment—38 respondents (57%)—acknowledged that while the government has made commendable efforts, more can still be done to improve the effectiveness and

reach of its support mechanisms. This middle-ground perspective reflects a general appreciation for current interventions but also highlights ongoing gaps and unmet needs. Overall, the responses point to a demand for stronger, more comprehensive, and better-implemented support systems to enhance the livelihoods and entrepreneurial potential of organic farmers in Mizoram.

7. Organic vs Conventional Farming Value

The perception of organic farming among respondents reveals a generally favorable outlook, with 64.18% expressing support and a clear preference for organic practices. This majority reflects a growing awareness of the potential benefits of organic farming, including environmental sustainability and health-conscious production. However, 16.42% of respondents reported seeing no significant difference in value between organic and conventional methods, while 11.94% explicitly preferred conventional farming due to its familiarity, simplicity, and lower perceived risk. Some respondents, including those who are educated and experienced, noted that organic methods still require refinement and stronger policy support to be fully viable. Notably, perceptions of organic farming's value are often shaped less by theoretical advantages and more by practical considerations such as market access, price premiums, and visible economic returns. This underscores the need for a comprehensive ecosystem to support organic adoption—one that includes reliable buyer linkages, certification facilitation, and pricing incentives. Without these, enthusiasm for organic farming may not translate into long-term commitment or sustainable livelihood gains.

4.13 Summary

The qualitative insights provide valuable context to the quantitative findings. Farmers expressed satisfaction with organic farming as a concept, though innovation remains low and many continue to rely on traditional practices. Sales methods are largely informal, with limited access to digital or structured markets. Major challenges faced by farmers include water scarcity, lack of infrastructure, limited

government support, and compound issues affecting multiple aspects of their agricultural livelihoods. Awareness and uptake of schemes beyond MGNREGS remain minimal, signaling the need for stronger integration and communication. While most farmers appreciate the efforts made by the government, there is a clear call for enhanced support, especially in training, transport, and market linkage.

CHAPTER - V
FINDINGS, CONCLUSION AND SUGGESTIONS

5.1 Introduction

This chapter synthesizes the key findings from the data analysis and interpretation outlined in the preceding chapter, providing a holistic understanding of the socio-economic landscape and entrepreneurial dynamics within Mizoram's agricultural sector. It further offers practical, evidence-based suggestions to improve the effectiveness of government interventions such as the MOVCD-NER scheme. These suggestions aim to strengthen agripreneurship, enhance farmer engagement, and promote the adoption of sustainable agricultural practices, thereby contributing to the long-term development of organic farming in the region.

5.2 Findings and Conclusions

5.2.1 Socio-economic Profile

The socio-economic profile of farmers engaged in organic and natural farming in Mizoram reveals a layered and context-specific portrait shaped by demographic, educational, occupational, and income-related variables.

1. Demography: The survey data indicates that farming in the region is largely male-dominated, with 97.1% male respondents. This significant gender imbalance reflects traditional societal roles in which men are primarily engaged in agricultural labor, while women tend to focus on household duties or supplementary income-generating activities. It may also be influenced by the patriarchal structure of society in Mizoram, where men typically represent the household in official matters, including surveys and public engagements. In terms of age, a substantial majority of the respondents (75.4%) fall within the older age group, being 45 years and above. This is largely due to the study focusing on leaders of farmer organizations, who are typically more experienced and older. It highlights that organic and natural farming in the region is currently driven by seasoned individuals with deep-rooted involvement in agriculture. However, this trend also brings to light potential challenges in ensuring generational

continuity, as the participation and integration of younger individuals into farming remain limited.

2. Educational Qualification: In terms of education, the farmers surveyed have mixed qualifications. While 52.2% have attained education up to high school or higher secondary levels, around 36.2% have completed only primary or middle school. A smaller proportion, about 11.5%, have completed graduate or postgraduate education. This educational composition highlights a moderate literacy level within the farming community, which may influence access to information, scheme awareness, and technological adoption.

3. Livelihood Activity: Occupationally, farming remains the principal livelihood activity for 66.7% of the respondents (household), indicating a heavy dependence on agriculture for income and sustenance. Some level of diversification exists, with a portion of farmers engaged in business (15.9%) and daily wage labor (5.8%). This indicates that while agriculture remains central, supplementary income sources are necessary for many households to ensure financial stability.

4. Land Possession: Landholding patterns reveal that a substantial proportion of farmers (60.9%) own three hectares or more, while 39.1% possess between one and three hectares. This relatively large landholding distribution suggests the potential for scalability in organic farming practices, although it may also indicate disparities in land ownership and access to resources.

5. Annual Family Income: Income levels among the surveyed farmers show considerable variation, with annual family incomes ranging from ₹20,000 to ₹8,40,000 and an average income of approximately ₹1.99 lakh. The lower end of the income spectrum may be underreported, as many farmers are unable to accurately account for the value of produce consumed directly from their own farms. This wide income disparity highlights the uneven economic landscape within the farming community, influenced by factors such as landholding size, investment capacity, crop

choices, and access to markets. Additionally, the average household size of around six members affects both the availability of family labor and the overall financial burden, further shaping income dynamics.

6. Support System: Access to formal support systems is moderately high, with 92.8% of farmers possessing job cards under schemes like MGNREGS, and 75.4% reporting awareness of government-organized organic initiatives which is MOVCD-NER scheme. Nevertheless, the remaining quarter who are unaware highlight a gap in outreach and information dissemination, which could limit the equitable reach of these schemes.

7. Investment on Farming Activity: Investment levels in natural farming also show moderate commitment, with most farmers investing between ₹25,000 and ₹1,00,000 in their farms. While this indicates a willingness to allocate capital, it may also reflect limitations due to low income or risk aversion. Correspondingly, the majority of subsidies received fall within the ₹10,000 to ₹25,000 range, revealing a relatively modest level of government financial support.

Overall, the socio-economic profile of farmers in Mizoram underscores a community of experienced, moderately educated, land-owning individuals who are largely dependent on farming for livelihood but are constrained by limited income, moderate investment levels, and infrastructural challenges. Bridging these gaps through tailored support, better access to credit and information, and inclusive policy implementation will be essential to enhance their agripreneurial potential and improve rural livelihoods.

5.2.2 Findings Based on Objective 1

To analyse the impact of the organic farming scheme on entrepreneurship development in Mizoram, a regression analysis was conducted under Hypothesis 1. The model yielded a coefficient of determination (R^2) of 0.320, indicating that approximately 32% of the variance in entrepreneurial traits among organic farmers can be explained

by the selected predictors, suggesting a moderate explanatory capacity. The overall model was statistically significant ($F = 4.628$, $p = 0.001$), thereby validating a meaningful relationship between the components of the organic farming scheme and entrepreneurial development. Notably, managerial skills emerged as a critical determinant, with a strong and statistically significant positive effect ($p = 0.000$) on entrepreneurial traits. This underscores the vital role that business and managerial capabilities play in enabling agripreneurship among farmers. Policy support also demonstrated a significant positive influence ($p = 0.040$), reinforcing the importance of institutional backing and enabling policy frameworks in shaping entrepreneurial outcomes. Interestingly, training was found to have a statistically significant negative association ($p = 0.004$) with entrepreneurial development, raising concerns about the effectiveness of current training interventions. This unexpected finding suggests possible shortcomings in the training content, delivery approach, or contextual alignment with farmers' actual needs. Although the analysis confirms that managerial skills and policy support positively contribute to entrepreneurship development, the overall model presents only a moderate fit, indicating that additional unexamined factors may influence entrepreneurial success in the organic farming sector and warrant further investigation.

5.2.3 Findings Based on Objective 2

To assess the economic impact of the organic farming scheme on rural livelihoods in Mizoram, a regression analysis was conducted under Hypothesis 2. The model revealed an R^2 value of 0.164, suggesting that only 16.4% of the variation in annual income among farmers could be attributed to the selected predictors, which included training, marketing, access to credit, community support, policy, and managerial skills. The overall model was not statistically significant ($F = 1.923$, $p = 0.092$), indicating that the components of the organic scheme, when taken together, do not significantly explain income outcomes in the current rural context. Among all predictors, only access to credit demonstrated a statistically significant and positive relationship with income ($p =$

0.004), highlighting the crucial role of financial access in enhancing rural economic well-being. Other elements of the scheme—such as training, marketing support, and policy interventions—did not show any meaningful statistical association with income levels, suggesting their limited direct economic impact under present implementation conditions.

Further evidence from a paired t-test comparing Agricultural Gross State Value Added (GSVA) growth before and after the implementation of the organic scheme (2011–2017 vs. 2017–2023) also failed to show a significant difference ($p = 0.29$), indicating that the scheme has not led to a measurable improvement in agricultural sector performance. Notably, a Pearson correlation coefficient of -0.795 between the two time periods reveals a strong negative correlation, implying a decline in GSVA growth after the scheme was introduced. Taken together, these findings suggest that while access to credit under the organic scheme serves as a vital enabler of income generation, the scheme in its entirety has not significantly influenced rural income levels or the broader performance of the agricultural economy. This points to the need for more targeted, context-specific interventions and improved scheme delivery mechanisms to realize the intended economic benefits of organic farming initiatives in Mizoram.

5.2.3 Findings Based on Objective 3

To analyse the impact of subsidy on organic farm development, a cross-tabulation analysis was conducted to explore the relationship between subsidy amounts received and the level of investment made by farmers in organic farming. The data from Table 35 reveals a general trend indicating that farmers with higher income levels tend to invest more in their organic farms, suggesting a possible link between economic status and willingness or ability to invest. However, when subjected to statistical testing, the Pearson Chi-Square test yielded a p-value of 0.162 , which exceeds the conventional significance threshold of 0.05 . This implies that the observed relationship between subsidy and investment levels is not statistically significant, and thus the hypothesis that

subsidies directly influence farm investment cannot be confirmed.

Furthermore, the statistical robustness of the Chi-Square test is compromised by the fact that 72% of the cells in the contingency table had expected counts of less than five. This high proportion of low-frequency cells increases the likelihood of a Type II error, meaning that a true relationship may go undetected due to sample limitations. Despite these limitations, the descriptive pattern in the data suggests that subsidies may still play a supportive role in facilitating higher investment among mid- and high-income farmers. Nonetheless, this observation remains speculative and cannot be generalized with confidence.

In conclusion, the current analysis does not provide conclusive empirical evidence to support the notion that subsidies significantly drive organic farm development. The lack of statistical significance and the small sample size limit the strength of the findings. Future research using larger datasets and more sophisticated statistical models—such as regression or path analysis—would be necessary to explore this relationship more reliably and to better understand the dynamics between financial support and investment behaviour in the context of organic agriculture in Mizoram.

5.2.4 Findings Based on Objective 4

To explore the contribution of farmers' managerial capacity to entrepreneurship development, a Pearson correlation analysis was conducted, revealing a moderate positive correlation coefficient of 0.384 (Table 27). This indicates that there is a statistically meaningful relationship between the level of managerial skills possessed by farmers and the strength of their entrepreneurial traits. The correlation is statistically significant at the 0.01 level (2-tailed), with a p-value of 0.001, confirming the robustness of the association and reducing the likelihood that the observed relationship is due to chance.

The analysis was conducted with data from 66 respondents for entrepreneurial traits and

69 for managerial skills, providing a reasonably sufficient sample size for drawing valid inferences. The results suggest that as farmers enhance their managerial competencies—such as planning, decision-making, financial management, and problem-solving—their ability to demonstrate entrepreneurial behaviours also increases. These behaviours may include innovation, market responsiveness, risk-taking, and long-term business orientation, all of which are essential for sustaining agripreneurship in the organic farming sector.

Thus, the findings empirically support the proposition that managerial capacity plays a critical role in fostering entrepreneurship among organic farmers in Mizoram. Strengthening managerial skills through targeted training and extension programs could therefore serve as a key strategy to nurture a more dynamic and resilient organic farming community with stronger entrepreneurial foundations.

5.2.5 Findings Based on Objective 5

To identify the challenges in marketing organic products from Mizoram, qualitative insights from farmer surveys and content analysis reveal a range of structural and systemic limitations. A significant proportion of farmers continue to rely on traditional marketing methods such as door-to-door sales (38.81%), commission-based transactions (28.36%), and local market selling (28.36%), underscoring the absence of formalized or digital marketing platforms. Despite their farming experience, many respondents lack access to consistent, structured markets, which points to underlying infrastructural gaps and inadequate market information systems. One of the most pressing challenges identified is the lack of post-harvest infrastructure, which severely restricts the shelf life and transportability of perishable organic products—an issue clearly marked as a weakness in the qualitative analysis. Additionally, farmers face significant threats from volatile pricing and competition with conventional or lower-priced alternatives, which erodes the competitive edge of organic produce. Logistical challenges such as poor road connectivity and Mizoram's rugged terrain further hinder

market access, especially to urban centers or out-of-state markets. Digital literacy remains low among farmers, many of whom are unfamiliar with e-commerce platforms like Amazon or BigBasket, despite recognizing their potential as future opportunities. The lack of government-supported market linkages—such as certification assistance, transportation networks, and aggregation points—is frequently cited by respondents as a major barrier. While organic certification is critical for entering premium markets, its cost and procedural complexity discourage widespread adoption. Although opportunities such as branding and value addition are acknowledged, current farmer capacity and institutional support remain insufficient to convert these opportunities into viable marketing strategies. These findings highlight a critical need for targeted interventions in infrastructure, capacity building, digital inclusion, and market system development to overcome the marketing barriers faced by organic farmers in Mizoram.

5.3 Suggestions

Based on the insights drawn from the data analysis and hypothesis testing, several key suggestions are proposed to enhance the effectiveness of organic farming initiatives and agripreneurship development in Mizoram. These suggestions focus on improving policy delivery, building farmer capacity, strengthening market access, and promoting sustainable practices.

5.3.1. General Suggestion

1. Focus policy and entrepreneurial attention can position organic farming as a viable strategy to retain educated youth in villages through sustainable local opportunities that reduce urban migration.
2. Enhance support and education on MGNREGA job cards to expand employment opportunities for village residents.
3. Launch broad awareness campaigns alongside technology literacy programs to extend government schemes reach and ensure opportunities effectively connect

with villagers.

4. Enhance subsidies with sustained support packages including market linkages, business training, and extended funding durations to bridge the gap from farm startup to profitable entrepreneurship.
5. Future studies with expanded datasets should explore the interplay between financial subsidies and farmer investments in organic entrepreneurship.

5.3.2. Suggestions to the Policy Makers

1. Institutionalize business training programs focused on practical, localized entrepreneurship and agribusiness models tailored to farmers' literacy levels.
2. Launch a dedicated credit-linked incentive scheme under MOVCD-NER for certified organic producers investing in value chain development.
3. Develop digital and physical marketing infrastructure, such as rural e-commerce kiosks, farm gate aggregation hubs, and mobile market vans.
4. Reform the subsidy delivery system to be more transparent, needs-based, and performance-linked.
5. Conduct impact audits of subsidy programs to track utilization, farmer perception, and real development outcomes.
6. Improve road connectivity and transport assistance for hill-bound clusters to ease logistics and reduce post-harvest losses.
7. Fully subsidize organic certification fees for smallholders and create Mobile Certification Units for remote villages.
8. Launch a "Mizoram Organic" umbrella brand, integrating GI-tagged products and traceable supply chains.

9. Strengthen the last-mile delivery of schemes for the unaware population through village-level Resource Persons trained in MOVCD-NER and other agri-initiatives.
10. Introduce youth-focused agripreneurship incubation programs with seed funding and start-up support.

5.3.3. Suggestions to Farmers and FPOs

1. Participate actively in training programs focused on business planning, record-keeping, and farm budgeting to strengthen agripreneurial skills.
2. Collectively apply for certification under Participatory Guarantee System (PGS) or third-party systems to reduce cost and simplify compliance.
3. Maintain farm records, traceability documentation, and follow good agricultural practices (GAP) to improve credibility in premium markets.
4. Plan and prioritize investments in water conservation, soil health, storage, and market readiness based on long-term business goals.
5. Explore on-farm primary processing (e.g., drying, grading, packaging) to add value and extend shelf life of organic produce.
6. Learn basic use of digital tools (e.g., WhatsApp groups for order management, Google Forms for production tracking, or UPI for payments).
7. Encourage active member participation, democratic decision-making, and transparent financial management within FPO governance structures.
8. Stay informed about government schemes and subsidies through collaboration with Krishi Vigyan Kendras (KVKs), NGOs, and agriculture extension officers.
9. Adopt integrated organic farming systems combining crops, livestock, and

agri-tourism to diversify income.

5.3.4. Suggestions to Entrepreneurs

1. Treat farming as a strategic enterprise—develop a farm business plan with cost projections, revenue targets, and risk assessments.
2. Explore value-added products (e.g., dried turmeric, organic ginger powder, artisanal teas) instead of selling raw produce to increase margins.
3. Invest in quality packaging, labeling, and storytelling around local origin, sustainability, and organic certification to appeal to premium markets.
4. Use digital platforms for marketing (Instagram, Facebook), sales (ONDC, Amazon), book keeping (khatabook), and networking.
5. Join or co-found agripreneur networks or collectives for bulk sourcing, co-marketing, and negotiating with suppliers or buyers.
6. Apply for startup grants, venture funding, or agri-business incubator support through state/national schemes (e.g., RKVY-RAFTAAR, Agri-Clinics).
7. Collaborate with local FPOs or logistics providers to ensure last-mile delivery and bulk dispatch capabilities.
8. Design ventures that integrate circular economy models—e.g., compost from waste, rainwater harvesting, carbon credits.
9. Diversify risk by combining farming with services such as agro-tourism, eco-retreats, farm stays, or workshops.

5.3.5. Suggestion for Environmental Concern

1. Strengthen MOVCD-NER extension services with contour terracing and organic

manure subsidies to combat soil erosion in Mizoram's hilly terrains, preserving topsoil critical for long-term sustainability.

2. Mandate intercropping and native seed preservation in FPOs to enhance biodiversity and ecosystem resilience against climate shocks.
3. Monitor and certify zero-chemical watersheds near organic clusters, quantifying pollution reductions to validate environmental gains.
4. Integrate rainwater harvesting and drought-resistant varieties into farmer training, building climate-adaptive organic systems suited to fragile ecosystems.

5.3.6. Scope for Future Research

The present study offers valuable insights into the socio-economic, institutional, and entrepreneurial dimensions of organic farming in Mizoram. However, several areas remain underexplored or warrant deeper empirical and theoretical engagement. The following points delineate the potential directions for future research.

1. Future research can adopt a longitudinal design to assess the sustained impact of MOVCD-NER and related schemes over multiple years.
2. This would allow researchers to trace the evolution of entrepreneurial traits, income stability, and market access before and after extended participation in organic farming programs.
3. A comparative analysis between certified organic farmers and conventional (non-organic) farmers in Mizoram.
4. The causal link between training and business performance, including any unintended consequences or resistance to change.
5. A focused inquiry into the adoption of digital tools, including e-commerce

platforms, mobile advisory services, and traceability systems.

6. The resilience of organic farming systems to climate variability may also be explored.
7. A broader regional study could map the agripreneurial ecosystem across north-eastern states.

Appendices

Quantitative Questionnaire On

A STUDY OF ORGANIC FARMING AND ENTREPRENEURSHIP: PROBLEMS AND OPPORTUNITIES IN MIZORAM

The purpose of the study is to explore and describe the growth of the organic food industry in Mizoram. The study aims to accomplish the following objectives

1. To analyse the influence of organic farming scheme on entrepreneurship development in Mizoram
2. To compare entrepreneurial capacity of lead organic farmers under Mission Organic Mizoram with State recognized entrepreneurs under Entrepreneurship Development Schemes
3. To explore the contribution of farmers' managerial capacity on entrepreneurship development

Several closed-ended questions have been asked. The respondents are thus requested to respond attentively to all the questions. I assure you that the information obtained from this questionnaire will be used for research purposes only and will be kept confidential.

Part 1- Demographic Profile

Please respond to the questions below by ticking in the boxes provided

1. Name of the respondent (optional)	
2. Gender	Male Female

3. Age	18-25 years 25-35 years 35-45 years 45-55 years more than 55 years
4. Educational Background of Farmers	Illiterates Primary Higher Secondary Graduates Graduates and above
5. Years of experience in organic Farming	less than 1 year 1-3 years 3-5 years 5-7 years more than 7 years
6. Family Size	Enter number of family members

7. How much land do you own?	Less than 1 Ha 1 to 3 Ha More than 3 Ha
7. Annual Income of Family (family financial status)	Below 1 lakh per annum 1 lakhs to 3 lakhs per annum 3 lakhs to 5 lakhs per annum Above 5 lakhs per annum
8. Primary Source of Income for the family	Farming Activity Non-farming Activity Government source Daily wages Business Any other, please specify
9. Awareness of MOVCD-NER Scheme / Organic Scheme / Mission Organic Mizoram	Yes / No
10. Farmer's focus crop	Sugarcane Ginger Maize Oil palm Others

11. Farmer's investment in farm development	Below Rs 10,000 Rs 10000 - Rs 25,000 Rs 25000 - Rs 50,000 Rs 50000 - Rs 1,00,000 Above Rs 1,00,000
12. Government Subsidy availed in a year (including MGNREGS)	Below Rs 10,000 Rs 10000 - Rs 25,000 Rs 25000 - Rs 50,000 Rs 50000 - Rs 1,00,000 Above Rs 1,00,000
13. Do you have job card	Yes / No

Part 2: influence of background

The table below consists of certain statements related to entrepreneurial traits and intend regards of their background. On a scale of 1-5, please indicate the degree to which you agree with the statements given below based on your experience (1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree and 5=Strongly agree).

Farmers

Entrepreneurs

Statements (Dependent Variable)											
1. I have a clear idea to run my business											
2. I am generally optimistic											

3. I enjoy impressing others with the things I am able to do.											
4. I just kept on trying and I hardly gave up.											
5. I have confidence in my opinions, even if they are contrary to the general consensus											

6. I am free to decide for myself how to lead my business.											
7. What happens to my business in the future mostl y depend on me.											

11. Can you describe any unique or innovative practices you use in your business?
12. How do you market and sell your products?
13. What are the major issues faced by you in the business?
 - a. Market linkages
 - b. Irrigation problem
 - c. Soil condition
 - d. Unavailability of proper Subsidies
 - e. Ease of access to KCC or any other loans
 - f. No proper Agriculture link road
 - g. Land topography

h. Any other, please specify.....

Part 3: Impact of government policies

The table below consists of certain statements related of government policies on entrepreneurship intend. On a scale of 1-5, please indicate the degree to which you agree with the statements given below based on your experience (1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree and 5=Strongly agree).

	Farmers					Entrepreneurs				
Statements										
1. Government intervention is not required for entrepreneurship development.										
2. The availability of subsidy for farmers and entrepreneurs influence to start pursuing in new business venture.										
3. The government does not provide enough networking										

opportunities for my industry.											
4. Changes in government scheme allow farmers/entrepreneurs to take entrepreneurial initiative.											
5. It is easy to get permits and license (registration, GST code,etc.) from the government											

1. What are your views on Organic Farming as an option for business?

Part 4: Influence of availability of market

The table below consists of certain statements related to influence of availability of market for entrepreneurship. On a scale of 1-5, please indicate the degree to which you agree with the statements given below based on your experience (1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree and 5=Strongly agree).

Farmers

Entrepreneurs

Statements												
1. There is a good opportunity in the consumer market in my business.												
2. There are more barriers than opportunity for success in my business industry.												
3. There is an adequate access of information related to buyer needs												
4. There is no problem in operation and logistics in my industry.												
5. There is a huge gap in products and services in my industry.												

9. What are the schemes or initiatives that help the village in livelihood development?

- MGNREGS (Ni 100 inhlawhna)
- SEDP (State Flagship Program)
- MzSRLM
- PMGSY
- MOVCD-NER
- PMKSY
- Any other, pleaseSpecify....

9. What are your comments on organic farming and organic farming schemes?

Part 5: Access to finance

The table below consists of certain statements related to impact of access to finance on farmer and entrepreneurs. On a scale of 1-5, please indicate the degree to which you agree with the statements given below based on your experience (1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree and 5=Strongly agree).

Farmers					Entrepreneurs				

Statements											
1. My family and friends provide necessary funds for my business.											
2. It is easy to get Bank loan/ government subsidies											
3. It is important to do networking to access funds from investors.											
4. There is a good availability of venture capital/angel investment for my industry.											
5. I have a good understanding of different type of funding before starting my business.											

Part 6: Impact of intend and skill

The table below consists of certain statements related to the impact of intend and

skills of an individual for entrepreneurship development. On a scale of 1-5, please indicate the degree to which you agree with the statements given below based on your experience (1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree and 5=Strongly agree).

Farmers Entrepreneurs

Statements												
1. It is easy for me to quickly recognise innovative opportunities.												
2. I am fully prepared to take any risk.												
3. I have a good capacity to organise the resources.												
4. I have deep intention to build a sustainable society.												

5. I have a good understanding of different type of funding before starting my business.											

Part 7: Infrastructure and institutional support

The table below consists of certain statements related to Challenges and opportunity for farmers and entrepreneurs in the industry. On a scale of 1-5, please indicate the degree to which you agree with the statements given below based on your experience (1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree and 5=Strongly agree).

Farmers

Entrepreneurs

Statements											
1. There is no adequate information and assistance for my industry in any platform.											

2. There is a good community and organizations supporting my industry.											
3. There is a good support system from the banks as well as the government.											
4. There is not enough educational institution and training facilities for my industry.											
5. There is a good support from government with their schemes and government initiatives.											

8. What is the role of the Government of Mizoram in promoting Agriculture marketing as well as entrepreneurship?

9. What is the difference in value between products of conventional farming and organic farming?

Part 8: Training system

The table below consists of certain statements to the importance of training system for individual for entrepreneurship development. On a scale of 1-5, please indicate the degree to which you agree with the statements given below based on your experience (1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree and 5=Strongly agree).

Farmers. Entrepreneurs

Statements												
1. There is no formal training facility provided by the government for my industry.												
2. There is a good community organizing events and support for my industry												
3. There is no support from universities/ institution in R & D												

4. There is lack of availability of professional consultants.											
5. There is a good support from incubators as well as the government.											

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BRIEF BIODATA OF THE CANDIDATE



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- | | | |
|-----|-----------------------------|-------------------------------------|
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| 3. | Date and Place of Birth | : 7 th July 1990, Aizawl |
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| 10. | Current Designation & Level | : Entrepreneur |
| 11. | Academic Qualification | : MBA |

EDUCATIONAL QUALIFICATION

Examination	Name of Board/University	Year of Passing	Marks In Percent	Division/Class/Grade	Main Subject(s)
High School Leaving Certificate (HSLC)	Mizoram Board of School Education (MBSE)	2006	70.40%	I	NA
Higher Secondary School Leaving Certificate (HSSLC)	Mizoram Board of School Education (MBSE)	2008	58.40%	II	Science
Bachelor of Technology	National Institute of Technology Rourkela	2012	65.9%	I	Biomedical Engineering

Post Graduate Diploma in Management	Indian Institute of Management Raipur	2014	58%	NA	General Management
<i>Other Examination</i>					
UGC-NET	University Grant Commission	JULY 2016	Qualified	UGC-NET	Management

WORK EXPERIENCE

Designation	Name of Employer	Date of Joining	Date of leaving	Reason for leaving
Sales Advisor	Capex Enterprise Pvt Ltd	2 nd June 2014	6 th December 2014	For better Job
Manager - CSG	ICIC Lombard GIC Ltd	6 th December 2014	1 st December 2015	For better Job
Marketing and Operations Manager	All India Football Federation	10 th December 2015	10 th December 2017	For better Job

CEO	Angel Business Promoters of Mizoram	December 2017		Entrepreneurship
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BOOKS/JOURNAL PUBLISHED/ EDITED

1. Exploring The Post-COVID Reality of MSMEs In Mizoram: A Comprehensive Study of UDYAM-Registered Enterprises In Mizoram
2. The Role Of Organic Scheme On Entrepreneurship Development Among Farmers In Mizoram

PARTICULAR OF THE CANDIDATE

NAME OF CANDIDATE : MARK. LALDUHSAKA

DEGREE : Doctor of Philosophy (Ph.D.)

DEPARTMENT : Management

TITLE OF THESIS : A study of organic farming and
Entrepreneurship: problems and
opportunities in Mizoram

DATE OF ADMISSION : 29.07.2019

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1. DRC : 27th March 2020
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MZU REGISTRATION NO : 1906542

Ph.D REGISTRATION NO : MZU/Ph.D./ 1433 of 29.07.2019

& DATE

Extension (If any) : 20.07.2025 to 28.07.2026

Head

Department of _____

ABSTRACT

A STUDY OF ORGANIC FARMING AND ENTREPRENEURSHIP: PROBLEMS AND OPPORTUNITIES IN MIZORAM

**AN ABSTRACT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF
PHILOSOPHY**

MARK LALDUHSAKA

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**DEPARTMENT OF MANAGEMENT
SCHOOL OF ECONOMICS, MANAGEMENT AND
INFORMATION SCIENCES
FEBRUARY 2026**

**A STUDY OF ORGANIC FARMING AND ENTREPRENEURSHIP:
PROBLEMS AND OPPORTUNITIES IN MIZORAM**

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**In partial fulfillment of the requirement of the degree of Doctor of Philosophy in
Management of Mizoram University, Aizawl**

INTRODUCTION

Agriculture has long been the backbone of the economy of Mizoram, playing a central role in sustaining livelihoods, ensuring food security, and supporting rural development. A significant proportion of the state's population resides in rural areas and depends directly or indirectly on agriculture and allied activities for income and employment. Traditionally, farming in Mizoram has been characterized by subsistence-oriented practices, with shifting cultivation (jhum) being one of the predominant systems. While such practices have deep cultural and historical roots, they often face challenges related to low productivity, soil degradation, limited commercialization, and restricted access to organized markets. In the context of increasing population pressure, climate variability, and changing market demands, the need to modernize and diversify agricultural practices has become increasingly urgent.

In recent years, sustainable agriculture has gained considerable importance, particularly in environmentally sensitive regions such as the North Eastern states of India. Mizoram, endowed with rich biodiversity and relatively low levels of chemical input usage, possesses significant potential for organic farming. Organic agriculture not only promotes ecological balance and soil health but also offers opportunities for premium pricing and market differentiation. Recognizing this potential, policymakers have emphasized the promotion of organic farming as a strategic pathway for enhancing farmers' income, improving environmental sustainability, and strengthening rural entrepreneurship.

Agricultural entrepreneurship has emerged as a key concept in transforming traditional farming into a more dynamic and market-oriented sector. It involves innovation, value addition, risk-taking, and the effective utilization of resources to create profitable agricultural enterprises. In the context of Mizoram, promoting agricultural entrepreneurship means encouraging farmers to move beyond subsistence production toward commercial cultivation, processing, packaging, branding, and marketing of agricultural produce. Such transformation requires institutional support, access to finance, infrastructure development, skill enhancement, and effective value chain integration. To address these needs and

harness the region's organic potential, the Government of India introduced the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER). The scheme was designed to promote certified organic production in a cluster-based approach, facilitate the formation of Farmer Producer Organizations (FPOs), and develop complete value chains from production to marketing. By integrating farmers into organized groups and linking them directly with markets, the programme seeks to eliminate intermediaries, enhance price realization, and ensure better returns to producers. The initiative also emphasizes capacity building, quality control, post-harvest management, and branding of organic products to strengthen competitiveness in domestic and international markets.

The introduction of MOVCD-NER marked a significant policy shift toward structured and market-driven organic agriculture in the North Eastern Region. For Mizoram, where agriculture remains largely small-scale and fragmented, the scheme provides an institutional framework to integrate farmers into a collective system that enhances bargaining power and reduces individual risk. Cluster development under the scheme allows farmers to adopt standardized organic practices, obtain certification, and collectively manage inputs and outputs. This structured approach not only improves efficiency but also lays the foundation for entrepreneurial growth within rural communities.

Despite the promising objectives of the scheme, the practical impact of such interventions depends on multiple factors, including awareness among farmers, availability of technical knowledge, infrastructural support, access to credit, and effective market linkages. While policy frameworks may be well-designed, their implementation at the grassroots level often determines the extent of success. In Mizoram, geographical constraints, transportation challenges, and limited market connectivity can influence the outcomes of agricultural development programmes. Therefore, it becomes essential to examine how far the MOVCD-NER scheme has succeeded in promoting agricultural entrepreneurship and improving the socio-economic conditions of farmers.

This study focuses on analyzing the impact of the MOVCD-NER scheme on agricultural entrepreneurship in Mizoram . It seeks to evaluate the extent to which the scheme has contributed to income generation, employment creation, value addition, and market expansion for organic produce. Furthermore, the study explores the role of Farmer Producer Organizations in strengthening collective action and improving farmers' access to resources and markets. By examining both the achievements and challenges associated with the scheme, the research aims to provide a comprehensive understanding of its effectiveness in fostering sustainable agricultural development.

The importance of this study lies in its relevance to policymakers, researchers, and development practitioners. As India continues to emphasize doubling farmers' income and promoting sustainable agricultural systems, understanding the ground-level impact of flagship programmes becomes crucial. Insights from Mizoram can also offer lessons for other North Eastern states with similar socio-economic and ecological characteristics. Evaluating the strengths and limitations of MOVCD-NER can help identify gaps in implementation and suggest measures for improvement, such as enhanced training programmes, better infrastructure development, improved logistics, and stronger market integration.

Moreover, promoting agricultural entrepreneurship has broader implications for rural transformation. Entrepreneurial farmers are more likely to adopt innovative technologies, diversify crops, explore niche markets, and engage in value-added activities such as processing and packaging. This not only increases household income but also generates local employment opportunities and stimulates rural economies. In regions where alternative employment options are limited, strengthening agricultural entrepreneurship can reduce migration and contribute to balanced regional development.

In conclusion, the transformation of agriculture in Mizoram from subsistence-based cultivation to organized, market-orientedⁱⁱⁱ organic production requires sustained institutional support and effective implementation of development schemes. The

MOVCD-NER initiative represents a strategic effort to harness the state's organic potential and integrate farmers into competitive value chains. By examining its impact on agricultural entrepreneurship, this study contributes to a deeper understanding of how policy interventions can drive sustainable rural development and economic empowerment in Mizoram.

OBJECTIVE OF THE STUDY

The specific objectives of this study are as follows:

1. To analyse the impact of organic farming scheme on entrepreneurship development in Mizoram
2. To assess the economic impact of organic scheme in rural livelihood of Mizoram
3. To analyse the impact of subsidy on organic farm development
4. To explore the contribution of farmers managerial capacity on entrepreneurship development
5. To identify the challenges on marketing of organic products from Mizoram

OBJECTIVE OF THE STUDY

The following research hypotheses have been framed for the study:

1. There is a significant relationship between organic farming scheme and entrepreneurial development
2. The organic scheme in Mizoram has positive economic impact on rural economy
3. Subsidy significantly contributes to better organic farm development

RESEARCH METHODOLOGY

The present study aims to examine the impact of the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) on agricultural entrepreneurship in Mizoram

Research Design

The study is descriptive and analytical in nature. A descriptive research design has been used to understand the existing status of organic farming and agricultural entrepreneurship under the MOVCD-NER scheme in Mizoram. At the same time, an analytical approach has been adopted to evaluate the effectiveness of the scheme in terms of income generation, employment creation, value addition, and market access. This design helps in providing a comprehensive understanding of both the qualitative and quantitative aspects of the scheme's impact.

Sources of Data

The study is based on both primary and secondary data.

Primary Data:

Primary data were collected directly from the beneficiaries of the MOVCD-NER scheme. Structured questionnaires were administered to farmers, members of Farmer Producer Organizations (FPOs), and other stakeholders associated with the scheme. Personal interviews and field observations were also conducted to gather in-depth information regarding their experiences, challenges, and benefits received under the programme.

Secondary Data:

Secondary data were collected from official government reports, policy documents, publications of the Ministry of Agriculture and Farmers' Welfare, reports related to MOVCD-NER, academic journals, books, research articles, and relevant online sources. These sources provided background information and helped in understanding the broader framework and objectives of the scheme.

Sampling Design

The study adopted a purposive sampling method. Beneficiaries of the MOVCD-NER scheme from selected districts of Mizoram were chosen as respondents. Farmers who are actively engaged in organic farming under the scheme and members of FPOs were included in the sample to ensure relevant and reliable data. The sample size was determined based on accessibility, availability of respondents, and representativeness of the selected clusters.

Tools and Techniques of Data Collection

A structured questionnaire was designed to collect quantitative information regarding production levels, income changes, marketing practices, training received, and participation in FPO activities. The questionnaire included both closed-ended and open-ended questions to capture measurable data as well as personal opinions and perceptions.

In addition, informal discussions and interviews were conducted to gain qualitative insights into the functioning of the scheme, operational challenges, and entrepreneurial opportunities created through organic farming.

Methods of Data Analysis

The collected data were carefully classified, tabulated, and analyzed using appropriate statistical tools. Simple statistical techniques such as percentages, averages, and frequency distributions were used to interpret the quantitative data. Tables and charts were prepared to present the findings in a clear and systematic manner.

Qualitative data obtained from interviews and discussions were analyzed descriptively to understand the perceptions of beneficiaries and identify major issues affecting the implementation of the scheme.

Scope and Limitations of the Study

The study focuses specifically on beneficiaries of the MOVCD-NER scheme in Mizoram and examines its impact on agricultural entrepreneurship. The findings are based on the responses of selected farmers and may not represent all beneficiaries across the state. Time constraints, limited accessibility to remote areas, and reliance on self-reported information may also influence the results.

FINDINGS OF THE STUDY

The detailed analysis of primary and secondary data relating to the Mission Organic Value Chain Development for North Eastern Region (MOVCD-NER) in Mizoram reveals the following major findings:

1. Significant Expansion of Organic Cultivation

The scheme has led to a noticeable increase in the area under certified organic farming. Farmers who were previously practicing traditional cultivation have shifted

toward structured organic production under cluster-based approaches. Awareness regarding organic standards, certification procedures, and sustainable farming practices has improved considerably.

2. Improvement in Farmers' Income

A majority of beneficiaries reported moderate to substantial growth in income after joining the scheme. Collective marketing, better price realization for certified produce, and reduced dependency on intermediaries contributed to improved profitability. However, income gains vary depending on crop type, market access, and scale of production.

3. Strengthening of Farmer Producer Organizations (FPOs)

The formation of FPOs has enhanced collective action among farmers. These organizations have improved bargaining power, facilitated bulk sales, ensured better input procurement, and created structured market channels. FPOs have emerged as a critical institutional mechanism for promoting agricultural entrepreneurship.

4. Development of Value Chain Mechanisms

The scheme has supported value chain development through aggregation, grading, packaging, and marketing of organic produce. In some clusters, efforts toward branding and value addition have been initiated, indicating a gradual transition from raw produce selling to market-oriented agribusiness activities.

5. Capacity Building and Skill Enhancement

Training programmes conducted under the scheme have improved farmers' technical knowledge regarding organic production methods, pest management, soil health management, and post-harvest practices. Beneficiaries demonstrated increased confidence in managing their farms as entrepreneurial units rather than subsistence holdings.

6. Employment Generation and Rural Engagement

The implementation of the scheme has created direct and indirect employment opportunities, particularly in activities such as sorting, grading, packaging, transportation, and marketing. Youth participation in agricultural activities has shown slight improvement in areas where FPOs are active.

7. Infrastructure and Market Constraints

Despite progress, infrastructural limitations remain a major challenge. Inadequate storage facilities, poor transportation networks, limited processing units, and high logistics costs reduce the competitiveness of organic products in distant markets. Market fluctuations and limited local demand for premium-priced organic goods also affect income stability.

8. Certification and Financial Bottlenecks

Some respondents highlighted delays in organic certification processes and irregular financial assistance. Limited access to institutional credit and working capital restricts the expansion of entrepreneurial ventures at the farm level.

9. Positive Shift Toward Entrepreneurial Mindset

Overall, the scheme has encouraged a shift in farmers' perception—from traditional cultivation to a more business-oriented approach. Beneficiaries increasingly recognize the importance of quality control, branding, market linkage, and collective enterprise.

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