



URBAN COMMUNITY LEARNING PLATFORMS FOR SMALLHOLDING  
ECOLOGICAL ORGANIC FARMING PRACTITIONERS



ORANUT NAOWAKATE

A Thesis Submitted to the Graduate School of Naresuan University

In Partial Fulfilments of the Requirements

for the Doctor of Philosophy in Social Development

2025

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Organic Farming Practitioners"

by Oranut Naowakate

has been approved by the Graduate School as partial fulfilment of the requirements  
for the Doctor of Philosophy in Social Development of Naresuan University

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<b>Academic Paper</b>	Ph.D. Dissertation in Social Development, Naresuan University, 2025
<b>Keywords</b>	Constructivist Grounded Theory, Ecological Organic Farming, Transformative Learning

## ABSTRACT

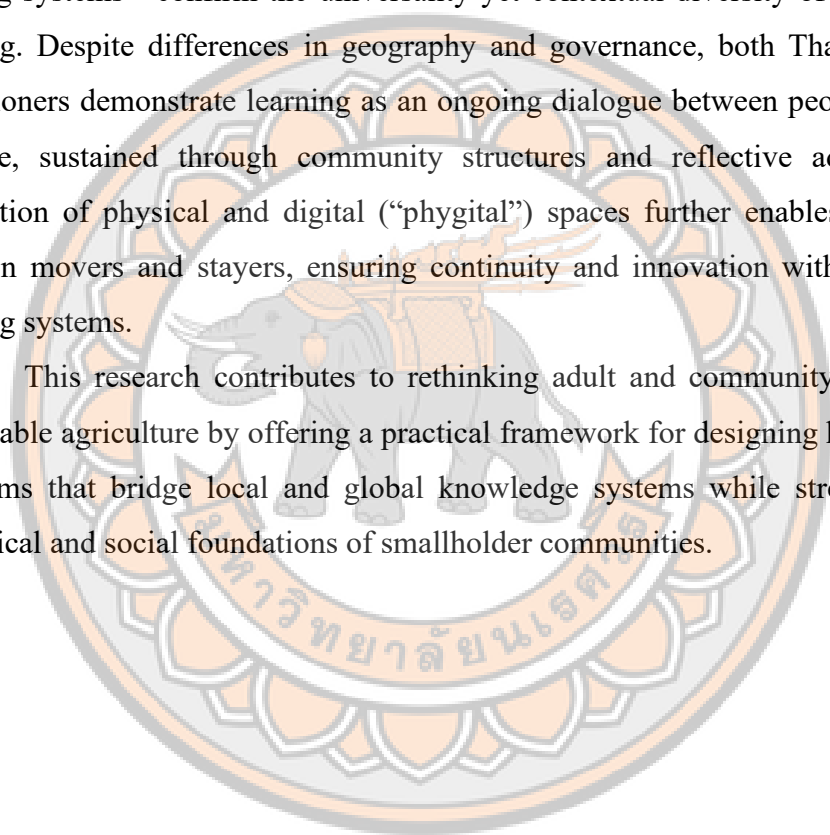
This study investigates how smallholding ecological organic farming practitioners (SOFPs) learn, adapt, and transform within dynamic socio-ecological systems, focusing on the Songkwae Organic Network (SKON) in Phitsanulok Province, Thailand, and complemented by case studies in rural Scotland. While transformative learning has been widely explored in adult education, existing scholarship reveals several key gaps: Transformative Learning Theory (TLT) remains centred on individual transformation and insufficiently explains collective, community-based learning; studies rarely examine the contextual realities of Thai organic farming networks; few analyses consider long-term learning trajectories; and structured models for hybrid physical–digital community learning platforms are largely missing. This research addresses these gaps by examining how learning occurs beyond formal educational systems and how community learning platforms enhance practitioners' transformation and resilience.

Drawing upon TLT and employing Constructivist Grounded Theory (CGT) methodology, qualitative data were collected through semi-structured interviews, participant observation, and After-Action Reviews (AARs). Findings reveal that learning among SOFPs is not a supplementary process but a core mechanism driving transformation, resilience, and sustainability in both individual and community systems. The study identifies eight interrelated learning components—experience, social

learning, reflection, adaptation, emotion, knowledge, action, and reintegration—that collectively form a cyclical, hybrid learning process.

These findings underpin the development of two integrative models: the Hybrid Transformative Learning Model (HTLM) and the Hybrid Integrated Facilitation Model (HIFM), which together conceptualise learning as a contextual, participatory, and cyclical process connecting ecological engagement, moral commitment, and adaptive experimentation. Complementary Scottish cases—including smallholder and crofting systems—confirm the universality yet contextual diversity of transformative learning. Despite differences in geography and governance, both Thai and Scottish practitioners demonstrate learning as an ongoing dialogue between people, place, and practice, sustained through community structures and reflective adaptation. The integration of physical and digital (“phygital”) spaces further enables collaboration between movers and stayers, ensuring continuity and innovation within community learning systems.

This research contributes to rethinking adult and community education for sustainable agriculture by offering a practical framework for designing hybrid learning platforms that bridge local and global knowledge systems while strengthening the ecological and social foundations of smallholder communities.



## ACKNOWLEDGEMENT

This dissertation marks the culmination of a long and transformative journey one that would not have been possible without the guidance, generosity, and encouragement of many individuals and communities who have shaped my learning in both academic and personal ways.

First and foremost, I offer my deepest gratitude to my advisor, **Associate Professor Patcharin Sirasoonthorn, Ph.D.**, whose **wisdom, patience, and unwavering belief in my work guided me through** every stage of this research. Her insightful feedback, mentorship, and thoughtful encouragement continually reminded me that knowledge is both a journey and a responsibility.

I am sincerely grateful to the **Graduate School of Naresuan University** for awarding me the *High Capability Student Scholarship*, which enabled me to complete this study. I also extend my appreciation to the **Faculty of Social Sciences** and the **Department of Sociology and Anthropology** for their academic support on Scottish field research through the *Study and Research Fund* generously donated by **Associate Professor Phudit Tejativaddhana, Ph.D.** The Faculty of Social Sciences has been a nurturing environment that has strengthened both my critical thinking and fieldwork skills.

I would also like to express my sincere appreciation to the members of my dissertation committee for their invaluable guidance and constructive insights throughout this journey. I am grateful to **Associate Professor Somsak Srisuntisuk, Ph.D., Chair, Faculty of Humanities and Social Sciences, Khon Kaen University**, for his thoughtful direction and supportive leadership; to **Assistant Professor Supasit Tana, Ph.D.**, and **Assistant Professor Rudklaw Premprasit, Ph.D.**, Internal Examiners from the **Faculty of Social Sciences, Naresuan University**, for their rigorous questions, careful reading, and insightful suggestions that strengthened the clarity and depth of this work; and to **Associate Professor Wirathep Pathumcharoenwattana, Ph.D., Faculty of Education, Chulalongkorn University**, my External Examiner, for his expert evaluation and meaningful recommendations on lifelong learning that enriched the academic contribution of this dissertation. **Associate Professor Worasit Tochampa, Ph.D.** Internal examiner at thesis proposal defence

from Faculty of Agriculture, Natural Resources and Environment, for his valuable suggestion on extending the research areas for a greater impact of study. Their collective wisdom, encouragement, and generosity have profoundly shaped this research.

This research would not have been possible without the openness and collaboration of the **Songkwae Organic Network (SKON)** and all the **smallholding ecological organic farming practitioners (SOFPs)** in Phitsanulok Province who welcomed me into their farms, homes, and communities. Their resilience, wisdom, and collective spirit taught me what it truly means to learn from life. I extend this gratitude to all Songkwae Organic members and networks—to whom I dedicate the benefits of this research. May it continue to support your learning, connection, and shared growth.

My heartfelt thanks go to my research assistant, **Ms. Nipaporn Tubhun**, for her patience, dedication, and invaluable support during fieldwork, data collection, and transcription. Your commitment lightened my journey more than words can express.

I am equally indebted to the friends, mentors, and fellow learners in Scotland—especially those in the Highlands and Islands; **Macleod's Organics, Laikenbuie Ecology Trust, Glachbeg Croft, Ms Emma Anne Stewart, Black Isle Veg, Mandala Farm**, and the **Maclaren family of Broadley House**—for generously sharing their time, experiences, and reflections. Your openness and grounded wisdom have deepened the comparative insights of this study and enriched my understanding of learning, place, and resilience.

Before the end, to my beloved families in Thailand and Scotland: thank you for standing beside me through every challenge. My heartfelt gratitude goes to my big brother, **Mr Anurak Naowakate**, whose trust and support—especially in serving as my scholarship guarantor—made this journey possible. My deepest love and appreciation go to my husband, **Mr James Charles Reid**, whose humour, love, and even our moments of struggle have strengthened and sustained me throughout this path. I am also profoundly grateful to **Mr and Mrs H. H. Reid**, whose kindness and steady support in caring for my children enabled me to devote myself entirely to these studies. And to my two precious children, **Ms Kaya Naowakate Reid and Mr Keiran James Reid**—your silence, laughter, progress, and light remind me every day why we strive to create a

world that is more nurturing, compassionate, and sustainable. I dedicate this work to you both.

Finally, I extend my thanks to the land, the soil, the seeds, and the people whose lives interweave within the organic learning communities that inspired this research. This work is for all who continue to cultivate hope and knowledge in the physical and digital fields of our shared world.

Oranut Naowakate Reid



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# CHAPTER I

## INTRODUCTION

### **Rationale and Significance of the Study**

This research begins with a fundamental question: *How can a learning platform be developed for smallholding ecological organic farms?* The question emerged from ongoing observations of the Songkwae Organic Network (SKON), a community of practitioners in Phitsanulok Province, Thailand.

In recent decades, the dynamics of modern society—shifts in identity, discourse, and everyday practices—have increasingly challenged conventional ways of living. For smallholding organic farm practitioners (SOFPs), these challenges intersect with pressing issues of food safety, sustainability, and community resilience. SKON members exemplify these dynamics, representing a diverse group of practitioners engaged in small-scale ecological farming while simultaneously negotiating personal values, cultural practices, and community expectations.

The significance of this study lies in its attempt to understand and strengthen the processes through which these practitioners learn, adapt, and strategically transform. While previous work on food safety and organic agriculture in Thailand has highlighted policy frameworks and production techniques, far fewer studies have examined learning platforms as vehicles for community transformation. This research seeks to fill that gap.

Recent transformations around the world, including in Thailand's education and learning system, further underscore the urgency of rethinking how communities, including smallholding organic farmers, engage in learning. Many scholars identified it as three interrelated phenomena that are reshaping the landscape:

1. Decoupling of skill and qualification – Educational attainment no longer guarantees employable skills. Many graduates find themselves in jobs that require lower qualifications, while employers increasingly demand demonstrable competencies rather than degrees (OECD, 2019, p. 12; UNESCO, 2022).

2. Decline of public schooling – Public schools face declining enrolment and closures, reduced budgets, shifting values among parents and students, and political

contestation over curricula. These changes weaken the role of public schooling as the central institution of learning (Field, 2000; Hammer, 2019, pp. 317–319, 321–322).

3. Rise of learning alternatives – The learning market has diversified with the emergence of EdTech, entrepreneurs, and international qualifications such as the GED. Non-formal and digital pathways are expanding, offering flexible and adaptive options for learners (Commission, 2020, pp. 2–3, 6, 12; Green, 2006, pp. 312, 318–319, 322–323; Schuetze & Casey, 2006, pp. 283–285).

At the same time, Thailand’s demographic transition toward an ageing society adds another critical layer to this context. By 2030, one in every three Thais will be over 60 years old (Kantachote & Wiroonsri, 2023; WHO, 2023). This shift places lifelong learning at the centre of social development, not only to maintain employability but also to ensure active citizenship, community participation, and intergenerational knowledge transfer. For smallholding ecological organic farming practitioners, many of whom are older adults or retirees seeking supplementary income, the need for accessible, flexible, and context-based learning platforms is particularly urgent. Lifelong learning, in this sense, was not directly confined to economic productivity. Still, it extends to sustaining health, well-being, and ecological stewardship, positioning community learning platforms as vital mechanisms for resilience in an ageing society.

Together, these transformations illustrate a broader shift away from state-centred, formal education toward pluralised learning spaces (Brookfield, 1988; Edwards et al., 2009; Field, 2000; Illich, 1973; Rogers, 2005; Selwyn, 2013). Within this context, smallholding ecological organic farming practitioners (SOFPs) represent not just agricultural innovators but also participants in the new ecosystem of community-driven, non-formal learning. This research underscores the importance of designing learning platforms that are responsive to local practices while aligning with broader societal transformations.

## **Background**

The term "smallholding" refers to agricultural units that are smaller than large-scale industrial farms, often managed by individuals or families (Holloway, 2000, p. 307; 2002, p. 11). In the British context, smallholders are sometimes referred to as “hobby farmers” who balance agriculture with other livelihoods (Ilbery & Bowler, 1998,

p. 164). Within SKON, practitioners typically farm land ranging from less than 1 (2.52929 rai) to no more than 25 acres (63.2321 rai). Many pursue farming as a supplementary source of income or a lifestyle choice rather than as their primary occupation (Charatsari et al., 2022; Naowakate & Sirasoonthorn, 2022c).

Earlier research has highlighted that smallholders in Phitsanulok employ diverse management models, including culture-based, leadership-based, partnership/community-based, and biological-based approaches (Naowakate & Sirasoonthorn, 2022a, 2022b). These models reflect not only farming practices but also learning processes, values, and community dynamics. From an adult education perspective, such practices offer fertile ground for exploring alternative learning models that extend beyond formal education to encompass lived, experiential learning.

### **Pilot Study**

To establish a more concrete foundation, a pilot study was carefully planned and conducted in Phitsanulok Province between November 2022 and November 2023. The study included 28 SOFPs from 16 farms, selected through theoretical sampling from active SKON participants. Data collection involved constructivist grounded theory (CGT) methods, including semi-structured interviews, participant observation, and *After-Action Reviews (AARs)*.

The pilot study revealed that practitioners learn through both individual reflection and group-based negotiation. They frequently participate in SKON's collective initiatives—fresh markets, farm tours, and certification activities under the Participatory Guarantee System (PGS). However, despite this collective engagement, there remains no well-defined learning platform that integrates individual experiences into a broader, transformative framework.

The findings highlighted three critical insights:

1. Fragmented practices – Farmers' approaches to organic cultivation are shaped by diverse personal experiences, financial status, local municipality incentives, and educational backgrounds, leading to inconsistent practices.

2. Marketplace as learning space – The organic market emerged as a central site of exchange, where practitioners negotiated standards, shared knowledge, and developed common practices.

3. Need for a collective framework – While SKON fosters collaboration, the absence of a structured learning platform limits the long-term sustainability of shared practices.

These insights suggest that SOFPs are already engaged in forms of collective learning. Still, a stronger theoretical and practical framework is required to systematise, justify, validate, and expand knowledge forms of practice.

### **Gap of Knowledge**

This study addresses a clear research gap: the lack of a systematic framework for understanding and supporting learning processes among smallholding ecological organic farming practitioners.

Jack Mezirow's Transformative Learning Theory (TLT) provides a valuable starting point. His framework, which encompasses frames of reference, communicative learning, and discourse (Mezirow, 1991a, pp. 12-14), aligns with many of the dynamics observed in SKON. His four learning processes—elaboration of existing perspectives, development of new perspectives, transformation of points of view, and transformation of mental habits (Mezirow, 1991b, pp. 6-7)—help explain how adults adapt to new experiences.

However, several limitations of TLT become apparent in this context:

1. It emphasises individual transformation, with less attention to collective or community-based learning (Brookfield, 2000, pp. 144-146; Collard & Law, 1989, pp. 106-108; Welton, 1995, p. 18).

2. It provides limited guidance on methodology, particularly in capturing the voices and practices of farmers within their socio-cultural contexts (Dirkx, 1997, pp. 80-82; Taylor, 1997, pp. 55-58; Taylor & Cranton, 2013, pp. 36-39).

3. Its foundations in earlier forms of grounded theory (Glaser & Strauss, 1967, pp. 1-18) have been critiqued as insufficient for explaining complex, situated practices in contemporary society (Charmaz, 2006, pp. 2-5; Clarke, 2005, pp. xxv-xxvii; Merriam & Baumgartner, 2020, pp. 111-113).

Moreover, these limitations become even more visible when placed against the backdrop of Thailand's shifting education system. As the OECD (2019, p. 12) and UNESCO (2022, p. 6) highlight, three significant phenomena are reshaping how people

learn: (1) the decoupling of skills and qualifications, (2) the decline of public schooling (Field, 2000, pp. 15, 31–32, 49; Hammer, 2019, pp. 317–319, 321–322), and (3) the rise of diverse learning alternatives (European Commission, 2020, pp. 2–3, 6, 12; Green, 2006, pp. 312, 318–319, 322–323; Schuetze & Casey, 2006, pp. 283–285). At the same time, Thailand's transition into an ageing society elevates the importance of lifelong learning, not only as an economic necessity but also as a foundation for social participation, intergenerational knowledge transfer, and ecological stewardship (Chayovan & Knodel, 2019, pp. 8-11; Knodel, 2014, pp. 5-7). Nevertheless, current studies on organic farming and adult education rarely address how older adults—many of whom are smallholding practitioners—engage in non-formal, community-driven learning processes.

For these reasons, this research combines TLT with Constructivist Grounded Theory (CGT), which emphasises the co-construction of meaning between researchers and participants and is well-suited to analysing lived experiences in context (Charmaz, 2014a, pp. 14-17). By applying CGT to SOFP practices, this study seeks to extend TLT beyond its individual focus, situating transformation within community learning platforms and contributing to broader debates on lifelong learning in an ageing society. Therefore, the study addresses key gaps in current knowledge: TLT's focus on individual transformation does not account for collective, community-based learning; existing scholarship rarely examines Thai organic farming contexts; few studies explore long-term learning trajectories; and there is a lack of structured models for community learning platforms, especially in hybrid physical–digital environments. This research makes new contributions through the Hybrid Transformative Learning Model (HTLM) and the Integrated Facilitation Model (HIFM), and through an expanded understanding of community learning platforms operating across physical, social, and digital spaces. These insights advance both theory and practice by explaining how transformation occurs collectively, contextually, and over time among smallholder ecological organic farming practitioners.

## Summary and Research Questions

This chapter has outlined the rationale, background, pilot study, and theoretical gap that underpin this research. The study argues for the development of a comprehensive learning platform that integrates the lived experiences of smallholding practitioners into transformative, community-based frameworks.

The central research questions are:

1. What are the core elements of transformative learning in the urban community of smallholding ecological organic farming practitioners, particularly in the case of SKON?

This question addresses how SOFPs, many of whom are older adults or semi-retirees, engage in experiential and collective learning in ways that sustain livelihoods, health, and community participation in an ageing society.

2. How can a community learning platform be developed for transformative learning among urban community smallholding organic farming practitioners?

This question focuses on designing learning spaces that not only systematise fragmented practices but also serve as vehicles for lifelong learning, intergenerational knowledge exchange, and ecological stewardship.

### **Concluding statement:**

This study, therefore, positions the Songkwae Organic Network (SKON) as both a local case and a lens through which to understand how smallholding ecological organic farming practitioners navigate learning in an era when the decoupling of skills from qualifications marks Thailand's education system, the decline of public schooling, and the rise of diverse learning alternatives. At the same time, Thailand's transition toward an ageing society highlights the increasing importance of lifelong learning—not only for employability but also for sustaining community participation, intergenerational knowledge exchange, and ecological resilience. Against this backdrop, the study emphasises the pressing need for community-driven platforms that can facilitate transformative, context-based adult learning for both current and future generations.

## Objectives of the Research

The objectives of this research are:

1. To examine adult learning models that support lifelong learning among urban community organic farmers.
2. To develop community-based learning platforms for smallholding ecological organic farming practitioners.
3. To propose learning approaches and modular learning designs that promote intergenerational engagement and community sustainability.

## Research Definitions

### 1. Transformative Learning (Theoretical definition):

Transformative learning is a process of effecting change in one's frame of reference comprising habits of mind and points of view so that it becomes more inclusive, discriminating, open, and integrative of experience (Mezirow, 1991b, pp. 6-7,12).

### 2. Transformative Learning (Operational definition):

Adult learning that facilitates the transformation of problematic frames of reference among smallholding ecological organic farm practitioners is delivered through a platform that enables practitioners to address dilemmas and adapt practices within their communities, with particular emphasis on lifelong learning among ageing practitioners.

### 3. Ecological Organic Farming (Theoretical):

It is a holistic and scientifically grounded approach that integrates ecological principles into agricultural systems. It sustains and regenerates agroecosystems through biodiversity, soil fertility management, and reduced reliance on external chemical inputs, while promoting food security and human well-being (Altieri, 2018, p. 12; Eyhorn et al., 2019, pp. 253-254; Gliessman, 2021, pp. 23-25).

### 4. Ecological Organic Farming (operational):

In this study, ecological organic farming refers to organic farming practices that not only promote the well-being of agroecosystems through holistic, scientifically grounded methods but also sustain practitioners' livelihoods through tailored, systematic processes that encourage active citizenship. Within the context of SKON, it

also serves as a community learning platform, where SOFPs adapt to challenges through experiential learning, reflection, and knowledge sharing, thereby linking ecological practice with transformative learning and community resilience.

### **5. Smallholdings (Theoretical):**

Theoretically, small-scale farming is defined differently across global and Thai contexts, but both share a common focus on limited land area, localised management, and household-based labour systems. International organisations such as FAO, IFAD, and the World Bank generally characterise small-scale farms as operating on less than 2–10 hectares (approximately 12.5–62.5 rai), with variations depending on ecological conditions and policy purposes (Food & Agriculture Organization of the United, 2012; International Fund for Agricultural, 2013; World Bank, 2020). In Thailand, practical classifications recognise a wider operational range, from less than one rai to 50 rai, and, in some programmes, up to 100 rai for orchard-based or ecological farming systems, as reflected in national agricultural surveys and policy frameworks (Ministry of & Cooperatives, 2017; National Statistical, 2020). Taken together, these perspectives demonstrate that small-scale farming is a flexible, context-dependent concept shaped by local agricultural practices, land-use patterns, and socio-economic realities.

### **6. Smallholdings (Operational):**

In this research, therefore, smallholdings are agricultural holdings smaller in scale than industrial farms, with sizes between under one rai and not over 100 rai. It is often managed by families or communities. They emphasise diversified production, local knowledge, and sustainable or alternative farming practices such as organic and agroecological methods.

### **7. Smallholding Organic Farm (Theoretical):**

A Smallholding Organic Farm in this research refers to a socio-ecological learning unit where organic production, local knowledge, and community relationships interact. It is defined not only by scale but by its role as a site of continuous experiential learning, ecological adaptation, and value-driven practice that supports sustainable livelihoods and community resilience (Altieri, 2018; Food & Organization, 2012; Gliessman, 2015; Lave & Wenger, 1991).

### **8. Smallholding Ecological Organic Farm (Theoretical):**

The Smallholding Ecological Organic Farming refers to small-scale organic farming practices that avoid all forms of prohibited synthetic chemicals according to IFOAM and Organic Thailand standards. These practices are grounded in a holistic understanding of ecological systems—plants, animals, and human communities—and emphasise sustainability within the local socio-ecological context (Gliessman, 2015; IFOAM, 2005; Kotschi, 2007).

### **9. Smallholding Ecological Organic Farm (Operational):**

A Smallholding Ecological Organic Farm in this research refers to a small-scale farm operating on less than one rai up to 100 rai, using ecological organic methods that prohibit all synthetic chemicals under IFOAM, such as Participatory Guarantee System (PGS) and Organic Thailand standards. These farms typically practice mixed cropping, ecological soil and pest management, small-scale processing, and direct-to-consumer marketing. They also serve as learning spaces where farmers share knowledge, conserve local varieties, and engage in community-based environmental stewardship.

### **10. Smallholding Ecological Organic Farming Practitioner / SEOFP (Operational):**

Individuals who engage as social actors and agents within smallholding ecological organic farming, whether through full-scale farming or specialised aspects of the organic farming business. In this study, the SEOFPs are also understood as adult learners and community members who co-create knowledge, adapt practices, and contribute to the resilience of the Songkwae Organic Network (SKON).

### **11. Urban Community (Theoretical):**

Urban communities are collective forms of interaction that bring together diverse actors—residents, institutions, and civil society—to co-design and co-produce shared goods and services. They represent the social and institutional components of the city, in which collective experiences generate insights into collaboration, participation, and resilience (Healey, 1997, pp. 52–56; Forrest & Kearns, 2001, p. 2130).

## **12. Urban Community (Operational):**

An urban community brings together diverse actors to co-produce shared goods and best practices, reflecting the social and institutional dimensions of city life. In the twenty-first century, these communities are increasingly shaped by urban-rural link culture and digitalisation, spanning both physical commons and digital platforms. Such hybrid spaces transcend traditional boundaries, providing flexible opportunities for intergenerational and lifelong learning.

## **13. Urban Community Learning Platforms (Operational):**

Urban Community Learning Platforms refer to hybrid physical, digital, and social-institutional spaces through which diverse urban actors co-produce shared goods, practices, and knowledge. Shaped by urban-rural link cultures and digitalisation, these platforms transcend traditional spatial and institutional boundaries, enabling flexible, participatory, and lifelong learning processes that support collective resilience and adaptive capacity in contemporary urban communities.

### **Scope of the Study**

#### **1. Scope of theory and concepts:**

This study draws on Transformative Learning Theory (Mezirow, 1991b) and Constructivist Grounded Theory (Charmaz, 2004, 2014b). It explores adult learning as a process of reframing perspectives, grounded in lived experiences and contextualised within urban community learning platforms, while addressing the challenges and opportunities of Thailand's ageing society and the significance of lifelong learning.

#### **2. Scope of unit analysis:**

The focus is on Smallholding Ecological Organic Farming Practitioners (SEOFPs). Participants include farmers, entrepreneurs, market actors, consumers, and stakeholders engaged in SKON or related organic initiatives, with a particular focus on the participation of older adults and retirees who are increasingly entering the organic farming sector.

#### **3. Scope of time:**

The study builds on pilot work conducted in 2022, with complete data collection and analysis scheduled to take place between 2023 and 2025. This research is projected to reach completion by 2025.

#### **4. Scope of area of study:**

The primary setting is Phitsanulok Province, Thailand, with a focus on SKON and its associated activities. The study contributes to the sociology of education and adult learning by examining how practitioners transform knowledge and practices through both informal and community learning platforms, situated within the broader demographic context of lifelong learning in an ageing society.

The best practice of the crofting system in Scotland, UK, includes the use of theoretical sampling. The interactive process involves a field trip from 2024 to 2025. Organic farms, which included Macleod's Organic, Laikenbuie Ecology Trust and the residents, Black Isle Veg., Glachbeg Croft, Mandala Garden, Ms Emma Stewart and Broadley house, retired Horticulturalist and entrepreneur.

#### **Transition to Chapter 2**

Having outlined the rationale, significance, pilot study, research gap, objectives, definitions, and scope of this study, the next chapter turns to the theoretical and conceptual foundations that guide the research. Chapter 2 will review the development of Transformative Learning Theory (TLT), examine its critiques and limitations, and consider its relevance to adult learning in smallholding ecological organic farming. This approach shows how TLT expands to address the realities of lifelong learning in Thailand's ageing society and highlights the role of intergenerational participation in community-based learning. The chapter will also situate the study within the broader framework of Constructivist Grounded Theory (CGT), providing the methodological and conceptual tools necessary to construct a learning platform that reflects both individual transformation and collective community practice.

## CHAPTER II

### LITERATURE REVIEW

This chapter reviews the theoretical and empirical literature that informs this study on transformative learning and community learning platforms among smallholding ecological organic farming practitioners (SOFPs). The review is structured to situate the research within three interrelated domains: (1) organic farming and smallholdings as socio-ecological practices; (2) transformative learning theory (TLT) as a framework for understanding adult learning and change; and (3) community and platform-based approaches as mechanisms for supporting collective learning.

By synthesising these strands of literature, this chapter identifies the gaps that underpin the present study and develops the conceptual framework guiding the research. The review begins with the context of small-scale organic farming or smallholdings in Thailand, before examining the Songkwae Organic Network (SKON) as a case of community-based organic agricultural practice. It then explores transformative learning theory, critiques of it, and its applicability to adult learning in the context of organic farming. Finally, it examines community learning platforms and related models, culminating in the formulation of a theoretical framework for this research.

#### **Organic Farming, Smallholdings, and Ecological**

Organic farming and smallholdings are closely interrelated concepts that play a crucial role in sustainable agriculture and support both urban and rural development.

##### **1. Organic farming**

Organic farming is a holistic approach to agriculture that relies on natural inputs and ecological processes rather than synthetic fertilisers, pesticides, or genetically modified organisms. Its principles emphasise soil health, biodiversity, and environmental balance, using practices such as crop rotation, composting, biological pest control, and cover crops (FAO, 2018, pp. 3-5; Gomiero et al., 2011; IFOAM, 2005; International, 2020, pp. 2-4; Kumar et al., 2023, pp. 1-24; Reganold & Wachter, 2016a; 2016b, pp. 1-2; Tiwari, 2023, pp. 29-32). The benefits of organic farming extend beyond the production of chemical-free food: it promotes environmental stewardship, reduces

pollution, conserves water, and supports ecosystem resilience (Gomiero et al., 2011, pp. 95-124; Lampkin, 1990, pp. 34-39).

## 2. Smallholdings

Smallholdings also referred to as small farms, family farms, or hobby farms are agricultural holdings typically managed by individuals, families, or small groups of practitioners on relatively small areas of land. Holloway (2000, 2002) notes that smallholdings often depend heavily on family labour and limited mechanisation. They frequently adopt diversified farming systems that combine crops, livestock, agroforestry, and aquaculture. Smallholdings play a crucial role in global food production, particularly in developing countries, contributing to food security, poverty reduction, and improved rural livelihoods (IFAD, 2011, 2013; World Bank, 2008; World Economic, 2022; Zero Carbon, 2023).

**Table 1 Ecological-Area vs Total-Area (Definition for Chapter 2)**

Context	Definition of Small-Scale Farm	Key Notes	Ecological-Area vs Total-Area
International (FAO)	Farms operated mainly by household labour; often < 2 hectares (< 12.5 rai)	Smallholders vary by region.	Ecological area often equals total area because organic systems are integrated.
IFAD / World Bank	Smallholders typically < 2–5 hectares (12.5–31 rai)	Based on labour + limited capital	The ecological area is typically the whole operational area, except when mixed systems are present.
Global Agricultural Research	Small-scale can extend up to 10 ha (~62.5 rai)	Used in agroecology/landscape studies	The ecological area may be smaller than the total area if only part of the area is organic.
Thailand (MOAC)	Small-scale varies by crop: < 10–20 rai	High-value crops have smaller thresholds	Often, only 30–60% of the total area is ecologically significant.
Thailand (NSO 2020 Census)	Many small farms fall between 0–15 rai	Based on the agricultural census	Census records the total area, not the ecological area.

Context	Definition of Small-Scale Farm	Key Notes	Ecological-Area vs Total-Area
Thai Organic Practice (PGS/Organic Thailand)	Organic farms typically 1–50 rai; up to 100 rai for orchards/ecological farms	Recognises orchard & mixed systems	Strong distinction: ecological-area is only the land actively managed organically; total-area may be larger.
This Research (SKON)	Smallholding ecological organic farms < 1–100 rai, depending on activity	Contextual & practice-based	Ecological-area = organic production zone; Total-area = includes forest, buffer zones, cultural areas, housing, etc.

In this study, it is important to distinguish between the **ecological area and the total area**. *Ecological area* refers to the portion of land actively managed through ecological organic practices—such as mixed cropping, organic orchards, soil-building zones, and integrated plant–animal systems. In contrast, *total area* refers to the overall landholding, which may also include non-agricultural spaces, forested zones, fallow land, or areas under transition. This distinction is essential for accurately understanding smallholding ecological organic farms, where only part of the total land may be certified or managed organically. At the same time, the remainder supports household livelihood, ecological buffers, or cultural functions.

The linkages between smallholdings and organic farming are notable:

**1. Sustainability:** Smallholders are often well-suited to organic farming because their scale allows for flexible, low-input, diversified practices such as composting and mixed cropping (Bandanaa et al., 2024; Raveloaritiana et al., 2024).

**2. Traditional knowledge:** Many smallholders draw on intergenerational farming wisdom that aligns with organic principles, such as seed saving and natural soil management (Olawuyi et al., 2024).

**3. Community cohesion:** Smallholding-based cooperatives, farmers' markets, and community-supported agriculture (CSA) strengthen social ties while supporting organic practices (Jouzi et al., 2017).

**4. Economic viability:** Organic production provides smallholders with access to niche markets and premium prices, thereby improving their livelihoods and resilience (Crowder & Reganold, 2015).

**5. Environmental stewardship:** Smallholders contribute to climate change mitigation and biodiversity conservation through the adoption of agroecological practices (Altieri, 2018).

### **3. Ecological Organic Farming (EOF)**

Ecological Organic Farming refers to an agricultural system grounded in ecological principles, in which production processes are designed to sustain and enhance the health of soils, ecosystems, biodiversity, and human communities. It prohibits all forms of synthetic agrochemicals in order with IFOAM Organic Standards (IFOAM, 2014) and Organic Thailand regulations (ACFS, 2019). Instead, it relies on biological and ecosystem-based processes, including nutrient cycling, soil regeneration, ecological pest management, intercropping, and agro-biodiversity conservation, as emphasised in agroecological science (Altieri, 2002; Gliessman, 2015).

Beyond chemical avoidance, ecological organic farming adopts a systems approach that views the farm as a dynamic socio-ecological organism where plants, soil, water, animals, and farmers interact in mutually reinforcing ways (Gliessman, 2015; FAO, 2018). It is inherently context-responsive, shaped by local knowledge, cultural practices, and continuous experiential learning—reflecting adaptive ecological management and community-based innovation. Through this integrative orientation, ecological organic farming enhances resilience, strengthens food security, and supports sustainable rural livelihoods.

In summary, smallholdings and organic farming share common values related to sustainability, community empowerment, and ecological responsibility. Their integration provides a resilient approach to agriculture that benefits both people and the planet. In this study, smallholdings are also sites of adult learning, where everyday farming practices provide opportunities for reflection, experimentation, and transformation.

## **Transformative Learning Theory (TLT)**

### **1. History and Critiques**

Transformative Learning Theory, developed by Jack Mezirow in the late 1970s, provides a framework for understanding how adults critically reassess and change their perspectives. Mezirow defined transformative learning as the process of

revising *frames of reference*—the structures of assumptions through which individuals understand their experiences (Mezirow, 1991).

Key components of Transformative Learning Theory (TLT) include disorienting dilemmas, in which experiences disrupt or challenge an individual's existing beliefs; critical reflection, through which underlying assumptions and values are questioned and re-examined; rational discourse, involving dialogue with others to test, negotiate, and validate emerging interpretations; and ultimately perspective transformation, whereby learners adopt more inclusive, reflective, and integrative worldviews that reshape how they understand themselves, others, and their socio-ecological contexts.

Mezirow (1978, 1991) described ten phases of transformative learning, beginning with a disorienting dilemma and progressing through critical reflection, discourse, and ultimately reintegration into life and action with a transformed perspective (Mezirow, 1991b, pp. 6-7,12,168-169). Subsequent scholars expanded the theory to highlight dimensions that Mezirow underemphasised: Taylor emphasised methodological and empirical limitations; Cranton stressed the role of authenticity, relationships, and context; and Kegan underscored the emotional, cultural, and social processes that shape transformative learning (Cranton, 2006, pp. 19-21; Kegan, 2000, pp. 48-52; Taylor, 1997, pp. 34-36).

Critiques of Transformative Learning Theory (TLT) note that it tends to overemphasise individual cognitive processes while underplaying the social and cultural contexts that shape learning (Taylor, 2008, pp. 8-12). The theory also provides limited methodological guidance for conducting research in community-based or non-formal settings, making its application challenging in practice. Moreover, TLT is grounded in Western assumptions about rationality, autonomy, and discourse, which may not fully align with or adequately capture the learning experiences of culturally diverse groups such as Thai smallholding farming communities.

Furthermore, the critiques of Transformative Learning Theory (TLT) highlight several limitations. Scholars argue that it overemphasises individual cognitive processes while underplaying the social and cultural contexts in which learning occurs (Taylor, 2008, pp. 8-12). The theory also provides limited methodological guidance for conducting research in community-based or non-formal settings, which restricts its

practical applicability. Moreover, because TLT is grounded in Western assumptions, it may not fully account for diverse cultural contexts such as Thai organic farming practices and communities. Further critiques suggest that Mezirow's ten-step model implies a linear, stage-based progression, whereas transformative learning often unfolds in cyclical or recursive ways (Clark & Wilson, 1991; Taylor & Cranton, 2013). The theory also privileges rational-critical reflection and discourse, thereby neglecting affective, embodied, or spiritual dimensions of learning (Dirkx, 2006). Others note that TLT does not sufficiently address issues of power, inequality, and politics that influence who can participate in transformative processes (Brookfield, 2012). Finally, the theory tends to neglect the practice-based and experiential dimensions of learning, focusing more on mental reframing than on learning through embodied action (Illeris, 2014). Consequently, its applicability remains limited beyond formal or non-formal education contexts (Lange, 2019). For these reasons, this study applies TLT alongside Constructivist Grounded Theory (CGT) (Charmaz, 2014c, pp. 12-13, 27-33, 239-240), which emphasises co-construction of meaning and situates learning in specific cultural and social contexts.

## **2. Rationale for Using Transformative Learning Theory (TLT)**

The decision to use TLT as a primary analytical framework is grounded in its strong resonance with the empirical learning processes observed among smallholding ecological organic farming practitioners (SOFPs) in the Songkwaeng Organic Network (SKON).

Perspective transformation is central to learning within SKON, where the process extends far beyond the acquisition of new techniques to include the reinterpretation of experiences, the reshaping of assumptions about farming, risk, livelihood, and nature, and the reconstruction of personal and collective meaning systems—an alignment that reflects Mezirow's concept of frames of reference and meaning perspectives (Mezirow, 1991b, 2006; Mezirow & Taylor, 2009). Moreover, Transformative Learning Theory (TLT) is particularly suited to this context because it integrates the emotional, identity-based, and action-oriented dimensions of learning: SOFPs often navigate emotional dilemmas, ethical tensions, and significant shifts in identity as they transition from chemical-based to ecological organic systems, and TLT explicitly acknowledges emotional struggle (Dirkx, 2006), identity reconstruction

(Illeris, 2014), and value-informed action (Brookfield, 2012; Mezirow, 2000) as core elements of transformation. Finally, TLT aligns closely with the lifelong and iterative nature of SOFP learning, which unfolds across changing markets, shifting policies, and varying life stages; its emphasis on continuous, cyclical transformation (Cranton, 2016; Mezirow & Taylor, 2009) resonates strongly with the patterns of reflection, experimentation, and reintegration observed in the SKON context.

Thus, TLT offers a theoretically robust and empirically grounded lens for explaining how SOFPs' learning moves beyond technical skill acquisition towards more profound transformation in values, identities, and practices.

### **3. Relation to Communities of Practice and Activity Theory**

Although TLT is used as the primary framework, this study also engages with complementary perspectives, including Communities of Practice (CoP), Situated Learning, and Cultural–Historical Activity Theory (CHAT), particularly when analysing community structures and hybrid learning platforms.

**Communities of Practice (CoP) and Situated Learning:** Lave and Wenger's (1991) concept of Situated Learning and Wenger's (1998) formulation of CoP explain how learning is embedded in participation, shared practices, and identity within a community. These approaches are relevant to SKON in that:

SOFPs learn through mutual engagement, shared repertoires, and joint enterprises (Wenger, 1998);

Newcomers learn from more experienced practitioners through forms of legitimate peripheral participation (Lave & Wenger, 1991).

However, CoP and Situated Learning tend to emphasise participation and practice structures more than deep cognitive and emotional transformation. They pay comparatively less attention to critical self-reflection, disorienting dilemmas, and identity-level change (Hodkinson et al., 2008). For this reason, CoP is used as a supporting framework in this study, particularly in sections on community learning platforms, rather than as the main analytical lens.

**Cultural–Historical Activity Theory (CHAT / Activity Theory):** Activity Theory, as developed by Engeström (1987, 2001), offers a systemic understanding of human activity, highlighting how tools, rules, communities, and divisions of labour

shape practice. While this is useful for examining organisational or institutional change, it is less suited to capturing:

- the subjective meaning-making processes of individual practitioners,
- the emotional and moral dimensions of transformation, and
- identity reconstruction in the context of ecological farming.

Thus, CHAT is acknowledged as a relevant but **secondary** theoretical resource; it informs the background understanding of socio-technical systems but does not drive the core analysis of SOFPs' transformative learning. Can be summarised in the table belows.

### Comparison of TLT, Communities of Practice, and Activity Theory in Relation to SKON.

**Table 2 Rationale for using Transformative Learning Theory (TLT) as the primary analytical framework for SOFP learning in SKON, highlighting its alignment with perspective transformation, emotional–identity dynamics, lifelong trajectories, and hybrid community platforms**

Dimension	Transformative Learning Theory (TLT)	Communities of Practice (CoP) / Situated Learning	Activity Theory (CHAT)
Main focus	Transformation of meaning perspectives and frames of reference (Mezirow, 1991, 2000)	Learning through participation in shared practices and communities (Lave & Wenger, 1991; Wenger, 1998)	Systemic activity, tools, rules, and contradictions (Engeström, 1987, 2001)
Unit of analysis	Individual and collective meaning-making	Community, practice, and participation	Activity systems
Role of reflection	Central: critical reflection is core mechanism of change (Mezirow, 1991; Taylor, 2008)	Mostly implicit; reflection embedded in practice, not theorised deeply	Appears via contradictions and expansions, not primarily as personal reflection

<b>Dimension</b>	<b>Transformative Learning Theory (TLT)</b>	<b>Communities of Practice (CoP) / Situated Learning</b>	<b>Activity Theory (CHAT)</b>
Role of emotion & identity	Strong: emotions, dilemmas, and identity shifts are crucial (Dirkx, 2006; Illeris, 2014)	Limited explicit treatment of emotion; identity framed as participation in practice	Emotion and identity are often backgrounded; focus on structure and mediation
Fit with SKON data	High: aligns with observed emotional, reflective, and identity-based learning of SOFPs	Partial: useful to describe community learning, but does not fully explain deep transformation	Limited: helpful for understanding systemic aspects, but less suited to lived experiential change

## **Community and Learning Platforms**

### **1. Community Development**

Community development refers to a participatory and collaborative process through which groups mobilise their capacities to address shared needs and pursue sustainable futures. Core principles include participation, collaboration, capacity building, and long-term sustainability (Bhattacharyya, 2004, pp. 9-12, 28-30; Christenson & Robinson, 2011, pp. 12-18, 122-125). In agricultural settings, community development fosters networks of shared knowledge, strengthens local economies, and promotes environmental stewardship through cooperative learning and collective problem-solving (Flora et al., 2015, pp. 105-112, 243-250; Pretty, 1995, pp. 125-133, 163-170). These principles frame the conditions under which smallholding farmers engage in shared practices and mutual support.

### **2. Community of Practice (CoP) and Professional Learning Communities (PLC)**

Wenger's concept of Communities of Practice (CoP) highlights how individuals learn through shared practices, mutual engagement, and joint enterprises (Wenger, 1998, pp. 72-85, 95-102, 162-163). CoPs emphasise informal, situated learning that emerges from lived experience and ongoing interaction. In contrast, Professional Learning Communities (PLCs) are more structured collectives designed to enhance professional practice through explicit goals, planned activities, and systematic

reflection (DuFour & DuFour, 2010, pp. 9–11, 57–62, 230–232). Both models are relevant for SOFPs: CoPs reflect the organic, experiential learning within networks like SKON, while PLC elements appear in formal training, certification processes, and university-supported initiatives. Together, they illustrate how learning occurs across both informal and formal community structures.

### **3. Community in the 21st Century**

Contemporary communities operate as hybrid socio-digital formations in which physical interactions and digital participation are deeply interwoven. Learning is no longer confined to bounded physical spaces but distributed across physical–digital ecologies that enable “anywhere–anytime” engagement (Castells, 2010, pp. xxxi–xxxiii; Selwyn, 2014, pp. 2–5; Wenger et al., 2009, pp. 1–3). Such hybrid communities integrate embodied, place-based practices with digitally mediated communication, creating phygital spaces where social learning, identity work, and collaborative problem-solving occur simultaneously (de Freitas, 2020; García-Peñalvo, 2021).

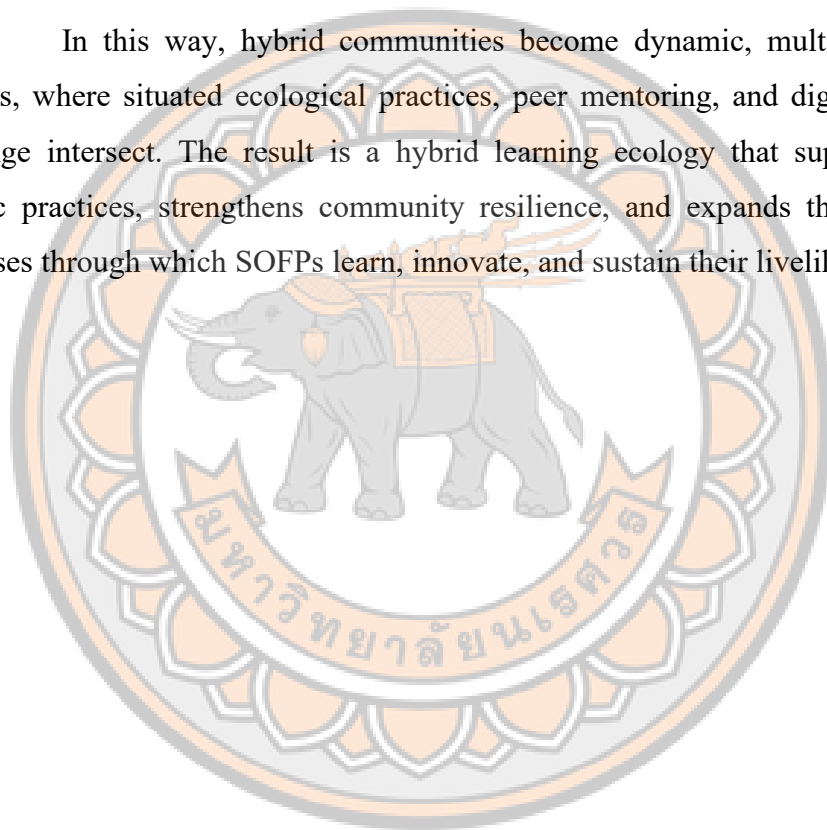
For SOFPs, this hybridity is not merely technological but epistemic and relational: ecological practices grounded in lived experience, observation, and community participation intersect with digital spaces used for knowledge exchange, market coordination, collaborative troubleshooting, and sustaining communal support. The result is a hybrid learning ecology in which situated ecological knowledge, peer mentoring, and adaptive organic practices are enhanced—not replaced—by digital interaction. This blended ecosystem enables SOFPs to negotiate challenges, innovate practices, and strengthen community resilience across both physical and digital domains.

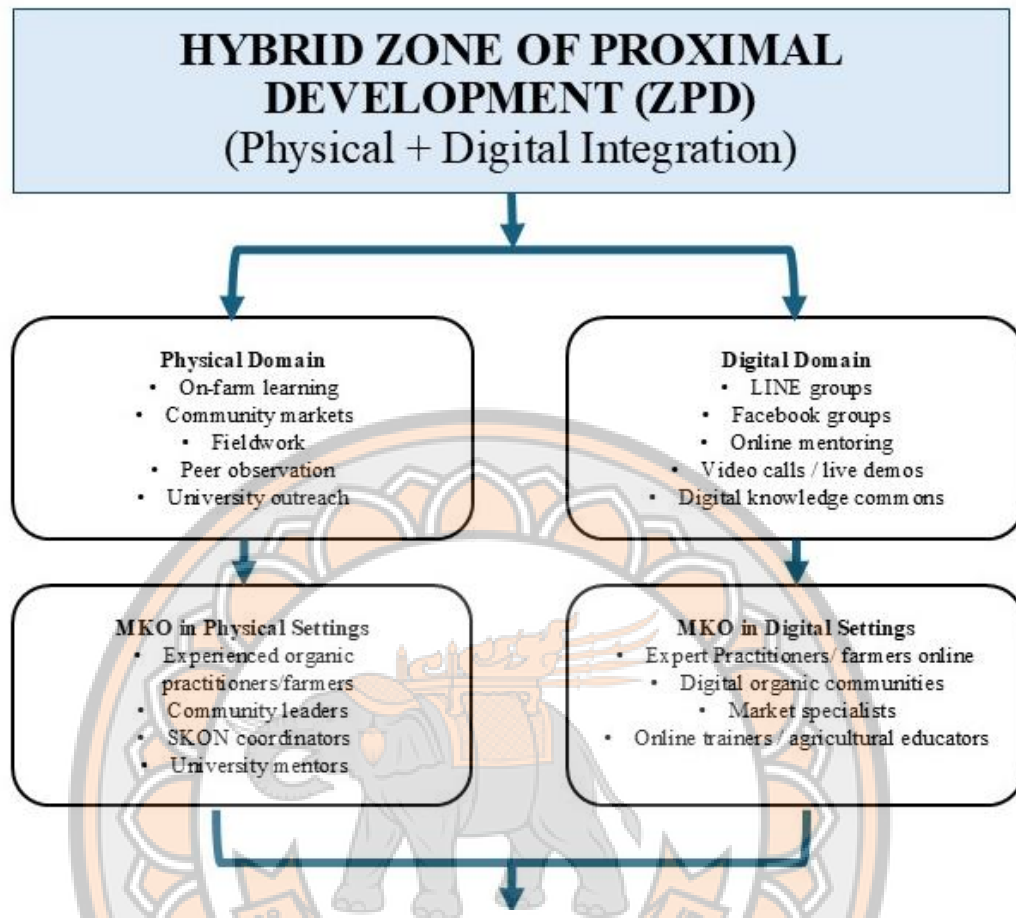
### **4. Sociocultural Learning Processes**

Modern communities’ function as hybrid socio-digital formations, where physical interactions and digital participation are deeply interwoven. Learning in the 21st century is distributed across physical–digital (hybrid) ecologies, enabling “anywhere–anytime” engagement through platforms, networks, and shared knowledge systems (Castells, 2010; Selwyn, 2014; Wenger et al., 2009). These hybrid spaces create not only new modes of communication but also new sociocultural learning environments in which knowledge is co-constructed.

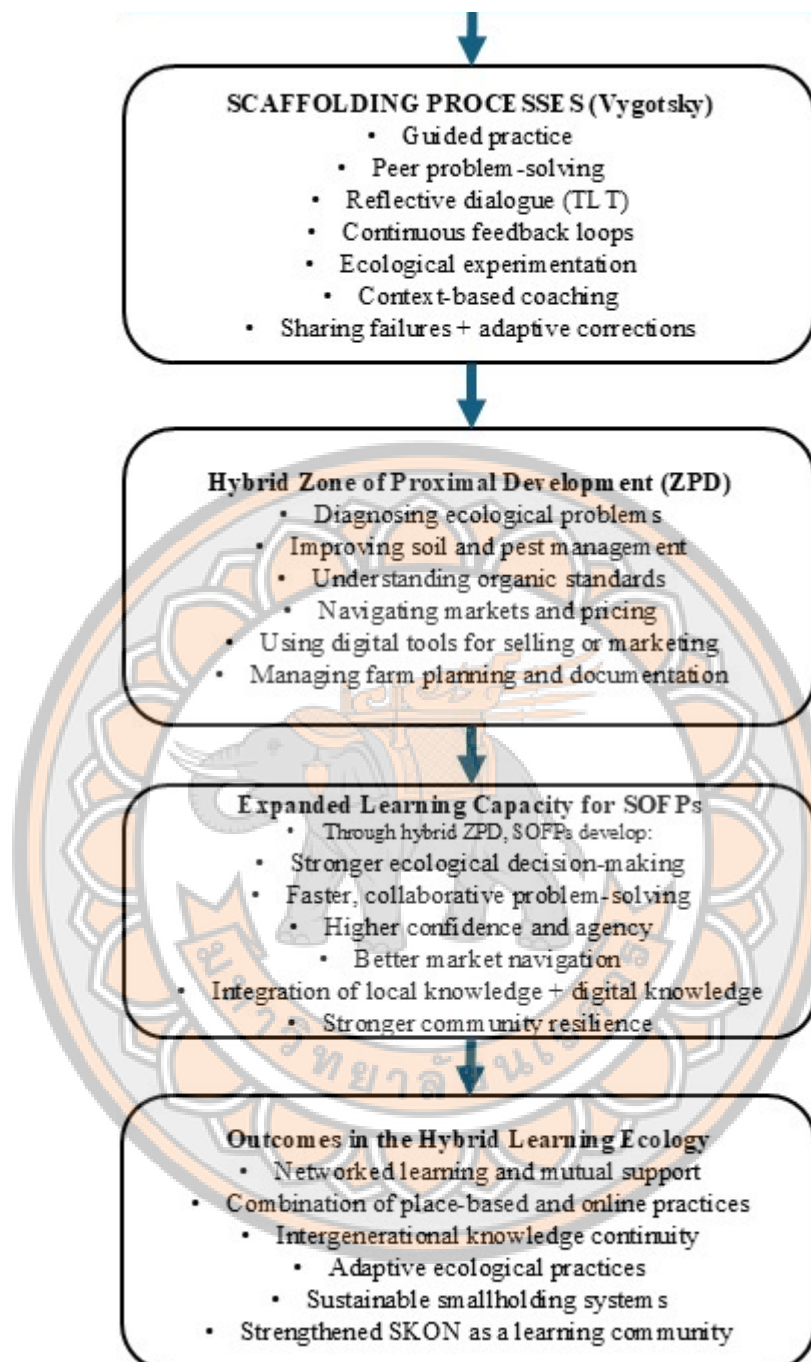
Drawing on Vygotsky's Sociocultural Theory, hybrid learning ecologies provide expanded Zones of Proximal Development (ZPD), where learners can move beyond their current capabilities with support from More Knowledgeable Others (MKO)—whether in-person (experienced farmers, mentors, community leaders) or digitally mediated (online groups, expert networks, digital marketplaces). For SOFPs, ecological knowledge, market strategies, and problem-solving skills emerge through collaborative interaction, where hybrid physical–digital participation enables continuous scaffolding across contexts.

In this way, hybrid communities become dynamic, multi-sited learning systems, where situated ecological practices, peer mentoring, and digital knowledge exchange intersect. The result is a hybrid learning ecology that supports adaptive organic practices, strengthens community resilience, and expands the sociocultural processes through which SOFPs learn, innovate, and sustain their livelihoods.





**Figure 1 Hybrid Zone of Proximal Development (ZPD) for SOFPs:**  
A physical–digital learning ecology where More Knowledgeable Others (MKO) provide scaffolding across on-farm, community, and online spaces. This hybrid ZPD enables SOFPs to integrate ecological practice, peer learning, and digital knowledge exchange, leading to adaptive transformation and strengthened community resilience



**Figure 1 (Cont.)**

## 5. Permaculture Ethics and Design Principles

Permaculture, developed by Mollison and Holmgren (1978), offers design principles rooted in ecological ethics: earth care, people care, and fair share (Holmgren, 2002, pp. 1-5; Mollison & Holmgren, 1978, pp. 3-5). These principles align closely with Wenger's concept of Communities of Practice (CoPs), which emphasise situated

learning, mutual engagement, and shared repertoires (Wenger, 1998, pp. 72-85). Permaculture thus provides both a philosophical framework, grounded in ethics, and a practical framework, through design principles, for community-based transformative learning.

### **6. Learning Platforms: Physical, Digital, and Social Dimensions**

In this study, a learning platform refers to an integrated socio-technical environment that supports interaction, knowledge exchange, and coordinated action across three interconnected dimensions:

1. **Physical dimension:** Farms, markets, community sites, and training spaces where embodied, ecological, and practice-based learning occur.
2. **Digital dimension:** Online infrastructures—including LINE and Facebook groups, live-streamed demonstrations, digital marketplaces, and shared knowledge repositories—that extend learning beyond geographic boundaries and support asynchronous communication.
3. **Social–normative dimension:** The norms, values, expectations, and rules that structure participation, trust, legitimacy, and role distribution within the community (e.g., organic standards, PGS norms, mentoring roles, and reciprocal obligations).

Together, these dimensions form hybrid learning platforms that organise how SOFPs access knowledge, collaborate, experiment, and sustain community-based transformations. These platforms function as dynamic interfaces between ecological practice, digital participation, and social regulation—supporting the adaptive learning processes underpinning smallholding organic farming within SKON.

### **Platforms for Adult Learning**

While Section 6 (page 24) explains the structural dimensions of platforms, this section focuses on how platforms enable adult learning, particularly transformative and emancipatory processes.

A platform for adult learning is an environment—physical, digital, or hybrid—that enables adults to engage in collaborative inquiry, critical reflection, and transformative action (Ansell et al., 2022, pp. 10-13). Such platforms democratise access to information, build social capital, and stimulate innovation within communities

(Fleer, 2019, pp. 35-38; Illeris, 2014, pp. 23-26). In Illeris' model, adult learning integrates cognitive, emotional, and social dimensions; therefore, effective platforms must support thinking, feeling, dialogue, and social engagement simultaneously. (Illeris, 2014, pp. 23-27,139-142).

However, when applied to context-specific situations, learning platforms may also need to integrate biophysical constraints—reflecting the environmental, ecological, and resource realities of particular places—so that learning is grounded not only in social interaction but also in ecological sustainability and lived practice (Capra, 2002, pp. 34-40; Sterling, 2001, pp. 22-28).

### **1. Contextual and Biophysical Integration**

In agricultural contexts, platforms must also incorporate biophysical and ecological constraints, grounding learning in the realities of soils, climates, ecologies, and local resource systems (Capra, 2002; Sterling, 2001). This ensures that adult learning is not abstract but deeply embedded in lived practice, ecological feedback, and local sustainability challenges.

### **2. Types of Adult Learning Platforms Relevant to SOFPs.**

These include:

- *On-farm demonstrations*: Real-world spaces where farmers experiment, observe, and adapt methods based on ecological conditions (Cooreman et al., 2021, pp. 300-302).
- *Digital learning hubs*: Online environments in which farmers exchange dilemmas, problems, and solutions through collaborative communication (Misanya et al., 2023, pp. 7-9).
- *Organic markets as learning spaces*: Interactive sites where farmers and consumers negotiate standards, values, and product meanings (Smith & Marsden, 2004, pp. 181-183).
- *Entrepreneurial and hybrid shops*: Commercial–learning hybrid spaces where farmers acquire business skills, expand networks, and engage society (Marsden & Morley, 2014, pp. 42-45).

### 3. Adult Learning Principles Embedded in Platforms

Across these examples, learning platforms embody key adult-learning principles:

- Inclusivity and participation (Freire, 2000).
- Critical reflection and dialogue (Brookfield, 1987).
- Holistic integration of cognitive, emotional, and social elements (Illeris, 2014).
- Action-oriented and practice-based learning.
- Collective responsibility and shared knowledge creation.

### 4. Function of Platforms in SOFP Learning

Thus, platforms for adult learning serve as mechanisms of empowerment: they enable SOFPs to negotiate challenges, make informed decisions, co-create innovations, and strengthen community resilience. They provide the structures through which transformative learning becomes possible and sustainable in smallholding ecological organic farming.

Together, these learning platforms illustrate how agricultural knowledge is produced and circulated across physical, digital, and hybrid spaces, creating opportunities for innovation, dialogue, and adaptation. In fact, the integration and hybridisation of those concepts in the SKON context. The platforms embody critical adult learning principles: inclusivity, participation, critical reflection, and shared responsibility (Brookfield, 1987, pp. 7-11; Freire, 2000, pp. 72-74; Illeris, 2014, pp. 23-27).

### Gaps in Knowledge

Research on adult learning in smallholder organic farming often draws on Transformative Learning Theory (TLT), which provides valuable insights into how individuals change their frames of reference through critical reflection. However, when applied to the realities of smallholding ecological organic farming in Thailand—particularly within community networks such as the Songkwae Organic Network (SKON)—TLT alone cannot fully explain how learning unfolds across collective, community-based, and hybrid (physical–digital) environments. These limitations reveal several significant gaps in the existing literature.

## 1. The literature review reveals several gaps:

**1.1 Conceptual gap:** Transformative Learning Theory (TLT) offers insights into individual perspective transformation, but it does not sufficiently address collective or community-based learning processes, which are central to smallholder farming networks.

**1.2 Contextual gap:** In Thailand, organic farming practices and networks such as the Songkwae Organic Network (SKON) face distinct challenges—including fragmented practices, limited institutional support, and unstable markets—that remain underexplored in adult learning scholarship.

**1.3 Temporal gap:** Few longitudinal studies examine how smallholders' learning trajectories evolve, particularly in relation to shifting markets, changing policy frameworks, and the lifelong learning adaptations required in the context of Thailand's ageing society.

**1.4 Practical gap:** Existing studies often highlight dilemmas, reflection, and adaptation, but rarely propose structured, sustainable frameworks for community learning platforms that can support ongoing transformative practice among practitioners.

**1.5 Spatial gap:** The transition from farm-based to non-farm-based learning spaces remains underexplored, especially in relation to how urban and digital environments expand the boundaries of agricultural knowledge.

## 2. New Contributions of This Study

This research addresses the above gaps and contributes new theoretical and practical knowledge in several ways:

### 2.1 Hybrid Transformative Learning Model (HTLM)

The study introduces a new conceptual model that extends TLT beyond the individual to the *community and network levels*. HTLM integrates:

- experiential learning,
- practice-based learning,
- social learning, and
- digital participation.

This hybrid model better reflects how learning actually occurs in smallholder organic farming contexts.

## 2.2 Integrated Facilitation Model (HIFM)

The research proposes a practical, operational model that explains how mentoring, coaching, facilitation, peer support, and digital tools work together to sustain transformation. This addresses the practical gap by offering a *structured, functional framework* for community learning platforms.

## 2.3 Community Learning Platforms for Ecological Organic Farming

The study contributes a new conceptualisation of community learning platforms as *interconnected physical, social, and digital environments*. This explains how knowledge is co-created, circulated, and reinforced within networks like SKON—an area insufficiently developed in existing literature.

## 2.4 Expanded Understanding of Non-Farm Learning Spaces

This work reconceptualises urban, market-based, and online spaces as legitimate learning environments. It highlights how digital and urban spaces enable:

- asynchronous learning,
- emotional connectivity,
- market-based feedback loops,
- and wider participation beyond geographical constraints.

This is a major extension of traditional learning theories in agriculture.

## 2.5 Longitudinal Learning Trajectories

Through fieldwork and grounded theory analysis, the study reveals how smallholder farmers' learning trajectories shift over time and how practitioners adapt across life stages, market changes, and policy transitions. This contributes a temporally grounded understanding of transformative learning, which has been lacking.

## Research Method Frameworks

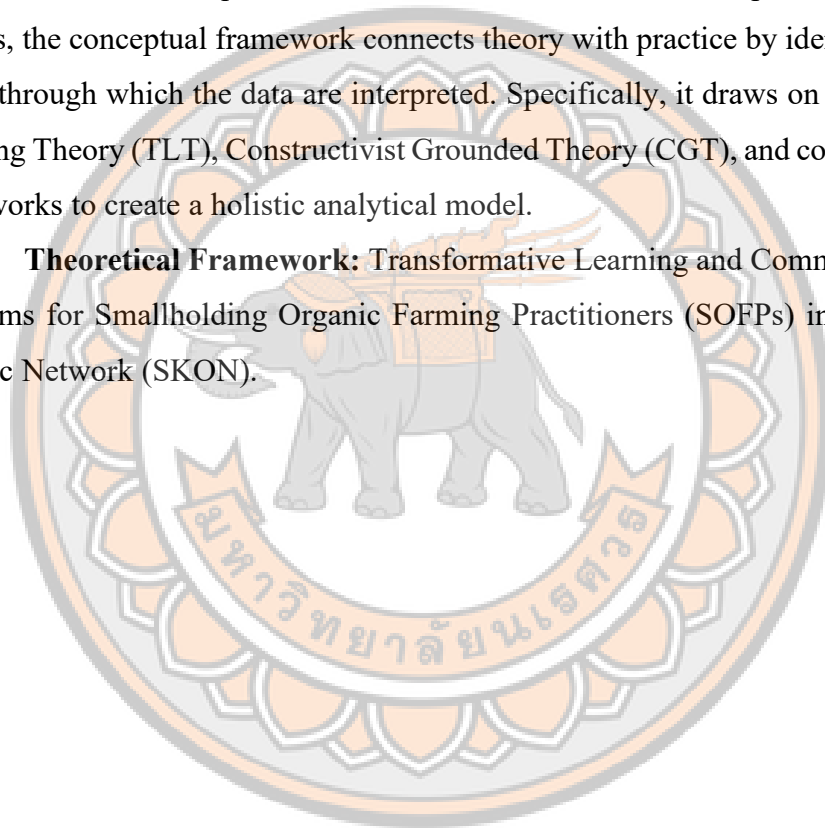
The research method frameworks provide the structural foundation for this study's inquiry. They guide the process of linking research questions with appropriate strategies for data collection, analysis, and interpretation. Given the complexity of smallholding ecological organic farming and the community learning processes within the Songkwae Organic Network (SKON), no single method can adequately capture the interplay of individual, social, and contextual dynamics. Therefore, this study draws on complementary frameworks that ensure methodological coherence while remaining

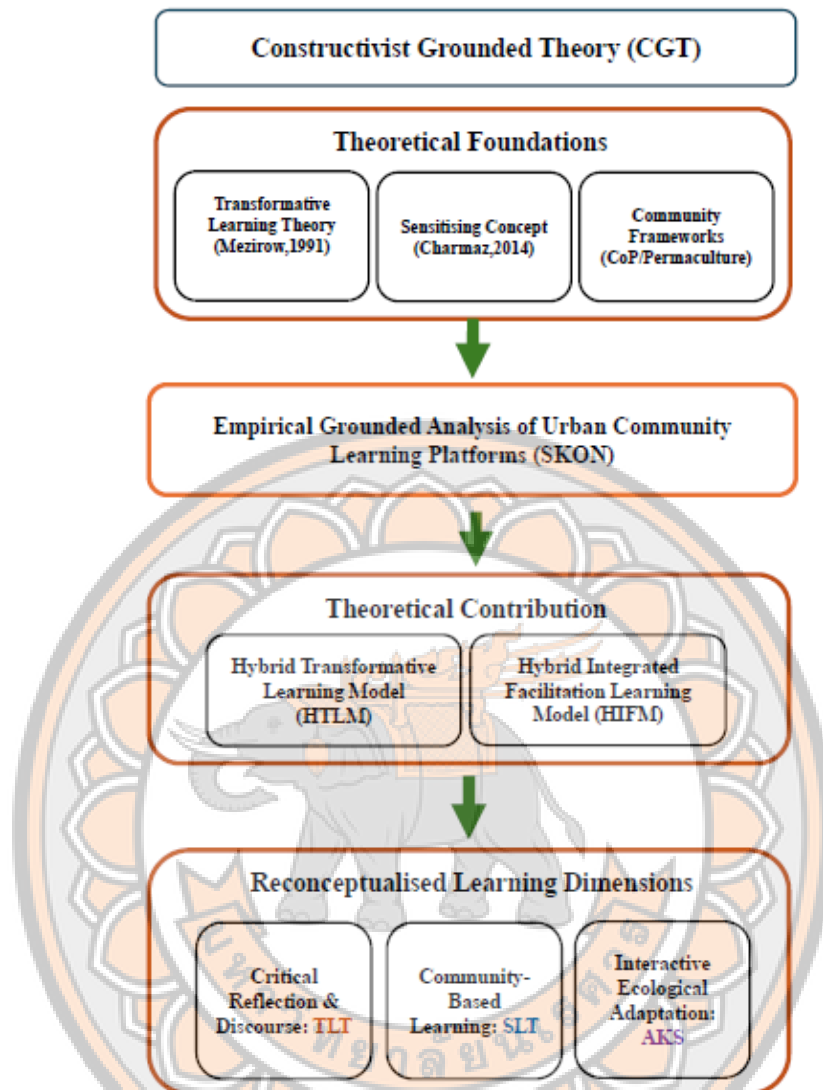
flexible to emerging insights. By framing the research process in this way, the study establishes a systematic pathway that leads to the conceptual integration outlined in the following section.

### **Research Conceptual Framework**

Building on the methodological foundations outlined in the previous section, this study develops a conceptual framework that integrates complementary perspectives to address the research questions. While the method frameworks provide structure and process, the conceptual framework connects theory with practice by identifying the key lenses through which the data are interpreted. Specifically, it draws on Transformative Learning Theory (TLT), Constructivist Grounded Theory (CGT), and community-based frameworks to create a holistic analytical model.

**Theoretical Framework:** Transformative Learning and Community Learning Platforms for Smallholding Organic Farming Practitioners (SOFPs) in the Songkwae Organic Network (SKON).





**Figure 2** This framework shows how Constructivist Grounded Theory guided the analytic process, with Transformative Learning and community-based theories used as sensitising concepts, leading from the empirical analysis of SKON learning platforms to the development of hybrid learning and facilitation models and the reconceptualisation of learning dimensions in ecological, organic farming contexts

The framework integrates *Transformative Learning Theory (TLT)* and *Constructivist Grounded Theory (CGT)* through community-based analytical frameworks, including Communities of Practice (CoP), Professional Learning

Communities (PLC), and Permaculture. Data from the SKON context informs the development of the *Hybrid Transformative Learning Model (HTLM)*, which synthesises critical reflection (TLT), community participation (SLT), and adaptive ecological knowledge (AKS) into a cohesive model for transformative adult learning.

Theories of Transformative Learning (TLT) and Constructivist Grounded Theory (CGT) provide the conceptual and methodological foundation for this study. This research will adapt the combination of these two theories through community frameworks, including Communities of Practice (CoPs), Professional Learning Communities (PLCs), and permaculture, which translate abstract ideas into collective learning models. The relevance of these frameworks is further contextualised and validated within the practices of Smallholding Organic Farming Practitioners (SOFPs) in the Songkwae Organic Network (SKON). Ultimately, this process leads to the development of an Urban Community Learning Platform, envisioned as an outcome that supports transformation, sustainability, and lifelong learning.

## **Conclusion**

This chapter has reviewed the literature on organic farming, smallholdings, transformative learning, and community learning platforms. This research has identified critical gaps—conceptual, contextual, temporal, practical, and spatial—that it aims to address. By combining TLT and CGT and situating them within the practices of SKON, this study aims to provide a grounded framework for developing **urban community learning platforms** that enable smallholding ecological organic farming practitioners to engage in transformative, sustainable, and context-specific learning.

## **Transition to Chapter 3**

Building on this conceptual framework, the next chapter outlines the research methodology. This study explains how Constructivist Grounded Theory (CGT), supported by digital ethnography and case study analysis, will be applied to examine transformative and community learning on smallholder ecological organic farming (SOFP) practitioners. By grounding theoretical concepts in methodological practice, Chapter 3 establishes how the study transitions from identifying knowledge gaps to generating context-specific insights into SKON and comparable cases.

## CHAPTER III

### RESEARCH METHODOLOGY

As established in Chapter 2, this study integrates Transformative Learning Theory (TLT) with Constructivist Grounded Theory (CGT) and community-based frameworks, including Communities of Practice (CoP) and permaculture principles. Together, these theoretical perspectives highlight the need for an urban community learning platform that reflects the lived realities, practices, and learning conditions of smallholding ecological organic farming practitioners (SOFPs). Building on this conceptual foundation, the present chapter outlines the methodological approach adopted to investigate how such learning platforms emerge, operate, and evolve within real community contexts.

This chapter explains the philosophical stance underpinning the study and provides a detailed rationale for adopting Constructivist Grounded Theory as the core methodological framework. It then describes the sampling strategy and case selection, followed by an account of the research design and key methodological components, including data collection and analysis procedures. Particular attention is given to the integration of digital ethnography and cross-contextual analysis as complementary strategies that extend understanding of learning processes beyond single physical sites. The chapter also addresses issues of validity, trustworthiness, and reflexivity to demonstrate methodological rigour, outlines the ethical considerations guiding the research process, and discusses the study's limitations. The chapter concludes by preparing the reader for Chapter 4, which presents the empirical findings derived from the analytic procedures detailed herein.

Overall, the methodology is designed to capture the voices, experiences, and everyday practices of SOFPs within the Songkwae Organic Network (SKON) through grounded and iterative methods, to test and extend theoretical insights from Transformative Learning Theory within situated community learning environments, and to establish a rigorous yet reflexive process for generating a community learning platform that is both evidence-based and sensitive to local context.

### **Research Philosophy and Methodological Stance**

This study adopts a research philosophy grounded in a relativist ontology and a constructivist epistemology, which together constitute the interpretivist–constructivist paradigm appropriate for qualitative inquiry. Ontologically, the study assumes that reality is multiple, socially constructed, and context-dependent, rather than singular or fixed. The experiences of smallholding ecological organic farming practitioners (SOFPs) within the Songkwae Organic Network (SKON) are therefore understood not as universal truths, but as *lived realities* shaped by cultural norms, ecological interactions, community relationships, and personal histories (Guba & Lincoln, 1994; Lincoln et al., 2011).

Epistemologically, this study aligns with constructivism, which holds that knowledge is produced through co-constructed meaning-making between the researcher and participants. Understanding emerges through social interaction, dialogue, reflexive engagement, and interpretation rather than through detached observation. This stance supports the study's aim to understand both the individual learning experiences of SOFPs and how these experiences are collectively negotiated and shared within the SKON community (Charmaz, 2014d; Schwandt, 2000).

Within this paradigm, the researcher's role is not to stand apart as an objective observer, but to engage reflexively and relationally with participants in constructing understanding. Reflexivity, iterative interpretation, and continuous dialogue with data and participants are therefore essential components of the methodological stance. This approach recognises that meaning is shaped by the interaction between researcher and field, consistent with the interpretivist view that reality is accessed through human experience rather than objective measurement.

The choice of Constructivist Grounded Theory (CGT) flows naturally from this philosophical positioning. CGT assumes that theories are not “discovered” but are constructed through the researcher's interpretive engagement with participants' narratives, contexts, and actions (Charmaz, 2014b). This makes CGT particularly suitable for investigating transformative learning and community processes within SKON, where learning is iterative, context-responsive, emotionally embedded, and socially mediated. CGT enables the study to capture how SOFPs continuously adapt,

reinterpret experience, and co-create knowledge through ecological practice, social participation, and digital interaction.

Thus, the combination of a relativist ontology, constructivist epistemology, and an interpretivist paradigm provides a coherent foundation for employing Constructivist Grounded Theory in this study, enabling an in-depth exploration of how transformative learning unfolds within the socio-ecological and community-based practices of SKON.

### **Rationale for Constructivist Grounded Theory (CGT)**

Grounded Theory has long provided tools for generating theory from empirical data (Glaser & Strauss, 1967). Over time, different strands emerged—the Glaserian “classic” approach that emphasises emergent discovery, the Straussian procedural coding system, and the constructivist turn advanced by Kathy Charmaz (Charmaz, 2004, 2006, 2014b). This study adopts Constructivist Grounded Theory (CGT) because it aligns with the philosophical foundations and analytical goals of this research.

From a methodological perspective, this study assumes that knowledge about how smallholding ecological organic farming practitioners (SOFPs) learn is constructed through experience, relationships, and interpretation, not merely discovered as objective fact. Because the learning processes within the Songkwae Organic Network (SKON) are deeply embedded in social interaction, emotion, identity, ecological practice, and digital engagement, a qualitative approach is required to understand these complexities. Quantitative approaches cannot capture the meanings, dilemmas, values, and reflective processes that shape transformative learning in this context. CGT therefore provides the most coherent strategy for generating a practice-based, context-sensitive theoretical model grounded in the daily realities of SOFPs.

This study employs CGT for three primary reasons:

#### **1. Alignment with Transformative Learning Theory (TLT)**

CGT emphasises meaning-making, interpretive understanding, dialogue, and critical reflection processes that correspond directly with Mezirow’s components of transformative learning (frames of reference, discourse, disorienting dilemmas, and perspective transformation). Both CGT and TLT view learning as iterative, socially mediated, and grounded in interpretation, rather than in behaviourist or linear change models.

## **2. Suitability for community and socio-ecological contexts.**

Learning within SKON is communal, practice-based, and shaped by shared ecological work, peer support, market interactions, and digital communication. CGT supports the co-construction of knowledge between researchers and participants, enabling farmers' lived experiences, cultural contexts, and ecological engagements to inform the emerging theory. This stands in contrast to Classic Glaserian GT, which assumes a more detached researcher stance and downplays context.

## **3. Flexibility, reflexivity, and compatibility with mixed qualitative approaches**

CGT recognises the researcher's interpretive role, allowing reflexivity, emotional insight, and relational engagement with participants. This flexibility is essential in a study that integrates ethnography, narrative inquiry, digital ethnography, and practice-based observation. Whereas earlier GT approaches sought objectivist neutrality, CGT acknowledges that theory is shaped through researcher-participant interaction.

Although all forms of grounded theory seek to develop theory from data, CGT is the most appropriate for this study because it can account for the interpretive, relational, and context-specific nature of learning among SOFPs. In contrast, Classic (Glaserian) Grounded Theory assumes an objectivist stance, suggests that theory "emerges" independently from data, discourages early engagement with literature, and places less emphasis on context, identity, and emotion—elements that are central to SKON learning processes.

By adopting Constructivist Grounded Theory, this research ensures that the resulting theoretical framework particularly the Hybrid Transformative Learning Model (HTLM) and the Hybrid Integrated Facilitation Model (HIFM) emerges from practitioners' grounded experiences while remaining open to integrating concepts from Transformative Learning Theory and community learning frameworks. CGT therefore provides a coherent foundation for analysing how transformative learning unfolds across ecological practice, social interaction, and hybrid physical-digital environments.

In this study, Constructivist Grounded Theory (CGT) is employed in a dual role, serving as both an epistemological framework and a methodological strategy. Epistemologically, CGT provides an interpretive lens through which learning, meaning-

making, and social practice are understood as co-constructed through interaction, context, and reflexive engagement. Methodologically, CGT offers a systematic set of analytic procedures including iterative coding, constant comparison, memo writing, and theoretical sampling through which empirical data are analysed and theory is generated. This dual positioning does not imply that CGT replaces substantive learning theories such as Transformative Learning Theory; instead, CGT provides the interpretive and analytic framework through which learning processes identified in the data are theorised and explained.

**Table 3 Comparison between Constructivist Grounded Theory and Classic (Glaserian) Grounded Theory**

<b>Dimension</b>	<b>Classic Grounded Theory (Glaserian GT)</b>	<b>Constructivist Grounded Theory (CGT)</b>
<b>Philosophical stance</b>	Objectivist/realist	Constructivist / interpretivist
<b>Nature of theory</b>	“Discovered” from data	“Co-constructed” with participants
<b>Researcher role</b>	Detached, neutral	Reflexive, relational
<b>Use of literature</b>	Discouraged initially	Used to sensitise concepts
<b>Treatment of context</b>	Minimal	Strong emphasis
<b>Treatment of emotion &amp; identity</b>	Limited	Explicitly included
<b>Data interpretation</b>	Emergent	Interpretive and flexible
<b>Output</b>	Abstract general theory	Context-specific, practice-based theory
<b>Fit for SKON</b>	Low	Very high

**Table 3** The table summarises the key distinctions between Classic Grounded Theory and Constructivist Grounded Theory. While Classic GT assumes an objective reality and emphasises the discovery of theory by a neutral researcher, CGT recognises that theory is co-constructed through interpretation, context, and researcher–participant interaction. Because learning in SKON is relational, contextual, and influenced by emotion and identity, CGT provides a more suitable and flexible approach for this study.

### **Limitations and Strategies of Constructivist Grounded Theory (CGT)**

Although Constructivist Grounded Theory (CGT) provides a flexible and context-sensitive approach to qualitative inquiry, it also presents several limitations noted in the methodological literature. One challenge lies in its high degree of subjectivity, as CGT acknowledges the researcher's active role in constructing meaning, which may introduce interpretive bias (Charmaz, 2014b; Mruck & Mey, 2007). This risk can be mitigated through reflexive memoing, triangulation, peer debriefing, and clear audit trails.

A second limitation concerns CGT's limited generalisability. Because CGT produces context-specific, situated theory rather than universal explanations, transferability must be emphasised over generalisability (Guba & Lincoln, 1994; Lincoln, 1985). Providing rich contextual detail and employing theoretical sampling across diverse cases helps strengthen conceptual robustness.

CGT is also analytically demanding. Its interpretive nature requires advanced analytical skills, and novice researchers may struggle to synthesise codes and categories into coherent theory (Birks & Mills, 2022; Bryant & Charmaz, 2007). Systematic coding procedures, iterative analytic cycles, and supervisory support can address this challenge.

Another limitation involves the risk of over-involvement with participants due to CGT's emphasis on close engagement. Excessive immersion can challenge boundary management or influence interpretation; reflexive journaling and the use of multiple data forms help maintain analytical clarity (Corbin & Strauss, 2014; Denzin & Lincoln, 2011).

Finally, CGT sometimes conflicts with institutional expectations rooted in positivist traditions. Committees may expect more conventional notions of rigour or neutrality. Clearly articulating the study's philosophical assumptions and demonstrating rigour through transparent analytic trails and evidence-based interpretation helps address such concerns (Charmaz, 2006; Guba & Lincoln, 1994).

### **Sampling Strategy and Case Selection**

Guided by the principles of Constructivist Grounded Theory, this study adopts a **theoretical and purposive sampling strategy** to identify participants and cases that are analytically relevant to the development of a grounded, middle-range theory of urban

community learning platforms. Sampling decisions were made iteratively and in parallel with data analysis, allowing emerging concepts to inform subsequent case selection and data collection.

### **1. Primary Study Context and Participant Selection: Thailand (SKON)**

The primary empirical context of this study is the **Songkwaee Organic Network (SKON)** in Phitsanulok Province, Thailand. SKON represents a well-established network of smallholding ecological organic farming practitioners (SOFPs) operating within urban, peri-urban, and urban–rural interface contexts. The network encompasses organic farmers, market organisers, facilitators, consumers, and allied stakeholders who interact through physical spaces (farms, markets, community events) and digital platforms (e.g. LINE and Facebook groups).

Participants were selected through **purposive sampling**, focusing on individuals who were actively engaged in organic farming practices, community-based learning activities, and network coordination. This approach ensured that participants possessed direct experience of the learning processes, challenges, and collaborative practices under investigation. Selection criteria included length of involvement in organic farming, degree of participation in SKON activities, roles within the network (e.g. practitioner, facilitator, organiser), and engagement with hybrid physical–digital learning environments.

Thailand, and SKON in particular, was selected as the primary study context because it provides a rich setting in which learning is shaped by **ecological practice, informal knowledge exchange, community relationships, market participation, and digital communication**, all within a rapidly changing socio-economic environment. The primary analytic grounding of the study therefore remains firmly centred on SKON, with in-depth data collection conducted through interviews, participant observation, After-Action Reviews, and digital ethnography.

### **2. Theoretical Sampling Procedures**

In line with Constructivist Grounded Theory, sampling in this study was not fixed in advance but followed a process of theoretical sampling, whereby decisions about what data to collect next and from whom were guided by the evolving analysis (Charmaz, 2014). Initial sampling focused on core participants within SKON to

establish foundational categories related to learning practices, facilitation roles, and platform dynamics.

As analysis progressed, emerging categories and analytical gaps informed subsequent sampling choices. Additional participants and cases were selected to explore variation, clarify conditions, and examine the boundaries of developing concepts. This included seeking participants with differing levels of experience, roles, and engagement across physical and digital learning spaces, as well as examining contrasting organisational and governance arrangements within and beyond the immediate SKON context.

The purpose of theoretical sampling was not representativeness but conceptual development. Sampling continued until categories were sufficiently elaborated in terms of their properties, relationships, and conditions, and until further data no longer generated substantively new theoretical insights. This iterative process ensured that the emerging theory remained grounded in empirical data while achieving increasing levels of abstraction and explanatory power.

Within this theoretical sampling logic, selected cases beyond the primary Thai context were incorporated to provide analytic contrast, supporting the refinement and validation of emerging categories. The rationale for including Scotland in this theoretical sampling strategy is detailed in the following section.

### **3. Rationale for Including Scotland in Sampling**

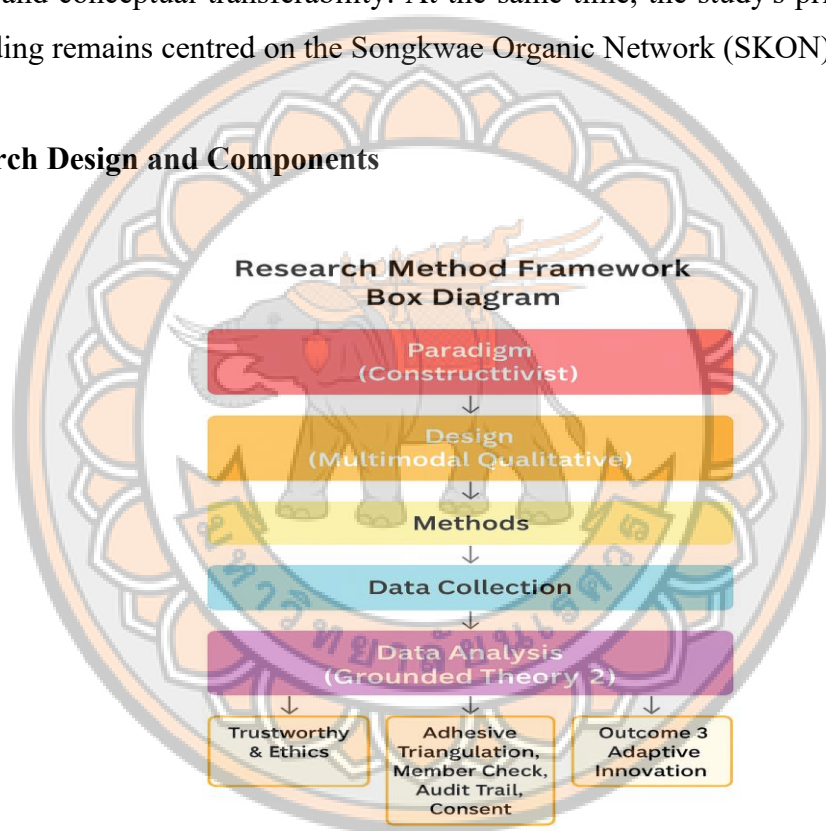
Scotland was included in the sampling strategy as part of theoretical sampling, consistent with the principles of Constructivist Grounded Theory. The purpose was not cross-national comparison for generalisation, but analytic contrast to refine and strengthen emerging categories related to urban community learning platforms.

Scotland provides a contrasting yet conceptually relevant context in which small-scale organic farming, community-based learning, and producer–consumer relations are supported through relatively mature institutional, policy, and civic infrastructures. In particular, community-supported agriculture models, local food networks, and advisory ecosystems in Scotland offer an analytically useful case for examining how learning platforms operate under different governance and support conditions.

Including Scottish cases enabled the researcher to test whether core categories—such as facilitation roles, hybrid physical–digital learning spaces, and collective learning processes—were context-dependent or conceptually robust across differing socio-institutional environments. The Scottish cases thus functioned as a theoretical lens to clarify conditions, variations, and boundaries of the emerging theory, rather than as a basis for direct comparison or evaluation between countries.

Accordingly, Scotland was incorporated to enhance theoretical sensitivity, analytic depth, and conceptual transferability. At the same time, the study's primary empirical grounding remains centred on the Songkwae Organic Network (SKON) in Thailand.

### Research Design and Components



**Figure 3 Research Methods Framework Box Diagram**

This figure presents the research method framework, showing how the constructivist paradigm informs the qualitative design, aligns with the objectives, and guides methods, data collection, analysis, and ethical considerations.

## 1. Core Design

The study employs a multimodal qualitative design that integrates constructivist grounded theory with elements of qualitative grounded methods, digital ethnography, and case study analysis. Constructivist grounded theory, as articulated by Kathy Charmaz (2006, 2014), provides the overarching framework for theory development, enabling concepts to emerge inductively from participants' lived experiences. This approach is particularly suited to exploring meaning-making in smallholder and urban farming contexts, and directly supports **Objective 1**, which seeks to investigate adult learning platforms and the processes that underpin transformative learning among smallholding ecological organic farming practitioners.

To enhance the depth and contextual richness of the findings, the study incorporates digital ethnography and case study analysis as complementary strategies. Digital ethnography, as informed by Christine Hine (2020), enables the tracing of how practitioners utilise online platforms, social media, and messaging networks to exchange knowledge, foster collaboration, and sustain learning communities (Hine, 2015). This component is essential for **Objective 2**, which focuses on establishing a community learning platform by examining the interplay between digital and physical modes of interaction. At the same time, case study analysis, as outlined by Robert Yin (2018), offers a structured approach to investigating specific farms, networks, and initiatives, thereby grounding the emerging theory in real-life practices and contextual variations (Yin, 2018).

The choice of this multimodal design reflects the complexity of urban farming as a learning environment, where digital, physical, and cultural spaces intersect and shape one another. Smallholding practitioners not only learn through direct engagement with farming practices but also through intergenerational traditions, peer exchange, and digitally mediated interactions. By weaving together these methodological strands, the study captures the layered realities of transformative learning in urban community farming. In doing so, it provides the empirical foundation for **Objective 3**, which aims to identify alternative solutions based on lessons learned from a community adult learning platform module for transformative practitioners.

## 2. Digital Ethnography

The increasing role of digital platforms in shaping knowledge exchange has led the study to incorporate digital ethnography as a complementary method. Digital ethnography provides a lens for examining how smallholding ecological organic farming practitioners within the Songkwae Organic Network (SKON) interact across online spaces and how these interactions contribute to learning and community building (Hine, 2020). This approach directly supports **Objective 1**, which aims to investigate adult learning platforms by capturing how practitioners utilise digital environments as part of their everyday learning practices.

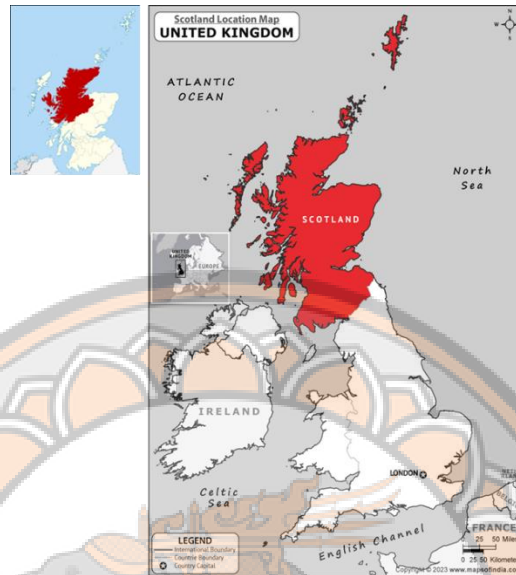
This component of the study involves systematic observation of online activities and communication channels, such as social media platforms, messaging groups, and digital marketplaces, that practitioners use in daily life. These spaces reveal not only the exchange of technical knowledge but also the negotiation of trust, the reinforcement of shared values, and the development of collective identity. Such findings are essential for **Objective 2**, which focuses on establishing a community learning platform, since digital networks act as extensions of physical farms and markets.

By extending the field beyond physical farms and community spaces, digital ethnography highlights the blended nature of learning environments where digital and physical spaces overlap. It demonstrates how real-time interactions—ranging from discussions of crop failures to sharing success stories and marketing opportunities—form an integral part of situated learning processes within the SKON community. These insights contribute to **Objective 3**, which aims to identify alternative solutions based on lessons learned from community adult learning platforms, including those mediated through digital practices.

## 3. Complementary Case Study

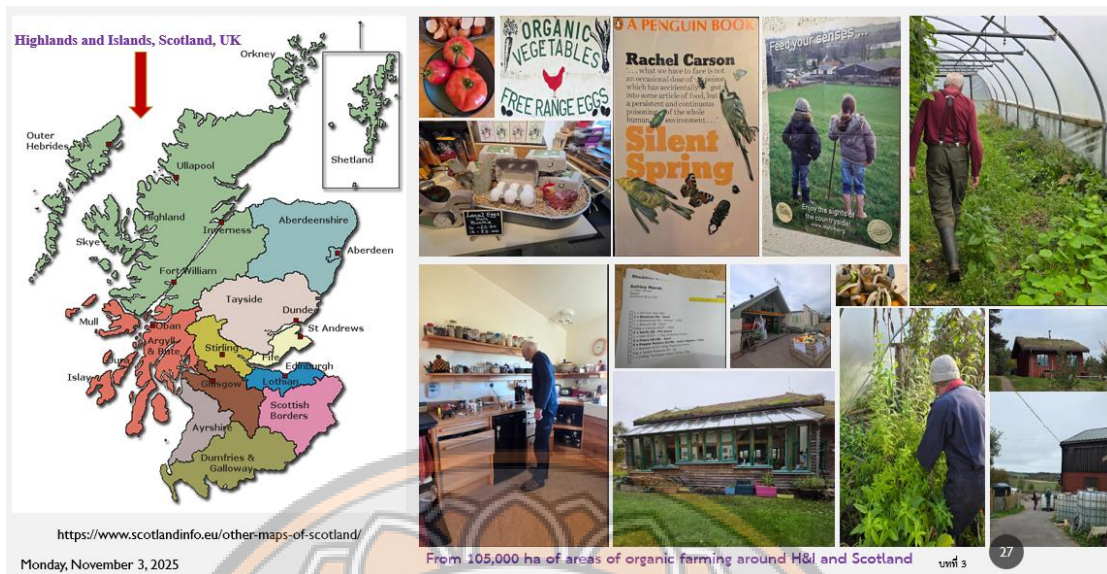
While the Songkwae Organic Network (SKON) provides the primary context empirical focus, the study also incorporates case study insights from international contexts, particularly smallholding organic farming practices and the crofting system in the Highlands and Islands of Scotland, UK. Following Yin's (2018) guidance, case studies serve not as isolated investigations but as contextualised

complements that illuminate how learning processes, entrepreneurial strategies, and community resilience unfold across different settings.



**Figure 4 Resources from the map shown in <https://commons.wikimedia.org/> and applied for this research according to the selected areas of research data collection, the region of the Highlands and Islands**

This dimension enriches the analysis by situating Thai smallholding organic farming within broader discourses of adult learning, entrepreneurship, and community resilience. The study draws on the Scottish crofting system, which features distinctive policy frameworks, cooperative traditions, and a long history of balancing cultural identity with modern sustainability challenges, as a valuable counterpoint to the Thai context. Such cross-case insights enable the study to highlight both shared dilemmas, such as market access, generational transitions, and ecological adaptation, as well as unique cultural pathways that shape learning practices.



**Figure 5** The map shows location of research areas and practitioners' activities

Importantly, this case study dimension does not constitute a separate strand of research, but it integrates into the overall grounded theory design. It strengthens **Objective 1** by offering a broader perspective on adult learning platforms, informs **Objective 2** by illustrating alternative models of community learning structures, and supports **Objective 3** by providing lessons and alternative solutions transferable across contexts. In doing so, it underscores the global relevance of the study while maintaining sensitivity to the local particularities of SKON.

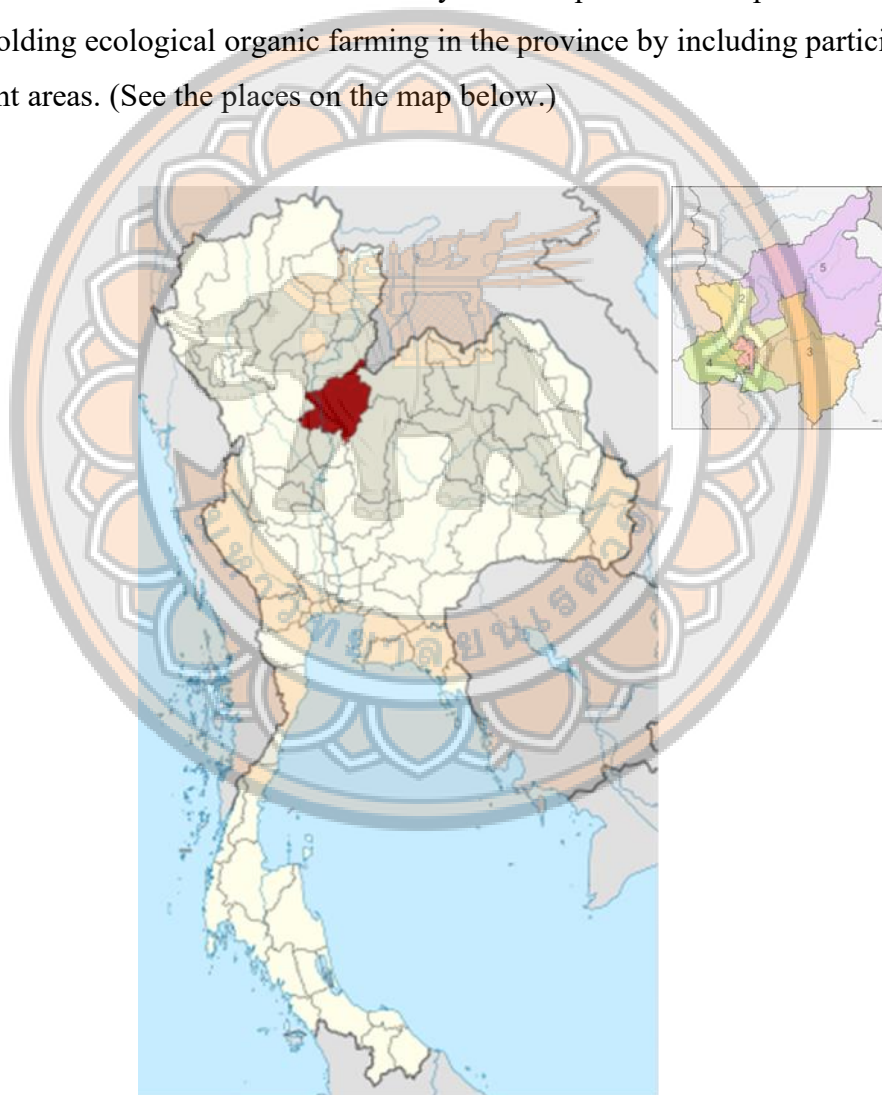
#### 4. Sampling Strategies

##### 4.1 Target Group

The research units of analysis employ a combination of theoretical and purposive sampling, strategically selecting distinct groups of individuals from smallholding ecological organic farms in Phitsanulok Province. The primary target comprises 29 farms, encompassing current and past members. This group, known as the founder and developer SKON members, holds valuable insights into the dynamics of smallholding ecological organic farming practices. Additionally, the research includes Phitsanulok Provincial Team and SKON's alliances, particularly those engaged in agricultural extension services or possessing significant practices relevant to the

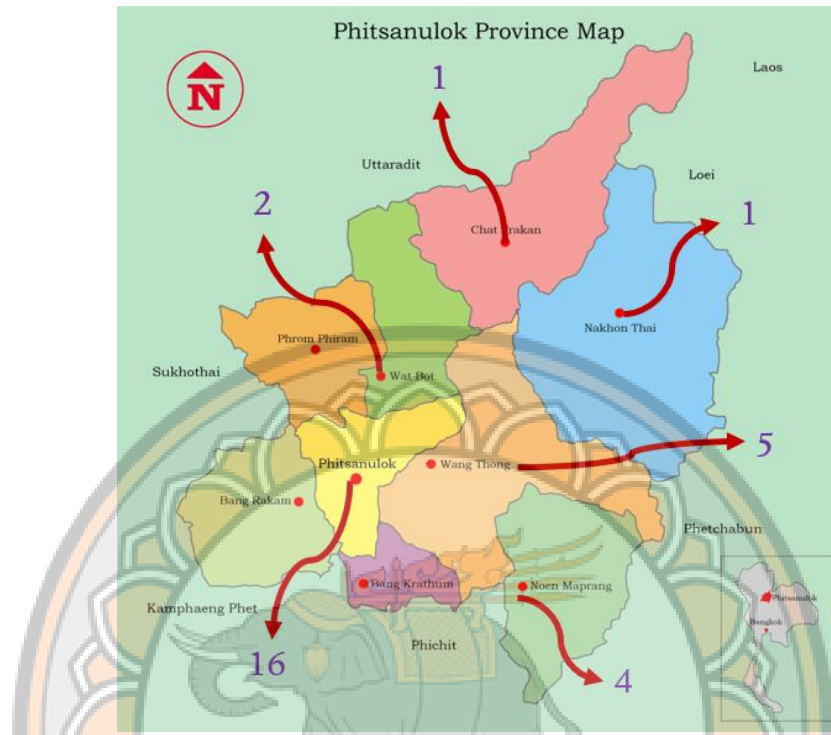
research context and topic. This research aims to engage the group in providing diverse perspectives and enriching the overall understanding of the subject.

Then, the study concludes 58 participants and 29 organic farms drawn from practitioners. The recruitment process for this group is conducted through the local organic farming network—listed members, utilising specified geographical areas indicated on the map below. This strategic selection ensures representation from various locations within the province, contributing to the diversity of experiences and practices considered in the research. The study will capture a comprehensive view of smallholding ecological organic farming in the province by including participants from different areas. (See the places on the map below.)



**Figure 6 Positioning the main research areas of studies from the Map of Thailand. [https://en.wikipedia.org/wiki/Phitsanulok\\_province](https://en.wikipedia.org/wiki/Phitsanulok_province)**

### Map of Phitsanulok and Location of SKON's members



**Figure 7 Phitsanulok Provincial Map and Participants' Farm Location. A representative map to present the target area and expected target sampling count by organic farms' location across Phitsanulok province**

Furthermore, the Songkwae Organic Network (SKON) in Phitsanulok Province represents a unique case of community-based organic agricultural practice. Formed by practitioners who self-identify as organic farmers, SKON promotes ecological farming, food safety, and environmental sustainability. Its activities include farm production, local fresh markets, participatory certification under the Participatory Guarantee System (PGS), and community outreach.

SKON's significance lies in its attempt to act as a social entrepreneurial network, connecting producers, consumers, and multi-stakeholder or community groups such as educational institutions. For example, Naresuan University has played a central role in supporting the network since 2015 by hosting the "NU Organic Market" and integrating students into farm visits. This academic support strategy has strengthened SKON's bargaining power, clarified its role, and increased its visibility.



**Figure 8** It illustrates the geographical distribution of participant farms in Phitsanulok Province and selected images of SKON learning activities. The map shows the spatial spread of field sites, while the photographs document participatory learning processes, community engagement, and practice-based knowledge exchange within the Songkwaee Organic Network

However, SKON has also faced challenges:

- Lack of institutionalised quality assurance and continuous academic support.
- Limited sustainability of local markets compared to successful models in Chiang Mai or Nakhon Pathom.
- Inconsistent government support and fragmented community initiatives.

Despite these limitations, SKON represents a living laboratory of informal and community-based adult learning, where practitioners collectively negotiate standards, share practices, after retirement, and explore sustainable livelihoods.

#### 4.2 Screening Procedure

The pilot study identified the initial participants, and the research team recruited additional participants through purposive sampling and referrals from SKON members and associated networks.

- Screening research areas and volunteer groups using purposive sampling and determining the relevant concepts for constructing grounded theory.
- Preliminary request for consent from the group.
- Choosing the participants, following the inclusion and exclusion criteria.
- Follow the protocol.
- Explain the content of the research.
- Signing the consent form.
- Using data collection tools: interviews and observation.
- Data collection
- Data analysis
- Reporting the research

### 4.3 Sampling Criteria

The study divided participants into two main groups. Although age and vulnerability were not initial selection criteria, ethical considerations required grouping by age to ensure appropriate sensitivity in the research process. The study protects participants' identities by withholding names and presenting all quotations with assigned codes or numbers. Volunteers retain the right to withdraw at any time, and such withdrawals do not affect the study. Participants who decide to discontinue the study bear no responsibility for the research outcomes, and their data will not be included in the final analysis.

### 4.4 Theoretical Sampling

This study employs theoretical sampling, consistent with the principles of Constructivist Grounded Theory (Charmaz, 2014b, pp. 192-193). The sampling process began with participants from the Songkwae Organic Network (SKON) and was then progressively expanded to include a diverse range of actors relevant to smallholder organic farming. The study continued to collect data iteratively and process the material until theoretical saturation was reached. This approach ensured that emerging categories were sufficiently developed and grounded in the empirical field.

**Group (1):** The volunteers aged between 20 and 59 years old. Inclusion and exclusion criteria: Any participants included in the research are:

**Inclusion Criteria:** This research consists of the following participants:

- Organic farming agriculture practitioners.
- Practitioners or entrepreneurs who are related to Eco-friendly or BCG (Bio-green-circular economy model)
- Aged between 20 and 59 years old.
- Those who are willing to participate or are members of SKON activities.
- The study requires all SKON members to adhere to the group's standards and regulations.

**Exclusion Criteria:** This research does not include the following participants:

- Aged under 20 and over 59 years old.
- Conventional agriculture practitioners.
- Practitioners or entrepreneurs unrelated to Eco-friendly or BCG (Bio-green-circular economy model).
- Those who are not willing to participate or are not members of SKON activities.
- Those practitioners who chose not to share their business information.
- Those practitioners feel uncomfortable with the community and wish to leave the research early or after joining.

**Group (2):** The volunteers aged over 60 but under 85:

**Inclusion Criteria:** Any participants included in the research are:

- Organic farming agriculture practitioners.
- Aged 60 but under 85 years old.
- Volunteers who have no physical difficulties can join in the research activities.
- Practitioners or entrepreneurs related to Eco-friendly or BCG (Bio-green-circular economy model).
- Those who are willing to participate in SKON activities.
- All are accepting the group standards and regulations.

**Exclusion Criteria:** Individuals who do not meet the inclusion criteria are excluded from the study.

- Conventional agriculture practitioners.
- Aged 60 and not over 85 years old.
- Volunteers with physical difficulties are participating in the research activities.
- Practitioners or entrepreneurs unrelated to Eco-friendly or BCG (Bio-green-circular economy model).
- Those who are not willing to participate in SKON activities.
- The study requires all members to accept the group's standards and regulations.

#### ***Inclusion criteria of farms in Scotland***

- In the Highlands and Islands region.
- Classed as a crofting system.
- Organic farm or business.

#### **4.5 Remuneration and gift**

Since this research is based on and agreed upon by both parties, the researchers and the target group, the participants are willing to receive no remuneration or gift, and they have joined the research voluntarily and wish to find out a learning model that benefits the network and others, as evidenced by their signature on the consent form.

#### **4.6 Withdrawal and Termination of Research**

Once volunteers join the study, they may withdraw at any time if circumstances arise before or during the research process. The study will terminate if any of the following conditions are met.

##### ***Withdrawal and Termination Criteria:***

- Feeling insecure and uncomfortable
- Inconvenient to give information due to sickness
- On duty with family and main job
- Unwilling to share business information or the possible impacts of sharing information.
- Urgencies

#### **3.5 Data Collection**

The research collects relevant data using the following methods:

***Semi-Structured Interviews:*** The research will involve in-depth semi-structured interviews utilising open-ended questions derived from core codes. As part of the data collection process, the study conducts interviews with a purposive sample of SEOFPs from SKON, organic farming market organisers, consumers, and other relevant stakeholders. This sampling approach ensures that the research captures diverse perspectives across production, distribution, and consumption, thereby generating a comprehensive understanding of the learning dynamics within the organic farming network. The objective is to gain comprehensive insights into participants' experiences, challenges, and strategies concerning knowledge management and systems thinking in organic farming. The study employs an open-ended interview format to facilitate the emergence of key themes and patterns central to the research objectives, particularly those related to transformative learning processes, including experience, reflection, critical discourse, and action.

***Participant Observation:*** Participating in participant observation during visits to organic farms, organic farming markets, community events, and critical learning platforms like "eat-talk-live" will immerse the researcher in the context of SEOFPs' practices. This approach enables the researcher to observe first-hand interactions, the dynamics of knowledge sharing, and nonverbal cues that interviews alone may not fully capture. By actively engaging with the environment in which these practices unfold, the researcher can gain a more nuanced understanding of the intricacies and subtleties of the lived experiences of SEOFPs.

***After-action reviews (AARs):*** The study employed AARs and their associated learning logs as a systematic system to capture participants' reflective practice. Initially developed in military training and later adapted for organisational learning, the AAR method involves structured group discussions conducted immediately after an activity or event. Through this process, participants collectively examine what was intended, what actually happened, why it happened, and what can be improved in the future (Darling & Parry, 2001, pp. 616-618). This process stimulates critical reflection, surfaces tacit knowledge, and enables the co-construction of insights in real time.

**Learning logs**, by contrast, provide an individual, written space for participants to record their farm activities, experiences, challenges, and learning moments over time. They encourage reflexivity, support ongoing sense-making, and create a cumulative record of personal transformation and adaptation (Moon, 2006, pp. 88-92).

Together, **AARs** and **learning logs** integrate both **collective** and **individual** dimensions of reflective practice, aligning with the principles of **transformative learning** by fostering critical reflection, dialogue, and action.

### 3.6 Data Collection Limitations

Despite the strengths of the multi-method data collection approach, several limitations are acknowledged. First, the study relies primarily on qualitative, self-reported data, which may be influenced by participants' selective recall, social desirability, or situational constraints. While triangulation across interviews, observations, AARs, and digital traces mitigates this limitation, complete elimination of such bias is neither possible nor consistent with the interpretive epistemology of Constructivist Grounded Theory.

Second, data collection is contextually bounded to the Songkwaee Organic Network (SKON) and its associated urban and peri-urban learning environments in Phitsanulok Province. As a result, findings are not intended to be statistically generalisable. Instead, they offer context-sensitive insights into learning processes that may be analytically transferable to similar smallholding organic farming and urban community learning contexts.

Third, the researcher's dual role as both academic and community participant may shape access to data and influence interactions with participants. While this position provides deep contextual understanding and trust-based access, it also requires careful reflexive management. Reflexive memo writing and continuous analytic comparison are employed to acknowledge and critically examine the influence of the researcher's positionality throughout the data collection process.

Finally, practical constraints such as time availability of participants, seasonal farming cycles, and the uneven intensity of digital engagement across participants may result in variations in data depth across cases. These variations are

treated analytically as part of the empirical conditions shaping learning, rather than as methodological deficiencies.

### 3.7 Data Analysis

Data analysis followed the principles and procedures of Constructivist Grounded Theory (CGT), employing iterative coding, constant comparison, memo writing, and visual analytic techniques to construct a grounded, middle-range theory of urban community learning platforms as enacted by smallholding ecological organic farming practitioners (SOFPs). The relationship between data sources, coding stages, and visual analytic outputs is summarised in Table 4.

**Table 4 Table: Data Sources, Coding Stages, and Visual Analytic Outputs**

Data Source	Coding Stage	Analytic Purpose	Visual Output
Semi-structured interviews (SOFPs, facilitators, stakeholders)	Initial coding	Identify actions, meanings, and learning practices	Preliminary code clusters; action-based code lists
Participant observation (farms, markets, community events)	Initial & focused coding	Capture situated, embodied learning and interactions	Practice-flow sketches; situational maps
Digital ethnography (LINE, Facebook groups, digital exchanges)	Focused coding	Analyse digital scaffolding, peer support, and coordination	Platform interaction maps
After-Action Reviews (AARs)	Focused coding	Identify reflective learning cycles and collective sense-making	Reflection loops; feedback diagrams
Cross-case comparison (Thailand & UK cases)	Focused & theoretical coding	Compare conditions and learning configurations	Comparative matrices; category maps
Memo corpus (analytic, reflexive, theoretical memos)	All stages	Track conceptual development and researcher interpretation	Integrative coding maps

Data Source	Coding Stage	Analytic Purpose	Visual Output
Synthesised categories and core processes	Theoretical coding	Integrate categories into explanatory framework	HTLM (5.5, Fig. 39, 40); ZPD–MKO Map (5.5, Fig. 41); Adaptive HIFM (Fig. 42)

To ensure analytic clarity and methodological transparency, data analysis was conducted in two complementary strands: qualitative analysis using CGT procedures and descriptive analysis of demographic data.

### 3.7.1 Qualitative Data Analysis (Constructivist Grounded Theory)

Qualitative data were analysed using the CGT procedures of initial coding, focused coding, and theoretical coding (Charmaz, 2014b), supported by constant comparison, analytic memo writing, and visual mapping techniques. These procedures enabled the identification, refinement, and integration of categories related to learning processes, facilitation roles, and hybrid urban community learning platforms. Visual coding maps and conceptual diagrams were developed iteratively to support theoretical integration and model construction.

### 3.7.2 Demographic Data Analysis (Descriptive Statistics)

Demographic data were analysed using descriptive statistical techniques to provide contextual background on the study participants. Variables such as age range, gender, farming experience, and role within the organic farming network were summarised using frequencies, percentages, and simple distributions.

Demographic data were processed using spreadsheet software, and visual representations such as bar charts and pie charts were produced to enhance clarity and transparency. No inferential statistical analysis was conducted, as demographic analysis served solely to contextualise the qualitative findings rather than to test hypotheses. This descriptive analysis functioned as a supplementary analytic component, distinct from the CGT-based qualitative analysis.

### 3.7.3 Coding Procedures

The coding process unfolded in three interrelated stages: initial coding, focused coding, and theoretical coding (Charmaz, 2014a).

**Initial coding** was conducted line by line and incident by incident across interview transcripts, field notes, digital ethnography records, and After-Action Reviews (AARs). Codes were kept short, active, and gerund-based (e.g., *negotiating trust*, *learning through market interaction*, *coordinating digitally*) to remain close to participants' actions and meanings. This stage aimed to fracture the data analytically, allowing multiple interpretations to emerge without imposing preconceived categories.

**Focused coding** involved identifying the most frequent, significant, or conceptually powerful initial codes and using them to synthesise and explain larger segments of data. Through repeated comparisons across participants, sites, time periods, and data sources, related codes were clustered into analytical categories, including *hybrid learning spaces*, *facilitation roles*, *urban–rural link practices*, and *digital scaffolding*. Decisions at this stage were guided by analytic memos documenting why specific codes were elevated and how they related to emerging patterns.

**Theoretical coding** was used in the later stages of analysis to specify relationships between categories and to integrate them into a coherent conceptual framework. This phase focused on identifying processual linkages (e.g., conditions, actions/interactions, and consequences) that explained how urban community learning platforms operate and evolve. Theoretical codes enabled the articulation of learning dynamics across physical, digital, and social–institutional domains.

#### 3.7.4 Memo Writing and Constant Comparison

Analytic memo writing functioned as a central interpretive practice throughout all stages of analysis. Memos were used to capture emerging insights and theoretical ideas, reflect on researcher positionality and interpretive decisions, compare cases within and across learning platforms, and trace the development of categories and their properties over time.

The constant comparative method was applied continuously, involving systematic comparison of data with data, data with codes, codes with categories, and categories with emerging theory. This iterative analytic movement ensured that conceptual development remained grounded in empirical evidence while allowing theoretical abstraction to develop progressively.

### 3.7.5 Visual Diagrams and Coding Maps

To support theory construction and enhance analytic clarity, the study employed visual analytic techniques, including diagrams, coding maps, and conceptual models. These visual tools were not illustrative add-ons but formed an integral part of the analytic process.

Coding maps were developed during focused coding to visualise relationships among codes and categories, highlighting intersections between learning practices, facilitation roles, and platform dimensions across cases. Process diagrams were used during theoretical coding to model learning trajectories and interactional sequences, such as transitions from individual experimentation to collective, platform-based learning. Integrative conceptual diagrams were developed in the final analytic phase to synthesise findings into higher-order models linking physical, digital, and social learning domains.

### 3.7.6 Analytic Outcome

The combined use of systematic coding, constant comparison, analytic memo writing, and visual mapping enabled the construction of a middle-range grounded theory explaining how urban community learning platforms are formed, sustained, and transformed through the practices of smallholding ecological organic farming practitioners (SOFPs). This analytic strategy ensured methodological rigour, transparency, and theoretical sensitivity while remaining consistent with the epistemological commitments of Constructivist Grounded Theory.

The analysis will follow CGT procedures of initial coding, focused coding, and theoretical coding (Charmaz, 2014b). The study uses memos and constant comparison to refine categories, and it employs diagrams and visual mapping to support theory construction. The goal is to generate a middle-range theory of urban community learning platforms grounded in SOFP practices.

### Validity, Trustworthiness, and Reflexivity

In Constructivist Grounded Theory, validity is not assessed through statistical generalisability but through credibility, resonance, transferability, and reflexive accountability (Charmaz, 2014). This study ensures trustworthiness through systematic

triangulation, prolonged engagement, constant comparison, and reflexive practice, appropriate to the study of urban community learning platforms.

**Credibility** is established through prolonged and sustained engagement with smallholding ecological organic farming practitioners (SOFPs) across multiple sites and learning platforms. Credibility is further strengthened through methodological and data triangulation, combining semi-structured interviews, participant observation, After-Action Reviews (AARs), and digital ethnography (e.g., LINE and Facebook group interactions). Insights derived from a single data source are continuously compared with those from other sources to verify consistency, identify divergence, and deepen analytical understanding. Member checking is conducted informally and iteratively by discussing emerging interpretations and preliminary models with participants to confirm their accuracy and plausibility.

**Triangulation** in this study operates across several dimensions. First, data triangulation integrates multiple forms of evidence (verbal accounts, observed practices, farm diaries, digital interactions, and reflective records). Second, methodological triangulation combines interviews, observation, AARs, and visual analytic techniques to examine learning processes from complementary angles. Third, theoretical triangulation draws on Transformative Learning Theory, Situated Learning, and sociocultural perspectives (e.g., ZPD and MKO) to interrogate emerging categories without privileging a single explanatory lens. Triangulation is not used to seek convergence alone, but to explore tensions, flows, contradictions, and contextual variation as analytically productive features of community learning.

**Resonance** is addressed by ensuring that emerging categories, diagrams, and conceptual models reflect participants' lived experiences and practical realities. Resonance is assessed through participants' recognition of the analytic accounts and through the alignment of theoretical constructs with observed practices within urban–rural learning platforms.

**Transferability** is supported by a thick description of the research context, learning environments, and social–institutional conditions that shape SOFP practices in Phitsanulok Province. While the findings are contextually grounded, the analytic focus on learning processes, facilitation roles, and hybrid platforms enables conceptual

transfer to similar smallholding contexts in urban and peri-urban areas, nationally and internationally.

**Reflexivity** is integral to the research process. The researcher acknowledges their dual role as both academic investigator and community participant within the Songkwae Organic Network (SKON). Reflexive memo writing is used throughout data collection and analysis to document positionality, assumptions, emotional responses, and interpretive decisions. This reflexive practice supports transparency and helps manage potential bias while recognising the co-constructed nature of meaning within CGT.

### **Ethical Considerations**

This research follows ethical standards for qualitative inquiry:

- **Informed consent:** The study provides participants with a research brief outlining the purpose, process, and voluntary nature of the study, and it documents their consent before data collection.
- **Confidentiality:** The study ensures confidentiality by anonymising all participant identities and safeguarding sensitive information in accordance with ethical data protection standards.
- **Respect for participants:** Given that participants are also practitioners embedded in livelihoods, interviews and observations will be conducted with minimal disruption.
- **Data security:** All recordings, transcripts, and digital data will be stored securely and accessible only to the researcher and supervisory team.
- **Reciprocity:** The study shares its findings with participants and SKON in accessible formats to ensure that the research benefits both the community and academia.

### **Limitations**

This study acknowledges several limitations:

1. **Context-specific focus:** The findings will be rooted in Phitsanulok Province and SKON, which is characterised by naturalistic inquiry, investigating phenomena in

their natural setting and seeing the holistic in understanding. Instead, this may limit direct generalisation to other contexts of this research.

2. **Researcher positionality:** The researcher's involvement with SKON may introduce bias; the study mitigates this risk through ongoing reflexive practice, including memo writing, self-positioning, and peer debriefing to ensure transparency and critical self-awareness throughout the research process.

3. **Time constraints:** Data collection is limited to the period of 2023–2025, which may not fully capture long-term transformations.

4. **Complementary scope:** While insights from international cases (e.g., UK smallholdings) enrich the study, these remain supplementary rather than primary data. Therefore, further investigation into the best practices of Scotland's organic farms may be warranted.

#### **Transition to Chapter 4**

This chapter outlines the research philosophy, methodological stance, design, and procedures employed in this study. By adopting Constructivist Grounded Theory (CGT) alongside Transformative Learning Theory (TLT) and community frameworks, the study establishes a rigorous approach to understanding how smallholding ecological organic farming practitioners (SOFPs) learn, adapt, and build community platforms in the Songkwae Organic Network (SKON).

This study employs semi-structured interviews, participant observation, After-Action Reviews, and digital ethnography to capture both individual and collective dimensions of transformative learning. It also addresses ethical considerations, reflexivity, and contextual limitations to ensure credibility and resonance, thereby aligning the methodological choices with the research objectives of identifying key components of transformative learning, developing a community learning platform, and exploring alternative solutions for SOFPs within SKON.

Building on this methodological foundation, the next chapter presents the **findings and analysis** derived from the data. Chapter 4 explores how SOFPs engage in transformative learning, the challenges they encounter, and how community learning platforms emerge and evolve within the SKON context.

## CHAPTER IV

### RESEARCH FINDINGS AND ANALYSIS

This chapter presents the research findings derived from years of research fieldwork, interviews, participant observation, digital ethnography, and grounded theory analysis. This chapter presents the findings in direct relation to the study's two research questions and three objectives. The first research question explores the *key components of transformative learning for urban communities engaged in smallholder organic farming practices* (SOFPs), with a particular focus on members of the Songkwae Organic Network (SKON). The second examines how practitioners within SKON can *develop learning platforms that effectively promote transformative learning* for smallholding organic farming practitioners.

To address these questions, three objectives guided the study:

1. To *investigate adult learning platforms* that support transformational and lifelong learning for urban organic farming practitioners, particularly within the context of Thailand's ageing society.
2. To *establish a community learning platform* for urban organic farming practitioners.
3. To identify *alternative solutions* based on lessons learned from a community adult learning platform module for transformative practitioners, with emphasis on sustaining intergenerational participation and community resilience.

Therefore, this chapter organises the research findings into eight sections.

Overview of the Findings

Learning of SOFP Practitioners as Observed

Transformative Learning Processes

Community Learning Platforms & Communities of Practice

Alternative Problem-Solving and Practice Dilemmas

Synthesis: Conceptual Model

Summary and Conclusion

Transition to Chapter 5

To complement the analysis, the chapter also introduces tables and figures of graphs and flowcharts developed from SKON case of interview and observation data, including visual models of the transformative learning process. This flowchart directly links the research findings to the objectives by illustrating how learning is triggered, processed, and sustained among SOFPs. It further demonstrates how SKON's physical and non-physical community-based practices act as a platform for transformative learning, thereby generating lessons and alternative solutions relevant to the research aims.

### **Overview of the Findings**

The study involved fifty-eight participants from the Songkwae Organic Network (SKON), drawn from diverse backgrounds including farming, teaching, medicine, business, activism, and community work. For confidentiality, all participants are referred to by their code (ParCODE) identifiers rather than their real names. Data collection was carried out in three rounds of interviews and observations from January 2023 to October 2025. This longitudinal design enabled the observation of both continuity and adaptation in participants' learning trajectories.

#### **1. Interview Timeline**

The interview timeline and data collection rounds are presented in Table 5, which shows the distribution of participants across the three rounds. The first round (January-November 2023) captured the perspectives of network founders and early adopters. The second round and third (August - October 2024) included follow-up interviews, marketplaces, and newly engaged practitioners. The fourth round (May – October 2025) served as a supplementary phase that incorporated international and cultural perspectives.

**Table 5 Interview Timeline by Round (ParCODE only)**

Round <sup>1</sup>	Period of Data Collection	Participants' Code (ParCODE) <sup>2</sup>
1	Jan.2023-Nov.2023	TH 01111, 01121, 02311, 02323, 02333, 03112, 03122, 03133, 04111, 04121, 04132, 06111, 07211, 08311, 08322, 09111, 09121, 10111, 10121, 11311, 11321, 12111, 12123, 13111, 13121, 13133, 13143, 14311, 14321, 15111, 15122, 16111, 16121, 17111, 18111, 20111, 21113, 21123, 22111, 22123, 22133, 22143, 23111, 23123, 24111, 24122, 24132, 25311, 25322, 26111, 27111, 28311, 29211
2	Aug 2024 – Oct 2024	TH 01111, 01121, 02311, 02323, 02333, 03112, 03122, 03133, 04111, 04121, 04132, 06111, 07211, 08311, 08322, 09111, 09121, 10111, 10121, 11311, 11321, 12111, 12123, 13111, 13121, 13133, 13143, 14311, 14321, 15111, 15122, 16111, 16121, 17111, 18111, 20111, 21113, 21123, 22111, 22123, 22133, 22143, 23111, 23123, 24111, 24122, 24132, 25311, 25322, 26111, 27111, 28311, 29211
3	Feb 2025 – Apr 2025	TH 01111, 01121, 02311, 02323, 02333, 03112, 03122, 03133, 04111, 04121, 04132, 05211, 05223, 05233, 05242, 06111, 07211, 08311, 08322, 09111, 09121, 10111, 10121, 11311, 11321, 12111, 12123, 13111, 13121, 13133, 13143, 14311, 14321, 15111, 15122, 16111, 16121, 17111, 18111, 19211, 19222, 20111, 21113, 21123, 22111, 22123, 22133, 22143, 23111, 23123, 24111, 24122, 24132, 25311, 25322, 26111, 27111, 28311, 29211
4	May 2025 – Oct 2025 <i>(supplementary and complementary)</i>	TH 16121 UK 30111, 31111, 31211, 32111, 32121, 32434, 32444, 33111, 33121, 34111, 35111, 36111, 36121, 37111

**Note:** 1. To deepen the interview data and follow up participants' evolving practices, data were collected through iterative rounds of engagement (Rounds 1, 2, 3 and 4)

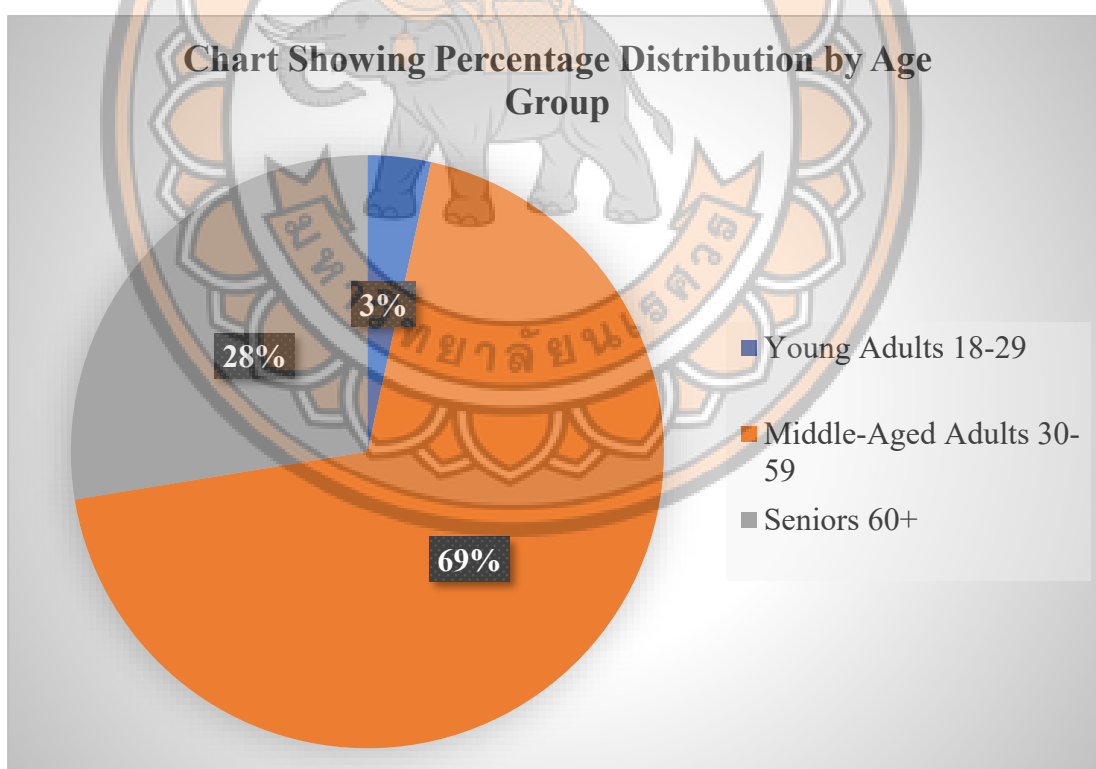
2. See Index IV: the CGT and TLT codes and analysis

## 2. Participant Characteristics

The participants represent a broad demographic and professional spectrum, shaping both their entry points into organic farming and their subsequent learning trajectories:

### 2.1 Age

The study involved fifty-eight adult learners from twenty-nine farms affiliated with the Songkwae Organic Network (SKON). They are aged between twenty and eighty-five years. Therefore, the participants were divided into three age groups: *young adults* (18–29 years, 3%), *middle-aged adults* (30–59 years, 69%), and *seniors* (60 years and above but less than 85, 28%). The gender distribution revealed 36 females and 22 males, indicating the significant role of women in organic farming communities.



**Figure 9 Percentage Distribution by Age Group**

The pie chart illustrates the distribution of participants across three age groups: (1) Young Adults (18–29 years), representing the smallest group, accounting

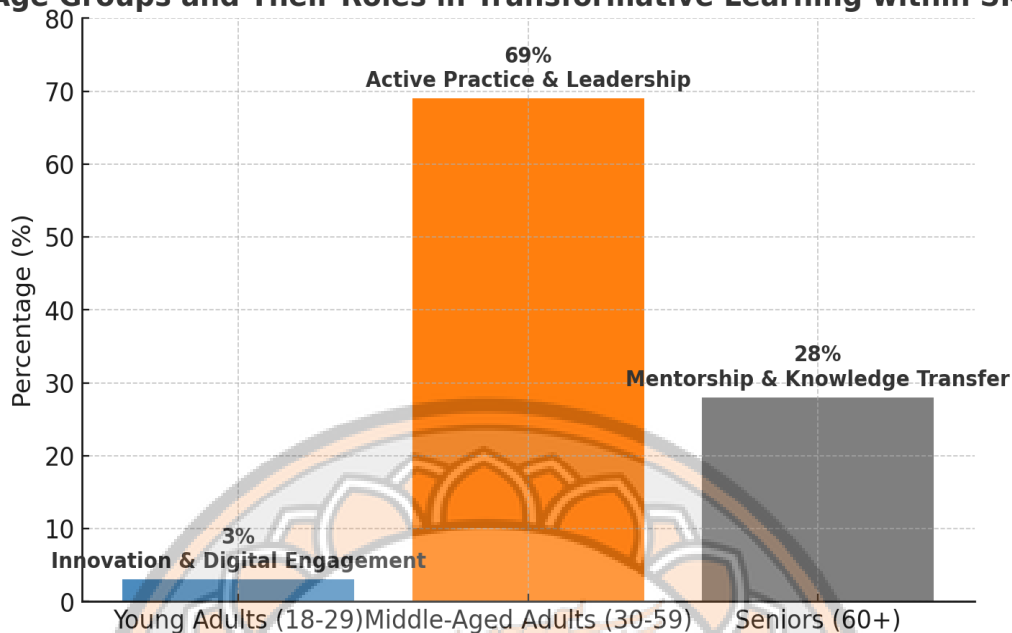
for only 3% of the total sample. This population underrepresents younger individuals.

(2) Middle-Aged Adults (30–59 years): Form the largest group at 69%, which shows that the majority of participants fall into this age category. This dominance suggests that people in this age group are the most actively engaged or represented in the study.

(3) Seniors (60 years and above): Make up 28% of the sample. While not the majority, this group represents more than a quarter of the total population, indicating a significant level of involvement among older individuals.

The demographic profile of SKON highlights that middle-aged adults (30–59 years) are the primary drivers of farming and community-learning practices, forming the core group responsible for sustaining daily operations and innovation. Seniors (60 years and older) play an equally crucial, though lesser-known, role, contributing through cultural continuity, intergenerational transfer of knowledge, and mentorship, which reinforces the community's identity and resilience. In contrast, youth participation (18–29 years) is critically low, reflecting structural and perceptual barriers such as limited access to resources, reduced opportunities, and farming's low appeal as a viable career path. This distribution highlights the reliance of SKON's learning platforms on middle-aged practitioners, while underscoring an urgent need to address the underrepresentation of younger generations to ensure long-term sustainability. The age group has also highlighted the significance of integration and transferability between generations. (See Figure 10)

### Age Groups and Their Roles in Transformative Learning within SKON



**Figure 10 Age Groups and Their Roles in Transformative Learning within SKON**

The figure shows how different age groups contribute to transformative learning in SKON: young adults (18–29) focus on innovation and digital engagement (3%), middle-aged adults (30–59) play the most significant role through active practice and leadership (69%), and seniors (60+) contribute mainly via mentorship and knowledge transfer (28%).

The generational gap in learning processes highlights a crucial challenge for smallholder organic farming practitioners within an evolving ageing society. Farm owners, many of whom hold strong leadership positions, increasingly face difficulties in transferring knowledge and planning for succession. At the same time, younger farm workers often treat farm work as temporary employment rather than a lifelong career path, showing a tendency to leave the sector for other opportunities. This creates a potential rupture in the continuity of knowledge, learning processes, and practices.

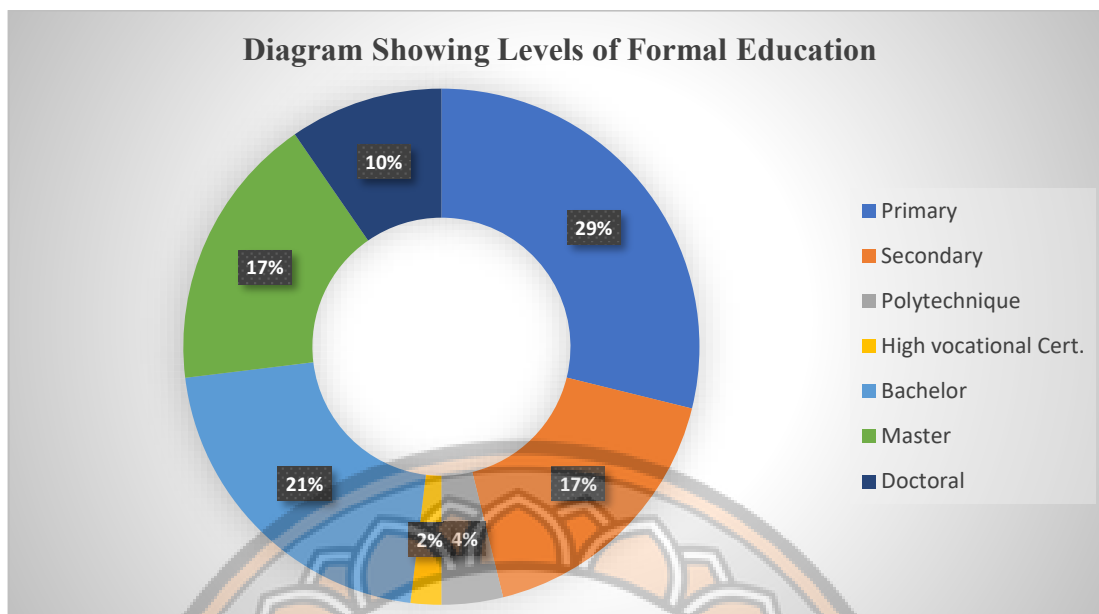
From the perspective of Transformative Learning Theory, this intergenerational gap can be understood as a site of both tension and opportunity. While older practitioners embody experiential and reflective learning tied to long-term

community engagement and high commitment, they also prepare for work exit into the after retirement. The younger practitioners may bring new perspectives, opportunities, and challenges shaped by managerial practices and external labour markets. The challenge, therefore, lies in creating communities of practice and community-based learning platforms that enable intergenerational dialogue, shared reflection, and co-construction of knowledge.

Such platforms could transform what is currently an unstructured and informal process into a more intentional and sustainable system of knowledge transfer, thereby ensuring the resilience and continuity of smallholding ecological organic farming.

## **2.2 Education:**

Educational backgrounds were diverse: 15 had lower secondary education, 12 had upper secondary or vocational training, 11 had bachelor's degrees, 9 had master's degrees, and 5 had doctoral degrees. This spread highlights both the accessibility of SKON to practitioners with limited formal education and the active involvement of highly educated professionals. Participants also reflected occupational hybridity—while some identified primarily as farmers, many balanced multiple roles, including lecturers, medical doctors, opticians, farm employees (company), entrepreneurs, homemakers, and business owners. This hybrid pattern underscores the non-linear pathways into organic farming, where individuals combine farming with other professional or entrepreneurial pursuits.



**Figure 11 Level of Formal Education**

The chart shows that most participants had primary education or grammar school (which is compulsory in Thai education requirements before 1999) (29%), followed by bachelor's degrees (21%), and equal shares of secondary and master's education (17% each). A smaller group attained doctoral degrees (10%), while very few pursued polytechnic (4%) or high vocational certificates (2%). This distribution highlights both a concentration at the primary level and a notable presence of higher academic qualifications, with limited engagement in vocational or technical pathways.

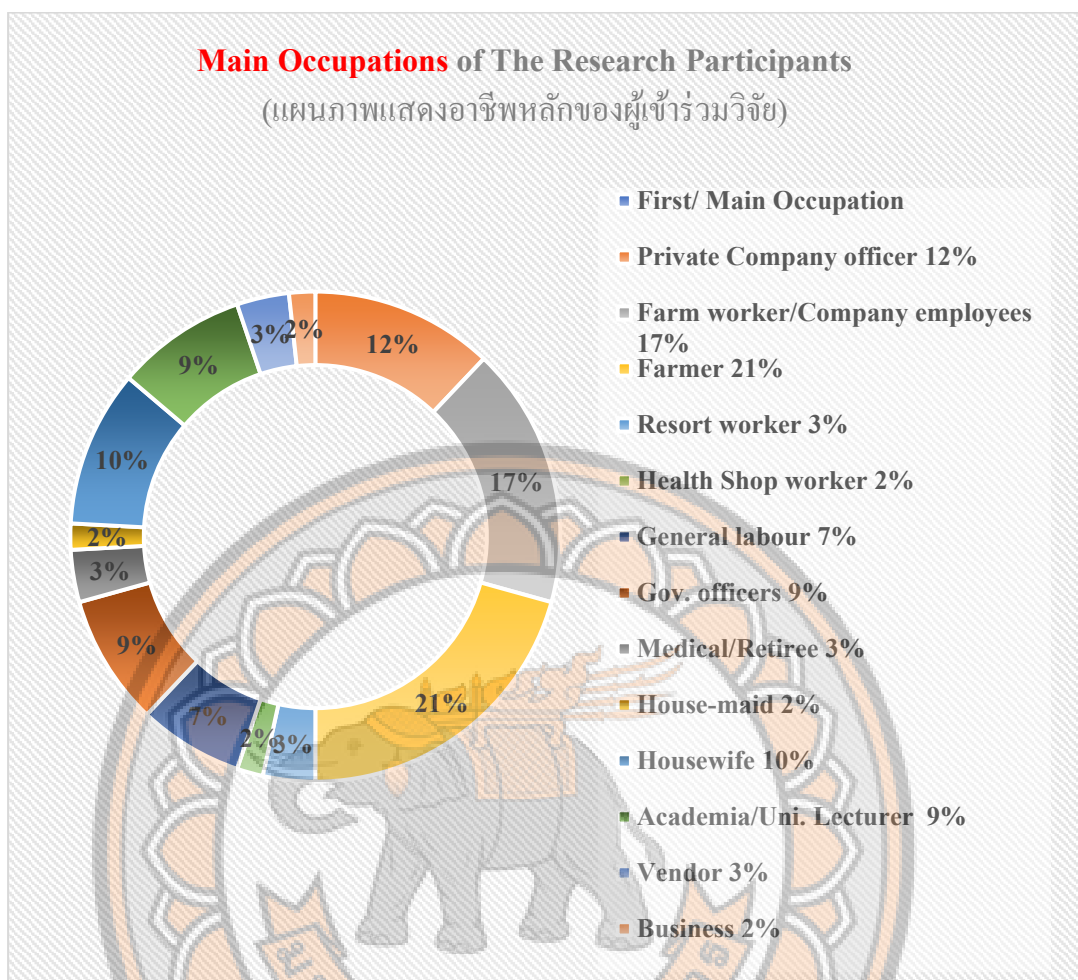
An interpretation of the educational diversity within SKON highlights the network's role as a site for transformative learning, where differences in background become resources for critical reflection, dialogue, and learning opportunities. Participants with lower levels of formal education often engaged in farm labour, learning through experiential practice and tacit knowledge. In contrast, those with higher education—ranging from vocational to doctoral levels—frequently assumed leadership or entrepreneurial roles, contributing strategic perspectives, managerial practices, and broader networks; however, they lacked the knowledge and technology for organic farming.

From the perspective of Transformative Learning Theory, this dual composition creates fertile ground for triggering points, disorienting dilemmas, and critical reflection. For example, labour-based practitioners may question assumptions when exposed to scientific or entrepreneurial knowledge. At the same time, highly educated participants may be challenged to reconsider their views when confronted with the lived experiences of farm workers. Through rational discourse, on-farm reality and shared problem-solving, these diverse groups negotiate meanings, co-construct practices, and adapt farming methods to local contexts. For example, the PGS rules and regulations resulted from combining community lifestyles and regional contexts that are based on group agreement and decision-making.

The hybridity of occupations—where organic farming practices intersect with fields such as lecturing, medicine, entrepreneurship, or household management—further strengthens the process of perspective transformation. Practitioners draw from multiple domains of expertise, translating insights across boundaries and thereby expanding the scope of organic farming as a community-based learning platform. In this sense, SKON not only accommodates diversity but actively transforms it into a driver of resilience, adaptation, and continuity in smallholding ecological organic farming.

### **2.3 Occupation:**

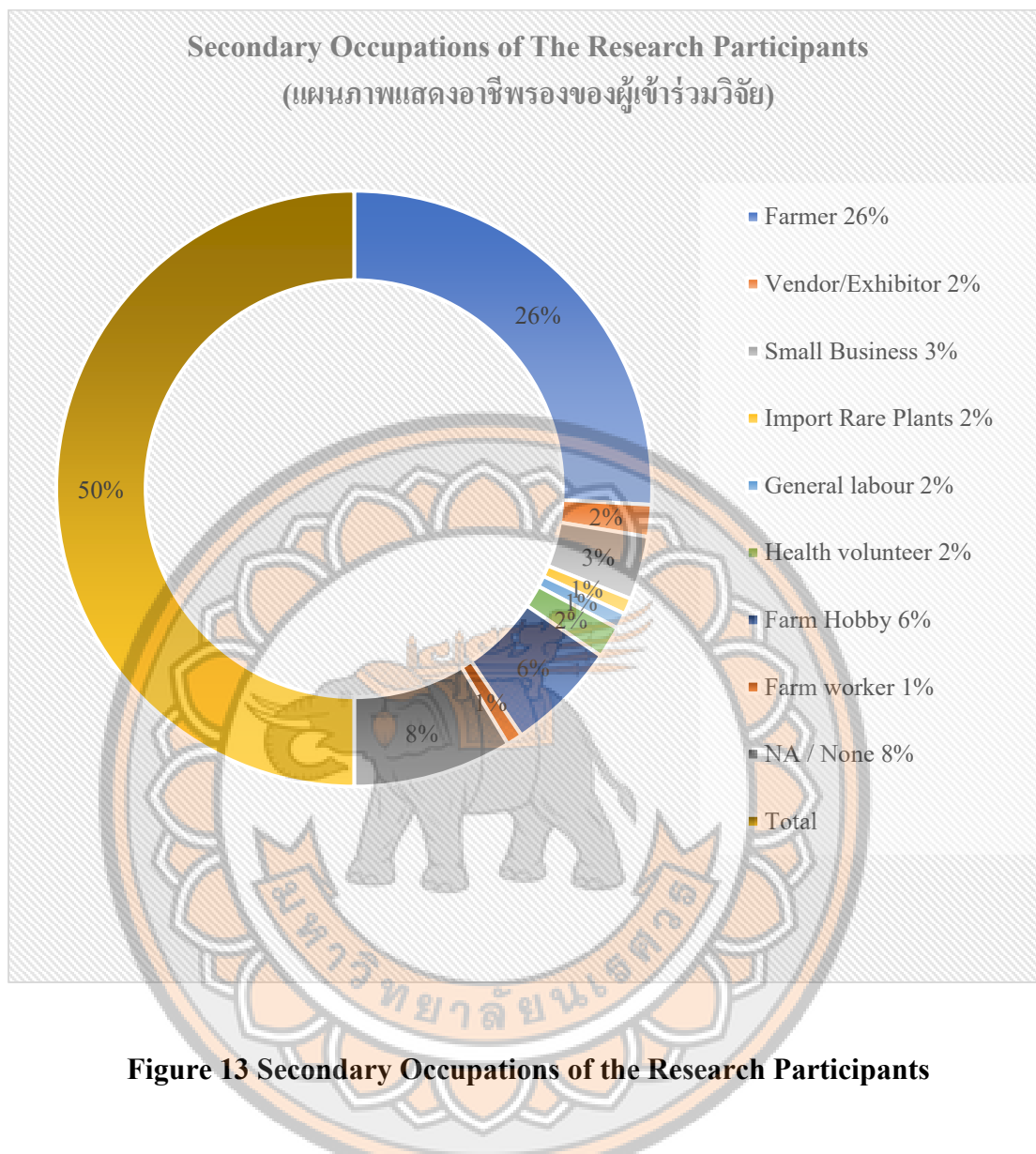
This pattern of occupation highlights the hybrid identity of SOFPs: neither solely farmers nor profitability entrepreneurs, who are referred to as practitioners and adaptive learners navigating multiple roles. Such hybridity enhances resilience and reflects the non-linear, experiential nature of adult learning.



**Figure 12 Main Occupation of The Research Participants**

Most participants were directly engaged in farming, either as farmers (21%) or farm workers (17%), showing the agricultural focus of the group. Other occupations, such as company officers (12%), resort workers (10%), and health shop workers (9%), reflect a mix of formal employment and service-oriented work. Smaller groups included government officers, labourers, company employees, homemakers, and retirees, indicating occupational diversity beyond agriculture.

To link their interests in organic farming and practices, which could lead to career transformation. The data also revealed the secondary occupation. This can reflect their reasons for holding multiple interests, including preparation for career-changing pathways, financial stability, income distribution, staying active after retirement, pleasure, or even to socialise with others.

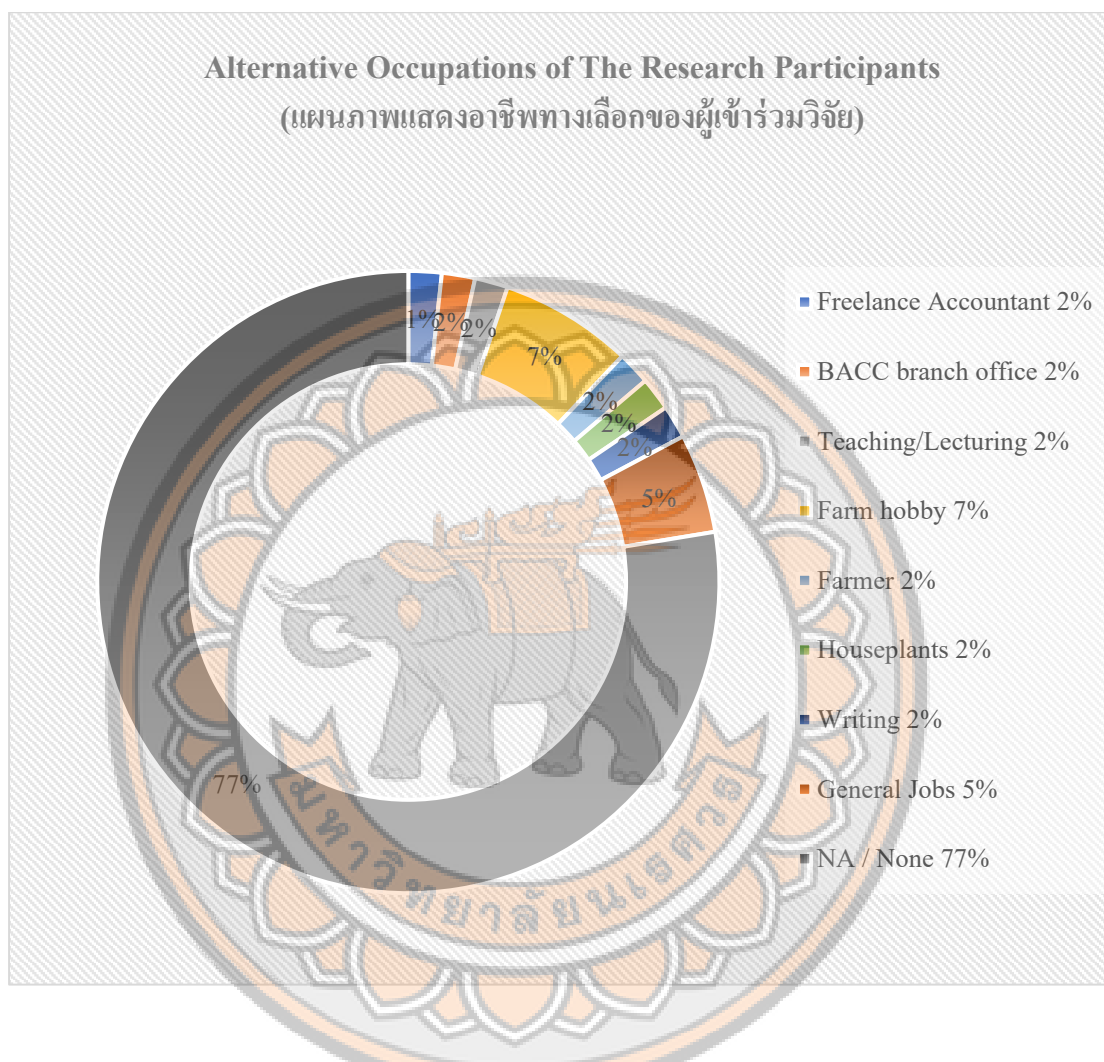


**Figure 13 Secondary Occupations of the Research Participants**

Half of the participants reported no secondary occupation, while among those who did, farming (26%) and small businesses (8%) were the most common. Other side occupations, such as general labour, vending, health volunteering, and plant trading, appeared in small proportions, suggesting that secondary work is limited and often tied to agriculture or small-scale economic activities.

While secondary occupations revealed some level of supplementary work among participants, to understand the nature of transformative learning or the acquisition of knowledge by participants in this group, the survey also explored whether they engaged in additional or alternative occupations beyond these roles. Figure 9 presents this distribution, highlighting the extent to which participants pursued other

activities alongside their primary and secondary livelihoods. Additionally, some of them have performed multiple tasks, which are not listed here.



**Figure 14 Alternative Occupations of the Research Participants**

The pie charts show that most participants (over three-quarters) did not have an alternative occupation. Among those who did, farm-related hobbies (7%) and general jobs (5%) were the most common. Other alternative roles—such as freelance work, teaching, or small plant-related activities—were sporadic, indicating that additional occupations were limited and usually informal or supplementary.

An interpretation of the occupational hybridity of SOFPs reflects more than livelihood strategies; it embodies processes of transformative learning. Participants are not solely farmers but active and adaptive learners navigating multiple roles—

entrepreneurs, lecturers, medical professionals, retirees, or household managers. This hybrid pattern highlights the nonlinear pathways into farming and the experiential nature of adult learning, in which diverse occupational backgrounds serve as resources for adaptation and resilience.

From a TLT perspective, multiple occupations often serve as disorienting dilemmas that disrupt taken-for-granted assumptions about identity and career. For example, professionals transitioning to farming after retirement, or entrepreneurs combining farming with business ventures, must critically examine their beliefs and prior frames of reference. This information generates opportunities for critical reflection on values, priorities, and daily life practices.

Through rational discourse within the SKON, participants negotiate these hybrid roles, share experiences, and validate new approaches to balancing organic farming practices with other occupations. Over time, this leads to a transformation of perspective, where organic farming practices are redefined not merely as a subsistence or livelihood, but as part of a broader life project that integrates ecological, social, ideological, and entrepreneurial dimensions.

Thus, occupational hybridity among SOFPs can be seen as both a challenge and an opportunity in the era of an ageing society: it disrupts linear career trajectories but simultaneously fosters personal preparation, innovation, resilience, and new forms of knowledge acquisition or transfer. Within SKON, these diverse occupational pathways enrich the community learning platform, enabling members to co-construct practices that draw strength from their varied professional and personal experiences in a culturally meaningful way. However, there is a downside to having no clear direction; in such cases, these pathways are based on trial and error, which can take a considerable amount of time to achieve.

In addition to their original professional backgrounds, participants increasingly took on **hybrid roles** that reflect the transformative impact of learning within SKON. These roles, for example, included:

- **CSA market designers** (22111, 23111, 24111) who developed structured market systems linking farmers, consumers, and the community.
- **Network secretaries** (22111, 20111, 17111) who provided knowledge management and coordination.

- **Ecological restorers** (22111, 18111, 16121) who focused on soil, water, and biodiversity recovery.
- **Activist-educators** (24111, 27111, 26111) who combined seed conservation with anti-mining activism.
- **Elderly learners** (19211, 19222, 13143) who joined farming activities as a meaningful post-retirement pursuit.
- **Thai medicine and herbal practitioners** (07211, 15111, 02311) who integrate traditional healing knowledge with organic farming practices, strengthening links between health, food, supporting healthy products of Thai traditional medicine, and ecological sustainability.
- **Seed savers** (23123, 27111, 06111) who preserved and exchanged indigenous seed varieties, ensuring biodiversity, food sovereignty, and intergenerational knowledge transfer.

Such hybrid identities highlight that participation in SKON extends beyond farming practice to encompass knowledge governance, activism, and social innovation.

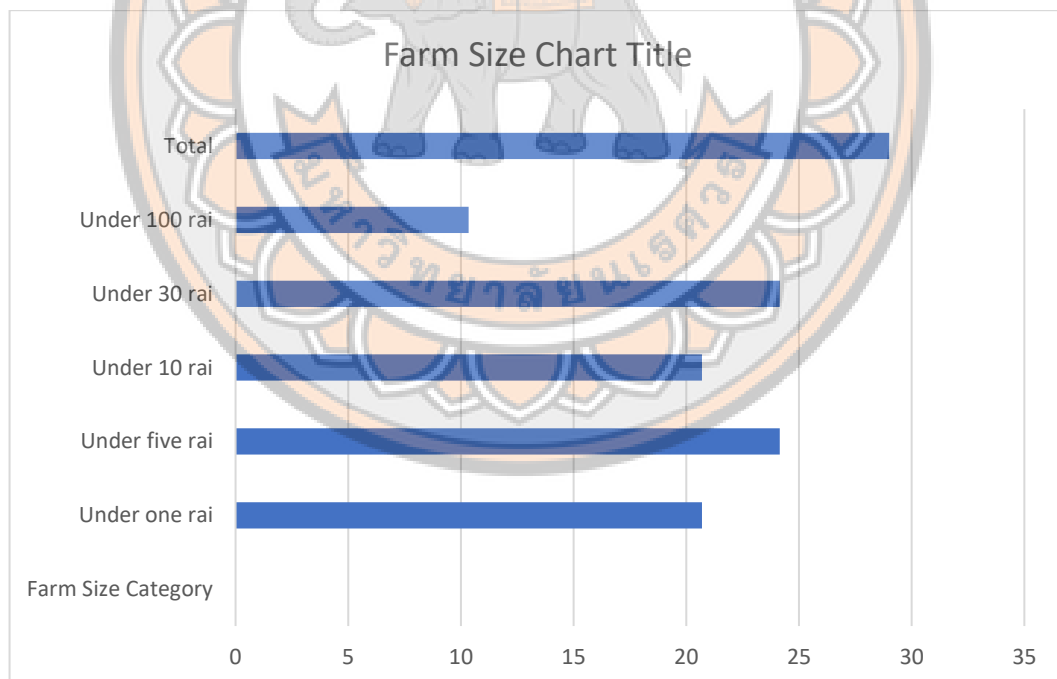
#### **2.4 Farm Size:**

The **twenty-nine participating farms** collectively covered **346-3-76 rai (555,104 sq.m.)**. Landholdings ranged from less than one rai of vegetation areas to more than thirty rai, with the majority operating as **smallholdings under five rai**. These farms varied from household-focused production to medium-scale commercial enterprises, learning centres, farm stays, and agro-tourism ventures. Farming practices emphasised **organic methods** such as composting, crop rotation, and natural pest control, with some farms continuing to trial diversifying into poultry or aquaculture.

**Table 6 Farm Sizes Records**

Farm Size Category	Areas (trw.)	Areas (Sq.m.)	Quan.	%
Under one rai	50-300	200-1200	6	20.69
Under five rai	400-1940	1600-7296	7	24.14
Under 10 rai	2400-3300	9600-13200	6	20.69
Under 30 rai	4512-10650	18048-42600	7	24.14
Under 100 rai	14000-32000	56000-128000	3	10.34
<b>Total</b>		<b>555,104</b>	<b>29</b>	<b>100</b>

The table presents the distribution of farm sizes within the SKON, showing both the number and percentage of areas in square metres, from the smallest to the most significant holdings.

**Figure 15 Farm Size Chart Title**

The farm size chart indicates that most participants managed small farms, typically ranging from 1 to 30 rai. Farms under five rai and under 30 rai were the most common categories (24 each), while the smallest farms are under one rai and medium farms under 10 rai each accounted for 21 cases. Only a minority (10 farms) operated larger holdings of up to 100 rai. This chart indicates that the study participants were predominantly smallholders, with farm sizes clustered in the lower to mid-range of the scale.

However, farm size and the number of labourers have a direct impact on organic farming practices. Variations in vegetated and cultivated land area influence the type, quantity, quality, and frequency of input use, labour demands, as well as management costs and revenues. The previous research forms the basis of the table below.

**Table 7 Farm Management and Learning Approaches**

<b>Management Style</b>	<b>Learning Approach</b>	<b>Farm Size Range</b>	<b>Actual Situation in SKON Learning</b>
Cultural-Based	Oral knowledge, Intergenerational Transmission, Experience-Driven Learning	Small-scale (22 rai)	Depend on the previous training and ideologies of the owner(s) and the nature of the business.
Leadership-Based	Mentorship, Structured Training, and Networking with Policymakers	Mid-sized (7.5 rai)	It depends on the previous training and ideologies of the owner.
Partnership/ Community-Based	Peer-to-Peer Learning, Community Engagement, Informal Workshops	Semi-medium (27 and 85 rai)	Depend on the previous training and ideologies of the owner or organisational diagram of management.
Biological-Based	Experimental Learning, Technical Workshops, Digital Resources	Large (26.5 rai)	It depends on the previous training and ideologies of the owner.

A table displaying Farm Management Styles and Learning Approaches outlines how different management styles influence learning pathways and farm sizes. However, in the case of SKON, the size range is not a concern for arranging the learning approach. They usually depend on previous pieces of training and ideologies.

Therefore, to see the form of learning platforms. In this study, the twenty-nine farms could be categorised by size and detailed as follows:

- **Small / Household farms or leisure plots:** Less than one rai, primarily for household consumption with surplus sold occasionally. These farms reflected participants' interest in organic cultivation for retirement, family health, and some practitioners use it as an example in their consumer-targeted social media content. They are producing only in small quantities.

- **Semi-small / Kitchen garden farms:** From below one rai up to five rai. These were typically managed at the household level, often by the spouse. Often, an extension plot from the first group. Additionally, their financial status and support from local government units could evolve into a learning centre, farm tourism, or small businesses that provide either primary or supplementary income.

- **Medium / Commercial farms:** Between five and ten rai. These farms were oriented toward market sales and were often able to generate their own internal inputs, such as compost or bio-extracts, moving towards greater self-reliance and business.

- **Large farms:** They are ranking between ten and less than thirty rai, characterised by more formal management systems, with clearer divisions of labour and structured organisation. However, most challenges fall into this group of practitioners. As the land size clearly indicates the quantity of inputs, labour and skill of management. Therefore, specific knowledge and background to help them transform is crucial.

- **Vast / Commercial-scale farms:** More than thirty rai but not exceeding one hundred rai. Companies or business organisations frequently manage these, supported by dedicated management teams, good financial support, and often linked to service industries. Examples included farm-based resorts, visitor farms, or agro-tourism ventures that offered amenities such as restaurants, shops, mini-zoos, vegetable plots, accommodation, and activity spaces.

**Table 8 New Category of Farm Management and Learning Orientation**

<b>Farm Size</b>	<b>Management Style</b>	<b>Underlying Philosophy</b>	<b>Learning Orientation</b>
Small / Household (<1 rai)	Household-based; informal	Household sufficiency; health and family well-being	Experiential, interest-driven; informal reflection
Semi-small / Kitchen garden (1-5 rai)	Family-based; small business potential	Sufficient with entrepreneurial potential	Contextual family learning; emerging business skills
Medium / Commercial (5-10 rai)	Structured for market sales; partial input self-reliance	Entrepreneurship with ecological integration	Systematic experimentation; self-reliance through practice
Large (<30 rai)	Formalised; clear division of labour	Strategic planning; semi-business orientation	Strategic and planned learning; community leadership
Very large / Commercial-scale (30-100 rai)	Corporate-style, dedicated management teams, linked to tourism/services	Corporate/entrepreneurial model; diversification	Organisational learning; integration with external markets

The table shows that as farm size increases, management style becomes more formalised, philosophy shifts from sufficiency to entrepreneurial diversification, and learning orientation evolves from informal experiential learning to strategic and organisational learning.

## 2.5 Participation Level

**Table 9 Community Involvement Levels: A table outlining community involvement levels, detailing the characteristics and types of interactions for different engagement levels**

Age	Level of Activity and Engagement	Characteristics	Types of Community Interaction
Young adults	Low	Limited interaction with networks, primarily self-sufficient farming.	Occasional farm visits, personal learning, and minimal market presence.
Middle-aged adults (Group 1)	Low-Moderate	Participates in local markets and cooperatives and occasionally seeks some training.	Irregular attendance at farmer markets and some involvement in training programs.
Middle-aged adults (Group 2)	Moderate-High	Participates in meetings, seminars, connecting networks, cooperatives and occasionally seeks some training.	Regular attendance at farmer markets and some involvement in training programs.
Seniors	High	Actively engaging in group meetings, cooperatives, organic associations, and food networks drives knowledge sharing.	Leadership in organic farming movements, connections, policy advocacy, peer mentorship, and market expansion.

The levels of participation, both within and outside the community, can be clearly identified. In this case, the scope of the involvement in the SKON network extends according to individuals' professional linkages and their degree of participation in various organisations, such as agricultural cooperatives, local food markets, farm tourism, organic agriculture agencies, and other related networks. These connections enable the group to more rapidly access and transfer knowledge, expand their customer base, and gain recognition for their brand or products more effectively.

## 2.6 Influences on Learning

Demographic characteristics played a significant role in shaping how practitioners engaged with adult learning platforms and organic farming practices. Participants varied widely in terms of experience. Some had more than two decades of experience in organic farming, while others were just beginning their journey. Experienced practitioners often acted as mentors within the community, while newcomers actively sought structured learning opportunities. In addition, those who regularly participated in community activities—such as farmers' markets, cooperatives, or local organic initiatives—tended to prefer peer-to-peer learning and knowledge exchange rather than formal training programmes.

- **Level of Experience:** Ranged from beginners with less than a year or only a few years in organic farming to long-term practitioners with more than twenty years of experience. This variation reflected different roles and expectations within the learning process—whether as teachers, learners seeking guidance, or participants in cycles of experimentation and adaptation.

- **Engagement in Community Activities:** Participants demonstrated multiple levels of involvement, including membership in farmers' markets, cooperatives, community enterprises, association with wider networks, and organic farming initiatives. These forms of participation shaped their perspectives on learning and motivated them to further develop their knowledge base.

- **Educational and Professional Backgrounds:** Participants came from diverse professional histories (e.g., teaching, business, healthcare, engineering, and local government). These backgrounds influenced how they interpreted farming knowledge, adapted practices, and engaged in problem-solving.

- **Age and Life Stage:** Middle-aged adults were the dominant group, often balancing farming with household responsibilities, while elderly learners joined farming as a meaningful retirement pursuit. Limited youth involvement reflected barriers such as access to land, resources, and career perceptions.

- **Cultural and Traditional Knowledge:** The integration of local wisdom, Thai medicine, and herbal practices enriched the learning environment, allowing practitioners to connect ecological farming with cultural continuity and health-based knowledge.

## 2.7 Summary of Demographic Interpretation:

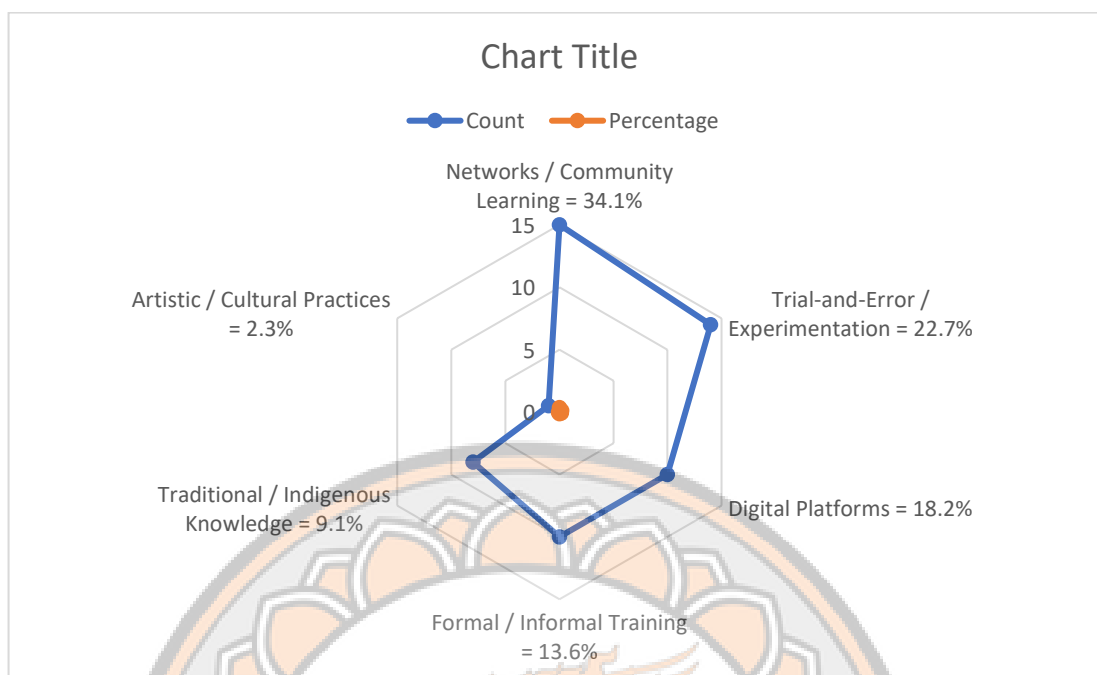
This overview reveals a heterogeneous practitioner community, shaped by demographic variation, educational diversity, financial status, and farm-scale differences. Middle-aged adults emerged as the primary drivers of SKON activities, while seniors contributed their strong social connections to facilitate intergenerational knowledge transfer and mentoring. Additionally, their goals are somewhat peculiar, despite showing their dynamic side; however, youth participation was limited, raising concerns about succession and the continuity of knowledge.

From a transformative learning perspective, these findings demonstrate that SKON's practitioners represent a complex learning environment where knowledge is generated across age groups, cultural backgrounds, financial support, occupations, and farm contexts. Such diversity provides both opportunities (positive) and challenges (negative) for the development of adult learning platforms (*Objective 1*), requiring approaches that integrate multiple entry points, hybrid roles, and varied capacities for instruction and engagement.

### Learning of SOFP Practitioners as Observed

The learning of smallholding organic farming practitioners (SOFPs) in the Songkwae Organic Network (SKON) reflects a highly diverse but patterned process. Rather than following a linear or formalised trajectory, practitioners learn through a blend of situated practices, networks, experimentation, and adaptive strategies. The Constructivist Grounded Theory (CGT) analysis demonstrates that learning is both experiential and collective, emerging in multiple spaces where practitioners negotiate knowledge, identity, and livelihood.

The learning pathway categories analysis of the participants, coded by ParCODE, identified six primary categories of learning pathways. These categories represent the recurring modes through which knowledge was accessed, tested, and transformed into practice. Figure 16, summarises these categories, counts, and proportions.



**Figure 16 Learning Pathway Categories among SKON Participants**

The most significant learning pathway was networks and community learning (34.1%), which highlights SKON as a genuine community of practice. Practitioners relied heavily on peer-to-peer exchanges, CSA markets, PGS groups, and digital communities such as LINE and Facebook to learn and share techniques, solve problems, and co-create knowledge. For instance, ParCODE 22111, 23111, and 24111, who teamed up to develop CSA market innovations for the Phitsanulok urban area. ParCODE 20111, 04111, 17111 who assumed the role of network secretary, illustrate how structured knowledge transfer was facilitated through community roles. A second major pathway was trial-and-error experimentation (22.7%), where farmers often learned by “*trying and failing*” in their own contexts and adapting techniques to local soil, water, and labour conditions. An example is ParCODE 01111, 01121, and 19211 who own a family farm (or vegetable garden), journey from initial no experience, crop failures, to becoming confident producers, demonstrating how repeated adjustments build resilience and skill.

Additionally, digital platforms (18.2%), such as YouTube, Facebook, LINE, and recently TikTok, have emerged as critical learning tools, particularly for younger or technologically inclined members. ParCODE 05211, 06111, 18111 for example,

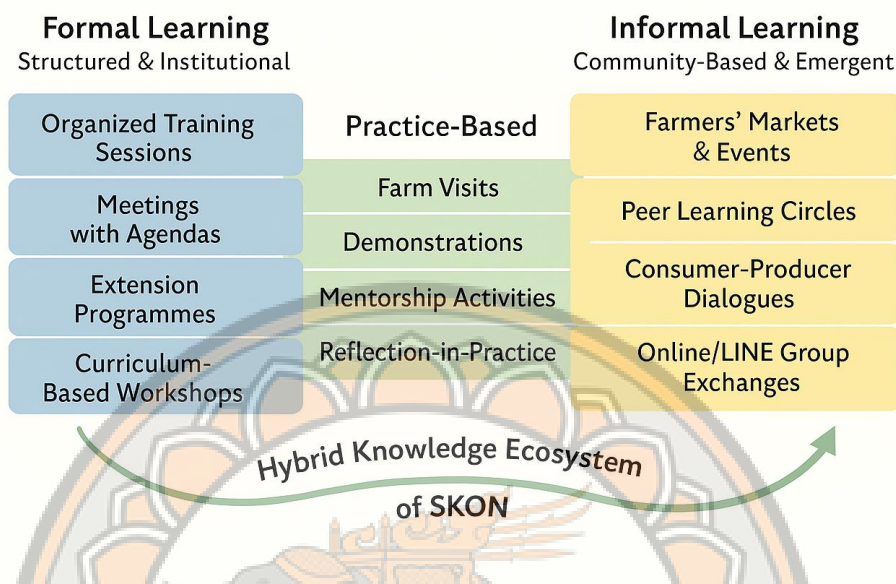
adopted IoT irrigation after learning about it online, successfully integrating technology into its farming operations. Complementing these were formal and informal training opportunities (13.6%), including short courses, study tours, and workshops, which provided structured exposure to new techniques and methodologies. A case in point is ParCODE 06111, 22111, 23111 who integrated workshop knowledge into classroom teaching, thereby bridging farming practice with educational contexts.

While less common, traditional and indigenous knowledge (9.1%) remained vital for several participants, who drew upon herbal medicine, rice seed conservation, and ancestral farming practices to sustain ecological integrity. For example, ParCODE 26111, 27111, and 09111 worked to conserve local rice varieties, promote mango cultivation and trade that is unique to their local areas, while also engaging in anti-mining activism, thereby linking environmental struggles with agricultural traditions. Finally, artistic and cultural practices (2.3%) were rare but significant in showing how creative expression intersects with farming identity. ParCODE 16121, 22111 and 16111, for example, integrated poetry, Western cooking, linguistics, languages, and cultural activism into their organic farming journey, demonstrating how artistic practices can also function as powerful modes of learning.

### **1. Types of Learning Activities:**

Participants engaged in a broad spectrum of both formal and informal learning activities, reflecting the *hybrid and adaptive character of knowledge acquisition* within the Songkwae Organic Network (SKON).

## Spectrum of Formal and Informal Learning Activities within the Songkwae Organic Network (SKON)



**Figure 17 Spectrum of Formal and Informal Learning Activities within the Songkwae Organic Network (SKON)**

The diagram illustrates the continuum of learning activities among SKON practitioners, spanning formal, structured settings and informal, community-driven exchanges. Formal sessions offer targeted instruction and reflection, while practice-based and informal activities facilitate knowledge co-creation through shared experiences, mentorship, and dialogue. Together, these interconnected forms of learning form a hybrid ecosystem that sustains continuous, context-specific transformation.

At the formal and structured end, learning took place through scheduled activities such as meetings, organised training sessions, and extension-based programmes or seminars. These provided systematic opportunities to clarify goals, review practices, and receive targeted instruction from experts or facilitators. Additionally, curriculum-oriented interventions and workshops offered more specialised engagement, focusing on specific techniques, standards, or thematic concerns relevant to organic farming.

Learning also occurred through practice-oriented contexts, such as farm visits, on-site demonstrations, and mentorship activities, where participants directly observed, experimented, and replicated techniques under the guidance of more experienced practitioners. These settings enabled learning to become *embodied and situated*, fostering reflection-in-practice and the immediate application of new knowledge.

Equally vital were informal, community-driven activities that nurtured collective and continuous learning. These included farmers' markets, community events, and peer-exchange gatherings, which facilitated interaction between producers and consumers, strengthened networks, and promoted the sharing of experiential insights through dialogue and storytelling.

Together, these diverse activities reveal the multi-layered and interdependent nature of learning among SKON practitioners—*structured yet spontaneous, formal yet informal, individual yet collective*. This combination ensured that knowledge was not only transmitted but continually *adapted, contextualised, and reinforced* through everyday practice and social participation.

## **2. Key Learning Themes**

The analysis revealed clear temporal relations in how participants engaged with learning themes, both before and after joining the Songkwae Organic Network (SKON). Although no fixed curriculum existed, several recurring themes consistently structured participants' learning practices and interactions.



**Figure 18 Key Learning Themes and Interactions in the Songkwae Organic Network (SKON)**

The figure illustrates five interrelated learning themes identified among SKON participants: collective learning spaces, farm management, farm standards and compliance, product innovation, and research engagement. These components interact dynamically, forming an adaptive learning system that integrates practice, reflection, collaboration, and innovation across multiple levels of the network.

**First, *collective learning spaces***—including monthly meetings, organic fresh markets, farmers’ markets, and provincial events—provided regular opportunities for members to exchange knowledge, share experiences, and test new practices in community settings. These recurring events functioned not merely as venues for trade but as *dynamic learning environments* where dialogue, reflection, and practice converged.

**Second, *farm management*** emerged as a central theme encompassing practical skills such as maintaining soil health, producing compost and liquid fertilisers, managing pests, rotating crops, and navigating organic certification. These practices

were reinforced through *labour exchange* and *shared marketing*, which deepened collaboration and strengthened the cooperative spirit within SKON.

**Third**, *farm standards and compliance mechanisms* were integral to learning, particularly through the *Participatory Guarantee System (PGS)*. Regular farm inspections under PGS not only ensured quality assurance but also provided structured opportunities for peer learning, reflection, and accountability.

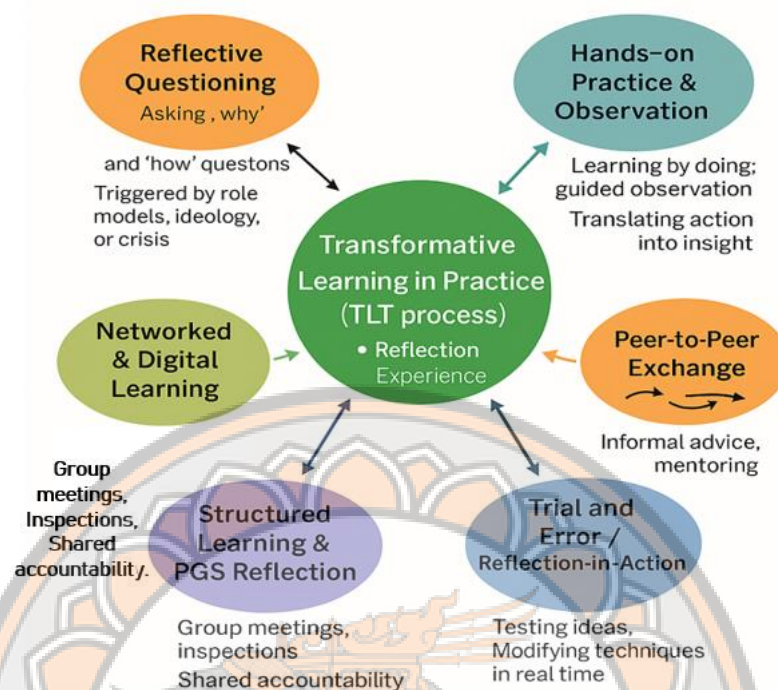
**Fourth**, *product development and innovation* became increasingly significant as members diversified into value-added products. Members with university connections played key roles in introducing marketing and design knowledge, linking production to sustainable income generation, and expanding organic farming beyond raw produce toward entrepreneurship.

**Finally**, *research engagement* connected SKON practitioners with academic institutions and development organisations. These collaborations linked local practices with broader scientific and policy debates, allowing practitioners to integrate indigenous knowledge with external expertise and to contribute to participatory research initiatives.

Taken together, these themes demonstrate how SKON operates as an *adaptive learning platform* that integrates everyday practice, collective reflection, formal standards, product innovation, and research participation. Learning within SKON is therefore *cyclical, embedded in practice, and continuously renewed* through interaction across multiple levels of the community network.

### **3. Learning Methods**

As most participants were adult practitioners, their learning processes reflected the principles of Transformative Learning Theory (TLT), particularly the interplay between reflection, direct experience, shared community, and perspective transformation. The analysis revealed that learning unfolded through a range of interconnected methods, which were both individual, emerged novel themes and collective in character.



**Figure 19 Learning Methods among Smallholding Organic Farming Practitioners (SOFPs) in SKON**

Participants often began with **spontaneous questioning and inquisitive reflection**, asking why established practices worked—or failed—to produce results after years of observation. In many cases, these questions were inspired by **influential figures, farming ideologies, or social exemplars**, which acted as motivational triggers for change.

Learning was strongly grounded in **hands-on practice**, blending into each participant's lifestyle and daily life, as farming tasks provided the most direct site for acquiring skills and testing new methods. This practice-based learning was further reinforced by **exposure to organic farming circles, markets and public events**, where customer inquiries and consumer expectations compelled practitioners to adapt and innovate. Similarly, **farm visits and guided observation** offered practical exposure, often accompanied by commentary from more experienced practitioners that translated technical practice into reflective insight.

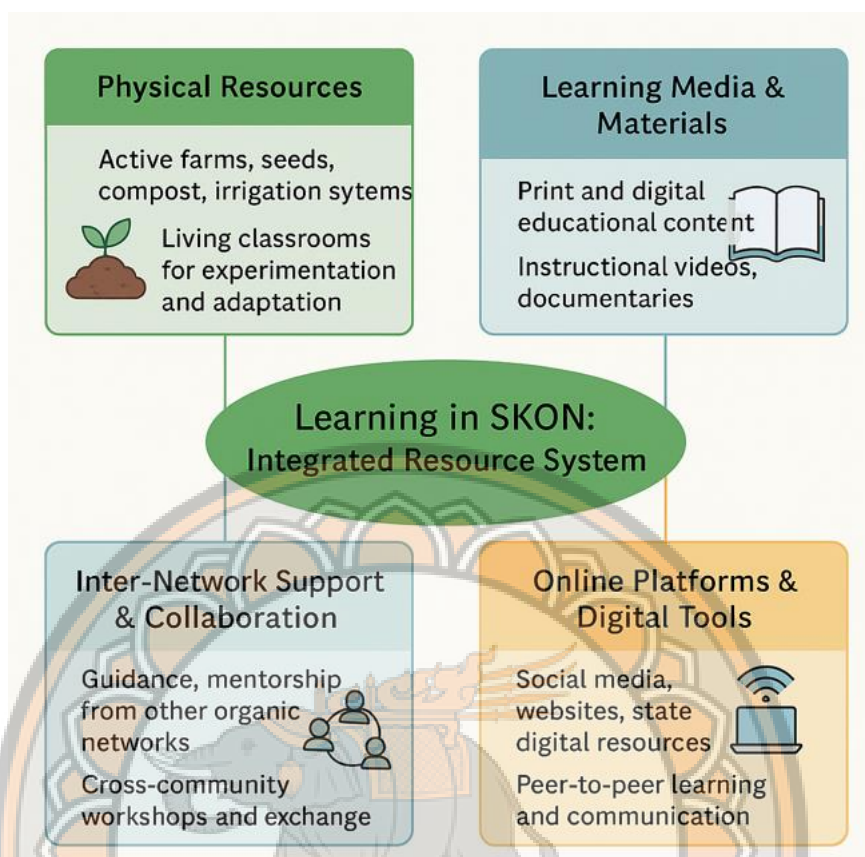
A key mode of learning was **trial and error**, frequently supported by resources accessed through social media platforms or self-directed experimentation. Such processes reflect the significance of **reflection-in-action**, whereby adjustments were made in real time during meetings, farm inspections, and production cycles.

Equally important were **peer-to-peer exchanges within the community**, where farmers shared techniques, advice, and emotional support. These informal dialogues were complemented by more structured mechanisms such as **group agreements and participatory guarantee system (PGS) principles**, which embedded collective reflection into regulatory frameworks. Finally, participants emphasised the importance of **linkages to broader organic farming networks**, which expanded the learning space beyond SKON, enabling the flow of knowledge, cooperation, and shared experience across regions.

Taken together, these methods illustrate how learning among smallholding organic farming practitioners was not confined to formal instruction but emerged through an iterative blend of practice, reflection, social interaction, and networked exchange.

#### **4. Tools and Resources Supporting Learning**

The findings revealed that the learning processes within the Songkwae Organic Network (SKON) were supported by a variety of tools and resources—both tangible and digital—that enabled experimentation, collaboration, and continuous improvement. These resources facilitated learning at multiple levels: individual, collective, and inter-network.



**Figure 20 Tools and Resources Supporting Learning among SOFPs in SKON**

- **Physical Resources**

Field data showed that participants had access to a range of physical tools and resources, including active farms, seeds, compost, and irrigation systems. These shared materials were central to hands-on, practice-based learning. They served as living classrooms where participants could experiment, adapt, and refine techniques on their own farms and those of their members. The accessibility of these shared spaces also reinforced collaboration, as farmers frequently worked together to test new methods or troubleshoot emerging problems.

- **Learning Media and Materials**

Educational resources on organic farming were widely used in both print and digital formats. These included instructional video clips, documentaries, seed catalogues, online courses, and written manuals encompassing both domestic and international perspectives. Such materials served as supplementary learning tools,

allowing participants to expand their knowledge beyond immediate farming contexts. They also bridged the gap between local practices and global innovations, enabling practitioners to adapt external ideas to local ecological and cultural realities.

- **Online Platforms and Digital Tools**

Participants actively engaged with digital platforms, including websites, social media groups (such as LINE, Facebook, and TikTok), and state-provided digital resources from organisations like the Department of Agricultural Extension (DOEA), the Department of Agriculture (DOA), and the Digital Economy Promotion Agency (DEPA). These platforms supported information flow, peer-to-peer learning, and communication across the SKON network. Digitalisation thus became a key enabler of knowledge exchange, extending learning beyond physical spaces while reinforcing collaboration and reflection within community networks.

- **Inter-Network Support and Mutual Collaboration**

Beyond SKON itself, many participants benefited from guidance, mentorship, and shared resources provided by other organic groups and networks with similar goals, both within the same province and around Thailand. For example, the exchange between SKON and Sampran Model and TOAF Chiang-mai on PGS and the market. These collaborations were often informal but sustained by mutual purpose—such as promoting agroecology, market access, or community resilience. Participants exchanged experiences across regional and national networks, attending cross-community workshops, organic fairs, and participatory research programmes. These inter-network linkages enriched local learning by introducing new perspectives and reinforcing solidarity within Thailand's broader organic farming movement.

**In summary**, learning among SKON practitioners was strengthened by the integration of physical, digital, and social resources that operated across multiple levels—on-farm, online, and between networks. Together, these tools formed a *hybrid learning ecosystem* that fostered adaptive practice, mutual support, and the circulation of cross-community knowledge.

## Transformative Learning Processes

This section presents the key themes identified through open coding, demonstrating how personal experiences and situational contexts shaped learning processes, management practices, and transformative learning within the Songkwae Organic Network (SKON)—learning in Context: Personal and Situational Factors. Adult learning within SKON was not confined to cognitive or reflective processes alone. Instead, it was deeply embedded in daily activities, social interactions, and environmental constraints.

### 1. Personal Learning Contexts

Personal experiences, prior knowledge, and individual motivations significantly influenced how participants engaged with the learning process. Educational background, economic and social status, and career transitions were all key factors shaping perspectives and learning trajectories in organic farming.

Words from participants:

...I never thought I would become a farmer. But once I started growing food myself, I realised there was so much more to learn. Every mistake became a lesson.

(29211, Round 1, Interviewer, 29 November 2023)

...You learn while doing, and then you think about why it worked or why it didn't.

(22111, Round 1, Interviewer, 15 August 2023)

...I was seeking for a place to recuperate from my illness, this is a place!

(23111, Round 1, Interviewer, 19 August 2023)

In all cases, the learning is personal-contextual because it arises from life triggers (illness, retirement, activism, stress). It is filtered through personal meaning-making (health, family, heritage). It results in identity change, not just skill acquisition. Therefore, there are different participants associated with various personal contexts, for

example, Trial-and-Error (01111, 29211), Network/Peer Learning (23111), Digital Platforms (05211), and Traditional or Indigenous Knowledge (27111).

Key findings:

### Key Findings: Transformative Learning among Smallholder Organic Farming (SOFPs) in SKON

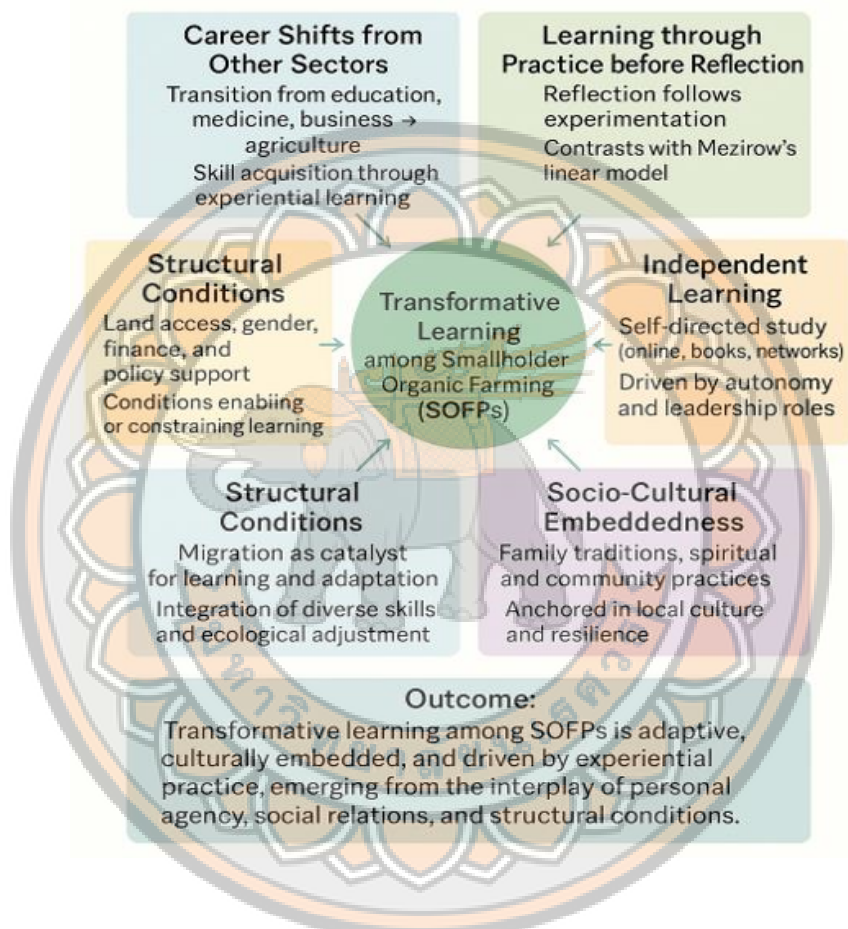


Figure 21 Transformative Learning Dynamics among SOFPs in SKON

- **Career shifts from other sectors:** Many participants previously worked in non-agricultural fields such as education, medicine, or business, before transitioning into organic farming. This shift required the acquisition of new skills, primarily through experiential learning.

- **Learning through practice before reflection:** In contrast to the sequencing suggested by Transformative Learning Theory (TLT), where reflection precedes transformation, participants often reported that they first engaged in practice and only reflected afterwards.

- **Independent learning:** Especially among farm owners and leaders, self-directed learning was common, relying on online resources, books, and personal networks.

- **Socio-cultural embeddedness:** Learning was also tied to family traditions, spiritual practices, and community customs (e.g., sufficiency economy, herbal medicine, and seed-saving), which provided additional layers of meaning and resilience.

- **Structural conditions:** Access to land, gender expectations, financial stability, and policy support acted as enabling or limiting conditions for how personal learning trajectories could develop.

- **Geographic relocation:** Some participants had migrated from other provinces or regions of Thailand, bringing with them different agricultural traditions or professional skills. Relocation often acted as a catalyst for learning, as they had to adapt to new ecological conditions, build fresh networks, and reconfigure their personal and professional identities within the SKON community.

## 2. Situational Learning Contexts

External conditions—including social structures, community interactions, market mechanisms, and policy constraints—had a significant influence on learning.

Words from participants:

...We don't farm alone. The network is a source of learning. If I have a pest problem, I ask other farmers how they deal with it.

(23111, Round 2, Interviewer, 4 October 2025)

...The place where you are matters. Some people have to adapt to poor soil or a lack of water. That changes how we learn.

(22111, Round 1, Interviewer, 15 August 2023)

...Sometimes it's not about skills, it's about the land. My plot is half forest reserve and half reform land. I can't build a reservoir, so I just learn to grow with what little water I have.

(25311, Round 1, Interviewer, 24 August 2023)

Key findings:

- **Experiential learning in authentic contexts:** Most participants emphasised that learning took place directly in the field through trial and error, observation, and peer exchange.
- **Geographical challenges:** Farmers in rural or upland areas had fewer opportunities to access formal training and relied more on **local knowledge** and intergenerational transmission. In contrast, those closer to urban centres were able to participate more regularly in workshops, training programmes, and initiatives organised by cooperatives, NGOs, or government agencies.
- **Learning through networks:** Participants actively involved in farmers' markets, cooperatives, or organic associations tended to engage more in knowledge-sharing than those who farmed in isolation.

### 3. TLT Components in SKON

From the perspective of Transformative Learning Theory, these findings highlight the dynamic interplay between individual agency and structural conditions. While formal reflection was not always the starting point, the cycle of practice → reflection → adaptation was central to participants' learning journeys. Moreover, the role of networks and geography illustrates how situated and collective learning supported resilience in organic farming practices, reinforcing SKON as both a community of practice and a platform for intergenerational knowledge transfer.

**The comparison is easier to follow. Here is the table that shows the findings explicitly in Mezirow's four TLT components (experience, reflection, critical discourse, and action)**

**Table 10 TLT's Components and SKON Finding**

<b>TLT Component (Mezirow)</b>	<b>SKON Findings</b>	<b>Analytical Insight</b>
<b>Experience</b> (centrality of lived experience as a basis for learning)	Entry into organic farming is often triggered by health crises, family illness, economic pressures, or a desire to engage in activism. Practitioners learn primarily through hands-on experience, including trial and error, observation, labour, and mentorship.	Confirms that experience is central, but SKON shows it is often a <b>disorienting dilemma</b> (illness, crisis, urban stress) that catalyses action, not an abstract “reflection-first” step.
<b>Critical Reflection</b> (questioning prior assumptions and beliefs)	Reflection often occurs after action: mistakes, failed crops, or feedback from family prompt practitioners to adapt. Reflection embedded in After-Action Reviews, PGS inspections, and peer feedback, rather than in solitary contemplation.	Challenges TLT's linearity: reflection is <b>situated and pragmatic</b> , occurring within networks and following practices, rather than in isolation.
<b>Critical Discourse</b> (dialogue with others for validation of new perspectives)	Knowledge-sharing circles, LINE groups, fresh markets, SKON meetings, and farm visits act as platforms of dialogue. Dialogue is informal, relational, and embedded in community trust.	Extends TLT: discourse in SKON is less about rational debate and more about <b>mutual trust, respect, credibility testing, Gerontocratic cultural norms and experiential dialogue</b> .
<b>Action</b> (taking new roles, applying new perspectives)	Practitioners adopt organic methods (e.g., composting, crop rotation, seed saving), engage in markets, and assume new social roles (educator, activist, innovator, connector). Roles evolve cyclically (e.g., consumer → learner → practitioner → sharer).	Strongly confirms TLT: transformation culminates in <b>new roles and identities</b> ; however, SKON findings show that these are cyclical and community-embedded, rather than one-off changes.

The table illustrates how Mezirow's four components are represented in SKON. Learning began with experience, followed by pragmatic reflection after practice. Discourse was informal and peer-based, while action-driven embedded change in farming and entrepreneurship. This reveals a non-linear, context-driven learning process that adapts TLT to smallholder organic farming practice.

#### 4. Patterns of Practice and Farm Management Approaches

Through theoretical sampling, four distinct models of farm management were identified (Naowakate & Sirasoonthorn, 2022a). Each model reflects a unique learning pathway, adaptive strategy, and set of challenges in accessing knowledge. These models highlight the diversity among smallholding organic farming practitioners, showing how context, resources, and personal orientation shaped different trajectories of practice and transformation.

**Table 11 Old Forms of Management Styles that Link Learning Approaches**

Management Style	Description	Learning Approach
Cultural-Based	Uses inherited traditions and organisational / company loyalty values.	Oral knowledge, intergenerational transmission, experience-driven learning
Leadership-Based	Driven by key individuals leading organic initiatives, advocating for certifications.	Mentorship, structured training, and networking with policymakers
Partnership/Community-Based	Collective decision-making, shared resources, and cooperative learning.	Peer-to-peer learning, community engagement, and informal workshops
Biological-Based	Focuses on regenerative farming, scientific principles, and agroforestry.	Experimental learning, technical workshops, digital resources

The information on management styles based on the farms from previous research (Naowakate and Sirasoonthorn, 2022). Each farm management approach influences the practitioner's learning process, whether through traditional knowledge, scientific research, apprenticeship or mentorship, or cooperative exchange.

Words from participants:

...I learned from my parents and grandparents. We don't need certification, because we have practised organic farming all our lives.

(26111, Round 1, Interviewer, 26 September 2023)

...Our ancestors knew well how this soil should be cultivated. Ajahn Yak helped us to design and plan our farm, and we followed his advice, which enabled us to survive. But times have changed, and people's needs have also shifted. So, we too must adapt.

(03122, Round 2, Interviewer, 22 August 2024)

...We must learn by doing. If we want organic farming to grow, we must pass on knowledge so that others can learn.

(27111, Round 1, Interviewer, 7 October 2023)

## **5. Patterns of Transformative Learning**

The findings reveal that learning in the context of smallholding organic farming does not follow a fixed sequence or adhere to a structured theory. Instead, it is **non-linear**, emphasising adaptation based on lived experiences and ongoing situations.

### **5.1 Adaptation from experience and situational challenges**

Practitioners' learning emerged directly from the realities of farming, where health, drought, soil degradation, or pest outbreaks served as immediate and unavoidable teachers. Rather than beginning with abstract theories or prior reflection, knowledge was constructed in the act of confronting challenges and finding workable solutions. Their organic farming practice also reflects their cultural background, ways of thinking, and lifestyle. This contrasts with the assumptions of Transformative Learning Theory (TLT), which places critical discourse at the centre of learning. For the practitioners in this study, discourse was rarely abstract; instead, it took the form of problem-solving conversations, field-based discussions, and collaborative actions in response to shared challenges.

Words from participants:

...Every season teaches something new. There is no single fixed lesson you must keep learning continuously.

(22111, Round 2, Interviewer, 30 September 2024)

...I thought farming would end when I retired, but it became the opposite—retirement was the beginning. Every mistake showed me what to try differently the next time.

(29211, Round 1, Interviewer, 29 November 2023)

...Learning doesn't stop at the farm gate. When the network changes, I must also change. To be part of this community means to keep adjusting and passing knowledge forward.

(23111, Round 2, Interviewer, 4 October 2024)

## 5.2 Learning as a Process of Social Participation

The findings indicate that the more practitioners were connected to networks such as organic farming networks, farmers' markets, or community learning platforms the more likely they were to share knowledge and develop innovations. Farmers who actively participated in such networks adapted more quickly and were more open to adopting new techniques.

Words from participants:

...If you are on your own, you will struggle. But if you are in a network, you will have answers.

(23111, Round 2, Interviewer, 4 October 2024)

...The network is like our classroom. I keep records, coordinate meetings, and share updates, so that learning doesn't stop with one person but circulates.

(22123, Round 2, Interviewer, 30 September 2024)

...Sometimes the best lesson is not from books but from walking the land together. When we restore soil or water as a group, each of us learns differently but shares the same goal.

(22111, Round 1, Interviewer, 15 August 2023)

### 5.3 Adaptive Learning under Conditions of Uncertainty

Economic, environmental, and policy changes made learning a vital survival skill. Practitioners did not adhere rigidly to a single method; instead, they experimented, adapted, and combined knowledge from diverse sources.

Words from participants:

...You don't stick to just one method. You try, you fail, and then you adapt. That is farming.

(Similar quoted by 01111, 01121, Round 2, Interviewer, 17 August 2024)

...Water may be the most crucial factor, but when it is limited. You cannot choose the best plot and what you can have. What matters most is the soil, because soil is the foundation of everything. We say: 'Feed the soil, the soil will feed the plants, and the plants will feed us.' If you understand biology and ecology, you can plan the farm not just for today, but for the future.

(22111, Round 1, Interviewer, 15 August 2023)

...Sometimes it's not about knowledge, it's about what the land allows. My farm is half in the forest reserve and half on reform land. I cannot build a reservoir, so I adapt by planting crops that can survive with little water.

(25311, Round 1, Interviewer, 24 August 2023)

### 5.4 Conclusion: Towards Context-Specific Learning Models

This study demonstrates that learning in the context of organic farming is deeply rooted in personal experiences, situational constraints, and community interactions. Unlike the structured process outlined in classical TLT, learning here is situated, iterative, and adaptive.

As one participant reflected,

...Every season teaches something new. There is no single fixed lesson—you must keep learning continuously.

(22111, Round 2, Interviewer, 30 September 2024)

Another emphasised how structural conditions shaped their learning:

...Sometimes it's not about knowledge, it's about what the land allows. My farm is half in the forest reserve and half on reform land. I cannot build a reservoir, so I adapt by planting crops that can survive with little water, but the market wants, too.

(25311, Round 1, Interviewer, 24 August 2023; 22111, Round 1, Interviewer, 15 August 2023).

Finally, the role of collective participation was captured in the words of a network leader:

...If you are on your own, you will struggle. But if you are in a network, you will have answers faster. Or let me say time saver!

(23111, Round 2, Interviewer, 4 October 2024)

Together, these voices highlight that learning is not a uniform trajectory but a context-specific process shaped by personal dilemmas, ecological realities, and social participation. They highlight the need for learning models that integrate individual resilience, situational adaptation, and collective knowledge-building as essential to the transformation of smallholding organic farming.

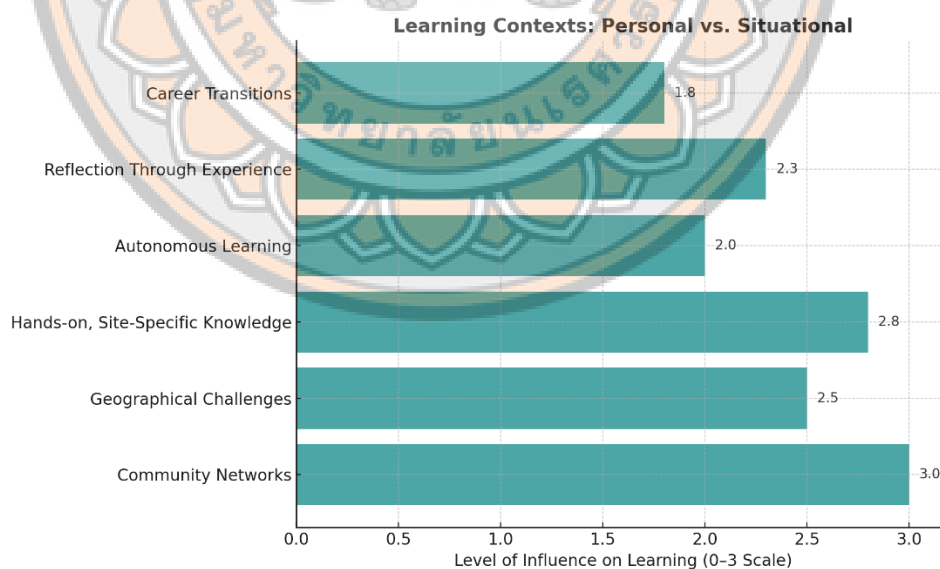
#### Key Findings

- **Personal learning contexts** shaped motivation, prior knowledge, and career transitions.
- **Situational contexts** influenced access to resources, adaptation to ecological conditions, and levels of community engagement.
- **Farm management approaches**—cultural-based, leadership-based, partnership/community-based, and biological-based—shaped pathways for acquiring and transmitting knowledge, each with its own learning trajectory.
- **Transformative learning** emerged not primarily through structured reflection or formal discourse, but through prolonged real-life challenges, personal interests, peer networks, and adaptive decision-making.

### 5.5 Implications for Learning Platform Design

The findings indicate that learning models for smallholding organic farming practitioners must remain flexible and responsive to local contexts, rather than being narrowly tied to certification-focused training programmes. Effective digital platforms should not replace, but instead complement, community-driven learning by emphasising practical, real-world problem-solving rather than delivering generic or decontextualised information. At the policy level, support is needed for decentralised, community-led learning networks that can evolve organically, rather than depending solely on top-down educational systems that often fail to capture the realities of practice.

Overall, this research suggests that understanding adult learning in organic farming requires a multi-dimensional and contextually adaptive approach, one that integrates the dynamics of personal, situational, and community-based learning. Drawing on field data from on-site observations and semi-structured interviews, an infographic was developed to illustrate how these learning patterns emerge and intersect, reflecting both the personal and situational dimensions of learning among smallholding organic farming practitioners.



**Figure 22 Learning Contexts: Personal vs. Situational**

The infographic illustrates the interplay between personal and situational learning contexts, emphasising how career transitions, experiential reflection, hands-on practice, geographical conditions, and community networks influence knowledge acquisition among organic farmers. Each horizontal bar represents a distinct context, with a scale from 0 to 3 indicating its relative impact. Higher values correspond to a stronger influence, allowing for a comparative view of how different contexts contribute to adult learning in ecological, smallholder organic farming. The results suggest that community networks and hands-on practice exert the greatest influence, while digital platforms and formal training play more supplementary roles in the learning process. Furthermore, the figure explains more as follows.

### **1. X-Axis (Level of Influence)**

1.1 Scale: 0.0 – 3.0

1.2 Higher values represent a more substantial influence on the learning process of practitioners.

### **2. Y-Axis (Learning Contexts)**

The graph highlights **six learning contexts** that play a significant role in adult learning within organic farming:

**2.1 Community Networks:** Social connections and peer-to-peer exchanges are central to knowledge sharing among farmers.

**2.2 Geographical Challenges:** Local conditions such as topography, climate, and land quality—shape learning and adaptation in farming practices.

**2.3 Hands-on, Site-Specific Knowledge:** Learning that emphasises direct practice and engagement with the real environment of each farm.

**2.4 Autonomous Learning:** Self-directed learning is when individuals take the lead in developing skills through research, experimentation, and personal initiative.

**2.5 Reflection Through Experience:** Learning from past mistakes or successes in farming practice, where experience itself becomes the foundation for adaptation.

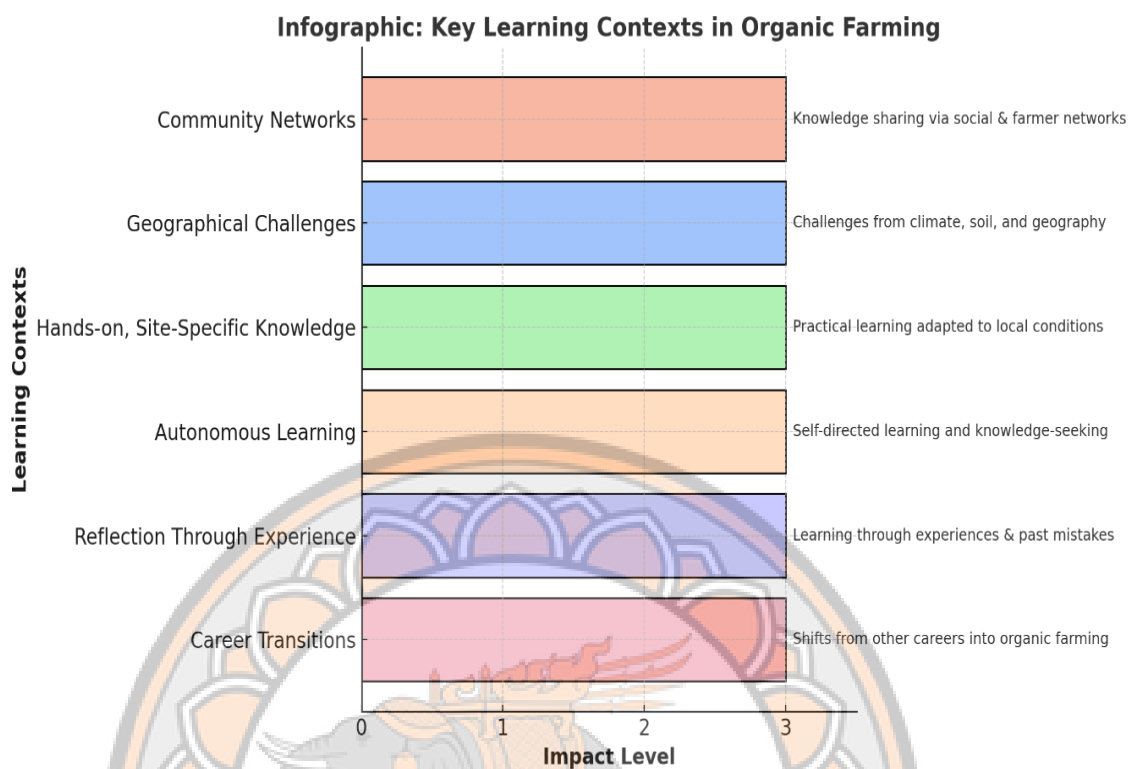
**2.6 Career Transitions:** The adaptation of individuals who have shifted into farming from other careers, bringing prior knowledge and experience into a new agricultural context.

The graph illustrates the relative influence of different learning contexts on smallholding ecological organic farming practitioners, using a scale of 0 to 3. Shows that community networks (3.0) and hands-on, site-specific knowledge (2.8) exerted the most significant impact on the learning process. This graph helps highlight the importance of peer-to-peer exchange and direct practice in the field as the primary drivers of knowledge acquisition and adaptation. Geographical challenges (2.5) also played a critical role, shaping how farmers adapted techniques to their specific environmental conditions.

By contrast, reflection through experience (2.3) and autonomous learning (2.0) demonstrated moderate influence, showing how farmers often engaged in trial-and-error experimentation, drawing lessons from mistakes and personal initiative. Career transitions (1.8), while less dominant, still significantly shaped learning trajectories, as many practitioners entered organic farming from non-agricultural professions and had to acquire new knowledge through practice and adaptation.

Taken together, these findings suggest that learning among SKON members is deeply situated in practice, mediated by community interaction, and shaped by contextual constraints. From a Transformative Learning Theory (TLT) perspective, this indicates that transformation is less dependent on formalised critical reflection and more strongly linked to real-life challenges, experiential adaptation, and social participation.

This chart clearly illustrates which contexts exert greater or lesser influence on the learning of ecological smallholder farmers, serving as an essential tool for designing learning models that are responsive to the specific contexts of adult learners in organic farming.



**Figure 23 Learning Context and Impact Level**

The infographic visualises six major learning contexts that influence how smallholding organic farmers acquire, develop, and refine their knowledge. Each context is presented as a horizontal bar rated at an “impact level” of 3, indicating that all six factors play a highly significant and interconnected role in shaping farmers’ learning processes. The bars are organised from bottom to top to reflect a movement from individual learning foundations toward broader community and ecological influences.

### **1. Career Transitions**

This context highlights the role of life changes—such as shifting from non-agricultural careers into farming—in motivating individuals to engage with organic agriculture. These transitions often trigger a search for new knowledge, identity reconstruction, and the development of new competencies.

### **2. Reflection Through Experience**

Organic farmers learn extensively through trial, error, and reflective practice. This context emphasises the importance of experiential learning,

where mistakes, seasonal failures, and accumulated experience form a key foundation for improvement.

### **3. Autonomous Learning**

Many smallholder farmers engage in self-directed learning driven by curiosity, necessity, or personal motivation. This includes independent research, experimentation, and continuous knowledge-seeking to solve problems encountered on the farm.

### **4. Hands-on, Site-Specific Knowledge**

Organic farming is deeply tied to local ecological conditions. This context shows that practical, hands-on learning adapted to the specific characteristics of soil, microclimate, pests, and landscape is essential. Farmers develop expertise by directly engaging with their environment.

### **5. Geographical Challenges**

Geographical factors—such as climate fluctuations, soil quality, altitude, and water availability—shape how and what farmers learn. These challenges require adaptive knowledge and problem-solving skills that are unique to each location.

### **6. Community Networks**

The figure concludes with the social dimension of learning. Knowledge exchange within farmer networks, both formal and informal, plays a crucial role. Peer learning, community support, and shared experiences strengthen collective skills and build a social foundation for resilience.

Together, the six contexts illustrate that learning in organic farming is multidimensional, grounded in personal initiative, lived experience, ecological engagement, and community participation. The combined impact of these contexts reveals that smallholding farmers depend not only on formal training but also on continuous adaptation shaped by social relationships, environmental realities, and reflective practice.

## **5.6 Personal vs. Situational Learning Contexts**

Personal learning contexts centre on autonomous learning, reflection through experience, and career transitions, underscoring the role of individual behaviour, prior knowledge, and self-directed pathways in shaping learning trajectories. Situational learning contexts, by contrast, emerge through community networks,

geographical constraints, and hands-on, site-specific knowledge, in which environmental conditions, social structures, and spatial dynamics strongly influence practice. While these two domains can be distinguished, in reality, they are deeply interwoven: personal motivations and prior experiences shape how practitioners respond to situational challenges, and situational contexts, in turn, provide the conditions that continually reshape personal learning pathways. This interdependence highlights the cyclical and adaptive nature of adult learning in ecological organic farming.

### **5.7 Possible Applications**

The findings have several potential applications. In terms of educational strategies, practitioner training programmes should be designed to integrate both personal and situational learning contexts, ensuring that outcomes are meaningful and relevant to practitioners' lived realities. At the policy level, agricultural development should prioritise community-based participatory learning and area-specific adaptation, thereby fostering long-term sustainability rather than imposing uniform approaches. Policy interventions should act as enablers rather than directives, supporting the infrastructure necessary for communities to thrive without dominating their internal mechanisms. This includes creating pathways for the acceptance of locally tailored curricula, strengthening institutional and educational partnerships, providing accessible funds and financial support, and facilitating the broader distribution of products and by-products generated within these networks. In this way, external policy frameworks can complement and reinforce local learning systems while respecting their autonomy.

For curriculum development in agricultural education, there is a need for models that combine experiential practice, reflective processes, and opportunities for self-directed study, thereby creating a more holistic and responsive educational framework. The interpretation of the SOFPs' learning is characterised by hybridity—blending embodied practice, community reflection, and physical exchange with digital enhancement. This dynamic learning environment supports both individual transformation (Objective 1) and the development of shared community learning platforms (Objective 2). Learning among smallholding organic farming practitioners (SOFPs) in the Songkwae Organic Network (SKON) occurs through a blend of experiential, social, and digital processes. Rather than being confined to formal

instruction, learning is embedded in everyday farming activities, community participation, and digital interactions.

- ***Experiential and Practice-Based Learning***

On-farm activities formed the foundation of the learning experience. Practitioners developed skills through **trial and error, observation, and repetition**. Everyday challenges—such as crop failure, drought, or pest outbreaks—served as **disorienting dilemmas** that triggered reflection and adaptation. Learning was reinforced through **reflection-in-action**, where adjustments were made immediately during practice, rather than postponed to formal reflection sessions.

- ***Peer-to-Peer Exchange and Mentorship***

Knowledge circulated widely through **informal networks**. Practitioners shared techniques in markets, cooperatives, and local workshops, while senior practitioners often acted as mentors to younger or less experienced members. These exchanges strengthened **trust, reciprocity, and a sense of community**, transforming individual problem-solving into a collective learning experience.

- ***Group Reflection and After-Action Reviews (AARs)***

Structured opportunities for reflection also emerged. In community meetings and AARs, practitioners revisited both successes and failures, collectively analysing causes and identifying improvements. These processes fostered **critical reflection and rational discourse**, aligning with key components of Transformative Learning Theory.

- ***Digital Platforms as Enhanced Learning Spaces***

Digital ethnography revealed that online platforms, including **social media, messaging groups, and digital marketplaces**, extended the reach of SKON's learning environment. These platforms enabled **real-time knowledge exchange**, strengthened consumer–producer relationships, and provided new spaces for entrepreneurial experimentation. Digital tools proved especially important for younger participants and for bridging gaps in geographical access.

## 6. Evidence across Mezirow's 10 stages

In this section, the presentation of research findings is structured around the ten stages of Transformative Learning Theory (TLT). Each stage provides an overview, accompanied by open coding of interview data and in-depth analysis using Constructivist Grounded Theory (CGT), including direct quotations from participants.

### 6.1 Disorienting Dilemmas: The Starting Point of Transformation

The disorienting dilemmas faced by participants manifested in multiple forms, often as pressures or problems that forced them into decision-making processes without prior preparation. Sometimes these were continuous events that eventually affected their quality of life. Many participants, particularly within the SKON group, identified turning points stemming from structural and economic problems, which became driving forces leading them to learn and practice organic farming.

Words from participants:

...We had to escape the pollution of city life and return home to seek a better life. But when we came back, we found that local farmers were using chemicals everywhere, only seeking high yields and profits. In the end, they had to spend that money buying safe food for themselves. Health deteriorated, and those around us suffered too. That was the point when we had to rethink and turn to learning 'organic farming,' so that we could grow safe food for ourselves and also become role models for change in the community.

(08311, Round 1, Interviewer, 1 September 2024)

...There are two reasons why I love organic farming. First, it is my family's occupation; I grew up watching my parents do it. But since our parents want us to follow different paths, we were not getting involved with it much. Second, I have kidney disease, and I need safe vegetables to eat, but I couldn't buy them. So, I started producing them myself.

(18111, Round 1, Interviewer, 9 August 2023)

...When I retired, I thought life would slow down. But then I realised farming was not just about relaxing—it was about starting over. The challenge was how to make this land productive and sustainable when I had never farmed before.

(19211, Round 1, Interviewer, 10 August 2023)

However, sometimes, there is also an unexpected crisis that causes sudden disorientation. For example.

...Because of COVID, I was forced out of my petrochemical service work... in the end, I lost a lot and had to cut my losses and return home.

(14311, Round 1, Interviewer, 2 August 2023)

Focused coding revealed that these challenges could be categorised through open coding (see table p.53). When compared using the constant comparative method, it became clear that these disorienting dilemmas created the **triggers** that led to the following stages of transformation.

## 6.2 Self-examination and Emotional Responses

Participants reflected feelings of fear, insecurity, and self-doubt as they began their journey into organic farming.

Words from participants:

...Can I really do this? Will there be anyone who can mentor me? For someone who has never done it before, where should I even start?

(03112, Round 1, Interviewer, 7 March 2023)

...At first, I was afraid of failure. The soil was poor, and every mistake felt like proof that I wasn't meant to be a farmer.

(29211, Round 1, Interviewer, 29 November 2023)

...When I saw others succeed, I asked myself why I was still struggling. It made me doubt whether I could ever reach their level.

(01121, Round 1, Interviewer, 1 January 2023)

Analysis identified two main themes:

- **Internal hesitation** (insecurity, fear of failure)
- **External pressures** (family, financial risks)

This aligns with Mezirow's perspective that self-examination is a process deeply intertwined with emotions.

### 6.3 Critical Reflection and Assumption Assessment

Participants began to question their prior beliefs about farming practices.

Words from participants:

...I used to think chemical fertilisers were necessary, but after seeing others succeed without them, it made me doubt what I had always believed.

(01111, Round 1, Interviewer, 1 January 2023)

...When yields were poor, vegetables unattractive, and pests and diseases appeared, I realised I lacked knowledge. I had to go study elsewhere, like visiting organic farms or joining the Songkwae organic group to exchange knowledge.

(03112, Round 1, Interviewer, 7 March 2023)

...When I left my media career, I thought communication skills alone would be enough. But I realised that farming required more than talking it required building trust, managing knowledge, and proving that organic practices work in real life.

(22123, Round 2, Interviewer, 30 September 2024)

Focused coding indicated that witnessing peers' success and reviewing past failures were crucial drivers of changes in both conceptual understanding and learning behaviours.

#### **6.4 Recognition that Discontent is Shared**

Community dialogue played a significant role in the learning process:

Words from participants:

...I realised I wasn't alone—others were experiencing the same problems.

(01121, Round 1, Interviewer, 1 January 2023)

...In our village, many faced the same challenges. So, I created a LINE group called 'Organic 459' to share farm reports, track progress, and help each other solve problems.

(08311, Round 1, Interviewer, 19 July 2023)

...Customers told us they didn't trust the market anymore, and farmers complained they had no stability. I realised these were not just my problems but everyone's. That is why I started building the CSA system, so that both sides could feel secure.

(23111, Round 2, Interviewer, 4 October 2024)

CGT analysis highlighted that receiving validation from community peers provided crucial reinforcement for the learning process and emphasised the necessity of community-based learning platforms.

#### **6.5 Exploring New Roles and Networks**

Participants began to engage with urban organic farming networks:

Words from participants:

...I joined SKON and started learning from experienced members.

(22123, Round 2, Interviewer, 30 September 2024)

...When customers and farmers both felt insecure, I realised my role could be to connect them. That's how I began designing the CSA system through the network.

(23111, Round 2, Interviewer, 4 October 2024)

...I was a teacher, but SKON gave me a new role. I could take what I learned on the farm and bring it back into my classroom, so my students also grew with me.

(06111, Round 1, Interviewer, 17 June 2023)

Emerging key themes included mentorship systems, workshops, and knowledge exchange.

### **6.6 Planning a Course of Action**

Once the transformation began, participants started to plan systematically:

Words from participants:

...I created step-by-step plans to test organic methods before fully applying them.

(29211, Round 1, Interviewer, 29 November 2023)

...I joined groups and learned from other members. Then I experimented on my own farm and gradually transformed it.

(01111, Round 2, Interviewer, 17 August 2024)

...I realised planning wasn't only about my own farm. If markets kept failing, farmers and consumers would both lose. So, I designed the CSA system step by step, testing it with a small group before expanding.

(23111, Round 2, Interviewer, 4 October 2024)

This aligns with Mezirow's framework, which emphasises strategic planning and goal-setting as core elements of transformative learning.

### 6.7 Acquiring Knowledge and Skills

Participants described drawing on a wide range of sources in their pursuit of knowledge and skills, often blending informal, experiential, and digital learning modes.

Words from participants:

...I watched YouTube videos, attended SKON meetings, visited other members' farms to see what they were doing, and then tried it myself.

(05211, Round 2, Interviewer, 28 August 2024)

...In our village, many faced the same problems. I set up a LINE group called 'Organic 459' to share progress and solve issues together.

(08311, Round 1, Interviewer, 19 July 2023)

...I attended workshops and short courses, and then I brought those lessons back into my classroom. It wasn't only me learning—the students learned alongside me.

(06111, Round 1, Interviewer, 17 June 2023)

Key learning components highlight the central elements of learning within the network: the informal exchange of ideas and practices, the experiential process of learning through hands-on experience, and the integration of digital tools that extend communication and collaboration beyond physical boundaries. Together, these approaches demonstrate how knowledge acquisition in SKON is both fluid and multi-dimensional, embedding personal growth within broader community and digital ecosystems.

## 6.8 Trying New Roles and Practical Application

Hands-on practice strengthened participants' learning outcomes:

Words from participants:

...The first time I used compost instead of chemical fertiliser, I saw improvements. But I wasn't sure if it was because of the actual results or just my own feelings!

(03112, Round 1, Interviewer, 7 March 2023)

...At first, I didn't believe organic pest control would work. But after trying it, I saw the crops survive, and that gave me confidence to continue.

(01111, Round 2, Interviewer, 17 August 2024)

...I had to learn how to be both a farmer and a teacher. Leading by example on my own farm became part of my lesson plan.

(06111, Round 1, Interviewer, 17 June 2023; 22111, Round 1, Interviewer, 15 August 2023)

Analysis using CGT indicated that **trial and error** are key components in building confidence.

## 6.9 Building Competence and Confidence

Participants consistently emphasised that peer support played a central role in sustaining their commitment to organic farming, particularly when they encountered challenges.

Words from participants:

...Even when I failed sometimes, other members encouraged me to keep going.

(01111, Round 2, Interviewer, 17 August 2024)

...I gained more confidence to answer questions and share my knowledge.

(23111, Round 2, Interviewer, 4 October 2024)

...In the beginning, I felt small, but after joining the Organic 459 group, I realised I could also help others with what I knew.

(08311, Round 1, Interviewer, 19 July 2023)

...When my students started asking me questions about farming, I felt proud that I could answer from my own practice.

(06111, Round 1, Interviewer, 17 June 2023)

...At first, I thought I was just a retiree playing with plants. But when people came to visit my farm, I saw that I had something valuable to share.

(29211, Round 1, Interviewer, 29 November 2023)

Taken together, these accounts illustrate how resilience, iterative learning, and peer encouragement intersect to build competence and confidence. What began as individual struggles or tentative first steps evolved into a stronger sense of capability and identity, sustained by both personal experience and the reinforcement of community recognition.

### **6.10 Reintegration with a Transformed Perspective**

Several participants redefined their sense of identity:

Words from participants:

...Now I want to share with others. I help people transition to organic farming. It's not just about farming—it's about changing the way of thinking.

(01111, Round 2, Interviewer, 17 August 2024)

...I used to see myself only as a consumer. Now, I am both a producer and a connector, linking farmers and customers through the CSA model.

(23111, Round 2, Interviewer, 4 October 2024)

...Before, I was just teaching in a classroom. Now, I am also a farmer, and my identity is tied to both roles.

(06111, Round 1, Interviewer, 17 June 2023)

...Retirement did not mean stopping work. Farming gave me a new purpose and a new identity.

(19211, Round 1, Interviewer, 10 August 2023; 19222, Round 2, Interviewer, 25 September 2024; 29211, Round 1, Interviewer, 29 November 2023)

The outcomes of axial coding provide the basis for developing a **conceptual model** that illustrates the interconnections among these themes and their roles in the transformative learning process. This model will serve as a foundation for the next stage of analysis through selective coding, which further refines and integrates these categories into a more comprehensive theoretical framework.

### 7. Axial Code Themes in SKON

Therefore, the codes for major themes will be present in this chapter.

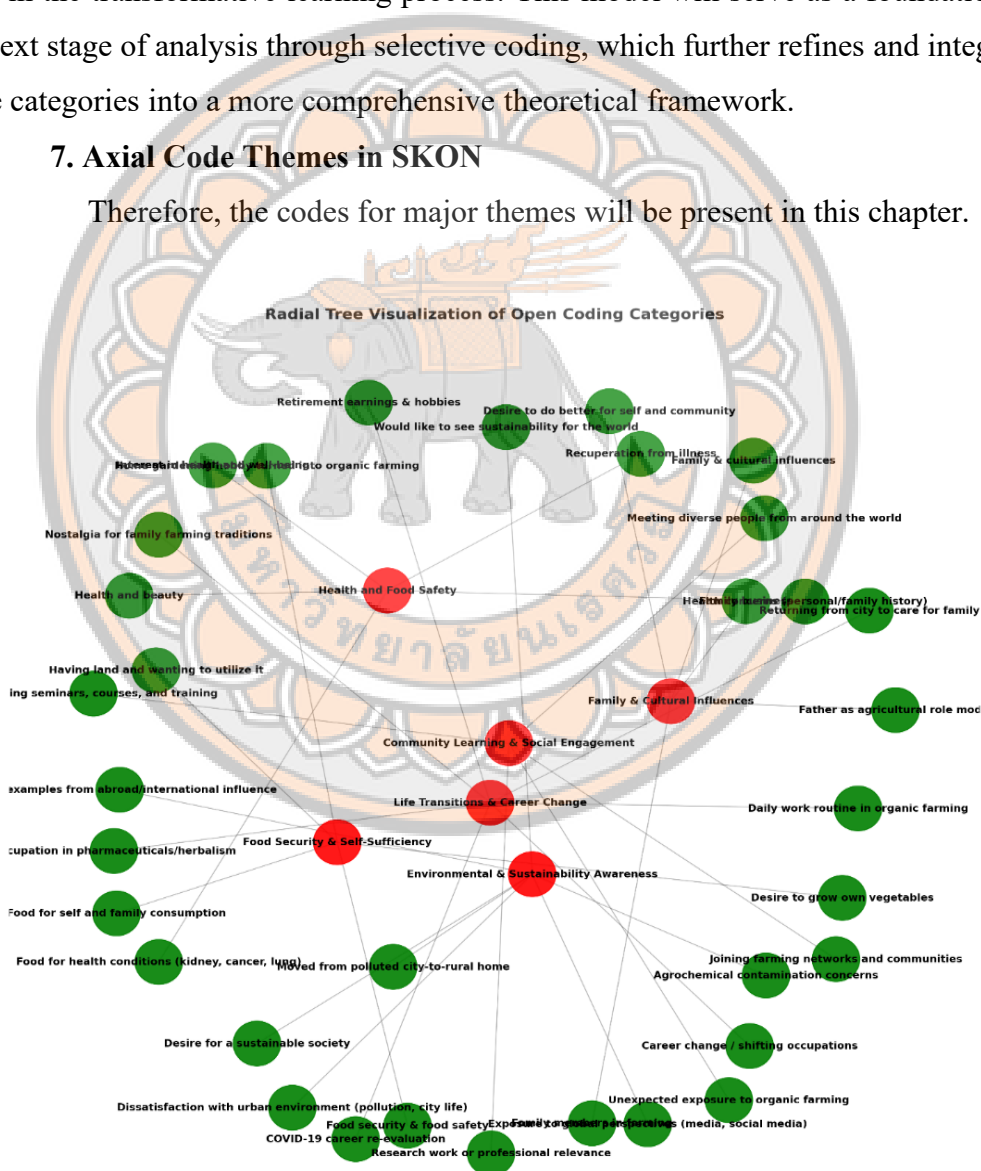


Figure 24 A Radial Tree Visualisation of Open Coding Categories

The flowchart illustrates the principal core codes derived from the answers received during the interviews.

### **7.1 Health-Related Motivations Codes:**

- Concerns about personal or family health
- Consuming safe food as part of illness recovery (e.g., kidney disease, cancer, lung disease)
- Interest in health and overall well-being
- Health and beauty considerations
- Concerns about chemical residues in food
- Recovery from illness (e.g., paralysis)

### **7.2 Environmental Awareness & Concerns Codes:**

- Dissatisfaction with the environment (pollution, urban life)
- Relocation from polluted urban areas back to rural hometowns
- Exposure to environmental news and social media
- Desire to contribute to a sustainable world
- Learning from international examples
- Openness to global information and perspectives
- Adoption of new agricultural paradigms
- Aspiration for a sustainable society

### **7.3 Career & Life Transitions Codes:**

- Life-changing events such as career shifts
- Post-retirement income generation and hobbies
- Fulfilling duties or roles (e.g., working on an organic farm)
- Employment within the context of organic agriculture
- Current profession is connected to medicine and herbal practices
- Returning to the countryside to care for family
- COVID-19 impacts and rethinking career paths
- Engagement in research or professional fields related to farming

### **7.4 Personal and Family Influences Codes:**

- Nostalgia for family-based farming lifestyles
- Parents' occupations (forestry, herbalism, agriculture)
- Father as a role model in farming

- Family businesses in agriculture
- Family members working as farmers
- Values of self-reliance and sufficiency-oriented living

#### **7.5 Food Security & Self-Sufficiency Codes:**

- Desire to grow food for household consumption
- Food security and food safety concerns
- Access to safe food for self and family
- Lack of availability of certain produce in the market
- Utilising available land for productive purposes
- Passion for farming and intrinsic motivation for the profession
- Hobby gardening evolving into organic farming

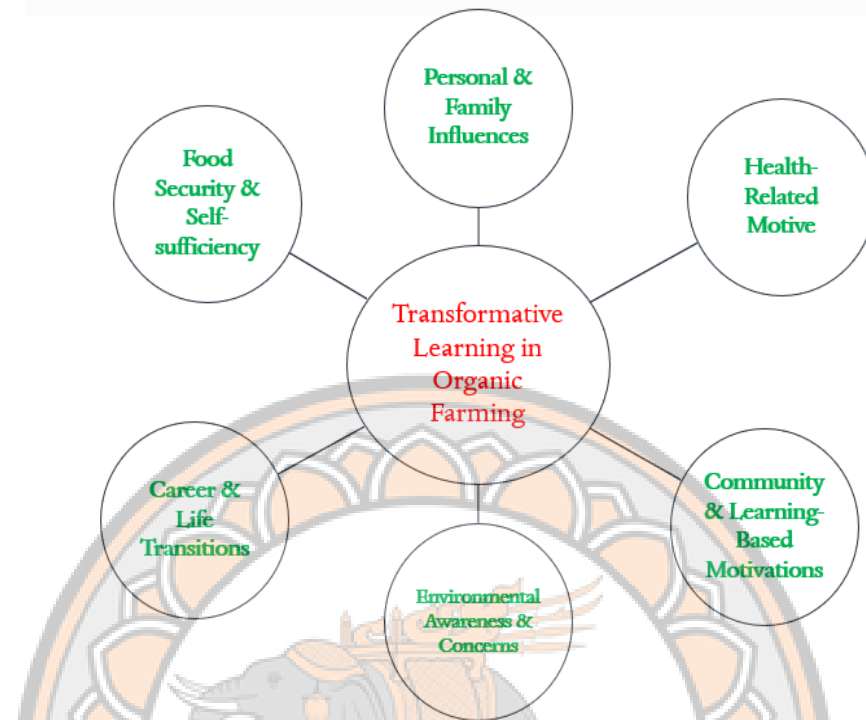
#### **7.6 Community & Learning-Based Motivations Codes:**

- Practising mindfulness and Buddhist principles
- Aspiration to develop oneself and the community
- Interacting with people from diverse cultural backgrounds
- Participation in seminars, courses, and training programs
- Unexpected encounters with organic farming
- Engagement with networks or farmer groups

### **8. A Conceptual Model: Themes Leading to Transformation and Leadership Roles**

**The conceptual model of the axial coding themes:**

**Conceptual Model: Axial Coding Themes in Transformative Learning**



**Figure 25 Axial Code Themes in SKON Transformative Learning**

The diagram illustrates a model that encompasses six axial coding themes—health, environment, career transitions, family influences, food security, and community engagement—all of which connect to Transformative Learning in Organic Farming. Together, they show how personal motivations and situational factors intersect to drive transformation among SOFPs. The red node represents the core concept: Transformative Learning in Organic Farming. The green nodes represent the six axial coding themes derived from your analysis.

**Table 12 Personal Transformation and Leadership Roles**

<b>Mezirow's Step</b>	<b>Example Interview Questions</b>	<b>Initial Coding (Open Coded)</b>	<b>Focus Coding Categories</b>
<b>Disorientating Dilemmas</b>	"What challenges made you reconsider your previous farming practices?"	"Struggled with the market demands. "Government policies are not supportive.	Structural barriers, economic limitations, and climate change
<b>Self-examination with fear, guilt, or shame</b>	"How did you feel when you realised the need for change?"	"Fear of failing," "Pressure from family", "Quality of life"	Emotional response, resistance to change
<b>Critical assessment of assumptions</b>	What made you reflect on your previous knowledge and practices?"	Saw other farmers succeed with organic, "Learned from my mistakes"	Critical reflection, comparative learning
<b>Recognition that discontent is shared</b>	"Did you discuss these challenges with others?"	"We talk about these issues in meetings." "Others faced the same struggles"	Community reflection, shared learning.
<b>Exploring new roles and relationships</b>	"How did you start engaging in new ways of farming or learning?"	"Joined training programs," "Started networking"	Social learning, exposure to new ideas
<b>Planning a course of action</b>	"What steps did you take to implement change?"	"Set up a trial farm," "Experimented with new methods"	Strategic planning, Experimentation
<b>Acquiring knowledge and skills</b>	"How did you gain the skills needed for change?"	"Workshops, online videos, learning from peers"	Informal learning, experiential learning
<b>Trying new roles</b>	"Can you describe the first time you applied your new knowledge?"	"Started composting," "Changed irrigation methods"	Practical application, behavioural change
<b>Building confidence in new roles</b>	"What challenges did you face while applying new methods?"	"Some failures but kept trying," "Got support from the community"	Trial and error, community encouragement
<b>Reintegration with a transformed perspective</b>	"How do you see yourself now compared to before?"	"I am now a mentor," "More sustainable mindset"	Identity transformation, community leadership

A table to explain the transformative learning process of SKON participants. Therefore, from the axial coding process, two key outcomes emerged: “inner transformation” and “leadership roles” as central results of transformative learning among SKON participants. Each central theme can be further elaborated into subcategories that reveal the diverse motivations and pathways through which participants entered organic farming.

First is that the Health and well-being emerged as a primary driver, with many participants motivated by personal or family health issues, including concerns about cancer, kidney disease, and lung conditions. The demand for safe food was particularly significant, as participants sought to avoid chemical residues and ensure healthy nutrition for themselves and their families. Several had professional backgrounds in health-related fields, such as pharmacy or herbal medicine, which further deepened their interest in the intersections of health, beauty, and nutrition.

A second theme related to environmental awareness and sustainability concerns is often expressed as dissatisfaction with pollution in urban environments. This prompted some participants to relocate from large cities to rural areas, seeking to reduce chemical exposure and live more sustainably. Online media, environmental news, and international examples provided additional inspiration, encouraging participants to frame their practices in terms of sustainability, self-reliance, and global perspectives.

Life transitions and career shifts also shaped entry points into organic farming. For some, career changes, retirement, or disruptions caused by the COVID-19 pandemic became decisive moments. Participants who left corporate sectors, research institutions, or other industries often redefined farming as a new livelihood. For retirees, organic farming evolved into both a fulfilling hobby and a supplementary source of income. These shifts were usually accompanied by lifestyle changes, such as moving from urban to rural areas in search of a more meaningful rhythm of life.

The influence of family and cultural heritage was also significant, with participants recalling memories of their parents or relatives being engaged in agriculture, forestry, or herbal medicine. Childhood experiences on family farms, the intergenerational transmission of agricultural knowledge, and nostalgia for traditional ways of living all contributed to the adoption of organic farming practices. Fathers,

uncles, or other relatives often served as role models, thereby embedding farming within a lineage of cultural continuity.

Another strong motivation was food security, self-sufficiency, and practical needs. Concerns about supply chain disruptions, food safety, and reliable access to fresh produce encouraged many participants to take control of their own food sources. Several began by growing vegetables for household consumption before expanding into broader farming activities, while others responded to the lack of available organic produce in local markets. In each case, the desire for self-reliance, resilience, and effective use of available land guided their entry into organic farming.

Finally, learning, community engagement, and exposure to knowledge provided further pathways. Participation in workshops, training courses, and organic networks was a significant motivator, enabling participants to acquire new skills while fostering connections. Travel experiences and social media broadened their horizons, while peer-to-peer exchanges within farming communities reinforced shared practices. Some were also drawn to farming through work in herbal medicine or research. In contrast, others linked their practices to Buddhist mindfulness and sustainable living, underscoring the diverse spiritual and cultural dimensions of their learning journeys.



**Figure 26 A Conceptual Model: Theme Leading to Personal Transformation and Leadership Roles**

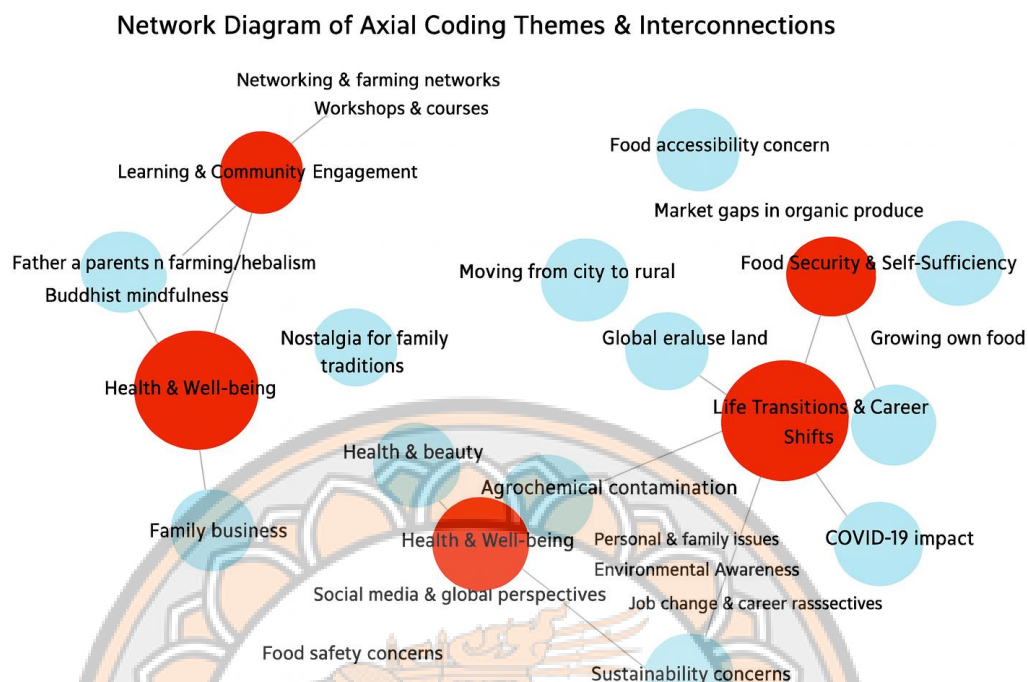
The model highlights six thematic drivers—life transitions, environmental awareness, health, family heritage, food security, and community engagement—that converge to shape personal transformation and leadership roles among SOFPs. These interconnected themes show how individual motivations and social contexts together foster transformative learning in organic farming.

### 9. Interconnections Between Axial Codes

From the analysis, it was found that the six themes are interrelated and collectively shape the transformative learning process of participants as follows:

1. **Health concerns (1)** and **food safety (5)** often serve as triggers that lead to dissatisfaction with the environment (2).
2. **Environmental awareness (2)** frequently leads to **life or career transitions (3)** or increases motivation to pursue further **knowledge and learning (6)**.
3. Those who undergo **career shifts (3)** often participate in **systematic learning processes (6)** or draw upon **family knowledge and heritage (4)** as a foundation.
4. The pursuit of **food security (5)** and **sustainability (2)** reinforces the idea of self-reliance.
5. **Community-based learning (6)** facilitates the transfer of knowledge between experienced practitioners and newcomers.

A **network diagram** of these axial coding themes clearly illustrates how health concerns, environmental awareness, career transitions, family influences, food security, and learning networks are interconnected in the transformative learning process of SKON participants.



**Figure 27 A Network Diagram of Axial Coding Themes and Interconnections**

In Figure 27, the network diagram of axial coding themes and interconnections illustrates how central categories and related sub-themes overlap in shaping the experiences of smallholding ecological organic farming practitioners. At the centre of the diagram, themes such as health and well-being, life transitions and career shifts, food security and self-sufficiency, and learning and community engagement appear as the most significant drivers.

As one participant reflected,

...A turning point came when my health problems forced me to rethink everything, from what I eat to how I farm.

(01121, Round 1, Interviewer, 1 June 2023)

...I grow vegetables but I want more than growing I want to know more and grow more.

(11311, Round 2, Interviewer, 9 September 2024)

Another explained,

...When I left the city to return to my family's land, I realised farming was not only about survival but also about building community and self-reliance.

(08311, Round 1, Interviewer, 19 July 2023)

These categories are linked to a wide range of sub-themes, including family business, Buddhist mindfulness, agrochemical contamination, the impact of COVID-19, sustainability concerns, networking and farming networks, and food accessibility. The interconnections demonstrate that practitioners' learning and decisions are not formed in isolation but rather emerge through overlapping personal, social, and ecological contexts. For example, concerns about health and well-being extend beyond physical health to include family traditions, food safety, and spiritual practices. At the same time, career transitions are closely tied to environmental awareness, social media perspectives, and market challenges. One participant described this process as "a turning point when my health problems forced me to rethink everything, from what I eat to how I farm." Another reflected, "When I left the city to return to my family's land, I realised farming was not only about survival but also about building community and self-reliance." The diagram, therefore, highlights the dynamic interplay between individual transformations and collective practices, demonstrating that farmers' pathways are multidimensional and embedded in broader systems of meaning and adaptation.

#### **10. Selective Coding: Development of the Core Category and Theoretical Integration**

Selective coding represents the final stage in qualitative data analysis, bringing together the categories identified through axial coding into a core category that holistically explains the transformative learning process of participants in the Songkwae Organic Network (SKON). The core category identified in this study is "*Transformative Learning through Organic Farming Practices*". This emphasises that participants did not pursue organic farming merely as a hobby or as an economic activity, but as a transformative journey shaped by multiple intersecting motivations, including health

concerns, environmental awareness, career transitions, cultural heritage, food security, and community-based learning.

Health and well-being often served as the starting point of change, with many participants motivated by personal or family health issues and concerns about chemical residues in food. For many, the transition into farming represented a shift from consumer to producer, allowing for greater control over what was eaten within the household. Environmental awareness and sustainability were additional drivers of change, particularly for those dissatisfied with urban pollution or attracted to more sustainable food systems. Access to global perspectives through news, social media, and international examples reinforced this motivation and encouraged participants to experiment with alternative practices.

For others, career transitions and life reorganisation played a decisive role. Participants who left corporate, research, or industrial careers often turned to organic farming as a new livelihood pathway. At the same time, retirees described farming as both a purposeful retirement activity and a source of supplementary income. Identity formation and family cultural heritage also strongly influenced choices. Childhood memories of farming, recollections of traditional practices, and inspiration from parents or relatives underscored how farming was tied not only to practical needs but also to cultural continuity and values of self-sufficiency.

Food security and self-sufficiency emerged as long-term drivers of engagement. Many participants were motivated by a desire to control their food sources, beginning with growing vegetables for household health and gradually expanding from small home gardens to more established organic farms. Finally, community learning and networking provided the mechanisms of continuity. Mentorship, peer-to-peer learning, and active participation in SKON activities created informal yet enduring learning spaces, where collective problem-solving and knowledge exchange reinforced individual growth and transformation.

Together, these dimensions converge in the core category of transformative learning through organic farming practices, illustrating how deeply personal motivations are interwoven with social networks, cultural heritage, and ecological consciousness. This integrated perspective reveals that the learning journey of smallholding organic farming practitioners is not linear, but somewhat cyclical,

adaptive, and continually redefined through practice, reflection, and community engagement.

### **Community Learning Platforms & Communities of Practice**

The findings highlight that learning within SKON is not random but follows identifiable patterns and components shaped by roles, philosophies, and community engagement. These patterns demonstrate how SOFPs collectively form a community of practice, where shared interests and practices sustain both farming and learning.

#### **1. Roles and Learning Agency**

Participants' roles in SKON influenced the learning they engaged in:

- **Farm Owners** acted as knowledge leaders, integrating innovations, mentoring others, and using their farms as learning spaces.
- **Farm Workers** embodied tacit and embodied knowledge, learning through practice, observation, and repetition.
- **Entrepreneurs and Health Shop Owners** connected farming to markets and consumers, creating opportunities for business-oriented learning.
- **Consumers** contributed to shaping practices through demand and feedback, indirectly influencing production and learning priorities.

This distribution of roles illustrates the layered nature of agency in the learning process, with leaders fostering innovation and workers sustaining grassroots ecological knowledge.

#### **2. Farm Philosophies and Practices**

Case study farms reflected a plurality of approaches:

- Some drew inspiration from the Sufficiency Economy Philosophy (SEP) of King Rama IX and those who follow the new agricultural theory.
- Others integrated permaculture and agroforestry principles.
- Outward-facing farms participated in markets and cooperatives, acting as hubs of community exchange.
- Inward-focused farms concentrated on household needs, relying on experiential and household-based learning.

Together, these diverse practices illustrate how farms act as nodes of knowledge, some oriented toward collective learning spaces and others contributing through individual adaptation.

### 3. Eight Interconnected Components of the Learning Process

Grounded theory analysis identified eight interconnected components shaping the SOFP learning cycle:

1. **Experience** – practical engagement in farming activities.
2. **Social learning** – peer-to-peer exchange, mentoring, and network participation.
3. **Reflection** – both individual and collective, often triggered by challenges.
4. **Adaptation** – adjusting practices in response to feedback and conditions.
5. **Emotion** – motivation and commitment shaped by values of health, ecology, and community.
6. **Knowledge** – both traditional and scientific, shared across generations.
7. **Action** – implementing new practices, often through trial and error.
8. **Reintegration** – embedding lessons into personal practice and collective routines.

These components interact in cyclical and non-linear ways, with each case may not have the same starting point. Still, they dynamically move forward together during the group processes of learning, reflecting the iterative nature of adult and community learning.

### 4. Digital Platforms as Extended Learning Spaces

In addition to physical farms, markets, events and cooperatives, participants also engaged in digital platforms that functioned as complementary learning spaces. The digital ethnography revealed that practitioners strategically used Facebook, Line, YouTube, and TikTok to exchange knowledge, observe farming practices, and promote their products. To categorise the digital ethnography parts as follows.

- **Knowledge-seeking** – Participants searched for farming information, such as soil improvement, pest management, and crop diversification, through online videos, posts, and farming websites.

- **Observation and peer learning** – By following other practitioners online, both domestically and internationally, farmers gained ideas and techniques that they later adapted to their own contexts.

- **Entrepreneurship** – Digital tools supported marketing and sales, with Facebook pages, Line groups/shops/official, and community marketplaces connecting producers to consumers.

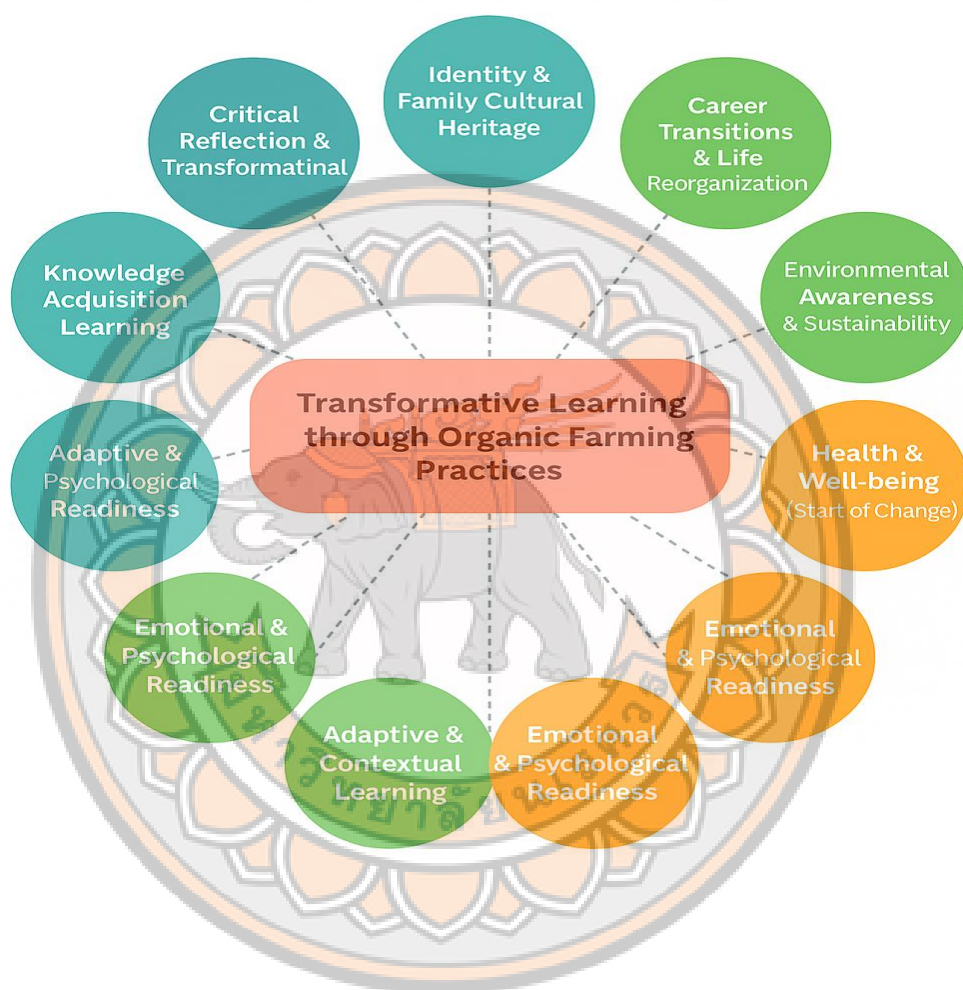
- **Skill development** – Online courses, webinars, and tutorials provided opportunities to enhance technical and business knowledge.

These practices demonstrate how digital channels expand the SKON community of practice into virtual spaces, enabling practitioners to learn not only through direct, embodied practice but also through mediated observation and online exchange. However, participants also noted dilemmas such as the uneven credibility of information, the difficulty of adapting online advice to local conditions, and varying levels of digital literacy.

Therefore, the digital dimension complements the eight interconnected components of learning by adding new modes of experience, discourse, and action. It expands the reach of the community of practice beyond geography, supporting Objective 2 by demonstrating how community learning platforms are increasingly hybrid—situated in both local farms and online networks.

## Selective Coding: Core Category and Components

### Major Components of Transformative Learning



**Figure 28 Selective Coding Framework of Transformative Learning through Organic Farming Practices**

This diagram illustrates the **core category** and its **interconnected components** identified through selective coding. It conceptualises how **transformative learning** evolves through reflective, experiential, and contextual processes that collectively drive behavioural, emotional, and social change among smallholding organic farming practitioners. At the centre, *Transformative Learning through Organic*

*Farming Practices* serves as the core category, supported by twelve interrelated components. These encompass experiential learning, critical reflection, discourse, contextual adaptation, community participation, and leadership, as well as key motivational dimensions such as health and well-being, environmental awareness, food security, and family heritage. Together, these elements demonstrate how transformation arises from the interaction between **personal motivations** and **collective practices** within the Songkwae Organic Network (SKON).

In summary, the patterns and components observed in SKON illustrate that learning is multi-layered, role-dependent, and contextually grounded. Farms, roles, and philosophies create a community of practice where knowledge is shared, adapted, and sustained. Significantly, digital platforms also extend this community of practice into virtual spaces, enabling participants to search for information, observe peers, and market their products.

These hybrid arrangements demonstrate that community learning platforms are no longer confined to physical interactions but are crossing the boundary between the two spaces. Digital exchanges increasingly support them. Together, these findings support **Objective 2**, showing how community learning platforms can be built through both existing structures of practice, cooperation, and intergenerational exchange, as well as through emerging digital environments that expand access, visibility, and opportunities for transformative learning.

### **Alternative Problem-Solving and Practice Dilemmas**

The findings reveal that SOFPs do not learn in a linear manner, but rather through adaptive responses to dilemmas and challenges. These processes align with Transformative Learning Theory, while also highlighting collective and contextual dynamics that are often overlooked in the literature. Alternative problem-solving emerges through cyclical, non-linear, and community-based learning processes.

#### **1. Transformative Pathways in Practice**

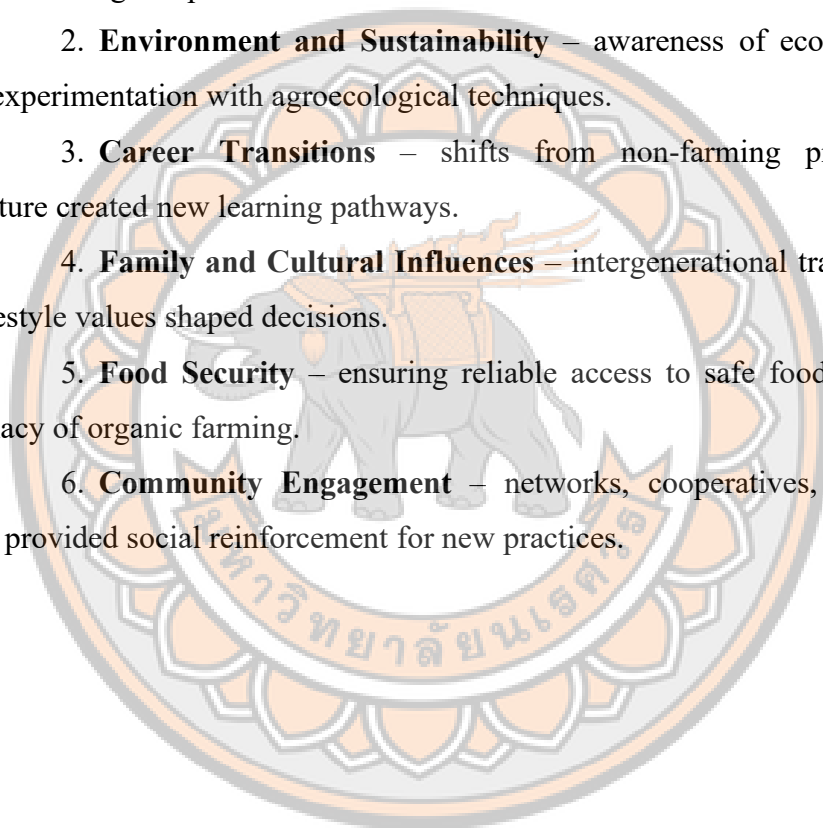
Evidence from interviews and observations reflected many of Mezirow's stages of transformative learning. Practitioners described disorienting dilemmas (e.g., crop failure, drought, health crises) that compelled them to reassess their existing practices. Reflection often occurred in action—during the work itself—leading to

experimentation and adaptation. Over time, a transformation in perspective was visible as participants shifted from conventional or subsistence farming to ecological, entrepreneurial, and community-oriented practices.

## 2. Key Themes from Axial Coding

Grounded theory analysis identified six recurring themes shaping alternative problem-solving:

1. **Health and Food Safety** – concerns about chemical farming triggered transitions to organic practices.
2. **Environment and Sustainability** – awareness of ecological impacts drove experimentation with agroecological techniques.
3. **Career Transitions** – shifts from non-farming professions into agriculture created new learning pathways.
4. **Family and Cultural Influences** – intergenerational transfer, heritage, and lifestyle values shaped decisions.
5. **Food Security** – ensuring reliable access to safe food reinforced the legitimacy of organic farming.
6. **Community Engagement** – networks, cooperatives, and consumer groups provided social reinforcement for new practices.





**Figure 29 Key Themes from Axial Coding and Their Intersecting Contexts**

The figure presents six major themes that influence alternative problem-solving among SOFPs in SKON: Health & Food Safety, Environment & Sustainability, Career Transitions, Family & Cultural Influences, Food Security, and Community Engagement. These interact with broader economic, institutional, and technological contexts, illustrating that practitioners' decisions are adaptive and situated within complex social–ecological systems.

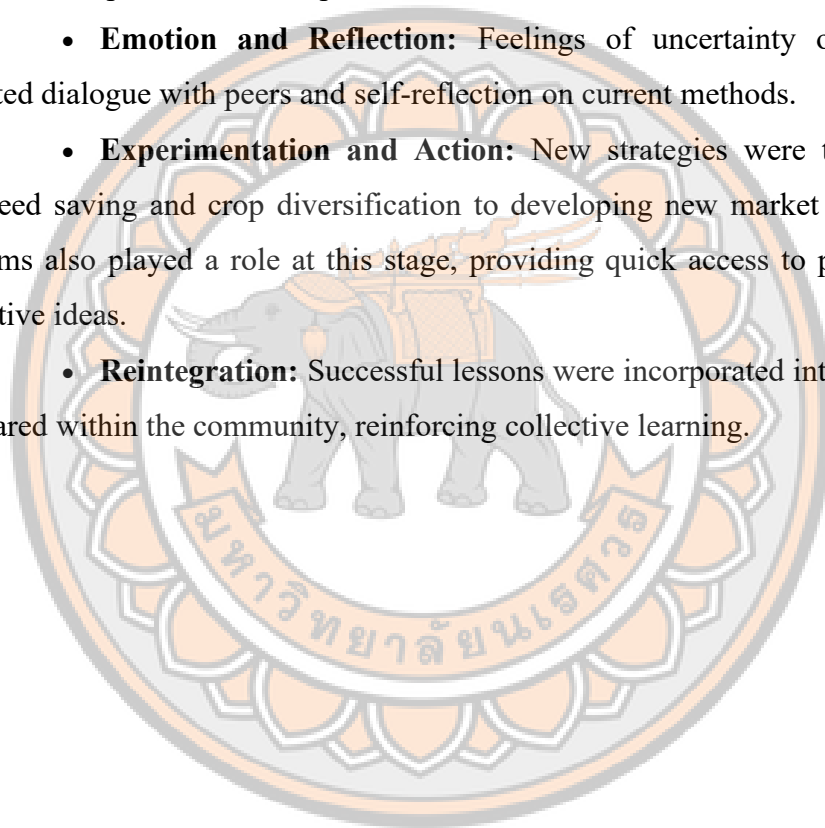
Additional insights also revealed dilemmas surrounding market pressures (fluctuating demand and unstable prices), policy constraints (bureaucratic certification processes), and digital platforms (which both present opportunities and challenges for

problem-solving). These dimensions intersect with the six themes, demonstrating that practitioners' decisions are embedded in broader economic, institutional, and technological contexts.

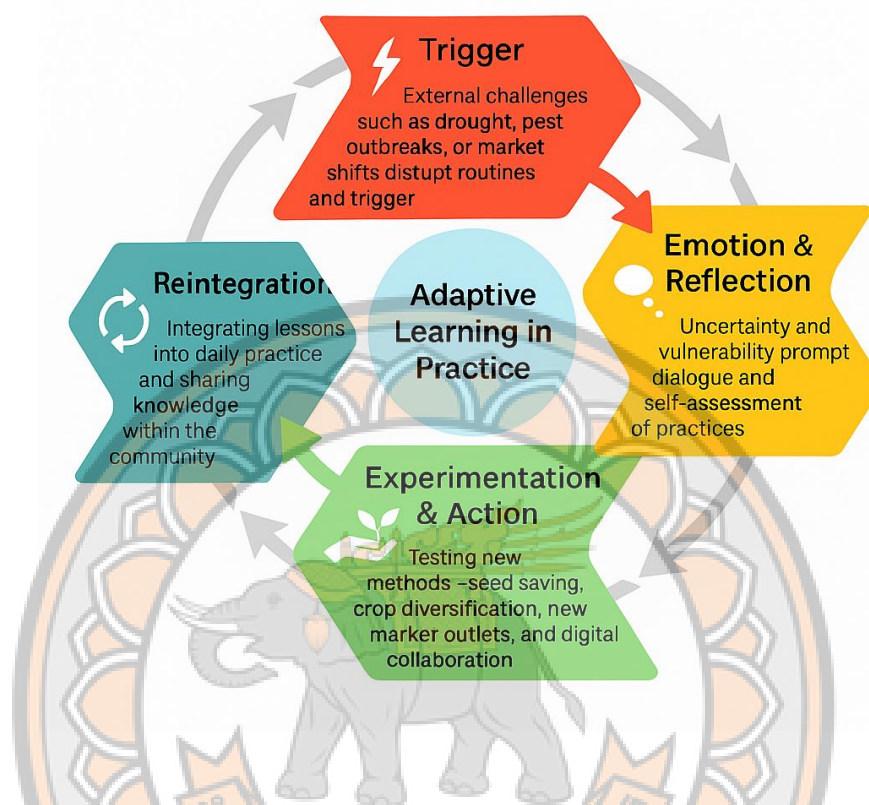
### 3. Alternative Problem-Solving Strategies

Practitioners did not approach dilemmas as isolated problems but as part of an adaptive learning cycle. This cycle unfolded in four interconnected stages:

- **Trigger:** External challenges such as market instability, drought, or pest outbreaks disrupted established practices.
- **Emotion and Reflection:** Feelings of uncertainty or vulnerability prompted dialogue with peers and self-reflection on current methods.
- **Experimentation and Action:** New strategies were tested—ranging from seed saving and crop diversification to developing new market outlets. Digital platforms also played a role at this stage, providing quick access to peer advice and alternative ideas.
- **Reintegration:** Successful lessons were incorporated into daily routines and shared within the community, reinforcing collective learning.



### Adaptive Problem-Solving Cycle among Smallholder Organic Farming Practitioners (SOFPs) in SKON



**Figure 30 Adaptive Problem-Solving Cycle among SOFPs in SKON**

The model illustrates how practitioners approached dilemmas as part of an adaptive learning process rather than as isolated problems. The cycle begins with a trigger—external challenges disrupting existing practices—followed by emotional and reflective responses that stimulate experimentation and action. Reintegration occurs when successful lessons are embedded into routines and shared collectively. The iterative arrows indicate that farmers often revisit earlier stages, highlighting the dynamic, situated, and transformative nature of problem-solving within SKON’s learning network.

This adaptive cycle—**Trigger** → **Emotion & Reflection** → **Experimentation & Action** → **Reintegration**—was neither uniform nor strictly linear. Instead, it operated iteratively, with farmers moving back and forth between stages depending on context. The variation across individuals and groups illustrates how

problem-solving in SKON is **situated, dynamic, and transformative**, grounded in the realities of ecological, economic, and social uncertainty.

#### 4. Complementary Case Study and Insights

##### Context

Both **Macleod Organics** and **Laikenbuie Ecology Trust** are situated in the Scottish Highlands and operate within small-scale, community-oriented systems that integrate environmental restoration, local food networks, and participatory education. Their practices embody the intersection of ecological ethics, communal resilience, and place-based learning—key features that resonate with SKON’s context in Thailand.

##### A. Macleod Organics: Adaptive Learning in a Market–Ecology Interface

##### Constructivist Grounded Theory (CGT) Analysis

##### A1. Open Coding (Initial Concepts):

- “Let nature lead” — minimal intervention and observation of natural processes before acting.
- “Targeted restoration” — reintroduction of species such as aspen, lochan creation, and wetland linkage.
- “Connectivity” — building habitat mosaics linking woodland and grassland.
- “Monitoring and adaptive management” — continuous feedback loops based on ecological data.
- “Community engagement” — volunteerism, workshops, path maintenance, and country skills sharing.

##### A2. Focused Coding (Emerging Categories):

1. Learning through ecological feedback — observation of natural responses as teaching moments.
2. Collaborative learning platforms — volunteers, students, and local workers as co-learners.
3. Integration of science and tradition — blending ecological monitoring with rural craftsmanship.
4. Reflective practice — continuous adaptation through feedback and shared discussion.

### A3. Axial Coding (Relationships):

- *Condition:* Dynamic ecological systems intertwined with local livelihoods.
- *Action/Interaction:* Ongoing observation, experimentation, documentation, and collective discussion.
- *Consequence:* Adaptive management, enhanced biodiversity, and the emergence of a “*living classroom*”

### A4. Core Category:

“**Ecology as pedagogy**” — the landscape functions simultaneously as teacher and learner, where management is inseparable from education.

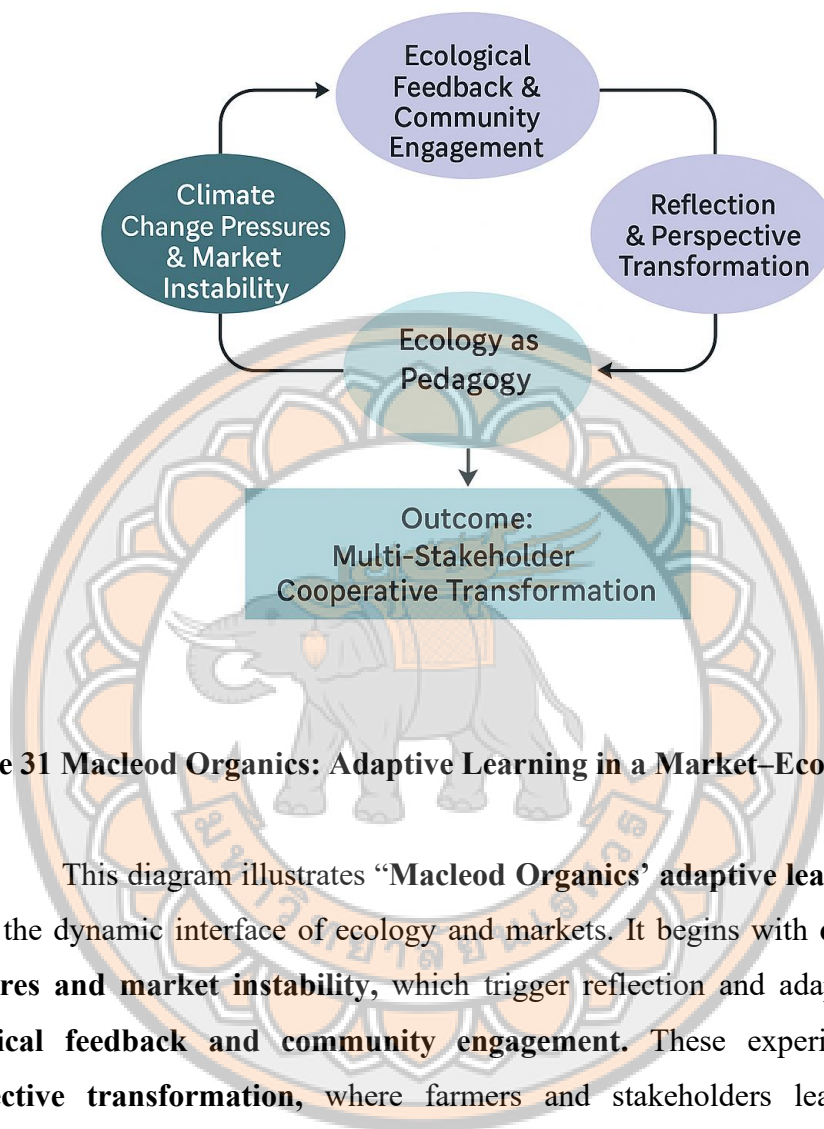
### A5. Transformative Learning Theory (TLT): Perspective on core learning components

- **Disorienting Dilemmas:** Climate pressures, market instability, and policy shifts challenge conventional production models.
- **Reflection and Discourse:** Farmers and volunteers reassess assumptions about control, intervention, and yield.
- **Action and New Roles:** Transition from “producers” to “ecological stewards” and “knowledge mediators.”
- **Transformation:** A redefined purpose — farming reconceptualised as restoration and learning practice.

### A6. Illustrative Insight:

From a Mezirowian perspective, **Macleod Organics** demonstrates a shift from **anthropocentric to ecocentric learning**, grounded in participatory reflection and iterative feedback—the ecological equivalent of “reflection-in-action.”

## Macleod Organics: Adaptive Learning in a Market–Ecology Interface



**Figure 31 Macleod Organics: Adaptive Learning in a Market–Ecology Interface**

This diagram illustrates “**Macleod Organics’ adaptive learning process**” within the dynamic interface of ecology and markets. It begins with **climate change pressures and market instability**, which trigger reflection and adaptation through **ecological feedback and community engagement**. These experiences promote **perspective transformation**, where farmers and stakeholders learn to reframe challenges as opportunities for innovation. At the centre, “***Ecology as Pedagogy***” signifies that the natural environment itself functions as a continuous learning system, shaping practice through observation and feedback. The process culminates in the **transformation of Macleod Organics into a multistakeholder cooperative**, demonstrating how iterative learning fosters resilience, collaboration, and long-term ecological and social sustainability.

## **B. Laikenbuie Ecology Trust: Situated and Intergenerational Learning Constructivist Grounded Theory (CGT) Analysis**

### **B1. Open Coding (Initial Concepts):**

- “Minimal intervention and facilitation of natural processes.”
- “Volunteer programs and community workshops.”
- “Educational outreach to schools and nature walks.”
- “Monitoring biodiversity through observation and recording.”

### **B2. Focused Coding (Emerging Categories):**

1. Situated learning — knowledge embedded within specific habitats and restoration contexts.
2. Intergenerational participation — youth learning alongside experienced ecologists.
3. Community of practice — co-creation of knowledge among volunteers, staff, and locals.
4. Reflective dialogue — shared reflection after fieldwork and across seasons.

### **B3. Axial Coding (Relationships):**

- *Condition*: Fragmented ecosystems and social detachment from nature.
- *Action*: Reconnection through embodied, place-based learning.
- *Consequence*: Restoration of both ecosystems and community cohesion through shared experience.

### **B4. Core Category:**

“**Learning through restoration**” — ecological renewal and social transformation evolve together through participation and care.

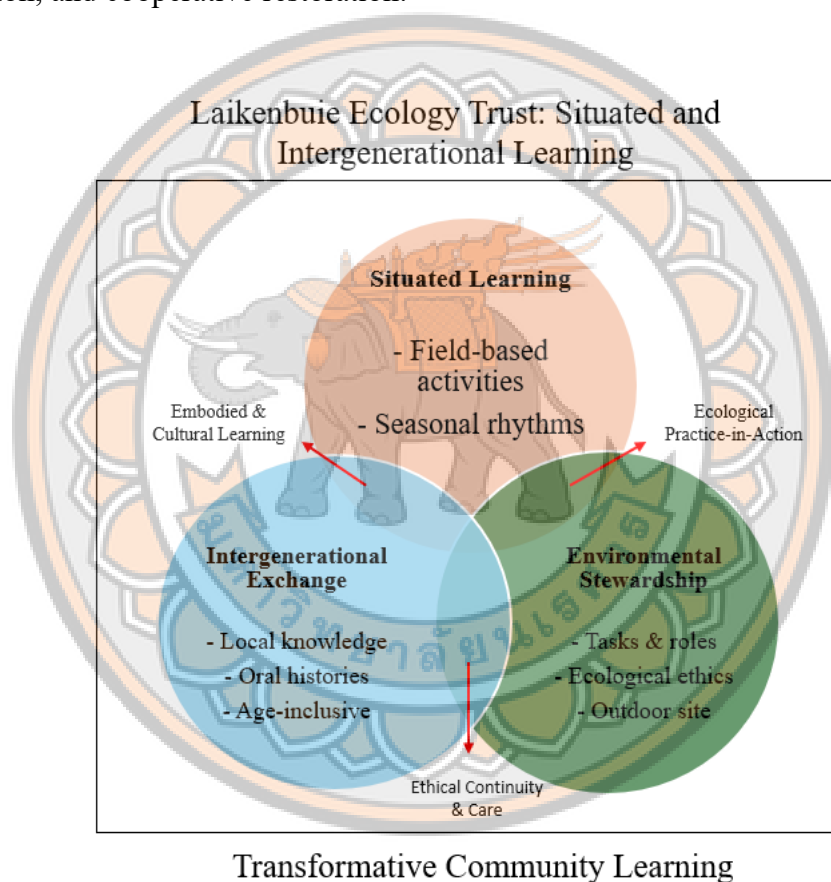
### **B5. Transformative Learning Theory (TLT): Perspective on core learning components**

- **Disorienting Dilemmas**: Habitat degradation and climate anxiety stimulate reflection on human–nature relations.
- **Self-Examination and Reflection**: Participants question consumer lifestyles and adopt ecological responsibility.
- **Rational Discourse**: Weekly debriefings and guided discussions create structured spaces for collective sense-making.

- **Action:** Embodied learning — restoring landscapes as a practical mode of learning-in-action.
- **Transformation:** Formation of ecological identities and stewardship ethics through direct engagement.

### B6. Illustrative Insight:

The **Laikenbuie Ecology Trust** demonstrates **communal transformation** a shift from abstract awareness to embodied ecological agency through dialogue, reflection, and cooperative restoration.



**Figure 32 Laikenbuie Ecology Trust; a situated, experiential, and intergenerational learning ecosystem**

The diagram captures Laikenbuie Ecology Trust as a *situated, experiential, and intergenerational learning ecosystem*, where ecological engagement, social interaction, and reflective practice continuously reinforce one another. It aligns closely with your **Hybrid Transformative Learning Model (HTLM)** by showing how

learning is **contextual, community-based, adaptive, and reflective** — rooted in real practice and sustained through generational exchange.

**Table 13 Comparative Dimensions of Transformative Learning in Macleod Organics and Laikenbuie Ecology Trust in Relation to HTLM**

Dimension	Macleod Organics	Laikenbuie Ecology Trust	Relevance to HTLM
<b>Trigger (Dilemma)</b>	Market instability & ecological degradation	Habitat loss & disconnection from nature	Context-specific dilemmas initiate learning cycles
<b>Learning Process</b>	Continuous observation, adaptive management, reflection-in-action	Situated, embodied, intergenerational practice	Practice-based, reflective, and adaptive cycles
<b>Social Dimension</b>	Volunteer programs, local markets, workshops	Volunteerism, mentorship, community reflection	Collective, peer-driven learning mirrors SKON's structure
<b>Transformative Outcome</b>	Producers → Ecological stewards	Citizens → Environmental educators	Role transformation & ecological identity formation
<b>Epistemic Character</b>	Empirical + experiential	Embodied + relational	Integration of knowledge systems aligns with HTLM's hybrid framework

### C. Theoretical Integration with the Hybrid Transformative Learning Model (HTLM)

Both cases exemplify **ecologically situated and socially embedded transformative learning**, where learning emerges not only from individual cognition but from collective interaction with ecological and social systems. From a **Constructivist Grounded Theory (CGT)** perspective, knowledge is constructed through direct engagement with the environment and continuous community dialogue that shapes shared understanding and adaptive practice. Through the lens of **Transformative Learning Theory (TLT)**, transformation arises as participants confront ecological dilemmas, engage in critical reflection, and reintegrate into their

communities with newly formed eco-social roles and values. When viewed through the **Hybrid Transformative Learning Model (HTLM)**, these initiatives demonstrate how reflection (TLT), participation (Situating Learning), and ecological responsiveness (Adaptive Knowledge Systems) converge to form an integrated, cyclical process of learning and adaptation. Together, they reinforce the universality of HTLM beyond Thailand's context, showing that sustainable transformation depends on the continuous interplay between experience, reflection, community engagement, and environmental responsiveness.

#### **D. Concluding Reflection**

The experiences of **Macleod Organics** and **Laikenbuie Ecology Trust** demonstrate that transformative, situated, and adaptive learning unfolds across both social and ecological dimensions. Transformation is not solely personal but **ecosystemic**—a mutual process where people and landscapes co-learn.

These parallels validate the experiential and community-based learning found within **SKON**, confirming that **hybrid transformative learning**—grounded in practice, reflection, and social participation—is a universal model that links sustainability, resilience, and lifelong adaptation.

In summary, SKON's adaptive problem-solving combines individual reflection, collective action, and communal reinforcement. By integrating health, environment, livelihood, and community collaboration with digital and international perspectives, smallholding organic farming practitioners (SOFPs) demonstrate how transformative practice arises through **cyclical, context-specific, and cooperative learning processes**. This directly supports **Objective 3**, explaining that community learning platforms promote resilience through situated, hybrid, and participatory approaches.

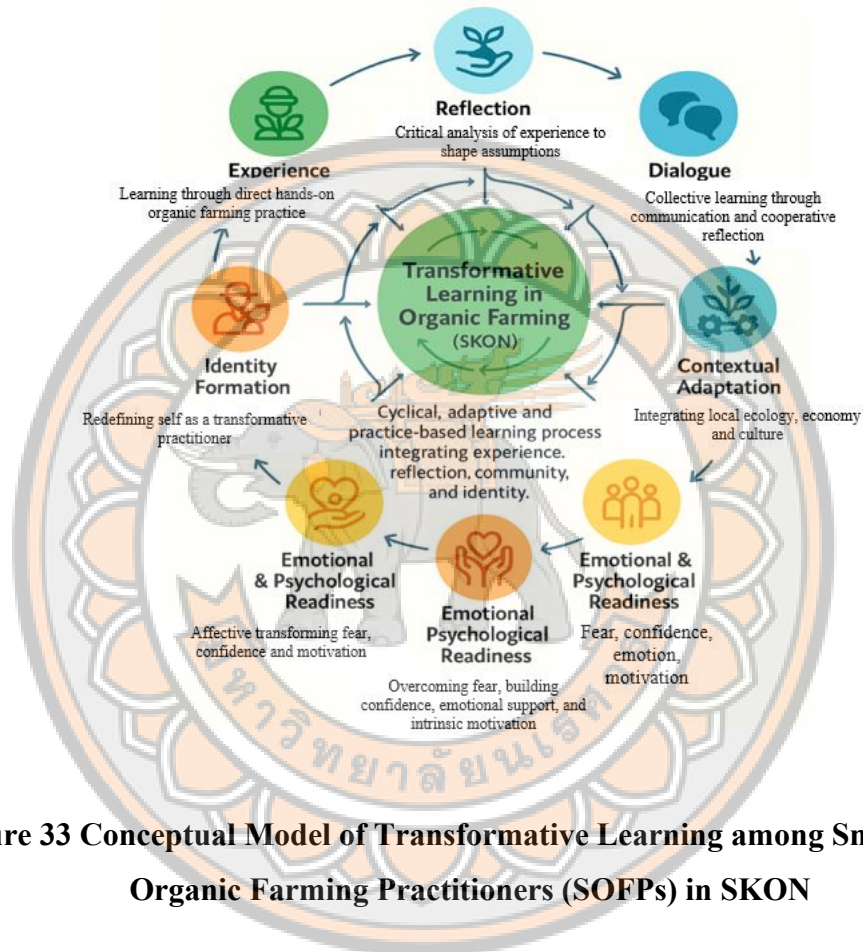
#### **Synthesis: Conceptual Model**

##### **1. Eight Core Components of Transformative Learning among the SOFPs in SKON**

Transformative learning among Smallholder Organic Farming Practitioners (SOFPs) in urban contexts, particularly within community platforms such as SKON, is sustained by eight interrelated components that align with Transformative Learning

Theory (Mezirow), Constructivist Grounded Theory, and experiential learning perspectives. To better understand the model's occurrence, refer to the figure below.

**Conceptual Model: Eight Core Components of Transformative Learning among Smallholding Organic Farming Practitioners (SOFPs) in SKON**



**Figure 33 Conceptual Model of Transformative Learning among Smallholder Organic Farming Practitioners (SOFPs) in SKON**

The model depicts eight interrelated components that sustain transformative learning within the SKON community. Experience, reflection, and dialogue form the foundation of learning, while contextual adaptation and community engagement ensure that knowledge remains situated and collaborative. Emotional readiness and action drive behavioural change, culminating in identity formation, where learners evolve into mentors and leaders. The cyclical arrows represent the adaptive, iterative nature of transformative learning, integrating personal, social, and ecological dimensions.

The first component is **experience**, where learning is generated directly through hands-on practice in farming contexts. Participants acquire knowledge by experimenting with organic farming techniques, such as composting, intercropping, and soil restoration, and by adapting methods based on outcomes and ecological principles. Through this process, they not only gain tangible skills but also develop a deeper understanding of ecology.

A second component is **reflection**, which involves critically analysing these experiences to challenge existing assumptions and reconstruct frames of reference. Farmers frequently compared past chemical-based methods with organic practices, asked themselves reflective questions about the value of organic farming, and utilised structured tools, such as After-Action Reviews (AARs), to refine their strategies. Such reflection facilitated profound mindset shifts, enabling deeper adoption of new practices.

**Dialogue** represents a third essential element, emphasising collective learning through the exchange of ideas, the challenging of assumptions, and the validation of shared experiences. Peer-to-peer learning at SKON events and cooperatives, as well as intergenerational knowledge transfer and participation in policy discussions, created platforms for discourse that fostered collective knowledge, strengthened community learning, and supported transformation.

Learning was also shaped by **contextual adaptation**, as participants integrated ecological, economic, and cultural conditions into their practices. Adaptations included developing urban-specific methods, such as vertical farming and hydroponics, that account for the impacts of climate, soil, and policy frameworks, as well as responding to local market needs—this form of situated knowledge enabled practitioners to build context-specific problem-solving capacities.

A fifth component was **community engagement**, in which learning emerged through collaborative knowledge construction within social networks. Mentorship played a crucial role, with senior farmers guiding newcomers, while collective initiatives such as community gardens, seed banks, and participatory cooperatives created spaces for decision-making and shared ownership. These activities enhanced resilience, strengthened mutual support, and contributed to the long-term sustainability of practices.

**Emotional and psychological readiness** was equally significant, reflecting the affective dimensions of transformative learning. Participants described the initial fear and hesitation when shifting from chemical to organic methods, yet found that emotional support from peers reduced anxiety and strengthened their commitment. Over time, intrinsic motivation and confidence were cultivated, reinforcing both resilience and long-term dedication to organic farming.

The component of **action and implementation** highlights the movement from learning to behavioural change. Farmers tested new methods cautiously before scaling them up to sustainable levels, gradually embedding organic practices into farm management. These actions also extended to participation in urban organic farming policies, ensuring that learning translated into durable changes in both practice and governance.

Finally, transformative learning culminated in **identity formation**, where learners redefined themselves not merely as farmers but as transformative practitioners and agents of change. Many assumed roles as mentors, trainers, or community leaders, actively promoting organic farming as a pathway to food security and influencing educational, policy, and market behaviours—this redefinition of self-fostered leadership and positioned practitioners as central figures in the broader movement for transformation.

Together, these eight components demonstrate that transformative learning in SKON is not linear but cyclical, adaptive, and deeply embedded in practice, reflection, community, and identity. They collectively illustrate how individual experience connects with collective processes, enabling smallholder farmers to become resilient practitioners and leaders of ecological and social transformation.

## **2. Flowcharts and diagrams: Model of Transformative Learning for Urban Organic Farming Practitioners**

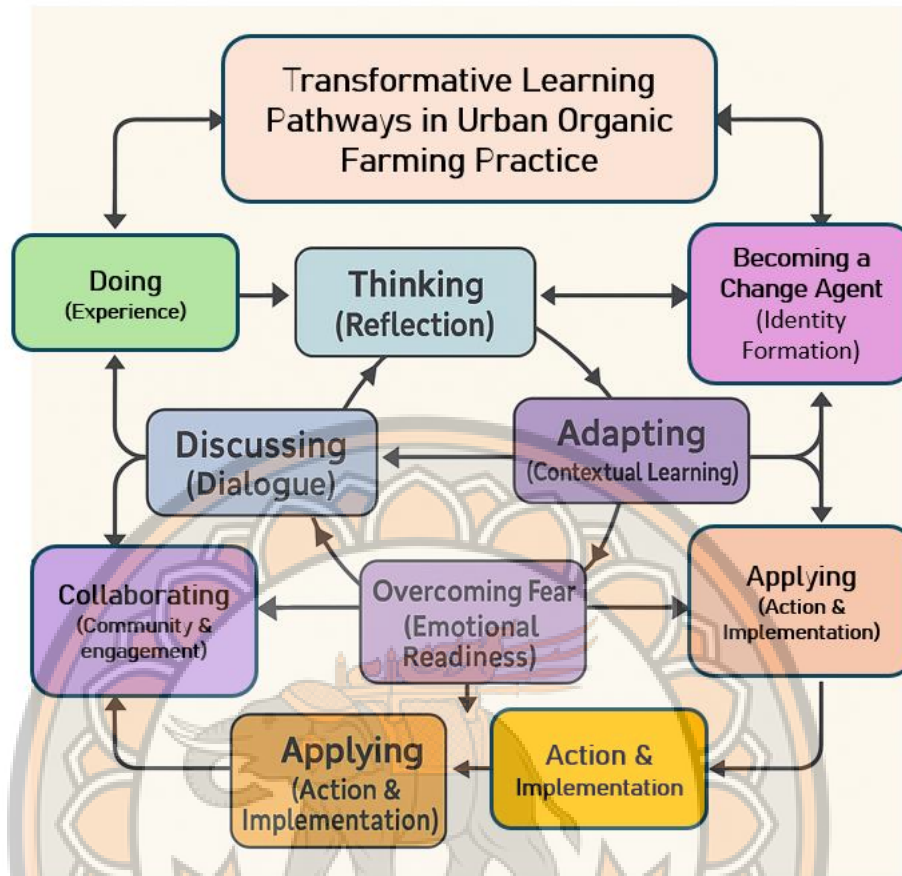
The model of transformative learning developed from this study demonstrates how eight interconnected components shape the learning trajectories of urban organic farming practitioners. These components—doing (experience), thinking (reflection), discussing (dialogue), adapting (contextual learning), collaborating (community engagement), overcoming fear (emotional readiness), applying (action and implementation), and becoming a change agent (identity formation)—do not occur in a

fixed or linear sequence. Instead, they interact dynamically to create an iterative, context-dependent cycle of learning that unfolds in multiple directions.

At its foundation, learning begins through **doing**, where practice generates embodied experience and tacit knowledge. This often leads to **reflection, as participants critically examine successes and failures, question assumptions, and reframe** their perspectives. Such reflection frequently gives rise to **discussion**, where dialogue with peers, mentors, and networks both validates and challenges personal insights, creating opportunities for collective sense-making. From here, practitioners constantly adapt and reshape their practices in response to ecological conditions, economic pressures, and cultural expectations, ensuring that learning is situated in real-world contexts.

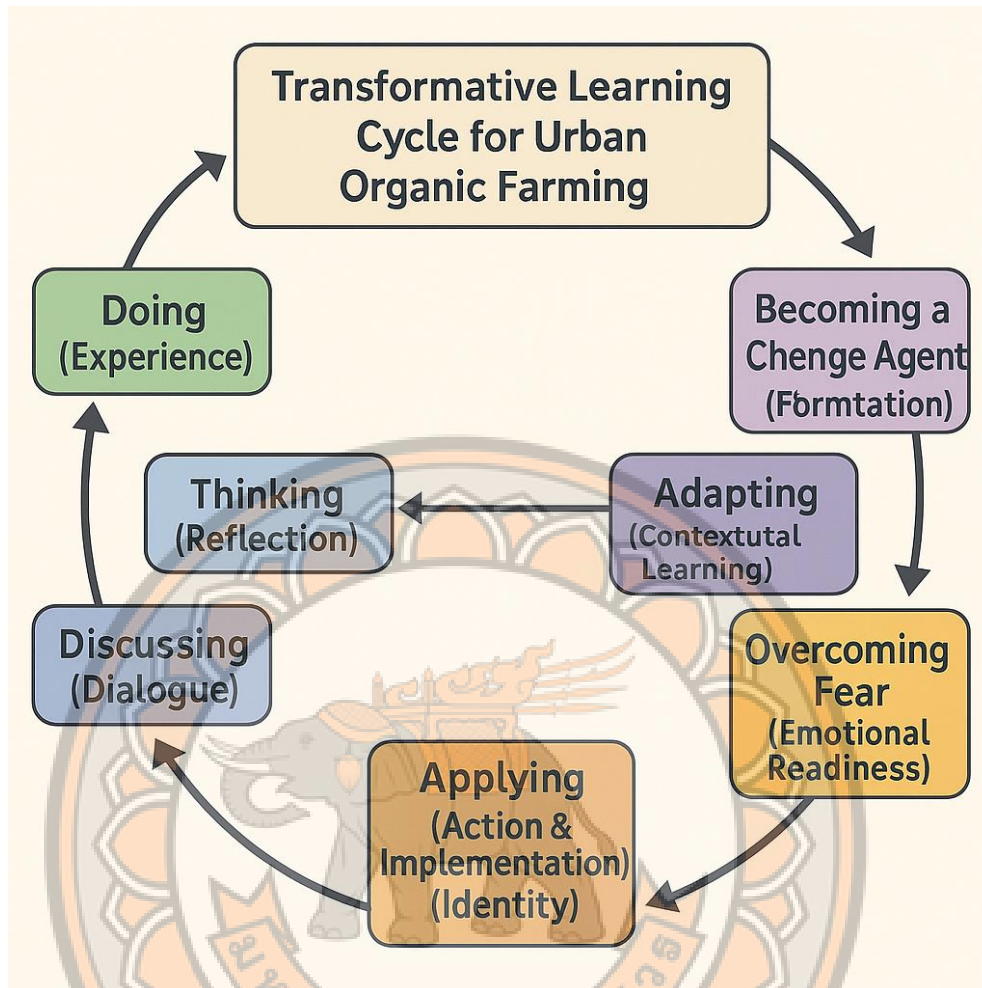
The process is sustained through **collaboration, as participants engage with community networks, cooperatives, and peer-to-peer exchanges that offer mutual support and knowledge-sharing**. Equally significant is the affective dimension of **overcoming fear**, where emotional readiness and resilience enable practitioners to persist despite uncertainty, setbacks, or the risks associated with transitioning away from conventional farming. This readiness underpins the capacity to apply knowledge, translating it into action, behavioural change, and innovation, often progressing from small-scale experiments to broader and more sustainable practices. Over time, these cumulative processes contribute to **becoming a change agent**, as practitioners reconfigure their identities, assume leadership roles, and position themselves as mentors, educators, and advocates for food security and sustainable farming.

Figures 30 (page 135) and 31 (page 138) visualise these insights in complementary ways. Figure 21 (page 92) presents the model as a process flowchart, illustrating the interconnections between components and showing how movement can occur in multiple directions depending on context. Figure 34 (page 134) illustrates this as a cycle, highlighting the non-sequential and continuous nature of transformative learning. Together, these representations underscore that learning in urban organic farming is not a straight path but an ongoing, adaptive cycle shaped by practice, reflection, community, and identity.



**Figure 34 Model of Transformative Learning for Urban Organic Farming Practitioners**

The process flowchart of the Transformative Learning Pathways in Urban Organic Farming. The flowchart illustrates eight interrelated components of transformative learning. Learning trajectories do not follow a fixed order but shift dynamically between experience, reflection, dialogue, adaptation, collaboration, emotional readiness, action, and identity formation. The bidirectional arrows highlight continuous movement and feedback across stages, emphasising the context-dependent and iterative nature of learning. The raw data showed a flowchart that illustrates the transformative learning that has occurred in the SKON, an urban community practising organic farming.



**Figure 35 Cyclical Representation of the Transformative Learning Model**

An Iterative Cycle of the *Transformative Learning Cycle for Urban Organic Farming*: The cycle visualises how eight interlinked components interact continuously to sustain transformative learning among urban organic farming practitioners. Learning is not linear but iterative, where practice, reflection, community collaboration, and identity coevolve within ecological and social contexts.

The iterative Cycle illustrates the transformative learning that has occurred in SKON, an urban community that cyclically practices organic farming. The explanation of the Transformative Learning Flowchart of the Transformative Learning Process in Urban Organic Farming (SOFPs in SKON).

Figure 35 illustrates the Transformative Learning Cycle for Urban Organic Farming Practitioners (SOFPs in SKON). The eight components—**Discussing, Thinking, Doing, Becoming, Applying, Overcoming Fear, Collaborating, and Adapting**—represent recurring elements of the learning process. Rather than unfolding in a fixed, linear sequence, these components interact dynamically in an iterative, **continuous cycle**.

## Transformative Learning Cycle of Smallholder Organic Farming Practitioners (SOFPs) in SKON



**Figure 36 Transformative Learning Cycle of Smallholder Organic Farming Practitioners (SOFPs) in SKON**

Figure 36 presents the *Transformative Learning Cycle* developed from this study, showing eight interconnected components that define how smallholder organic farming practitioners (SOFPs) in SKON experience and sustain transformative learning. The components—**Discussing, Thinking, Doing, Becoming, Applying, Overcoming Fear, Collaborating, and Adapting**—represent recurring and mutually reinforcing dimensions of the learning process.

Learning may begin at any point within the cycle—through dialogue, direct action, collaboration, or emotional engagement—and proceed in multiple directions. The cycle is *non-linear* and *non-consequential*, meaning that learning does not follow a fixed order but shifts fluidly in response to context, challenges, and opportunities. Each component may reappear or overlap as practitioners adapt their knowledge, experiment, and integrate new insights into practice.

This diagram envisions the eight components as part of a **non-linear, iterative, and continuous learning cycle**, where each element dynamically interacts with others. Learning can begin at any point and move fluidly between stages, reflecting the adaptive and context-dependent nature of transformative learning among SOFPs in SKON.

Learning may begin at any point—through discussion, practical action, collaboration, or even confronting fear—and then move fluidly between other components. This cycle is therefore **non-consequential**, meaning it does not follow strict consecutive or non-consecutive stages. Instead, it reflects the lived realities of practitioners, whose learning journeys are shaped by the context, challenges, and opportunities they encounter. The model emphasises that transformative learning among SOFPs is **cyclical, adaptive, and open-ended**, where each component can reappear, overlap, or reinforce others depending on the situation.

**1. Triggering Challenge** → Economic or environmental factors, such as problematic work cultural barriers or health issues, act as catalysts that spark the need for learning and transformation.

**2. Emotional Processing** → Practitioners often experience fear, insecurity, self-doubt, or resistance to change. These emotions represent the initial reactions that must be acknowledged and managed.

**3. Critical Reflection and Discourse** → Through peer-to-peer learning and community dialogues, practitioners critically reassess their assumptions, prior beliefs, and perspectives.

**4. Action and Experimentation** → Practitioners engage in hands-on practice, testing new approaches through trial and error, and gaining insights from direct experiences.

**5. Reintegration and Identity Transformation** → Practitioners begin to adopt new roles, such as becoming mentors or community leaders, leading to a more profound shift in self-identity as agents of change.

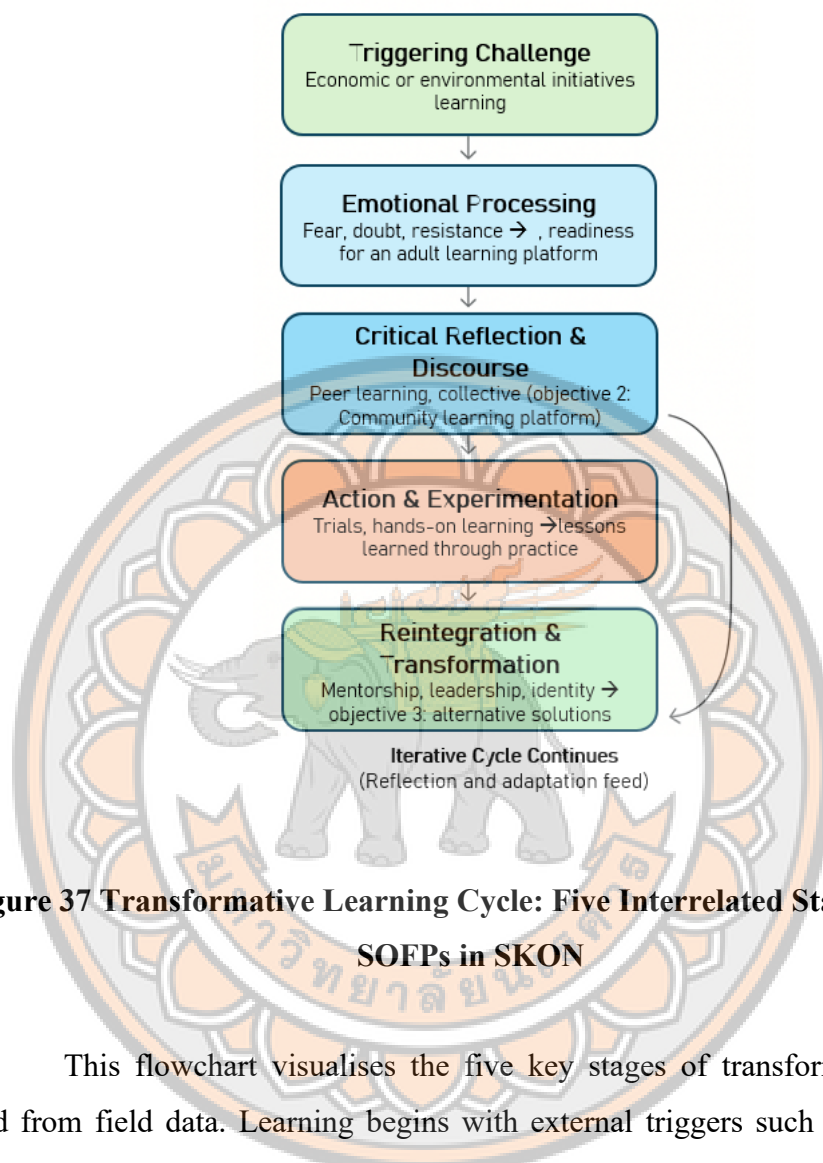
**Key Characteristics of the Flowchart:**

- **Step-by-step structure:** Each stage is numbered (1 to 5) and flows in a precise sequence.
- **Concise explanations:** Each step is described in simple, direct language.
- **Readability and direction:** The flow is presented vertically, with straightforward transitions and easy-to-follow visuals.

In summary, the findings of this chapter demonstrate that the transformative learning process for smallholding organic farming practitioners (SOFPs) in urban contexts is cyclical, adaptive, and community-driven. Unlike the linear progression described by classical Transformative Learning Theory (TLT), learning within the Songkwae Organic Network (SKON) emerges through iterative cycles of practice, reflection, and social participation.

Here is the “*Transformative Learning Cycle*” It is explained in the form of a flowchart model developed from field data, which illustrates the process in five interrelated stages:

**Transformative Learning Cycle: Five interrelated Stages among Smallholding Organic Fractitioners (SOFFs) in SKON**



**Figure 37 Transformative Learning Cycle: Five Interrelated Stages among SOFFs in SKON**

This flowchart visualises the five key stages of transformative learning derived from field data. Learning begins with external triggers such as economic or environmental challenges, followed by emotional and cognitive processes that lead to reflection, experimentation, and eventual transformation. The dashed loop represents the iterative nature of this process—each cycle reinforcing adaptive practice, critical awareness, and community-based mentorship.

This chart illustrates the Transformative Learning Cycle amongst and for urban organic farming practitioners, aligned with your research objectives. It shows how adult learners move through stages of challenge, reflection, and transformation within a community learning platform. Here's the explanation of each stage:

1. **Triggering Challenge (Economic/Environmental Barriers):** External pressures such as personal life insecurity, workplace ethic, policy constraints, market

instability, or climate change act as catalysts that stimulate the need for adaptation. This addresses Objective 1 by identifying the triggers of adult learning.

2. Emotional Processing (Fear, Doubt, Resistance): Practitioners initially respond with hesitation or uncertainty, reflecting the importance of emotional readiness and support structures in sustaining engagement.

3. Critical Reflection & Discourse (Peer Learning, Reassessment): Dialogue within SKON—through peer networks, farmers’ markets, and digital platforms—enables practitioners to question assumptions and co-construct solutions. This directly supports Objective 2, establishing community learning platforms as essential to transformation.

4. Action & Experimentation (Hands-on Practice): Practitioners test new approaches through trial and error, generating experiential lessons and strengthening knowledge through application.

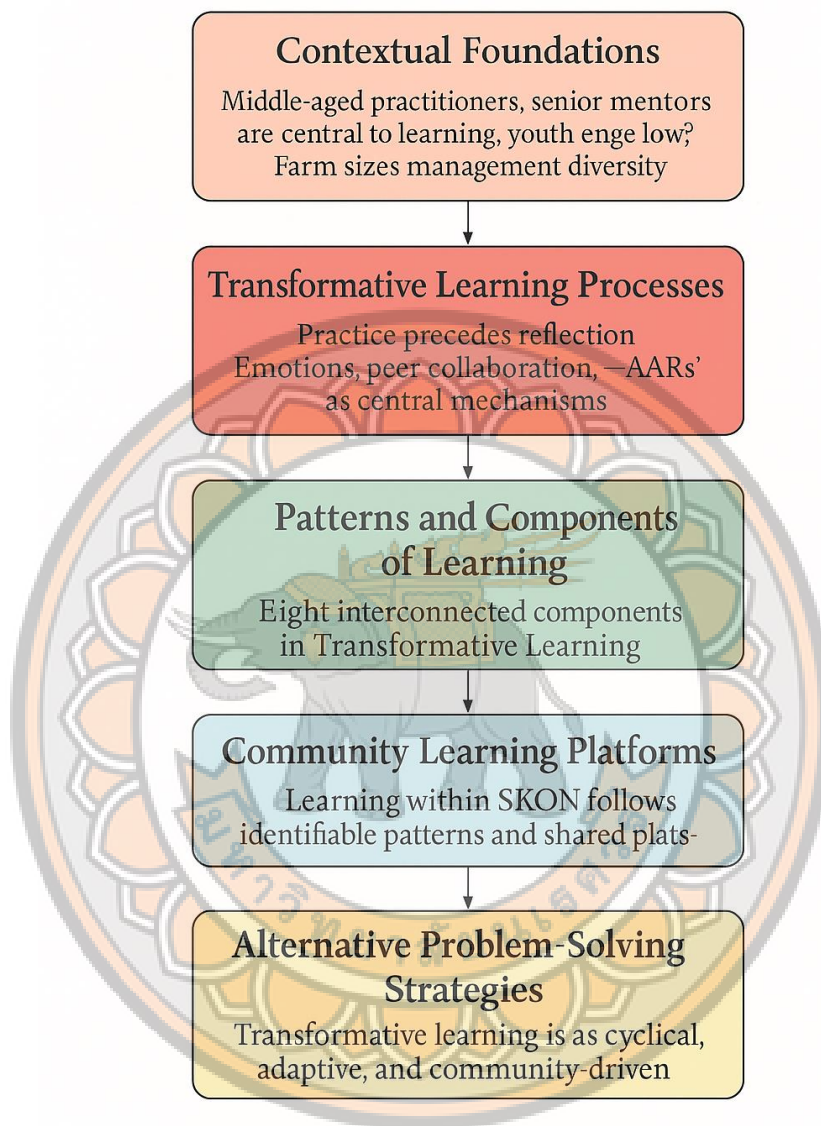
5. Reintegration & Transformation (Identity Shift, Mentorship): Learners integrate new perspectives, assume roles as mentors or leaders, and contribute to broader community resilience. This fulfils Objective 3, identifying alternative solutions through identity transformation and shared responsibility.

This cyclical model shows that triggers initiate learning, emotions shape readiness, dialogue sustains meaning-making, experimentation builds knowledge, and reintegration produces transformative practitioners who extend learning across the community.

### **3. Synthesis of Findings**

Across the four main sections of this chapter, several key insights emerge that collectively explain how transformative learning occurs among smallholding organic farming practitioners (SOFPs) within the Songkwae Organic Network (SKON):

## Synthesis of Findings



**Figure 38 Synthesis of Findings: Transformative Learning among Smallholding Organic Farming Practitioners (SOFPs) in SKON**

This figure synthesises the core findings of the study, illustrating how five interconnected dimensions collectively sustain transformative learning within the Songkwae Organic Network (SKON). Contextual foundations provide the demographic and structural base; transformative learning processes reveal how practice precedes reflection; patterns and components identify the eight key elements driving change;

community learning platforms highlight the social and philosophical underpinnings of learning; and alternative problem-solving strategies demonstrate the cyclical, adaptive nature of transformation. Together, these dimensions converge in the core category—*Transformative Learning through Organic Farming Practices*—representing a dynamic and community-driven model of learning.

**1. Contextual Foundations (see Page 61: Overview of the findings):**

Middle-aged practitioners are the primary drivers of SKON’s learning activities, supported by senior members who play crucial intergenerational mentoring and networking roles. Youth participation, however, remains critically low, highlighting a demographic imbalance in knowledge transfer. The diversity of farm types and management approaches reflects the multiplicity of learning spaces within SKON, ranging from experiential to entrepreneurial models.

**2. Transformative Learning Processes (see Page 80: Transformative Learning Process):**

While Mezirow’s ten stages of Transformative Learning provide a useful analytical lens, the findings reveal that SOFPs often *learn through practice before reflection*. Emotional experiences, peer collaboration, and structured reflection tools such as After-Action Reviews (AARs) play central roles in facilitating transformation. Learning within SKON thus unfolds as a *situated and communal* process rather than an individual cognitive progression.

**3. Patterns and Components of Learning (see Page 91: Patterns and Components of Learning):**

The analysis identifies eight interconnected components—**experience, social learning, reflection, adaptation, emotional readiness, knowledge acquisition, action, and reintegration**—that collectively form the core category, *Transformative Learning through Organic Farming Practices*. These components illustrate how learning is an iterative and embodied process, linking individual agency with collective practice.

**4. Community Learning Platforms (see Page 127: Community Learning Platforms):**

Learning within SKON is structured through identifiable patterns and shared platforms, rather than occurring randomly. Roles such as facilitators, mentors,

and coordinators, along with shared philosophies of sufficiency and sustainability, shape the organisation of knowledge exchange and strengthen community-based learning networks.

#### **5. Alternative Problem-Solving Strategies (see Page 131: Alternative Problem-Solving Strategies)**

The adaptive flowchart model, developed from field data, visualises how practitioners approach dilemmas as part of a cyclical problem-solving process, rather than isolated events. Through iterative cycles of reflection, experimentation, and reintegration, learners evolve into mentors, community leaders, and transformative agents who sustain learning within and beyond SKON.

#### **4. Integrative Summary**

Together, these findings demonstrate that transformative learning among SOFPs is a **cyclical, adaptive, and community-driven process**. It differs fundamentally from linear models of learning by integrating emotion, reflection, practice, and social engagement within dynamic, context-specific cycles. SKON thus functions not only as a farming network but as an evolving community learning ecosystem that continuously generates new knowledge, resilience, and leadership.

#### **Summary and Conclusion**

This chapter presents the study's findings, organised around the three research objectives. It draws together the multiple strands of evidence to show how transformative learning unfolds among smallholding organic farming practitioners (SOFPs) in the Songkwae Organic Network (SKON).

For **Objective 1**, the analysis revealed that adult learning platforms are grounded in hybrid practices that weave together on-farm experiential learning, intergenerational exchange, reflection-in-action, and digital platforms. These findings underscore that learning is not confined to formalised training but is deeply embedded in everyday practice, personal motivations, community participation and role selection. The results further highlighted that learning contexts operate at both the individual and situational level: personal contexts were shaped by health concerns, career shifts, family heritage, and independent learning, while situational contexts included ecological challenges, geographical relocation, and collective engagement through networks and

markets. The interaction of these contexts creates a dynamic, adaptive environment that supports both self-directed learning and collaborative knowledge construction.

For **Objective 2**, the findings demonstrated that the establishment of a community learning platform must reflect the heterogeneity of roles, farm sizes, and philosophies within SKON. Participants moved beyond their original professional backgrounds to adopt hybrid roles such as market designers, ecological restorers, activist-educators, herbal medicine practitioners, and seed savers. Farm owners, workers, entrepreneurs, and consumers contributed at different layers of knowledge exchange. Community learning was sustained through both outward-facing cooperative practices and inward, household-based adaptations, producing a community of practice that blends tacit, experiential, traditional, and formalised knowledge. The results also highlighted the importance of peer support, emotional readiness, and resilience, demonstrating that competence and confidence are developed iteratively through cycles of trial, error, and encouragement.

For **Objective 3**, the study found that practitioners engaged in alternative problem-solving through cyclical and adaptive learning processes. Situational challenges, such as drought, soil degradation, market instability, succession issues, and policy constraints, triggered reflection, experimentation, and the reintegration of new practices. These adaptive cycles were reinforced by community dialogue, digital platforms, and exposure to global models such as Scottish crofting, which inspired context-sensitive solutions for resilience and continuity. Notably, the findings reveal that learning is a non-linear and cyclical process, unfolding through eight interrelated components: experience, reflection, dialogue, contextual adaptation, community engagement, emotional readiness, action and implementation, and identity formation. Together, these form an iterative cycle that is directly integrated into the Hybrid Transformative Learning Model (HTLM), bridging Mezirow's theory with grounded, situated, and affective dimensions of practice.

Taken together, the findings highlight that learning within SKON is transformative, hybrid, and contextually grounded. It is shaped by dilemmas, embedded in practice, and reinforced through community support, digital tools, and cultural heritage. Policy implications emerging from the study suggest that interventions should act as enablers rather than directives, supporting infrastructure, financial access, and

curriculum recognition while preserving the autonomy of local mechanisms. These insights provide the foundation for building sustainable learning systems that support both individual transformation and collective resilience.

The next chapter (Chapter 5 – Discussion) interprets these findings in relation to Transformative Learning Theory, Situated Learning, and Adaptive Knowledge Systems, and elaborates how the Hybrid Transformative Learning Model contributes to theory, practice, and policy for smallholder organic farming communities.

### **Transition to Chapter 5**

Chapter 4 has presented the research findings, outlining the key learning patterns, hybrid roles, and adaptive practices of smallholding ecological organic farming practitioners within the Songkwae Organic Network (SKON). The results demonstrated how personal and situational contexts shape transformative learning, how community-driven practices sustain continuity, and how challenges such as ecological pressures, market fluctuations, and policy gaps stimulate cycles of experimentation and adaptation. These insights revealed that learning in SKON is a hybrid, non-linear, and iterative process, unfolding across experiential, reflective, dialogical, and community-based activities that culminate in identity transformation.

Building on these findings, Chapter 5 moves into the discussion. It interprets the results in relation to the research questions and objectives, drawing on Transformative Learning Theory (TLT), Constructivist Grounded Theory (CGT), and community-based learning frameworks. This chapter examines how the Hybrid Transformative Learning Model (HTLM) synthesises these perspectives, and it explores the broader implications of the study, highlighting theoretical contributions, policy relevance, and practical lessons for supporting smallholding organic farming communities.

## **CHAPTER V**

### **DISCUSSION**

This chapter interprets and contextualises the findings presented in Chapter 4. Whereas Chapter 4 focused on documenting empirical observations of transformative learning practices among smallholding ecological organic farming practitioners (SOFPs), this chapter advances the analysis by examining the theoretical, analytical, and practical implications of those findings. In doing so, it situates the results within broader debates on Transformative Learning Theory (TLT) and contributes to the design and understanding of urban community learning platforms in smallholder organic farming contexts.

The discussion is organised into ten interrelated parts. In the first part (pages 160-162), Linking Back to Research Objectives and Questions. Part Two (pages 162-165), Transformative Learning Theory (TLT): Confirmation and Challenges. Part Three (pages 166-169), The Songkwae Organic Network (SKON) as Case Evidence. Part Four (pages 169-171), Complementary Insights: Thailand and Scotland. Part Five (pages 171-176), The Hybrid Transformative Learning Model (HTLM). Part Six (pages 177-192), Practical, Policy, and Curriculum Implications. Part Seven (pages 192-199), Implications of the Study. Part Eight (pages 200-208), Complementary Studies. Part nine (pages 209-215), Analytical Summary. Finally, the transitions to Chapter 6 (page 215), which concludes the study and outlines recommendations for future research, policy development, and practical implementation.

Through this structure, the chapter demonstrates how the grounded theory generated by this study extends existing understandings of transformative learning, refines the application of TLT in community-based agroecological contexts, and offers context-specific recommendations for strengthening urban community learning platforms for smallholding ecological organic farming practitioners and related fields.

### Linking Back to Research Objectives and Questions

The research outputs directly address the study's objectives by providing an empirically grounded explanation of how smallholding ecological organic farming practitioners (SOFPs) learn, adapt, and transform within hybrid community environments. The findings illuminate the processes through which practitioners engage with experiential learning, reflective dialogue, ecological feedback, peer support, and digital–physical participation. These insights led to the development of the Hybrid Transformative Learning Model (HTLM), which captures the multi-layered learning mechanisms operating within smallholder contexts.

Through systematic coding and theoretical sampling, each research objective—understanding learning processes, identifying the functions of community platforms, clarifying facilitation roles, and specifying enabling conditions—was fully met. The findings thus demonstrate how community-based learning, digital communication, and ecological practice collectively enable transformative learning, meeting the objectives with conceptual depth and practical clarity.

Two research questions and three objectives guided the study:

- **Research Question 1:** *What are the core elements of transformative learning among SOFPs in the case of SKON?*
- **Research Question 2:** *How can a community learning platform be developed to support such transformative learning?*
- **Objective 1:** Investigate adult learning platforms to develop transformative learning for organic farming practitioners.
- **Objective 2:** Establish a community learning platform for urban organic farming practitioners.
- **Objective 3:** Identify alternative solutions based on lessons learned from a community adult learning platform module for transformative practitioners.

The findings presented in Chapter 4 demonstrate that transformative learning in SKON is characterised by community-based participation, reflection-in-action, adaptive practice, and cyclical, non-linear learning embedded in ecological and cultural contexts. These elements directly answer Research Question 1.

For Research Question 2, the analysis illustrates that effective community learning platforms must be collective, practice-oriented, and adaptive. The proposed

Hybrid Transformative Learning Model (HTLM) provides a framework for understanding how such platforms can integrate mentorship, ecological responsiveness, and long-term cycles of knowledge exchange.

The three objectives are therefore achieved:

- **Objective 1** is met by identifying how SKON functions as an adult learning environment that blends experiential, digital, and community-based practices.
- **Objective 2** is fulfilled through the conceptualisation of SKON as a model of community-driven learning, operationalised in the HTLM framework.
- **Objective 3** is addressed by presenting alternative pathways such as peer-to-peer mentoring, adaptive and non-linear learning, and the embedding of knowledge in cultural and ecological systems.

Having established this alignment between the research questions, objectives, and findings, the next section engages Transformative Learning Theory to interpret where the SKON evidence confirms, extends, and challenges its assumptions.

### **Transformative Learning Theory (TLT): Confirmation and Challenges**

Transformative Learning Theory (TLT), developed by Jack Mezirow (1991b), remains a foundational framework in adult education. It emphasises rational reflection, critical discourse, and cognitive reframing as mechanisms through which adults transform their perspectives (Cranton, 2016; Taylor, 2007). While influential, TLT emerged largely from formal education and professional development contexts (Brookfield, 2011), which limits its capacity to explain learning situated in ecological, community-based, and practice-driven environments.

Findings from SKON both affirm and challenge core assumptions of Transformative Learning Theory (TLT). Although elements of Mezirow's theory appear clearly in practitioners' experiences, transformative learning in smallholding ecological organic farming is far more relational, embodied, contextual, and ecologically responsive than TLT alone anticipates. Rather than being driven by emotionally disruptive dilemmas or overt conflict, learning in SKON is sustained through emotionally regulated, trust-based participation.

At the social level, these learning processes function as mechanisms of social development by strengthening collective agency, intergenerational continuity, and community resilience. Through emotionally regulated interaction, long-term cooperation is sustained, intergenerational trust is reinforced, and collective action becomes possible without reliance on confrontation or social rupture. In agroecological community contexts, such capacities form the foundation of social development by sustaining shared practices, inclusive participation, and adaptive resilience over time.

This finding reflects wider scholarly critiques that transformative learning in agriculture and sustainability contexts requires greater emphasis on experience, social interaction, and ecological engagement (Illeris, 2018; Pretty & Bharucha, 2014; Anderson, Maughan & Pimbert, 2019; Horner et al., 2021; Charatsari et al., 2022; Farooq, 2023).

### **1. Areas of Confirmation**

Critical reflection and discourse remain central mechanisms of learning. SKON practitioners routinely questioned assumptions regarding farming methods, soil management, planting decisions, and market conditions. These reflections often occurred through peer dialogue, confirming Mezirow's proposition that critical discourse is essential for transformative meaning-making (Taylor, 2007).

Perspective transformation occurred across multiple participants. Several participants described identity shifts—from consumer to producer, from novice to mentor, or from individual grower to community leader—aligning with Mezirow's notion of changing frames of reference (Mezirow, 1991b). These findings echo other studies where agroecological practitioners adopt new ecological, ethical, and community-oriented identities (Horner, 2021; Otieno, 2023).

### **2. Challenges to TLT in SKON**

Despite these alignments, the SKON findings reveal four key limitations of TLT in practice-driven agricultural contexts.

#### **2.1 Reflection-in-action rather than after-action**

TLT prioritises retrospective reflection, yet SKON practitioners engaged heavily in *reflection-in-action*—adjusting irrigation, responding to pest outbreaks, or modifying techniques in real time. This aligns with critiques that TLT underrepresents immediacy and practice-based reflection-in-action (Sarısaltık, 2024).

## 2.2 Emotion as a catalyst for learning

Emotion played a central role in transformation: fear of crop failure, anxiety over drought, pride in successful yields, and frustration during ecological uncertainty. These emotional triggers often preceded cognitive change, reinforcing critiques that TLT underemphasises affective dimensions of learning (McClain, 2024).

## 2.3 Transformation as collective—not individual

Learning in SKON was embedded in peer networks, community norms, and reciprocal care. Knowledge was validated socially through discussion, trust, and credibility mechanisms (e.g., PGS). This confirms critiques that transformative learning in agroecology is inherently collective (Anderson et al., 2019; Misanya et al., 2023), challenging TLT's individual-centric focus.

## 2.4 Ecology as constitutive—not contextual

TLT treats environmental factors as background context, but in SKON, ecological realities—soil quality, water availability, seasonal cycles, climatic risks—were active drivers of learning. This supports global findings that ecological systems shape learning pathways in food sovereignty and agroecological transitions (Pretty & Bharucha, 2014; Rivera-Ferre, 2021).

To synthesise why TLT is necessary but insufficient. Collectively, these findings show that while TLT offers a valuable starting point for understanding reflection and perspective change, it cannot, on its own, account for the embodied, ecological, emotional, and community-driven learning observed in SKON. This echoes broader calls for hybrid or integrative approaches to adult learning in sustainability, agroecology, and community development (Charatsari, 2022; Cooreman et al., 2021; Lange, 2019).

Transformative learning among SKON practitioners is:

- **Embodied** — grounded in daily physical work;
- **Collective** — co-constructed through peer mentoring and reciprocity;
- **Ecologically situated** — shaped by environmental feedback;
- **Emotionally driven** — motivated by affective responses;
- **Iterative and non-linear** — unfolding across seasons and experience.

These characteristics point toward the need for the Hybrid Transformative Learning Model (HTLM), introduced in the next section, which integrates cognitive, social, and ecological dimensions to more fully explain transformation in smallholder organic farming.

### **3. Conflict, Social Drama, and Emotional Processes in Thai Community Learning Contexts**

Classical formulations of Transformative Learning Theory often emphasise emotionally intense disorienting dilemmas, open conflict, or moments of social rupture as catalysts for transformation. However, findings from the Songkwae Organic Network suggest that such dynamics are neither prominent nor necessary in the Thai community learning context. While challenges and disagreements do occur, they are rarely expressed through overt conflict or public social drama. Instead, emotional processes are managed through indirect communication, relational sensitivity, and a strong cultural preference for harmony and face-saving.

In Thai social contexts, learning-related tension is often diffused through humour, silence, gradual withdrawal, or quiet negotiation rather than confrontation. Emotional change therefore unfolds subtly through reassurance, encouragement, trust-building, and repeated participation in shared practice. Transformation emerges not from emotional rupture, but from emotional regulation and continuity. This cultural pattern helps explain why learning in SKON progresses without dramatic crises while still producing deep shifts in identity, confidence, and practice.

These findings challenge universalist assumptions within Transformative Learning Theory that position conflict and emotional drama as necessary conditions for transformation. Instead, they suggest that culturally embedded emotional processes—particularly those shaped by collectivist values and relational ethics—can sustain transformative learning through cumulative, practice-based, and socially moderated pathways.

### **4. Rethinking Emotional Triggers and Social Drama in Transformative Learning**

While Transformative Learning Theory has traditionally emphasised emotionally intense disorienting dilemmas and moments of social rupture as catalysts for perspective transformation, the findings from SKON suggest a different pathway. In

this study, transformative learning often occurred in the absence of overt emotional triggers or social drama. Participants did not describe crisis events or dramatic conflicts as central to their learning. Instead, transformation emerged gradually through sustained practice, relational support, and repeated engagement with ecological challenges.

Emotional processes were present, but they operated in subtle and stabilising ways—such as reassurance, encouragement, and the development of confidence—rather than through disruption or confrontation. This suggests that in community-based agroecological contexts, transformative learning may be driven more by emotional regulation and continuity than by emotional rupture. These findings challenge trigger-centric interpretations of TLT and support calls to reconceptualise transformation as a cumulative, practice-based, and socially embedded process.

### **The Songkwae Organic Network (SKON) as Case Evidence**

The Songkwae Organic Network (SKON) in Phitsanulok Province provides a rich empirical foundation for understanding transformative learning in community-driven, practice-based agroecological systems. Unlike formal agricultural training programmes—which often rely on top-down instruction—SKON operates as a *living learning platform*, shaped by ecological rhythms, daily routines, cultural norms, and peer interaction. The findings demonstrate that transformative learning among smallholding ecological organic farming practitioners (SOFPs) is fundamentally collective, iterative, and situated within the socio-ecological realities of local agricultural life.

Drawing from the interview and observational data, five interconnected learning characteristics define the SKON ecosystem.

#### **1. Community-Based Learning**

Knowledge in SKON emerges through relational processes rather than hierarchical teaching. Peer networks—composed of experienced farmers, community leaders, novice growers, and informal mentors—function as a distributed learning infrastructure. Rather than relying on formal instruction, practitioners cultivate knowledge through conversation, shared dilemmas, mutual support, and social validation. As one participant reflected:

... I want to learn with someone else.

(11311, Round 3, Interviewer, 15 March 2025)

...A turning point came when my health problems forced me to rethink everything, from what I eat to how I farm.

(01111, Round 1, Interviewer, 1 January 2023)

...The group has to be ledged by me and to help them to think and seek what is wrong with our community.

(08311, Round 2, Interviewer, 3 September 2024)

This resonates with global findings that agroecological learning is inherently social, embedded in communities of practice and sustained through cooperation and reciprocity (Anderson et al., 2019; Pretty & Bharucha, 2014).

## **2. Practice-Oriented Knowledge**

SKON practitioners learn primarily through experimentation and embodied interaction with their farms. Trial and error, ecological observation, and iterative adjustment form the backbone of knowledge development. This practical wisdom is continuously refined through direct engagement with soil, water, seeds, pests, and seasonal conditions. Many participants mentioned the similar word and situation:

...Every mistake became a lesson.

(15111, Round 1, Interviewer, 4 August 2023; 29211, Round 1, Interviewer, 29 November 2023; 20111, Round 2, Interviewer, 27 September 2024)

Learning is therefore emergent and experiential, echoing critiques that formal adult learning theories often understate the significance of embodied, practice-based knowledge (Farooq, 2023; Illeris, 2018).

### 3. Reflection-in-Action

Unlike formal reflection structures, which emphasise retrospective evaluation, SKON practitioners engage heavily in *reflection-in-action*. Farmers evaluate the consequences of their actions in real time, adjusting irrigation methods, responding to pest outbreaks, or improvising soil treatments based on immediate feedback. This dynamic aligns with adaptive learning literature that frames agricultural knowledge as responsive, situated, and ecologically contingent (Horner, 2021). One participant described this ongoing evaluative process:

...I don't know organic and think it won't work. But then *Ajahn* (the interviewee means the owner of the farm that she is working on.) told me, So I learn.

(15122, Round 3, Interviewer, 25 March 2025)

...You learn while doing, and then you think about why it worked or why it didn't.

(22111, Round 1, Interviewer, 15 August 2023)

...The more you talk and do at the same time, is the more you realised what is wrong and needed fix.

(08311, Round 3, Interviewer, 9 March 2025)

Reflection is therefore embedded in action itself, shaping the continuous evolution of practice.

### 4. Adaptive and Cyclical Learning

Learning in SKON unfolds through iterative cycles linked to seasonal rhythms, environmental changes, and market fluctuations. Each new growing season brings renewed opportunities for experimentation, error correction, and technique refinement. The cyclical nature of farming creates a recursive learning environment where past experiences inform future decisions. Through this pattern, practitioners develop a capacity for ecological responsiveness—what the Adaptive Knowledge

Systems (AKS) perspective describes as learning driven by feedback loops between humans and their environments (Gunderson & Holling, 2002).

### 5. Identity, Values, and Cultural Embeddedness

Learning in SKON is deeply tied to practitioners' evolving identities and moral commitments. Being an “organic farmer” encompasses not only technical practices but also values relating to ecology, health, community care, and sufficiency. Many practitioners framed their learning as a moral reorientation toward healthier living, responsibility to the land, or commitment to community well-being. These identity-based transformations reinforce the idea that transformative learning in agricultural settings is as effective and ethical as it is cognitive (Otieno, 2023; Rivera-Ferre, 2021).

### 6. Learning Through Trust, Credibility, and Social Cohesion

Trust-based interactions form the social foundation of learning in SKON. Credibility testing—where practitioners validate knowledge through observation, reputation, and collective verification—creates a shared system of quality assurance that supports both learning and community cohesion. The emphasis on trust and mutual respect aligns with Situated Learning Theory's emphasis on legitimacy, identity, and participation within social groups (Lave & Wenger, 1991).

To synthesise why SKON provides a strong empirical foundation for HTLM. These six characteristics demonstrate that transformative learning among SOFPs is:

- **collective** (distributed across peer networks);
- **embodied** (rooted in physical, ecological interaction);
- **adaptive** (responsive to environmental signals);
- **value-driven** (shaped by cultural and ethical orientations);
- **iterative and cyclical** (linked to ecological time);
- **situated** (embedded in place, identity, and practice).

These findings directly informed the construction of the Hybrid Transformative Learning Model (HTLM), which integrates TLT, SLT, and AKS to explain why SKON's learning system is simultaneously reflective, participatory, adaptive, and emotionally grounded. SKON therefore serves not merely as a case study,

but as the empirical engine through which the theoretical advancement of HTLM was developed.

This section serves as a bridge to the next, which introduces the HTLM as the conceptual synthesis of the learning dynamics observed in SKON.

### **Complementary Insights: Thailand and Scotland**

The findings from Thailand and Scotland present complementary perspectives on how smallholding practitioners construct and sustain transformative learning within distinct socio-ecological systems. Rather than comparing the two contexts, this section emphasises how both contribute to a *shared understanding of situated transformation* — one that bridges cultural, structural, and ecological differences through common learning dynamics. These cross-contextual insights confirm that the Hybrid Transformative Learning Model (HTLM) serves as an adaptable, integrative framework that explains how learning emerges from *experience, reflection, geographical condition, and social interaction* across diverse environments.

In Thailand, the Songkwae Organic Network (SKON) embodies a collective and community-driven model of learning. Transformation occurs through iterative practice cycles that combine *hands-on experience, group reflection, and adaptive problem-solving*. Learning is intertwined with cultural values such as *mutual dependence, sufficiency, and moral responsibility toward the land*. The After-Action Review (AAR) process enables practitioners to critically reflect on their actions and outcomes, translating daily experience into adaptive strategies. Transformation, therefore, is not a singular cognitive event but a continuing negotiation between individual initiative and collective wisdom, producing what may be described as a “living learning ecology.” However, these processes are often challenged by *limited institutional support, bureaucratic policy structures, and market volatility*, underscoring the need for community learning platforms that strengthen horizontal linkages between practitioners and external stakeholders.

In Scotland, smallholding and community-based enterprises such as *MacLeod Organics, Laikenbuie Ecology Trust, Black Isle Veg Box, Black Isle Brewery: Market Garden, and Glachbeg Farm: The Education and Social Care Farm* reveal similar dynamics of practice-based reflection and ecological adaptation. Participants

consistently described learning as *embodied, social, and responsive to the land*, where observation and experience serve as the foundation for innovation. The statement that “*the land tells you what to do if you listen*” captures the essence of ecological reflexivity within the learning process. Peer mentorship, cooperative working, and some vague dependence on partnerships with institutions such as *Highlands and Islands Enterprise (HIE)* fostered relational learning structures that mirror SKON’s facilitation system. Here, however, transformation is expressed through autonomous experimentation and self-directed reflection rather than collective obligation, illustrating how social and institutional contexts shape the balance between independence and interdependence in learning systems.

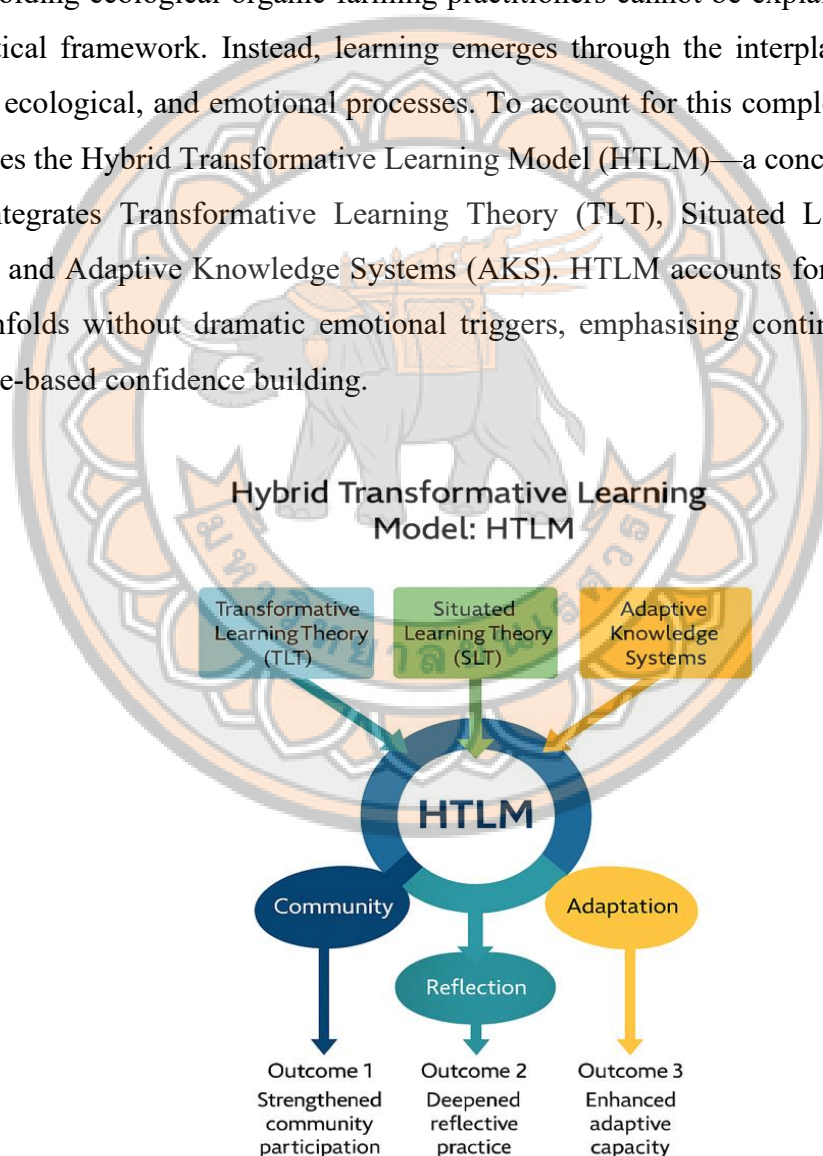
Taken together, these complementary cases demonstrate that transformative learning in smallholding practice is a universal yet contextually adaptive phenomenon. In Thailand, collective resilience arises from shared reflection and communal identity; in Scotland, resilience stems from autonomy within networks of mutual support. Both contexts reveal that transformation depends on *the recursive interplay between ecological feedback, social learning, and moral agency*. The HTLM thus functions as a flexible interpretive framework that transcends cultural boundaries while respecting contextual specificity. In each setting, learning platforms evolve as *adaptive systems*, continually reconfigured through environmental challenges, social cooperation, and ethical intention. These findings affirm that sustainable transformation emerges not from uniform methods but from situated processes of experience, reflection, and collective meaning-making—the essential elements of the Hybrid Transformative Learning Model.

Taken together, both cases confirm that transformative learning is most effective when it occurs at the intersection of ecological practice, social reflection, and moral purpose. In Thailand, collective practice sustains transformation through communal identity and shared struggle; in Scotland, transformation is sustained through autonomous reflection within supportive community networks. These variations illustrate that the HTLM is not a prescriptive model but a *flexible interpretive framework* capable of explaining diverse forms of adult learning in ecological contexts. Both cases also demonstrate that learning platforms function as adaptive systems — constantly reconfigured through feedback between individual initiative, community participation,

and environmental conditions. Thus, the cross-context comparison reinforces that sustainable transformation in smallholding practice depends not on universal methods but on contextually embedded processes that integrate experience, reflection, and relational learning.

### The Hybrid Transformative Learning Model (HTLM)

The findings from SKON demonstrate that transformative learning among smallholding ecological organic farming practitioners cannot be explained by a single theoretical framework. Instead, learning emerges through the interplay of cognitive, social, ecological, and emotional processes. To account for this complexity, this study proposes the Hybrid Transformative Learning Model (HTLM)—a conceptual synthesis that integrates Transformative Learning Theory (TLT), Situated Learning Theory (SLT), and Adaptive Knowledge Systems (AKS). HTLM accounts for transformation that unfolds without dramatic emotional triggers, emphasising continuity, trust, and practice-based confidence building.



**Figure 39 A simple model diagram of the Hybrid Transformative Learning Model (HTLM)**

The diagram of Hybrid Transformative Learning Model (HTLM), visually represents the theoretical integration that forms the foundation of your study.

HTLM illustrates how transformative learning unfolds as a dynamic, multi-dimensional process, shaped simultaneously by reflective meaning-making, social participation, ecological feedback, and iterative adaptation. The model captures the distinctive features of learning in smallholder organic farming contexts and provides a framework for designing community learning platforms that can sustain long-term transformation.

## **1. Theoretical Foundations of HTLM**

### **1.1 Transformative Learning Theory (TLT) – Cognitive and Affective Transformation**

TLT contributes the understanding that adult learning involves shifts in perspective through critical reflection, discourse, and meaning-making (Mezirow, 1991b; Cranton, 2016; Taylor, 2007). However, findings from SKON show that emotional triggers, identity shifts, and moral commitments play significant roles in transformation—extending TLT toward more affective and relational dimensions (Illeris, 2018; McClain, 2024).

### **1.2 Situated Learning Theory (SLT) – Social Participation and Community Membership**

SLT frames learning as a social process embedded within communities of practice (Lave & Wenger, 1991). SKON exemplifies this: newcomers learn through participation, observation, peer validation, and shared routines. Legitimacy, identity-building, and social cohesion all shape how knowledge is negotiated and adopted.

### **1.3 Adaptive Knowledge Systems (AKS) – Ecological Responsiveness and Iteration**

AKS emphasises learning that emerges through dynamic feedback loops between humans and their environments (Gunderson & Holling, 2002). This is central to smallholder farming. In SKON, ecological signals—soil moisture, pest cycles, seasonal shifts—serve as active agents in learning, requiring farmers to adapt and recalibrate decisions recursively.

HTLM integrates these three traditions to produce a holistic explanation of transformative learning in ecological organic farming contexts.

## 2. Core Dimensions of HTLM

The Hybrid Transformative Learning Model is organised into four interdependent learning dimensions that emerged from the data.

### 2.1 Reflective–Cognitive Dimension

Learning involves continuous meaning-making as practitioners interpret experiences, question assumptions, and revise mental models. Reflection-in-action—adjusting practices in real time—is central, advancing beyond TLT’s focus on retrospective reflection.

### 2.2 Social–Participatory Dimension

Learning unfolds within community networks that enable mentoring, modelling, credibility testing, and collective problem-solving. Social trust, identity, and group norms shape what counts as valid knowledge.

### 2.3 Ecological–Adaptive Dimension

Learning is shaped by direct interaction with ecological systems. Seasonal cycles, landscape variability, soil feedback, and environmental constraints require iterative adaptation. These ecological feedback loops drive continuous transformation.

### 2.4 Emotional–Identity Dimension

Emotions such as fear, frustration, pride, and commitment influence motivation, risk-taking, and resilience. Identity shifts—toward becoming a mentor, farmer, or ecological steward—reinforce learning trajectories.

Each dimension interacts dynamically with the others, demonstrating that transformation emerges from the integration rather than isolation of these processes.

## 3. Intertemporal Learning Synchrony

A distinctive insight from the findings is the concept of Intertemporal Learning Synchrony: learning unfolds across multiple overlapping timeframes—daily routines, seasonal adjustments, and multi-year transformations.

This creates a system where:

- beginners learn from experienced farmers,
- intermediate practitioners refine techniques season by season,
- experts continue experimenting and modelling adaptive behaviour.

These asynchronous yet interconnected timelines collectively maintain the community's learning ecosystem. The synchrony among different learners produces a rhythm or cadence of knowledge circulation, maintaining continuity across seasons and generations. At the top, three major theories feed into the central concept of HTLM:

- **Transformative Learning Theory (TLT)** – focuses on reflection and perspective transformation.
- **Situated Learning Theory (SLT)** – emphasises participation, mentoring, and learning through social interaction.
- **Adaptive Knowledge Systems (AKS)** – highlights adaptation, experimentation, and ecological responsiveness.

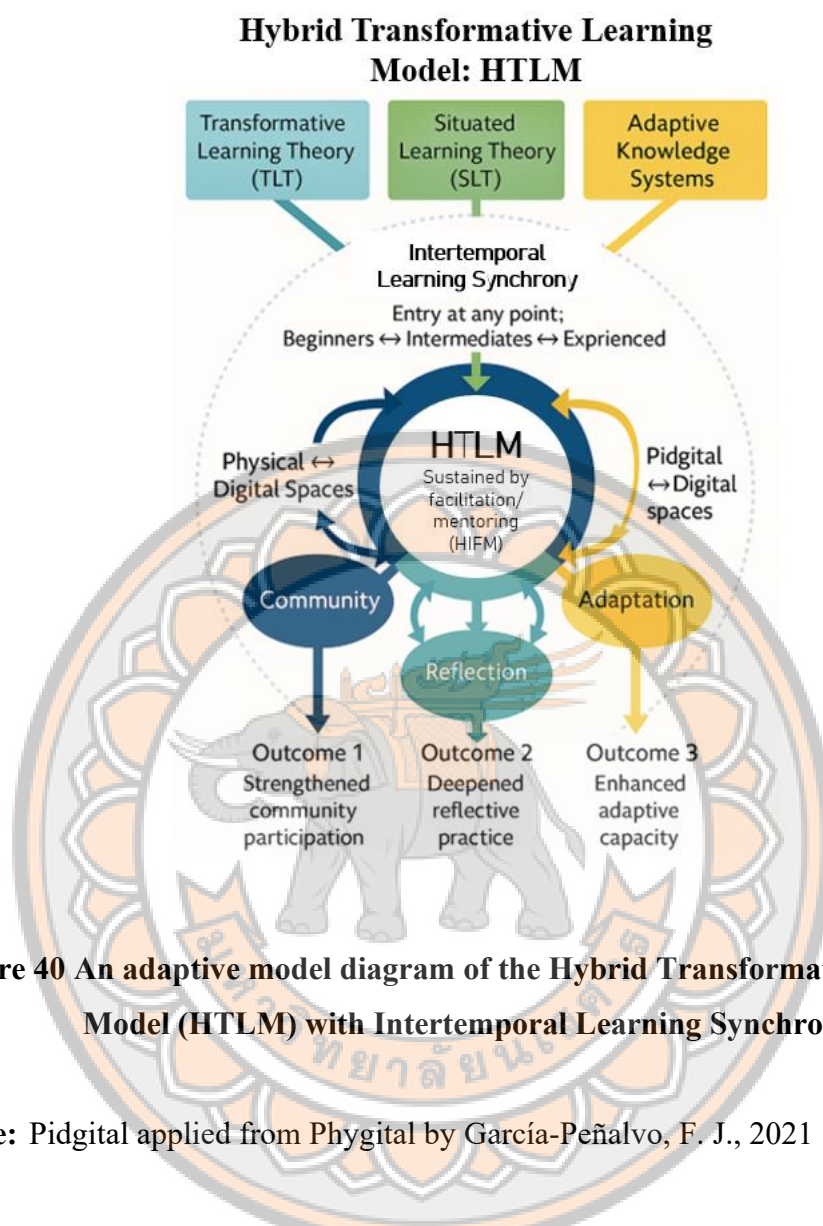
These three theoretical inputs merge into the HTLM circle, symbolising the synthesis of reflective, participatory, and adaptive learning processes observed in SKON.

From HTLM, three core mechanisms extend outward:

- **Community**, representing social participation and shared practice.
- **Reflection**, representing critical and experiential learning processes.
- **Adaptation**, representing ecological responsiveness and innovation.

Each of these mechanisms leads to one of the three primary outcomes:

1. **Strengthened community participation** — learning through collective engagement and peer support.
2. **Deepened reflective practice** — enhanced self-awareness and critical discourse.
3. **Enhanced adaptive capacity** — improved ability to respond to ecological and contextual challenges.



**Figure 40** An adaptive model diagram of the Hybrid Transformative Learning Model (HTLM) with Intertemporal Learning Synchrony

**Source:** Pidigital applied from Phygital by García-Peñalvo, F. J., 2021

The Hybrid Transformative Learning Model (HTLM) integrates Transformative Learning Theory (TLT), Situated Learning Theory (SLT), and Adaptive Knowledge Systems (AKS) to explain how community participation, reflective practice, and ecological adaptation co-produce learning transformation. When learning unfolds asynchronously and iteratively through intertemporal processes, participants at different stages of experience are able to enter the learning cycle at multiple points, interact with others, and move through its mechanisms over time. In this way, HTLM connects physical and digital learning spaces into a continuous learning ecology.

Facilitation and mentoring, as operationalised through the HTLM–Integrated Facilitation Model (HIFM), sustain this process by providing scaffolding, coordination, and modelling across contexts. These facilitation mechanisms also function as intergenerational bridges, enabling ecological knowledge, values, and practitioner identities to circulate across age groups and levels of experience within SKON.

Together, the model illustrates how learning in SKON is non-linear, collective, and context-driven, demonstrating that transformation emerges from the integration of cognitive, social, and ecological dimensions rather than from isolated individual reflection.

### **5. Relationship to the SKON Learning Ecosystem**

The HTLM is not an abstract construct; it emerges directly from the empirical patterns identified in SKON:

- Reflection arises from practice-based dilemmas
- Social learning emerges from mentoring and credibility testing
- Ecological adaptation emerges from seasonal cycles
- Emotional grounding arises from cultural, moral, and personal motivations
- Digital platforms create extended learning spaces

HTLM, therefore, serves as the conceptual “spine” of the learning ecosystem described in Chapter 4. This sets the stage for the next section, which translates HTLM into its operational form—the HTLM–Integrated Facilitation Model (HIFM)—and explains how facilitation roles sustain transformational learning in real community environments.

### **Practical, Policy, and Curriculum Implications**

Building on the Hybrid Transformative Learning Model (HTLM), this section translates the model into practical and operational components that shape learning within the Songkwae Organic Network (SKON). The empirical findings show that transformative learning in organic farming communities does not emerge spontaneously; it requires relational support, social scaffolding, and intentional facilitation. To capture these dynamics, the study proposes the HTLM–Integrated

Facilitation Model (HIFM), which identifies four facilitation roles essential for sustaining transformative learning: mentoring, coaching, coordinating, and modelling.

These roles were consistently observed across fieldwork cycles and reflect the distributed learning structure characteristic of SKON. They offer a practical framework for understanding how learning is organised, supported, and reproduced within the community.

### **1. Facilitation Roles within HIFM**

1.1 Mentoring: Long-term Support and Identity Cultivation: Mentors provide relational continuity and emotional reassurance, especially for beginners who feel uncertain or overwhelmed. Through consistent contact, mentors help newcomers develop confidence and shape their emerging identities as organic practitioners. This mirrors research in agroecological learning showing that mentorship accelerates both skill acquisition and community integration (Horner et al., 2021).

1.2 Coaching: Technical Guidance and Problem-Solving: Coaches support practitioners through hands-on guidance, often in response to immediate ecological or technical challenges. In SKON, coaching occurs both on-site and digitally through LINE groups, where members request and receive real-time feedback on issues ranging from pests to irrigation. Coaching bridges the gap between abstract knowledge and practical action.

1.3 Coordinating: Linking People, Knowledge, and Opportunities: Coordinators connect practitioners with resources, markets, community events, training, and peer networks. These individuals play a key role in maintaining the flow of information within SKON's hybrid platform, ensuring that learning is not isolated but distributed across actors and contexts.

1.4 Modelling: Demonstrating Practice and Embodying Community Norms: Experienced practitioners act as models by demonstrating organic techniques, leadership behaviours, ecological stewardship, and community values. Modelling supports observational learning and reinforces what is considered credible, legitimate, and desirable practice within the community.

Together, these four roles constitute the operational backbone of the HTLM, enabling its key learning dimensions to function effectively within SKON.

## 2. Theoretical Grounding through Vygotsky's ZPD and MKO

To deepen the theoretical robustness of HIFM, this section integrates Vygotsky's (1978) sociocultural learning concepts: The Zone of Proximal Development (ZPD) and the More Knowledgeable Other (MKO). These concepts illuminate *why* facilitation roles are essential and *how* they function as learning mechanisms.

### *Zone of Proximal Development (ZPD)*

The ZPD refers to the space between what a learner can do independently and what they can achieve with support. In SKON, practitioners enter with diverse starting points: some are new to agriculture, while others possess partial knowledge from family practice or prior occupations. Ecological complexity—soil behaviour, water management, microclimates—further widens the gap between intention and capability.

The facilitation roles within HIFM operate precisely within this ZPD. Mentors, coaches, and models guide newcomers through tasks they cannot yet perform alone, such as preparing compost, diagnosing plant stress, or adapting crops to seasonal variation. As practitioners become more confident, facilitators gradually withdraw support, allowing learners to internalise practices and transition toward independence.

### *More Knowledgeable Others (MKO)*

More Knowledgeable Others (MKO) refers to individuals who hold relatively greater expertise, insight, or access to knowledge within a specific learning context. In SKON, MKOs are distributed across the network rather than concentrated in formal instructor roles. They include senior farmers, experienced practitioners, PGS leaders, market coordinators, digital advisors active in LINE groups, and individuals with strong theoretical or technical training, even when practical experience is still emerging.

Through mentoring, coaching, coordination, and modelling, these MKOs provide scaffolding that supports learners in acquiring new competencies, navigating uncertainty, and gradually internalising practice-based knowledge across both physical and digital learning spaces.

The four HIFM roles align closely with MKO functions:

- **Mentors** strengthen confidence and identity
- **Coaches** provide technical scaffolding

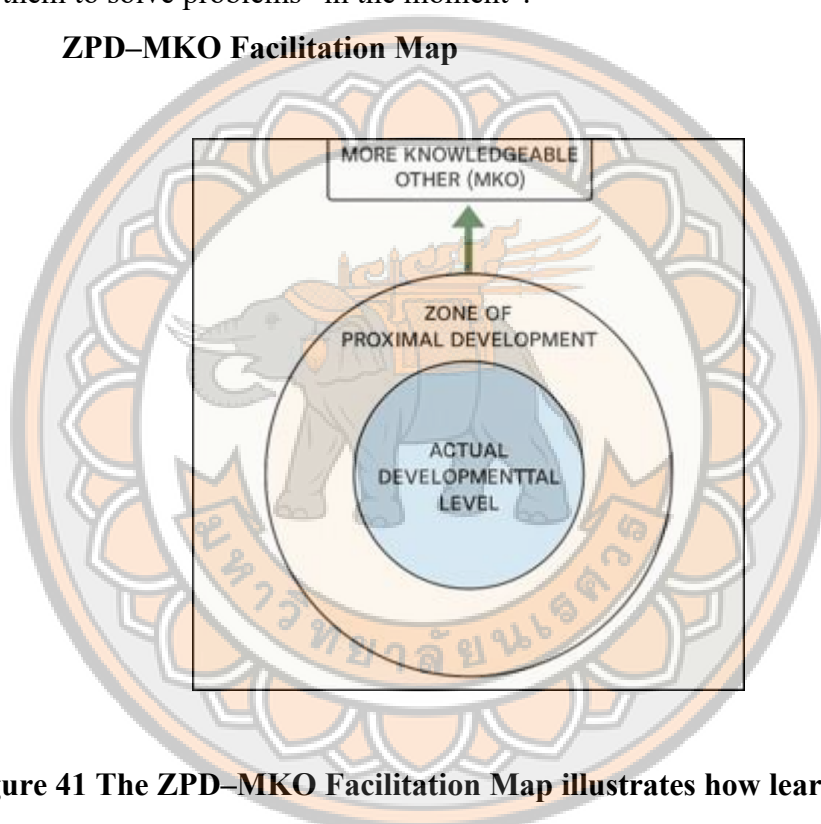
- **Coordinators** expand access to resources
- **Models** demonstrate ecological and social norms

In this way, MKOs are distributed across the community rather than concentrated in formal instructors.

### ***Digital ZPD and Virtual Facilitation***

SKON's digital platforms expand the ZPD beyond physical space. Through LINE messages, video clips, and photos, practitioners receive immediate advice that allows them to solve problems “in the moment”.

### **ZPD–MKO Facilitation Map**



**Figure 41 The ZPD–MKO Facilitation Map illustrates how learning occurs through supported progression rather than independent effort alone**

The inner circle represents the learner's Actual Developmental Level—what practitioners can do independently. The surrounding zone indicates the Zone of Proximal Development (ZPD), where learners can perform more complex tasks with guidance. More Knowledgeable Others (MKOs)—such as mentors, coaches, coordinators, or experienced practitioners—provide scaffolding within this zone through modelling, feedback, and encouragement. As competence increases, support is gradually withdrawn, allowing learners to internalise skills and move toward

independent practice. In SKON, this process operates across both physical and digital spaces, extending the ZPD through hybrid facilitation.

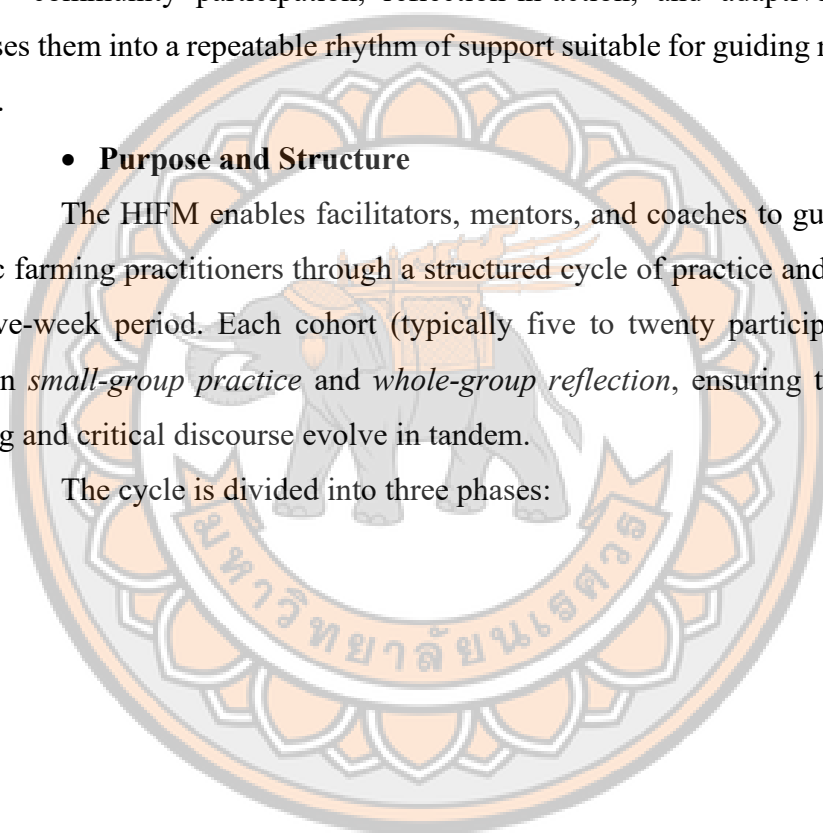
### 3. Micro-Implementation of HTLM: The Facilitation Cycle (HIFM)

To translate the Hybrid Transformative Learning Model (HTLM) into practical application, a short-cycle facilitation approach was designed as a *micro-model* for field implementation within the Songkwae Organic Network (SKON). This HTLM-Integrated Facilitation Model (HIFM) retains the three foundational principles of HTLM—community participation, reflection-in-action, and adaptive learning—but organises them into a repeatable rhythm of support suitable for guiding new practitioner groups.

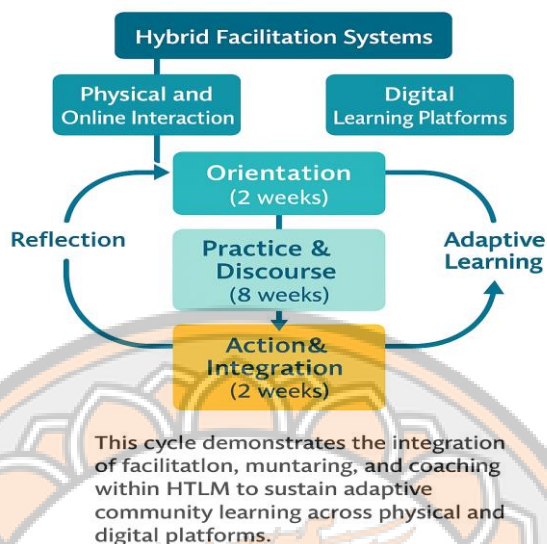
- **Purpose and Structure**

The HIFM enables facilitators, mentors, and coaches to guide smallholder organic farming practitioners through a structured cycle of practice and reflection over a twelve-week period. Each cohort (typically five to twenty participants) alternates between *small-group practice* and *whole-group reflection*, ensuring that experiential learning and critical discourse evolve in tandem.

The cycle is divided into three phases:



### HTLM-Integrated Facilitation Model (HIFM): The Facilitation Cycle



**Figure 42 Micro-Implementation of HTLM: The Facilitation Cycle (HIFM)**

This figure presents the 12-week facilitation cycle that operationalises the Hybrid Transformative Learning Model (HTLM). The cycle consists of three phases—Orientation, Practice & Discourse, and Action & Integration—each guiding facilitators, mentors, and coaches in supporting adaptive, reflective, and community-based learning among smallholder organic farming practitioners.

#### 1. Orientation (Weeks 1–2)

Short entry interviews identify each participant's starting point, focusing on:

- **Motivation** (positive or negative orientation), and
- **Capability and confidence level** (high, moderate, or low).

Based on these assessments, participants are matched to the most suitable support mode:

- **Facilitation** – for confident and experienced members,
- **Mentoring** – for moderately self-directed participants, and
- **Coaching** – for beginners or those with low confidence.

## 2. Practice and Discourse (Weeks 3–10)

Participants engage in weekly farm-based practice and bi-weekly reflection meetings, embedding critical dialogue into ongoing work. Reflection is structured through After-Action Reviews (AARs), enabling learners to adjust techniques and strategies immediately in response to observed outcomes.

## 3. Action and Integration (Weeks 11–12)

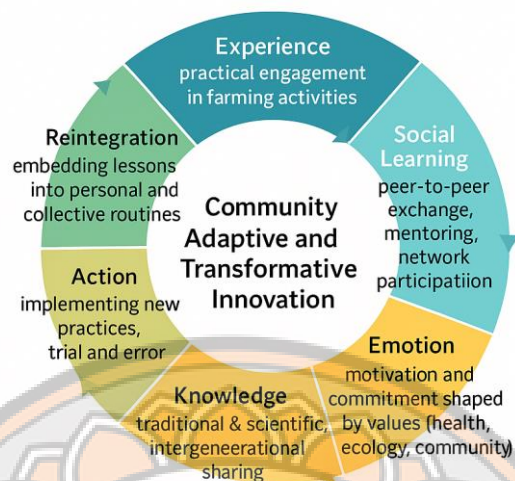
Participants consolidate lessons learned by completing a simple “*keep–change–stop*” card, summarising which practices to maintain, modify, or discontinue. These results are shared within the group to prepare for the next facilitation cycle, ensuring continuity of knowledge and iterative improvement.

### • Connection to Transformative Learning

The HIFM mirrors the SKON-based transformative learning components within the Hybrid Transformative Learning Model (HTLM), embedding Mezirow’s principles into community and practice contexts. From the core components identified through grounded theory. The process includes:

1. **Experience** – practical engagement in farming activities.
2. **Social learning** – peer-to-peer exchange, mentoring, and network participation.
3. **Reflection** – both individual and collective, often triggered by challenges.
4. **Adaptation** – adjusting practices in response to feedback and conditions.
5. **Emotion** – motivation and commitment shaped by values of health, ecology, and community.
6. **Knowledge** – both traditional and scientific, shared across generations.
7. **Action** – implementing new practices, often through trial and error.
8. **Reintegration** – embedding lessons into personal practice and collective routines.

### SKON-Based Transformative Learning Components within HIFM



**Figure 43 SOFP on SKON Base Learning Cycle**

Each 12-week HIFM cycle thus becomes a living unit of HTLM's continuous learning process. Over successive cycles, participants evolve along facilitation, mentoring, and coaching pathways—enhancing both individual capability and collective adaptive capacity within SKON.

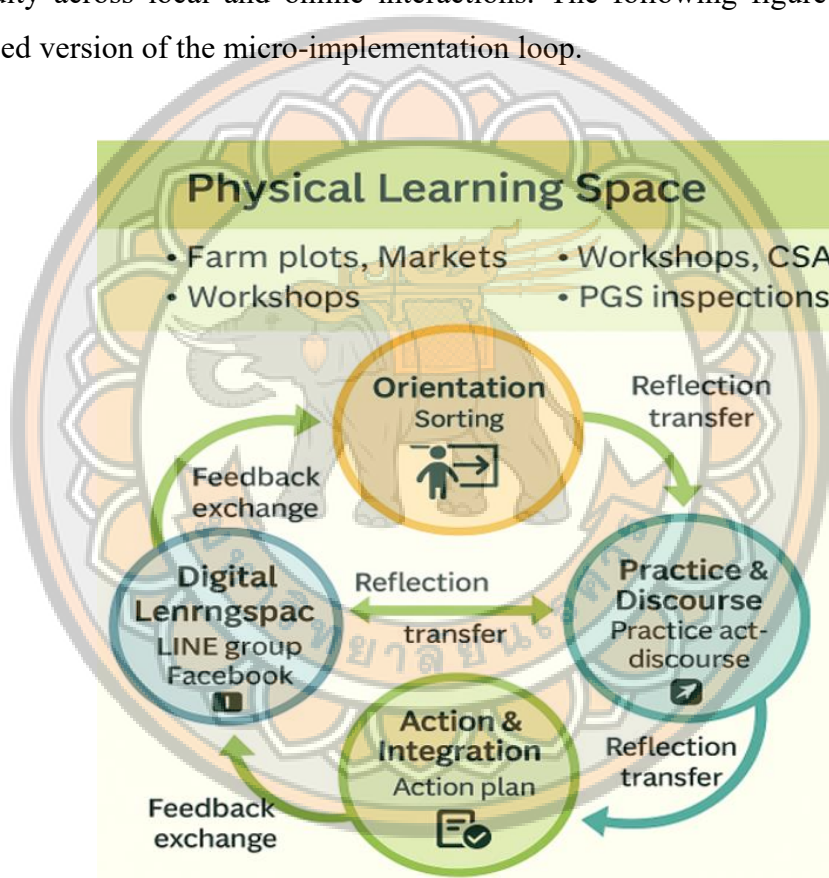
**Table 14 Summary table of HTLM-Integrated Facilitation Model (HIFM)**

Entry Type	Capability	Support Focus	Typical Learning Behaviour
Positive / High	Facilitation	Self-organised learning; resource sharing	Guides peers; initiates new tasks
Positive / Moderate	Mentoring	Goal-oriented peer guidance	Completes tasks with limited help
Positive / Low	Coaching	Frequent skill practice	Gains first independent success
Negative / High	Facilitation	Reframes the dilemma into a trial	Turns the problem into an experiment
Negative / Moderate	Mentoring	Structured reflection	Develops a stable routine
Negative / Low	Coaching	Step-by-step guided practice	Reduces fear; achieves simple success

- **Interpretation and Broader Relevance**

The HIFM functions as a *micro-implementation loop* within the larger HTLM. It provides rhythm and structure to what SKON facilitators already do informally—balancing personal coaching, peer mentoring, and collective reflection—so that transformative learning can proceed continuously and inclusively.

To align with 21st-century learning environments, the HIFM also integrates *cross-boundary learning platforms* that link physical and digital spaces, ensuring continuity across local and online interactions. The following figure illustrates this enhanced version of the micro-implementation loop.

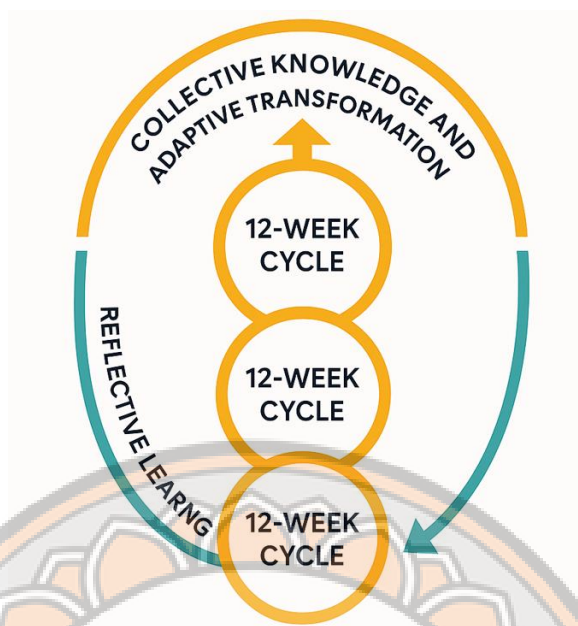


**Figure 44 Cross-Boundary Micro-Implementation of the Hybrid Transformative Learning Model (HIFM) or in short Hybrid Physical–Digital Facilitation Cycle (HIFM) presents the enhanced cross-boundary version of the HIFM cycle, showing how digital platforms (LINE/Facebook) extend facilitation and reflection between on-farm sessions**

This figure illustrates the cross-boundary micro-implementation of the Hybrid Transformative Learning Model (HTLM) through the HTLM-Integrated Facilitation Model (HIFM). The cycle shows how learning moves iteratively across physical learning spaces (such as farm plots, markets, workshops, CSA activities, and PGS inspections) and digital learning spaces (LINE and Facebook groups). Learning begins with an orientation and sorting phase, where participants' needs, experience levels, and support modes are identified. Practitioners then engage in practice and discourse through hands-on activities and collective reflection. Insights from practice are consolidated during action and integration, where learners formulate action plans. Reflection and feedback are continuously transferred between physical and digital spaces, allowing learning to remain asynchronous, responsive, and cumulative. This circulation demonstrates how hybrid learning functions not as a substitute for practice, but as a mechanism that sustains reflection, coordination, and adaptation over time.

#### **4. Reflective Integration and Long-Term Continuity**

While the HTLM-Integrated Facilitation Model (HIFM) provides a structured short-term cycle for learning and transformation, its deeper value lies in creating sustained reflective habits among practitioners. Each 12-week cohort cycle acts as both a learning event and a rehearsal for independent, lifelong learning. By repeating these cycles, SKON members cultivate a culture of continuous improvement where knowledge, confidence, and ecological awareness are revisited and refined over time.



**Figure 45 Long-Term Reflective Continuity from Iterative HIFM Cycles**

This diagram illustrates how multiple 12-week facilitation cycles within the HTLM-Integrated Facilitation Model (HIFM) accumulate into long-term reflective learning and adaptive transformation. Each cycle contributes new experiences and collective insights, gradually building community-level knowledge and sustained transformation within the Songkwae Organic Network (SKON).

After each cycle, facilitators and mentors integrate outcomes into the broader network through community meetings, online platforms, and collaborative documentation. This process ensures that individual learning does not remain isolated but becomes shared capital within the Songkwae Organic Network. Over successive cycles, these reflections accumulate into a collective repository of adaptive knowledge—linking micro-practice with community-level transformation. Therefore, the HIFM not only operationalises the Hybrid Transformative Learning Model in the short term but also provides a long-term pathway for sustaining adaptive, reflective, and participatory learning within SKON and similar networks.

This study found that the boundary between physical and digital learning spaces must remain permeable. Transformation occurs not within a single space but through the interchange between them. The effectiveness of HTLM and HIFM,

therefore, depends on how well community learning platforms enable this circulation of experience and reflection across both domains.

### **5. Expectation Reform Learning Model and Result**

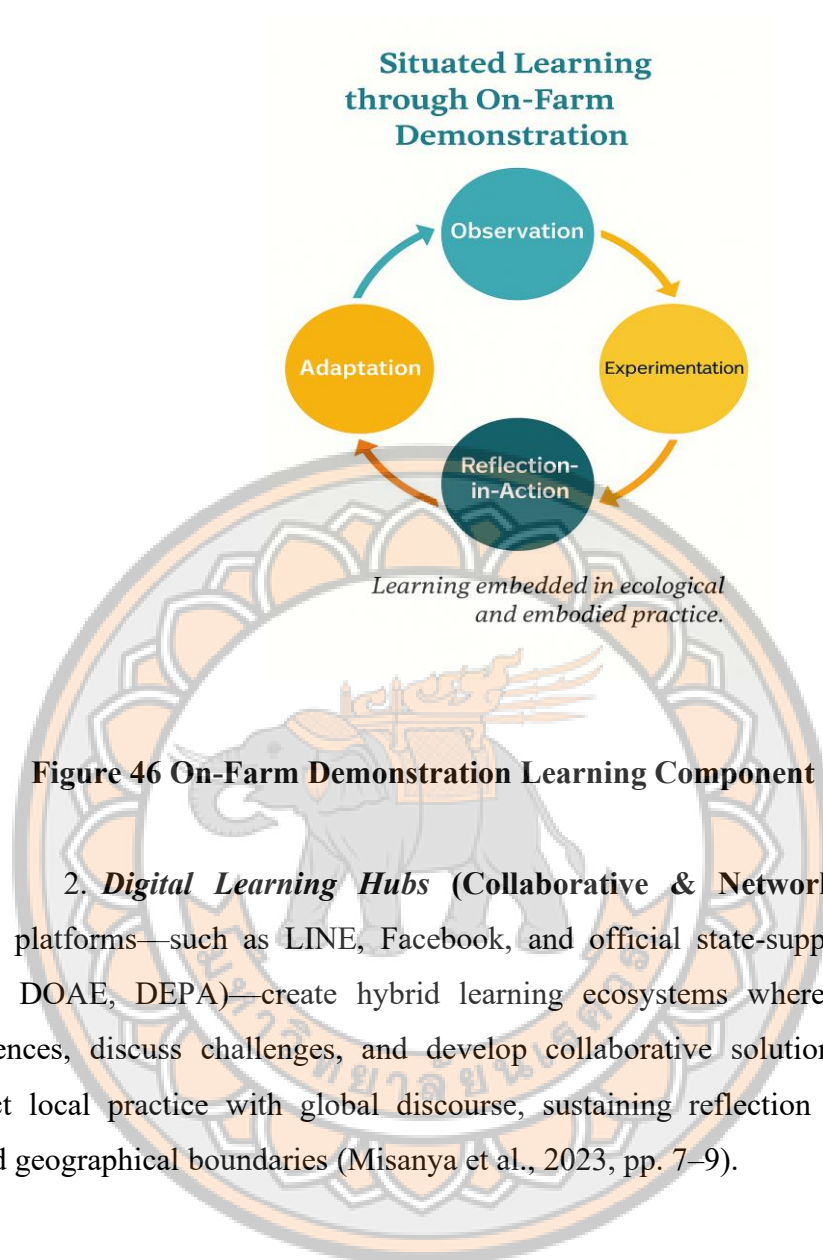
The Expectation Reform Learning Model (ERLM) synthesises the practical experiences of the Songkwae Organic Network (SKON) with the theoretical foundations of Transformative Learning Theory (TLT), Situated Learning Theory (SLT), and Adaptive Knowledge Systems (AKS). It illustrates how diverse learning spaces—both physical and digital—can extend the learning process of smallholder organic farming practitioners (SOFPs) into the 21st-century context of hybrid education and community learning platforms.

The model redefines “learning expectations” from a focus on formal instruction to one centred on experiential participation, reflection, and adaptive collaboration. By integrating SKON’s community practices into accessible and flexible learning spaces, the model enables practitioners to reform expectations of where, how, and with whom learning occurs.

Learning occurs through four complementary spaces, each representing a mode of learning and transformation:

#### **1. *On-Farm Demonstrations* (Situated & Experiential Learning)**

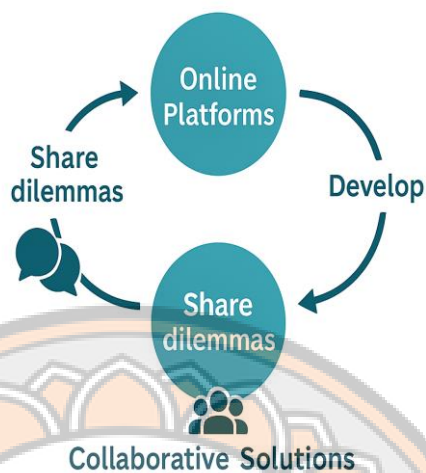
On-farm sessions act as living classrooms, where learners engage in observation, experimentation, and co-reflection. Participants collectively analyse soil management, composting, and pest control practices. These sessions generate embodied knowledge through practice and direct interaction with the environment (Cooreman et al., 2021, pp. 300–302).



## 2. *Digital Learning Hubs (Collaborative & Networked Learning)*

Online platforms—such as LINE, Facebook, and official state-supported resources (DOA, DOAE, DEPA)—create hybrid learning ecosystems where farmers share experiences, discuss challenges, and develop collaborative solutions. These hubs connect local practice with global discourse, sustaining reflection and innovation beyond geographical boundaries (Misanya et al., 2023, pp. 7–9).

## Digital Learning Hubs



**Figure 47 Digital Learning Hub Learning Component Model**

### 3. *Organic Markets* (Dialogic & Reflective Learning Spaces)

Markets are transformed into learning arenas where farmers and consumers co-create shared understandings of value, trust, and sustainability. Through conversation, negotiation, and feedback, markets become platforms for reflective dialogue that reinforce ethical and social dimensions of organic production (Smith & Marsden, 2004, pp. 181–183).

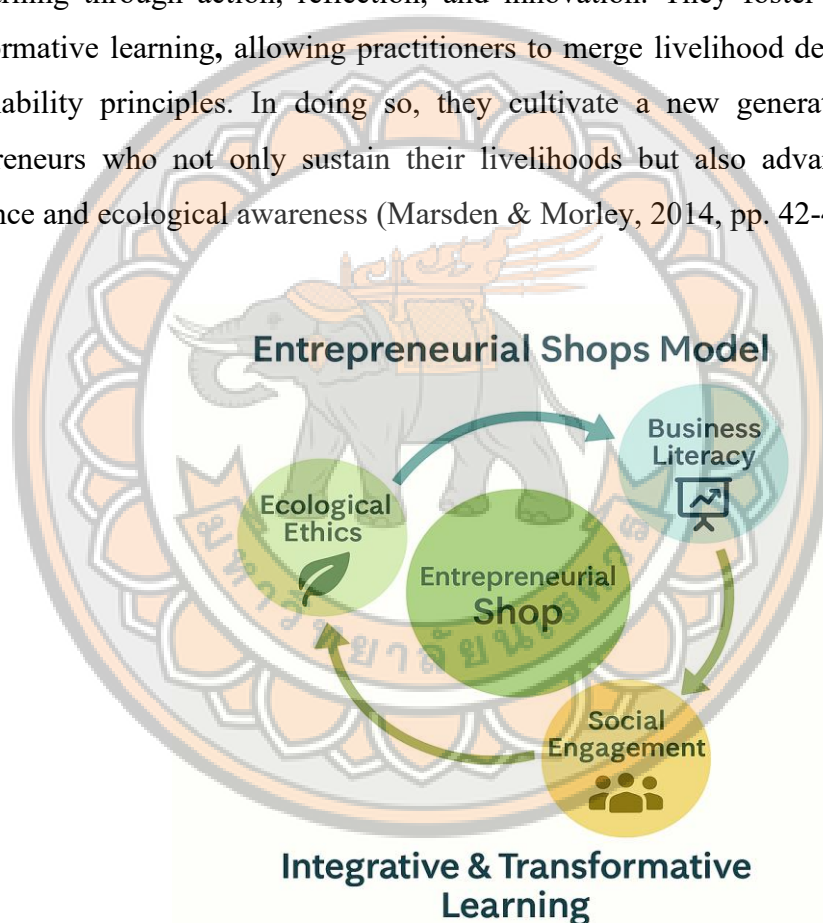
## Organic Markets Model



**Figure 48 Organic Markets Learning Component Model**

#### 4. *Entrepreneurial Shops (Integrative & Transformative Learning)*

Entrepreneurial shops operate as hybrid learning spaces where ecological production, business literacy, and social engagement intersect. Within these environments, practitioners and farmers simultaneously develop entrepreneurial competencies—such as marketing, financial management, and customer negotiation—while maintaining a strong commitment to ecological ethics and food safety standards. Unlike traditional market spaces, these outlets bridge production and society, functioning as laboratories for learning through action, reflection, and innovation. They foster integrative and transformative learning, allowing practitioners to merge livelihood development with sustainability principles. In doing so, they cultivate a new generation of farmer-entrepreneurs who not only sustain their livelihoods but also advance community resilience and ecological awareness (Marsden & Morley, 2014, pp. 42-45).



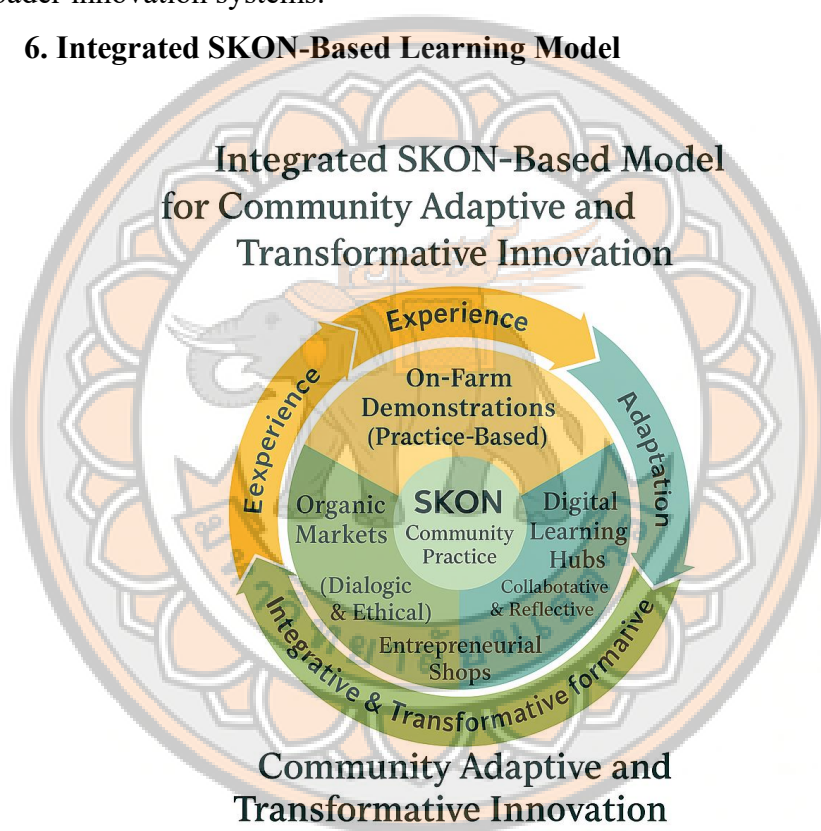
**Figure 49 Entrepreneurial Shops Learning Component Model**

Synthesising these four interconnected learning spaces—on-farm demonstrations, digital learning hubs, organic markets, and entrepreneurial shops—creates a multi-dimensional model of expectation reform. This integrated model shows how transformation in organic farming is distributed across practical, reflective, digital,

and entrepreneurial learning environments, each contributing uniquely to the evolution of practitioner knowledge and identity.

Learning within the Songkwae Organic Network (SKON), therefore, extends beyond conventional boundaries of farms and classrooms. It is embedded in an ecosystem of interaction that merges ecological practice, social reflection, technological engagement, and economic participation. This integration results in a continuous and adaptive learning cycle, where knowledge circulates between community experiences and broader innovation systems.

### 6. Integrated SKON-Based Learning Model



**Figure 50 Integrated SKON-Based Learning Component Model**

The Integrated SKON-Based Learning Model thus completes the learning progression, providing a framework through which practitioners and farmers can develop advanced competencies, leadership capacity, and community resilience in organic farming. It transforms fragmented learning episodes into a holistic community learning ecosystem, ensuring that knowledge flows seamlessly between individual practice, digital collaboration, market negotiation, and entrepreneurial development.

Ultimately, this model embodies the Hybrid Transformative Learning Model (HTLM) and its micro-implementation through HIFM, linking them with the Expectation Reform Learning Model (ERLM) to represent the complete system of community adaptive and transformative innovation.

### **Implications of the Study**

The findings have implications at four levels: theory, practice, policy, and curriculum.

#### **1. Theoretical Implications**

This study advances theoretical debates in adult learning, community-based education, and agroecology by extending and integrating Transformative Learning Theory (TLT), Situated Learning Theory (SLT), and Adaptive Knowledge Systems (AKS). The Hybrid Transformative Learning Model (HTLM) developed in this research demonstrates that transformative learning among smallholding ecological organic farming practitioners (SOFPs) cannot be adequately explained through a single theoretical lens. Instead, transformation emerges through the interaction of cognitive, social, ecological, emotional, and temporal dimensions of learning.

##### ***Extending Transformative Learning Theory (TLT)***

The findings extend Transformative Learning Theory beyond its original emphasis on rational reflection and individual perspective transformation (Mezirow, 1991b). While critical reflection and discourse remain important, learning among SKON practitioners is shown to be deeply embodied, emotionally driven, and socially mediated. Transformation frequently arises through reflection-in-action rather than retrospective reflection, and identity change is shaped by lived ecological practice, moral commitments, and community relationships. These findings support critiques that call for a broader conceptualisation of transformative learning that incorporates affective, relational, and practice-based processes.

##### ***Strengthening Situated Learning Theory (SLT)***

Situated Learning Theory provides a strong foundation for understanding how learning in SKON occurs through participation in communities of practice (Lave & Wenger, 1991). The findings reinforce SLT by demonstrating that legitimacy, identity formation, trust, and peer recognition are central to learning. However, this study

extends SLT by showing that learning is not only socially situated but also temporally distributed. Practitioners learn across overlapping timeframes—daily work routines, seasonal cycles, and multi-year developmental trajectories—resulting in what this study conceptualises as *Intertemporal Learning Synchrony*. This synchrony enables novices, intermediate practitioners, and experienced farmers to learn simultaneously within the same community ecosystem.

### ***Integrating Adaptive Knowledge Systems (AKS)***

The ecological dimension of learning observed in SKON aligns strongly with Adaptive Knowledge Systems, which emphasise learning through feedback loops between humans and their environments (Gunderson & Holling, 2002). Ecological signals such as soil conditions, water availability, pests, and climatic variability function as active drivers of learning rather than as passive contextual factors. The integration of AKS into HTLM highlights that adaptation, experimentation, and ecological responsiveness are core mechanisms of transformative learning in agroecological contexts.

### ***Reframing Hybrid and Asynchronous Learning***

Taken together, these theoretical extensions help to clarify critiques regarding the perceived weakness of hybrid and asynchronous learning in community-based settings. The perceived weakness of hybrid and asynchronous learning reflects a mismatch between evaluation criteria derived from formal education systems and the realities of community-based agroecological practice. In SKON, learning is temporally distributed, ecologically contingent, and socially embedded. Asynchronous interaction supports reflection-in-action and cumulative learning across seasons, while hybrid arrangements extend social scaffolding through digital means. These characteristics align with Situated Learning Theory and Adaptive Knowledge Systems, where learning effectiveness is measured by adaptability and practice integration rather than immediacy or instructional density. From this perspective, hybridity and asynchrony function not as limitations but as theoretically grounded enabling conditions for sustained transformative learning.

## 2. Practical Implications

For practitioners, learning is most effective when it is embedded in daily routines, experimentation, and peer mentoring, rather than in one-off workshops. SKON shows that:

- **Peer-to-peer mentoring** sustains knowledge more effectively than top-down training. As one participant noted:

*“Even when I failed sometimes, other members encouraged me to keep going.”* — (01111, 01121, Round 2: Feb–Apr 2025)

- **Reflection-in-action** enables adaptive decision-making under ecological uncertainty.
- **Identity and culture** act as drivers of learning, meaning training must connect with farmers’ lived realities.

## 3. Policy Implications, Risks, and Opportunities

This study highlights the need to move away from top-down, short-term training programmes and toward bottom-up, long-term, community-driven learning policies. Instead of imposing predetermined frameworks, policies should nurture the *existing social infrastructure* of networks like SKON, where facilitation, mentoring, and coaching sustain transformative learning organically. Such an approach aligns with recent scholarship emphasising how community-based and digital platforms foster resilience, innovation, and intergenerational knowledge transfer (Gómez & Steiner, 2025; Haque et al., 2023; Marimuthu & Anbarasu, 2024; Singh & Patel, 2025; Wathen et al., 2024).

### **Policies should therefore:**

- **Adopt a bottom-up governance style** that recognises practitioners, networks, and learning facilitators as the foundation of adult education systems. Rather than designing external training interventions, government and institutional actors should support the learning processes already embedded in local practices and relationships.

- **Sustain, not substitute, local action.** Policy mechanisms should focus on *supporting actions that sustain transformation*—for example, by providing ongoing funding or resources to strengthen local roles such as *mentors, coaches, and facilitators*.

These individuals form the backbone of continuous learning and act as catalysts of reflection and adaptation within community networks.

- **Recognise and support practitioner networks** (e.g., SKON) as legitimate adult education platforms. Internationally, similar community networks have demonstrated the capacity to maintain adaptive learning cycles and enhance social resilience (Conway et al., 2019; Haque et al., 2023)

- **Fund key coordination roles**—such as network secretaries, facilitators, and communication leads (e.g., ParCODE 22123)—as essential components of community learning infrastructure.

As one participant expressed:

...I used to work in media, but now I keep records, write reports, and connect the group. This is how our network stays strong.

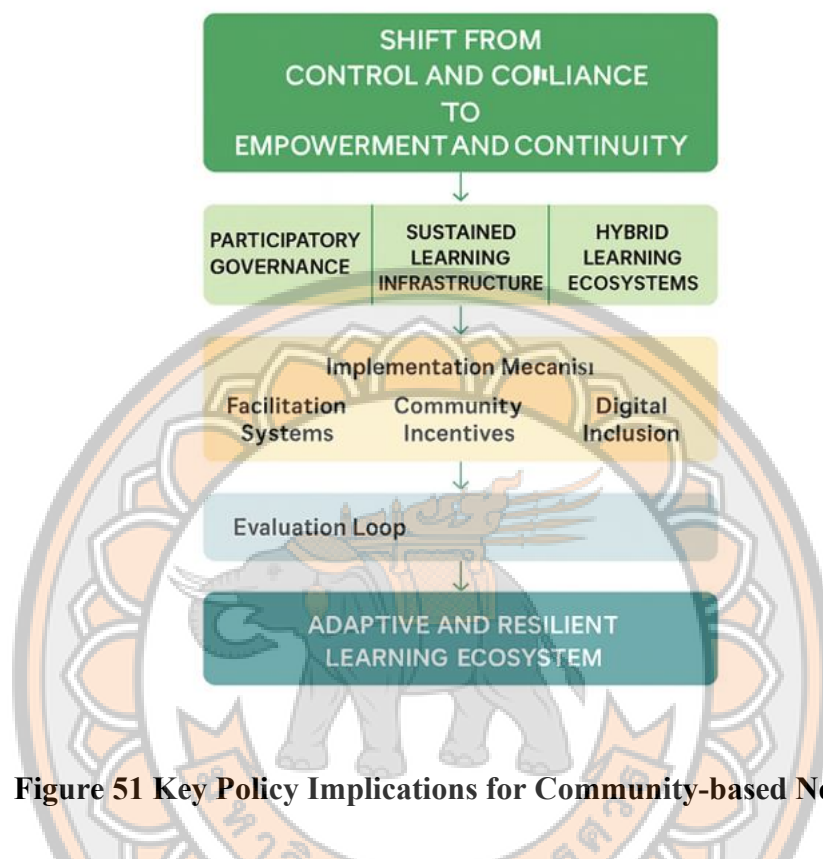
(22123, Round 2, Interviewer, 30 September 2024)

This finding aligns with the Farm Resilience Mentorship Program in Canada, where structured mentorship and network leadership promote long-term innovation and capacity building (Wathen et al., 2024)

- **Reframe CSA markets and PGS groups** not merely as economic or certification mechanisms but as participatory learning environments. These spaces are crucial for linking production, reflection, and social exchange—key characteristics of transformational learning (Marimuthu & Anbarasu, 2024).

- **Invest in digital learning tools and hybrid platforms** (Gómez & Steiner, 2025) such as the LINE group “*Organic 459*” (ParCODE 08311), which extend collaboration and learning across spatial boundaries. Such digital ecosystems have been proven to reinforce resilience and sustain community reflection among smallholder networks (Singh & Patel, 2025).

**Policy Adaptation Framework for  
Community-Led Transformative Learning  
in Smallholder Organic Farming (SKON)  
Context**



**Figure 51 Key Policy Implications for Community-based Networks**

The study carries several positive implications for agricultural and lifelong learning policy. The findings demonstrate that hybrid community learning platforms can complement formal extension systems by providing flexible, context-specific mechanisms for skill development and innovation. The HTLM and HIFM frameworks offer policymakers a structure for supporting facilitation, mentoring, and peer learning, which are central to the success of smallholder organic farming.

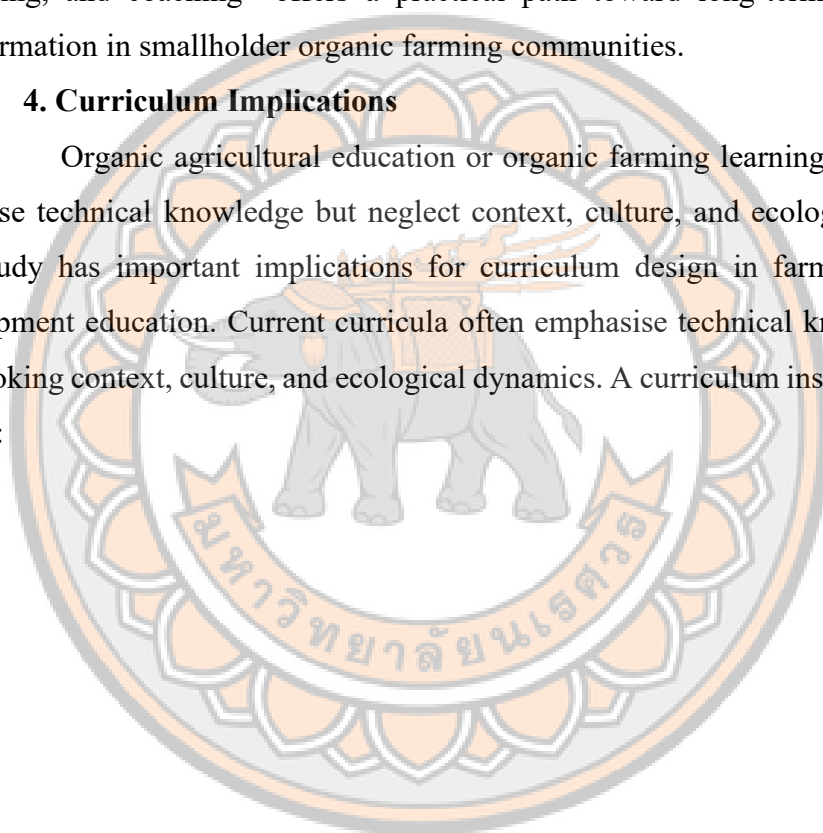
However, potential risks must be acknowledged. Institutionalising community learning without sensitivity to local variation may restrict autonomy or misinterpret the role of facilitators. Policies that focus heavily on digital transformation may unintentionally deepen inequalities for groups with limited connectivity or resources. To mitigate these negative impacts, policies must emphasise subsidiarity, community autonomy, digital accessibility, and long-term support for grassroots organising.

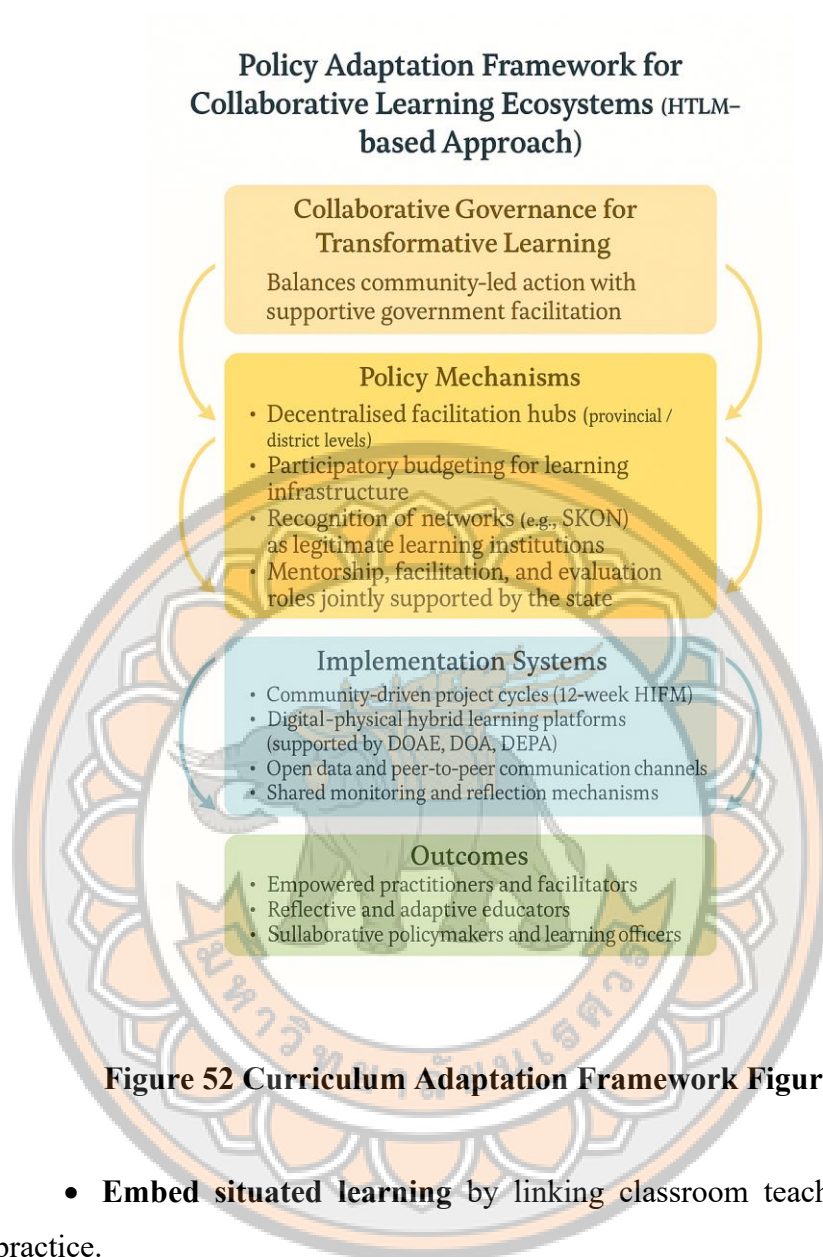
These implications extend the relevance of the findings to broader national strategies on sustainable agriculture, lifelong learning, digital equity, and community development.

**In summary**, the study suggests that policy should not attempt to replace organic learning structures with formalised programs but should strengthen the enabling conditions that allow communities to learn continuously, reflect collectively, and adapt ecologically. A bottom-up, sustaining policy framework—anchored in facilitation, mentoring, and coaching—offers a practical path toward long-term resilience and transformation in smallholder organic farming communities.

#### **4. Curriculum Implications**

Organic agricultural education or organic farming learning curricula often prioritise technical knowledge but neglect context, culture, and ecological dynamics. The study has important implications for curriculum design in farming and social development education. Current curricula often emphasise technical knowledge while overlooking context, culture, and ecological dynamics. A curriculum inspired by HTLM should:





**Figure 52 Curriculum Adaptation Framework Figure**

- **Embed situated learning** by linking classroom teaching with field-based practice.

As one participant explained:

...I attended workshops and short courses, and then I brought those lessons back into my classroom. It wasn't only me learning—the students learned alongside me.

(06111, Round 1, Interviewer, 17 June 2023)

This resonates with studies in agroecology education that emphasise field immersion and co-learning (Horner, 2021).

- **Include modules on reflection-in-action**, encouraging learners to adapt while working. This aligns with transformative pedagogy in agriculture and environmental studies, where trial-and-error and iterative reflection form the backbone of effective learning (Farooq, 2023).

- **Integrate permaculture and agroecology principles** as frameworks for cyclical, adaptive learning. Research in Europe and Latin America has demonstrated that agroecological education promotes critical thinking, resilience, and food sovereignty by integrating theory with practice (Anderson et al., 2019; Rivera-Ferre, 2021).

- **Promote collaborative projects** that involve students, practitioners, farmers, and communities co-creating solutions.

As another participant noted:

... We must lead by doing. If we want organic farming to grow, we must pass on knowledge so that others can learn.  
(23111, Round 1, Interviewer, 19 August 2023; 27111, Round 1, Interviewer, 7 October 2023; 08311, Round 3, Interviewer, 9 March 2025)

This echoes evidence from mentorship and intergenerational programmes in agronomics, where collaborative learning ensures continuity across generations (Marimuthu & Anbarasu, 2024).

In short, curricula that combine experiential learning, ecological awareness, and social participation will not only prepare future farmers but also foster facilitators, educators and policymakers who can design context-sensitive and resilient learning environments.

### **Complementary Studies**

The purpose of introducing the Scottish cases is not to conduct a one-to-one institutional comparison with Thailand, but to examine the transferability and adaptability of the Hybrid Transformative Learning Model (HTLM) across contrasting cultural, institutional, and governance contexts. Scotland provides a meaningful contrast due to stronger formal institutions, clearer land tenure arrangements, and more explicit

policy engagement in support of small-scale agriculture. By analysing both contexts, this section distinguishes which mechanisms of transformative learning are culturally specific and which operate as structurally transferable dynamics within community-based agroecological systems.

### **1. Complementary Insights from Thailand and Scotland**

Findings from Thailand and Scotland offer complementary perspectives on how smallholding practitioners construct and sustain transformative learning within distinct socio-ecological systems. Rather than conducting a direct institutional comparison, this analysis focuses on analytical contrast, highlighting how similar learning mechanisms operate under different cultural norms, governance structures, and social expectations. Together, the cases demonstrate that HTML functions as an adaptable interpretive framework capable of explaining transformation across diverse contexts.

In Thailand, the Songkwaeng Organic Network (SKON) exemplifies a collective and community-driven learning system. Transformative learning emerges through iterative cycles of shared practice, group reflection, and adaptive problem-solving. Learning is closely intertwined with cultural values such as mutual dependence, sufficiency, and moral responsibility toward land and community. The After-Action Review (AAR) process enables practitioners to translate everyday experience into adaptive strategies, embedding reflection within ongoing practice. Transformation in this context is therefore not a discrete cognitive event, but a continuous negotiation between individual initiative and collective wisdom, producing what may be described as a living learning ecology. However, these processes are constrained by limited institutional support, fragmented policy structures, and market volatility, reinforcing the importance of community-based learning platforms that strengthen horizontal linkages among practitioners.

In Scotland, smallholding and community-based enterprises—including MacLeod Organics, Laikenbuie Ecology Trust, Black Isle Veg Box, Black Isle Brewery's market garden, and Glachbeg Farm—reveal similar practice-based and ecologically responsive learning dynamics, but expressed through different social and institutional arrangements. Learning is likewise embodied, experiential, and land-responsive, often captured in the sentiment that “the land tells you what to do if you

listen.” However, unlike the Thai context—where learning continuity is sustained through collective obligation, seniority norms, and relational coordination—Scottish practitioners rely more heavily on individual autonomy, secure land tenure, and institutional mediation to manage risk and sustain learning over time. Peer mentorship, cooperative working, and selective reliance on partnerships with organisations such as Highlands and Islands Enterprise (HIE) provide facilitation functions that parallel SKON’s mentoring and coordination roles, albeit in a less collectivised form.

Taken together, these complementary cases demonstrate that transformative learning in smallholding agroecological practice is universal in mechanism but adaptive in expression. In Thailand, resilience is generated through shared reflection, communal identity, and emotionally regulated cooperation; in Scotland, resilience emerges through autonomous experimentation embedded within supportive institutional and peer networks. Despite these differences, both contexts rely on the recursive interaction between ecological feedback, social learning, and moral commitment. The HTLM therefore operates not as a prescriptive model, but as a flexible analytical framework capable of explaining how transformation is sustained across culturally and institutionally diverse learning environments.

## **2. Discussion of the Hybrid Transformative Learning Model (HTLM)**

The findings from both Thailand and Scotland confirm that the Hybrid Transformative Learning Model (HTLM) offers a coherent and empirically grounded framework for explaining how adult learners in ecological and community-based contexts construct, adapt, and sustain knowledge. Developed through Constructivist Grounded Theory and synthesising principles from Transformative Learning Theory (TLT), Situated Learning, and Adaptive Knowledge Systems, the HTLM reframes learning as a *continuous, relational, and value-driven process* rather than a discrete cognitive event. It captures how transformation emerges from lived experience, ecological interaction, and social reciprocity—processes that are both personal and collective.

The model identifies eight interrelated components—*experience, social learning, reflection, adaptation, emotion, knowledge, action, and reintegration*—which function not as sequential steps but as overlapping dynamics within an iterative learning ecology. Each component contributes to the learner’s capacity to interpret, act, and

renew understanding within changing environmental and social conditions. Observations from both field sites illustrate how these components interact to create a self-sustaining cycle of transformation.

**1. Experience** – Learning originates in direct engagement with ecological and social practice. For Thai practitioners, everyday farming and market participation provide continuous opportunities for trial and observation, while Scottish participants described farming as “*trial and error every season.*” In both contexts, experience acts as the medium of transformation rather than its starting point.

**2. Social Learning** – Transformation is socially negotiated through mentoring, cooperation, and shared reflection. SKON’s After Action Reviews (AARs) and peer exchanges mirror the informal mentoring and cooperative association networks in Scotland. Learning is thus embedded in trust, dialogue, and reciprocity.

**3. Reflection** – Reflection occurs at both individual and collective levels, often triggered by environmental or practical challenges. Rather than being a purely rational act, reflection in both contexts is *embodied and relational*, unfolding through interaction and feedback.

**4. Adaptation** – The capacity to modify behaviour and practice based on reflection defines adaptive learning. Thai farmers adjusted crop rotations and soil practices, while Scottish smallholders modified production systems to align with seasonal and market changes. Adaptation links learning directly to ecological responsiveness.

**5. Emotion** – Affective and moral commitment sustains transformation. Participants in both settings expressed deep emotional connection to the land and to their communities. Emotion thus functions as the motivational core of engagement and ethical decision-making.

**6. Knowledge** – Learning outcomes integrate *traditional, experiential, and scientific forms of knowledge*. Both contexts demonstrate hybridisation—knowledge that is simultaneously local, experiential, and informed by external expertise.

**7. Action** – Transformation becomes visible through action. Implementing new techniques, revising management systems, and testing innovations embody the enactment of reflection and emotion. Action links learning to tangible change.

**8. Reintegration** – Learning culminates when new insights are internalised and embedded within identity, community norms, and ecological systems. In both contexts, this reintegration sustains continuity: SKON’s cyclical facilitation and Scotland’s “*land–fail–adapt–improve*” ethos exemplify how reflection is continually folded back into practice.

Together, these eight components form a multi-dimensional system of transformation, illustrating how adult learning in ecological contexts is *iterative, situated, and self-renewing*. The HTLM expands Mezirow’s theory by situating critical reflection within a living ecology of practice that includes emotional, social, and environmental dimensions. It bridges the gap between individual transformation and collective adaptation, highlighting that genuine learning occurs through interaction between *human intention and ecological feedback*.

The integration of the HTLM-Integrated Facilitation Model (HIFM) further operationalises this theoretical construct. Within SKON, facilitation roles—*mentor, coach, and facilitator*—function as catalysts for the eight learning components, ensuring that reflection leads to adaptation and reintegration. In Scotland, analogous facilitation arises informally through mentoring, cooperative networks, and institutional partnerships, such as those fostered by Highlands and Islands Enterprise (HIE). In both contexts, facilitation embodies *relational leadership*: guiding without hierarchy, nurturing inclusivity, and maintaining the rhythm of collective learning.

In essence, the HTLM and HIFM together explain how transformation is cultivated, sustained, and transmitted within community learning systems. They demonstrate that adult learning in smallholding ecological contexts is not an abstract process but a *socially embedded and morally grounded practice*. The next section elaborates on the implications of these models for designing and strengthening community learning platforms, linking theoretical understanding with practical and policy dimensions.

### **3. Implications for Community Learning Platforms**

The integration of findings from Thailand and Scotland demonstrates that transformative adult learning in smallholding ecological systems cannot rely solely on formal training or linear knowledge transfer. Instead, it must be embedded within community learning platforms that operationalise the processes articulated in the Hybrid

Transformative Learning Model (HTLM) and its Integrated Facilitation Model (HIFM). Such platforms serve as adaptive infrastructures for collective reflection, experimentation, and action, linking local knowledge creation with broader support systems.

### 3.1 Structural Design: Hybrid and Context-Responsive Spaces

The study confirms that effective learning platforms must combine physical, social, and digital spaces to accommodate diverse participation and sustain interaction across time. In Thailand, LINE groups, Facebook pages, and field-based gatherings allowed practitioners to extend discussion beyond the farm; in Scotland, cooperative meetings and mentorship visits performed a similar role. These examples suggest that community learning structures should be hybrid by design — integrating on-farm demonstration sites, online reflection spaces, and periodic peer exchanges. This multi-layered structure ensures both accessibility and continuity, enabling reflection-in-action even across geographical boundaries.

### 3.2 Facilitation Roles: Mentor, Coach, and Facilitator

The HIFM identifies facilitation as the pivotal mechanism that sustains transformation. In SKON, facilitators act as *boundary connectors* between experiential practice and conceptual learning; mentors and coaches maintain relational trust and motivate reflection. In the Scottish context, similar functions are carried out informally through peer mentorship and institutional advisors. These insights point to the need for capacity-building programmes that train local practitioners to perform facilitation roles — not as instructors but as *learning companions* who mediate knowledge exchange, emotional support, and adaptive decision-making.

### 3.3 Learning Processes: Cyclical and Reflective Practice

Community platforms should be organised around iterative cycles of *experience* → *reflection* → *adaptation* → *action* → *reintegration*. This cyclical approach transforms learning from event-based training into an ongoing process of sense-making. After-Action Reviews (AARs), field diaries, and participatory evaluation tools can serve as mechanisms for documenting and circulating lessons learned. Embedding such reflective loops fosters collective memory and strengthens institutional learning within communities, allowing adaptive strategies to accumulate over time.

### **3.4 Inclusivity and Intergenerational Learning**

Both contexts highlight the value of multi-generational collaboration. Seniors transfer wisdom and cultural memory, while younger practitioners contribute technological skills and innovative perspectives. Platforms should therefore promote inclusive participation across age, gender, and experience levels. Intergenerational mentoring programmes, youth engagement initiatives, and family-based training schemes can enhance continuity and prevent the erosion of local ecological knowledge.

### **3.5 Integration with Policy and Institutional Support**

For transformative learning to scale beyond individual initiatives, policy frameworks must recognise community platforms as legitimate sites of knowledge production. Government and development agencies can play a supportive—not directive—role by funding facilitation training, enabling land-access schemes, and simplifying certification processes. Lessons from the Scottish case show that long-term institutional accompaniment, such as that provided by Highlands & Islands Enterprise, creates stability for innovation. In Thailand, similar support could align with the goals of the *20-Year Agricultural and Cooperatives Strategy (2017–2036)* by incorporating community-based facilitation models into local development plans.

### **3.6 Knowledge Management and Digital Transformation**

Digital technologies expand the reach of community learning platforms when used to complement—not replace—experiential practice. Documenting practices through digital archives, video tutorials, and online reflection logs preserves collective knowledge and allows horizontal transfer across networks. However, as seen in both contexts, digital tools are most effective when grounded in existing relationships of trust and supported by face-to-face interaction.

### **3.7 Ethical and Ecological Orientation**

Finally, platforms should be designed with ethical intentionality and ecological responsiveness in mind. Learning in both contexts was sustained by moral commitment to health, land, and community rather than by economic incentives alone. Embedding ethical reflection—through shared values statements, community charters, or collective goal-setting—anchors transformation within a moral and ecological framework. This ensures that learning contributes not only to individual empowerment but also to social well-being and environmental stewardship.

In sum, the implications of the HTLM and HIFM extend from the conceptual to the practical: they call for learning systems that are iterative, inclusive, and ecologically grounded. Community learning platforms built upon these principles can enhance resilience, foster innovation, and align local practice with broader sustainability goals. The next chapter concludes the study by synthesising its key contributions, outlining recommendations for policy and practice, and suggesting future research directions for advancing ecological and transformative adult learning.

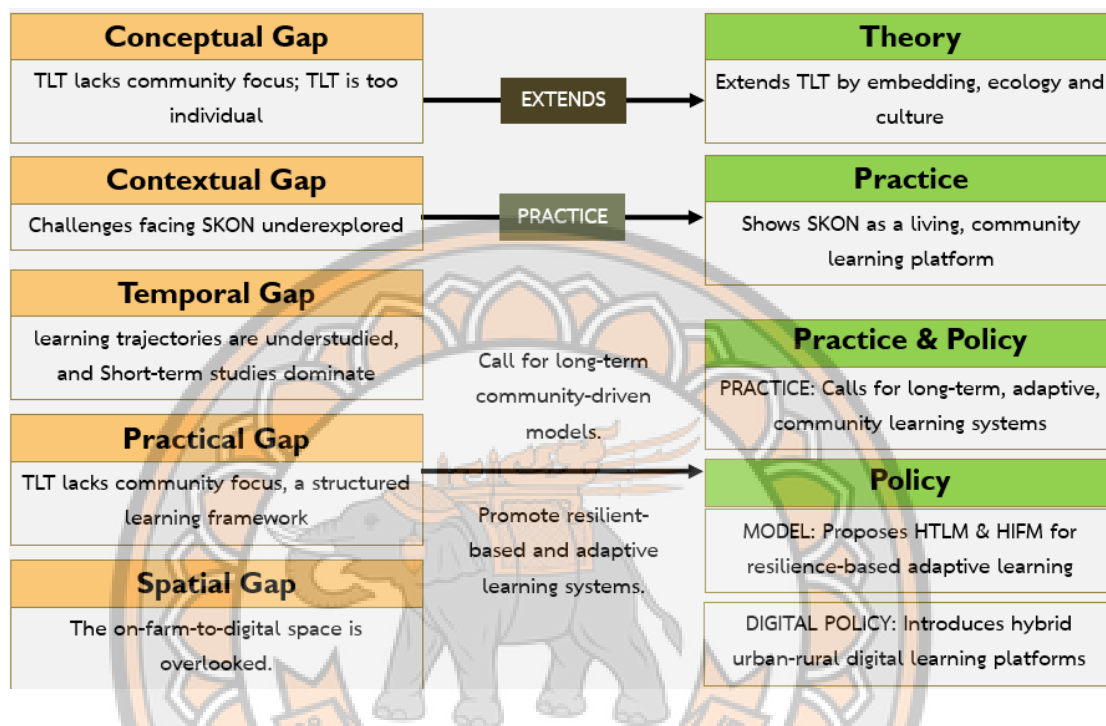
#### **4. Complementary Case Study Reflections: Applying HTLM to International Cases (UK Contexts)**

To strengthen the theoretical generalisation of the Hybrid Transformative Learning Model (HTLM), this section introduces two complementary case studies from the United Kingdom — Macleod Organics and the Laikenbuie Ecology Trust — as examples of situated and intergenerational learning in agroecological contexts. Although the SKON case in Thailand is rooted in smallholder ecological organic farming, both UK cases share similar dynamics of practice-based learning, ecological adaptation, and community engagement, demonstrating the transferability of HTLM across diverse cultural and institutional landscapes.

At Macleod Organics, adaptive learning occurred through the continuous interaction between market conditions and ecological stewardship. Farmers responded to climate variability and market instability through collective decision-making, reflection-in-action, and the reorganisation of their enterprise into a multi-stakeholder cooperative. This transition represents an applied form of “*ecology as pedagogy*,” where economic and environmental challenges serve as triggers for shared learning, reflection, and community adaptation. The process mirrors the adaptive learning loops identified in SKON, where practitioners respond to uncertainty through experimentation and collaborative problem-solving.

Similarly, the Laikenbuie Ecology Trust exemplifies situated and intergenerational learning within a conservation-oriented landscape. Knowledge is transferred across generations through volunteer programmes, mentorship, and ecological restoration activities, connecting older custodians with younger learners. Learning at Laikenbuie is deeply embodied, taking place through physical engagement with ecosystems, reflection on ecological ethics, and participation in community-led

projects. This resonates with SKON's intertemporal learning synchrony, where participants at different stages of practice interact asynchronously to co-create shared knowledge and meaning.



**Figure 53 Mapping Research Gaps to Theory, Practice, and Policy Contributions**

This Gap–Contribution Alignment Diagram visually illustrates how the study systematically bridges five major research gaps through corresponding theoretical and practical contributions

1. **Conceptual Gap → Theoretical Contribution:** Transformative Learning Theory (TLT) traditionally focuses on individual cognitive change. This research extends it by embedding *practice, ecology, and culture* through the Hybrid Transformative Learning Model (HTLM), offering a more holistic, community-based explanation of transformative learning.

2. **Contextual Gap → Practice Contribution:** In Thailand's smallholder organic farming context, fragmented practices and unstable markets limit continuous learning. The study demonstrates how the Songkwae Organic Network (SKON) operates as a *living learning platform*, where mentorship, collaboration, and experimentation sustain adaptive practices.

3. **Temporal Gap → Policy Contribution:** Existing research rarely captures long-term or intergenerational learning. By applying the 12-week facilitation cycle (HIFM) within SKON, the study provides a *sustainable, community-driven framework* that supports continuity and lifelong learning across farming generations.

4. **Practical Gap → Curriculum Contribution:** While previous models emphasise reflection and adaptation, few offer structured and replicable learning mechanisms. This study proposes a *field-based and participatory curriculum design that aligns* educational programs with real-world agricultural problem-solving and reflection-in-action.

5. **Spatial Gap → Cross-Cultural and Complementary Contribution:** The research expands learning beyond the farm through *digital, urban, and inter-network platforms*, and supports this with a comparative UK case study (e.g., Macleod Organics and Laikenbuie Ecology Trust). These examples reinforce the universality of adaptive, community-led learning systems across cultural and geographical contexts.

Together, the diagram illustrates how this research moves from identifying fragmented theoretical and contextual gaps to proposing a *comprehensive, adaptive learning framework (HTLM + HIFM)*—linking theory, policy, practice, and curriculum to transform both local and global learning ecosystems.

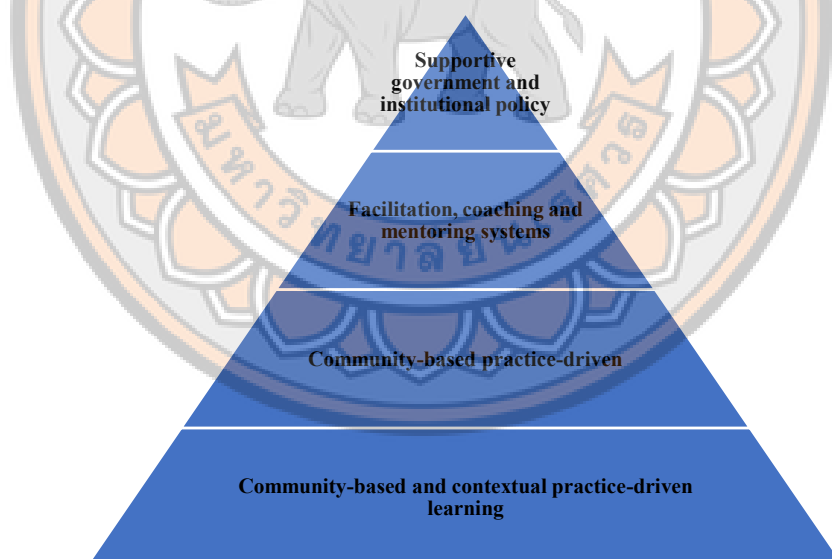
Therefore, the UK and Thai cases highlight how transformative learning in ecological organic farming systems transcends geographical and cultural boundaries. In both contexts, learning emerges as a non-linear, adaptive, and relational process, shaped by local ecologies, community structures, and shared values of sustainability. The HTLM, therefore, provides a unifying interpretive framework that connects SKON's community-based practices in Thailand with European experiences of participatory ecological learning. This cross-context complementary underscores the model's applicability beyond its original setting, confirming that transformation in organic agriculture and learning are mutually reinforcing processes rooted in practice, reflection, and social collaboration.

### Analytical Summary

The Hybrid Transformative Learning Model (HTLM) provides a more contextually grounded framework for understanding learning in smallholder organic farming, addressing the four critical gaps that limit the applicability of traditional Transformative Learning Theory (TLT). Whereas TLT is often critiqued for its idealised and individual-centred assumptions, HTLM situates learning in the realities of everyday practice, embeds it within social and cultural contexts, and acknowledges its long-term, cyclical, and adaptive character. In doing so, it offers a more realistic and sustainable model for explaining how smallholder organic farming practitioners (SOFPs) learn, adapt, and co-create knowledge within their communities.

#### 1. The Significance of HTLM for Learning in Smallholder Organic Farming

The Hybrid Transformative Learning Model carries several important implications for the design and facilitation of learning among SOFPs:



**Figure 54 Bottom-Up Policy Framework for Hybrid Transformative Learning (HTLM) in Smallholder Organic Farming**

This figure illustrates a participatory policy process in which transformation begins at the community level and moves upward through networks of facilitation, reflection, and collaboration. Government agencies play a supportive role, sustaining

rather than directing learning, ensuring policies remain flexible, contextual, and co-created.

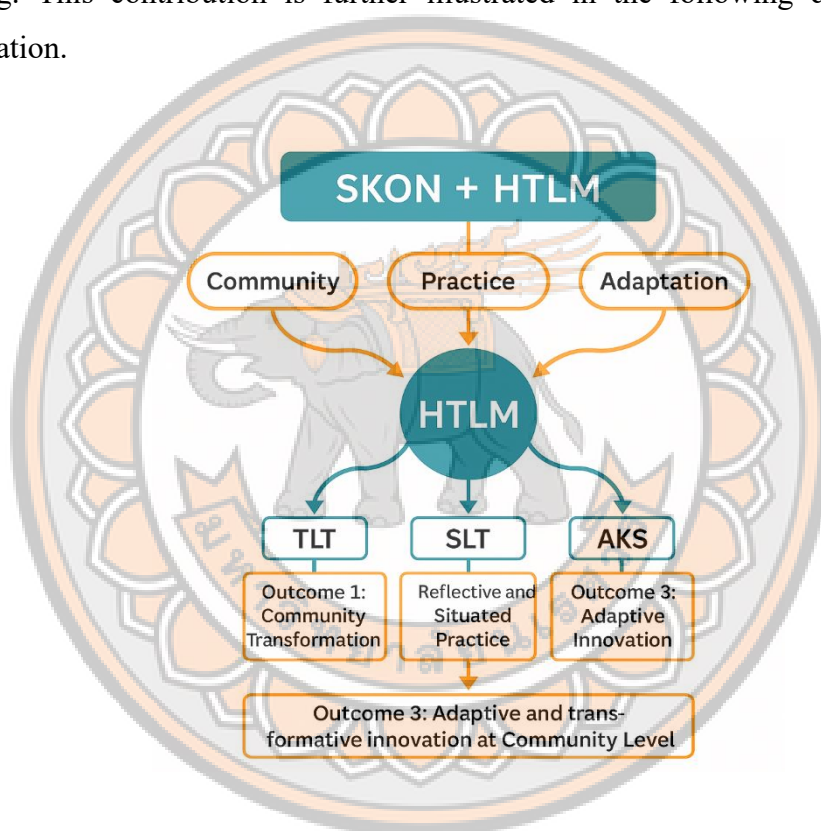
The Bottom-Up Policy Framework for Hybrid Transformative Learning (HTLM) in Smallholder Organic Farming proposes a participatory approach in which learning and innovation emerge from community practices and progressively inform supportive government policy. Conceptually represented as an inverted pyramid, this framework symbolises knowledge and action rising from the grassroots to shape inclusive and context-sensitive governance. At its foundation, community-based and practice-driven learning forms the core of transformation, where local practitioners, mentors, and facilitators initiate learning through hands-on experience, reflection, and collaboration. This layer reflects the Songkwae Organic Network's (SKON) role in generating real, situated knowledge within ecological and social contexts. Building on this base, socio-ecological learning networks connect communities through digital tools such as LINE, the Department of Agricultural Extension (DOAE), and the Digital Economy Promotion Agency (DEPA), enabling hybrid interaction and co-reflection across regions. Within this collaborative space, the facilitation and mentorship system (HIFM) serves as a bridge between local knowledge and institutional support, promoting multi-directional knowledge flows rather than top-down instruction. At the apex, government and institutional policies play an enabling role—providing funding, infrastructure, and recognition of community networks as legitimate learning entities—without dominating the process. Policies are co-created through dialogue with practitioners and facilitators, focusing on empowerment, continuity, and ecological resilience rather than compliance or control. Together, these interconnected layers create an adaptive and participatory policy model that supports long-term, community-led transformation in smallholder organic farming.

## **2. Transferability to International Contexts**

Although grounded in the Thai context, the mechanisms identified in the HTLM show relevance for international smallholder systems, such as those in Scotland. The comparative reflections indicate that the model is transferable when specific enabling conditions exist—shared community purpose, facilitative leadership, ecological orientation, and digital–physical integration. These reflections prepare the foundation for a broader discussion of transferability in Chapter 6.

### 3. Conclusion

In sum, HTMLM extends the boundaries of Transformative Learning Theory by introducing a framework that resonates with the lived realities of smallholder farmers. It promotes sustainable, dynamic, and responsive learning systems that recognise diversity in both social and ecological contexts. By bridging practice, community, and ecology, HTMLM offers a valuable basis for designing training, policy, and development strategies that genuinely reflect the conditions of smallholder organic farming. This contribution is further illustrated in the following diagram and its explanation.



**Figure 55 SKON Integrated with the Hybrid Transformative Learning Model (HTMLM)**

A diagram of the SKON learning process integrated with the Hybrid Transformative Learning Model (HTMLM). The model combines community-based learning, practice-oriented knowledge, reflection-in-action, and adaptive learning with three theoretical foundations—Transformative Learning Theory (TLT), Situated Learning Theory (SLT), and Adaptive Knowledge Systems (AKS)—to generate

outcomes of non-linear and iterative learning, collective knowledge sharing, and context-driven practices.

This diagram illustrates the integration of learning components within the Songkwae Organic Network (SKON), which includes:

- Community-Based Learning – knowledge emerging from participation, mentorship, and peer networks.
- Practice-Oriented Knowledge – grounded in real farming practices rather than abstract theory.
- Reflection-in-Action – adaptive decision-making during the course of work.
- Adaptive Learning and Sustainability – ongoing responsiveness to ecological and social dynamics.

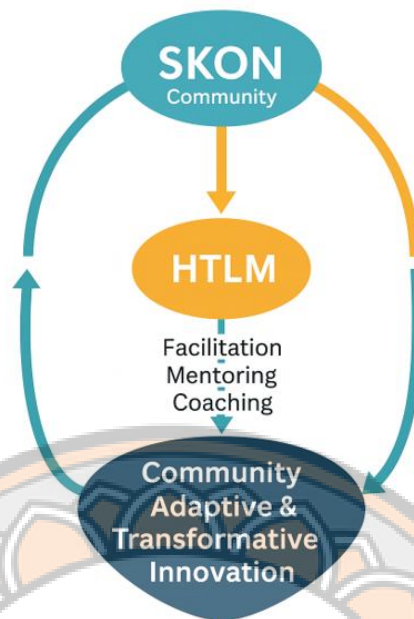
These elements are synthesised into the conceptual framework of HTLM, which is constructed from three core theoretical foundations:

1. Transformative Learning Theory (TLT)
2. Situated Learning Theory (SLT)
3. Adaptive Knowledge Systems (AKS)

The integration of SKON's practical learning processes with the HTLM framework produces three principal learning outcomes:

1. Non-Linear and Iterative Learning – evolving from TLT's notion of transformative cycles.
2. Collective Knowledge Sharing – reinforced by SLT's emphasis on social learning and communities of practice.
3. Context-Driven Practices – reflecting AKS's focus on ecological adaptation and situated knowledge.

In summary, this diagram demonstrates that learning within SKON is not fragmented or individually bounded, but rather an integrated process that combines multiple theoretical perspectives. It reflects the lived realities of farming practice while deeply responding to the surrounding social, cultural, and ecological contexts.



**Figure 56 Integrated Framework: SKON + HTLM + HIFM for Community Adaptive and Transformative Innovation**

The SKON + HTLM + HIFM model functions as an integrated operational framework that translates the study's theoretical insights into a practical mechanism for community-based implementation. By embedding the Hybrid Transformative Learning Model (HTLM) within the Songkwae Organic Network (SKON) and operationalising it through the Hybrid Integrated Facilitation Model (HIFM), this framework demonstrates how transformative learning can be continuously sustained through facilitation, mentoring, and coaching.

Rather than existing as a static conceptual model, it serves as a dynamic system of action, where reflective learning, experiential practice, and adaptive innovation converge. The framework supports long-term, participatory transformation among smallholding organic farming practitioners by ensuring that learning remains cyclical, context-responsive, and community-driven.

In essence, this integrated structure bridges theory and practice:

- **SKON** represents the community-based learning platform;
- **HTLM** provides the transformative learning mechanism; and
- **HIFM** delivers the facilitation and adaptive feedback process.

Together, these elements create a continuous learning ecosystem that promotes collective adaptation, innovation, and resilience. The interconnection of these three models embodies the study's theoretical, contextual, and applied contributions to sustainable and transformative learning in smallholder organic farming.

### Integrative Summary of Research Models

**Table 15 Summary Table of Models**

Stage	Model	Purpose	Represents
<b>Conceptual</b>	HTLM	Theoretical synthesis	How transformation occurs (TLT + SLT + AKS)
<b>Contextual</b>	SKON + HTLM	Empirical application	How transformation operates within the SKON network
<b>Applied</b>	SKON + HTLM + HIFM	Implementation and policy	How transformation is sustained through facilitation and bottom-up learning systems

The findings of this study are articulated through three interrelated models that together illustrate the progression from theory to practice and policy. The Hybrid Transformative Learning Model (HTLM) constitutes the theoretical foundation, synthesising Transformative Learning Theory (TLT), Situated Learning Theory (SLT), and Adaptive Knowledge Systems (AKS) to explain how transformation in smallholding organic farming occurs through reflection, participation, and adaptation. In doing so, the model also provides an analytical lens for anticipating the development and outcomes of both individual and collective learning activities.

Building on this foundation, the **SKON + HTLM Model** represents the contextual application of the framework within the Songkwae Organic Network (SKON), demonstrating how processes of community, practice, reflection, and adaptation function as dynamic mechanisms of learning in real-world settings. The final stage, the **SKON + HTLM + HIFM Model**, advances the framework towards practical implementation by illustrating how facilitation, mentoring, and coaching can sustain continuous learning through iterative 12-week cycles.

Together, these models capture the study's progressive contribution—from conceptual synthesis to contextual integration and applied transformation—offering a comprehensive explanation of how adult learning, community networks, and facilitation systems can work collaboratively to drive adaptive and sustainable change in smallholder organic farming.

### **Transition to Chapter 6**

The discussion in Chapter 5 has interpreted the findings through the integrated lenses of Transformative Learning Theory, Constructivist Grounded Theory, and community-based learning frameworks. It demonstrated that learning among smallholding organic farming practitioners is non-linear, contextually grounded, and shaped by the dynamic interaction between personal dilemmas, ecological contexts, and collective engagement. The chapter also introduced the Hybrid Transformative Learning Model (HTLM) and its extensions within the SKON framework, including the HTLM-Integrated Facilitation Model (HIFM), to explain how transformation is sustained through facilitation, mentoring, and adaptive community processes.

Building on these interpretations, **Chapter 6** presents the study's conclusions and recommendations. It synthesises the theoretical, contextual, and applied contributions of the research, highlighting how these models collectively advance the understanding of adult learning, community resilience, and sustainable agricultural transformation. The chapter also outlines the study's limitations and proposes directions for future research and policy implementation.

## CHAPTER VI

### CONCLUSION AND IMPLICATIONS

Building on the discussion in Chapter 5, this final chapter synthesises the study's overall contributions, reflects on its limitations, and proposes directions for future research. While Chapter 5 explored the theoretical, practical, and policy significance of the Hybrid Transformative Learning Model (HTLM), this chapter steps back to consider what the research as a whole has achieved. It closes the loop by returning to the research problem. How smallholding ecological organic farming practitioners (SOFPs) in Thailand learn, adapt, and sustain their practices through community-driven platforms such as the Songkwae Organic Network (SKON).

#### **Overview**

This study set out to explore how smallholding ecological organic farming practitioners (SOFPs) learn, adapt, and transform within dynamic socio-ecological systems. Centred on the Songkwae Organic Network (SKON) in Phitsanulok Province, Thailand, and complemented by comparative cases from smallholder and community-based enterprises in Scotland, the research sought to identify how learning occurs outside formal education and how it can be strengthened through community learning platforms.

Drawing upon Transformative Learning Theory (TLT), Constructivist Grounded Theory (CGT), and the Hybrid Transformative Learning Model (HTLM) developed through this research, the study concludes that transformative learning among SOFPs is a contextual, participatory, and cyclical process that intertwines ecological engagement, social reflection, and moral purpose. The study shows that transformation in smallholding practice arises not from prescribed training programmes, but from lived experience, social learning, and collective adaptation across intergenerational networks.

### Summary of the Study

This study was guided by two central research questions and three research objectives, which together sought to understand and strengthen transformative learning among smallholding ecological organic farming practitioners (SOFPs) in urban community contexts, with particular attention to the Songkwae Organic Network (SKON).

The first research question examined the **nature of transformative learning** among SOFPs, many of whom are older adults or semi-retirees, focusing on how experiential, collective, and practice-based learning contributes to sustaining livelihoods, health, and community participation in an ageing society. The second research question addressed **how community learning platforms can be developed** to support such transformative learning, with emphasis on lifelong learning, intergenerational knowledge exchange, and ecological stewardship.

To address these questions, the study pursued three interrelated research objectives: (1) to examine adult learning models that support lifelong learning among urban community organic farmers; (2) to develop community-based learning platforms for smallholding ecological organic farming practitioners; and (3) to propose learning approaches and modular learning designs that promote intergenerational engagement and community sustainability.

Using Constructivist Grounded Theory, the analysis generated a set of **interrelated analytical dimensions** that explain how transformative learning operates in practice and how it can be sustained through community platforms. These dimensions were synthesised into the Hybrid Transformative Learning Model (HTLM), the Integrated Facilitation Model (HIFM), and the Expectation Reform Learning Model (ERLM).

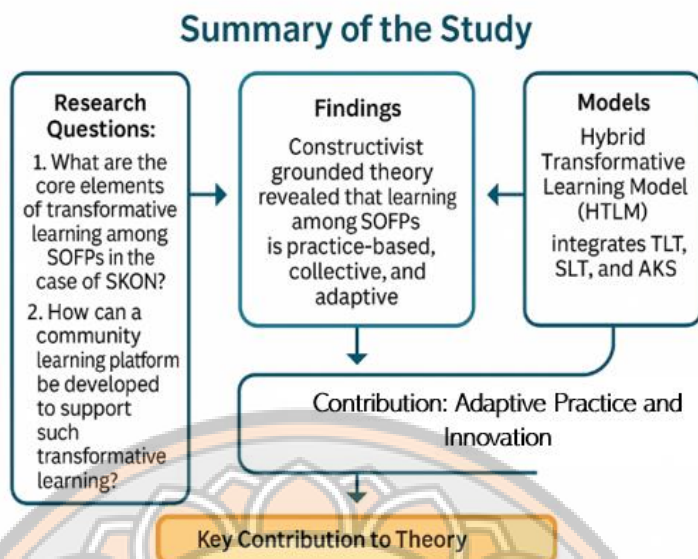
The matrix below synthesises these analytical dimensions, demonstrating how empirically grounded findings from the SKON case, complemented by comparative insights from Scotland, collectively address the study's research questions and objectives.

**Table 16 Table of CGT Empirical Findings and Conceptual Models in SKON's Community-Based Learning**

<b>Analytical Dimension</b>	<b>Key Empirical Findings (Constructivist Grounded Theory)</b>	<b>Conceptual / Analytical Model</b>
<b>AD1. Core elements of transformative learning among SOFPs</b>	Learning is non-linear, cyclical, and practice-based. It unfolds through lived experience, reflection-in-action, emotional regulation, adaptation, and reintegration rather than through singular “disorienting dilemmas.” Learning is socially embedded, ecologically responsive, and morally oriented toward care, sufficiency, and community wellbeing.	<b>Hybrid Transformative Learning Model (HTLM)</b> – conceptualises transformative learning as a situated, collective, and cyclical process grounded in daily ecological practice and social reflection.
<b>AD2. Social relationships and facilitation in community learning</b>	Learning is sustained through mentoring, coaching, coordinating, and modelling roles rather than formal instruction. Knowledge circulates through trust-based relationships, peer support, informal leadership, and shared responsibility. Facilitation is distributed across the community rather than centralised.	<b>Integrated Facilitation Model (HIFM)</b> – operationalises HTLM by aligning facilitation roles with Vygotsky’s ZPD and MKO, showing how learning is scaffolded within community networks.
<b>AD3. Intertemporal and hybrid (physical–digital) learning dynamics</b>	Learning occurs asynchronously across time, generations, and experience levels. Beginners, intermediate, and experienced practitioners learn simultaneously. Digital platforms (e.g. LINE and Facebook) support reflection, coordination, emotional support, and continuity without replacing embodied farm-based practice.	<b>Intertemporal Learning Synchrony (within HTLM) and Hybrid Physical–Digital Facilitation Cycle (HIFM)</b> – explain how learning is sustained across seasons, generations, and hybrid spaces.
<b>AD4. Community learning platform</b>	Effective community learning platforms integrate farm-based practice, collective reflection, digital	<b>Expectation Reform Learning Model (ERLM)</b> – reframes learning expectations from formal

<b>Analytical Dimension</b>	<b>Key Empirical Findings (Constructivist Grounded Theory)</b>	<b>Conceptual / Analytical Model</b>
<b>design and sustainability</b>	communication, markets, and entrepreneurial spaces. Learning is sustained through repetition, facilitation, and shared moral purpose rather than short-term, outcome-driven training programmes.	instruction toward experiential, adaptive, and community-based lifelong learning platforms.
<b>AD5. Cross-context transferability of learning mechanisms</b>	Comparative cases from Scotland reveal similar learning mechanisms— ecological feedback, reflection-in-action, mentoring, and community facilitation—operating within different institutional and cultural settings. Transferability occurs at the level of learning mechanisms, not direct model replication.	<b>HTLM as a Transferable Interpretive Framework</b> – validated through complementary UK case studies as a mechanism-based, context-sensitive analytical framework.

Together, these analytical dimensions demonstrate how the study's empirically grounded findings address the two research questions and three research objectives, while advancing an integrated conceptual understanding of transformative learning and community learning platforms for smallholding ecological organic farming practitioners.

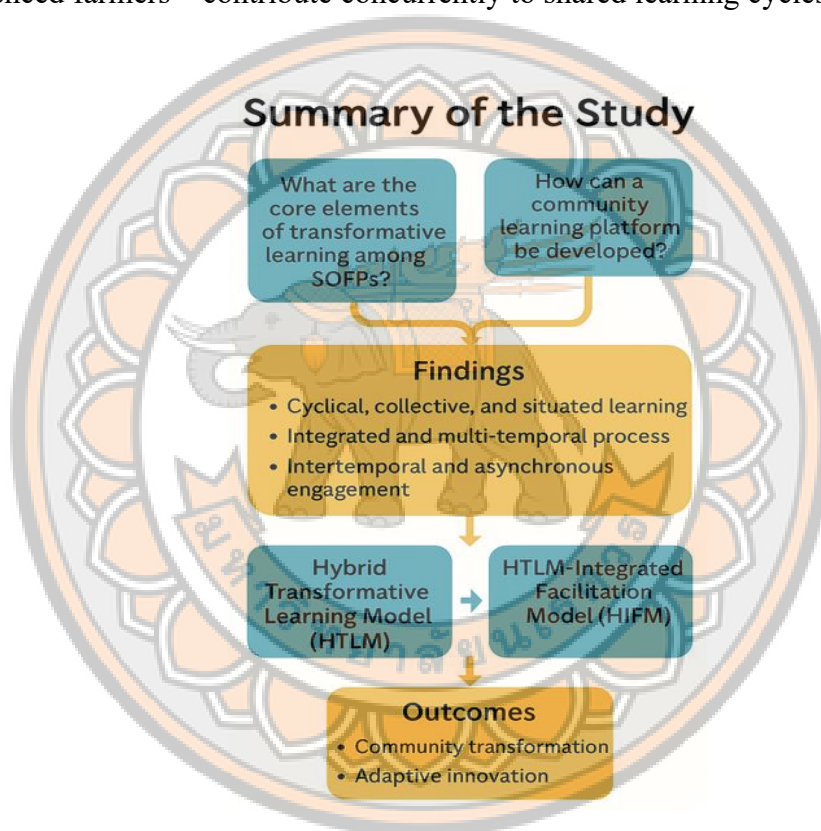


**Figure 57 Research Questions → Findings → Models (HTLM & HIFM) → Outcomes (Community Transformation & Adaptive Innovation)**

**Table 17 Curriculum and Teaching Implications Derived from Transformative Learning Findings**

Dimension	Evidence from Findings	Curriculum / Teaching Implication
Curriculum Design	Learning is cyclical, intertemporal, and practice-based	Curriculum should be process-oriented, organised around facilitation cycles rather than content modules
Teaching Role	Learning sustained through mentoring, coaching, and coordination	The teacher's role shifts from instructor to facilitator/mentor/coach
Learning Structure	Asynchronous, intergenerational participation	Curriculum must allow mixed-experience cohorts and non-linear progression
Assessment	Learning is evidenced through adaptation and practice change	Assessment based on reflective capability, adaptive action, and reintegration rather than tests

Using Constructivist Grounded Theory (CGT), the research drew on semi-structured interviews, participant observations, and After-Action Reviews (AARs) to explore how smallholders engage in transformative learning through their lived experiences. The findings revealed that learning among SOFPs is cyclical, collective, and situated—shaped by daily practice, emotional engagement, social reflection, and intergenerational knowledge exchange. Learning was found to occur intertemporally and asynchronously, as practitioners at different stages—beginners, intermediates, and experienced farmers—contribute concurrently to shared learning cycles.



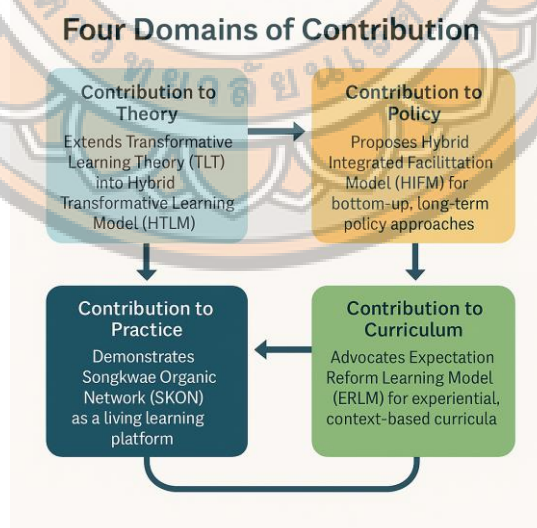
**Figure 58 From Research Theoretical Concept to Research Flow and Model Integration Overview**

To explain these dynamics, the study developed the Hybrid Transformative Learning Model (HTLM), which synthesises Transformative Learning Theory (TLT), Situated Learning Theory (SLT), and Adaptive Knowledge Systems (AKS). The HTLM situates transformation within community practice, reflection-in-action, and ecological adaptation, demonstrating how learning evolves through non-linear, multi-temporal, and context-responsive processes.

The study further operationalised the HTLM through the HTLM-Integrated Facilitation Model (HIFM)—a micro-implementation cycle designed for 12-week facilitation, mentoring, and coaching loops that connect physical and digital learning spaces. This hybrid approach illustrates how SKON functions not only as a farming network but also as a living learning ecosystem, bridging experiential, reflective, and digital engagement.

Overall, the research contributes a comprehensive framework for community-led, intergenerational, and practice-based transformative learning. It provides theoretical, practical, policy, and curriculum implications—emphasising the need for bottom-up facilitation systems, context-based education, and adaptive governance that enable smallholder networks like SKON to thrive as engines of community transformation and ecological innovation. Taken together, these findings demonstrate that curriculum for smallholder ecological organic farming must be designed as a facilitation framework rather than a content syllabus, prioritising adaptive practice, reflective capability, and community participation.

### Key Contributions



**Figure 59 Four Domains of Contribution**

### 1. Contribution to Theory

This study extends Transformative Learning Theory (TLT) by embedding social participation, ecological responsiveness, and cultural contextualisation more explicitly within the learning process. Through the Hybrid Transformative Learning Model (HTLM), it reconceptualises transformation as a *hybrid and community-based process* rather than a purely cognitive one. HTLM integrates experiential, relational, and ecological dimensions of learning, bridging the gap between individual transformation and collective adaptation. The model contributes to advancing theoretical discourse in non-formal, practice-based learning by positioning community interaction and ecological awareness as central drivers of transformative change (Illeris, 2023; Lange & Foote, 2022).

### 2. Contribution to Practice

Empirically, this research demonstrates how the Songkwaee Organic Network (SKON) functions as a living learning platform—a dynamic community system in which smallholding practitioners co-create knowledge through mentoring, reflection, experimentation, and shared ecological practice. Learning is not delivered through formal instruction; rather, it emerges through everyday participation, problem-solving, and collective sense-making.

The integration of the Hybrid Transformative Learning Model (HTLM) with the HTLM–Integrated Facilitation Model (HIFM) provides a replicable mechanism for sustaining continuous learning, mentorship, and adaptive practice. This contribution offers concrete insights into how smallholder communities can maintain resilience and innovation in the face of ecological uncertainty and market volatility, strengthening both individual capability and collective agency.

### 3. Contribution to Policy and Social Development Governance

This study contributes to policy debates in social development by demonstrating that transformative learning functions as a form of **social infrastructure**, rather than a supplementary educational activity. The findings advocate for a bottom-up, long-term policy orientation that empowers communities instead of relying on prescriptive, top-down interventions.

Policies should recognise local learning networks such as SKON not only as producers of organic food, but also as producers of adaptive knowledge essential for sustainable development. Accordingly, this research proposes that government and institutional frameworks integrate facilitation, mentoring, and participatory mechanisms—operationalised through the HIFM—into agricultural and social development policy design. Such a shift aligns with global sustainability agendas and prioritises empowerment, continuity, and inclusivity over compliance-driven approaches (Pretty et al., 2022).

At local and provincial levels, policy support should focus on recognising and resourcing facilitation roles—such as mentors, coordinators, and learning facilitators—that sustain trust, participation, and adaptive learning within community networks. Rather than enforcing standardised curricula, support mechanisms should prioritise facilitation training, peer-learning structures, and spaces for collective reflection.

At the national level, agricultural and social development policy should formally acknowledge community learning platforms as legitimate sites of knowledge production and social development. This includes integrating facilitation-based learning models, such as the HTLM–Integrated Facilitation Model, into extension services, lifelong learning frameworks, and food security strategies.

The study also highlights risks associated with policy misalignment. Top-down standardisation, performance-driven evaluation, or rigid certification requirements may undermine trust-based learning processes and weaken community autonomy. Effective governance, therefore, requires a subsidiarity-based approach that supports communities to self-organise while avoiding the imposition of externally defined development logics.

By reframing learning as a governance mechanism for social development, this research advances understanding of how resilience, collective agency, and sustainability are built over time through community-based learning systems.

#### **4. Contribution to Curriculum and Teaching Practice**

This study contributes to curriculum and teaching practice by reframing agricultural and adult education from content-driven instruction toward facilitation-oriented, community-embedded, and experiential learning designs. Drawing on the

Hybrid Transformative Learning Model (HTLM), the findings demonstrate that transformative learning among smallholding ecological organic farming practitioners does not follow linear lesson structures or predefined competency frameworks. Instead, learning unfolds through iterative cycles of practice, reflection-in-action, adaptation, and reintegration within real socio-ecological contexts.

The study therefore challenges conventional training curricula that prioritise technical knowledge transmission and short-term outcomes. In their place, it proposes a process-oriented curriculum logic, where learning objectives are framed around adaptive capacity, reflective competence, ecological responsiveness, and community participation rather than mastery of isolated techniques.

The operationalisation of HTLM through the HTLM–Integrated Facilitation Model (HIFM) provides a concrete pedagogical framework for curriculum design. The 12-week facilitation cycle illustrates how teaching roles shift from instructor-led delivery to facilitation, mentoring, coaching, and modelling. Educators and extension workers function not as knowledge authorities but as learning companions who scaffold reflection, support experimentation, and sustain learner confidence over time.

From a teaching perspective, this research advances reflection-in-action pedagogy, positioning tools such as After-Action Reviews (AARs), peer dialogue, and digital reflection spaces (e.g., LINE groups) as core curricular components rather than supplementary activities.

Notably, the findings highlight the necessity of intergenerational and asynchronous curriculum design. Effective curricula must accommodate learners at different stages of experience simultaneously, enabling beginners, intermediate practitioners, and experienced farmers to participate within shared learning cycles. This intertemporal structure supports continuity, knowledge circulation, and identity formation across generations.

Taken together, these findings demonstrate that curriculum for smallholder ecological organic farming must be designed as a **facilitation framework rather than a content syllabus**, prioritising adaptive practice, reflective capability, and community participation.

## **5. Implications for Future Learners and Lifelong Learning Programmes**

Beyond its contributions to theory, practice, and policy, this thesis offers direct benefits for future learners and the design of lifelong learning programmes. By conceptualising learning as a cyclical, facilitation-based, and community-embedded process, the Hybrid Transformative Learning Model (HTLM) provides a framework that accommodates adult learners who move in and out of learning over time due to livelihood, ecological, and life-course constraints. Rather than assuming continuous participation or linear progression, the model supports re-entry, cumulative experience, and intergenerational knowledge circulation.

For lifelong learning programmes, this research demonstrates that effective adult education—particularly in ecological and community-based contexts—should prioritise mentoring, peer learning, reflective practice, and adaptive problem-solving over content-heavy instruction or credential-driven pathways. Programmes informed by HTLM and the HTLM–Integrated Facilitation Model (HIFM) can therefore serve diverse learners across age groups, experience levels, and stages of life, enabling learning to remain relevant, accessible, and sustainable over time. In this way, the thesis advances lifelong learning as a dynamic social process that supports personal development, collective capacity, and ecological responsibility simultaneously.

## **6. Contribution to Social Development**

This study contributes to Social Development as a disciplinary field by reframing development not as the delivery of external interventions, but as a learning-driven, relational, and community-embedded process. Drawing on empirical evidence from the Songkwae Organic Network (SKON), the research demonstrates how transformative learning operates as a foundational mechanism through which communities build collective capacity, social cohesion, and adaptive resilience.

From a social development perspective, the findings show that community learning platforms such as SKON function as informal yet effective social infrastructures. Through facilitation, mentoring, shared practice, and intergenerational exchange, practitioners collectively generate social capital, trust, and moral commitment to ecological stewardship. These processes enable communities to coordinate action, manage uncertainty, and sustain livelihoods without reliance on externally imposed development programmes.

The Hybrid Transformative Learning Model (HTLM) and the Integrated Facilitation Model (HIFM) extend social development theory by offering a mechanism-based explanation of how agency, participation, and empowerment emerge through everyday practice. Rather than positioning community members as passive recipients of development, the models conceptualise practitioners as co-producers of knowledge and social change. Development, in this sense, unfolds through cumulative learning, relational facilitation, and adaptive governance embedded within community life.

By foregrounding the interaction between learning, identity formation, and ecological practice over time, this study advances a process-oriented understanding of social development. It demonstrates that sustainable outcomes—such as resilience, food security, and community well-being—are achieved not through short-term projects, but through long-term learning ecologies that integrate social, cultural, and environmental dimensions. As such, the research provides a grounded and context-sensitive contribution to social development scholarship in smallholder and community-based contexts.

### **International Implications, Transferability, and Policy Learning**

This research demonstrates that the Hybrid Transformative Learning Model (HTLM) has relevance beyond its original empirical setting. Comparative insights from Scotland reveal that, despite substantial differences in institutional structures, land tenure arrangements, governance systems, and cultural norms, the core mechanisms of transformative learning remain consistent across contexts. In both the Songkwae Organic Network (SKON) in Thailand and smallholder and community-based enterprises in Scotland, learning is sustained through experiential engagement, reflection-in-action, ecological feedback, and relational facilitation.

Importantly, the Scottish cases do not function as models to be replicated, but as **contrast cases** that test the transferability of HTLM at the level of learning mechanisms rather than institutional form. While Scotland benefits from stronger formal support structures and clearer policy alignment, transformation still depends on informal mentoring, peer learning, and adaptive experimentation—dynamics that closely mirror those observed in SKON. This confirms that the HTLM is transferable as an interpretive

and analytical framework, capable of explaining learning across diverse socio-ecological systems without erasing contextual specificity.

At the international level, these findings suggest that effective policy learning should prioritise enabling conditions for community learning rather than imposing uniform solutions. Policy transfer should therefore focus on facilitating adaptive frameworks that support self-organisation, reflection, and coordination within local learning ecologies, while respecting culturally embedded knowledge systems and shared ecological ethics.

### **Transferability to Other Contexts**

The study's findings are transferable to other smallholder organic farming groups and community learning platforms under specific enabling conditions. The HTLM and HIFM can be adapted for contexts in which practitioners rely on experiential knowledge, value peer collaboration, and operate within ecological constraints. Transferability also depends on minimal digital infrastructure, collective motivation, and facilitative leadership. When these conditions are present, the model can strengthen learning, coordination, and sustainable practice in diverse contexts across Thailand and internationally.

### **Policy Impacts: Positive and Negative**

The research contributes positively to policy by demonstrating how hybrid learning platforms can support national goals for sustainable agriculture, digital transformation, and community resilience. The findings provide a foundation for designing policy that recognises facilitation, peer learning, and digital–physical integration as core components of smallholder development.

However, the findings also highlight potential negative impacts. The formal adoption of community learning models without consideration of local specificity may create rigid structures that undermine organic community processes. Uneven access to technology may produce unequal participation and limit the reach of digital learning. Policymakers must therefore adopt flexible, inclusive, and context-sensitive approaches to sustain the positive contributions of the research while avoiding the risks.

### **Limitations and Contextual Boundaries**

While this study provides robust conceptual and empirical insights, several limitations must be acknowledged. First, the primary empirical focus on Phitsanulok Province limits statistical generalisability; however, the study prioritises theoretical transferability rather than representativeness. The use of Constructivist Grounded Theory (CGT) ensures that findings remain analytically robust within comparable ecological and community-based contexts.

Second, the research captures learning processes within a defined temporal window. Although intergenerational and intertemporal dynamics were evident, longitudinal tracking across multiple farming generations was beyond the scope of this study. Future research could strengthen understanding of how HTLM functions over extended periods of ecological, social, and economic change.

Finally, the researcher's dual role as practitioner and scholar may have influenced interpretation. This limitation was addressed through reflexive memoing, theoretical sampling, triangulation, and transparent analytical procedures, consistent with CGT methodological rigour.

These limitations do not undermine the study's contributions; rather, they clarify the conditions under which the findings should be interpreted and extended.

### **Methodological Reflections**

The Constructivist Grounded Theory (CGT) approach proved critical in uncovering participants' perspectives and generating a theory that is both contextually sensitive and adaptable. Iterative coding, theoretical sampling, and comparative analysis enabled rich conceptual development.

Digital ethnography and cross-context analysis further expanded the understanding of how learning evolves beyond local boundaries. Notably, the methodology emphasises reflexivity and positionality, acknowledging the researcher as part of the interpretive process rather than an external observer.

## Recommendations for Future Research

Future studies could:

- **Conduct cross-regional or cross-country comparative studies** to explore how community learning platforms operate under different ecological, cultural, and policy conditions. Such comparisons would test the transferability of the HTLM framework across diverse socio-environmental contexts.
- **Undertake longitudinal studies** to trace transformative learning across multiple farming generations, capturing how intergenerational transfer and mentorship evolve within networks like SKON.
- **Investigate digitalisation and hybrid learning platforms** by examining how LINE, Facebook, and emerging AI-driven tools can expand collaborative learning, data sharing, and collective reflection beyond geographic boundaries.
- **Pilot policy experiments** that embed HTLM and HIFM principles into agricultural extension, non-formal education, and food security programmes, assessing their effects on long-term adaptive capacity and community empowerment.
- **Explore cross-sectoral integration** between agriculture, education, and sustainability policy—examining how multi-stakeholder collaboration (farmers, universities, NGOs, and government agencies) can co-create adaptive learning ecosystems.
- **Advance theoretical refinement** of HTLM by linking it with complementary frameworks such as Activity Theory or Social Learning Systems, thereby broadening its explanatory power beyond smallholder contexts.
- **Adopt mixed-method or participatory methodologies** (e.g., Participatory Action Research or Constructivist Grounded Theory) to co-generate data with practitioners and reflect real-time learning dynamics.

## Final Reflections: Learning as a Living Ecology of Practice

This thesis demonstrates that transformative learning among smallholding ecological organic farming practitioners is neither linear nor episodic, nor driven primarily by dramatic emotional disruption. Instead, transformation unfolds as a **cyclical, relational, and contextually grounded process**, embedded in everyday practice, ecological interaction, and community life.

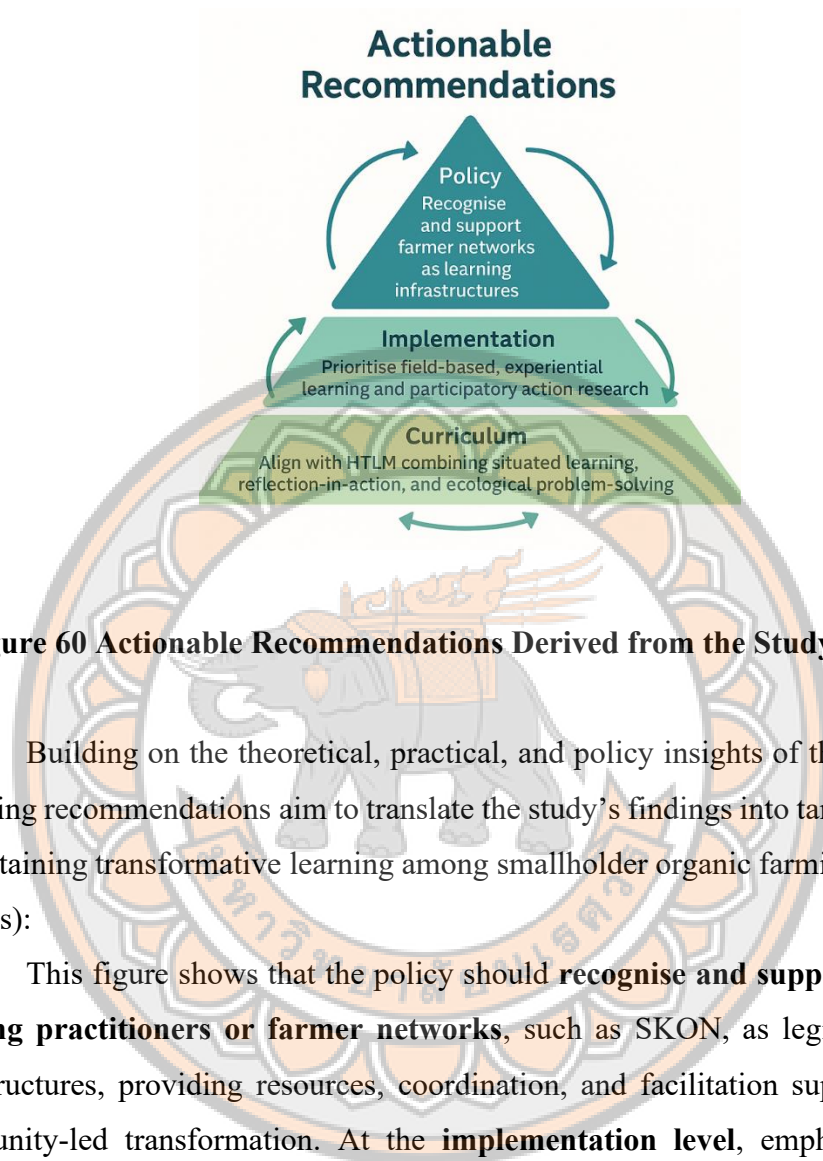
Through the Hybrid Transformative Learning Model (HTLM) and its operational extension, the HTLM-Integrated Facilitation Model (HIFM), learning is shown to function as a living ecology of practice—where experience, reflection, action, and reintegration continuously interact. Digital platforms extend, rather than replace, embodied practice, enabling asynchronous and intertemporal learning across generations and locations.

A key insight of this study is that sustainable transformation depends on balancing **movement and continuity**. Those who move—through migration, experimentation, or external engagement—introduce new experiences and perspectives. Those who remain rooted in place sustain memory, identity, and ecological continuity. Learning emerges through the interaction of these roles within hybrid physical–digital spaces, forming a collaborative learning ecology that supports both innovation and stability.

From this perspective, sustainability is not static permanence but adaptive harmony. Community learning platforms such as SKON demonstrate how transformation can be sustained without rupture—through trust, facilitation, shared values, and cumulative practice. Recognising learning as a core socio-ecological process, rather than a supplementary activity, repositions farmers as co-creators of knowledge and communities as living infrastructures of learning.

Ultimately, the transformation of organic agriculture is inseparable from the transformation of learning. Investing in community learning platforms that integrate practice, reflection, and relational facilitation enables societies to cultivate not only resilient food systems, but also sustainable ways of living, working, and learning together.

## Actionable Recommendations



**Figure 60 Actionable Recommendations Derived from the Study's Findings**

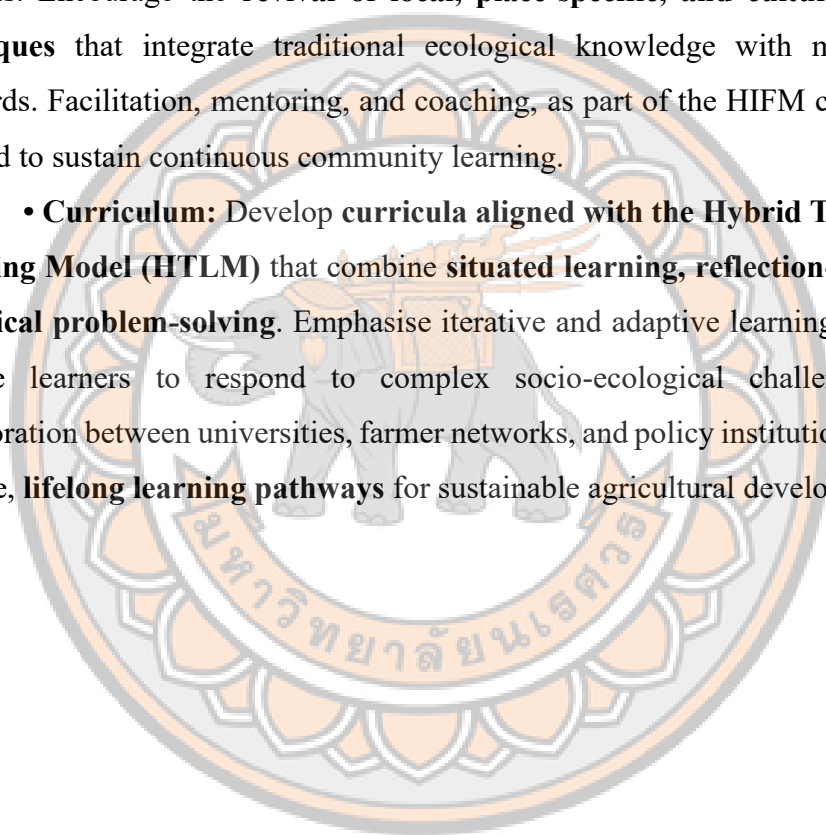
Building on the theoretical, practical, and policy insights of this research, the following recommendations aim to translate the study's findings into tangible strategies for sustaining transformative learning among smallholder organic farming practitioners (SOFPs):

This figure shows that the policy should **recognise and support the organic farming practitioners or farmer networks**, such as SKON, as legitimate learning infrastructures, providing resources, coordination, and facilitation support to sustain community-led transformation. At the **implementation level**, emphasis should be placed on **field-based experiential learning and participatory action research**, following the iterative cycles of the *Hybrid-Integrated Facilitation Model (HIFM)* to embed practice, reflection, and adaptation in authentic contexts. At the **curriculum level**, agricultural and social development education should be aligned with the *Hybrid Transformative Learning Model (HTLM)*, integrating **situated learning, reflection-in-action, and ecological problem-solving** to foster resilience, creativity, and context-driven learning among practitioners.

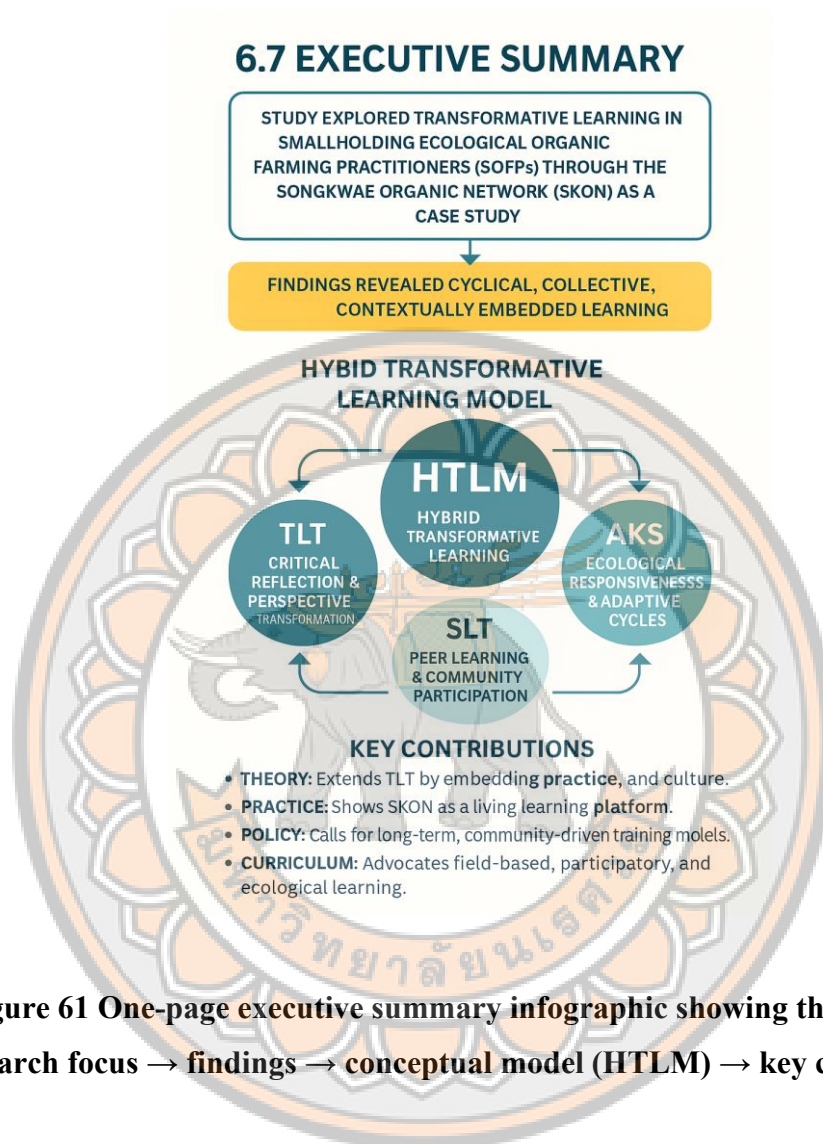
- **Policy:** Recognise and support farmer networks such as **SKON** as legitimate community learning infrastructures. Government agencies should **fund coordination roles** (e.g., facilitators, secretaries, and communication leads) and invest in long-term, **participatory governance mechanisms** that encourage intergenerational knowledge transfer and collaborative problem-solving rather than short-term training initiatives.

- **Implementation:** Prioritise **field-based, experiential learning** and **participatory action research** that embed reflection and adaptation within real farming contexts. Encourage the **revival of local, place-specific, and culturally grounded techniques** that integrate traditional ecological knowledge with modern organic standards. Facilitation, mentoring, and coaching, as part of the HIFM cycle, should be adopted to sustain continuous community learning.

- **Curriculum:** Develop **curricula aligned with the Hybrid Transformative Learning Model (HTLM)** that combine **situated learning, reflection-in-action, and ecological problem-solving**. Emphasise iterative and adaptive learning processes that prepare learners to respond to complex socio-ecological challenges. Promote collaboration between universities, farmer networks, and policy institutions to co-design flexible, **lifelong learning pathways** for sustainable agricultural development.



## Executive Summary



**Figure 61 One-page executive summary infographic showing the flow from research focus → findings → conceptual model (HTLM) → key contributions**

This study examined how Smallholding Ecological Organic Farming Practitioners (SOFPs) learn, adapt, and transform through community-based learning platforms, focusing on the Songkwae Organic Network (SKON) as a case study. The findings reveal that learning among SOFPs is non-linear, intertemporal, and contextually embedded, characterised by synchrony, cyclical patterns, and collective processes, contrasting with the linear and individualised learning process described in classical Transformative Learning Theory (TLT).

To explain these dynamics, the study developed the Hybrid Transformative Learning Model (HTLM), which integrates three complementary theoretical perspectives:

- Transformative Learning Theory (TLT): emphasising critical reflection and perspective transformation;
- Situated Learning Theory (SLT): highlighting peer learning, social interaction, and community participation;
- Adaptive Knowledge Systems (AKS): focusing on ecological responsiveness, experimentation, and adaptive cycles of learning.

The HTLM demonstrates how practitioners learn through reflection-in-action, mentorship, intergenerational exchange, and cultural embeddedness, resulting in resilient, adaptive, and community-led ecosystems of practice. Learning within SKON was found to be intertemporal and asynchronous, where individuals at different stages—beginners, intermediates, and experienced practitioners—contribute concurrently to collective knowledge creation.

Key Contributions include:

- Theory: Extends Transformative Learning Theory by embedding *practice, ecology, and culture* into a hybrid, community-centred framework for adult learning.
- Practice: Demonstrates how SKON operates as a *living learning platform*, facilitating knowledge co-creation, reflection, and adaptive problem-solving.
- Policy: Advocates for *long-term, bottom-up, and community-driven facilitation systems* that position farmer networks as legitimate learning infrastructures.
- Curriculum: Recommends *field-based, participatory, and ecologically grounded curricula* that integrate reflection-in-action and context-responsive problem-solving.

Overall, the study offers both theoretical and practical insights into how transformative learning in smallholder organic farming extends beyond individual cognition, becoming a collective, ecological, and culturally situated process that enhances community resilience and fosters sustainable development.

## Final Reflection

### Transformative Learning and Sustainable Living Continuum



**Figure 62 Transformative Learning and Sustainable Living Continuum**

The Songkwae Organic Network (SKON) exemplifies how community-driven learning platforms can foster resilience, innovation, and a sense of identity among practitioners. Through the Hybrid Transformative Learning Model (HTLM) and its micro-implementation cycle (HIFM), this study shows that transformation in organic farming is sustained through the continuous interplay of experience, reflection, action, and reintegration—a process strengthened by digital connectivity and intergenerational collaboration. Ultimately, the transformation of organic agriculture is inseparable from the transformation of learning itself. Recognising farmers as co-creators of knowledge and investing in platforms that integrate practice, reflection, and community dialogue enables societies to cultivate not only sustainable food systems but also sustainable ways of living, working, and learning together. The outcomes of this research call for a future in which education, policy, and community engagement evolve in tandem, supporting adaptive, reflective, and inclusive learning ecosystems for future generations.

In conclusion, this research demonstrates that learning—understood through core learning components and cyclical learning processes among SOFPs—is not a supplementary activity or peripheral aspect of agricultural practice.

The Hybrid Transformative Learning Model (HTLM) and the Integrated Facilitation Model (HIFM) developed in this study serve as *conceptual compasses* for reinterpreting adult learning as a living system encompassing *space, time, and life*. These models reveal that when learning is grounded in ecological practice and supported by community structures, it becomes an enduring force that nurtures individual growth while simultaneously enhancing community resilience and collective sustainability.

Recognising these dynamics, this research offers contributions both theoretically and practically. It redefines the approach to organic farming and social development through the lens of *collaborative learning*. The findings emphasise that *knowledge, community, and ecology* are not separate entities but *mutually transformative and interdependent processes* that evolve together over time.

Within this dynamic, learning can be understood through two interrelated dimensions: (1) Movers, and (2) Stayers, connected through both physical and digital (phygital/pidigital) spaces that bridge experience and knowledge.

- **Movers** (those who travel, migrate, or explore across places) act as *phygital learners*, bringing new experiences, reflections, and innovations that enrich and challenge community knowledge.
- **Stayers** (those rooted in place) preserve memory, continuity, and stability, providing the grounding necessary for long-term adaptation and collective identity.

These two dimensions are not separate but complementary, working in a shared learning cycle. *Movers* introduce new perspectives and practices into the community system, while *stayers* filter, adapt, and stabilise these within local contexts and values. When both dimensions interact harmoniously, physical and digital spaces together form a Collaborative Learning Space that enables sustainable socio-ecological transformation through the relational equation:

***Human (movers/stayers) × Space (physical–digital) × Learning (collaborative interaction)***

At this juncture—standing at the close of the first quarter of the 21st century—transformation is accelerating at an unprecedented pace. For sustainable change to occur, it is essential to prepare “spaces of practice” as adaptive learning bases where newcomers and long-standing members can quickly connect to existing systems of learning. The synthesis of movement and stability fosters balanced development:

movement brings renewal, stability ensures continuity, and the community's dynamics flow seamlessly.

From this perspective, we can perceive the emergence of a learning ecology—a *living ecology of practice*—that integrates reflection, action, and ethical purpose. It connects movement and continuity in a coherent whole, illustrating that *sustainability* does not mean static permanence but rather *adaptive harmony* between those who move and those who remain. It is through this harmony that community transformation can endure—*simultaneously within change and continuity*.

### **Funding Statement**

The primary research on “*Urban Community Learning Platforms for Smallholding Ecological Farming Practitioners*” was supported by the ‘High Capability Student’ scholarship for fiscal 2023 from the Graduate School of Naresuan University, which provided full tuition fee coverage for the entire course. At the same time, the complementary research, “*Promoting Community Food Security through Smallholder Organic Farming Entrepreneurs*”, was supported by the Scholarship for “*Study and Research Funds*” and donations from a private donor for the student under the supervision of Associate Professor Dr Patcharin Sirasoonthorn through the Department of Sociology and Anthropology, Faculty of Social Sciences.

### **Acknowledgments**

This research project has been approved by Naresuan University Institutional Review Board (IRB) under COA No. 269/2024 and IRB No. P2-0196/2567, and would like to thank our participants who generously gave their time and shared their insights for this study. The researcher would like to extend their sincere thanks to the Faculty of Social Sciences, NU, their research consultant, and their staff members. Their excellent support significantly contributed to the project's accomplishment.



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## APPENDIX A SEMI-STRUCTURED INTERVIEW GUIDELINES



### แนวคำถามการสัมภาษณ์แบบกึ่งโครงสร้าง ชุดที่ 1

คำแนะนำ : แนวคำถามการสัมภาษณ์แบบกึ่งโครงสร้าง (Semi-structured Interview) แบบปลายเปิด (Open-end) ชุดนี้ เป็นส่วนหนึ่งของงานวิจัย เรื่อง “แพลตฟอร์มการเรียนรู้ในชุมชนเมืองเพื่อนักปฏิบัติการสวนเกษตรอินทรีย์เชิงนิเวศรายย่อย” (Urban Community Learning Platform for Smallholding Ecological Organic Farming Practitioners)

1. โดยมีวัตถุประสงค์ ดังนี้
  - a. เพื่อศึกษาการเรียนรู้สำหรับการเปลี่ยนแปลงเพื่อการพัฒนาการเรียนรู้ของผู้ใหญ่
  - b. เพื่อสร้างแพลตฟอร์มชุมชนของผู้ประกอบการเกษตรอินทรีย์
  - c. เพื่อสร้างเป็นโมเดลของแพลตฟอร์มการเรียนรู้ของชุมชนเพื่อนักปฏิบัติการเกษตรอินทรีย์ด้านการเรียนรู้เพื่อการเปลี่ยนแปลง
2. ข้อมูลที่ได้จะนำไปใช้ประโยชน์เพื่อการศึกษาเท่านั้น และหากท่านไม่สมัครใจจะตอบคำถาม หรือปฏิเสธจะตอบคำถามข้อใด ท่านสามารถถอนตัวได้ตลอดเวลา และการขอลงตัวออกจากโครงการจะไม่มีผลกระทบต่อผู้เข้าร่วมในทุกระดับ
3. แบบสัมภาษณ์แบบเจาะลึกข้อมูล มีทั้งหมด 16 หน้า แบ่งออกเป็น 4 ส่วน
4. หากท่านมีข้อสงสัยสามารถติดต่อสอบถามได้ที่ นางสาวอรนุช เนาวเกตุ นิสิตระดับปริญญาญัตินิติบัณฑิต สาขาพัฒนาสังคม ภาควิชาสังคมวิทยาและมานุษยวิทยา คณะสังคมศาสตร์ มหาวิทยาลัยนเรศวร ตำบลท่าโพธิ์ อำเภอเมือง จังหวัดพิษณุโลก โทรศัพท์ 092-6355646 / 08-1688-3965

เฉพาะนักวิจัย/ผู้ช่วยนักวิจัย/ผู้เก็บ

ข้อมูล: .....

ว-ค-ป ..... สถานที่เก็บ

ข้อมูล ..... รหัสผู้ให้

สัมภาษณ์ .....

.....

ผู้ตรวจเช็ค .....

## **Urban Community Learning Platforms for Smallholding Ecological Organic Farming Practitioners**

(แพลตฟอร์มการเรียนรู้ของชุมชนเมืองสำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อย)

### **Research Tools Guidelines**

The semi-structured interview questions and observation guidelines are tailored to studying a transformative learning platform for 21st-century urban smallholding ecological organic farming practitioners in Phitsanulok Province, Thailand.

แนวคำถามการสัมภาษณ์แบบกึ่งโครงสร้างและแนวทางการร่วมสังเกตการณ์ได้รับการปรับให้เหมาะกับการศึกษาแพลตฟอร์มการเรียนรู้เพื่อการเปลี่ยนแปลงสำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในชุมชนเมือง ในศตวรรษที่ 21 ในจังหวัดพิษณุโลก

#### **Research Questions** (คำถามของงานวิจัย)

1. What would be the core elements for transformative learning to urban community smallholding organic farming practitioners?

อะไรคือองค์ประกอบหลักสำหรับการเรียนรู้เพื่อการเปลี่ยนแปลงให้กับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในชุมชนเมือง

2. How can a community learning platform be developed for transformative learning among urban community smallholding organic farming practitioners?

จะพัฒนาแพลตฟอร์มการเรียนรู้ของชุมชนเพื่อการเรียนรู้เพื่อการเปลี่ยนแปลงในหมู่นักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในชุมชนเมืองได้อย่างไร

#### **Objectives of the Research** (วัตถุประสงค์ของงานวิจัย)

1. Investigate adult learning platforms to develop transformational learning for organic urban organic farming practitioners.

ศึกษาแพลตฟอร์มการเรียนรู้สำหรับผู้ใหญ่เพื่อพัฒนาการเรียนรู้เพื่อการเปลี่ยนแปลงสำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในชุมชนเมือง

2. To establish a community learning platform for urban organic farming practitioners.

เพื่อสร้างแพลตฟอร์มการเรียนรู้ของชุมชนสำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในชุมชนเมือง

### 3. To identify alternative solutions based on lessons learned from a community adult learning platform module for transformative practitioners.

เพื่อระบุทางเลือกในการแก้ปัญหาตามบทเรียนที่เรียนรู้จากโมดูลแพลตฟอร์มการเรียนรู้สำหรับผู้ใหญ่ในชุมชน สำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในชุมชนเมืองเพื่อการเปลี่ยนแปลง

#### Research Keywords (คำอธิบายคำสำคัญในงานวิจัย)

**Smallholdings [สวนเกษตรรายย่อย]:** หมายถึง พื้นที่ที่ประกอบกิจกรรมสวนเกษตรขนาดเล็ก ตามงานวิจัยนี้คือพื้นที่ 0.1-75 ไร่ ที่มีผู้ประกอบกิจกรรมไม่ได้เป็นแค่เกษตรกร มีลักษณะเป็นงานอดิเรก กิจงานอดิเรก มุ่งหวังผลได้เป็นอาหารของครัวเรือน รายได้ประจำและ/หรือรายได้เสริม มีกิจกรรมที่ไม่ได้มุ่งเน้นผลประโยชน์เพื่อส่วนตนเพียงอย่างเดียว แต่รวมถึงการเป็นจิตอาสาเพื่อพัฒนากิจกรรมเพื่อสังคมด้วย

**Organic Farming [การทำสวนเกษตรอินทรีย์]:** หมายถึง การทำสวนเกษตรอินทรีย์โดยไม่ใช้สารเคมีสังเคราะห์ทุกประเภทที่ถูกห้ามตามข้อกำหนดของ IFOAM และ Organic Thailand

**Ecological Organic Farming [การทำสวนเกษตรอินทรีย์เชิงนิเวศ]:** หมายถึง การทำสวนเกษตรอินทรีย์โดยไม่ใช้สารเคมีสังเคราะห์ทุกประเภทที่ถูกห้ามตามข้อกำหนดของ IFOAM และ Organic Thailand โดยตั้งอยู่บนการคำนึงถึงระบบนิเวศพืช สัตว์ และสังคม

**Ecological Organic Farming Practitioner [นักปฏิบัติการเกษตรอินทรีย์]:** หมายถึง ผู้ที่อยู่บนพื้นที่ที่และประกอบกิจกรรมสวนเกษตรอินทรีย์ขนาดเล็ก มีขนาดพื้นที่ตามงานวิจัยนี้คือพื้นที่ 0.1-75 ไร่ โดยไม่ใช้สารเคมีสังเคราะห์ทุกประเภทที่ถูกห้ามตามข้อกำหนดของ IFOAM และ Organic Thailand โดยตั้งอยู่บนการคำนึงถึงระบบนิเวศพืช สัตว์ และสังคม และเป็นผู้ที่มีการประกอบกิจกรรมที่ไม่ได้เป็นแค่เกษตรกร โดยอาชีพ หรือถือว่าเป็นอาชีพหลักเพียงอย่างเดียว

**Smallholding Ecological Organic Farming Practitioners (SEOFPs) [นักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อย]:** หมายถึง ผู้ที่อยู่บนพื้นที่ที่และประกอบกิจกรรมสวนเกษตรอินทรีย์ขนาดเล็ก มีขนาดพื้นที่ตามงานวิจัยนี้คือพื้นที่ 0.1-75 ไร่ โดยตั้งอยู่บนการคำนึงถึงระบบนิเวศพืช สัตว์ และสังคม และเป็นผู้ที่มีการประกอบกิจกรรมที่ไม่ได้เป็นแค่เกษตรกรโดยอาชีพ หรือถือว่าเป็นอาชีพหลักเพียงอย่างเดียว แต่ประกอบกิจกรรมไม่ได้เป็นหรือเป็นเกษตรกรโดยอาชีพ แต่มีการทำเกษตรอินทรีย์ที่มีลักษณะเป็นงานอดิเรก กิจงานอดิเรก มุ่งหวังผลได้เป็นอาหารของครัวเรือนเป็นหลัก ถือเป็นรายได้ประจำและ/หรือรายได้เสริม มีกิจกรรมที่ไม่ได้มุ่งเน้นผลประโยชน์เพื่อส่วนตนเพียงอย่างเดียว แต่รวมถึงการเป็นจิตอาสาเพื่อพัฒนากิจกรรมเพื่อสังคมด้วย

**Urban Community [ชุมชนเมือง]:** หมายถึง พื้นที่ใดพื้นที่หนึ่ง เป็นแบบชุมชนที่มีความเป็นเมือง ที่มีลักษณะของการใช้พื้นที่ในศตวรรษที่ 21 ใช้ก่อให้เกิดการใช้สอยทรัพยากรทางกายภาพและดิจิทัลร่วมกัน โดยกลุ่มบุคคลมาร่วมกันทำกิจกรรมที่มีเป้าหมายร่วมกันอย่างใดอย่างหนึ่ง หรือหลายอย่างร่วมกัน ให้เป็นไปตามวัตถุประสงค์ของกลุ่ม

**Urban Smallholding Ecological Organic Farming Practitioners' Community [นักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในชุมชนเมือง]:** หมายถึง พื้นที่ใดพื้นที่หนึ่ง เป็นแบบชุมชนที่มีความเป็นเมือง ที่มีลักษณะของการใช้พื้นที่ในศตวรรษที่ 21 ใช้ก่อให้เกิดการใช้สอยทรัพยากรทางกายภาพและดิจิทัลร่วมกัน โดยกลุ่มบุคคลมาร่วมกันทำกิจกรรมที่มีเป้าหมายร่วมกันอย่างใดอย่างหนึ่ง หรือหลายอย่างร่วมกัน ให้เป็นไปตามวัตถุประสงค์ของกลุ่ม ที่มีการประกอบกิจกรรมสวนเกษตรอินทรีย์ขนาดเล็ก (มีขนาดพื้นที่ตามงานวิจัยนี้คือพื้นที่ 0.1-75 ไร่) มีผู้ที่มีการประกอบกิจกรรมโดยตั้งอยู่บนการคำนึงถึงระบบนิเวศพืช สัตว์ และสังคม ไม่ได้เป็นแค่เกษตรกรโดยอาชีพหรือถือว่าเป็นอาชีพหลักเพียงอย่างเดียวแต่ประกอบกิจกรรมคล้ายเกษตรกรโดยอาชีพที่เป็นสวนเกษตรอินทรีย์ หรือมีมากกว่าหนึ่งอาชีพ มีลักษณะเป็นงานอดิเรกหรือกึ่งงานอดิเรก มุ่งหวังผลได้เป็นอาหารของครัวเรือนเป็นหลัก คำนึงถึงสุขภาพ ผลผลิตที่เก็บมาให้อือเป็นรายได้ประจำและ/หรือรายได้เสริม มีกิจกรรมที่ไม่ได้มุ่งเน้นผลประโยชน์เพื่อส่วนตนเพียงอย่างเดียว แต่รวมถึงการเป็นจิตอาสาเพื่อพัฒนากิจกรรมเพื่อสังคม

### Semi-Structured Interview Guidelines

(แนวทางการสัมภาษณ์แบบกึ่งโครงสร้าง)

#### 1. Introduction: การเกริ่นนำ

- 1) Introduce yourself and the purpose of the interview, emphasising the study's focus on developing a transformative learning platform for urban smallholding ecological organic farming practitioners in Phitsanulok Province.

นักวิจัย/ผู้ช่วยนักวิจัยแนะนำตัวเองและวัตถุประสงค์ของการสัมภาษณ์โดยเน้นย้ำถึงจุดเน้นของการศึกษาในการพัฒนาแพลตฟอร์มการเรียนรู้เพื่อการเปลี่ยนแปลงสำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในชุมชนเมือง ในจังหวัดพิษณุโลก

- 2) Stress confidentiality and voluntary participation.

เน้นย้ำการรักษาความลับและการมีส่วนร่วมโดยสมัครใจ

- 3) Seek consent to record the interview for accurate documentation.

ขอความยินยอมในการบันทึกการสัมภาษณ์เพื่อเป็นเอกสารที่ถูกต้อง

## 2. Perceptions of Learning Needs: การรับรู้ความต้องการในการเรียนรู้

- 1) Inquire about the interviewee's perceptions of the learning needs and challenges faced by urban smallholding ecological organic farming practitioners in Phitsanulok Province.

สอบถามเกี่ยวกับการรับรู้ของผู้ให้สัมภาษณ์เกี่ยวกับความต้องการในการเรียนรู้และความท้าทายที่ผู้ปฏิบัติงานเกษตรอินทรีย์เชิงนิเวศน์รายย่อยในเมืองในจังหวัดพิษณุโลกต้องเผชิญ

- 2) Discuss the knowledge, skills, and practices they consider essential for successful urban farming in the region.

อภิปรายความรู้ ทักษะ และแนวทางปฏิบัติที่เห็นว่าจำเป็นสำหรับการทำฟาร์มของชุมชนเมืองที่ประสบความสำเร็จในจังหวัด/ภูมิภาค

- 3) Explore access to resources, training, and information related to smallholding ecological organic farming.

สำรวจการเข้าถึงทรัพยากร การฝึกอบรม และข้อมูลที่เกี่ยวข้องกับการทำเกษตรอินทรีย์เชิงนิเวศน์ขนาดเล็ก

## 2. Transformative Learning Platform Components: องค์ประกอบของแพลตฟอร์มการเรียนรู้เพื่อการเปลี่ยนแปลง

- 1) Prompt the interviewee to identify components or features they believe should be included in a transformative learning platform tailored to the needs of urban farming practitioners in Phitsanulok Province.

กระตุ้นให้ผู้ให้สัมภาษณ์ระบุองค์ประกอบหรือคุณลักษณะที่พวกเขาเชื่อว่าควรรวมอยู่ในแพลตฟอร์มการเรียนรู้เพื่อการเปลี่ยนแปลงที่ปรับให้เหมาะสมกับความต้องการของนักปฏิบัติด้านการเกษตรอินทรีย์แบบชุมชนเมืองในจังหวัดพิษณุโลก

- 2) Discuss the importance of hands-on learning experiences, peer collaboration, and practical applications of knowledge.

อภิปรายถึงความสำคัญของประสบการณ์การเรียนรู้แบบลงมือปฏิบัติ การทำงานร่วมกันแบบเพื่อน/กลุ่มบุคคล และการประยุกต์ใช้ความรู้ในทางปฏิบัติ

- 3) Explore potential topics for learning modules or courses, considering the unique characteristics of the local organic network.

สำรวจหัวข้อที่เป็นไปได้สำหรับโมดูลการเรียนรู้หรือหลักสูตร โดยพิจารณาถึงลักษณะเฉพาะของเครือข่ายเกษตรอินทรีย์ในท้องถิ่น

### 3. Questions (ชุดคำถาม)

The questions below explore the transformative learning experiences of smallholding ecological organic farming practitioners in urban community learning platforms in Phitsanulok province, providing insights aligned with Jack Mezirow's Transformative Learning Theory. To design semi-structured interview questions for this research on "Urban Community Learning Platforms for Smallholding Ecological Organic Farming Practitioners". Therefore, it can align each question with the corresponding phase using Jack Mezirow's 10 phases of transformative learning as a framework. Below are examples of questions tailored to each phase:

คำถามด้านล่างจะช่วยสำรวจประสบการณ์การเรียนรู้ที่เปลี่ยนแปลงของนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยในแพลตฟอร์มการเรียนรู้ของชุมชนเมือง โดยให้ข้อมูลเชิงลึกที่สอดคล้องกับขั้นตอนของทฤษฎีการเรียนรู้ที่ผู้การเปลี่ยนแปลงของ Jack Mezirow ฉะนั้นเพื่อออกแบบคำถามสัมภาษณ์แบบกึ่งโครงสร้างสำหรับงานวิจัยนี้ เรื่อง "แพลตฟอร์มการเรียนรู้ของชุมชนเมืองสำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อย" ดังนั้นเนื่องจากเพื่อให้สามารถจัดคำถามแต่ละข้อให้สอดคล้องกับขั้นตอนที่เกี่ยวข้องโดยใช้การเรียนรู้การเปลี่ยนแปลง 10 ขั้นตอนของ Mezirow เป็นกรอบการทำงาน ด้านล่างนี้คือตัวอย่างคำถามที่ปรับให้เหมาะกับแต่ละขั้นตอน:

#### 1. Disorienting Dilemma (ภาวะที่กลืนไม่เข้าคายไม่ออกที่ทำให้สับสน):

Can you describe a significant challenge or event that made you reconsider your approach to organic farming or learning about ecological organic farming?

กรุณาอธิบายความท้าทายหรือเหตุการณ์สำคัญที่ทำให้คุณทบทวนแนวทางการทำสวนเกษตรอินทรีย์ หรือการเรียนรู้เกี่ยวกับการเกษตรอินทรีย์เชิงนิเวศ

#### 2. Self-Examination (การตรวจสอบตนเอง):

How did this challenge affect your understanding of your abilities or your approach to organic farming? Did it make you question any of your previous beliefs or practices?

ความท้าทายนี้ส่งผลต่อความเข้าใจของคุณเกี่ยวกับความสามารถหรือแนวทางการทำเกษตรอินทรีย์อย่างไร มันทำให้คุณตั้งคำถามกับความเชื่อเดิมหรือหลักการปฏิบัติก่อนหน้านี้ของคุณหรือไม่?

3. Critical Assessment of Assumptions (การประเมินสมมติฐานอย่างมีวิจารณญาณ):

What assumptions about organic farming or learning did you question during this time? How did you come to realise that these assumptions might not be valid?

คุณตั้งคำถามเกี่ยวกับสมมติฐานอะไรเกี่ยวกับการทำสวนเกษตรอินทรีย์หรือการเรียนรู้ในช่วงเวลานี้ และคุณตระหนักได้อย่างไรว่าสมมติฐานเหล่านี้อาจไม่ถูกต้อง

4. Recognition of a connection between one's discontent and the process of transformation (การรับรู้ถึงความเชื่อมโยงระหว่างความไม่พอใจกับกระบวนการเปลี่ยนแปลง):

At what point did you begin to see that changing your approach could lead to better outcomes? How did you connect your dissatisfaction with a need for transformation?

คุณเริ่มเห็นว่าเปลี่ยนแนวทางของคุณอาจนำไปสู่ผลลัพธ์ที่ดีขึ้นเมื่อใด และคุณเชื่อมโยงความไม่พอใจของคุณกับความต้องการการเปลี่ยนแปลงอย่างไร

5. Exploration of Options for New Roles, Relationships, and Actions (การสำรวจตัวเลือกสำหรับบทบาท ความสัมพันธ์ และการกระทำใหม่):

What new strategies, roles, or methods did you explore after realising the need for change? How did you seek out information or support during this period?

คุณสำรวจกลยุทธ์ บทบาท หรือวิธีการใหม่ๆ อะไรบ้างหลังจากตระหนักถึงความจำเป็นในการเปลี่ยนแปลง และคุณแสวงหาข้อมูลหรือการสนับสนุนในช่วงเวลานี้อย่างไร?

6. Planning a Course of Action (การวางแผนแนวทางปฏิบัติ):

Can you describe the specific steps you took to change your approach to farming or learning? What resources or platforms did you use to develop this plan?

คุณช่วยอธิบายขั้นตอนเฉพาะที่คุณทำเพื่อเปลี่ยนแนวทางการทำฟาร์มหรือการเรียนรู้ได้ไหม และคุณใช้ทรัพยากรหรือแพลตฟอร์มใดในการพัฒนาแผนนี้

7. Acquisition of Knowledge and Skills for Implementing One's Plans (การ

ได้มาซึ่งความรู้และทักษะในการดำเนินการตามแผน):

What new skills or knowledge did you need to acquire to put your plan into action? Where did you find the information or training to develop these skills?

ทักษะหรือความรู้ใหม่ๆ ใดที่คุณต้องได้รับเพื่อนำแผนของคุณไปปฏิบัติ ค้นหาข้อมูลหรือการฝึกอบรมเพื่อพัฒนาทักษะเหล่านี้ได้จากที่ใด

8. Provisional Trying of New Roles (การพิจารณาบทบาทใหม่ชั่วคราว):

Can you share an example of when you first tried out your new approach or strategy? What was the experience like, and how did it differ from your previous methods?

กรุณาแบ่งปันตัวอย่างเมื่อคุณลองใช้แนวทางหรือกลยุทธ์ใหม่ครั้งแรกกว่าประสบการณ์เป็นอย่างไร และแตกต่างจากวิธีการก่อนหน้านี้ของคุณอย่างไร

9. Building Competence and Self-Confidence in New Roles and Relationships (การสร้างความสามารถและความมั่นใจในตนเองในบทบาทและความสัมพันธ์ใหม่):

How did your confidence grow as you continued to apply these new strategies? What indicators made you realise that you were becoming more competent in your new approach?

ความมั่นใจของคุณเพิ่มขึ้นอย่างไรเมื่อคุณใช้กลยุทธ์ใหม่เหล่านี้ต่อไป และตัวบ่งชี้ใดที่ทำให้คุณตระหนักว่าคุณมีความสามารถมากขึ้นในแนวทางใหม่ของคุณ

10. Reintegration into One's Life based on conditions dictated by one's new perspective (การกลับเข้าสู่ชีวิตบนพื้นฐานของเงื่อนไขที่กำหนดโดยมุมมองใหม่ของคนๆ หนึ่ง):

How have these new practices and perspectives become integrated into your everyday organic farming activities? In what ways have these changes impacted your broader life or community?

แนวทางปฏิบัติและมุมมองใหม่ๆ เหล่านี้ถูกรวมเข้ากับกิจกรรมการทำสวนเกษตรอินทรีย์ในชีวิตประจำวันของคุณอย่างไร การเปลี่ยนแปลงเหล่านี้ส่งผลกระทบต่อชีวิตหรือชุมชนในวงกว้างของคุณในทางใดบ้าง

11. Additional community learning platforms (แพลตฟอร์มการเรียนรู้ชุมชนเพิ่มเติม):

What are the community learning platforms that you are involved in? What are the roles of the platforms?

แพลตฟอร์มการเรียนรู้ของชุมชนที่คุณมีส่วนร่วมคืออะไร? และบทบาทของแพลตฟอร์มคืออะไร?

12. Additional community learning platforms (แพลตฟอร์มการเรียนรู้ชุมชนเพิ่มเติม):

How do community learning platforms support your learning process as a smallholding in ecological organic farming?

แพลตฟอร์มการเรียนรู้ของชุมชนสนับสนุนกระบวนการเรียนรู้ของคุณในฐานะเกษตรกรรายย่อยในการเกษตรอินทรีย์เชิงนิเวศอย่างไร

13. Additional community learning platforms (แพลตฟอร์มการเรียนรู้ชุมชนเพิ่มเติม):

What role do these platforms play in helping you connect with other practitioners or access resources?

แพลตฟอร์มเหล่านี้มีบทบาทอย่างไรในการช่วยให้คุณเชื่อมต่อกับผู้ปฏิบัติงานรายอื่นหรือเข้าถึงแหล่งข้อมูล

14. Additional community learning platforms (แพลตฟอร์มการเรียนรู้ชุมชนเพิ่มเติม):

In what ways do you think these platforms could be improved to better support practitioners like you?

คุณคิดว่าแพลตฟอร์มเหล่านี้สามารถปรับปรุงเพื่อสนับสนุนผู้ปฏิบัติงานเช่นคุณได้ดียิ่งขึ้นในทางใดบ้าง

4. Closing: การปิดบทสัมภาษณ์

1) Thank the interviewee for their participation and valuable insights.

ขอบคุณผู้ให้สัมภาษณ์สำหรับการมีส่วนร่วมและข้อมูลเชิงลึกอันมีค่า

2) Offer the opportunity for additional comments or questions.

เปิดโอกาสให้แสดงความคิดเห็นหรือคำถามเพิ่มเติม

3) Provide contact information for follow-up inquiries or feedback.

ให้ข้อมูลติดต่อเพื่อติดตามผลสอบถามหรือข้อเสนอแนะ



## APPENDIX B PARTICIPANT OBSERVATION GUIDELINES



### Participant Observation Data Collection Guidelines

(แนวการบันทึกการสังเกตการณ์ร่วม)

คำแนะนำ : แนวทางการบันทึกการสังเกตการณ์ร่วม (Participant Observation) ชุดนี้ เป็นส่วนหนึ่งของงานวิจัย เรื่อง “แพลตฟอร์มการเรียนรู้ในชุมชนเมืองเพื่อนักปฏิบัติการสวนเกษตรอินทรีย์เชิงนิเวศรายย่อย” (Urban Community Learning Platform for Smallholding Ecological Organic Farming Practitioners)

1. โดยมีวัตถุประสงค์ ดังนี้
  - 1.1 เพื่อศึกษาการเรียนรู้สำหรับการเปลี่ยนแปลงเพื่อการพัฒนาการเรียนรู้ของผู้ใหญ่
  - 1.2 เพื่อสร้างแพลตฟอร์มชุมชนของผู้ประกอบการเกษตรอินทรีย์
  - 1.3 เพื่อสร้างเป็นโมเดลของแพลตฟอร์มการเรียนรู้ของชุมชนเพื่อนักปฏิบัติการเกษตรอินทรีย์ด้านการเรียนรู้เพื่อการเปลี่ยนแปลง
2. ข้อมูลที่ได้จะนำไปใช้ประโยชน์เพื่อการศึกษาเท่านั้น และหากท่านไม่สมัครใจจะตอบคำถาม หรือปฏิเสธจะตอบคำถามข้อใด ท่านสามารถถอนตัวได้ตลอดเวลา และการขอลงตัวออกจากโครงการจะไม่มีผลกระทบต่อผู้เข้าร่วมในทุกๆด้าน
3. แบบสัมภาษณ์แบบเจาะลึกข้อมูล มีทั้งหมด 19 หน้า แบ่งออกเป็น 6 ส่วน
4. หากท่านมีข้อสงสัยสามารถติดต่อสอบถามได้ที่ นางสาวอรนุช เนาวเกตุ นิสิตระดับปริญญาคุณวุฒิบัณฑิต สาขาพัฒนาสังคม ภาควิชาสังคมวิทยาและมานุษยวิทยา คณะสังคมศาสตร์ มหาวิทยาลัยเกษตรศาสตร์ ตำบลท่าโพธิ์ อำเภอเมือง จังหวัดพิษณุโลก โทรศัพท์ 092-6355646 / 08-1688-3965

เฉพาะนักวิจัย/ผู้ช่วยนักวิจัย/ผู้เก็บ

ข้อมูล: .....

ว-ค-ป ..... สถานที่เก็บข้อมูล .....

ผู้ตรวจเช็ค .....

## Participant Observation Collection Guidelines

(แนวทางการร่วมสังเกตการณ์)

### 1. Participant Observation: การร่วมสังเกตการณ์

- ✓ Observe interactions and activities within the local organic network, focusing on how members engage in farming-related discussions, knowledge sharing, and collaborative efforts.

สังเกตปฏิสัมพันธ์และกิจกรรมภายในเครือข่ายเกษตรอินทรีย์ท้องถิ่น โดยมุ่งเน้นไปที่วิธีที่สมาชิกมีส่วนร่วมในการอภิปรายที่เกี่ยวข้องกับการเกษตรอินทรีย์ การแบ่งปันความรู้ และความพยายามในการทำงานร่วมกัน

- ✓ Take note of the organisational structure, decision-making processes, and communication channels used by the network.

สังเกตโครงสร้างองค์กร กระบวนการตัดสินใจ และช่องทางการสื่อสารที่เครือข่ายใช้

### 2. Physical Environment: สภาพแวดล้อมทางกายภาพ

- ✓ Document the physical environment where farming activities occur, including the size and layout of smallholding plots, types of crops grown, and use of sustainable farming practices.

บันทึกสภาพแวดล้อมทางกายภาพที่มีกิจกรรมการทำฟาร์ม รวมถึงขนาดและรูปแบบของแปลงเพาะปลูกขนาดเล็ก

ประเภทของพืชผลที่ปลูก และการใช้แนวทางการทำฟาร์มแบบยั่งยืน

### 3. Learning Practices: แนวปฏิบัติการเรียนรู้

- ✓ Observe how members acquire new knowledge and skills related to smallholding ecological organic farming, such as through informal mentoring, workshops, or hands-on demonstrations.

สังเกตว่าสมาชิกได้รับความรู้และทักษะใหม่ๆ ที่เกี่ยวข้องกับการทำเกษตรอินทรีย์เชิงนิเวศขนาดเล็ก เช่น ผ่านการให้คำปรึกษาอย่างไม่เป็นทางการ เวิร์กช็อป หรือการสาธิตภาคปฏิบัติ หรือ อื่นๆ

- ✓ Note any instances of peer learning, experimentation, or innovation within the network.

สังเกตการณ์ของการเรียนรู้ การทดลอง หรือนวัตกรรมการเรียนรู้โดย/ผ่านเพื่อน ภายในเครือข่าย

### 5. Community Dynamics: พลวัตของชุมชน

- ✓ Pay attention to the social dynamics within the local organic network, including levels of trust, cooperation, and mutual support among members.

ให้ความสนใจกับพลวัตทางสังคมภายในเครือข่ายอินทรีย์ในท้องถิ่น รวมถึงระดับความไว้วางใจ ความร่วมมือ และการสนับสนุนซึ่งกันและกันระหว่างสมาชิก

- ✓ Identify any challenges or barriers that may affect community engagement and collaboration.

ระบุความท้าทายหรืออุปสรรคที่อาจส่งผลกระทบต่อความร่วมมือและการทำงานร่วมกันของชุมชน

#### 6. Reflections and Insights: การสะท้อนและข้อมูลเชิงลึก

- ✓ Reflect on observations and identify recurring themes, patterns, and insights related to the components of a transformative learning platform for urban farming practitioners in Phitsanulok Province.

สะท้อนข้อสังเกตและระบุหัวข้อ รูปแบบ และข้อมูลเชิงลึกที่เกิดขึ้นที่เกี่ยวข้องกับองค์ประกอบของแพลตฟอร์มการเรียนรู้เพื่อการเปลี่ยนแปลงสำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อยแบบชุมชนเมืองในจังหวัดพิษณุโลก

- ✓ Consider how observations align with interview findings and contribute to the grounded theory approach to study and analysis.

พิจารณาว่าข้อสังเกตสอดคล้องกับผลการสัมภาษณ์อย่างไร และนำไปสู่ผลตามแนวทางทฤษฎีรากฐานในการศึกษาและวิเคราะห์

#### 5. Recording data: การบันทึกข้อมูล

When conducting participant observation for research on Urban Community Learning Platforms for Smallholding Ecological Organic Farming Practitioners, use Jack Mezirow's 10 phases of transformative learning as a guide. Below is participant observation guidelines aligned with each phase:

เมื่อทำการสังเกตผู้เข้าร่วมเพื่อการวิจัยเกี่ยวกับแพลตฟอร์มการเรียนรู้ของชุมชนในเมืองสำหรับผู้ประกอบวิชาชีพการทำเกษตรอินทรีย์เชิงนิเวศขนาดเล็ก ให้ใช้การเรียนรู้การเปลี่ยนแปลง 10 ขั้นตอนของ Jack Mezirow เป็นแนวทางด้านล่างนี้คือแนวทางการสังเกตของผู้เข้าร่วมที่สอดคล้องกับแต่ละขั้นตอน:

**Table of Participant Observation Data Recording:** (ตารางบันทึกข้อมูลการเข้าร่วมสังเกตการณ์)

No.	Steps	Tasks	Descriptions	Presented	None	Note
1	Disorienting Dilemma	Observe	<p>Look for situations where participants encounter unexpected challenges or disruptions in their farming practices. Note their reactions, including any signs of confusion, frustration, or curiosity.</p> <p>มองหาสถานการณ์ที่ผู้เข้าร่วมประสบกับความท้าทายที่ไม่คาดคิดหรือการหยุดชะงักในการทำฟาร์ม สังเกตปฏิกิริยา รวมถึงสัญญาณของความสับสน ความหงุดหงิด หรือความอยากรู้อยากเห็น</p>			
		Document	<p>Record details about the specific dilemma, how it arises, and how participants initially respond.</p> <p>บันทึกรายละเอียดเกี่ยวกับภาวะที่ก้ำกึ่งไม่เข้าคายไม่ออกที่เฉพาะเจาะจง เกิดขึ้นอย่างไร และวิธีที่ผู้เข้าร่วมตอบสนองในตอนแรก</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
2	Self-Examination	Observe	<p>Notice moments when participants reflect on their farming practices, knowledge, or identities.</p> <p>Pay attention to discussions about personal beliefs, values, or past experiences.</p> <p>สังเกตช่วงเวลาที่ผู้เข้าร่วม ใคร่ตรงถึงแนวทางปฏิบัติในการทำฟาร์ม ความรู้หรือตัวตนของตน ให้ความสนใจกับการสนทนาเกี่ยวกับความเชื่อ ค่านิยม หรือประสบการณ์ในอดีตส่วนบุคคล</p>			
		Document	<p>Capture reflections and any signs of participants questioning their assumptions or feeling vulnerable.</p> <p>จับภาพสะท้อนและสัญญาณของผู้เข้าร่วมที่ตั้งคำถามกับสมมติฐานของตนหรือรู้สึกอ่อนแอ</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
3	Critical Assessment of Assumptions	Observe	<p>Identify discussions or behaviours in which participants critically evaluate their previous assumptions about farming or learning. Watch for debates or group discussions that challenge established norms.</p> <p>ระบุการอภิปรายหรือพฤติกรรมที่ผู้เข้าร่วมประเมินสมมติฐานก่อนหน้าเกี่ยวกับการทำฟาร์มหรือการเรียนรู้ว่ามีวิจารณ์ ดูการอภิปรายหรือการอภิปรายกลุ่มที่ทำทาบปรทฐานที่กำหนดไว้</p>			
		Document	<p>Record instances where participants express doubt, challenge their own or others' assumptions and reconsider their practices.</p> <p>บันทึกกรณีที่ผู้เข้าร่วมแสดงความสงสัย ท้าทายสมมติฐานของตนเองหรือผู้อื่น และพิจารณาแนวทางปฏิบัติของคนอื่น</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
4	Recognition of a Connection	Observe	<p>Look for moments when participants link their dissatisfaction with the need for change. Pay attention to group discussions where frustration is expressed and connected to possible solutions or new approaches.</p> <p>มองหาช่วงเวลาที่มีผู้เข้าร่วมเชื่อมโยงความไม่พอใจกับความจำเป็นในการเปลี่ยนแปลง ให้ความสนใจกับการอภิปรายกลุ่มที่แสดงความหงุดหงิดและเชื่อมโยงกับวิธีแก้ปัญหาที่เป็นไปได้หรือแนวทางใหม่</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
		Document	<p>Note how participants articulate the connection between their dissatisfaction and the realisation that change is necessary.</p> <p>สังเกตว่าผู้เข้าร่วมแสดงความเชื่อมโยงระหว่างความไม่พอใจกับการตระหนักว่าการเปลี่ยนแปลงเป็นสิ่งจำเป็นอย่างไร</p>			
5	Exploration of Options for New Roles, Relationships, and Actions	Observe	<p>Observe participants as they explore new methods, roles, or strategies. Watch for experimentation, collaboration with others, or seeking advice and information.</p> <p>สังเกตผู้เข้าร่วมในขณะที่พวกเขาสำรวจวิธีการ บทบาท หรือกลยุทธ์ใหม่ๆ ดูการทดลอง การทำงานร่วมกับผู้อื่น หรือการขอคำแนะนำและข้อมูล</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
		Document	<p>Record the options being considered, how they are discussed or shared within the community, and any new relationships or roles being explored.</p> <p>บันทึกตัวเลือกที่กำลังพิจารณา วิธีการพูดคุยหรือแบ่งปันภายในชุมชน และความสัมพันธ์หรือบทบาทใหม่ๆ ที่กำลังสำรวจ</p>			
6	Planning a Course of Action	Observe	<p>Pay attention to planning sessions, whether formal or informal, where participants outline new approaches or strategies. Note the resources they seek out or the steps they outline for themselves.</p> <p>ให้ความสนใจกับเซสชันการวางแผน ไม่ว่าจะอย่างเป็นทางการหรือไม่เป็นทางการ ซึ่งผู้เข้าร่วมจะสรุปแนวทางหรือกลยุทธ์ใหม่ๆ สังเกตแหล่งข้อมูลที่พวกเขาค้นหาหรือขั้นตอนที่พวกเขาสร้างไว้สำหรับตนเอง</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
		Document	<p>Detail the plans participants create the resources or information they rely on, and how they organise their next steps.</p> <p>รายละเอียดแผน ผู้เข้าร่วมสร้างทรัพยากรหรือข้อมูลที่พวกเขาพึ่งพา และวิธีจัดระเบียบขั้นตอนต่อไป</p>			
7	Acquisition of Knowledge and Skills	Observe	<p>Look for learning activities, workshops, or informal exchanges in which participants acquire new knowledge or skills.</p> <p>Observe how they engage with new information or practices.</p> <p>มองหากิจกรรมการเรียนรู้ เวิร์กช็อป หรือการแลกเปลี่ยนอย่างไม่เป็นทางการ ที่ผู้เข้าร่วมได้รับความรู้หรือทักษะใหม่ๆ สังเกตว่าพวกเขามีส่วนร่วมกับข้อมูล หรือแนวทางปฏิบัติใหม่ๆ อย่างไร</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
		Document	<p>Record the specific skills or knowledge being acquired, the methods of learning, and the participants' level of engagement.</p> <p>บันทึกทักษะหรือความรู้เฉพาะที่ได้รับ วิธีการเรียนรู้ และระดับการมีส่วนร่วม ของผู้เข้าร่วม</p>			
8	Provisional Trying of New Roles	Observe	<p>Watch for participants implementing their new strategies or roles for the first time. Observe their behaviours, any challenges they face, and their interactions with others during this process.</p> <p>ดูผู้เข้าร่วมที่ใช้กลยุทธ์หรือบทบาทใหม่ เป็นครั้งแรก สังเกตพฤติกรรมของพวกเข า ความท้าทายใดๆ ที่พวกเขาเผชิญ และปฏิสัมพันธ์กับผู้อื่นในระหว่าง กระบวนการนี้</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
		Document	<p>Note the specific actions taken, the outcomes of these initial attempts, and any feedback or adjustments made.</p> <p>สังเกตการดำเนินการเฉพาะที่ดำเนินการ ผลลัพธ์ของความพยายามครั้งแรกเหล่านี้ และข้อเสนอแนะหรือการปรับเปลี่ยน ใดๆ ที่เกิดขึ้น</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
9	Building Competence and Self-Confidence	Observe	<p>Pay attention to signs of increasing competence and confidence among participants as they continue to apply their new strategies. Look for indicators such as leadership roles, mentoring others, or greater participation in group activities.</p> <p>ให้ความสนใจกับสัญญาณของความสามารถและความมั่นใจที่เพิ่มขึ้นในหมู่ผู้เข้าร่วมในขณะที่พวกเขายังคงใช้กลยุทธ์ใหม่ต่อไป มองหาตัวบ่งชี้ เช่น บทบาทความเป็นผู้นำ การให้คำปรึกษาผู้อื่น หรือการมีส่วนร่วมในกิจกรรมกลุ่มมากขึ้น</p>			


No.	Steps	Tasks	Descriptions	Presented	None	Note
		Document	<p>Capture instances where participants demonstrate growing confidence and competence and how others recognise this.</p> <p>จับภาพกรณีที่เกี่ยวข้องแสดงให้เห็นถึงความมั่นใจและความสามารถที่เพิ่มขึ้น และวิธีที่ผู้อื่นตระหนักถึงสิ่งนี้</p>			
10	Reintegration into One's Life	Observe	<p>Look for how participants integrate their new perspectives into their daily practices and community interactions.</p> <p>Observe changes in routine, decision-making, and relationships with others.</p> <p>มองหาวิธีที่ผู้เข้าร่วมรวมมุมมองใหม่ๆ เข้ากับการปฏิบัติประจำวันและการมีปฏิสัมพันธ์กับชุมชน สังเกตการเปลี่ยนแปลงในกิจวัตร การตัดสินใจ และความสัมพันธ์กับผู้อื่น</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
		Document	<p>Record the long-term changes in practices, attitudes, and community dynamics and how these reflect the participants' new perspectives.</p> <p>บันทึกการเปลี่ยนแปลงระยะยาวในการปฏิบัติทัศนคติและพลวัตของชุมชนและสิ่งเหล่านี้สะท้อนมุมมองใหม่ของผู้เข้าร่วมอย่างไร</p>			
11	Additional Considerations for Urban Community Learning Platforms	Community Interactions	<p>Observe how participants interact within the learning platforms. Note that collaboration, resource sharing, or support systems are in place.</p> <p>สังเกตว่าผู้เข้าร่วมมีปฏิสัมพันธ์อย่างไรภายในแพลตฟอร์มการเรียนรู้ โปรดทราบว่ามีการทำงานร่วมกัน การแบ่งปันทรัพยากร หรือระบบสนับสนุน</p>			

No.	Steps	Tasks	Descriptions	Presented	None	Note
		Learning Environment	<p>Please pay attention to the physical and virtual spaces where learning occurs, noting how they facilitate or hinder the learning process.</p> <p>โปรดใส่ใจกับพื้นที่ทางกายภาพและเสมือนจริงที่การเรียนรู้เกิดขึ้น โดยสังเกตว่าพื้นที่เหล่านั้นอำนวยความสะดวกหรือขัดขวางกระบวนการเรียนรู้หรือไม่</p>			
		Group Dynamics	<p>Observe group dynamics during discussions, activities, or decision-making processes, focusing on how they influence individual and collective learning.</p> <p>สังเกตพลวัตของกลุ่มในระหว่างการอภิปราย กิจกรรม หรือกระบวนการตัดสินใจ โดยมุ่งเน้นไปที่อิทธิพลต่อการเรียนรู้ของแต่ละบุคคลและส่วนรวม</p>			

----- Thank You / ขอบคุณค่ะ -----

## APPENDIX C CONSENT FORM

<p>หนังสือแสดงความยินยอมเข้าร่วมโครงการวิจัย (สำหรับอาสาสมัครอายุ 18 ปีขึ้นไป)</p>	
	<p>คณะกรรมการจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยนเรศวร</p>

แพลตฟอร์มการเรียนรู้ในชุมชนเมืองสำหรับนักปฏิบัติการเกษตรอินทรีย์เชิงนิเวศรายย่อย  
โครงการวิจัยเรื่อง:.....

วันที่ให้คำยินยอม วันที่.....เดือน.....พ.ศ.....

ข้าพเจ้า นาย/นาง/นางสาว.....

ที่อยู่.....

ข้าพเจ้าได้อ่านรายละเอียดจากเอกสารข้อมูลสำหรับผู้เข้าร่วมโครงการวิจัยวิจัยที่แนบมาฉบับวันที่.....

ข้าพเจ้ายินยอมเข้าร่วมโครงการวิจัยโดยสมัครใจ

ข้าพเจ้าได้รับสำเนาเอกสารแสดงความยินยอมเข้าร่วมในโครงการวิจัยที่ข้าพเจ้าได้ลงนาม

และวันที่ พร้อมด้วยเอกสารข้อมูลสำหรับผู้เข้าร่วมโครงการวิจัย

ทั้งนี้ก่อนที่จะลงนามใน ใบยินยอมให้ทำการวิจัยนี้ ข้าพเจ้าได้รับการอธิบายจากผู้วิจัยถึง

- วัตถุประสงค์ของการวิจัย
- ระยะเวลาของการทำวิจัย
- วิธีการวิจัย
- ประโยชน์ที่จะเกิดขึ้นจากการวิจัย

ข้าพเจ้ามีเวลาและโอกาสเพียงพอในการซักถามข้อสงสัยจนมีความเข้าใจอย่างดีแล้วโดยผู้วิจัยได้ตอบคำถามต่าง ๆ

ด้วยความเต็มใจไม่ปิดบังซ่อนเร้นจนข้าพเจ้าพอใจ

ข้าพเจ้ารับทราบจากผู้วิจัยว่าหากเกิดความไม่สบายใจ จากการวิจัยดังกล่าว

ข้าพเจ้ามีสิทธิที่จะบอกเลิกเข้าร่วมในโครงการวิจัยเมื่อใดก็ได้ โดยไม่จำเป็นต้องแจ้งเหตุผล

และการบอกเลิกการเข้าร่วมการวิจัยนี้ จะไม่มีผลต่อสิทธิอื่น ๆ ที่ข้าพเจ้าจะพึงได้รับต่อไป

ผู้วิจัยรับรองว่าจะเก็บข้อมูลส่วนตัวของข้าพเจ้าเป็นความลับและจะเปิดเผยได้เฉพาะเมื่อได้รับการยินยอมจาก

ข้าพเจ้าเท่านั้น

บุคคลอื่นในนามของคณะกรรมการพิจารณาจริยธรรมการวิจัยในคนอาจได้รับอนุญาตให้เข้ามาตรวจและประมวลข้อมูล  
ของข้าพเจ้า ทั้งนี้ต้องกระทำไปเพื่อวัตถุประสงค์เพื่อตรวจสอบความถูกต้องของข้อมูลเท่านั้น

โดยการตกลงที่จะเข้าร่วมการศึกษานี้ข้าพเจ้าได้ให้คำยินยอมที่จะให้มีการตรวจสอบข้อมูลของข้าพเจ้าได้

ผู้วิจัยรับรองว่าจะไม่มีการเก็บข้อมูลใด ๆ เพิ่มเติมหลังจากที่ข้าพเจ้าขอยกเลิกการเข้าร่วมโครงการวิจัย  
และต้องการให้ทำลายเอกสารทั้งหมดที่สามารถสืบค้นถึงตัวข้าพเจ้าได้

ข้าพเจ้าเข้าใจว่า ข้าพเจ้ามีสิทธิ์ที่จะตรวจสอบหรือแก้ไขข้อมูลส่วนตัวของข้าพเจ้าและสามารถยกเลิกการให้สิทธิ  
ในการใช้ข้อมูลส่วนตัวของข้าพเจ้าได้ โดยต้องแจ้งให้ผู้วิจัยรับทราบ

ข้าพเจ้าได้ตระหนักว่าข้อมูลในการวิจัยรวมถึงข้อมูลของข้าพเจ้าที่ไม่มีการเปิดเผยชื่อจะผ่านกระบวนการต่าง ๆ เช่น  
การเก็บข้อมูล การบันทึกข้อมูลในแบบบันทึกและในคอมพิวเตอร์ การตรวจสอบ การวิเคราะห์  
และการรายงานข้อมูลเพื่อวัตถุประสงค์ทางวิชาการ เท่านั้น

ข้าพเจ้าได้อ่านข้อความข้างต้นและมีความเข้าใจดีทุกประการแล้ว ยินดีเข้าร่วมในการวิจัยด้วยความเต็มใจ  
จึงได้ลงนามในเอกสารแสดงความยินยอมนี้

..... ลงนามผู้ให้ความยินยอม

(.....) ชื่อผู้ยินยอม

วันที่.....

ข้าพเจ้าได้อธิบายถึงวัตถุประสงค์ของการวิจัย วิธีการวิจัย หรือความเสี่ยงที่อาจเกิดขึ้นจากการวิจัย  
รวมทั้งประโยชน์ที่จะเกิดขึ้นจากการวิจัยอย่างละเอียดให้ผู้เข้าร่วมในโครงการวิจัยตามนามข้างต้น ได้ทราบและมีความเข้าใจ  
ดีแล้ว พร้อมลงนามลงในเอกสารแสดงความยินยอมด้วยความเต็มใจ

..... ลงนามผู้ทำวิจัย

(.....) ชื่อผู้ทำวิจัย

วันที่.....

..... ลงนามพยาน

(.....) ชื่อพยาน

วันที่.....

การลงนามของพยานนี้ จำเป็นเฉพาะสำหรับอาสาสมัครที่ไม่สามารถอ่านออกเขียนได้ เท่านั้น

ในกรณีที่ท่านไม่สามารถอ่านออกเขียนได้ ให้มีพยาน 1 คนลงนาม โดยที่พยานนั้นจะต้องไม่มีส่วนได้ส่วนเสียในโครงการวิจัย

..... ลงนามพยาน

(.....) ชื่อพยาน

วันที่.....



## APPENDIX D CGT AND TLT ANALYSIS

### Participants' Code

#### Notes of Codes:

<b>PC</b>	<b>Participant Country</b>	TH=Thailand	UK=United Kindom
<b>No.F</b>	<b>No. Farm</b>	From 1-29	From 1-3
<b>GEN</b>	<b>SKON's Generation</b>	(1) Founding Members (2017-2018)	(1) Founding Members
		(2) Developers (2019-2021)	(2) Developers
		(3) Newcomers (2022-2025)	(3) Newcomers
<b>CoP</b>	<b>Code of Personnel</b>	From 1-58	From 1-10
<b>OEL</b>	<b>Owner/Employee/Labour</b>	(1) Owner	(1) Owner
		(2) Employee/ Management	(2) Employee/ Management
		(3) Labour/Farm worker	(3) Labour/Farm worker
<b>SUM</b>	<b>Sum of of coded number</b>	= Participant Code	= Participant Code

#### **Example:**

- (1) **01111** = Farm number 1 (01), 1<sup>st</sup> Generation, the first person of the farm, and owner of farm number 1
- (2) **24132** = Farm number 24, 1<sup>st</sup> Generation, the third person of the farm, and has a role as employee or in the management team of farm number 24

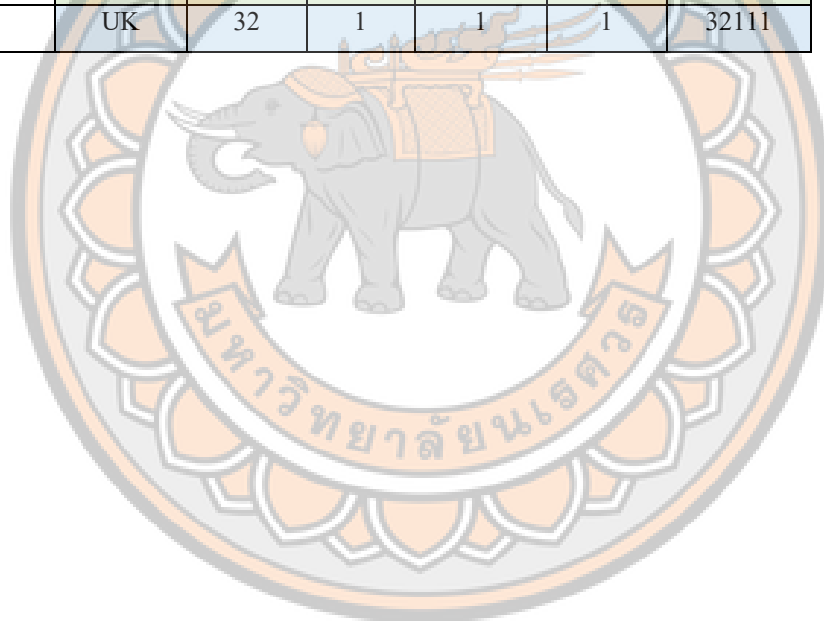
**Details of Code****Thailand**

ParCODE						
No.	PC	No. F	GEN	CoP	O/E/L	SUM
1	TH	01	1	1	1	01111
2	TH	01	1	2	1	01121
3	TH	02	3	1	1	02311
4	TH	02	3	2	3	02323
5	TH	02	3	3	3	02333
6	TH	03	1	1	2	03112
7	TH	03	1	2	2	03122
8	TH	03	1	3	3	03133
9	TH	04	1	1	1	04111
10	TH	04	1	2	1	04121
11	TH	04	1	3	2	04132
12	TH	05	2	1	1	05211
13	TH	05	2	2	3	05223
14	TH	05	2	3	3	05233
15	TH	05	2	4	2	05242
16	TH	06	1	1	1	06111
17	TH	07	2	1	1	07211
18	TH	08	3	1	1	08311
19	TH	08	3	2	2	08322
20	TH	09	1	1	1	09111
21	TH	09	1	2	1	09121
22	TH	10	1	1	1	10111
23	TH	10	1	2	1	10121
24	TH	11	3	1	1	11311
25	TH	11	3	2	1	11321
26	TH	12	1	1	1	12111
27	TH	12	1	2	3	12123
28	TH	13	1	1	1	13111
29	TH	13	1	2	1	13121
30	TH	13	1	3	3	13133
31	TH	13	1	4	3	13143

ParCODE						
No.	PC	No. F	GEN	CoP	O/E/L	SUM
32	TH	14	3	1	1	14311
33	TH	14	3	2	1	14321
34	TH	15	1	1	1	15111
35	TH	15	1	2	2	15122
36	TH	16	1	1	1	16111
37	TH	16	1	2	1	16121
38	TH	17	1	1	1	17111
39	TH	18	1	1	1	18111
40	TH	19	2	1	1	19211
41	TH	19	2	2	2	19222
42	TH	20	1	1	1	20111
43	TH	21	1	1	3	21113
44	TH	21	1	2	3	21123
45	TH	22	1	1	1	22111
46	TH	22	1	2	3	22123
47	TH	22	1	3	3	22133
48	TH	22	1	4	3	22143
49	TH	23	1	1	1	23111
50	TH	23	1	2	3	23123
51	TH	24	1	1	1	24111
52	TH	24	1	2	2	24122
53	TH	24	1	3	2	24132
54	TH	25	3	1	1	25311
55	TH	25	3	2	2	25322
56	TH	26	1	1	1	26111
57	TH	27	1	1	1	27111
58	TH	28	3	1	1	28311
59	TH	29	2	1	1	29211

**Scotland, UK**

ParCODE						
No.	PC	No. F	GEN	CoP	O/E/L	SUM
1	UK	30	1	1	1	30111
2	UK	30	1	2	1	30121
3	UK	30	2	3	1	30131
4	UK	30	2	4	2	30142
5	UK	30	2	5	1	30151
6	UK	30	2	6	2	30162
7	UK	31	1	1	1	31111
8	UK	31	1	2	1	31121
9	UK	31	2	3	2	31232
10	UK	32	1	1	1	32111



## GLOSSARIES

Term (English)	Term (Thai)	Definition/Context (คำจำกัดความ/บริบท)
<b>Transformative Learning (TL) (Theoretical)</b>	การเรียนรู้เพื่อการเปลี่ยนแปลง (เชิงทฤษฎี)	A process of effecting change in one’s frame of reference—comprising habits of mind and points of view—so that it becomes more inclusive, discriminating, open, and integrative of experience (Mezirow, 1991b).
<b>Transformative Learning (TL) (Operational)</b>	การเรียนรู้เพื่อการเปลี่ยนแปลง (เชิงปฏิบัติการ)	Adult learning is implemented through a platform that facilitates the transformation of problematic frames of reference among smallholding ecological organic farm practitioners, emphasising lifelong learning among ageing practitioners.
<b>Ecological Organic Farming (EOF) (Theoretical)</b>	การทำเกษตรอินทรีย์ เชิงนิเวศ (เชิงทฤษฎี)	A holistic, scientifically grounded approach integrating ecological principles into agriculture. It sustains agroecosystems through biodiversity, soil fertility, and reduced reliance on chemical inputs, thereby promoting food security and human well-being (Altieri, 2018; Eyhorn et al., 2019; Gliessman, 2021).
<b>Ecological Organic</b>	การทำเกษตรอินทรีย์ เชิงนิเวศ	Organic farming that promotes agroecosystem well-being and sustains practitioners’ livelihoods through

Term (English)	Term (Thai)	Definition/Context (คำจำกัดความ/บริบท)
<b>Farming (EOF)</b> <b>(Operational)</b>	(เชิงปฏิบัติการ)	systematic processes encouraging active citizenship. Within SKON, it serves as a learning platform for experiential adaptation and knowledge sharing.
<b>Smallholdings</b> <b>(Theoretical)</b>	การทำฟาร์มรายย่อย (เชิงทฤษฎี)	Farming systems characterised by limited land area (globally <2–10 ha; Thai context <100 rai) and household-based labour. It is a flexible, context-dependent concept shaped by local agricultural practices and socio-economic realities.
<b>Smallholdings</b> <b>(Operational)</b>	การทำฟาร์มรายย่อย (เชิงปฏิบัติการ)	Agricultural holdings smaller than industrial farms, sizes between under one rai and not over 100 rai, managed by families or communities, emphasising diversified production and sustainable practices.
<b>Smallholding Ecological Organic Farm (SEOF)</b> <b>(Operational)</b>	ฟาร์มอินทรีย์เชิงนิเวศ รายย่อย (เชิงปฏิบัติการ)	A small-scale farm (under one rai up to 100 rai) using ecological organic methods (IFOAM/PGS standards). Practices typically include mixed cropping, ecological management, and direct-to-consumer marketing, serving as community learning spaces.

Term (English)	Term (Thai)	Definition/Context (คำจำกัดความ/บริบท)
<b>SEOFP</b>	นักปฏิบัติการเกษตร อินทรีย์เชิงนิเวศราย ย่อย	Individuals engaged as social actors and agents in smallholding ecological organic farming are understood as adult learners who co-create knowledge and adapt practices within SKON.
<b>Urban Community (Operational)</b>	ชุมชนเมือง (เชิงปฏิบัติการ)	A community bringing diverse actors together to co-produce shared goods. Increasingly shaped by urban-rural link culture and digitalisation, forming hybrid spaces for intergenerational and lifelong learning.
<b>Learning Platform</b>	แพลตฟอร์มการเรียนรู้	The defined space—including physical, digital, and social rules—that facilitates knowledge sharing and learning processes.
<b>Urban Community Learning Platforms</b>	แพลตฟอร์มการเรียนรู้ ของชุมชนเมือง	It refers to hybrid physical, digital, and social-institutional spaces through which diverse urban actors co-produce shared goods, practices, and knowledge. Shaped by urban-rural link cultures and digitalisation, these platforms transcend traditional spatial and institutional boundaries, enabling flexible, participatory, and lifelong learning processes that support collective resilience and adaptive capacity in contemporary urban communities.

Term (English)	Term (Thai)	Definition/Context (คำจำกัดความ/บริบท)
<b>Constructivist Grounded Theory (CGT)</b>	ทฤษฎีฐานรากเชิงประกอบสร้าง	The specific qualitative methodology used in this study focuses on the co-construction of theory between the researcher and participants (Ref: Issues 5, 20).
<b>Zone of Proximal Development (ZPD)</b>	เขตพัฒนาการในระยะประชิด	Vygotsky's concept defines the difference between what a learner can do without help and what they can achieve with guidance from a more capable peer (MKO) (Ref: Issue 12, 40).
<b>Triangulation</b>	การตรวจสอบสามเส้า	Criteria for establishing rigour and trustworthiness in qualitative research by using multiple data sources, methods, or theories to confirm findings (Ref: Issue 18).
<b>HTLM / HIFM</b>	<b>HTLM / HIFM</b>	The acronyms for the core theoretical models developed in the thesis (Hybrid Transformative Learning Model / Hybrid Interaction Framework Model) (Ref: Issue 34).

Based on the thesis revisions and the glossary, the acronyms HTLM and HIFM denote the core theoretical models derived from the research results, which produced the key themes: **Hybrid Learning, Transformative Learning, Ecological Farming**, and the **SKON Network**.

### 1. HTLM: Hybrid Transformative Learning Model

The HTLM likely serves as the **conceptual map** of *how* learning (specifically Mezirow's Transformative Learning) occurs within the dynamic environment of the Songkwae Organic Network (SKON).

<b>Aspect</b>	<b>Description (Based on Thesis Themes)</b>
<b>H (Hybrid)</b>	The model must integrate the dual nature of the learning environment: <b>physical</b> interactions (on the farm, meetings, markets) and <b>digital</b> interactions (online platforms, social media, asynchronous learning).
<b>TL (Transformative Learning)</b>	This is the core outcome. The model explains the steps or conditions necessary to move practitioners past <i>problematic frames of reference</i> (e.g., rigid views on farming, market, or gender roles) toward <i>more inclusive and reflective perspectives</i> .
<b>M (Model)</b>	The HTLM likely describes the <i>stages</i> or <i>components</i> of the learning process, which is why the examiners required a comparison to Mezirow's original stages (Ref: Issue 33). It would show how ecological dilemmas (data) trigger reflective discourse, leading to frame transformation.
<b>Core Function</b>	To explain how the specific environment of the SKON platform facilitates adult farmers in fundamentally changing their worldview and practice (i.e., becoming ecological actors and active citizens).
<b>Related Issues</b>	<b>Issue 34</b> (HTLM/HIFM explanation weak) and <b>Issue 39</b> (HTLM develops intergenerational bridging).

## 2. HIFM: Hybrid Interaction Framework Model

The HIFM likely focuses on the **mechanism and setting**—the practical framework that enables the learning process described by the HTMLM. Because the platform is hybrid and involves diverse actors (SEOFPs, consumers, facilitators), this framework specifies the roles, rules, and tools employed.

<b>Aspect</b>	<b>Description (Based on Thesis Themes)</b>
<b>H (Hybrid)</b>	This component describes the <b>structure</b> of the interaction space. It clearly delineates the physical settings (e.g., demonstration farm) and the digital settings (e.g., communication channels) and shows how they complement each other.
<b>IF (Interaction Framework)</b>	This sets the rules of engagement. Given the references to ZPD/MKO (Vygotsky, Ref: Issue 40), this framework likely defines the <b>facilitator roles</b> and the <b>social dynamics</b> necessary for learning. It might detail how knowledge is shared and co-created.
<b>M (Model)</b>	The HIFM visualises the actors (learners, MKO, community), the resources (tools, knowledge), and the social rules (trust, reciprocity) that govern effective learning exchanges.
<b>Core Function</b>	To provide a blueprint for creating a supportive, hybrid environment that fosters the reflective dialogue and critical discourse essential for transformative learning.
<b>Related Issues</b>	<b>Issue 34</b> (HTMLM/HIFM explanation weak), <b>Issue 11</b> (Define platform more precisely), and <b>Issue 40</b> (Add Vygotsky ZPD, MKO to support facilitator roles).

In Summary:

- **HTLM (Process):** Explains the **WHY** and **WHAT** of learning (the stages of transformation).
- **HIFM (Structure):** Explains the **HOW** and **WHERE** of learning (the social and physical infrastructure that makes transformation possible).

