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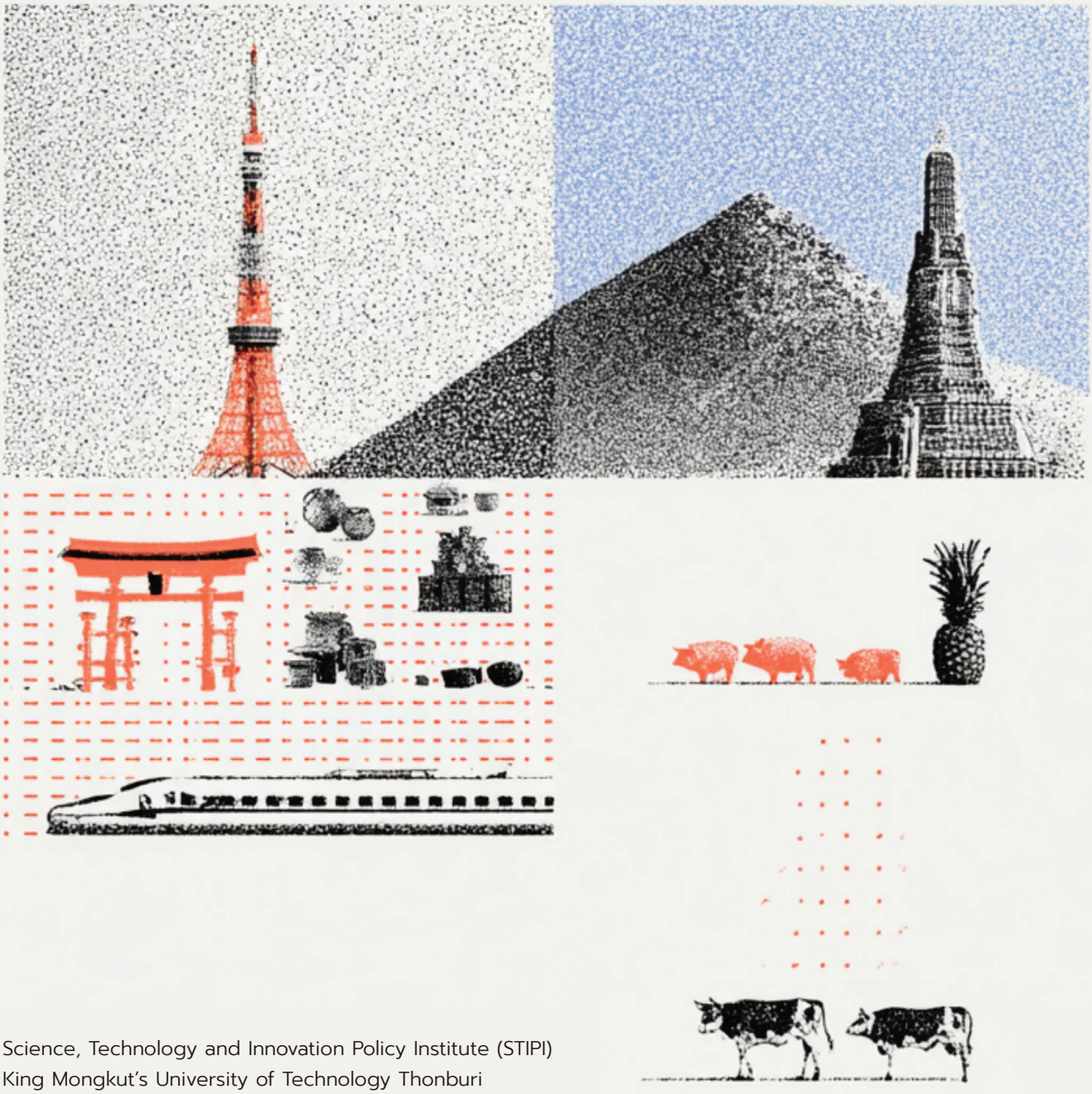
A Comparative Survey of Local Product Supply Chain and Policy to Support Local Growth Engine in Japan and Thailand:

A case study on pairing analysis of six Japanese and Thai provinces



Science, Technology and Innovation Policy Institute (STIPI)
King Mongkut's University of Technology Thonburi

A Comparative Survey of Local Product Supply Chain and Policy to Support Local Growth Engine in Japan and Thailand: A case study on pairing analysis of six Japanese and Thai provinces.

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Acknowledgement

This research project grew out of the research team's interest in exploring and analysing different approaches to local development in Japan, with the aim of drawing comparative lessons that may be relevant to the development of local areas in Thailand. Although localities differ in their histories, resource endowments, economic structures, and accumulated forms of capital, many now face increasingly similar challenges, including limited resources, labour shortages, the need to upgrade production and supply chains, the creation of greater value from local products, the strengthening of local communities, and the need to prepare for future change. Against this background, the Science, Technology and Innovation Policy Institute (STIPI), King Mongkut's University of Technology Thonburi, sees "local-to-local exchange" as a valuable approach through which localities can learn from one another, exchange experience, and adapt effective mechanisms and practices to their own circumstances.

The study explores local development through three paired case studies in Japan and Thailand: Hokkaido–Saraburi, Okinawa–Ratchaburi, and Kanazawa, Ishikawa–Lampang. The cases were selected on the basis of similarities in resource bases, key products, and development challenges. The research examines not only the development trajectories of these areas, but also their starting conditions, strategic priorities, implementation mechanisms, and the supply chains of important local products. In doing so, the study seeks to understand how localities operating within the same national administrative and policy framework can nevertheless develop along different paths, and which elements of these experiences may offer useful lessons for Thailand.

The research team would like to express its sincere appreciation to The Asahi Glass Foundation and King Mongkut's University of Technology Thonburi for their support of this research project. We are also deeply grateful to the public agencies, private-sector organisations, entrepreneurs, and provincial and municipal authorities in Saraburi, Ratchaburi, and Lampang, as well as to organisations and businesses in Hokkaido, Okinawa, Kanazawa and Ishikawa, for generously sharing their time, knowledge, experience, and perspectives (Please see the names in Annexes). Their contributions enabled the research team to gain a much richer understanding not only of policy frameworks and institutional mechanisms, but also of the practical realities, opportunities, and constraints involved in local development.

Special thanks are extended to Assistant Professor Rungroj Piyaphanuwat, Ratchata Suwansilp, Kazuo Yamada, Wanwiwat Ketsawa, Samut Tungsaleekased, Rumi Oonaka, Hisashi Shiroma, and Makoto Katayama for their invaluable assistance in coordinating contacts and facilitating meetings in Japan and Thailand. Their support was instrumental in enabling the fieldwork and data collection undertaken for this project. The research team would also like to acknowledge all those whose names are not individually mentioned here, but whose advice, assistance, and encouragement contributed to the successful completion of the study.

Finally, the research team hopes that this study will provide readers with a clearer understanding of the development trajectories of the three Japanese case-study areas, including the mechanisms that support local development, the process of strategic planning, the translation of policy into practice, and the institutional conditions that enable development efforts to be sustained over time. The lessons presented here are not intended to apply only to Saraburi, Ratchaburi, and Lampang. Rather, the three paired cases are intended to offer a set of practical reference points from which other localities in Thailand may identify, adapt, and combine approaches that suit their own contexts, circumstances, and development paths—whether in agriculture, traditional crafts, tourism, or other areas of local economic development.

Executive Summary

The global context is increasingly shaped by volatility and uncertainty in the economy, trade, energy, population ageing, geopolitical conflict, and climate change. These pressures pose significant challenges to local development and the long-term strengthening of grassroots economies. Under these conditions, Thai provinces are placing greater emphasis on defining, designing, and driving their own development directions. These efforts increasingly reflect the specific needs and characteristics of each area.

Against this background, the research team from the Science, Technology and Innovation Policy Institute (STIPI), King Mongkut's University of Technology Thonburi, considers the **"Local Growth Engine"** concept, which places local development at the centre of economic development, as a means of supporting strategies for inclusive growth, productivity enhancement, and environmentally sustainable growth. Local development can also help foster small and medium-sized enterprises that use appropriate technologies and skills to build local ways of life and community products. The research team also considers **"local-to-local exchange"** an approach worthy of greater attention. It can promote the exchange of experiences, the adaptation of effective approaches and mechanisms to local contexts, and cooperation between areas. Although localities differ in their histories, resources, forms of capital, and economic structures, they increasingly face similar development challenges. These include managing limited resources, responding to labour shortages, upgrading production value chains, increasing the value of local products, strengthening communities, and preparing for future change.

This study investigates local development in three pairs of Japanese and Thai communities: Hokkaido-Saraburi, Okinawa-Ratchaburi, and Kanazawa, Ishikawa Prefecture-Lampang. The areas were identified based on similarities in resource bases, products, and development needs. The study examines their development paths, starting point conditions, strategic goal setting, implementation processes, and key product supply chains. It aims to understand how areas functioning under the same national government and policy system can grow in different ways, and which aspects of these experiences can be applied to the Thai environment.

The findings reveal that, while the three Japanese locations have distinct backgrounds, they share numerous key characteristics. These include empowering local

governments to determine development directions and manage resources, establishing mechanisms for cross-sector collaboration, maintaining long-term and continuous planning and investment, prioritising specific industries or strategic issues, and developing infrastructure in ways that support local development goals rather than implementing fragmented projects on an activity-by-activity basis. The main issue, thus, is not the number of projects implemented, but the ability to ensure that policies, funds, institutions, expertise, and stakeholders consistently move in the same direction over time.

For Thailand, these lessons can be translated into four key areas. First, **implementation mechanisms**: local areas should have the necessary authority, resources, and responsibilities, together with working mechanisms that have sufficient authority and clearly designated lead organisations. Second, **goal-setting**: development should begin with an understanding of local assets, the prioritisation of strategic issues, and the connection of long-term visions with realistic action plans and indicators. Third, **supporting ecosystems**: infrastructure, universities, research, technology, and the business sector should be connected to the specific development needs of each area. Fourth, **further development and scaling up**: existing resources should be developed further into new industries, markets, and economic activities, while local areas should also prepare for emerging challenges in the future.

The three paired case studies also demonstrate the practical potential of local-to-local learning. Saraburi can draw lessons from Hokkaido in upgrading its **dairy and beef cattle value chains**, from improving raw material quality, cooperative systems, and research and development to processing and local agricultural branding. These efforts can help ensure consistent product quality, access higher-value markets, and build a reputation for quality in both domestic and international markets.

Ratchaburi can learn from Okinawa in linking distinctive local products, such as **Ban Kha pineapple**, with processing, tourism, and higher-value markets. Lessons can also be applied to **the swine sector** through breed selection and development, quality control, and the creation of clearly differentiated product characteristics that consumers can recognize. Lampang can draw lessons from Kanazawa in using **culture and traditional crafts** as a foundation for new value creation. This includes linking research, technology, and design with product development, creating opportunities for younger generations to enter craft-based occupations, and broadening the meaning of culture so that it remains relevant to

contemporary lifestyles. Product certification can also help verify origin, quality, and craft value, thereby strengthening recognition and increasing the long-term economic value of local products.

The most important lesson is not to replicate Japanese approaches directly, but to strengthen local capacity to understand existing assets, define long-term development directions, and consistently align people, knowledge, investment, and infrastructure with those priorities. The next phase of local development should move beyond individual projects and activities towards the creation of a **“local development ecosystem”** that can generate greater value from existing foundations while building new capabilities to respond to long-term change.

Key Characteristics of Local Development in Three Japanese Case Studies

Comparative Dimension	Tokachi Hokkaido	Kanazawa Ishikawa	Okinawa
Local Context and Key Assets	A geographically extensive area with a major economic base in agriculture and livestock production, particularly dairy products, meat, and the food industry. The area also possesses extensive agricultural land, accumulated production knowledge, cooperative networks, and relatively well-developed institutional support for the agricultural sector.	A historic city with significant cultural capital, traditional crafts, skilled craftspeople, architecture, and the urban landscape as major development assets. These assets are further supported by institutions in the fields of arts, culture, and education.	An island prefecture with a high degree of dependence on tourism, as well as geographical constraints and land-use limitations associated with U.S. military bases. At the same time, the prefecture possesses important assets in marine resources, a subtropical climate, Ryukyu culture, food, health-related resources, and extensive external linkages.
Key Development Challenges and Strategic Directions	The principal direction is to increase the value generated from the existing agricultural and livestock base by strengthening linkages between primary production, processing, and related industries, while also enhancing local capacity for greater self-reliance in food, energy, and resource utilization.	The principal objective is to ensure that traditional crafts and cultural capital can continue to function as viable occupations and contemporary economic activities. This involves preserving local identity while simultaneously improving product quality, design, and access to new users and markets.	The principal direction is to reduce excessive dependence on tourism as a single major sector and to generate greater value from local resources and identity by establishing stronger linkages with food, health, services, science, technology, and emerging economic activities.
Governance and Collaborative Mechanisms	Development is supported by cooperation among the 19 cities and municipalities of Tokachi, together with mechanisms such as Food Valley Tokachi and the JA/HOKUREN network, which link producers, cooperatives, businesses, and local governments. Local governments play an important role in setting strategic directions and coordinating implementation across sectors.	The municipal government plays a strong role as both a strategic coordinator and a “system designer” through local regulations, public investment, and the establishment of supporting institutions. Implementation involves collaboration among craftspeople, businesses, universities, specialized institutions, and cultural organizations.	Development is supported by cooperation among the prefectural government, central government, universities, research institutions, and the private sector under legislation and special support measures for Okinawa. The public sector establishes the overall framework and supporting conditions within which other actors can develop and implement related initiatives.

Comparative Dimension	Tokachi Hokkaido	Kanazawa Ishikawa	Okinawa
Supporting Development Ecosystem	The supporting ecosystem includes cooperative systems, production and logistics infrastructure, product collection and distribution systems, as well as universities and research institutions that contribute knowledge in agriculture, food production, technology, energy, and the resolution of practical production challenges.	The supporting ecosystem includes cultural infrastructure such as museums, public spaces, and arts and craft institutions, together with systems for training, skills development, materials research, certification, and linkages with designers and markets.	The supporting ecosystem includes tourism and transport infrastructure, research facilities, and areas for the development of new economic activities. Research institutions such as OIST, together with central government support measures, contribute to the development of science, health, technology, and emerging industries.
Approaches to Value Enhancement and Future Development	Development extends from primary production to processing, place-based branding, and related activities in food, energy, tourism, and the circular economy, with agriculture continuing to serve as a central foundation of the local economic system.	Development extends from traditional skills and crafts to design, standards, exhibitions, market development, and the creative economy, while linking existing cultural capital with emerging issues related to sustainability, urban development, and younger generations.	Development extends from agricultural products and local identity to processing, retail, restaurants, tourism, and experience-based activities, while also expanding towards the Blue Economy, health, science, and emerging industries in order to reduce dependence on tourism as a single source of economic activity.

Chapter 1

Introduction

1.1 Background and Significance of the Research

The project *A Comparative Survey of Local Product Supply Chain and Policy to Support Local Growth Engine in Japan and Thailand: A Case Study on Pairing Analysis of Six Japanese and Thai Provinces*[1] applies the concept of the "Local Growth Engine," or mechanisms for driving local economic growth, to examine and compare policies and supply chains of local products in Japan and Thailand. The project aims to understand approaches to developing and managing community products that can support both economic growth and sustainability. The research team selected three pairs of case-study areas in the two countries: Hokkaido–Saraburi, Okinawa–Ratchaburi, and Kanazawa–Lampang. These areas share similarities in their local production bases, including dairy products, beef, pork, pineapples, handwoven textiles, and ceramics. They also have comparable characteristics in terms of social and cultural capital, as well as opportunities for local economic development.

This study collects and analyses relevant information from both Japan and Thailand. It also draws on interviews and an examination of cooperation among stakeholders in each area. It focuses on policies and supply chains related to the production, distribution, and value addition of local products. It aims to provide a comprehensive understanding of how these systems operate in different local contexts. The project is expected to offer a systematic overview of implementation processes, strengths, and limitations in each area. These findings can inform future policy formulation and implementation and support the more sustainable development of local products and innovation in Thailand.

1.2 Selection and Pairing of Case Study Areas

The research team adopted a paired case-study approach in order to develop a more detailed and comprehensive understanding of the assets, weaknesses, and challenges of each area. Six provinces/cities were selected and grouped into three pairs on the basis of key

[1] Artificial intelligence (AI) tools were used to assist in translating this report from Thai into English, with the original meaning and content retained as closely as possible. All AI-assisted translations were subsequently reviewed, edited, and verified by the research team to ensure accuracy, clarity, and consistency with appropriate research and academic standards.

criteria, including similarities in local contexts, social and cultural capital, and the characteristics of their local products.

The first pair consists of Hokkaido and Saraburi, which were selected because of the importance of dairy and beef products as major products in both areas. In the case of Hokkaido, the Japanese government designated the area as a strategic food zone under the *Hokkaido Food Complex International Strategic Comprehensive Special Zone* framework, with the aim of establishing a research and development base and promoting the food industry for export (Srisiri & Nasomboon, 2022, p. 38). This reflects the importance that the Japanese government places on the development of Hokkaido's food industry. In addition, products from Hokkaido are widely recognised in international markets, and regional brands have been developed to certify the origins of raw materials and local production processes, thereby helping to build consumer confidence and increase product value.

In comparison, Saraburi also has strengths in dairy production and livestock. The livestock sector accounts for a significant share of the province's agricultural activities, with a large number of farmers engaged in dairy and beef cattle production. In 2020, Saraburi had a total of 152,757 dairy cattle across nine districts: Kaeng Khoi, Ban Mo, Phra Phutthabat, Muak Lek, Wihan Daeng, Nong Khae, Nong Don, Wang Muang, and Chaloem Phra Kiat. In the same year, 10,389 beef cattle were raised across all 13 districts of the province, including Mueang Saraburi, Kaeng Khoi, Ban Mo, Phra Phutthabat, Muak Lek, Wihan Daeng, Sao Hai, Nong Khae, Nong Saeng, Nong Don, Don Phut, Wang Muang, and Chaloem Phra Kiat (Saraburi Provincial Development Plan, 2021, pp. 46–47). These similarities suggest that Hokkaido has the potential to serve as a useful model for Saraburi in learning about quality upgrading, research and development, value addition, and the management of dairy and beef product chains.

The second pair consist of Okinawa and Ratchaburi, which share similarities in both their local contexts and cultural assets. Okinawa is an island region in southern Japan with a historical role as an international centre during the period of the Ryukyu Kingdom. Ratchaburi, meanwhile, possesses important cultural assets associated with the Tai Yuan community, whose members migrated from northern Thailand and settled in the province more than 200 years ago. The community has continued to preserve a distinctive cultural identity that can be further developed as an economic asset for the area. Important products shared by the two areas include pork and pineapples. In Ratchaburi, Ban Kha pineapple has been registered as a Geographical Indication (GI), with production areas covering four districts.

Ratchaburi is also a major swine-producing province. In 2023, the province produced approximately 1.5 million pigs, ranking first in the country, with a production value of THB 31,282.10 million. However, both the number of pigs and the number of pig farmers have shown a declining trend. The total pig population fell from 2,136,805 in 2021 to 1,358,978 in 2024, while the number of pig farmers declined from 1,436 to 746 over the same period (Ratchaburi Provincial Development Plan, 2025, p. 38). These trends highlight the need to further study and upgrade the swine production chain in order to strengthen the sector, improve its long-term viability, and create stronger incentives for farmers to remain in or re-enter pig production.

The final pair consists of Kanazawa and Lampang, which were paired because of their characteristics as historic cities with distinctive cultural assets. Both are secondary cities when compared with major centres such as Kyoto and Chiang Mai. Kanazawa is renowned for traditional Japanese crafts and was designated a UNESCO Creative City in 2009. Its major craft industries include gold leaf, Kaga yuzen textiles, and Kutani ware, all of which are closely connected with the city's tea culture and way of life.

For Lampang, although it is a secondary city in northern Thailand, the province has strong potential to develop as a creative tourism destination, particularly through its ceramic industry, which has a long history of production and export. This potential is also being expanded through newer products such as lac-dyed textiles. The registration of Lampang lac-dyed textiles as a geographical indication (GI) by the Department of Intellectual Property provides an important mechanism for differentiating the product and increasing its market value (Department of Intellectual Property, 2025, p. 7). In the ceramic sector, one of Lampang's best-known industries, local organisations have increasingly focused on product design, technology adoption, quality control, branding, and access to new markets. To support this development, Lampang has also promoted the concept of a Ceramic City, linking the ceramic industry with cultural tourism as part of the province's broader development strategy (Kaosa-ard, 2019, p. ฒ).

As a result, these six areas, organised into three pairs, were selected as the main case studies of the project on the basis of their respective contexts, cultural assets, economic potential, and patterns of growth. This paired approach allows for comparison of their strengths, weaknesses, and differing development mechanisms, contributing to a better

understanding of how policy recommendations can be developed in ways that are more appropriate to the contexts of Thai local areas.

In summary, the concept of the “Local Growth Engine” represents another important component of innovation-driven national development. Giving greater attention to local development can support national growth strategies that emphasise inclusive growth, increased productivity, and environmentally sustainable growth. At the same time, local development can also foster small and medium-sized enterprises that use appropriate technologies and skills to build upon local ways of life and community products. This can help strengthen grassroots economies, create both social and economic opportunities, and ultimately enhance local capabilities and the quality of life of local people.

In addition to using Japanese case studies as models for the development of policies and value chains, the research team also recognises the importance of further developing cooperation at the local level between Thailand and Japan. If the three Thai areas included in the project can build on the exchange of knowledge and experience to establish sustained institutional cooperation, this could increase economic opportunities, facilitate knowledge exchange, and strengthen long-term local-to-local relations between the two countries.

1.3 Main Research Questions

1. What is the current status and implementation approach of policies related to the promotion of community products as a “Local Growth Engine” in Japan and Thailand?
2. What are the key actors, processes, and mechanisms within the supply chains of community products in the six case-study provinces/cities, from production to distribution?
3. What strengths, weaknesses, and challenges do local areas in Japan and Thailand face in the production and distribution of community products, and how does each area manage or respond to these issues?
4. What lessons can Thailand learn from Japan’s experience in formulating policies that enable community products to genuinely function as a mechanism for driving local economic growth?

1.4 Research Objectives

1. To examine the current status and approaches of policies promoting community products as a mechanism for driving local economic growth in Japan and Thailand.
2. To examine the supply chains of community products, from production and processing to distribution and markets, in the six case-study provinces/cities.
3. To examine the strengths, weaknesses, and challenges faced by areas in Japan and Thailand, as well as their approaches to addressing these constraints, in order to provide a basis for the further development of policy recommendations.
4. To develop systematic and comprehensive policy recommendations for the development of Thai local products that can support sustainable local economic development.

1.5 Research Methodology

This project employs a qualitative research methodology and applies the concept of Social Capital (Claridge, 2018) to examine how local areas can make use of their existing assets, knowledge, networks, and resources to develop creativity, production, and economic activities in ways that strengthen the resilience and sustainability of local communities.

The study draws on documents from relevant organisations, including government agencies, local governments, and the private sector. It also reviews academic articles, research studies, and other relevant materials. In addition, the research team conducted fieldwork in selected provinces and communities in both Japan and Thailand. In-depth interviews were carried out with stakeholders involved in relevant production and development chains. The information collected was then analysed, compared, and synthesised into research findings, reports, and policy recommendations for future local development.

Chapter 2

The Development of Local Development Concepts in Japan

2.1 The Origins of Local Development in Postwar Japan

The 1964 Tokyo Olympics marked a defining moment in Japan's postwar development, symbolising the country's re-emergence on the international stage. The event was the first Olympic Games to be held in Asia and took place at a time when Japan was entering a period of rapid economic growth. It provided a platform for presenting to the world an image of a modern Japan that had recovered from the war, with a growing economy, advanced technology, and large-scale infrastructure capable of accommodating visitors from around the world who travelled to attend the Olympic Games (Tagsold, 2010, p.290; Abel, 2012, p.214)

One development that clearly reflected the relationship between this new national image and concrete development planning was the opening of the Tokaido Shinkansen on 1 October 1964, only nine days before the opening ceremony of the Tokyo Olympics on 10 October. The line connected major economic areas from Tokyo and Shin-Yokohama through Nagoya and Kyoto to Shin-Osaka. The introduction of high-speed rail at the same time as the Olympics can be understood as more than simply the preparation of a transport system to support a major international event. It was also part of the broader restructuring of the country during the period of high economic growth. In the short term, such infrastructure increased Tokyo's capacity to accommodate large-scale travel and activities. In the longer term, however, transport networks became a mechanism for connecting cities, labour markets, production bases, and consumers, while reducing the economic distance between major urban centres (Hood, 2010, p.214). In other words, the Olympics served as a stage on which Japan could present its modern image and national development to the world, while infrastructure provided the mechanism through which that transformation could continue after the event had ended.

From a policy perspective, a major step towards systematic spatial development planning in Japan was taken shortly before the Tokyo Olympics. On 5 October 1962, the Japanese government approved the first Comprehensive National Development Plan (CNDP), which sought to promote balanced nationwide development through the establishment of

selected development centres across the country. The plan was introduced as Japan entered a period of rapid economic growth, accompanied by increasing concentrations of population and industry in major urban areas and widening regional income disparities (Ministry of Land, Infrastructure, Transport and Tourism [MLIT], accessed November 12, 2025). Against this background, the CNDP aimed to reduce excessive spatial concentration by promoting strategic centres of economic activity in different parts of the country and encouraging a more balanced pattern of national development.

2.2 Two Trajectories of Local Development in Japan

From this period onward, the research team can analytically identify at least two development trajectories.

1. **The first trajectory: development based on industrialisation, infrastructure investment, and the creation of networks linking economic cities.** This approach was consistent with national objectives during the period of high economic growth (The New Industrial City Development Act, 1964).
2. **The second trajectory emphasises history, culture, and local identity.** The Law for the Protection of Ancient Capitals was passed in 1966 to preserve the historical contexts of ancient capitals including as Kyoto, Nara, and Kamakura.

From the 1960s onward, local development in Japan did not follow a single direction. Some cities grew as industrial bases, while others built their competitiveness around culture and natural resources. Importantly, both development trajectories contributed to the emergence of planning systems that required local areas to define their own future vision, strengths, and strategies within an evolving national development framework.

2.3 Decentralisation and the Development of Local Planning Systems

From the 1960s onward, local planning systems also continued to develop. An amendment to the Local Autonomy Law in 1969 required municipalities to prepare a ten-year Basic Concept as a framework for systematic administration and long-term development. Another major turning point emerged from the late 1990s and became more pronounced during the 2000s under the decentralisation process, which reduced direct control from the central government and strengthened the principles of local decision-making and local government responsibility.

At the same time, modern public-sector management approaches, including policy evaluation, outcome setting, and greater efficiency in the use of resources, became increasingly widespread at the local level (Katsu, 2019). As a result, local development plans became more concrete, ranging from the establishment of future visions and strategic priorities to action plans, projects, indicators, and monitoring mechanisms. In 2011, the central government abolished the legal requirement for municipalities to prepare a Basic Concept, making the preparation of such plans increasingly a matter for local governments themselves. In practice, however, most Japanese local governments have continued to use comprehensive plans as a principal tool for setting their development directions (Katsu, 2019).

The following sections examine the development trajectories of three Japanese case-study areas: Hokkaido, Okinawa, and Kanazawa (Ishikawa). The analysis considers their starting conditions, strategic goal-setting, and implementation mechanisms in order to understand why areas operating under the same national governance and policy system can nevertheless develop along different trajectories, and which elements of these experiences may be learned from and adapted to the context of local development in Thailand.

Chapter 3

Local Development Contexts in Japan:

Case Studies of Hokkaido, Kanazawa, and Okinawa

3.1 Hokkaido and Tokachi: From an Agricultural Base to Food Valley

3.1.1 Development Context and Key Conditions of Hokkaido

Hokkaido is located in the northernmost part of Japan and is the country's largest region, covering approximately 83,424 square kilometres. It plays a particularly important role in Japan's agricultural sector, accounting for approximately 13.8–14.1 percent of the country's total agricultural production value. It also produces approximately 54.4 percent of Japan's raw milk and 19.2 percent of its beef (FY2018). In economic terms, Hokkaido ranked eighth among Japan's 47 prefectures in terms of economic size, while its GDP per capita ranked 29th in 2022. In tourism, Hokkaido ranked tenth nationally in 2024 (International Business Division, Hokkaido Government, accessed March 5, 2026). These figures reflect Hokkaido's importance as a major food-producing area, a regional economic base, and one of Japan's major tourism destinations.

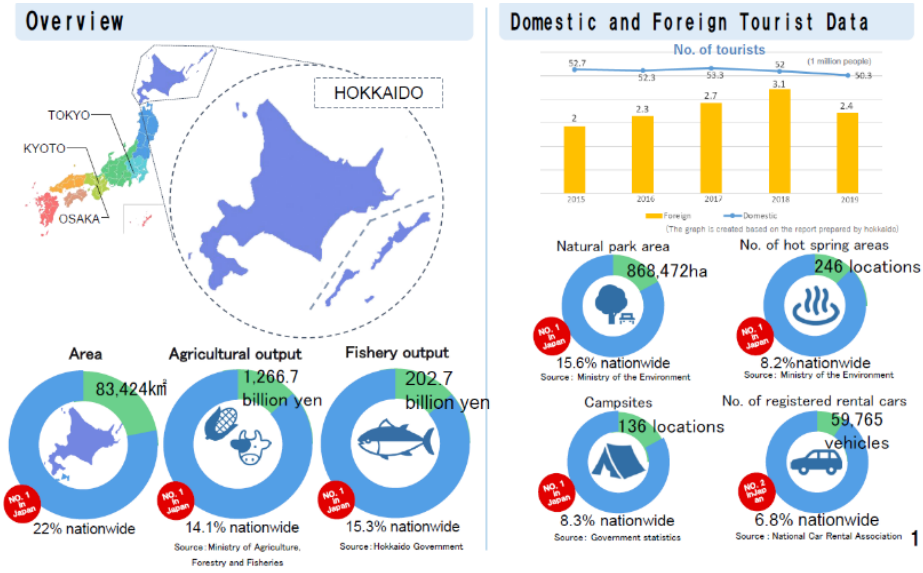


Figure showing the Overview of Basic Information and Tourism Data of Hokkaido, Japan



Figure showing the key actors involved in promoting
the development of local products, particularly dairy products.

Hokkaido has historical conditions and a spatial structure that differ significantly from those of most other regions of Japan. These conditions have had a major influence on its present patterns of economic development, agriculture, and spatial administration, particularly in the Tokachi area and Obihiro, which constitute the project's case-study area. These characteristics are discussed below.

A Modern Urban Region Developed through Settlement during the Meiji Period

A defining characteristic of Hokkaido is that many of its cities and communities developed as modern settlements following the Meiji Restoration in the nineteenth century. This differs from major cities in Honshu, Kyushu, and Shikoku, many of which have political, economic, and cultural foundations extending back hundreds or even thousands of years. The development of Hokkaido in the late nineteenth century was therefore closely associated with Japan's process of modern state-building, the expansion of agricultural land, the development of transport systems, and government efforts to encourage people from other regions of Japan to migrate to the area, establish settlements, and pursue economic activities there (Wada, 2010; Lu, 2019; Hennessey, 2020).

These conditions contributed to the development of a relatively strong settler-society character in Hokkaido. Settlers had to establish new economic systems, communities, and local institutions under unfamiliar climatic and geographical conditions, encouraging an emphasis on land management, technology, productivity, and cooperation. This historical

context also shaped a distinctive pattern of economic development characterised by mechanisation, large-scale agriculture and livestock farming, and relatively systematic and efficiency-oriented production systems (interview with officials from Tokachi, 13 July 2026).

A History of Private-Sector Pioneering and a Culture of Self-Reliance in Tokachi

Tokachi is also distinctive in that its development was not driven solely by government-led settlement. Private pioneering groups played an important role, particularly Banseisha, whose settlement activities during the early Meiji period contributed to the development of what later became Obihiro. Early settlement faced considerable constraints, including climatic conditions, geographical isolation, limited infrastructure, and uncertainty in agricultural production. The establishment of the area's economic base was far from straightforward. Rather, it resulted from continuous experimentation, adaptation, and the development of production systems suited to local conditions (interview with officials from Tokachi, 13 July 2026).

This historical experience helps explain Tokachi's continuing emphasis on self-reliance, local initiative, and problem-solving based on local conditions. Thus, the subsequent development of agriculture and the food industry reflects not only support from the central government, but also the gradual accumulation of local capabilities among farmers, cooperatives, entrepreneurs, educational institutions, and other local organisations.

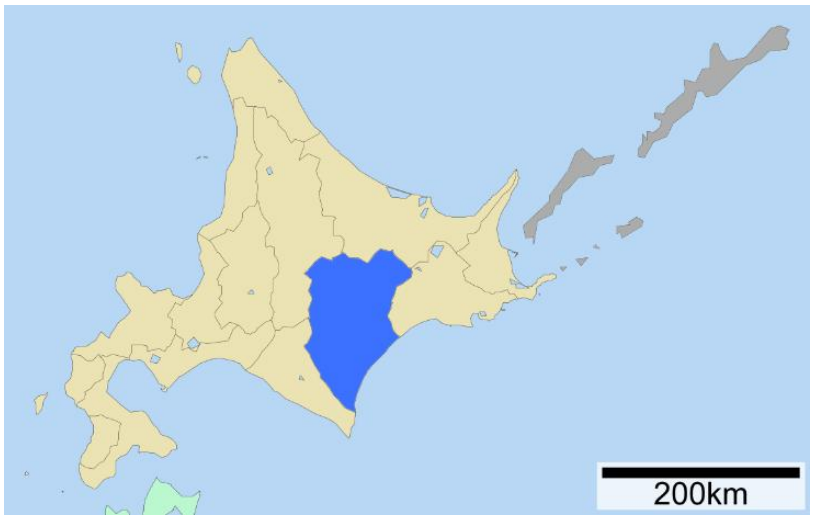
An Area Given Particular Development Priority by the Central Government

Although Hokkaido has a history of pioneering and self-reliance, Japan's central government has also played a major role in its development from an early stage. The area was regarded as important in terms of national strategy, security, settlement, and the expansion of the country's economic base. In 1869, during the Meiji period, the government established a dedicated institution, the Hokkaido Development Agency, to oversee the development of the region. It also introduced two programmes to encourage migration and permanent settlement in Hokkaido: The Program of Farmer-Soldier (*tondenhei*) and the Program of Land Development (*tochi*) (Lu, 2019, p. 525). Government support also extended beyond settlement policies to investment in transportation networks, resource surveys, agricultural development, the introduction and adaptation of overseas knowledge and technologies, and the construction of towns and basic infrastructure to support the growing population (Lu, 2019, pp. 525–526).

An important result was that the development of Hokkaido took place through a relatively distinctive relationship between the central government and local actors. The central government played a major role in establishing basic conditions and investing in large-scale infrastructure, while local governments, the agricultural sector, and businesses developed economic activities and adapted them in detail to local conditions. This pattern continues to be reflected in the modern development of Hokkaido, where many infrastructure, agricultural, and regional connectivity projects remain more closely associated with central government policies and support mechanisms than in some other regions of Japan (interview with officials from Tokachi, 13 July 2026).

The Large Geographical Scale and the Need for Subregional Administrative Mechanisms, such as the Tokachi Subprefecture

Geographical conditions are another highly important factor. Hokkaido has the largest land area of any prefecture in Japan, with cities, communities, and agricultural areas distributed across considerable distances. Managing the entire territory solely from the prefectural government level presents practical limitations. Hokkaido is consequently divided into subregional administrative areas, or subprefectures, which serve as an administrative link between the Hokkaido Government and municipalities in different parts of the region. The Tokachi Subprefecture is one such area, with Obihiro serving as an important economic and administrative centre (interview with officials from Tokachi, 13 July 2026).



Tokachi Subprefecture, Hokkaido Prefecture, Japan

Taken together, the key conditions shaping Hokkaido include its character as a modern pioneering region, the development of cities by settlers and private-sector actors,

the distinctive role of the central government, and the constraints created by its extensive geographical scale. These factors have jointly produced a development model that emphasises self-reliance, productivity improvement, the use of technology, partnership building, and the organisation of economic systems at a geographical scale extending beyond the boundaries of any single city. These characteristics have become an important foundation for the present strength of agriculture and the food industry in Tokachi and Hokkaido.

3.1.2 Case Study: Tokachi — Regional Integration and the Food Valley Tokachi Concept

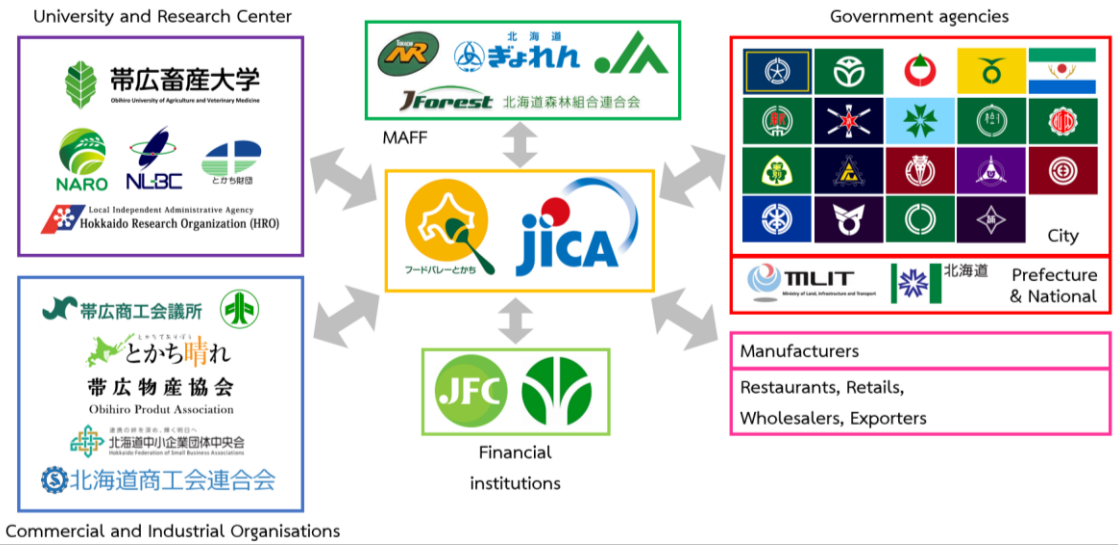
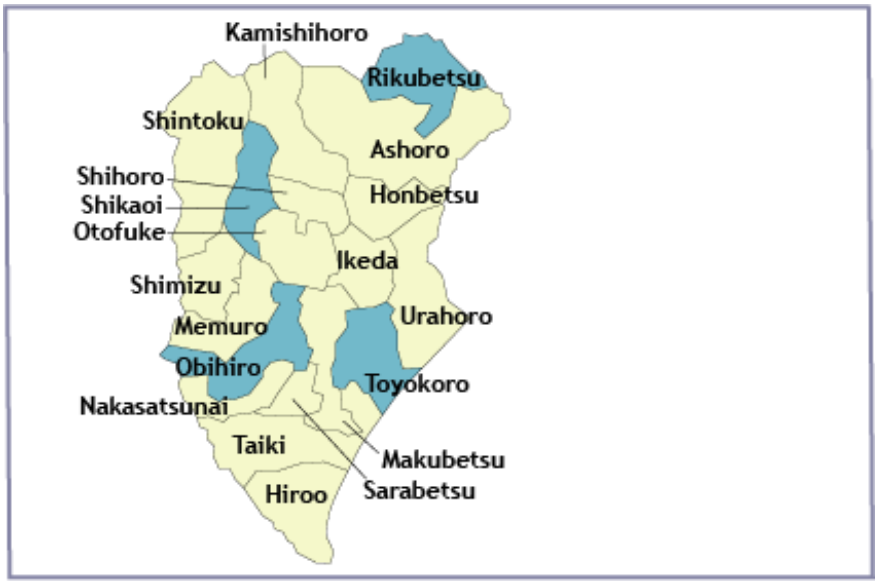


Figure showing the collaborative partners under the Food Valley Tokachi initiative.

Interviews with agencies responsible for promoting local industry in Tokachi indicate that the area's development approach has not focused solely on promoting agriculture and the food industry. Rather, it began with the creation of cooperation mechanisms among local governments in the area, allowing cities and municipalities of different sizes and with different levels of resources to share resources, reduce administrative costs, and establish a foundation for further economic development at the regional level. This approach reflects a view of Tokachi as a shared economic and public service system, rather than as a collection of separate cities.

Cooperation among 19 Cities and Municipalities to Share Resources and Promote Regional Development

Tokachi has developed a framework for cooperation among 19 local governments, with the primary objectives of reducing administrative duplication and improving the efficiency of resource allocation across the region. Under this arrangement, individual cities and municipalities are not required to maintain all public service functions independently where resources can be pooled or services can be provided jointly at the regional level.



19 local governments of Tokachi Subprefecture

(https://web-japan.org/region/pref/tokachi.html)

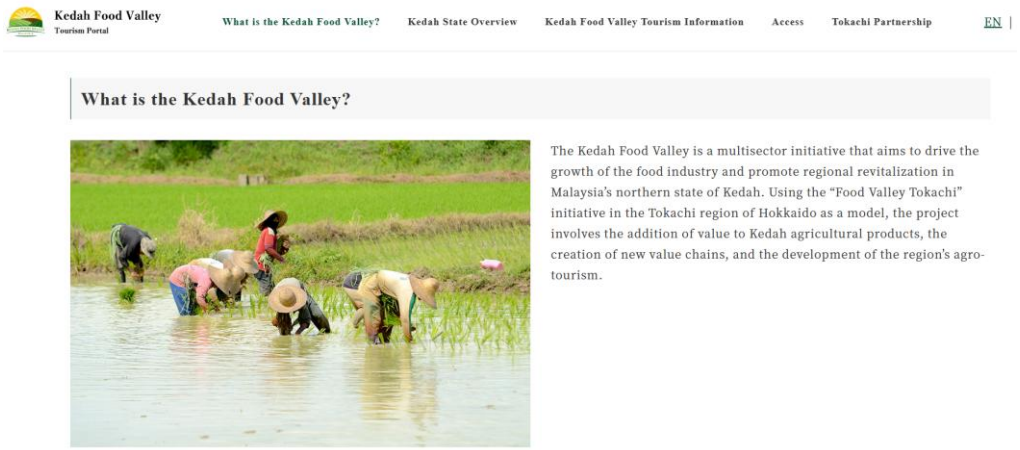
The cooperation covers basic services such as hospitals, waste management systems, fire services and disaster prevention systems, as well as other public utilities and services that require relatively high levels of investment. The pooling of resources helps the area maintain the quality of public services even when many municipalities face constraints in terms of population size, budgets, and personnel (interview with officials from Tokachi, 13 July 2026).

By bringing several municipalities together, Tokachi is able to plan and operate at the scale of the region as a whole and to connect production areas, processing facilities, research institutions, markets, logistics systems, and infrastructure. This regional cooperation serves both as a mechanism for improving public-sector efficiency and as a foundation for strengthening the economic capabilities of the area.

Food Valley Tokachi: Adapting an International Model to the Local Economic Base

Another important element of Tokachi's development is Food Valley Tokachi, which was inspired by the Food Valley concept in the Netherlands (interview with officials from Tokachi, 13 July 2026). Tokachi has adopted this concept in order to move beyond its role as a producer of agricultural commodities and towards becoming a region capable of generating greater added value from its own food products and agricultural resources.

This case also illustrates an interesting characteristic of the international transfer of development models. Development ideas do not necessarily move only from the national level of one country to local areas. They can also be transferred directly from "local to local" across national borders. The Food Valley model originated in the Netherlands, was adapted in Tokachi in Japan, and was later exchanged with other overseas areas, including the state of Kedah in Malaysia, where Tokachi served as a reference model. The Kedah initiative has three main objectives: increasing the value of agricultural products, creating new supply chains, and developing agrotourism. These objectives are pursued through a range of mechanisms and activities, including the development of databases on local industries and resources, the creation of the "Kedah Food Valley" brand, support for young entrepreneurs, and the promotion of domestic and international markets for products from Kedah (Kedah Food Valley Tourism Portal, accessed November 12, 2026).



Kedah Food Valley in Malaysia

Hence, Food Valley can be regarded as an example of a local development model that can travel across different national contexts. However, the model is not simply copied and implemented in its original form. Instead, each area selects and adapts the elements that are appropriate to its own resource base, industrial structure, and institutional system.

The key point is to learn from international experience in order to create a locally appropriate model, rather than to reproduce an external model in its entirety.

Limitations of the Food Valley Concept: Building Understanding of a Concept without Clear Physical Boundaries

Although Food Valley Tokachi has a clearly defined policy direction, interviews indicate that one of its major local challenges lies in communicating the nature and scope of the initiative to residents and other stakeholders. Unlike an industrial estate, research centre, or designated economic zone, Food Valley Tokachi does not correspond to a single physical area with clearly defined boundaries. Rather, it functions as a conceptual and operational framework that links municipalities, organisations, entrepreneurs, and economic activities across the Tokachi region. As a result, local residents have had relatively limited involvement in supporting or participating in Food Valley Tokachi. Some awareness of the initiative exists, but this appears to be associated mainly with visible activities such as the annual marathon event (interview with Tokachi officials, 13 July 2026). The research team considers collaboration among the public sector, private sector, and civil society to be essential for effective local development. In this respect, the relatively weak connection between Food Valley Tokachi and local residents represents an important gap that should be addressed through stronger communication, greater public awareness, and more opportunities for local participation.

This limitation offers an important lesson for development initiatives that do not have clearly defined physical boundaries or tangible locations. Such initiatives require effective communication tools and efforts to build a shared identity so that local people, particularly ordinary residents and small-scale entrepreneurs, can recognise and understand the existence of the initiative. These may include the development of logos and branding, public communication, promotional activities, and opportunities for local people to participate and gain direct experience. Such measures can help make an otherwise abstract concept more visible and memorable. However, the creation of a symbol or brand alone does not automatically lead people to understand or feel part of the initiative. If entrepreneurs, farmers, and local residents do not see how the development initiative relates to their own activities or generates tangible benefits in their everyday lives, it may remain distant from them. Tokachi's key challenge is therefore not only to establish

cooperation among organisations, but also to ensure that such cooperation becomes meaningful to the people who live and work in the area.



Tokachi Brand certification requires registration before the brand mark can be used. Under the criteria, more than 51 percent of raw materials must originate from within Tokachi, and the product must either be produced in Tokachi or manufactured by a company located in Tokachi.

In summary, the Tokachi case illustrates an interesting sequence of development. It began with regional cooperation to improve administrative efficiency and share resources, before expanding into cooperation in energy, the economy, and ultimately developing into Food Valley Tokachi as a shared regional economic strategy and identity. The strength of this model does not lie in the Food Valley brand alone, but in the fact that it is built upon an existing structure of cooperation among 19 local areas. Its major limitation, however, lies in translating this strategic concept into genuine understanding and participation among local residents and entrepreneurs.

Food Valley Tokachi: From an Agricultural Base to Global Economic Linkages



Interviews with Tokachi officer found that the concept of Food Valley Tokachi was developed on the basis of the area's key strengths in agriculture and the food industry, with three interrelated fundamental objectives.

1. The first is to strengthen Tokachi's agricultural sector and enable it to maintain the area's competitiveness over the long term.

2. The second is to use agriculture as a foundation for creating new industries and economic activities, extending beyond the production of raw materials to include food processing, biotechnology, energy, tourism, and related service businesses.

3. The third is to connect Tokachi with international markets and networks through exports, knowledge exchange, and cooperation with overseas regions and organisations.

This concept is not driven by local government alone. Rather, a cooperation mechanism involving approximately 41 organisations has been established, including universities, financial institutions, chambers of commerce, agricultural cooperatives or Japan Agricultural Cooperatives (JA), government agencies, and organisations involved in business and local development. This collaborative structure gives Food Valley Tokachi the characteristics of a development ecosystem rather than a stand-alone project. Each organisation performs functions based on its area of expertise. Universities support research and development, financial institutions provide access to finance, chambers of commerce and the business sector help connect producers with markets, while local governments provide overall direction, coordinate cooperation, and support projects that are consistent with the broader development goals of the area.

Moreover, Food Valley Tokachi places considerable importance on connecting the local economy with international markets. Cooperation includes special economic zone arrangements and the development of an urban cluster of Hokkaido linking Hakodate, Sapporo, and Tokachi. These initiatives aim to create greater economic scale and strengthen access to overseas markets. Such cooperation is particularly important for Tokachi. Although the region has strong capabilities in agricultural and food production, international market access requires extensive logistics systems, business networks, marketing channels, and supporting infrastructure. These cannot always be developed by a single city or region alone. Inter-city networks allow different areas to combine their resources and capabilities. This creates greater economic scale and strengthens regional competitiveness. The cooperation has been estimated to generate economic benefits of approximately JPY 580 billion (interview with officials from Tokachi, 13 July 2026).

The research team considers this form of inter-local cooperation in Japan potentially applicable to Thailand. Local areas that share similar industrial or agricultural development

goals, or that are linked through the same supply chain, could strengthen their competitiveness by working together as a network. Such cooperation could increase collective bargaining power, allow resources and infrastructure to be shared, and reduce the need for each locality to allocate substantial budgets to develop all necessary capabilities independently.

In addition to food and exports, Tokachi has also attempted to connect the Food Valley concept with resource and energy management, particularly through the use of biomass from the agricultural sector and the reuse of waste materials, for example in the production of fertiliser and electricity. At present, energy generation from these sources remains at an early stage and can meet only around 10 percent of the area's electricity demand. Nevertheless, this approach reflects an effort to shift from an agricultural system focused solely on production towards one that considers resource use throughout the entire cycle, from production and the utilisation of residual materials to their reuse as energy sources or new raw materials. This type of development links agriculture with circular economy objectives and the long-term sustainability of the area (interview with officials from Tokachi, 13 July 2026).

Another important mechanism of Food Valley Tokachi is cooperation with the private sector to increase the value of local resources. One example is cooperation with Meiji Company in developing microorganisms originating in Tokachi and applying them as starter cultures for yoghurt products. This cooperation helps transform local biological resources and knowledge into commercial products, while also allowing these starter cultures to be used by local companies and retailers. One example is products associated with the Meiji Hokkaido Tokachi brand. This case illustrates that Tokachi's food industry does not seek to compete solely through production volume. It also aims to generate added value through research, quality, local identity, and product differentiation (interview with officials from Tokachi, 13 July 2026).



Meiji Hokkaido Tokachi Milk Strawberry Melon

Market development and the communication of Tokachi's identity have also been pursued through a variety of channels. These include a winery associated with local-government, the establishment of a Fresh Cheese Studio in Tokyo where consumers can taste, purchase, and learn about products from Tokachi directly, and cooperation with Japan Airlines (JAL) to promote and sell Tokachi products, including potato-based products and other agricultural goods from the area. These activities indicate that local development extends beyond improvements in production to encompass market development, product testing, consumer awareness, and stronger linkages between production areas, major urban markets, and external markets. Following the implementation of these promotional measures, shipments of selected products increased by approximately 24 percent. This suggests that branding and market-development initiatives can contribute to measurable economic outcomes when they are closely linked to actual products and production systems within the region (interview with officials from Tokachi, 13 July 2026).

Behind these developments, research and development (R&D) has been a particularly important factor, especially cooperation among local universities, the agricultural sector, and Japan Agricultural Cooperatives (JA). The presence of research institutions and universities that can work closely with producers allows problems arising in the production sector to be brought into the research process, while research findings can be tested and applied back in the area more quickly. This relationship differs from a system in which universities conduct research separately from the production sector, because many research questions originate from the actual needs of farmers and entrepreneurs. At the same time, JA plays an important intermediary role in connecting farmers with knowledge, technology, markets, and government support policies.

Moreover, modern technologies and innovation are increasingly being used to improve production and quality control, including the application of artificial intelligence. In September 2026, the Japanese government designated 19 municipalities in the Tokachi Subprefecture, including Obihiro City, as a National Strategic Special Zone for AI-powered agriculture. The designation allows the area to test and adopt smart agricultural technologies under more flexible regulatory arrangements. Examples include the operation of autonomous tractors on public roads, pesticide spraying by drones, and the development of communications infrastructure required for unmanned operations. This initiative reflects Tokachi's growing role as a testing ground for large-scale agriculture that makes greater use of artificial intelligence and automation (Jiji Press, 2026; Cabinet Office, Government of Japan, 2026, accessed October 25, 2026).

In addition to supporting existing entrepreneurs, Food Valley Tokachi also places importance on creating spaces for entrepreneurs and people who wish to start new businesses in Tokachi. Those with business ideas are given opportunities to meet, exchange ideas, develop cooperation, and jointly propose projects to local governments in order to seek support. An important feature of this approach is that project development is not undertaken exclusively by the public sector. Instead, entrepreneurs, local residents, and other local actors are encouraged to identify opportunities arising from existing resources and to develop new initiatives. The role of the public sector is then to assess promising proposals and provide appropriate support through funding, institutional mechanisms, or relevant networks. These aforementioned initiatives seek to create new economic value from existing local resources. Former agricultural horses, for example, have been adapted for night-time horse-drawn carriage tourism. Agricultural waste has also been upcycled into scented candles, paper, and other creative products. These initiatives are then linked with tourism, accommodation, and service businesses, extending the economic use of local assets into new sectors.

There are also spaces such as LAND, which function as more than cafés. They provide places where entrepreneurs, younger generations, and people interested in starting businesses can meet, exchange ideas, and identify potential business partners. Such spaces are important for the development of an entrepreneurial ecosystem because they reduce the costs of finding people, knowledge, and networks needed to start new businesses.

The increase in newly established companies provides one indication of this change. Approximately 154 new companies were established in 2011, rising to around 225 by 2024. This increase cannot be attributed to the Food Valley policy alone. Nevertheless, it suggests continued growth in entrepreneurial activity and new business creation in the area. This is particularly evident where markets, finance, research, meeting spaces, business networks, and public-sector support are available within the same ecosystem (interview with officials from Tokachi, 13 July 2026).

3.1.3 Key Lessons from Hokkaido and Tokachi

In summary, Food Valley Tokachi is not merely a policy for promoting agricultural products or creating a regional food brand. Rather, it represents an effort to build a local economic system based on agriculture, linking production, research and development, processing, energy, entrepreneurship, marketing, tourism, and connections with the global economy.

A defining feature of the model is that it does not seek to replace the existing economic base with entirely new industries. It builds on the strength of the agricultural sector and progressively extends economic activity into related sectors. At the same time, the participation of more than 40 organisations, together with the involvement of the private sector, universities, farmers, and emerging entrepreneurs, enables Food Valley Tokachi to function as an integrated mechanism for regional economic development instead of a project led by any single organisation.

3.2 Kanazawa: Using Cultural Capital as a Foundation for Urban Development

3.2.1 Development Path Based on Cultural Capital

Kanazawa is the capital of Ishikawa Prefecture, with a population of approximately 450,000, and serves as the economic and cultural centre of the Hokuriku region. The city has its roots in the sixteenth century and developed substantially during the seventeenth century under the rule of the Kaga domain, one of the wealthiest domains of the Edo period. Located in central Japan, Ishikawa Prefecture extends across the Noto Peninsula and covers an area of approximately 4,190 square kilometres. In 2022, its economy ranked 31st among Japan's 47 prefectures, while its GDP per capita ranked 24th. In tourism, the prefecture ranked 18th nationally in 2024. Ishikawa also has an important craft heritage, including Kaga Yuzen silk dyeing and Kutani porcelain, both of which are recognised as traditional Japanese crafts (Statistical Information Office, Ishikawa Prefectural Government, 2025, pp. 1 and 12).

Kanazawa represents a case study that clearly differs from Tokachi in Hokkaido. While Tokachi developed its growth trajectory on the basis of agriculture and food, Kanazawa chose to build its competitiveness around history, culture, traditional crafts, and the urban landscape.

Finding a Unique Path under the Constraints of Industrial Development

A significant turning point in Kanazawa's postwar development was its exclusion from the areas designated for large-scale industrial development during Japan's period of rapid economic growth in the 1960s. At the time, the central government sought to decentralise industrial activity away from the major metropolitan areas by promoting selected locations as new industrial bases. Kanazawa sought to participate in this development trajectory but was not selected, prompting the city to consider alternative pathways based more closely on its existing local assets and characteristics.

In addition to being excluded from the major industrial development trajectory of the period, Kanazawa was also unable to benefit fully from central government support for historic and cultural cities. Unlike ancient capitals such as Kyoto, Nara, and Kamakura, the city was not covered by the special protection mechanisms established under the 1966 *Law for Protection of Ancient Capitals* (Kakiuchi, 2016, p. 105). As a result, Kanazawa occupied a distinctive position: it was neither incorporated into the major state-led industrial

development programme nor fully supported through the national framework for the preservation of ancient capitals.

Under these conditions, the city faced a fundamental question: "How can the city grow from what it already has?" Kanazawa possessed an old feudal urban structure that had survived major wartime destruction, together with samurai districts, temples, shrines, gardens, communities of craftspeople, and cultural practices that remained embedded in the everyday lives of local residents. Cultural capital gradually became an important foundation for the city's development and has continued to shape Kanazawa up to the present.

Creating Policy Continuity through Municipal Laws and Regulations

What distinguishes Kanazawa's approach from conventional urban conservation is that the city did not attempt to preserve every area and building exactly as they were. Instead, it began by identifying which elements genuinely constituted Kanazawa's distinctive identity.

After the city decided to emphasise culture-based development, it introduced the *Ordinance for the Preservation of Historical Environment, and the Designation of Districts* in 1968. This is regarded as one of Japan's pioneering local ordinances for protecting historical landscapes and urban environments (Kakiuchi, 2016, p. 105). Similar approaches later appeared in other cities, including Kurashiki, Yanagawa, Takayama, and Hagi.

From this starting point in 1968, the city gradually introduced additional tools and measures in response to changing problems and urban conditions. Conservation areas were designated following the 1968 ordinance. During the 1970s, the city expanded support to include temple walls and other elements of historic districts. In 1978, the Prize for Urban and Cultural Beauty was introduced as a tool to encourage private-sector actors and residents to participate in maintaining the quality of the urban environment (Kakiuchi, 2016, p. 105).

As the city's challenges changed, new tools were developed accordingly. These included the *Landscape Ordinance* in 1989, landscape control guidelines in the early 1990s (*Declaration of Control Guideline for Landscape*), the *Ordinance for the Preservation of the Small Historical District* in 1994, and measures supporting the adaptive reuse of historic buildings rather than leaving them abandoned or demolishing them. Over time, landscape policies became increasingly detailed, extending to temple and shrine areas, streetscapes,

and night-time landscapes, before eventually developing into a new *Landscape Ordinance* in 2009 (Kawakami, 2014, p. 8).

From Cultural Conservation to "Value Enhancement" and the Creation of New Culture

An important characteristic of Kanazawa's urban development model is the creation of a value-enhancing system for culture. Kanazawa has sought to connect crafts, design, contemporary art, education, business, tourism, and public spaces. As a result, culture is not treated simply as something to be preserved, but as a resource that can generate economic activity, enhance quality of life, and create new forms of urban identity.

This approach can be seen clearly in the *Kanazawa Cultural Arts Action Plan 2024*, which defines "culture" more broadly than arts or traditional heritage alone. In addition to performing arts, fine arts, crafts, food, and cultural traditions accumulated by the city over time, the definition also includes sports, architecture, and wood, which the city regards as forms of culture that residents are collectively creating in the present era (Kanazawa City, 2024, p.2). Another example is the designation of Kanazawa as a "Wood Culture City" in 2022. Kanazawa adopted the *Ordinance concerning the promotion of the inheritance and creation of a wood-based cultural city in Kanazawa City* (**金沢市における木の文化都市の継承と創出の推進に関する条例**), assigning shared roles to the city government, residents, and businesses in integrating wood into everyday life, buildings, crafts, landscapes, and urban development. The ordinance also connects wood culture with the circular economy, carbon reduction, well-being, quality of life, and local economic development (Kanazawa City, 2022, accessed June 7, 2026).

Investing in Cultural Infrastructure to Keep Culture Alive in the City

Kanazawa does not develop culture only through occasional festivals or promotional events. Instead, it has made long-term investments in what may be described as cultural infrastructure, ranging from museums and art centres to libraries, learning spaces, and public architecture. The city has more than 20 public and private museums covering a wide range of subjects, including gold leaf, literature, everyday life, crafts, and contemporary art. The distribution of these institutions across the city means that culture is not confined to major tourist attractions but becomes part of the everyday experience of both residents and visitors. One important example is the 21st Century Museum of Contemporary Art. The mission set out in the museum's ordinance goes beyond exhibiting art. It also includes

creating opportunities for residents to participate in artistic activities, encouraging encounters and exchanges, contributing to the “creation of new culture,” and generating greater vitality within the city (Kakiuchi, 2016, p. 106).

At the same time, Kanazawa demonstrates that a historic city does not necessarily need to reject contemporary architecture. The major redevelopment of Kanazawa Station in 2005 introduced the Tsuzumimon Gate, inspired by the drums used in Noh performance, and the Motenashi Dome, designed around the concept of “hospitality.” Both have become contemporary symbols of the city while still communicating a clear sense of Kanazawa’s identity (Gautam, accessed June 6, 2026). Similarly, the Kanazawa Umimirai Library, which opened in 2011, demonstrates how an ordinary learning space such as a library can be designed as a form of public architecture that contributes both to quality of life and to the city’s image. The building, with approximately 6,000 circular windows, has received architectural awards and has become internationally recognised (ArchDaily, 2011, accessed June 6, 2026).



Kanazawa Umimirai Library

Global Recognition as a Mechanism for Strengthening Existing Assets

Kanazawa was designated a member of the UNESCO Creative Cities Network in the field of Crafts and Folk Art in 2009. However, the important point is that UNESCO recognition was not what made Kanazawa a cultural city. The city had already invested for several

decades in landscapes, crafts, museums, human resources, and systems for cultural development before receiving this designation. Hence, UNESCO status functions more as a "reputation amplifier," recognising what the city had already accumulated and helping to strengthen its image, international networks, exchanges, and opportunities in tourism and creative industries (Kakiuchi, 2016, p. 106).

Kanazawa's direction as a UNESCO Creative City also reflects the fact that its objective is not limited to preserving crafts. It also seeks to connect crafts with technology and innovation, develop younger generations, promote creative tourism, and support the creation of new industries. In other words, global recognition creates value only when the city has internal systems capable of converting reputation into economic opportunities, learning, and cooperation.

Leveraging Cultural Heritage for Future Development

Although culture and history remain central to Kanazawa's development, the city has not attempted to preserve itself as a city of the past. Instead, it has sought to connect its identity with new global challenges, including sustainability, climate change, biodiversity, responsible tourism, innovation, and quality of life. In 2020, Kanazawa was selected as an SDGs Future City and developed the concept of IMAGINE KANAZAWA 2030 (Council for the Promotion of IMAGINE KANAZAWA 2030, 2020a; Council for the Promotion of IMAGINE KANAZAWA 2030, 2020b).

A similar direction can be seen in the city's future plan, *Future Prospects for Kanazawa*, prepared by Kanazawa City for FY2024–2033. The plan presents Kanazawa's future under the concept of a "Global Co-Creative Cultural City that Opens the Future" and organises development into five main directions, together with KPIs covering both policy outcomes and residents' perceptions. The important point is that culture is not separated out as merely one policy category. Rather, it serves as a connecting framework linking human development, coexistence among diverse populations, the creative economy, innovation, safety, sustainability, and quality of life (Kanazawa City, 2024, p.7). In this way, the city is able to retain its identity while continuously adapting its urban development agenda to changes in the wider world.

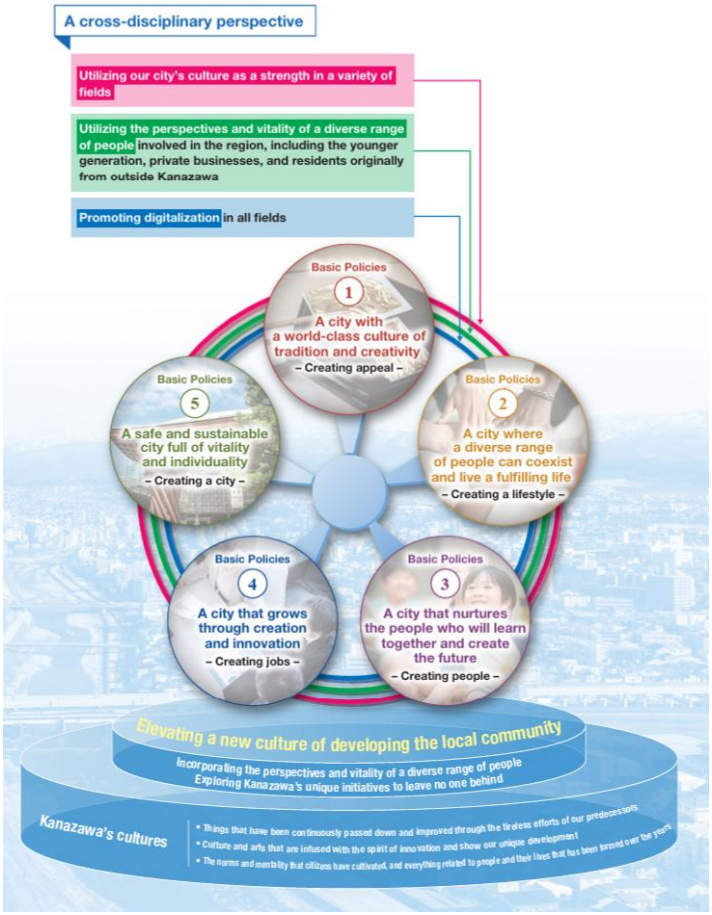


Figure: Future Prospects for Kanazawa

Local Government as a "System Designer" Rather than an Event Organiser

Ultimately, one of Kanazawa's most important characteristics is the role of local government as a designer of the urban development system. The city begins by identifying and classifying its local assets and determining what should be preserved. It then establishes appropriate rules and support measures, invests in cultural infrastructure, and develops human resources. At the same time, the city creates opportunities for business and public participation. These elements are then connected with broader economic strategies and international objectives.



Figure showing the key actors involved in implementing IMAGINE KANAZAWA 2030.

The IMAGINE KANAZAWA 2030 initiative clearly illustrates this role. The project was not designed on the assumption that the city government alone should determine the city's future. Instead, it creates space for residents, communities, NPOs, businesses, educational institutions, and public agencies to participate in defining and implementing that future. The initiative explicitly recognises that the challenges facing the city today cannot be addressed by a single sector alone, but require joint action among multiple actors (Council for the Promotion of IMAGINE KANAZAWA 2030, 2020a, p.2). Local government therefore does not "own" the future of the city. Rather, its role is to create the conditions that allow many different actors to share ownership of that future.

3.2.2 Case Study: Promoting *Kogei* in Kanazawa[2]

One of the cases that clearly reflects Kanazawa's approach to cultural development is the promotion of *Kogei*, or traditional crafts, which form an important part of the city's identity, economy, and image. Kanazawa has a diverse craft base, ranging from lacquerware, ceramics, metalwork, dyeing, and gold leaf to a wide variety of specialised production techniques. However, the existence of long-established heritage and skills does not mean that these industries can continue automatically. One of the major challenges currently facing the city is the shortage of successors and the declining number of younger people

[2] The following section draws on interviews with Kanazawa City officials responsible for cultural affairs.

entering craft occupations, while patterns of consumption and the market for traditional crafts have also changed considerably from the past.



Example of a student recruitment leaflet from the Ishikawa Prefectural Kutani Ware Technical Training Institute, which aims to develop human resources and creating the future of Kutani ware.

Key Enablers of Kanazawa : *Kanazawa Culture and Sports Commission*

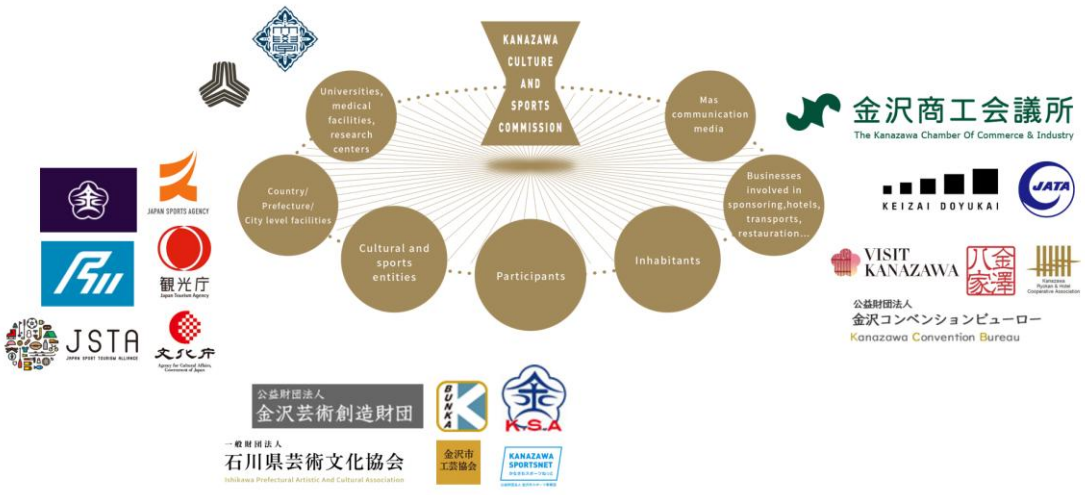
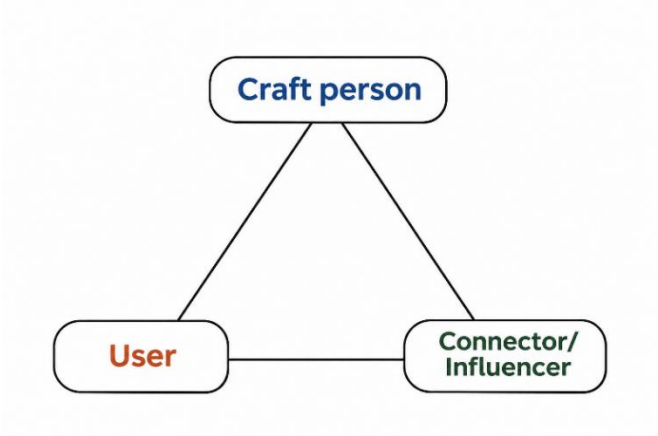


Figure showing organisations within the ecosystem for promoting crafts and traditional industries and connecting them with the tourism sector.



Examples of Kutani ware that have been adapted into more contemporary forms.

Kanazawa does not view the succession of traditional crafts simply as a problem of a shortage of craftspeople that can be solved by training more artisans. Rather, the city recognises that the continued survival of crafts requires at least three interconnected components: **the craft person, the user, and the connector/influencer.** If craftspeople produce goods but there are no users, the market cannot be sustained. Conversely, even if interested consumers exist, crafts may fail to gain wider recognition and popularity if there are no intermediaries capable of explaining production processes, value, stories, and the distinctive characteristics of different types of craft to the general public. These connectors may include designers, curators, entrepreneurs, retailers, media professionals, influencers, or specialists who can translate the value of craftsmanship and connect it with contemporary markets and users.



A conceptual framework linking craft producers, consumers, and connectors/intermediaries

Based on this framework, Kanazawa's activities can be understood through at least four major approaches: preserving and developing the craft workforce; creating markets and spaces in which work can be seen; cultivating users and broader public interest; and developing the next generation through education and experience from childhood. These mechanisms work together as a system, with the shared objective of ensuring that traditional crafts do not survive solely through public subsidies, but are able to continuously regenerate their base of producers, buyers, and people who recognise their value.

Reducing the Risks Faced by Younger People Entering Craft Occupations

One major barrier to developing successors is that the initial period of learning craft skills often takes a long time, while income during this stage remains insufficient to support everyday living. Younger people interested in craft occupations therefore face substantial economic risks while undergoing training and before they are able to establish their own customer base. Kanazawa thus uses financial incentives to reduce the costs associated with entering these occupations. The city provides financial support for individuals who wish to train in or inherit various types of traditional craft skills (interview with Kanazawa City officials, 9 July 2026).

It should be noted that these financial incentives are not intended to serve as salaries for craftspeople or artists. Rather, they provide partial financial support to help individuals entering craft-based occupations cover some of the costs associated with working, training, and developing their skills. The level of support varies according to the characteristics of the recipient and the type of craft involved, ranging from approximately JPY 50,000 per month for trainees to around JPY 120,000 per month for successors in certain craft traditions facing particularly severe shortages. Support may be provided for up to approximately three years, a period considered sufficient for recipients to gain practical experience, develop their skills, and assess whether they can pursue craftwork as a longer-term career.

In some cases, support is also provided to business operators or craftspeople who take responsibility for transferring skills to the next generation. Such assistance effectively provides new entrants with a transition period during which they can acquire skills, build a portfolio, develop markets, and establish their careers before becoming financially self-sustaining in the longer term (interview with Kanazawa City officials, 9 July 2026).

From Craft Skills to Markets: Creating Exhibition Spaces and Business Intermediaries

Kanazawa places considerable emphasis on creating exhibition spaces and mechanisms that connect producers with markets, with the aim of ensuring that the work created by craftspeople and artists can reach potential users and find viable markets. These efforts take several forms, including business consultation centres, matching craftspeople and entrepreneurs with specialists or potential partners, providing spaces to exhibit their work, and creating opportunities for craftspeople to meet people from outside the region. This system helps to fill an important gap for craftspeople who may possess advanced production skills but have limited expertise in marketing, branding, business model development, or reaching new groups of consumers (interview with Kanazawa City officials, 9 July 2026).

Interestingly, the city does not rely solely on experts from Kanazawa or Japan, but also creates opportunities for international participants to provide perspectives on "how outsiders view Japanese crafts." This approach is important because it prevents producers from having to interpret market demand solely from their own perspective. Instead, they can gain direct insights into what consumers and specialists from different contexts value, what aspects of the products they understand, and what may remain unclear or difficult to communicate. Such external perspectives can therefore help craftspeople better translate the qualities, production processes, stories, and distinctive characteristics of their work into forms that are more accessible and relevant to wider markets.

At the same time, the city encourages producers to exhibit their work outside the region and overseas. Financial assistance is available to support participation in trade fairs and activities related to international markets. Under some schemes, support ranges from several hundred thousand yen to a maximum of approximately JPY 1 million, depending on the objectives and type of activity. This type of support reflects an approach that goes beyond simply providing sales spaces within the city. Instead, Kanazawa seeks to expose craftspeople to real markets so that they can understand where their products are positioned within a wider market and then bring that knowledge back to further develop their work (interview with Kanazawa City officials, 9 July 2026).

Using Festivals and Exhibitions to Build Both Markets and Public Interest

Another tool is the creation of activities that continuously bring traditional crafts into public spaces. Kanazawa hosts regular craft-related activities and festivals, as well as large-scale events such as a Triennale held every three years. These events provide opportunities to present craftwork to the general public, buyers, specialists, and interested participants from both Japan and overseas. An important feature is their accessibility: they are designed not only for people already interested in art or crafts, but also for a wider public audience.

Such events do more than generate sales during the event period. They help keep traditional crafts visible in public awareness, provide craftspeople with opportunities to experiment with presenting new work, and create direct encounters between producers and consumers. In this way, festivals and exhibitions function not only as sales channels, but also as mechanisms for sustaining public interest, testing new ideas, and strengthening the relationship between craft production and contemporary society.



The 6th Triennale of Kogei in Kanazawa in 2025



Example of a promotional leaflet for a night-time cultural event organised by the city.

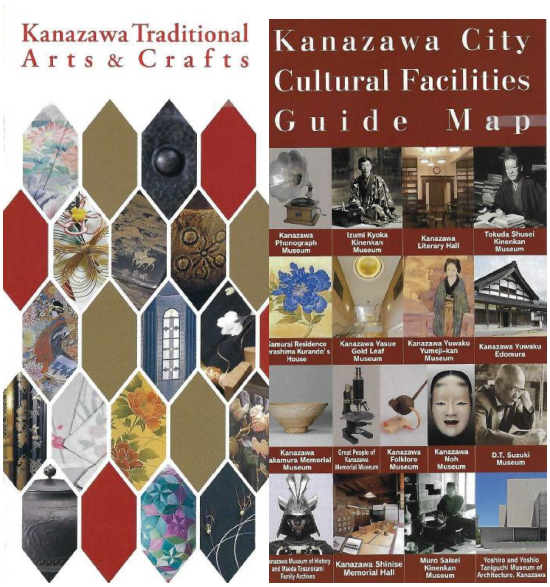
This is particularly important within the craft person–user–connector framework because festivals bring these three groups into the same space. Craftspeople can explain production processes; users can touch, try, or ask questions about products; while designers, event organisers, media, buyers, and specialists can act as intermediaries who create meaning and further expand public awareness. Thus, festivals are not viewed merely as cultural events, but as part of the market infrastructure and networking system supporting Kanazawa's craft industries (interview with Kanazawa City officials, 9 July 2026).

Encouraging Children and Younger Generations to Take an Interest in Traditional Crafts

The long-term sustainability of Kogei cannot depend only on existing consumers. Thus, the city places importance on creating experiences related to art and crafts from childhood through continuous participatory activities for children. Children are not simply taught the names or histories of traditional crafts. They are given opportunities to try making

things themselves, handle materials, speak with producers, and learn directly about actual production processes. In addition, targeting children also has an impact on families. When children become interested in or participate in activities, parents often become involved as well. A single activity can therefore generate intergenerational learning at the same time.

Moreover, Kanazawa encourages children to learn about production and traditional crafts at both the national and local levels so that they understand how different types of craft are made, what materials and skills are required, and how their own area possesses expertise and identities that differ from other regions. The principle of developing people through learning about production is also incorporated into the city's basic legislation on manufacturing, which specifies the city's role in promoting education that helps children understand and take an interest in the importance of *monozukuri,* or the process of making and creating.



Example of a promotional leaflet for a city craft event.

The key point of this approach is to make local identity part of the basic knowledge of people living in the area, rather than allowing knowledge of traditional crafts to remain confined to craftspeople, businesses, or cultural agencies. Children learn both about the traditional crafts found across Japan and about the distinctive strengths of Kanazawa itself.

The Kanazawa case demonstrates that the problem of a shortage of successors cannot be solved by developing producers alone. Even if new craftspeople can be trained, they may not be able to sustain their occupations over the long term if there are no markets, users, intermediaries, exhibition spaces, or younger generations who understand the value of

their products. What the city is attempting to preserve is not simply the number of craftspeople, but an entire ecosystem for supporting traditional crafts, encompassing producers, skills development, income support, markets, intermediaries, communication, consumer development, and education for future generations.



Workshops are another activity used to encourage participation by the general public.

One example is a gold leaf studio that has increasingly focused on this type of activity.

3.2.3 Key Lessons from the Kanazawa Case Study

A key lesson from Kanazawa can therefore be summarised as follows: sustaining traditional crafts is not simply about preserving the past, but about creating the conditions under which skills inherited from the past can continue to function as viable occupations, businesses, and forms of culture with users in the future. If a city has craftspeople but no market, craft production risks becoming an activity that depends heavily on subsidies. If there is a market but no craftspeople, knowledge and skills will gradually disappear. And if both producers and users exist but there is no one to connect them, the value of craftwork may fail to reach new groups of consumers.

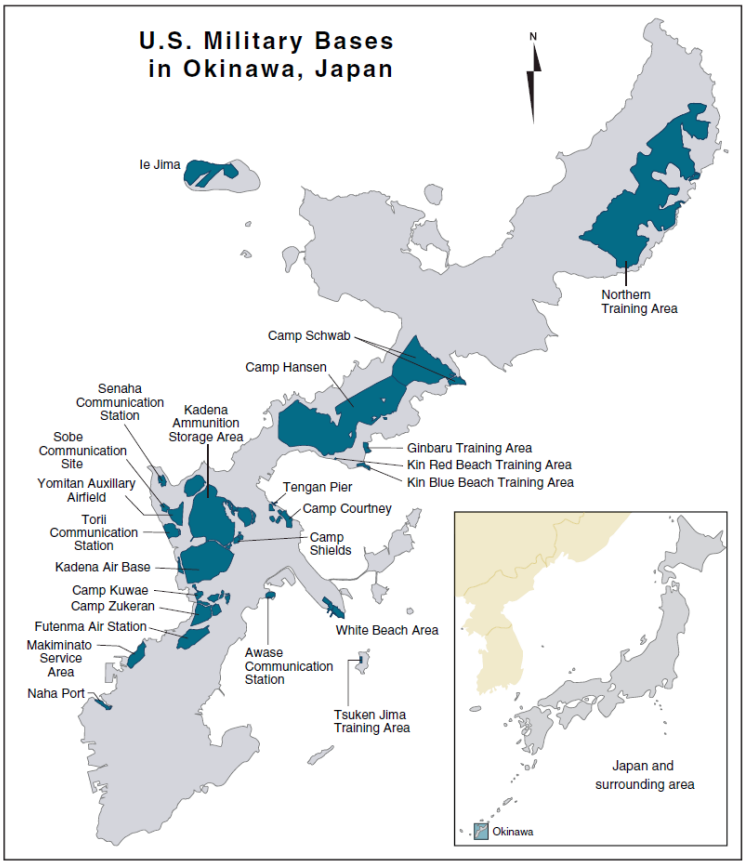
In summary, the “Craft Person – User – Connector” framework is central to the Kanazawa model. The **Craft Person** preserves and develops production skills; the **User** sustains demand and keeps craftwork relevant to contemporary life; and the **Connector** translates value between the two, helping products with complex production processes, techniques, and histories become understandable and accessible to new consumers and markets. Local government support is therefore distributed across the entire system. Rather than focusing only on preserving production at the upstream stage, it seeks to ensure that all three elements develop together and reinforce one another over time.

3.3 Okinawa: Island Economy, Tourism, and Efforts to Build New Foundations for Development

3.3.1 Development Context and Structural Constraints of Okinawa

Okinawa Prefecture is located in the southernmost part of Japan and covers an area of approximately 2,281 square kilometres. It consists of numerous islands in the Ryukyu archipelago, stretching for more than 1,000 kilometres from the southwest of Kyushu almost to Taiwan. Owing to its subtropical climate, Okinawa is the only area in Japan suitable for commercial pineapple production, with approximately 7,100 tonnes produced in 2024. In economic terms, Okinawa ranked 33rd among Japan's 47 prefectures in terms of GDP and 46th in GDP per capita in 2022. By 2026, its GDP per capita stood at USD 22,476, placing the prefecture 47th nationally, while its tourism sector ranked 12th in Japan in 2024 (Kakazu, 2018, pp. 3–4; WorldRankd, 2026, accessed November 13, 2026).

Okinawa's development conditions differ markedly from those of both Hokkaido and Kanazawa in Ishikawa Prefecture. These differences arise from its character as an island region located far from Japan's main economic centres, the distinctive history and culture of the Ryukyu Kingdom, its administration under the United States after the Second World War until 1972, and the continuing presence of numerous US military facilities across the prefecture (Sakihara, 2009). There are currently 32 US military facilities on Okinawa Island, occupying approximately 15 per cent of the island's total land area. Many are concentrated in the central and southern parts of the island, creating significant constraints on transportation networks, urban expansion, and land development (Okinawa Prefectural Government, accessed November 13, 2026). Major facilities include Kadena Air Base, Camp Hansen, and Camp Schwab. These historical, geographical, and institutional conditions have created a combination of constraints and opportunities that distinguishes Okinawa from most other Japanese prefectures.



US Military Bases on Okinawa Island (East-West Center, accessed November 13, 2026)

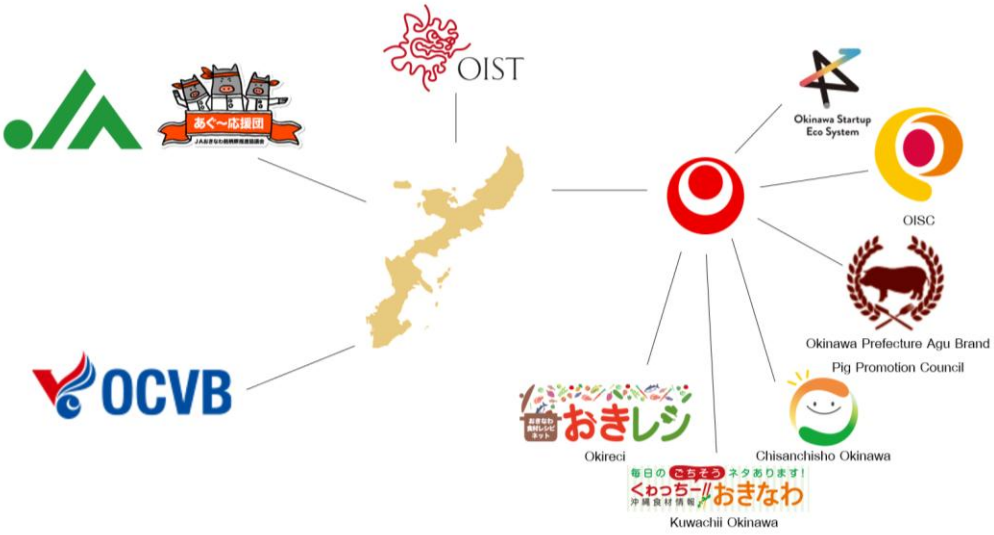


Figure showing key actors involved in the development of Okinawa.

Economic Diversification and the Creation of Stable Employment

Tourism is one of the most important foundations of Okinawa's economy. The sector draws upon the prefecture's natural resources, climate, culture, food, and its distinctiveness from mainland Japan, enabling Okinawa to attract large numbers of domestic and international tourists. At the same time, Okinawa also has agricultural and fisheries sectors, including sugarcane, pineapple, livestock, and coastal fisheries. However, when compared with the overall structure of the economy, services and tourism continue to play a more prominent role (Kakazu, 2018, pp. 24–25).

Interviews with local agencies indicate that a high degree of dependence on tourism can constrain the quality of development. Some service-sector jobs are temporary, provide relatively low incomes, and offer limited opportunities for career progression. These conditions compare unfavourably with industries that rely more heavily on technology and specialized skills. Therefore, Okinawa's challenge is not to reduce the importance of tourism. It is to reduce the risks associated with dependence on a narrow group of industries and to develop additional sectors that can provide more stable employment, full-time jobs, and higher-value career opportunities for local residents. For this reason, science, technology, health, food, energy, logistics, and creative industries are increasingly important as additional growth engines. Together, they can help diversify Okinawa's economic base (interview with Okinawa City officials, 21 July 2026).

Under these conditions, Okinawa is currently advancing the GW2050 PROJECTS (Gateway 2050), a long-term vision framework that originated from concerns within the private sector that the prefecture's development had not yet fully achieved its intended goals. Private-sector actors therefore became involved from an early stage in shaping the future direction of the region. Participants included representatives from major local industries, such as local banks, energy companies, oil companies, telecommunications firms, and construction companies, working alongside economic organisations and local governments. The framework was developed using a backcasting approach, beginning with a desired future vision and then working backwards to identify what the region would need to develop and what actions would be required to reach that future. This process was supported by in-depth research and broad participation from different sectors in the design of the framework. Discussions and the development of the overall concept continued for approximately two years before being translated into concrete projects.

The framework clearly identifies future target industries, including the Blue Economy, advanced medicine, and the aviation and aerospace industries. At the same time, it seeks to upgrade Okinawa's existing industries and develop human capital in five areas: management talent, tourism talent, specialist talent, next-generation talent, and the attraction of high-potential talent from outside the region. Another important element is the strategic use of Okinawa's geographical position. Naha Airport and the location of the islands are viewed as a gateway connecting Japan with East Asia and Southeast Asia, with the aim of strengthening Okinawa's role in international economic networks and cross-border exchange (interviews with Okinawa City officials and members of the GW2050 PROJECTS implementation team, 21 July 2026).

US Military Bases as Economic Constraints on Spatial Development

Another highly distinctive condition is the extensive presence of US military bases across the island, particularly in the central and southern parts of Okinawa Island. Although Okinawa Prefecture accounts for only around 0.6 percent of Japan's total land area, a very high proportion of the land used exclusively by US military facilities and areas in Japan is concentrated in the prefecture (interview with Okinawa City officials, 21 July 2026).

The implications for development are not limited to political or security issues, but directly affect land use and urban development. Some strategically located areas cannot be fully integrated into the urban structure or used for economic development, while road networks and land-use patterns have had to adapt to the spatial constraints created by military bases. Thus, the prefectural government views the return of military land as an important opportunity to create new economic activities and employment. Frameworks have been developed for the reuse of returned land for business, medicine, science, energy, culture, and other economic activities (interview with Okinawa City officials, 21 July 2026).

Multiculturalism and External Connectivity as Local Assets

Although Okinawa's history has created a number of constraints, it has also contributed to social and cultural characteristics that distinguish the prefecture from other parts of Japan. Okinawa has historical roots in the Ryukyu Kingdom, which once served as a centre of trade connecting Japan, China, and Southeast Asia. It was later incorporated into the Japanese state and subsequently experienced a prolonged period of American influence.

As a result, the region's culture, food, language, architecture, and way of life incorporate elements from multiple sources.

Field observations and interviews suggest that the presence of foreign residents, researchers, military personnel, tourists, and migrant workers has contributed to greater familiarity with cultural diversity and international interaction in parts of Okinawan society than in many other regions of Japan. English is also relatively visible in everyday economic and social activities, particularly in tourism, education, and communities with significant international populations. The principal advantage, however, lies not necessarily in overall levels of English proficiency, but in the population's accumulated experience of interacting with people from different cultural backgrounds and living in a socially diverse environment.

This characteristic can be further developed as an asset for tourism, education, research, and international business. Interviews indicate that Okinawa City has attempted to promote its multicultural environment as a factor for attracting companies and businesses seeking to test or expand into international markets, because the area has a comparatively high degree of social and cultural diversity within Japan (interview with Okinawa City officials, 24 July 2026).

In addition to its cultural diversity, Okinawa places considerable importance on strengthening networks and a shared sense of identity among Okinawans both within and outside Japan, particularly among overseas Okinawan communities, which number approximately 420,000 people. One important mechanism is the Worldwide Uchinanchu Festival, first held in 1990 and organised every five years. The festival provides an opportunity for Okinawans from around the world to reconnect with their culture, roots, and wider community networks. In 2016, Okinawa Prefecture also designated 30 October as World Uchinanchu Day to encourage these networks and connections to be passed on to future generations. These initiatives demonstrate that Okinawa does not simply seek to preserve its cultural identity within the prefecture. It also actively fosters a shared sense of being "Uchinanchu", or Okinawan, and continuously connects this identity with a global network of Okinawan communities (Worldwide Uchina Network, accessed November 13, 2026).



Worldwide Uchinanchu Festival in 2022

Source:
https://mainichi.jp/english/graphs/20221031/hpe/00m/0na/001000g/20221031hpe00m0na002000q

Special Support from the Central Government to Compensate for Structural Constraints

Another feature that distinguishes Okinawa from most Japanese prefectures is the continuous support it has received from the central government through dedicated policy frameworks. The Okinawa Promotion Special Measures Act and various special-zone schemes have served as major policy instruments. Support is not limited to budget allocations, but also includes infrastructure investment, industrial promotion measures, employment support, human resource development, and tax incentives. Okinawa currently has tourism promotion zones, industrial innovation promotion zones, information industry zones, international logistics zones, economic and financial zones, as well as local tax reductions and exemptions (interview with Okinawa City officials, 21 July 2026).

An important development is that central government support has gradually shifted from focusing primarily on physical infrastructure towards building knowledge and research capacity. The clearest example is the establishment of the Okinawa Institute of Science and Technology Graduate University (OIST), which emerged from a central government policy aimed at using science and technology as instruments for creating modern industries in Okinawa. The original concept behind OIST explicitly recognised that improving Okinawa's

standard of living over the long term would require the creation of new industries based on science and technology (interview with Okinawa City officials, 21 July 2026).



Okinawa Institute of Science and Technology Graduate University (OIST)

Source: https://www.oist.jp/themes/custom/server_theme/dist/images/oist-campus-aerial-2019.jpg

3.3.2 Okinawa's Current Economic Development Strategy

Building an "Okinawa Identity" and an Economy that Circulates Value within the Islands

Amid efforts to create new industries, Okinawa has not abandoned its existing resources and identity. Instead, it has attempted to make the idea of "Okinawa" more explicitly valuable in economic terms. Field research identified an approach that emphasises local production and consumption while also promoting Okinawa's distinctive products and identity to visitors. This can be understood as a local production–local consumption–external demand cycle. Local demand first provides a stable base for producers. This foundation can then support products and experiences that attract tourists and consumers from outside the region (interview with Okinawa City officials, 21 July 2026). This approach is particularly important in a tourism-oriented prefecture. If tourism growth mainly benefits businesses that depend on imported goods, raw materials, and services, a significant share of the resulting income may flow out of the local economy.

The creation of an Okinawa Identity is therefore an effort to increase local economic capture, ensuring that income generated on the islands circulates more widely among local farmers, fishers, food producers, entrepreneurs, craftspeople, and service businesses. Food,

local ingredients, health, longevity, Ryukyu culture, the sea, and ways of life are not treated as separate products, but can be combined into experiences that differentiate Okinawa from other destinations.

Building a Startup Ecosystem to Enable New Forms of Growth

In recent years, Okinawa has placed increasing emphasis on startup promotion and incorporated it into the prefecture's economic development strategy. The underlying idea is that, although Okinawa has pursued a number of large-scale economic development projects in the past, these efforts have not fully achieved the region's growth objectives. It has become necessary to create space for smaller companies, new businesses, and entrepreneurs with different ideas to grow alongside established industries. In June 2025, the Okinawa Startup Ecosystem Consortium was selected by the central government as a NEXT Global Hub City, reflecting the growing importance of the startup ecosystem as another mechanism for the prefecture's economic development (interviews with Okinawa City officials and prefectural startup support personnel, 23 and 24 July 2026).

Okinawa's approach is not focused solely on producing unicorn companies. Greater emphasis is placed on creating an ecosystem in which people who wish to experiment with new ideas can meet, design initiatives, and begin putting them into practice, reflecting an approach of institutional entrepreneurship. The prefecture is viewed as an interconnected system in which government, universities, research institutes, financial institutions, businesses, and entrepreneurs need to work together. The initial phase therefore focused on developing people by providing training and opportunities to study or work outside Okinawa before returning to establish businesses in the region, while simultaneously building the necessary infrastructure and financial support mechanisms. The subsequent phase has focused on making this system more continuous and sustainable, while connecting Okinawan startups with markets, investment, and wider domestic and international networks (interviews with Okinawa City officials and prefectural startup support personnel, 23 and 24 July 2026).

This supporting infrastructure can now be observed at several levels. The Okinawa Institute of Science and Technology (OIST) operates an Innovation Accelerator that supports researchers and entrepreneurs in translating research and technology into business opportunities. The University of the Ryukyus also provides support for entrepreneurship and the commercialisation of university-based knowledge and innovation. In addition, shared

startup spaces such as Startup Lab Lagoon NAHA in Naha and Lagoon KOZA in Okinawa City provide consultation services, build entrepreneurial communities, and connect entrepreneurs with businesses, financial institutions, universities, and supporting organisations. These spaces also enable people with new ideas to meet and experiment with developing projects together. Recent comparative data indicate that Okinawa has approximately 156 startup companies, with total fundraising of around JPY 5.76 billion (interviews with Okinawa City officials and prefectural startup support personnel, 23 and 24 July 2026).



Lagoon KOZA in Kadena, Okinawa

Okinawa's promotion of startups is particularly noteworthy as an attempt to experiment with new pathways for regional economic development and to move beyond some of the limitations of its existing development model. By creating space for small companies, new entrepreneurs, and people with new ideas to experiment and develop economic activities, the prefecture is broadening the range of actors that can contribute to local growth. Although this ecosystem is still at an early stage, it clearly reflects Okinawa's willingness to test new development mechanisms and explore whether this form of support can create greater opportunities for smaller players and expand the range of economic development options available to the region.

Case Study: Promoting Local Products in Okinawa

The case of Okinawa demonstrates how local products can serve as a foundation for strengthening the real economy by linking production, research and development, product value enhancement, distribution, and tourism. Clear examples include salt and pineapple. Although these products differ considerably, their development follows a broadly similar pattern. They begin as raw materials or agricultural products produced within the prefecture,

after which knowledge and research are introduced to improve quality and develop a wider range of products. These products are then connected with retail channels, restaurants, souvenirs, and tourism activities. As a result, local products generate value not only within the production sector, but also across the service sector and the wider local economy.

Okinawan salt, or *maasu*, is one of the prefecture's well-known local products. It is produced from seawater surrounding the Okinawan islands, which contains a variety of naturally occurring minerals and gives the salt distinctive characteristics and flavours compared with ordinary table salt. Well-known examples include Yukishio (Snow Salt) from Miyako Island, which is produced from underground seawater that has passed through layers of Ryukyu limestone and is characterised by its fine, powdery texture, and Nuchima-su (Nuchi-masu) from Miyagi Island, which uses technology that sprays seawater into a fine mist in order to retain minerals from the seawater in the final product. The value of these salts is not limited to their sale as seasonings. They have also been developed into a variety of other products, such as Yukishio Chinsuko, a traditional Okinawan baked confection, as well as salt-flavoured ice cream sold both in specialist salt shops and by local ice cream brands such as Blue Seal. This diversification allows salt, a basic raw material, to be connected with confectionery, souvenirs, food, and consumption experiences that more strongly reflect the identity of the region.



A shop selling salt and other local products from Okinawa Prefecture at Naha Airport

The case of Okinawan salt demonstrates how a single basic raw material can be diversified through differences in its source, production methods, and product characteristics.

Different types of salt are given distinct stories and market positioning based on their particular qualities, while knowledge of their mineral content, composition, and characteristics is supported by scientific research and technical expertise. Importantly, development does not stop at selling salt as a raw material. Salt is further developed into other products, such as cookies and ice cream, allowing it to generate greater added value and become connected with food, souvenirs, and consumption experiences associated with the region. In this way, a basic local resource can be transformed into a wider range of products and experiences while reinforcing its connection with local identity.



Various types of salt and their places of origin displayed in a shop in a tourist district of Naha City, Okinawa Prefecture.

In addition to Okinawan salt, another case that clearly reflects the prefecture's approach to local economic development is the promotion of pineapple and pineapple-based products. This development is not pursued solely as an agricultural policy. Rather, pineapple production is connected with local consumption, processing, and tourism, allowing the crop to generate value across a wider range of economic activities.

From the moment visitors arrive in Okinawa, pineapple products can already be found inside the airport, including fresh fruit, pineapple juice, confectionery, and various processed products. In urban areas, these products continue to be sold alongside other important local goods, such as sugarcane and sugar products, salt, and mozuku seaweed.



Examples of pineapple products being sold in different areas.

A key feature of this model is that consumption is treated as part of production policy. In other words, simply encouraging farmers to produce more is not sufficient if there is no market capable of generating greater value for their products. Okinawa seeks to create demand from both local residents and tourists. This approach allows tourism to function as a large market for local agricultural and food products, while agricultural products themselves contribute to differentiating the tourism experience offered by Okinawa.

The clearest example is Nago Pineapple Park, which is operated by the private sector but functions as more than a conventional agricultural tourism attraction. The site includes family activities, learning experiences related to pineapples, retail shops, restaurants, processed products, and activities that further develop the raw material into other products, such as beverages and pineapple wine.

The organisation of the site in this way allows a single agricultural product—pineapple—to be transformed simultaneously into a product, food, beverage, source of knowledge, entertainment, and tourism experience within the same location.



Nago Pineapple Park.

The case of Nago Pineapple Park also demonstrates the important role of the private sector in translating local policy and identity into business models. Local government does not necessarily need to operate all activities itself. Instead, it can create an environment in which entrepreneurs are able to recognise how local resources can be further developed into different forms of business.

When private-sector actors are able to create successful activities, local products receive additional promotion, while tourists gain experiences that make both the products and the place more memorable. This creates a cycle in which government, producers, entrepreneurs, and the tourism industry can reinforce one another without necessarily operating through a single project.



In addition to product sales, educational activities and participatory experiences are also provided.

The pineapple case provides a concrete illustration of the Okinawa Identity concept discussed earlier. Local development does not focus only on producing goods for export outside the region. Instead, it begins by creating value and a domestic market for local resources and then uses tourism as a mechanism to expand the market for those products.

3.3.3 Key Characteristics and Lessons from Okinawa's Development Trajectory

From a strategic perspective, Okinawa's approach extends beyond the promotion of pineapples as an agricultural product. It seeks to integrate pineapple production with other sectors of the economy, including food processing, retail, marketing, tourism, and experience-based activities. The key lesson from Okinawa's pineapple case is that the development of distinctive local products should not stop at increasing production or redesigning packaging. It requires the creation of a complete system of visibility, consumption, and value enhancement around the product.

When a product is visible at the airport, used in restaurants, processed into souvenirs, incorporated into tourism activities, and presented alongside other local products, a single agricultural commodity can perform a role far beyond that of a farm product alone. It can become part of both the image and the economic system of the area.

Chapter 4

Supply Chains of Key Products in Three Japanese Prefectures

This chapter and the following chapter present examples of the supply chains of key products from three Japanese prefectures and three Thai provinces in order to compare production structures, processing, marketing, and related support mechanisms in each area. The comparison aims to identify the strengths, limitations, and distinctive characteristics of each supply chain under different local contexts.

The purpose of this comparison is not to directly apply Japanese models to Thailand. Rather, the Japanese cases are used as reference models for examining where gaps or further development opportunities may exist within Thai product supply chains, including in value addition, linkages among entrepreneurs, research and development, marketing, and the creation of new economic activities based on existing local resources and capabilities.

4.1 Hokkaido Prefecture

4.1.1 Supply Chain of Wagyu Beef Products in Hokkaido[3]

The Wagyu beef supply chain in Hokkaido is a system that connects cattle breeding, fattening, cattle registration, slaughtering, carcass grading, auctioning, cutting and processing, and distribution. One of its key strengths is the availability of information linked to each individual animal from the rearing stage through to the final product. As a result, product prices and credibility are linked not only to meat quality but also to the traceable origin of the cattle.

[3] Information on the Wagyu beef supply chain in Hokkaido, covering upstream, midstream, and downstream stages, was obtained from interviews with officials from the Agricultural Affairs Division, Hokkaido Tokachi General Subprefectural Bureau on 13 July 2026; the Tokachi Federation of Agricultural Cooperatives on 14 July 2026; and Food Valley Tokachi and JA Obihiro Kawanishi on 15 July 2026.

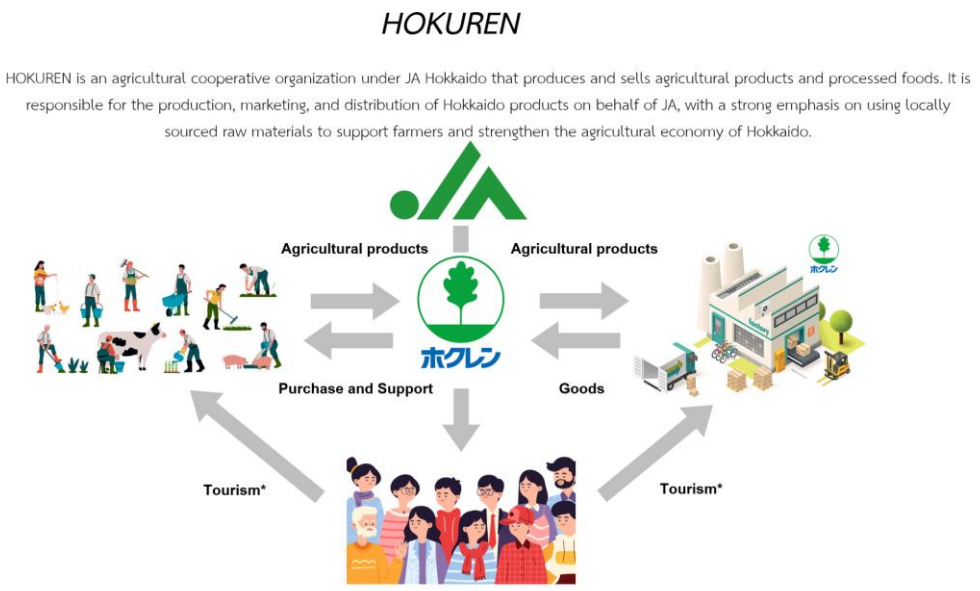


Figure showing the operations and role of Hokuren, an important organisation supporting agricultural production in Hokkaido.

Key Support Mechanisms and Actors: Upstream

- Cattle breeders are responsible for producing calves for sale through auction systems, while cattle-fattening farmers purchase calves and raise them until they reach market weight. Their responsibilities include animal health management, veterinary care, breeding, farm certification, and feed management. Feed producers and suppliers, as well as providers of veterinary services and artificial insemination, also play supporting roles in cattle production (Craft Wagyu, accessed November 12, 2025; Mizuho Farm Co., Ltd., *About Mizuho Farm*, accessed November 12, 2025; Mizuho Farm Co., Ltd., *Company Profile*, accessed November 12, 2025; Nobels Food Co., Ltd., accessed November 12, 2025; Taniguchi Farm Group, accessed November 11, 2025; UU-Hokkaido, accessed November 10, 2025).
- Central cooperative mechanisms: JA Hokkaido provides advice on cattle farming, supports the procurement of production inputs, farm management equipment and technologies, cattle disease testing, breeding services, marketing, and financial support. An application has also been developed for farmers within the network, providing a channel through which they can communicate with officials, request various services, receive notifications, and access databases related to the management of their own farms (HOKUREN Federation of Agricultural Cooperatives,

accessed November 17, 2025; JA ZEN-NOH Group, 2024; Japan Agricultural Cooperatives, accessed November 7, 2025).

- Breed development and quality control**:** The National Livestock Breeding Center is responsible for Wagyu breed development, while the National Wagyu Registration Association registers cattle and oversees breed improvement. This registration system allows individual cattle information to be traced and verified after slaughter (National Livestock Breeding Center, 2017; **公益社団法人全国和牛登録協会**, accessed November 11, 2025)

- In addition, the Japan Livestock Industry Association and the Agriculture & Livestock Industries Corporation contribute knowledge and business support mechanisms for the livestock sector, while the Norinchukin Bank provides financial support to farmers (Agriculture & Livestock Industries Corporation, accessed November 12, 2025; Japan Livestock Industry Association, accessed November 12, 2025; Norinchukin Bank, accessed November 7, 2025).

Key Support Mechanisms and Actors: Midstream

- Slaughtering and meat grading: Once cattle have been fattened to the appropriate slaughter standard, they are sent to slaughterhouses. The resulting carcasses are inspected and graded by the Japan Meat Grading Association. Meat-quality grading allows buyers in the market to compare carcasses and provides an important basis for determining prices (Japan Meat Grading Association, accessed November 12, 2025).

- Auctioning and meat cutting: Carcasses are entered into carcass auction markets before being sent to cutting and processing facilities, where they are divided into individual cuts for sale. The National Wagyu Registration Association uses registered cattle data to certify the origin of beef after slaughter and processing. The midstream stage is therefore particularly important for generating information on carcass quality and linking this information back to individual cattle and forward to beef products for consumers (National Livestock Breeding Center, 2017).

Key Support Mechanisms and Actors: Downstream

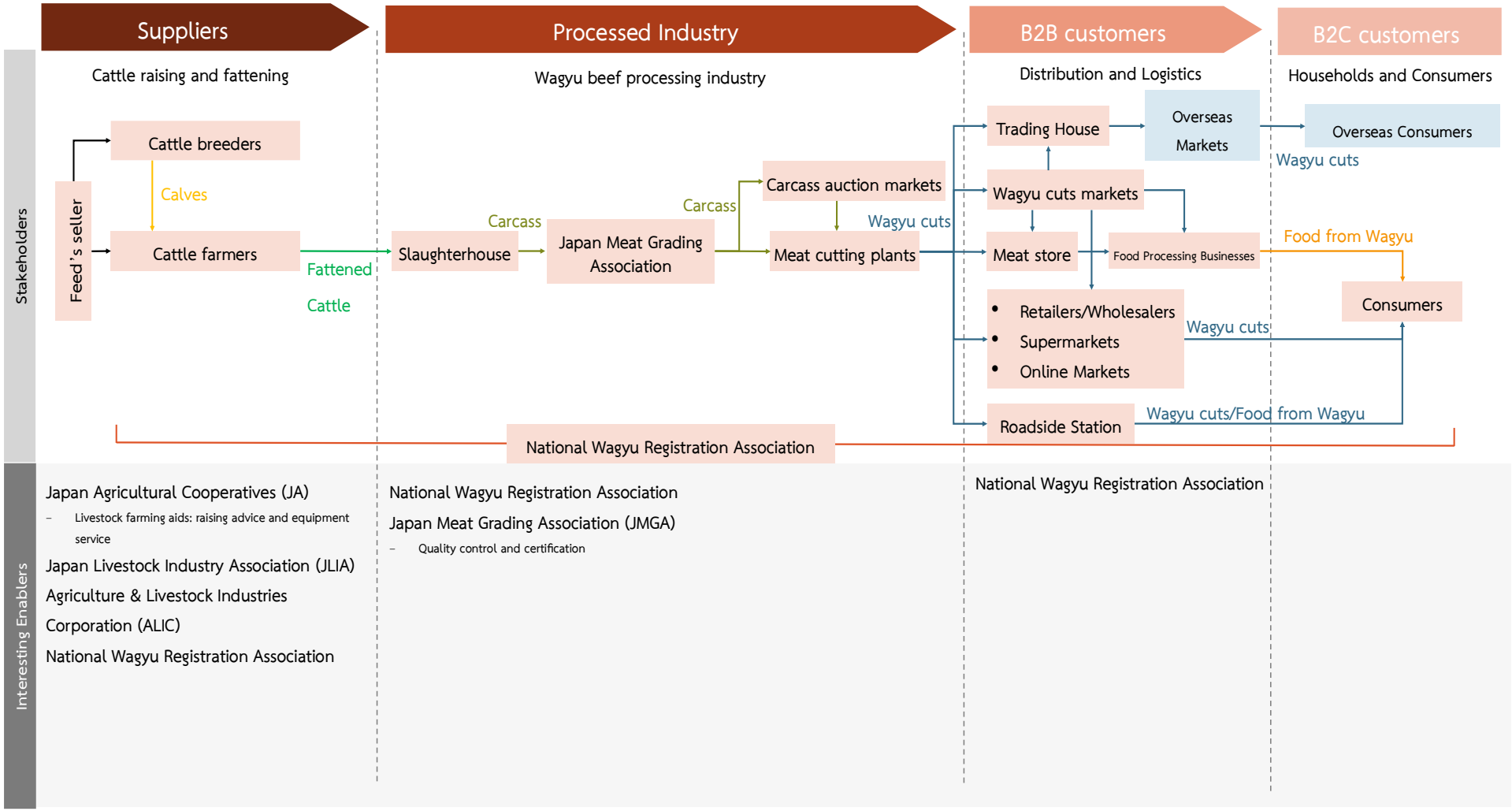
- Market distribution: Processed and portioned beef is distributed through a variety of channels, including trading companies, meat markets, butcher shops, supermarkets, retail and wholesale outlets, online markets, food-processing businesses, and roadside stations. The beef may also be used in ready-to-eat products or served as menu items in restaurants (Japan National Tourism Organization, accessed November 17, 2025)
- JA Town (JA Zen-noh) provides an online marketplace through which consumers can order beef products directly from different JA organisations in Hokkaido (JA Town, accessed November 16, 2025)
- The National Wagyu Registration Association contributes to a system that allows consumers to verify the origin of beef products and cattle breeds. Making this information available at the downstream level extends the certification system from midstream traders to consumers, providing a tool that supports purchasing decisions and strengthens confidence in the products (National Livestock Breeding Center, 2017).
- The Association also plays a role in promoting cattle breed development and marketing. It organises a national Wagyu competition, where Wagyu producers from across Japan can enter their cattle for competition based on carcass quality and appearance. The event also provides space for the trading of Wagyu carcasses and meat, as well as public information and promotional activities related to Wagyu (National Livestock Breeding Center, 2017)



Beef and individual cuts of Wagyu cattle sold in the market.



Promotion of Hokkaido/Tokachi Wagyu beef and publicity for the 13th National Wagyu Competition to be held in Hokkaido in 2027.



Supply chain and key actors involved in Wagyu beef products in Hokkaido.

4.1.2 Supply Chain of Dairy Products in Hokkaido[4]

The dairy supply chain in Hokkaido begins with dairy cattle breeding and farming, together with the supply of animal feed and equipment for milking and raw milk storage. Raw milk is then collected through purchasing and collection systems and transported to processing facilities, where it is processed into drinking milk or a wide range of dairy products.

These products are distributed through retail stores, online markets, farm shops, food businesses, and school milk programmes. The supply chain involves both commercial actors and organisations responsible for maintaining industry stability. Because raw milk must move continuously through collection and processing systems, coordination of production volumes, quality, purchasing, and distribution is central to the functioning of the entire supply chain.

Key Support Mechanisms and Actors: Upstream

- Raw milk production: The process begins with cattle breeders, who breed dairy cattle and sell them through auctions to dairy farmers. Dairy farmers are responsible for managing cattle health, feed quality, milking, and the storage of raw milk before it leaves the farm. They purchase feed, milking equipment, and milk storage equipment from private suppliers or through JA (HOKUREN Federation of Agricultural Cooperatives, accessed November 17, 2025; JA ZEN-NOH Group, 2024; JA ZEN-NOH Group, accessed November 7, 2025; Japan Agricultural Cooperatives, accessed November 7, 2025).
- Support for production, finance, and marketing: Farmers receive support in finance, business operations, procurement of production inputs, farm management technologies, and market access from HOKUREN, or the Hokkaido Federation of Agricultural Cooperatives, Tokachi Nokyoren, or the Tokachi Federation of Agricultural Cooperatives, and the wider JA network (Agriculture & Livestock Industries Corporation, 2023, 2025, accessed November 12, 2025; HOKUREN Federation of Agricultural Cooperatives, accessed November 17, 2025; JA Bank Hokkaido, accessed November 17, 2025; JA ZEN-NOH Group, 2024, accessed November 7, 2025; Japan

[4] Information on the dairy supply chain in Hokkaido, covering upstream, midstream, and downstream stages, was obtained from interviews with officials from the Department of Agriculture, Hokkaido Government on 13 July 2026; Yotsuba Milk Products Tokachi Main Factory on 13 July 2026; and the Tokachi Federation of Agricultural Cooperatives on 14 July 2026.

Agricultural Cooperatives, accessed November 7, 2025; Japan Dairy Council, accessed November 12, 2025; Japan Dairy Industry Association, accessed November 12, 2025; Japan Livestock Industry Association, accessed November 12, 2025; Norinchukin Bank, accessed November 7, 2025).

- At the same time, the Japan Dairy Council (JDC), Japan Dairy Industry Association (JDIA), Japan Livestock Industry Association (JLIA), and Agriculture & Livestock Industries Corporation (ALIC) provide support to dairy farmers through advisory services and financial assistance for industry development. In addition, JA Bank and Norinchukin Bank provide financial services, particularly loans to farmers.
- Quality control of milk and dairy products: The Hokkaido Dairy Association is responsible for improving hygiene standards, monitoring and inspecting the quality of raw milk and dairy products, supporting a stable supply of products, and communicating relevant information to consumers.
- Research and development: Organisations such as the National Livestock Breeding Center (NLBC) and the Field Science Center for Northern Biosphere support the development of dairy cattle breeds and livestock farming technologies.

Key Support Mechanisms and Actors: Midstream

- Raw milk purchasing and collection agents gather milk from farms and transport it to processing companies or to processing facilities operated under individual farm brands. Raw milk is processed into drinking milk and other dairy products, including skimmed milk powder, whey protein powder, cheese, cream cheese, butter, and yoghurt, before being distributed to traders and consumers.
- HOKUREN and Tokachi Nokyoren support farmers in milk collection and quality inspection, while also producing or distributing dairy products under brands associated with the JA Hokkaido network. Meanwhile, the Japan Dairy Council and J-Milk help coordinate information and align production volumes with market distribution (HOKUREN Federation of Agricultural Cooperatives, accessed November 7, 2025; JA ZEN-NOH Group, 2024, accessed November 7, 2025; Japan Agricultural Cooperatives, accessed November 7, 2025; Japan Dairy Association, accessed November 12, 2025; Japan Dairy Council, accessed November 12, 2025)

- The Agriculture & Livestock Industries Corporation (ALIC) supports raw milk purchasing and provides price support in raw milk markets in order to help stabilise production and producer incomes (Agriculture & Livestock Industries Corporation, 2023, 2025, accessed November 12, 2025).

Key Support Mechanisms and Actors: Downstream

- Markets: Drinking milk and dairy products are distributed through trading houses, supermarkets, retail and wholesale outlets, convenience stores, online markets, and food-processing businesses. Farm shops also sell products directly under producers' own brands.

- Online sales and branding: JA Town provides an online channel through which consumers can purchase dairy products from JA organisations in Hokkaido, while HOKUREN distributes products under brands associated with its network. Online markets help connect producers with consumers outside the region and allow the Hokkaido name itself to contribute to brand value (HOKUREN Federation of Agricultural Cooperatives, accessed November 17, 2025; JA Town, accessed November 16, 2025; JA ZEN-NOH Group, 2024, accessed November 7, 2025; Japan Agricultural Cooperatives, accessed November 7, 2025)

- School milk programmes: These represent another market channel supported by the Hokkaido Dairy Association, which promotes the provision of milk as part of school lunches. Such programmes help create stable demand while also contributing to the development of a culture of milk consumption among the population (Hokkaido Dairy Association, accessed November 7, 2026; **一般社団法人 北海道乳業協会**, accessed November 12, 2025)





Examples of dairy products from Yotsuba, a Hokkaido-based dairy producer and processor.

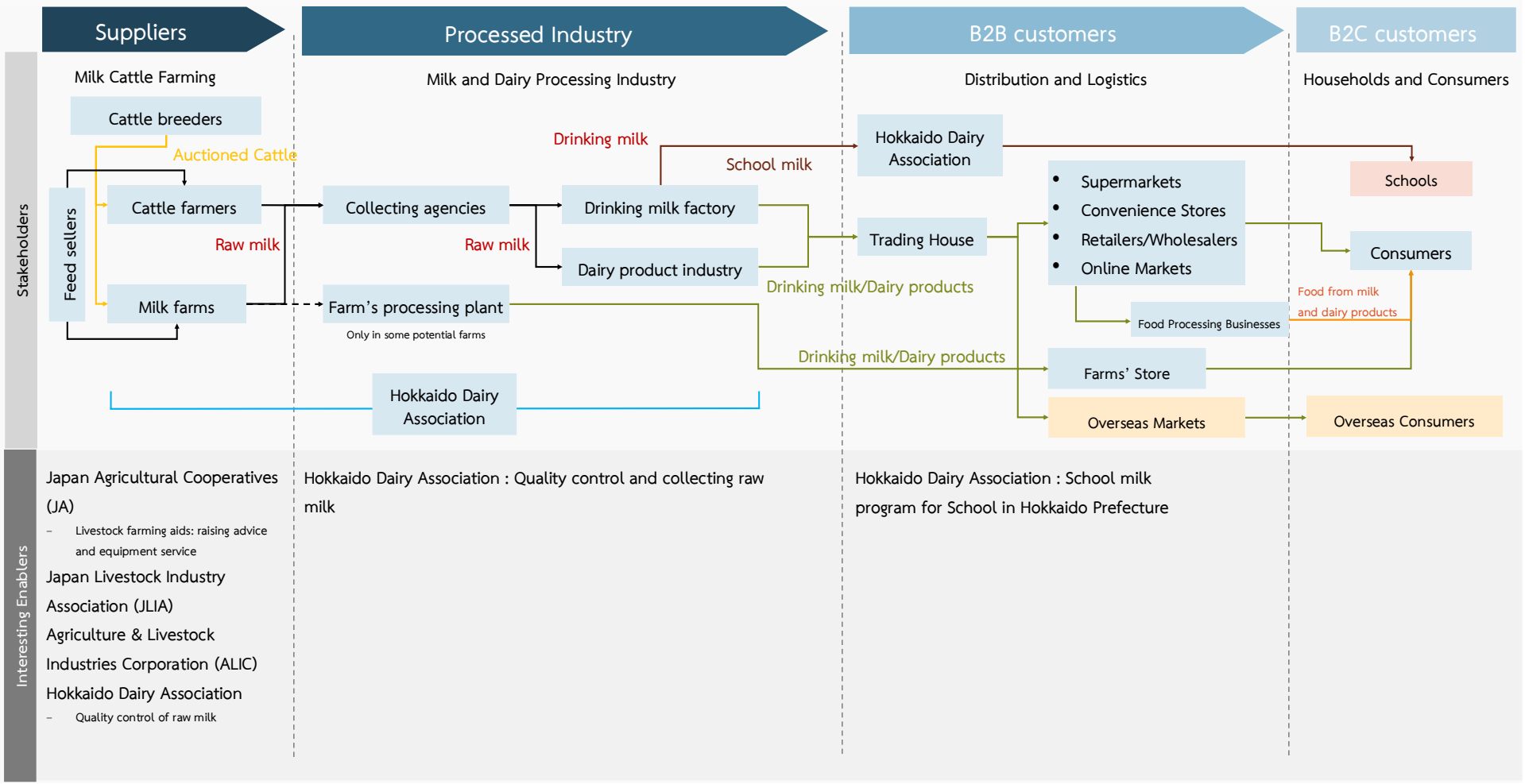


Figure showing the supply chain and key actors involved in dairy products in Hokkaido.

4.2 Kanazawa City, Ishikawa Prefecture

4.2.1 Supply Chain of Kaga Yuzen Textile Products in Kanazawa[5]

The supply chain of Kaga Yuzen textiles involves a production process distributed across a network of craftspeople and specialised studios, with different actors responsible for different stages. The process begins with the procurement of raw materials, particularly silk and silk fabric, before moving through design, pattern sketching, resist application, colouring, steaming, background dyeing, washing, drying, and final finishing. The fabric is then made into kimono or other products and distributed to the market.

Key Support Mechanisms and Actors: Upstream

- Raw silk and silk fabric producers: The upstream supply chain includes sericulture farms, fabric-weaving mills, and fabric-dyeing facilities, which produce silk fabric for studios and dyeing craftspeople. Most Kaga Yuzen producers are small- or medium-sized studios or individual craftspeople who create textiles according to their own distinctive artistic styles.
- Research and development and the promotion of demand for silk: The Japan Silk & Rayon Weaver's Association supports research and development related to textile products and production technologies, promotes trade exhibitions, and works to stimulate demand for Japanese textiles. In addition, the Tango Textile Industrial Association supports the development of silk production technologies and promotes the consumption of silk from Tango, one of Japan's major silk-producing areas (Tango Textile Industrial Association, accessed November 18, 2025).
- The Kaga City Textile Cooperative Association is responsible for silk quality inspection, the promotion of the silk industry, and market development for silk products from the Kaga area (Compalyze, accessed November 23, 2025; **加賀市織物協同組合**, accessed November 23, 2025).

[5] Information on the Kaga Yuzen textile supply chain, covering upstream, midstream, and downstream stages, was obtained from an interview with an artist and entrepreneur from the Akaneya Archive Gallery on 8 July 2026.

Key Support Mechanisms and Actors: Midstream

- Design, dyeing, and tailoring: Kaga Yuzen production begins with the design of patterns and the overall composition of the garment. The silk fabric is then prepared and the design is drawn onto the fabric using a liquid traditionally made from flower extract. Craftspeople apply a glutinous-rice paste known as itome-nori along the outlines of the design to prevent dyes from spreading beyond the intended boundaries, before colouring the individual sections of the pattern.

- After colouring, the fabric is steamed to fix the dyes. The coloured sections are then covered with resist paste before the background is dyed, followed by another steaming process. The next stage involves washing away the paste and excess dye with water. The traditional Yuzen-nagashi washing process, in which fabric is rinsed in flowing water, has become closely associated with the landscape and seasonal imagery of Kanazawa. Finally, the fabric is dried and undergoes detailed finishing.

- Kaga Yuzen studios: Kaga Yuzen studios involve a network of pattern designers, colouring and dyeing craftspeople, steaming facilities, background-dyeing workshops, washing facilities, and tailors. Gold leaf may also be purchased from specialist producers and applied as decorative elements to the fabric (Business Insider, 2022).

- Product certification: The Kaga Zome Promotion Cooperative Association issues certification marks for Kaga Yuzen kimono and other products in order to verify their quality and authenticity. These certification marks serve as a link between producers and consumers and help distinguish products that meet recognised standards from goods that use similar names or designs (KAGA-YUZEN Kimono Center, accessed November 23, 2025).

Key Support Mechanisms and Actors: Downstream

- Markets: Kaga Yuzen kimono are sold directly by studios or through kimono shops and kimono rental businesses. Kaga Yuzen techniques have also been applied to clothing, accessories, and souvenirs, allowing the market to expand beyond traditional kimono into more contemporary products. Clothing stores and souvenir shops provide important channels for reaching new groups of consumers and tourists from both Japan and overseas (KAGA-YUZEN Kimono Center, accessed November 17, 2025;

Kanazawa Craft Council, accessed November 23, 2025; Kanazawa Craftwork Business Creation Agency, accessed November 23, 2025).

- In addition, the Kaga Zome Promotion Cooperative Association and the Kanazawa City Crafts Association help support the preservation of craft traditions and connect commercial production with cultural succession. Their activities include presenting Kaga Yuzen through cultural centres and museums, organising hands-on dyeing activities, and holding the Miss Kaga Yuzen competition, whose selected representative serves as a cultural ambassador for the city (KAGA-YUZEN Kimono Center, accessed November 17, 2025; Kanazawa City, accessed June 24, 2026). These channels transform Kaga Yuzen from a craft product into an experience, a form of learning, and a symbol of Kanazawa.



Demonstration of the application of glutinous-rice resist paste along textile patterns using the itome-nori technique.

Supply Chain : Kanazawa Kaga yuzen Textile

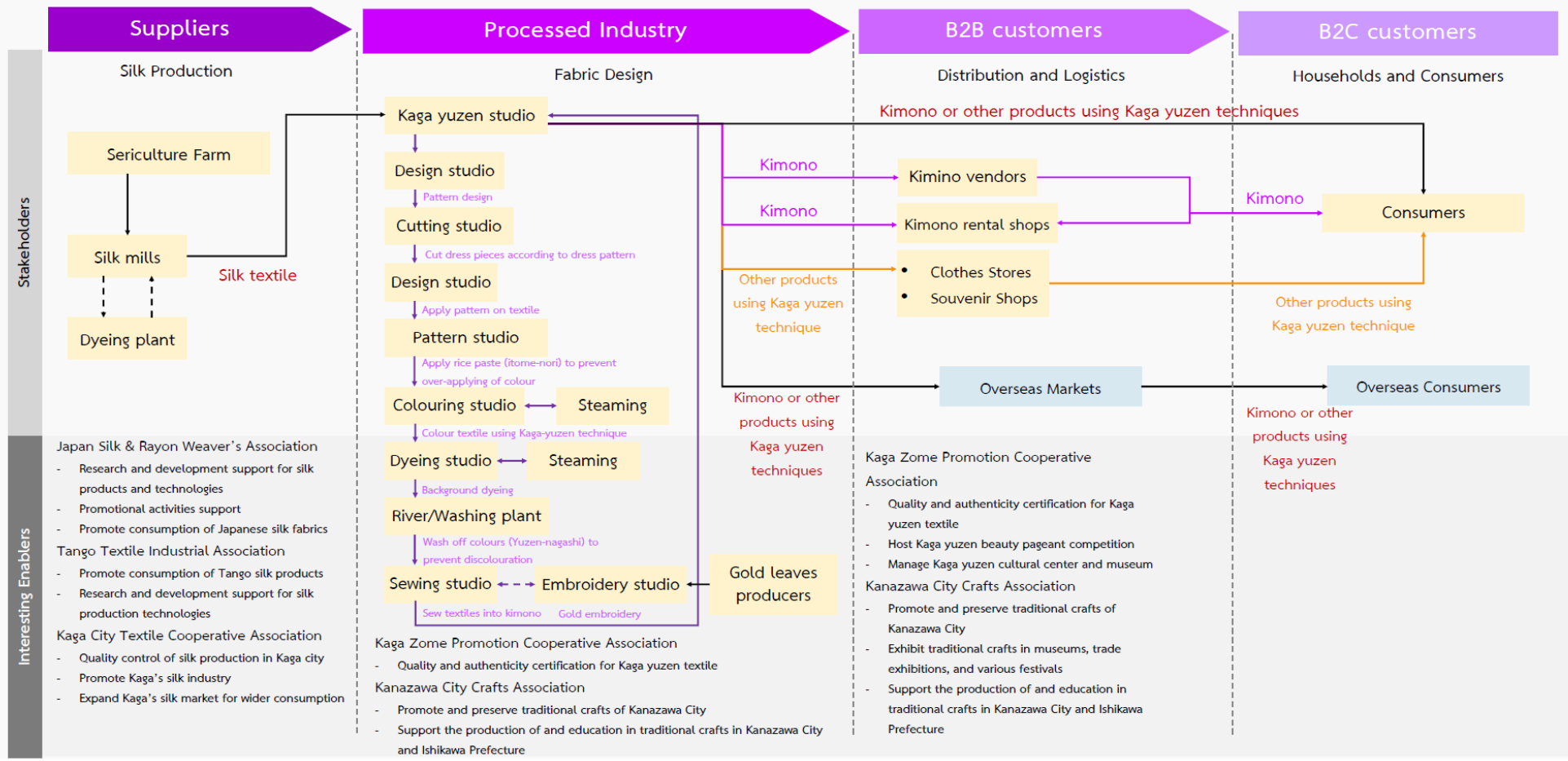


Figure showing the supply chain and key actors involved in Kaga Yuzen textile products in Kanazawa.

4.2.2 Supply Chain of Kutani Ware in Kanazawa[6]

The supply chain of Kutani ware begins with mineral-based raw materials, such as kaolin and other minerals used in clay bodies. These materials are processed into prepared clay before being supplied to Kutani studios or ceramic workshops. The production process includes design, forming, biscuit firing, glazing, glaze firing, overglaze painting and colouring, and a final firing.

Kutani ware is then distributed through ceramic shops, wholesalers, and trade exhibitions. The value of Kutani ware derives from the characteristics of its raw materials, the precision required in firing at different temperatures, and the skills involved in drawing and applying its distinctive vivid colours. Many stages may be carried out within a single studio, or production may be divided among several specialised craftspeople.

Key Support Mechanisms and Actors: Upstream

- Production of prepared clay: Upstream actors include suppliers and importers of kaolin and other minerals, which are sold to clay-processing manufacturers. These manufacturers mix and prepare clay bodies with the properties required for ceramic forming and firing (Business Insider, 2022; Kahan, 2022; Local Japan Exhibition, accessed November 18, 2025; 石川県九谷陶磁器商工業協同組合連合会, accessed December 1, 2025).
- Research and development: The Clay Science Society of Japan supports research on clay and its industrial applications. Its work helps connect knowledge of clay structure and properties, including strength, shrinkage, and post-firing characteristics, with the quality control of raw materials (The Clay Science Society of Japan, accessed December 1, 2025).

Key Support Mechanisms and Actors: Midstream

- Kutani ware studios are the principal producers. Production begins with the design of forms and patterns, followed by shaping and biscuit firing to stabilise the piece. The ceramic body is then glazed and glaze-fired before patterns are drawn and colours are applied over the glaze. A further firing is then carried out to fix the colours and

[6] Information on gold leaf producers was obtained from an interview with a gold leaf producer and retailer from Imai Kinpaku Main Store in Kanazawa on 8 July 2026.

designs.This process requires careful coordination among the type of clay, firing temperature, glaze, pigments, and the skills of the craftsperson. Gold leaf producers and pigment suppliers also provide decorative materials used by Kutani ware studios (Bouvier, accessed November 18, 2025; Kahan, 2022; Local Japan Exhibition, accessed November 18, 2025; **石川県九谷陶磁器商工業協同組合連合会**, accessed December 1, 2025).

- Craft training institutions: The Ishikawa Prefectural Kutani Ware Technical Training Institute is a specialised institution responsible for training and developing human resources in Kutani ceramics, helping to establish career pathways for emerging Kutani artists and producers (**石川県立九谷焼技術研修所**, 2025, accessed November 18, 2025). At the same time, the Ishikawa Prefecture Kutani Ceramics and Porcelain Commerce and Industry Cooperative Association supports the knowledge and skills of Kutani ceramic craftspeople. These mechanisms provide younger artists with professional structures and knowledge networks, helping to reduce the risks associated with shortages of craftspeople and the loss of specialised knowledge (**石川県九谷陶磁器商工業協同組合連合会**, accessed December 1, 2025).
- Knowledge, research, and development: The Ceramic Society of Japan supports research and development in ceramic techniques, including materials, kilns, glazes, pigments, and artistic skills. It also recognises and awards individuals who have made outstanding contributions to the ceramics field (The Ceramic Society of Japan, 2022).
- The Kanazawa City Crafts Association, Japan Kogei Association, and Kanazawa Craftwork Business Creation Agency support the preservation of craft traditions, advisory services, skills development for craftspeople, and business connections. In addition, Japan's Ministry of Economy, Trade and Industry (METI) supports production and human resource development through subsidies and other promotional measures (Japan Kogei Association, accessed November 23, 2025; Kanazawa Craft Council, accessed November 23, 2025; Kanazawa Craftwork Business Creation Agency, accessed November 23, 2025).

Key Support Mechanisms and Actors: Downstream[7]

- Distribution: Ceramic studios can sell their work directly to consumers, while ceramic retailers collect and present products from multiple producers. Trading houses distribute products to B2B buyers and overseas markets, enabling small-scale producers to reach markets beyond direct sales from their own studios (Kanazawa City, accessed June 24, 2025; Kanazawa Craft Council, accessed November 23, 2025; Kanazawa Craftwork Business Creation Agency, accessed November 23, 2025; **石川県九谷陶磁器商工業協同組合連合会**, accessed December 1, 2025)
- Trade exhibitions: Exhibitions function as sales channels, spaces for building public awareness, and opportunities to test market interest. Organisations such as the Ishikawa Kutani Federation, Kanazawa City Crafts Association, Kanazawa Craftwork Business Creation Agency, and Japan Kogei Association help promote events and exhibitions that connect Kutani ceramic craftspeople with buyers, designers, and the general public (Japan Kogei Association, accessed November 23, 2025; Kanazawa Craft Council, accessed November 23, 2025; Kanazawa Craftwork Business Creation Agency, accessed November 23, 2025; **石川県九谷陶磁器商工業協同組合連合会**, accessed December 1, 2025).

[7] Information on ceramic studios was obtained from an interview with a Kutani ceramic producer and retailer from Kutani-yaki Iwataya in Kanazawa on 9 July 2026.





Examples of Kutani ceramic ware sold in Ishikawa Prefecture.

Supply Chain : Kanazawa Kutani ware

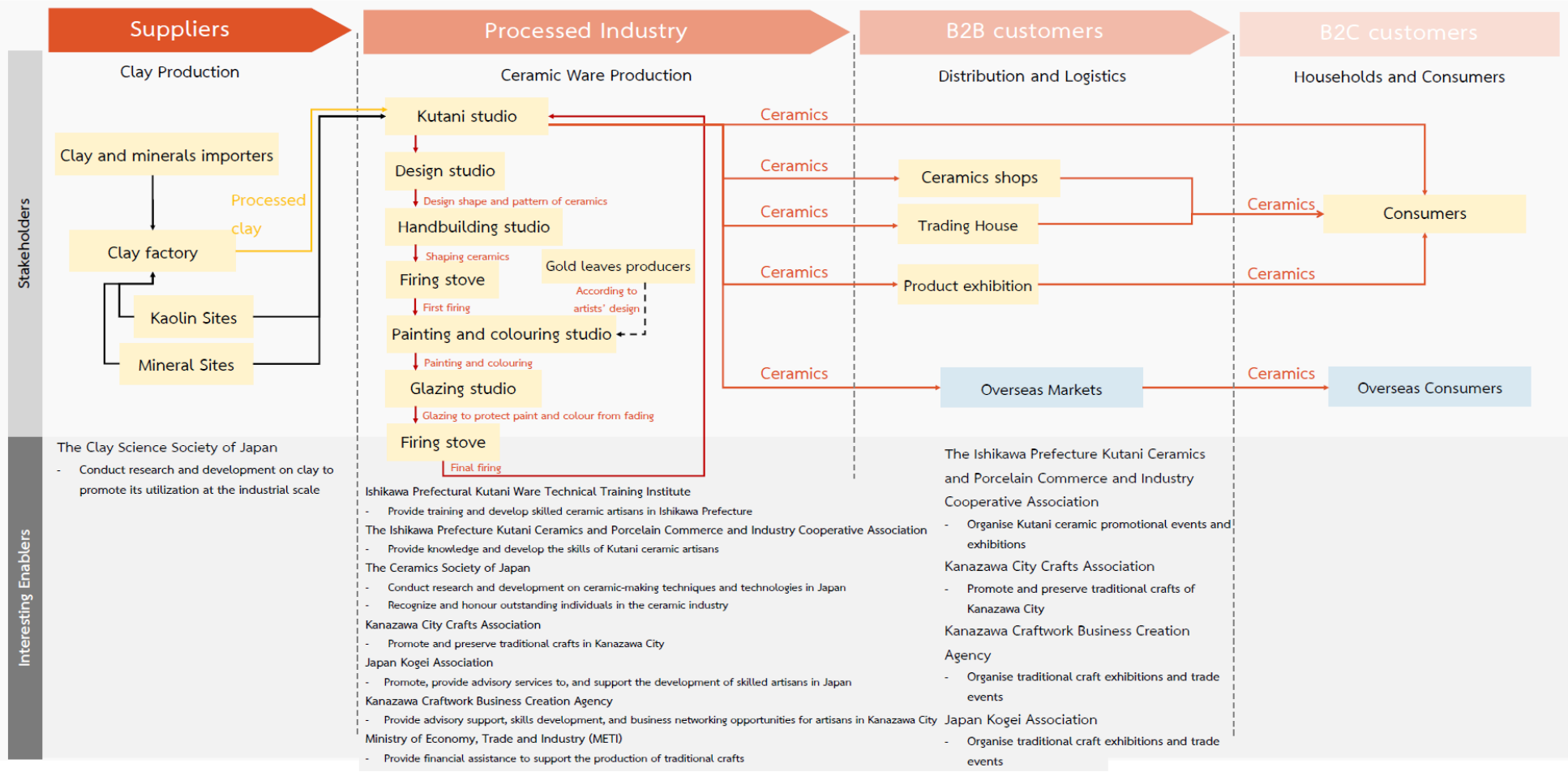


Figure showing the supply chain and key actors involved in Kutani ware in Kanazawa.

4.3 Okinawa Prefecture

4.3.1 Supply Chain of Pineapple Products in Okinawa

The pineapple supply chain in Okinawa begins with the supply of planting materials, fertilisers, agricultural chemicals, materials, and farming equipment, before moving into cultivation and harvesting by farmers. The harvested produce then follows two main pathways: sale as fresh pineapple and delivery to processing facilities for conversion into food or beverage products. These products are subsequently distributed through wholesalers, retailers, online markets, roadside stations, and international markets.

Key Support Mechanisms and Actors: Upstream

- Farm management support: JA (Japan Agricultural Cooperatives) supports farmers in several areas, including technical and farm management advice, procurement of production inputs, collection and marketing of agricultural products, and processing. This role is consistent with the nationwide structure of JA, which serves as the principal agricultural cooperative network supporting its farmer members through production assistance, joint procurement, collective marketing, credit services, and insurance (JA Okinawa, accessed November 16, 2025; JA ZEN-NOH Group, 2024; Japan Agricultural Cooperatives, accessed November 7, 2025)

- Research and development of pineapple varieties: The Kyushu Okinawa Agricultural Research Center under NARO conducts research and develops technologies and pineapple varieties suited to cultivation in Kyushu and the Okinawa Islands, particularly under tropical and subtropical climatic conditions. Its work focuses on improving fruit quality and suitability for the fresh fruit market. Such a research system helps connect genetic resources, production technologies, and market demand (National Agriculture and Food Research Organization, accessed November 17, 2025).

- Financial support: Farmers can access credit through JA Bank, while Norinchukin Bank and the Okinawa Development Finance Corporation provide financial support to entrepreneurs and farmers seeking capital for business development (JA Okinawa, accessed November 16, 2025; Norinchukin Bank, accessed November 7, 2025; The Okinawa Development Finance Corporation, accessed November 7, 2025) Okinawa Prefecture and local governments also provide support for agricultural development

and infrastructure, including water systems and the management of agricultural waste.

Key Support Mechanisms and Actors: Midstream

- Product collection: After harvesting, fresh pineapples are sold to purchasing companies, intermediaries, or JA Okinawa, which collect and distribute the produce. Aggregating products through central organisations enables small-scale farmers to access larger markets and facilitates shared management of standards, grading, and transportation, which are important features of JA's cooperative marketing system (JA Okinawa, accessed November 16, 2025).
- Processing: Pineapples that are not sold as fresh fruit, or that are specifically intended for processing markets, are sent to processing facilities to be made into food, beverages, or other pineapple-based products. Processing provides additional channels for utilising agricultural output, reduces dependence on the fresh fruit market alone, and creates added value from local raw materials (Food Reborn, accessed November 13, 2025; JA Okinawa, accessed November 16, 2025; Keio University Graduate School of Media Design, accessed November 17, 2025; Okinawa Prefecture, accessed November 16, 2025).
- Business financing support: Okinawa Prefecture and the Okinawa Development Finance Corporation support entrepreneurs in business management and access to finance, while also creating opportunities to connect small and medium-sized enterprises with wider business networks. These mechanisms help support the continued development of processing activities and new products (Norinchukin Bank, accessed November 7, 2025).

Key Support Mechanisms and Actors: Downstream

- Distribution: At the downstream stage, Okinawa pineapples are sold both as fresh fruit and as processed products. Major distribution channels include trading houses, which distribute products to B2B and B2C buyers, as well as roadside stations, which provide spaces where farmers and local producers can sell directly to consumers. These channels allow consumers to engage more closely with the places and producers from which the products originate (JA Okinawa, accessed November 16, 2025; JA ZEN-NOH Group, accessed November 7, 2025; Japan Agricultural Cooperatives, accessed

November 7, 2025; Japan National Tourism Organization, accessed November 17, 2025; Keio University Graduate School of Media Design, accessed November 17, 2025; Okinawa Prefecture, accessed November 16, 2025)

- Marketing channels and cultural presentation: For the domestic market, JA Town, operated under JA Zen-noh, provides an online marketplace through which consumers can directly purchase products from local JA organisations. Okinawa Prefecture has also developed channels such as Chisanchisho Okinawa, Kuwachii Okinawa, and Okireci, which present Okinawan food, recipes, and consumption culture. These initiatives help connect local products with the identity of the region. For international markets, the Okinawa Export Promotion in Whole Council serves as a mechanism connecting producers and businesses in the prefecture with exporters and overseas importers. This is done through the presentation of products together with information on Okinawan food, culture, history, and tourism. Thus, the mechanism links product exports with the communication of Okinawa's regional image (JA Town, accessed November 16, 2025; Okinawa Export Promotion in Whole Council, accessed November 11, 2025; Okinawa Prefecture, accessed November 16, 2025).

- Tourism-oriented business models: Okinawa also has Pineapple Park, an interesting business model that combines tourism activities with the sale of pineapple-based products. The site includes themed gardens, attractions, tram rides, and family-oriented activities designed to attract visitors. It also includes retail areas selling a wide range of Okinawa pineapple products, from fresh fruit and processed foods and confectionery to beverages and consumer products associated with pineapple.[8]

[8] Information on the operation of Nago Pineapple Park was obtained through field data collection at Nago Pineapple Park, Okinawa Prefecture, on 20 July 2026.



Fresh pineapples sold in Okinawa Prefecture, with signs comparing the characteristics and flavours of different pineapple varieties.

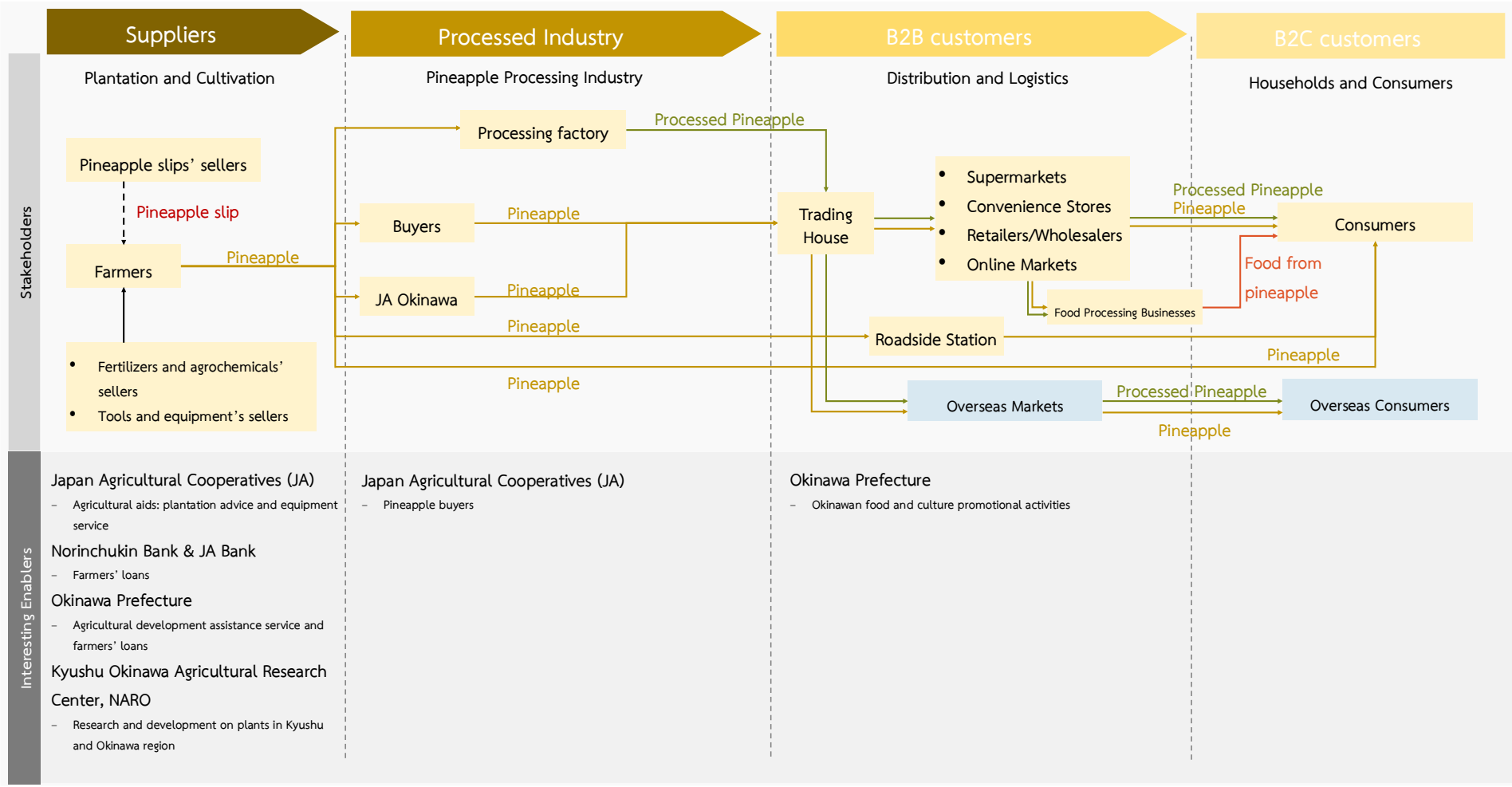


Figure showing the supply chain and key actors involved in pineapple products in Okinawa Prefecture.

4.3.2 Supply Chain of Agu Pork Products in Okinawa

The Agu pork supply chain begins with the preservation and management of the breed, followed by breeding and raising pigs on farms. The pigs are then sent to slaughterhouses, cutting facilities, and processing plants before fresh meat and processed products are distributed through retail outlets, restaurants, online markets, and international markets. A key difference from conventional livestock supply chains is the presence of specialised organisations responsible for controlling the use of the Agu name, certifying farms, managing the breed, and maintaining the credibility of products sold under the brand.

Key Support Mechanisms and Actors: Upstream

- Quality control and certification of Agu pork: The Okinawa Prefecture Agu Brand Pig Promotion Council is responsible for quality inspection, establishing a certification system for Agu pig farms, registering Agu pigs, and overseeing breed development. These mechanisms ensure that the name "Agu" is linked to specific production conditions and quality-control requirements rather than functioning merely as a marketing name (Okinawan Brand Pork AGU, accessed December 24, 2025).
- Breed development: The Okinawa Livestock Improvement Association supports the development of Agu pig breeds in Okinawa Prefecture. Some producers cross purebred Agu pigs with Western breeds in order to improve productivity, producing white crossbred Agu pigs, while others focus on raising purebred Agu pigs in order to create greater product differentiation and brand value.[9]
- Knowledge support: JA Okinawa provides advice on pig farming and supports farmers with equipment and relevant technologies (JA Okinawa, accessed November 16, 2025; JA ZEN-NOH Group, 2024, accessed November 7, 2025; Japan Agricultural Cooperatives, accessed November 7, 2025)
- Financial support: JA Bank, Norinchukin Bank, and the Okinawa Development Finance Corporation provide loans and financial support to farmers (JA Okinawa, accessed November 16, 2025; Nihonmono, 2025; Okinawan Brand Pork AGU, accessed December 24, 2025).

[9] Information on the production and breed development of Agu pigs was obtained from an interview with officials from the Livestock Division, Department of Agriculture, Forestry and Fisheries, Okinawa Prefectural Government on 21 July 2026.

Key Support Mechanisms and Actors: Midstream

- Slaughtering, cutting, and quality control: The Okinawa Prefecture Agu Brand Pig Promotion Council oversees the volume of carcasses entering the supply chain and the quality of meat marketed as Agu pork. This indicates that brand quality control extends from the farm level through slaughtering and cutting, allowing the authenticity of the brand to be continuously verified throughout the production process (Okinawan Brand Pork AGU, accessed December 24, 2025).

Key Support Mechanisms and Actors: Downstream

- Creating brand value and image: The Okinawa Prefecture Agu Brand Pig Promotion Council is responsible for guaranteeing authenticity and promoting the consumption of Agu pork. Meanwhile, the JA Okinawa Branded Pork Promotion Council provides information on food safety and markets branded pork products under the JA Okinawa network. Together, these channels allow communication with consumers to cover quality, safety, place of origin, and the distinctive characteristics of the pork (JA Okinawa, accessed November 16, 2025; JA Okinawa Branded Pork Promotion Council, accessed December 24, 2025; JA ZEN-NOH Group, 2024, accessed November 7, 2025; Japan Agricultural Cooperatives, accessed November 7, 2025; Okinawan Brand Pork AGU, accessed December 24, 2025).
- Distribution: JA Town (JA Zen-noh) provides another channel for selling Agu pork products directly to consumers, while the Okinawa Export Promotion in Whole Council supports the presentation of Okinawan products to overseas importers. In addition, Okinawa Prefecture has developed channels for presenting Okinawan food and culture to a wider audience, including Chisanchisho Okinawa, Kuwachii Okinawa, and Okireci (JA Town, accessed November 16, 2025; Okinawa Export Promotion in Whole Council, accessed November 11, 2025; Okinawa Prefecture, accessed November 16, 2025).



Promotional materials for Okinawa Agu pork presenting information on its history, taste, and producers.

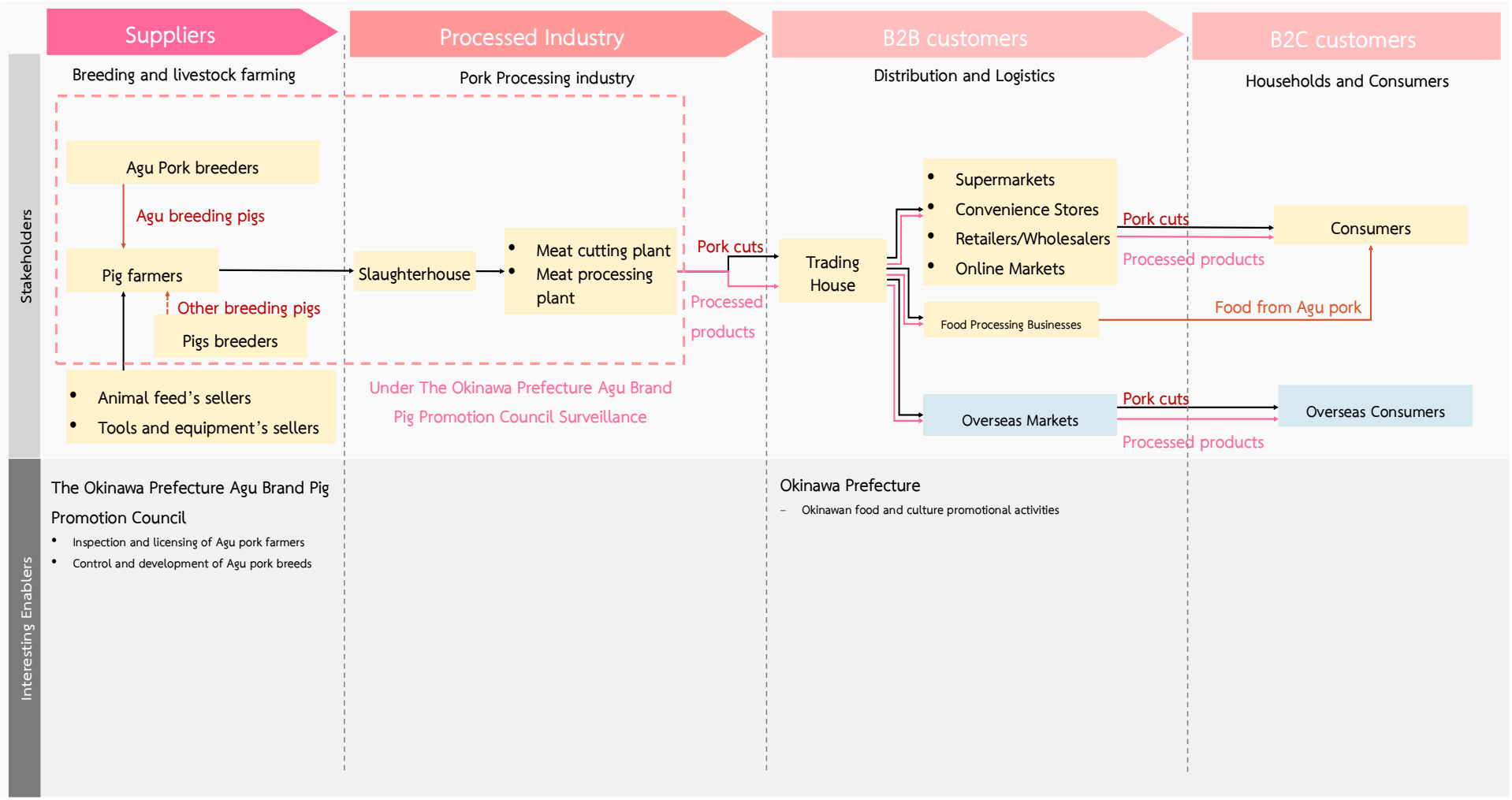


Figure shows the supply chain and key actors involved in Agu pork products in Okinawa Prefecture.

Chapter 5

Contexts of the Three Thai Provinces and Supply Chains of Key Products

Chapters 3 and 4 presented the contexts, distinctive characteristics, and supply chains of key products in three Japanese case-study areas: Hokkaido, Kanazawa in Ishikawa Prefecture, and Okinawa. The analysis illustrated the resource bases, development approaches, implementation mechanisms, and approaches to value creation that shape the products and economies of each area.

This chapter applies the same analytical framework to three case-study provinces in Thailand: Saraburi, paired with Hokkaido; Lampang, paired with Kanazawa; and Ratchaburi, paired with Okinawa. The analysis considers the context and distinctive characteristics of each province, development strategies, strengths, opportunities, and the structure of key product supply chains in order to identify gaps and opportunities for further development.

5.1 Saraburi Province

5.1.1 Overview of Saraburi Province and Its Key Products

Saraburi is located in the central region of Thailand, northeast of Bangkok. The province covers approximately 3,576.486 square kilometres, or approximately 2,235,304 rai (Saraburi Provincial Development Plan, 2021, p. 5). Owing to its location, natural resources, and infrastructure that support development, Saraburi has experienced continuous economic growth. Its main economic sectors include industry, agriculture and livestock, trade, and services. This is reflected in the province's Gross Provincial Product (GPP), which increased continuously between 2017 and 2019. GPP was THB 235.753 billion in 2017, rising to THB 246.694 billion in 2018 and THB 255.627 billion in 2019 (Saraburi Provincial Development Plan, 2021, p. 20).

Saraburi has a large number of factories and a high level of industrial investment. Major industries include non-metallic products such as concrete, cement, tiles, sanitary ware, and construction materials, as well as metal products and food processing (Saraburi Provincial Development Plan, 2021, pp. 60–61). This industrial base provides the province with relatively strong infrastructure, production capacity, and logistics systems. At the same

time, agriculture and livestock remain important foundations of the provincial economy, particularly dairy cattle, beef cattle, meat ducks, broiler chickens, pigs, and laying hens (Saraburi Provincial Development Plan, 2021, p. 44). Saraburi therefore has a distinctive economic structure compared with many other provinces, combining a large-scale industrial base with significant agricultural and livestock production capacity. The province's economic development is thus not limited to further industrial expansion, but also involves upgrading agriculture, livestock, processing, and trade towards higher-value and more environmentally sustainable activities.



Map of Saraburi Province.

Source: Saraburi Provincial Development Plan (2021, p. 1)

Economic Base and Key Products of the Province

Saraburi plays an important role as both an industrial and agricultural province, with economic activities spanning construction materials, food processing, agriculture, livestock, trade, and services. The province contains several large industrial estates and industrial zones, making it one of Thailand's important industrial production bases, particularly for non-metallic products, cement, construction materials, and food processing. Three major industrial areas are located in the province: Nong Khae Industrial Estate in Nong Khae District, Saraburi Industrial Estate in Kaeng Khoi District, and the WHA Saraburi Industrial Zone in Nong Khae District, managed by WHA Industrial Development Public Company Limited (Saraburi Provincial Development Plan, 2021, p. 60).

In agriculture and livestock, Saraburi is an important producer of agricultural and processed agricultural products in Thailand's central region. Its production base includes

both economic crops and livestock, with strong links to industrial activities and markets. In terms of crop production, the province has 429,538 rai devoted to field crops, vegetables, and flowers, followed by 301,554 rai of rice cultivation, 50,914 rai of fruit orchards, and 5,973 rai used for other agricultural purposes. Major economic crops include rice, maize for animal feed, sugarcane for industrial processing, and cassava (Saraburi Provincial Development Plan, 2021, p. 36). One particularly important agricultural product is maize for animal feed, which is directly linked to the livestock sector in Saraburi and neighbouring areas. In terms of marketing channels, approximately 70 per cent of farmers sell their maize through local collectors, 25 per cent sell to silos, and only 5 per cent sell directly to animal feed factories (Saraburi Provincial Development Plan, 2021, p. 36). This pattern illustrates the close relationship between agricultural production, livestock, processing, and intermediary market structures within the provincial economy.

The livestock sector is particularly prominent in Saraburi, especially dairy and beef cattle production. Provincial data from 2020 show that dairy farming was distributed across nine districts: Kaeng Khoi, Ban Mo, Phra Phutthabat, Muak Lek, Wihan Daeng, Nong Khae, Nong Don, Wang Muang, and Chaloem Phra Kiat. The province had a total of 152,757 dairy cattle. Muak Lek was the province's most important dairy-producing area, with 132,125 dairy cattle and 3,962 dairy farmers, out of a provincial total of 4,401 dairy farmers (Saraburi Provincial Development Plan, 2021, p. 46). After milking, farmers deliver raw milk to 26 raw milk collection centres and 11 dairy cooperatives. The milk is then transported to processing plants in Saraburi and other provinces, where it is processed into drinking milk products such as pasteurised milk and UHT milk. These products are distributed through the school milk programme and general markets, as well as through distributors, wholesalers, retailers, and direct sales to consumers. Beef cattle production is also distributed across all 13 districts of the province: Mueang Saraburi, Kaeng Khoi, Ban Mo, Phra Phutthabat, Muak Lek, Wihan Daeng, Sao Hai, Nong Khae, Nong Saeng, Nong Don, Don Phut, Wang Muang, and Chaloem Phra Kiat. In 2020, Saraburi had a total of 29,779 beef cattle, with Kaeng Khoi recording the largest number at 10,389 cattle (Saraburi Provincial Development Plan, 2021, p. 47).

In addition to dairy and beef cattle, Saraburi also produces broiler chickens, laying hens, meat ducks, pigs, and native chickens. Broiler production is closely linked to vertically integrated companies. Most farmers operate under contract arrangements with partner companies, which purchase the chickens for slaughtering, cutting, and further processing

before distribution through wholesale, retail, and export markets. Independent broiler farmers, by contrast, generally sell their products through collectors or wholesalers before the chickens enter subsequent processing stages (Saraburi Provincial Development Plan, 2021, p. 44).

For this study, the significance of Saraburi lies particularly in its established dairy and beef cattle production bases and the institutional and market linkages that have developed around them. Muak Lek District is especially important as a major centre for dairy cattle, beef cattle, and other livestock production. These existing production and supply-chain structures provide a basis for further upgrading in line with the province's development strategies. Key areas include increasing the value of agricultural products, improving standards, expanding processing capacity, developing markets, introducing technology, and strengthening support systems that connect farmers, cooperatives, collection centres, processing plants, businesses, and markets.

Provincial Development Vision and Goals

Saraburi's development direction is guided by the vision of becoming a "Smart Green Industrial City and a Society with a High Quality of Life" (Saraburi Provincial Development Plan, 2021, p. 1). This vision reflects the province's effort to connect its existing industrial base with environmental objectives, technology, and the quality of life of its residents. The province does not seek merely to remain an industrial production base, but aims to move towards an eco-industrial city in which the production sector, communities, and the environment can coexist sustainably.

The province's development positioning is summarised through the concept of **HUG**, or an "embrace from nature," consisting of:

1. **High** – high-value and high-quality production supported by technology and innovation;
2. **Universal** – internationally recognised standards accepted in both domestic and international markets; and
3. **Green** – environmentally friendly development that takes ecological impacts into consideration (Saraburi Provincial Development Plan, 2021, p. 1).

The overall objective is for people of all groups and age ranges in Saraburi to enjoy a good quality of life and well-being, supported by income generated from agriculture, trade, and tourism, together with standardised infrastructure and logistics systems and the development of an eco-industrial city under an environmentally friendly urban development framework (Saraburi Provincial Development Plan, 2021, p. 162).

Strengths and Constraints of the Province

One of Saraburi's major strengths is its transport and logistics system, which facilitates market connectivity, together with a well-established agricultural and agro-processing base, particularly in dairy farming and selected livestock products. A notable strength lies in the institutional structure supporting the dairy sector, including raw milk collection centres, dairy cooperatives, processing plants, and distribution channels serving both the school milk programme and commercial markets. This structure provides Saraburi's dairy value chain with a relatively strong foundation for further development and value creation. Opportunities include improving the quality of raw milk, developing higher-value dairy products, creating a provincial brand, connecting dairy products with health-oriented markets, and learning from leading regions such as Hokkaido in areas such as technology adoption, cooperative management, and dairy product development (Saraburi Provincial Development Plan, 2021, pp. 145–147).

Saraburi also places considerable importance on improving the safety standards of agricultural and food products. A total of 58 farms in the province have received Good Agricultural Practices (GAP) certification, while 52 factories and establishments producing agricultural and food products have received GMP/HACCP certification, placing Saraburi second in the country in this category (Saraburi Provincial Development Plan, 2021, p. 53). These figures indicate the development of agricultural production systems that place increasing emphasis on product quality and food safety.

In terms of organic livestock production, data from 2020 show that five establishments in Saraburi had received organic livestock certification: Amphorn Farm, Orapan Farm, Lert Rit Farm, Phueng Fon Farm, and the Dairy Farming Promotion Organization of Thailand (DPO). Most of these establishments are involved in organic dairy production in Muak Lek District, reflecting the area's important role as a major dairy-producing centre of the province (Saraburi Provincial Development Plan, 2021, p. 53). These existing standards and certified

production systems provide an important foundation for upgrading Saraburi's dairy and beef products towards markets that place greater emphasis on quality, food safety, and the credibility of production processes.

However, Saraburi also faces several constraints that need to be considered in development planning. The agricultural sector continues to face water-related challenges, particularly insufficient water availability during the dry season. In addition, many SMEs and community enterprises face constraints in access to finance, technology, new product development, and their ability to adapt to changing market demand (Saraburi Provincial Development Plan, 2021, pp. 147–149).

Opportunities for Product Upgrading and Integration into Higher-Value Chains

A major opportunity for Saraburi lies in building upon its existing dairy and beef production bases to create more complete and higher-value value chains. The dairy sector, in particular, already has relatively well-developed production and collection systems. The province can consider upgrading the entire chain from upstream to midstream and downstream stages.

At the upstream level, key issues include livestock genetics, animal feed, animal health, farm standards, and farmers' cost management. At the midstream level, attention should be given to raw milk collection centres, cooperatives, quality-control systems, processing plants, production technologies, and product development. At the downstream level, opportunities include branding, market channels, health-oriented markets, premium products, and direct connections with consumers.

For beef cattle, an important opportunity lies in more clearly mapping and designing the value chain, from breed development, farm management, and fattening to slaughtering, processing, food-safety standards, market development, and value addition through higher-quality beef products.

If a support system can be established to connect farmers, livestock agencies, cooperatives, entrepreneurs, slaughterhouses, processing plants, and provincial commercial agencies, Saraburi could move from predominantly volume-based beef production towards higher-quality meat products serving more specialised and higher-value markets.

As a result, learning from Hokkaido is relevant in several dimensions, including livestock value chain management, improvement of raw material quality, the use of technology on farms and in processing facilities, cooperative management, the development of place-based food brands, and the development of dairy and meat products for diverse market segments. Such cooperation could help Saraburi identify ways to design a livestock support system that is not fragmented across production, processing, marketing, and environmental management, but instead connects these components into a development ecosystem that can move forward in an integrated manner.

The analysis of Saraburi's dairy and beef value chains centres on several key questions: How can the province generate greater value from its existing livestock production base? How can farmers and entrepreneurs gain better access to technology, standards, and markets? And how can the province design a production system that is high-quality, internationally recognised, and environmentally sustainable?

These questions are directly aligned with the province's development positioning, which seeks to promote high-value production, recognised standards, and growth under the vision of a smart green industrial city.

5.1.2 Supply Chains of Key Products in Saraburi[10]

Supply Chain of Beef Cattle in Saraburi Province

The beef cattle value chain in Saraburi involves several groups of farmers operating at different stages of the production process. These can broadly be divided into upstream cattle farmers, intermediate-stage cattle farmers, and downstream cattle farmers. Their roles are interconnected, beginning with calf production and rearing, followed by the raising of growing cattle, and finally the fattening of cattle to achieve the size and quality required for the market or for further processing.

[10] The following section synthesises information from interviews with officials from the Saraburi Artificial Insemination and Biotechnology Centre on 9 June 2026, and officials from the Saraburi Provincial Commercial Office and Saraburi Provincial Livestock Office on 14 August 2026.

Key Support Mechanisms and Actors: Upstream

Upstream cattle farmers are responsible for producing and raising calves during the initial stage. Calves may then be transferred to intermediate-stage cattle farmers or sold through live-cattle collectors and intermediaries.

Intermediate-stage cattle farmers continue raising calves until they develop into growing cattle, which are then transferred to downstream farmers for fattening.

Downstream cattle farmers are responsible for raising and fattening cattle until they reach the size and quality required by the market. The cattle may then be sold through collectors, cooperatives, community enterprises, or directly to businesses and processing facilities at subsequent stages of the chain.

Key Support Mechanisms and Actors: Midstream and Downstream

In addition to farmers, live-cattle collectors and intermediaries play an important role in connecting cattle transactions among farmers operating at different stages of production. Cooperatives and community enterprises also help aggregate output and connect members with markets. At the same time, cattle production depends on suppliers of feed and other production inputs required for livestock farming.

Relevant supporting organisations include the Saraburi Artificial Insemination and Biotechnology Center, Saraburi Provincial Livestock Office, Department of Livestock Development, universities, agricultural cooperatives, the Bank for Agriculture and Agricultural Cooperatives (BAAC), the Saraburi Provincial Commerce Office, and the Saraburi Provincial Industry Office. These organisations perform different functions, including livestock promotion, knowledge development, support for producer organisation, access to finance, and connections with subsequent stages of production and industrial development.

Overall, the upstream structure of Saraburi's beef cattle chain can be characterised as a production system linking several groups of farmers across different stages, rather than one in which a single farmer is responsible for the entire process from calf production through to market-ready fattened cattle. Collectors, cooperatives, community enterprises, and supporting agencies play important roles in linking and supporting producers at each stage.

Interviews with the Saraburi Provincial Commerce Office indicate that beef cattle production is currently attracting increasing interest from private-sector businesses because of its potential to develop into higher-value markets. Some private-sector actors have undertaken study visits and adapted Japanese cattle-raising approaches in order to improve production quality. This reflects the strength and potential of the local private sector and represents an important opportunity for the public sector to support and further develop in the future (interview with officials from the Saraburi Provincial Commerce Office, 14 August 2026).

Supply Chain: Fattened Beef Cattle, Saraburi Province

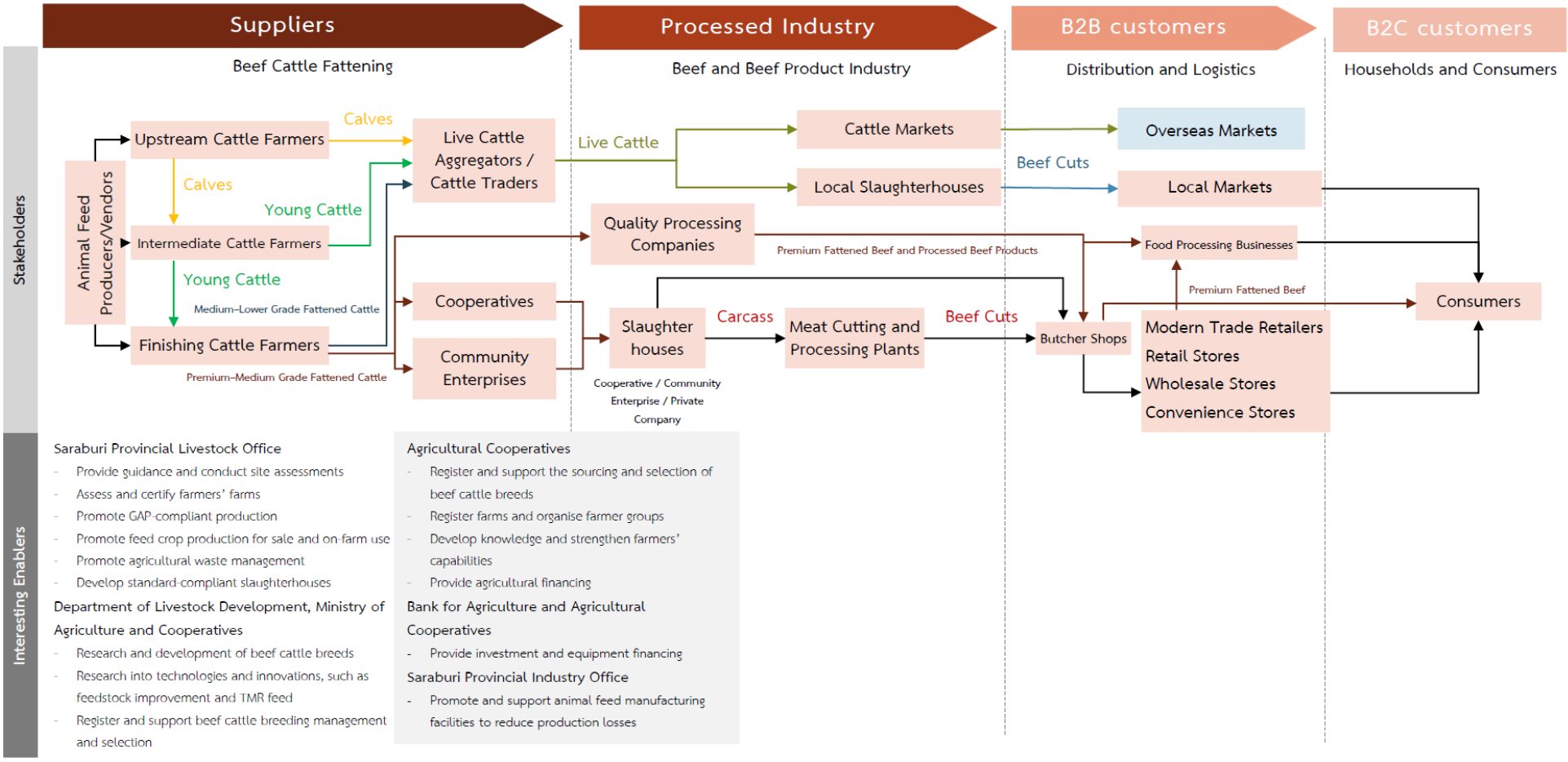


Figure shows the supply chain and key actors involved in Beef Cattle in Saraburi Province.

Supply Chain of Dairy Products in Saraburi Province[11]

The dairy and dairy-product value chain in Saraburi involves multiple groups of actors, ranging from dairy farming and raw milk collection and processing to distribution and final consumers. The chain can be divided into upstream, midstream, and downstream stages.

Key Support Mechanisms and Actors: Upstream

The upstream stage consists primarily of smallholder farmers and dairy farms, which produce raw milk for the supply chain. Feed suppliers and providers of other inputs required for dairy farming support the production process. Raw milk produced by farmers and dairy farms is then delivered to dairy cooperatives, raw milk collection centres, or dairy-product companies for aggregation and preparation before further processing.

Key Support Mechanisms and Actors: Midstream

The midstream stage includes dairy cooperatives, raw milk collection centres, processing cooperatives, dairy companies, and milk-processing plants. These actors collect and inspect raw milk before processing it into various products, such as pasteurised milk, UHT milk, yoghurt, and other dairy products. Some cooperatives and processing plants also play an important role in producing school milk, which represents another major market for the dairy industry in the province.

Key Support Mechanisms and Actors: Downstream

The downstream stage involves product distribution and access to consumers. Key actors include transport companies, supermarkets, retail stores, wholesalers, convenience stores, and food-processing businesses, which distribute dairy products throughout domestic markets. School milk is distributed through a dedicated delivery system directly to schools and students. Some dairy products may also enter international markets and be distributed to consumers overseas.

In addition to businesses operating directly within the supply chain, government agencies, educational institutions, and organisations related to the dairy industry provide

[11] The following section synthesises information from interviews with officials from the Saraburi Artificial Insemination and Biotechnology Centre and the Dairy Farming Promotion Organization of Thailand (DPO) on 9 June 2026, and officials from the Saraburi Provincial Commercial Office and Saraburi Provincial Livestock Office on 14 August 2026.

support in a range of areas. These include the Department of Livestock Development, the Thai Dairy Farmers Association, universities, and the Dairy Farming Promotion Organization of Thailand (DPO). Their roles include improving raw milk quality, supporting dairy farming, conducting research and development, and developing products and markets.

The Thai School Milk Programme is also governed through a specific multi-agency mechanism involving organisations such as the Office of the Permanent Secretary, Ministry of Agriculture and Cooperatives, the Food and Drug Administration, and the National Bureau of Agricultural Commodity and Food Standards. These agencies collectively oversee system administration, quality control, and criteria governing the purchase of raw milk.

Overall, Saraburi's dairy supply chain is characterised by close linkages among farmers, cooperatives, raw milk collection centres, processing plants, distribution systems, and institutional markets, particularly the school milk market. At the same time, government agencies and dairy-sector organisations provide support and regulatory oversight at several stages of the chain. A major current challenge, however, is an oversupply of raw milk in the area. Some processing plants have slowed or limited their purchases because of market constraints and limited capacity to sell downstream dairy products.

Nevertheless, Saraburi already has most of the major components of a dairy production chain in place. The key direction for the next stage should focus on market development, new product development, and the expansion of distribution channels in order to absorb existing production and transform the problem of surplus raw milk into an opportunity for greater value creation.

Supply Chain: Milk and Dairy Products, Saraburi Province

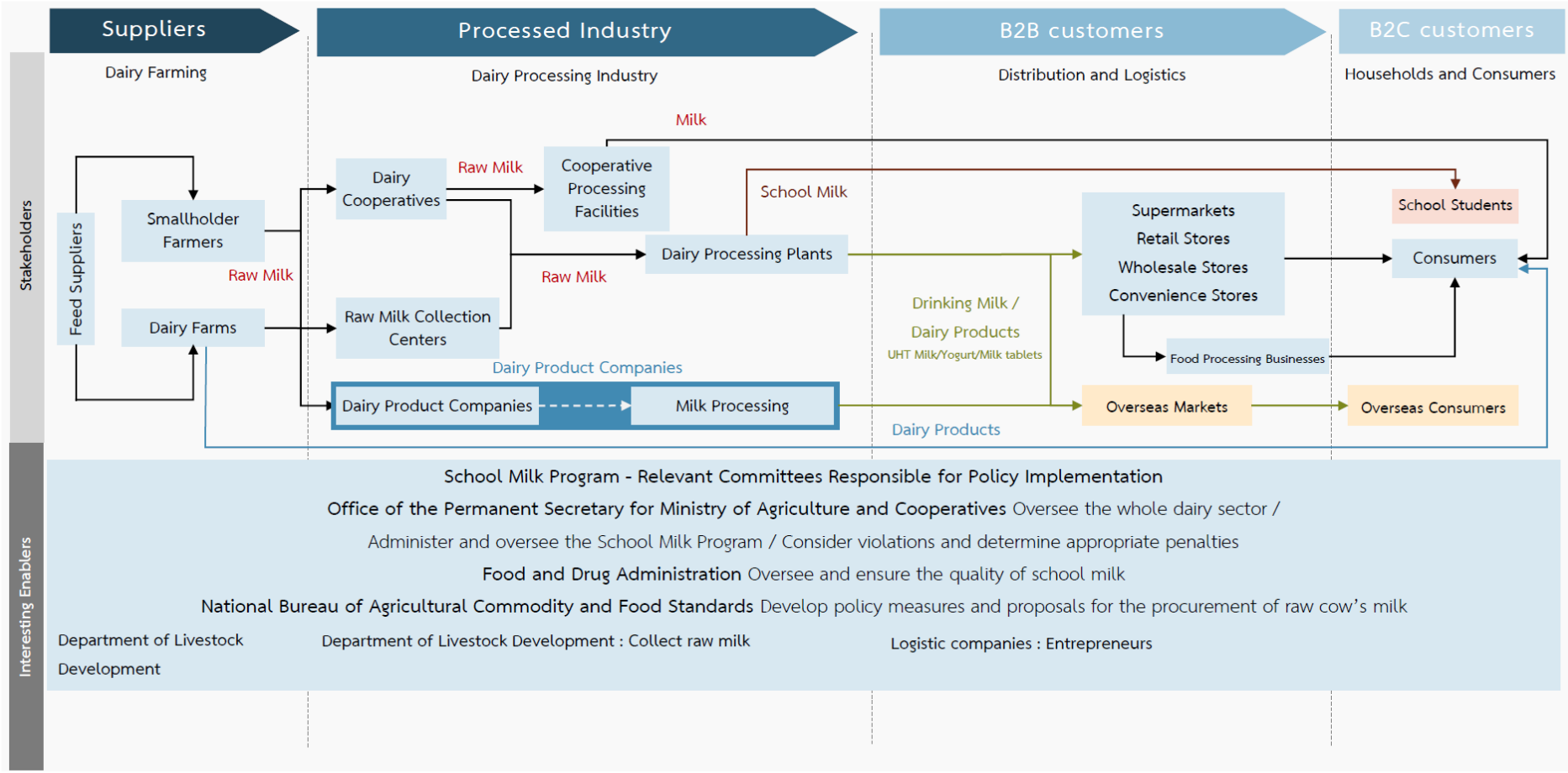
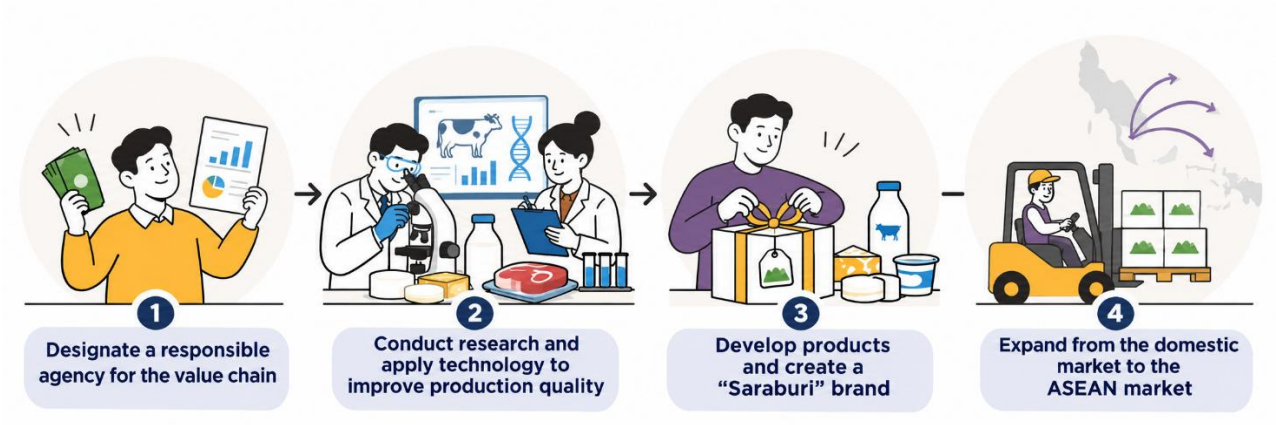
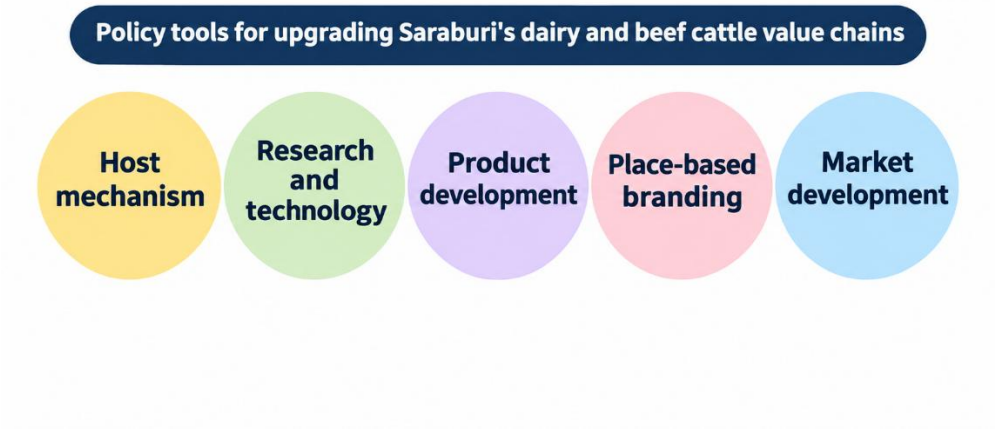


Figure shows the supply chain and key actors involved in Dairy Products in Saraburi Province.

5.1.3 Lessons from the Hokkaido Case Study

The case of Hokkaido shows that the strength of dairy and beef value chains does not result from improvements in any single area. Rather, it depends on the effective coordination of several interconnected mechanisms. These include a central organisation that acts as a coordinating body for the value chain, the use of research and technology to improve production quality, the development of raw materials into more diverse and higher-value products, the creation of a place-based brand that reflects quality and reliability, and the expansion of markets from a strong domestic base towards external markets. These lessons suggest that upgrading Saraburi's dairy and beef value chains should be approached systematically, through the combined use of five policy tools. Together, these tools can connect production with knowledge and technology, product development, value creation, and market expansion, thereby strengthening the value chain as a whole.





Recommendations for improving the beef cattle and dairy supply chains in Saraburi include the following:

Firstly, strengthen the role of cooperatives and central organisations: Saraburi can learn from the roles of JA and HOKUREN, which extend beyond collecting agricultural products. Their functions include supporting access to production equipment and inputs, quality control, processing, marketing, and product distribution. Such mechanisms help reduce the burden on small-scale farmers and enable products from the area to move towards more consistent standards and development directions (Please see Chapter 4, Dairy and Beef Cattle Value Chains in Hokkaido Prefecture).

In practice, Saraburi should strengthen the role of cooperatives or central organisations so that they move beyond acting merely as product collection points and instead become the "responsible agency for the value chain", with responsibility for continuously upgrading the production system from upstream to downstream. The roles of JA and HOKUREN demonstrate that such organisations should not operate passively by simply waiting to receive products from farmers. Rather, they should work closely with producers throughout the value chain, including setting standards, providing information and technical advice, coordinating with research and technology organisations, and connecting producers with processing and markets. In this way, a central organisation can serve as a coordinating mechanism that prevents different stages of the value chain from developing in isolation and helps drive continuous improvements in product quality and value creation.

Secondly, develop technology and knowledge to improve production quality: In Hokkaido, local research organisations and private companies work systematically with agricultural cooperatives (JA) and farmers to develop products and improve production. For example, Food Valley Tokachi has collaborated with Meiji to develop microorganisms that were further developed into starter cultures for yoghurt products. The National Livestock Breeding Center (NLBC) also plays an important role in breed improvement and quality control for Wagyu cattle, while supporting the development of dairy cattle breeds and livestock technologies in cooperation with research organisations such as the Field Science Center for Northern Biosphere. More recently, artificial intelligence has also begun to be introduced to support production development and quality control (Please see Chapter 3, *Case Study of Food Valley Tokachi*).

For Saraburi, the establishment of a strong responsible agency should be accompanied by close cooperation with universities and research organisations. Research questions should originate from the actual problems and needs of the production value chain, including breeding, raw material quality, livestock technologies, processing, and product standards. The responsible agency can serve as a link between farmers and businesses on the one hand, and researchers on the other, by translating production challenges into research agendas. At the same time, researchers can develop knowledge and technologies with a greater likelihood of practical application. This approach would help make research and development an integral part of value-chain upgrading, rather than an activity that remains separate from the production system.

Thirdly, move beyond raw materials towards more diverse, value-added products: In Hokkaido, raw milk from farms is collected through purchasing agents or delivered to processing plants, including both large companies and smaller processors operating under individual farm brands. The milk is then developed into a wide range of products, including drinking milk, skimmed milk powder, whey protein powder, cheese, cream cheese, butter, and yoghurt, before being distributed to retailers and consumers. One important example is Yotsuba, one of Hokkaido's major dairy companies, which produces a diverse range of dairy products. Decisions on the development of new products take into account market and consumer demand, the volume of milk available, and opportunities to collaborate with private-sector partners in developing new product lines. This case demonstrates that the strength of the dairy industry does not lie solely in the ability to increase raw milk production, but also in the capacity to transform the same raw material into products at different levels of value addition (Please see Chapter 4, *Dairy and Beef Cattle Value Chains in Hokkaido Prefecture*).

For Saraburi, the presence of the Dairy Farming Promotion Organization of Thailand (DPO), which already has a well-established reputation, production base, and consumer market, represents an important advantage that can be further developed. Product development should therefore move beyond increasing production volume towards more precisely identifying what types of products the market demands, which consumer groups offer the greatest potential, and what product characteristics can create meaningful differentiation. Research, technology, and innovation can then be used to develop new

products or diversify existing product lines. This would help increase value, expand markets, and reduce dependence on a limited range of products.

Fourth, develop the "Saraburi" brand as a mark of quality and reliability: In Hokkaido, the development of place-based brands under the names "Hokkaido" and "Tokachi" has been pursued alongside market creation and the communication of regional identity through a variety of channels. Examples include a winery linked to local government, the establishment of the Fresh Cheese Studio in Tokyo, where consumers can taste, purchase, and learn directly about products from Tokachi, and cooperation with Japan Airlines (JAL) to promote and distribute regional products. Together, these initiatives help create market channels, provide opportunities for market testing, strengthen consumer awareness, and connect production areas with major cities and external markets (Please see Chapter 3, *Case Study of Food Valley Tokachi*).

For Saraburi, the development of a place-based brand should therefore proceed alongside systematic market development and communication of product value. The name "Saraburi" could be used as a mark associated with quality, standards, safety, and product origin, while creating more opportunities for consumers to become familiar with and experience products from the province. This could include testing products in new markets and building partnerships with retailers, restaurants, hotels, transport and tourism channels, as well as promotional activities that connect the story of the province directly with its products. In this way, place-based branding would go beyond the design of a name or logo and become a mechanism that connects production quality with market recognition and tangible economic value creation.

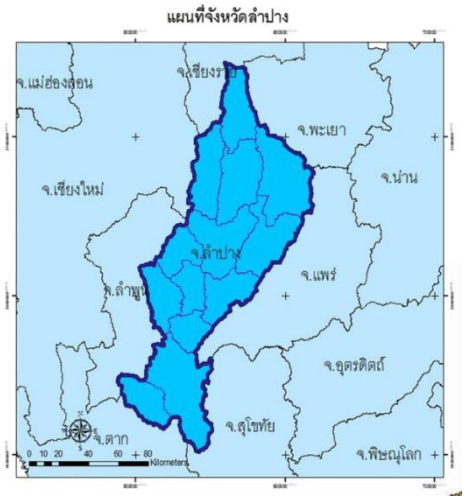
The last recommendation is utilizing existing markets as a foundation for expansion into ASEAN markets: In Hokkaido, market development has extended beyond the domestic market only after the names "Hokkaido" and "Tokachi" had become widely associated with quality and production standards. As consumers increasingly linked the place of origin with product quality, the name of the region itself became part of the value of the product and helped agricultural and food products from Hokkaido compete more effectively in external markets. This experience suggests that market expansion does not necessarily need to begin with a direct focus on exports. Instead, it can be built on a strong foundation of credibility, product quality, and domestic market recognition before gradually expanding into wider markets (see Chapter 3, *Case Study of Food Valley Tokachi*).

For Saraburi, its existing production base, processing capacity, and domestic market provide an important foundation for future market expansion. If the province can achieve more consistent product quality, build stronger recognition of the Saraburi brand, and develop standards that strengthen consumer confidence, existing markets can be used to test and refine products before expanding step by step into ASEAN markets. Competition should therefore move away from relying primarily on price and towards building advantages based on quality, safety, standards, and the credibility of the place of origin. This would help products from Saraburi establish a clearer market position and compete more effectively in higher-value market segments.

5.2 Lampang Province

5.2.1 Overview of Lampang Province and Its Key Products

Lampang Province is located in upper northern Thailand and covers approximately 12,533.961 square kilometres, or approximately 7,833,726 rai. It is the fifth-largest province in the North by area, after Chiang Mai, Tak, Mae Hong Son, and Phetchabun (Lampang Provincial Development Plan, 2024, p. 20). Lampang has a diversified economic base encompassing agriculture, industry, services, and tourism. In terms of Gross Provincial Product (GPP), the provincial economy grew by an average of 2.20 per cent per year over the ten-year period from 2011 to 2021, and by an average of 1.35 per cent over the five-year period from 2016 to 2021 (Lampang Provincial Development Plan, 2024, p. 28). The agricultural sector has remained relatively volatile, while some parts of the industrial sector have experienced declining or only modest growth. In 2021, the industrial sector expanded by 1.56 per cent, recovering from a contraction of 1.37 per cent in 2020. One important factor limiting stronger growth is the continuing decline of mining and quarrying, which represents the largest share of the province's GPP and has shown a downward trend throughout the past decade (Lampang Provincial Development Plan, 2024, p. 180).



Map of Lampang Province

Source: Lampang Provincial Development Plan (2024, p. 20)

In contrast, the service sector recorded the highest rate of expansion compared with other economic sectors. In 2021, the sector grew by 3.55 per cent, improving from the previous year. Service activities with relatively high economic value include wholesale and retail trade, motor vehicle repair, education, real estate activities, financial and insurance activities, and public administration. Activities recording particularly high growth in 2021 included real estate, which expanded by 57 per cent, followed by professional, scientific, and technical activities at 20.57 per cent. Arts, entertainment and recreation, and accommodation and food service activities both grew by 15.93 per cent. Human health and social work activities expanded by 7.79 per cent, while transportation and storage grew by 6.87 per cent (Lampang Provincial Development Plan, 2024, p. 180).

Economic Base and Key Products of the Province

Lampang has several important economic bases, with agriculture remaining a major source of livelihood for a large share of the population. Of the province's total area of 7,833,726 rai, approximately 1,036,512 rai, or 13.23 per cent, are used for agricultural purposes. A significant proportion of the population is engaged in agriculture, with 102,897 agricultural households, representing 33.91 per cent of the province's total 303,410 households (Lampang Provincial Development Plan, 2024, p. 37). Major economic crops in Lampang include rice, maize for animal feed, cassava, rubber, pineapple, bamboo, and lac (Lampang Provincial Development Plan, 2024, p. 40). Livestock production also plays an

important role in the local economy, particularly pigs, beef cattle, laying hens, broiler chickens, and native chickens (Lampang Provincial Development Plan, 2024, p. 41).

In the industrial sector, Lampang's major production activities include:

1. Energy industries, including electricity generation from coal and lignite, solar power generation, electricity generation using waste heat from cement production, and the production of compressed and pelletised biomass fuels. Total investment amounts to THB 51.80955 billion, with 2,751 workers.
2. Plant-based product industries, including the drying of crops and grains, crop storage and transportation, rice milling, cassava chip production, and seed hulling. Total investment amounts to THB 1.64637 billion, with 1,437 workers.
3. Non-metallic product industries, primarily cement production, followed by ceramic products, concrete products, and tiles. Total investment amounts to THB 1.53323 billion, with 5,715 workers (Lampang Provincial Development Plan, 2024, p. 120)

The ceramic industry, one of Lampang's best-known industries, has in recent years faced pressures from economic conditions, market competition, and changing consumer behaviour. As a result, some businesses have reduced the scale of their operations or shifted towards smaller-scale enterprises (Lampang Provincial Development Plan, 2024, p. 200). These conditions mean that the development of Lampang's ceramics and craft industries needs to place greater emphasis on product design, the use of technology, quality control, branding, and access to new markets in parallel. To support this direction, Lampang has established a Ceramic City development strategy linked with cultural tourism (Mingsarn Kaosa-ard, 2019).

Lampang is currently promoting lac-dyed woven textiles as an emerging local industry based on the province's natural resources and traditional knowledge. The area has climatic conditions that are relatively favourable for lac cultivation. Compared with many neighbouring northern provinces, Lampang has a relatively cool climate and lower average rainfall, resulting in a longer dry season. These conditions help reduce disease and pest risks affecting lac insects and support the production of high-quality lac resin. The characteristics of locally produced lac also contribute directly to product differentiation. When extracted and used for dyeing textiles or fibres, Lampang lac produces a distinctive colour described as "pink with purplish-red tones." This characteristic provides an important basis for developing

textile products with a clear local identity and greater added value (Department of Intellectual Property, 2025, p. 10).

The development potential of lac-dyed textiles is further strengthened by their connection to place of origin, local knowledge, and distinctive production processes. The publication of Lampang lac-dyed textiles for Geographical Indication (GI) registration by the Department of Intellectual Property formally recognises these linkages and provides an additional mechanism for product differentiation and value enhancement in the market (Department of Intellectual Property, 2025, p. 7).

Provincial Development Vision and Goals

Lampang's development direction is guided by the vision of becoming a "City of Happiness in Two Dimensions," or a Livable Smart City, which seeks to combine the charm of the historic city, its history, and local culture with the characteristics of a modern city that makes use of technology, innovation, and modern urban management systems.

This vision reflects the province's intention not only to pursue economic development, but also to create a city that is livable, modern, and supportive of the long-term quality of life of its residents (Lampang Provincial Development Plan, 2024, p. 2).

Under the Lampang Provincial Development Plan 2023–2027, the province has identified five key missions:

1. To promote and develop Lampang as a tourism city in order to strengthen the provincial economy.
2. To promote the production and marketing of quality agricultural products under the BCG Model in support of the Sustainable Development Goals (SDGs).
3. To enhance competitiveness in trade and investment so that the province can compete effectively in ASEAN Economic Community and global markets, while developing infrastructure that supports trade and investment.
4. To improve the quality of life of people of all age groups, strengthen internal security, and promote ways of living in accordance with the Sufficiency Economy Philosophy.

5. To conserve, restore, and promote effective management of natural resources and energy within a sound environmental framework in support of sustainable development and the SDGs (Lampang Provincial Development Plan, 2024, p. 202).

The province's development framework therefore covers a broad range of dimensions, including a learning city and an age-friendly city, logistics and mobility, ceramics, crafts and the creative economy, BCG-based agriculture, natural resources, the environment, clean energy, and cultural tourism.

This framework indicates that the development of Lampang's local products should be connected with broader provincial development objectives rather than being limited to any single sector. These objectives include increasing economic value, creating employment, preserving local knowledge, reducing environmental impacts, and supporting sustainable urban development (Lampang Provincial Development Plan, 2024, p. 202).

Strengths and Constraints of the Province

One of Lampang's major strengths is its diverse cultural capital and local knowledge, particularly in ceramics, naturally dyed textiles, and crafts, which can serve as an important foundation for the development of the creative economy. The province also has a wide range of tourism attractions and cultural activities that can be linked with the creation of greater value for local products and services, particularly if tourism routes, experiences, and product narratives are designed in a systematic manner (Lampang Provincial Development Plan, 2024, pp. 185–186). Another strength is the existence of cooperation networks among the public sector, private sector, and local communities, together with development directions that place emphasis on the BCG Economy and Smart City approaches. These provide an important foundation for driving place-based development initiatives.

However, the province also faces several constraints. Craft-based businesses still have limited connections with both domestic and international markets, while creative product development and innovation remain constrained. At the same time, the province faces shortages of skilled labour, unsystematic transfer of knowledge, uneven adoption of technology, and product images and brands that have yet to become sufficiently distinctive (Lampang Provincial Development Plan, 2024, pp. 185–186).

These constraints indicate that the development of Lampang's products needs to go beyond increasing production or making isolated improvements to individual products.

Rather, development needs to take place across the entire system, including workforce skills, production processes, design, technology, environmental management, marketing, and branding, so that local products can become more competitive and better aligned with the province's long-term development direction.

Opportunities for Product Upgrading and Integration into Higher-Value Chains

Based on the province's development direction, a major opportunity for Lampang lies in upgrading local products through the creative economy, the BCG Economy, clean technology, and sustainable development. This is particularly relevant for products rooted in culture and local knowledge, such as ceramics, naturally dyed textiles, crafts, and distinctive agricultural products. If these products can be connected with design, tourism, marketing, and the broader narrative of the city, they can generate greater added value and become more clearly differentiated from products originating in other areas.

The analysis of product chains should consider the entire upstream, midstream, and downstream structure. At the upstream level, key elements include raw materials, local knowledge, workforce skills, and production processes. At the midstream level, attention should be given to design, the use of technology, quality control, processing, and the reduction of environmental impacts. At the downstream level, key issues include branding, market channels, links with tourism, distribution, and access to both domestic and international markets.

Key questions are: How can the province use its cultural capital, craftsmanship, and existing production base to create new value? How can it address constraints related to skilled labour, technology, markets, and branding? And how can local products become part of the province's broader economic development, generate income for entrepreneurs, and support Lampang's long-term goal of becoming a livable and sustainable city?

5.2.2 Supply Chains of Key Products in Lampang Province[12]

Supply Chain of Woven Textiles in Lampang Province

Key Support Mechanisms and Actors: Upstream

The upstream stage of Lampang's cotton textile supply chain includes cotton farmers, fibre producers or suppliers, and fibre processors before the materials enter the dyeing and weaving processes. However, the study found that cotton cultivation in Thailand, including in Lampang, remains relatively limited. Most cotton is grown on a dispersed basis, such as along field boundaries or as a supplementary crop, rather than through large-scale commercial cultivation. As a result, textile producers need to source raw materials from other areas or rely increasingly on imported materials. Silk yarn faces a similar constraint, as domestic production remains insufficient to meet the demand of some producer groups.

To strengthen the completeness of the provincial textile supply chain and increase the use of locally sourced raw materials, Lampang could consider measures to promote cotton and fibre production that are appropriate to local conditions. This would require coordination among the Department of Agricultural Extension (DOAE), relevant agricultural agencies, and local farmer groups to support the selection of suitable varieties, improve cultivation techniques and raw material quality, and establish stronger market linkages with local weaving groups. However, any expansion in production should also take into account economic viability and market demand in order to avoid promoting raw material production in isolation from the actual needs of users within the supply chain.

Key Support Mechanisms and Actors: Midstream

The midstream stage consists of dyers, weavers, community enterprises, weaving groups, and small-scale entrepreneurs. Production continues to have strong characteristics of a household and craft-based industry, relying heavily on artisanal skills. At present, some producers are placing greater emphasis on the use of natural dyes, as these reduce the use of chemicals and are consistent with trends towards more environmentally friendly production. Natural dyes can also help create stronger product narratives and identity,

[12] The following section synthesises information from discussions with textile entrepreneurs in Lampang Province conducted between May and July 2026.

particularly in the case of Lampang lac-dyed textiles, which the province is currently promoting as a distinctive local product.

The use of natural dyes remains constrained by relatively high production costs, variations in colour consistency, and difficulties in maintaining uniform quality across production batches. Addressing these limitations requires further research and technological development in areas such as dye extraction, process control, colourfastness testing, and quality standards. Such improvements would help producers retain the distinctive characteristics of natural dyeing while improving product consistency and market competitiveness, particularly for Lampang's lac-dyed textiles.

Key Support Mechanisms and Actors: Downstream

The downstream stage includes designers, tailors, retailers, wholesalers, shops within and outside the province, as well as sales channels through trade fairs and government-organised activities. However, the study found that product design and garment-making remain weaknesses within the supply chain. Some producer groups have strong weaving skills but are still unable to develop their textiles into finished products. In some cases, product forms and designs also lack a clearly distinctive identity, limiting competitiveness in markets that place greater emphasis on design and contemporary appeal.

In terms of markets, distribution channels remain highly dependent on participation in OTOP events, trade fairs, and activities organised by government agencies. Greater and more continuous support is needed in branding, product design, and linkages with designers and market specialists. Therefore, an emphasis should be placed on product development and branding to establish a clearer market position for Lampang textiles, particularly lac-dyed products. Strengthening producers' capacity to move beyond weaving into finished-product development and brand creation would help increase product value, improve market competitiveness, and retain a greater share of economic benefits within the province.

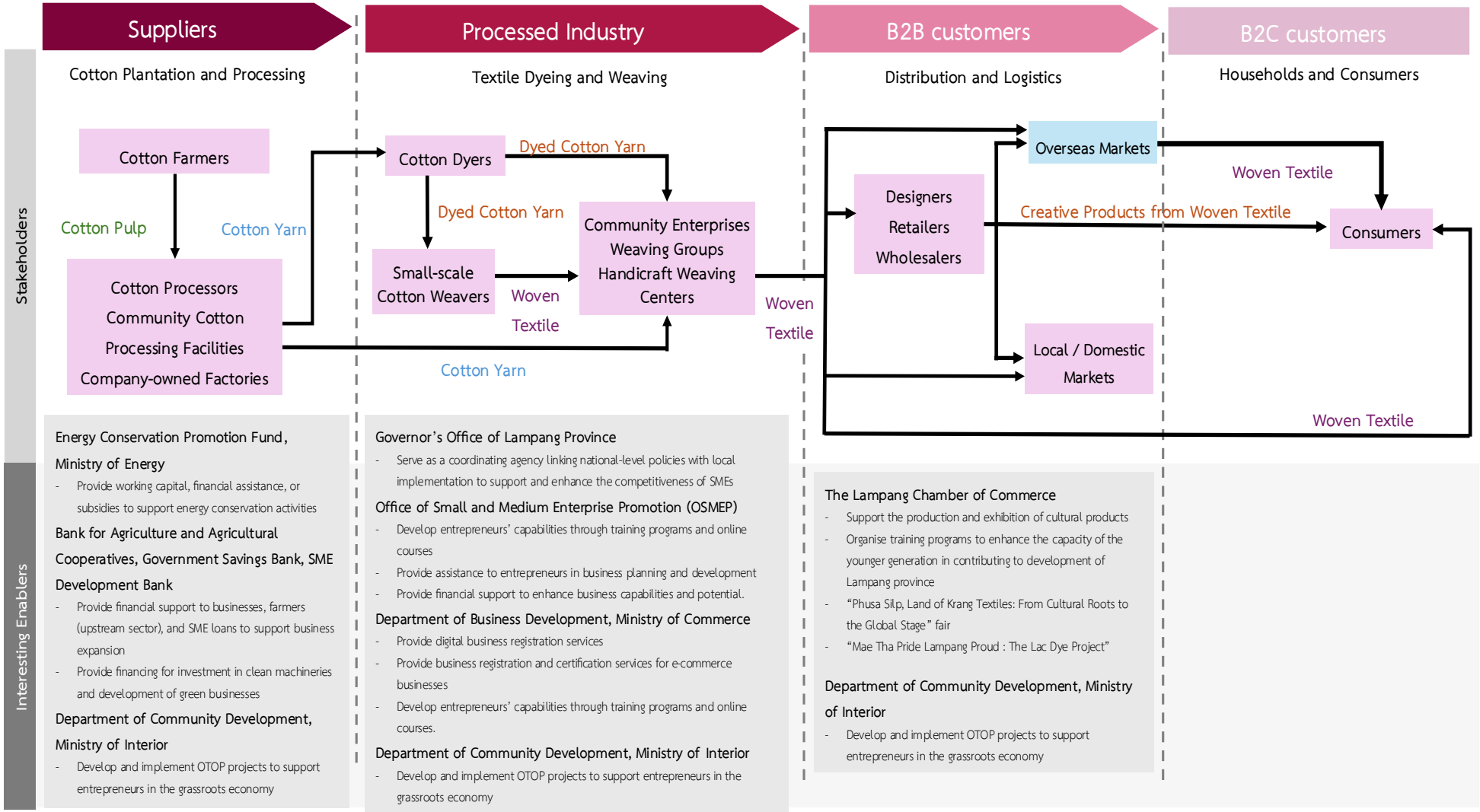


Figure shows the supply chain and key actors involved in Woven Textiles in Lampang Province.

Supply Chain of Ceramic Products in Lampang Province[13]

Key Support Mechanisms and Actors: Upstream

The upstream stage of Lampang's ceramic supply chain consists of producers and suppliers of raw materials used in ceramic production, including materials sourced both within the province and from other areas, as well as suppliers of fuels, chemicals, pigments, and other production materials and equipment.

One of Lampang's major strengths is the availability of kaolin and other ceramic raw materials within the province, which has provided an important foundation for the long-term development of its ceramic industry. Some raw material suppliers also maintain close relationships with factories and producers and are able to adjust or develop clay formulations to suit the products and production processes of individual manufacturers. Their role extends beyond supplying raw materials to include technical knowledge and joint production development with entrepreneurs.

Energy, however, remains a major production-cost constraint. Many types of ceramics require firing temperatures of approximately 1,200 degrees Celsius, which means that switching to electricity remains constrained by both technical and cost considerations. Meanwhile, LPG, which remains a major fuel source, is relatively expensive.

Some small-scale producers and studios also face problems when using gas cylinders at high consumption rates, requiring them to apply additional heat to the cylinders in order to maintain gas flow, which creates safety risks. This issue thus requires cooperation among energy service providers, industrial agencies, and research institutions to develop safer and more efficient fuel supply systems.

Key Support Mechanisms and Actors: Midstream

The midstream stage includes ceramic factories and producers of various sizes, ranging from large industrial factories and small and medium-sized enterprises to studios and craft-based ceramic producers. These producers take raw materials through forming, decoration, glazing, firing, and other processes to develop a wide variety of ceramic products.

[13] The following section synthesises information from discussions with ceramics entrepreneurs in Lampang Province conducted between May and July 2026.

In summary, Lampang's ceramic industry benefits from a long-established production base and a dense network of firms, specialists, raw material suppliers, and supporting organisations. Strong linkages among local producers also facilitate information exchange and collective problem-solving, providing an important form of institutional capacity for the continued development of the industry.

Key Support Mechanisms and Actors: Downstream

The downstream stage includes warehouses, wholesalers, retailers, shops within and outside the province, exporters, and channels for direct sales to domestic and international consumers. Lampang supports market development through promotional activities and the regular organisation of the Ceramic Fair, which serves both as a sales channel and as a platform for reinforcing public awareness of ceramics as one of the province's major industries and distinctive identities.

Downstream development remains constrained by both limited support for large-scale marketing activities and increasing competition from low-priced ceramic products from China. These pressures highlight the risks of relying heavily on general mass-market products and reinforce the need for Lampang producers to compete through quality, design, identity, and other forms of value beyond price. Future development should focus on creating markets in which Lampang can compete through forms of value other than price.

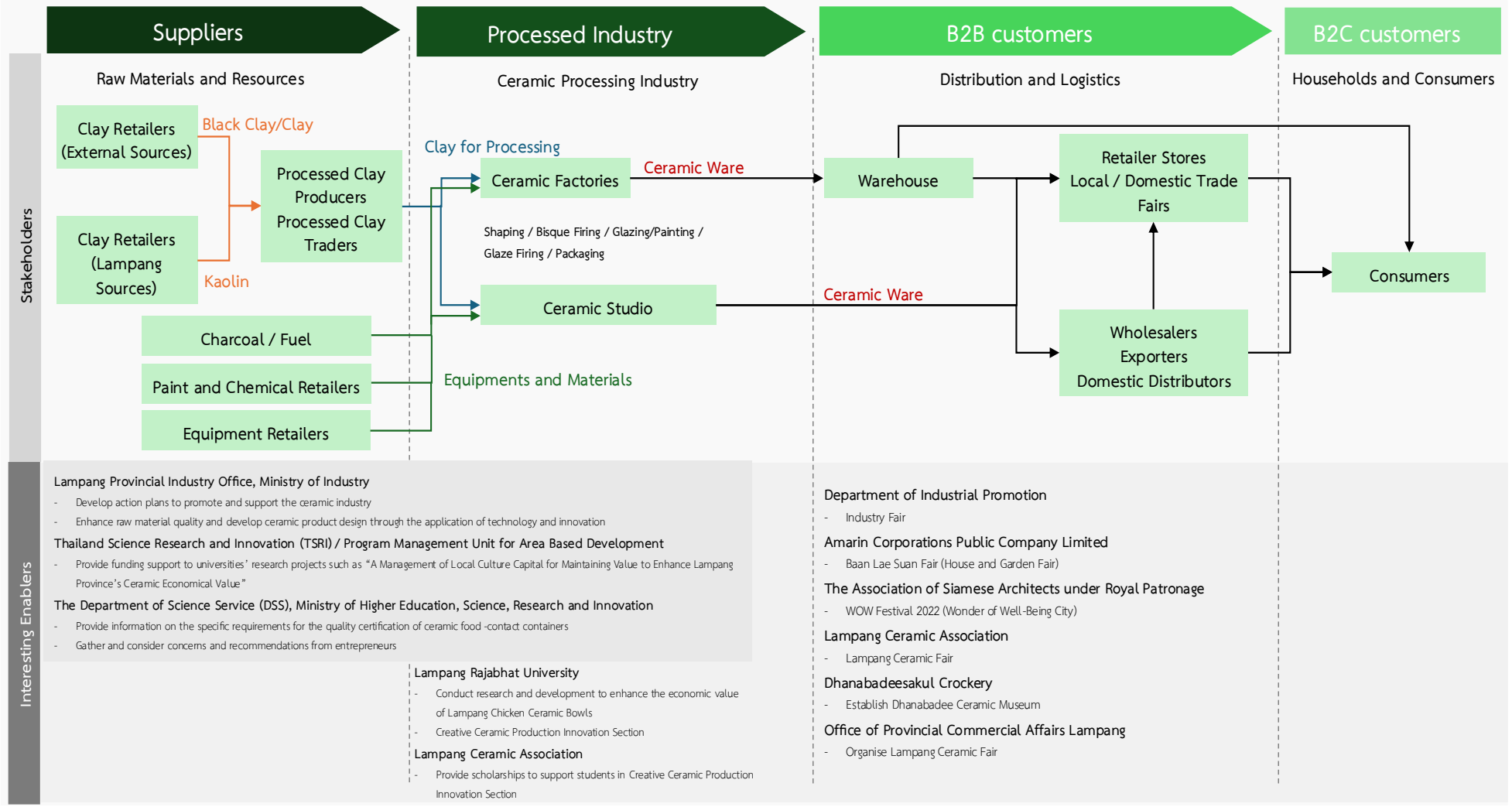


Figure shows the supply chain and key actors involved in Ceramic Products in Lampang Province.

5.2.3 Lessons from the Kanazawa and Ishikawa Case Studies

The case of Kanazawa City in Ishikawa Prefecture shows that sustaining and further developing traditional crafts over the long term requires more than preserving traditional skills or forms. It requires a supporting system that connects production, people, quality, and markets. This provides five important policy lessons that can be adapted to Lampang Province: the use of research and technology to address production challenges and improve quality; the development of technologies and labour-saving tools alongside the cultivation of a new generation of craftspeople; the development of certification schemes to verify product origin and value; the use of festivals and exhibition spaces to create experiences and strengthen public awareness; and the connection of producers, intermediaries, and users so that traditional crafts can continue to respond to contemporary markets and ways of life.





Recommendations for improving the woven textile and ceramic supply chains in Lampang include the following:

Firstly, use research to improve and control the quality of raw materials and products: In Japan, the development of textile crafts does not rely solely on preserving traditional techniques. Research and development are also used continuously to improve products, quality, and market opportunities. For example, the Japan Silk & Rayon Weaver's Association supports research and development related to textile products and weaving technologies, while also promoting exhibitions and stimulating demand for Japanese textiles. Meanwhile, **the Kaga City Textile Cooperative Association** is involved in silk quality inspection, the promotion of the silk production industry, and market development for silk textiles from the Kaga area (Please see Chapter 4, *Handwoven Textile and Kutani Ceramic Value Chains in Kanazawa*). These cases demonstrate that research, quality control, and market development need to be closely connected if traditional crafts are to remain adaptable and competitive over time.

For Lampang, the development of handwoven textiles and ceramics cannot depend on existing production methods alone, particularly as producers increasingly face constraints related to raw materials and production costs. These include declining supplies of kaolin, rising energy costs for ceramic firing, and problems related to the consistency and colour fastness of natural dyes. A more effective response would be to apply knowledge, research, and technology directly to production processes. This could include developing improved clay and ceramic body formulations, reducing energy consumption, improving dye formulations and dyeing processes, and developing alternative raw materials. Universities, research organisations, business associations, and producers should work together around

the actual production challenges faced in the province so that research can directly contribute to problem-solving and product upgrading.

Secondly, develop technology and labour-saving tools while preserving core craft skills: In Japan, the preservation of traditional crafts is pursued alongside systematic investment in people and technology. For example, the Ishikawa Prefectural Kutani Ware Technical Training Institute is a specialised institution that trains and develops personnel in Kutani ceramics, creating pathways for young artists and craftspeople to enter the profession. The Ishikawa Prefecture Kutani Ceramics and Porcelain Commerce and Industry Cooperative Association also supports the knowledge and skills required for professional practice, while the Tango Textile Industrial Association promotes the development of silk production technologies alongside market development (Please see Chapter 4, *Handwoven Textile and Kutani Ceramic Value Chains in Kanazawa*). These cases demonstrate that the transmission of craft traditions depends not only on passing down existing skills, but also on vocational training structures, appropriate technologies, and support systems that enable younger generations to enter the industry and remain in the profession over the long term.

For Lampang, the preservation of handwoven textiles and ceramics should therefore be considered alongside the need to adapt working practices to younger workers and the physical limitations faced by ageing craftspeople. Technology and labour-saving tools can help reduce the burden of production stages that are labour-intensive, time-consuming, or affect production consistency, including material preparation, weaving, dyeing, kiln temperature control, and energy use. At the same time, production stages that represent the core skills and identity of the craft should be preserved. In this way, technology would not replace craftspeople, but instead support more efficient and consistent production while making these occupations more accessible and attractive to younger generations.

Thirdly, develop product certification to verify origin and quality: In Japan, the value and credibility of traditional crafts do not rely solely on the reputation of the place of origin. Certification systems are also used to verify the origin, quality, and authenticity of products. For example, the Kaga Zome Promotion Cooperative Association issues certification marks for Kaga Yuzen kimono and related products to confirm that they meet the relevant criteria and production processes associated with authentic Kaga Yuzen (Please see Chapter 4, *Handwoven Textile and Kutani Ceramic Value Chains in Kanazawa*).

For Lampang, greater emphasis should be placed on developing product certification, particularly for ceramics, which face increasing competition from lower-priced imported products, and for lac-dyed textiles, which are being promoted as a distinctive product of the province. Certification criteria could be linked to the place of production, raw materials, craftspeople, production techniques, and product quality, allowing consumers to distinguish more clearly which products genuinely originate from Lampang. Introducing such a system while these products and their market identities are still developing could strengthen their market positioning, reduce the risk of imitation, and contribute to greater long-term economic value for local products.

Next is upgrading trade fairs from sales venues into experience-based spaces: In Japan, craft festivals and exhibitions are used not only as sales channels, but also as tools for raising public awareness and connecting producers directly with users. Kanazawa hosts both regular craft festivals and larger-scale exhibitions that provide opportunities for craftspeople to present new work, for consumers to experience and learn about production processes, and for intermediaries such as designers, buyers, media organisations, and event organisers to help expand markets and public recognition (Please see Chapter 3, *Case Study of Crafts in Kanazawa*).

For Lampang, exhibitions of handwoven textiles and ceramics should therefore be developed beyond their role as sales venues and become spaces for creating experiences. Demonstrations, hands-on craft activities, displays of new work, competitions, fashion-related activities, and tourism experiences could be integrated into these events to help consumers better understand the origins, production processes, and value of local products. At the same time, such events can provide direct meeting spaces for craftspeople, designers, buyers, and consumers. This would help strengthen markets, public awareness, and longer-term attachment to Lampang's local brands.

Lastly, strengthen connections between crafts, design, and contemporary markets: In Kanazawa, an important conceptual framework for sustaining traditional crafts is based on the interaction among at least three key actors: the **craft person**, the **user**, and the **connector/influencer**. If craftspeople exist but there are no users, the market cannot be sustained. At the same time, even when consumers are interested in craft products, broader recognition may remain limited if there is no intermediary to communicate their value, production processes, stories, and distinctive characteristics. The connector/influencer

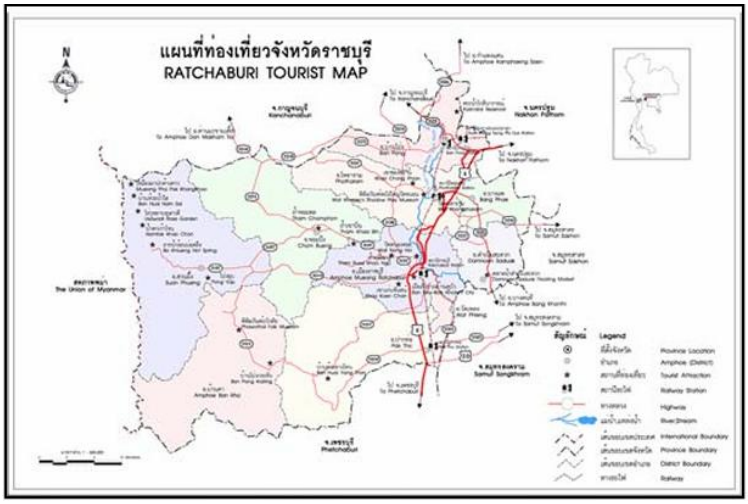
therefore plays an important role in linking crafts with users and contemporary markets. Such actors may include designers, curators, entrepreneurs, retailers, media organisations, or market specialists.

For Lampang, this framework can be applied directly to the development of lac-dyed textiles and ceramics. The province should create spaces and mechanisms that enable craftspeople, designers, entrepreneurs, and market specialists to work together more closely in developing products that retain their local identity while responding more effectively to contemporary uses and consumer preferences. Stronger connections with tourism markets, hotels, restaurants, interior design, and international market channels could help ensure that traditional crafts are not confined to the role of cultural products, but become products with actual users and sustained market demand.

5.3 Ratchaburi Province

5.3.1 Overview of Ratchaburi Province and Its Key Products

Ratchaburi is located in the western part of central Thailand and has a diverse landscape ranging from the lowlands of the Mae Klong River basin to mountainous areas. The Tenasserim Range extends along the Thai–Myanmar border. The province covers a total area of 5,196.462 square kilometres, or approximately 3,247,789 rai, and is located around 100 kilometres from Bangkok via Highway No. 4. Its western boundary borders the Republic of the Union of Myanmar (Ratchaburi Provincial Development Plan, 2025, p. 7). Ratchaburi also benefits from its strategic location and transport infrastructure, which provide convenient connections between southern Thailand, Bangkok, the central region, and provinces along the country's western border. This gives the province an important role in linking production, collection, and distribution activities, particularly for agricultural and processed agricultural products (Ratchaburi Provincial Development Plan, 2025, p. 204).



Location and boundaries of Ratchaburi Province.

Ratchaburi is a major producer of several agricultural products. It is the country's leading swine-producing province, Thailand's most important production area for aromatic coconuts, ranks fourth nationally in terms of dairy cattle numbers, and is also a major centre for ornamental fish production. These strengths have contributed to Ratchaburi's role as a regional wholesale and retail hub for agricultural products in western Thailand. Central agricultural markets such as Si Mueang Market receive produce from farmers within the province and neighbouring provinces before distributing it to other parts of Thailand and neighbouring countries (Ratchaburi Provincial Development Plan, 2025, p. 204).

Ratchaburi's current development direction focuses on building a strong economy based on green agriculture, safe food, creative tourism, and the grassroots economy. Agricultural commodities and community products are not viewed merely in terms of production volume. Rather, the province seeks to upgrade them into higher-value goods and services with recognised standards, distinctive identities, and stronger competitiveness in wider domestic and international markets (Ratchaburi Provincial Development Plan, 2025, p. 2). In the context of this value-chain study, Ratchaburi therefore provides a useful case for examining the linkages among production, processing, branding, marketing, and tourism, particularly in relation to distinctive agricultural products such as pineapple and swine products, which have considerable potential for further development into higher-value products.

Economic Base and Key Products of the Province

Ratchaburi has an extensive agricultural area, supported by irrigation systems that enable a substantial level of agricultural production. Of the province's total area of 3,247,789 rai, approximately 1,167,742 rai, or 35.95 per cent, are used for agricultural purposes. This includes 261,380 rai of rice fields, 321,564 rai of field crops, 191,931 rai of fruit orchards, 73,091 rai of vegetables, flowers, and ornamental plants, and 319,776 rai under other forms of agricultural use (Ratchaburi Provincial Development Plan, 2025, p. 24).

The province's extensive agricultural land enables the production of a wide variety of agricultural products, including field crops, fruits, vegetables, flowers, ornamental plants, and other commodities. Major economic crops include aromatic coconuts, durian, fresh pineapples, sugarcane, cassava, rice, and Kimju guava (Ratchaburi Provincial Development Plan, 2025, p. 207). One particularly distinctive agricultural product is pineapple. Areas along the foothills of the Tenasserim Range receive relatively low rainfall, creating favourable conditions for the cultivation of the Pattavia variety, locally known as "Ban Kha pineapple." This pineapple is characterised by its juicy sweetness, distinctive aroma, fine texture, mild taste that does not irritate the tongue, and shallow fruit eyes, making it highly popular in Thailand's fresh fruit market. Ban Kha pineapple is an important economic crop for Ratchaburi, with more than 83,200 rai under harvest across four districts: Chom Bueng, Pak Tho, Suan Phueng, and Ban Kha. Total production reaches approximately 106,967 tonnes. Owing to its distinctive quality, Ban Kha pineapple was registered as a Geographical Indication (GI) on 28 April 2015.

Ratchaburi also places considerable importance on upgrading agricultural and livestock production standards in order to improve product safety and strengthen consumer confidence, particularly through the promotion of Good Agricultural Practices (GAP) and organic agriculture. These standards are an important mechanism for increasing the value of agricultural products. In 2024, a total of 5,501 farmers and agricultural plots had received certification, covering an area of 42,282.13 rai (Ratchaburi Provincial Development Plan, 2025, p. 26).

In addition to agriculture, livestock is another major foundation of the provincial economy, particularly swine production. Ratchaburi ranks first in Thailand in swine production, and in 2024 the sector generated a production value of THB 31,282.10 million,

the highest among all livestock categories in the province. However, both the number of pigs and the number of pig farmers have shown a declining trend. Between 2021 and 2024, the number of pigs was 2,136,805; 1,613,254; 1,212,674; and 1,358,978 respectively. Over the same period, the number of pig farmers declined from 1,436 in 2021 to 766 in 2022 and 723 in 2023, before increasing slightly to 746 in 2024 (Ratchaburi Provincial Development Plan, 2025, p. 38). This downward trend in both pig numbers and the number of farmers represents an important issue for the province to address, given the strategic importance of swine production to Ratchaburi's economy.

In terms of livestock production standards, the number of farms certified under GAP has increased steadily, from 563 farms in 2022 to 570 farms in 2023 and 653 farms in 2024. This reflects the continued expansion of livestock production under recognised standards. Among different livestock activities, swine production remains particularly important. In 2024, a total of 191 pig farms were GAP-certified, covering approximately 1.9 million pigs, compared with 155 certified farms in 2022 (Ratchaburi Provincial Development Plan, 2025, p. 27).

Provincial Development Vision and Goals

The Ratchaburi Provincial Development Plan for FY2023–2027 (2027 revised edition) sets out the vision of becoming a "Green Agricultural City, Strong Economy, and Quality Society." Its long-term goals are to develop Ratchaburi into a province of creative tourism, a centre for food security, and a hub for agricultural product innovation, based on environmentally sustainable production (Ratchaburi Provincial Development Plan, 2025, p. 1).

Under the development direction of a smart agricultural city and Smart Economy, Ratchaburi seeks to enhance the competitiveness of its agricultural sector through technology, innovation, and information systems. Key approaches include promoting and supporting research, technology development, and agricultural innovation in cooperation with all relevant sectors across production, processing, and marketing; promoting the application of research, technology, and innovation in agriculture; collecting and adapting local knowledge for agricultural development; and strengthening agricultural development through the participation of the Agricultural Technology and Innovation Center (AIC) (Ratchaburi Provincial Development Plan, 2025, p. 29).

This direction reflects the province's intention to continue using agriculture as a major foundation for economic development, but not through conventional agriculture

alone. Rather, the province seeks to promote agriculture that meets recognised standards, is safe and environmentally friendly, makes use of technology, and is capable of generating greater added value.

Strengths of Ratchaburi Province

One of Ratchaburi's major strengths is its diverse agricultural base, extensive irrigation coverage, several nationally important agricultural products, and strong community-based production networks, including cooperatives, community enterprises, OTOP producers, and occupational groups. The province has also continuously promoted standardised agricultural production, including GAP and organic agriculture, providing an important foundation for the development of safe and high-value agricultural products. Ratchaburi also possesses distinctive cultural and tourism assets, particularly its ethnic diversity, natural attractions, community ways of life, arts, culture, and agriculture. These assets create opportunities to connect products and services with visitor experiences (Ratchaburi Provincial Development Plan, 2025, p. 193). If developed systematically, Ratchaburi's local products could be further developed into souvenirs, premium agricultural products, processed products, health-related goods, and cultural experiences that generate additional value for local communities.

The development of the "Ratchaburi Premium" brand represents an important approach to promoting and expanding marketing channels in order to increase the economic value of distinctive local products, agricultural products, and community products from the province (Ratchaburi Provincial Development Plan, 2025, pp. 152–153). Discussions with the Ratchaburi Provincial Office indicate that an important feature of the Ratchaburi Premium brand is its systematic management mechanism at the provincial level. The brand is overseen by the Ratchaburi Premium Brand Management Committee, chaired by the Provincial Governor and involving key agencies in areas such as social development and human security, agriculture and cooperatives, industry, and commerce. Products seeking to use the Ratchaburi Premium label must undergo a selection process and meet criteria established by the province. The label functions, to a certain extent, as a mark certifying that the products have been selected on the basis of quality and standards through a provincial mechanism. This helps strengthen consumer confidence and provides greater clarity in communicating the value of Ratchaburi products.

In addition to quality recognition, selected entrepreneurs also benefit from linkages with provincial marketing activities, particularly opportunities to exhibit and sell their products at events organised or attended by the province. Ratchaburi Premium therefore serves as more than a label placed on products. It functions as a mechanism for selection, recognition, and the creation of market opportunities for local entrepreneurs.

Opportunities for Product Upgrading and Integration into Higher-Value Chains

A major opportunity for Ratchaburi lies in building upon its strong agricultural base to develop high-value agriculture, safe agriculture, organic agriculture, agro-processing, and smart agriculture. This direction is consistent with national strategies, the National Economic and Social Development Plan, and market trends in which consumers are placing increasing importance on health, safety, and sustainability (Ratchaburi Provincial Development Plan, 2025, p. 195).

The analysis of Ratchaburi's product chains should consider the entire upstream, midstream, and downstream structure. At the upstream level, key elements include agricultural production, cultivation areas, water systems, production standards, farmers, and local knowledge. At the midstream level, attention should be given to processing, product design, technology, quality control, packaging, and the development of standards. At the downstream level, important issues include branding, market linkages, online sales, distribution, exports, and connecting products with creative tourism.

The upgrading of Ratchaburi's products should centre on several key questions: How can the province use its green agricultural base, cultural capital, and existing community economic networks to generate greater added value? How can farmers and entrepreneurs gain better access to technology, standards, business knowledge, and markets? And how can product chains be designed to connect production, processing, marketing, and tourism more effectively?

Addressing these questions will be important if Ratchaburi is to move more concretely towards its goals of becoming a centre for food security, agricultural product innovation, and creative tourism.

5.3.2 Supply Chains of Key Products in Ratchaburi Province[14]

Supply Chain of Ban Kha Pineapple in Ratchaburi Province

Although pineapple is not Ratchaburi's most important agricultural product when compared with major products such as aromatic coconut, Ban Kha pineapple is a distinctive local product that has been registered as a Geographical Indication (GI). It has considerable potential for further development into a higher-value product based on local resources and identity.

Based on information collected through interviews and relevant documents, approximately 90 percent of pineapple production in the area is supplied to industrial processing factories, while around 10 percent is sold for consumption within the province and surrounding areas. This structure indicates that pineapple production in the area remains highly dependent on industrial markets, with most of the output sold as raw material for processing rather than generating greater value through direct consumer markets.

However, the research team identifies opportunities to channel part of the production away from factory markets towards higher-value segments, particularly high-quality pineapples that can be linked with GI identity, product development, local-level processing, food markets, tourism, and niche consumer groups. This approach is not intended to replace factory markets, which remain the principal market for farmers, but rather to provide additional options for value creation and diversify market channels for producers in the area.

For this reason, the project selected Ban Kha pineapple as one of the case studies to be paired with Okinawa Prefecture, Japan, which has experience in developing pineapples and other local agricultural products through value addition, processing, marketing, and linkages with the tourism economy. Relevant approaches and mechanisms can therefore be considered for adaptation to the context of Ratchaburi Province.

The value chain of Ban Kha pineapple in Ratchaburi illustrates the actors involved from raw material production and product collection and processing through to distribution

[14] The following section synthesises information from interviews with officials from the Ratchaburi Provincial Strategy Division, the Ratchaburi Provincial Agriculture Office, and the Ratchaburi Provincial Commercial Office conducted on 2 June 2026.

and consumption. The major actors can be divided into three stages: upstream, midstream, and downstream.

Key Support Mechanisms and Actors: Upstream

The upstream stage consists of actors involved in pineapple cultivation and production. Pineapple farmers are the principal producers and are connected with suppliers of pineapple planting materials, fertilisers, agricultural chemicals, materials, and farming equipment. Government agencies, including the Ratchaburi Provincial Agricultural Extension Office and the Department of Agricultural Extension, also play roles in promoting production, providing cultivation advice, and supporting improvements in product quality.

Key Support Mechanisms and Actors: Midstream

The midstream stage involves the collection, purchasing, and processing of agricultural output. Key actors include community enterprises, intermediaries, purchasing factories, and pineapple-processing businesses. Farmers' produce can enter the market through several channels, including sales as fresh pineapple and processing into different types of products. Academic institutions, such as Muban Chom Bueng Rajabhat University, also contribute through research and development related to pineapple varieties.

Key Support Mechanisms and Actors: Downstream

The downstream stage includes distributors and consumers in both domestic and international markets. Within Thailand, pineapple products are distributed through shops in Ratchaburi and other areas, supermarkets, convenience stores, online retailers, and food-processing businesses before reaching consumers. Another share of production, in the form of both fresh pineapple and processed products, is supplied to international markets and overseas consumers.

Supply Chain: Ban Kha Pineapple, Ratchaburi Province

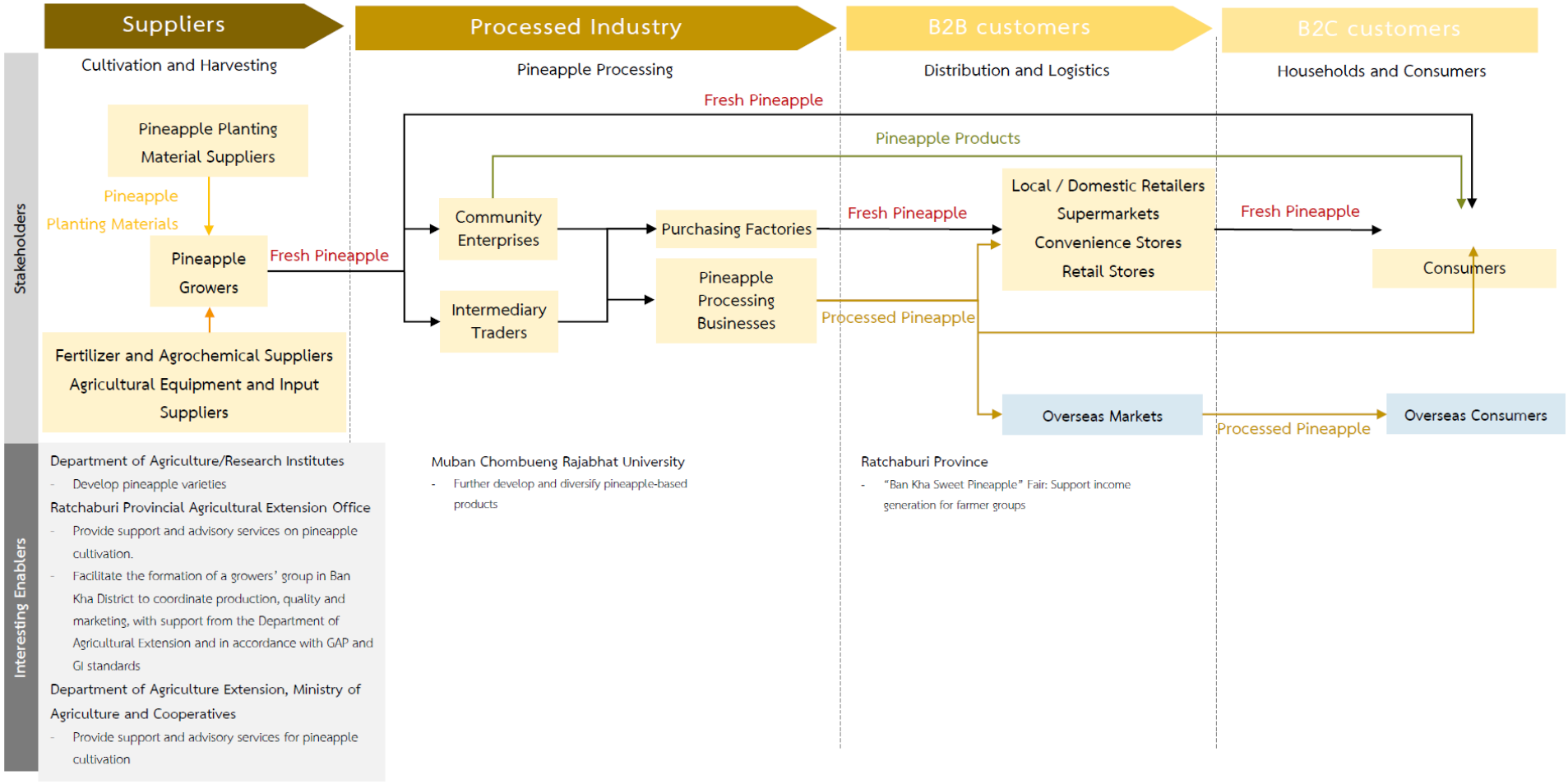


Figure shows the supply chain and key actors involved in Ban Kha Pineapple in Ratchaburi Province.

Supply Chain of Pig Production in Ratchaburi Province[15]

Pigs are among the most important agricultural and livestock products in Ratchaburi in terms of production volume, economic value, and the number of businesses and producers involved throughout the supply chain. The province has a diverse pork market, ranging from premium markets, restaurants, and general consumer markets to institutional markets such as schools and other distribution channels. This reflects Ratchaburi's relatively strong production base and established market demand.

However, field visits and discussions with pig farmers indicate that, despite the importance of pig production to the province, gaps remain in knowledge and in the application of research findings under actual production conditions. A particular challenge concerns the difference between experimental or research environments, where variables can often be controlled and sufficient space is available, and actual farm conditions, which may involve higher stocking densities and constraints related to space, costs, labour, and farm management. As a result, some knowledge and technologies developed through research cannot always be applied effectively under real farm conditions.

Key Support Mechanisms and Actors: Upstream

The upstream stage of the pig supply chain includes animal-feed producers and suppliers, pig breeders, and contracting companies that provide piglets and production inputs before the animals are transferred to pig farmers. Production takes several forms, including contract raising, guaranteed-price arrangements, and independent farming. The Department of Livestock Development, the National Swine Raisers Association, and financial institutions such as the Bank for Agriculture and Agricultural Cooperatives (BAAC) provide support related to breeding, farming standards, knowledge, and access to finance.

Key Support Mechanisms and Actors: Midstream

The midstream stage includes pig farmers, live-pig collectors, carcass traders, slaughterhouses, and modern trade operators, which connect livestock production with slaughtering and subsequent distribution.

[15] The following section synthesises information from interviews with officials from the Ratchaburi Provincial Strategy Division, the Ratchaburi Provincial Agriculture Office, the Ratchaburi Provincial Commercial Office, and representatives of pig farmer groups in Ratchaburi Province, conducted on 2 June 2026.

Key Support Mechanisms and Actors: Downstream

The downstream stage consists of wholesalers, retailers, modern trade operators, food-processing businesses, and international markets before products reach domestic and overseas consumers. The Department of Internal Trade and the Department of International Trade Promotion provide support related to markets, prices, and exports, while associations of pork producers and processors involved in exports help connect businesses and promote access to international markets.

The next stage of upgrading Ratchaburi's pig supply chain should place greater emphasis on research developed from the actual needs of farmers and real production conditions. Closer cooperation among universities, researchers, and businesses is also needed to test and develop approaches that can be applied effectively at farm level, particularly in livestock management, hygiene, cost management, and production efficiency. Over the longer term, the province could also consider developing its pig supply chain under a Circular Economy approach by reusing waste and by-products generated from livestock production and processing.

Potential applications include bioenergy production, organic fertiliser, and raw materials for other economic activities. Such approaches could help reduce production costs and environmental impacts while simultaneously increasing value across the province's pig production chain.

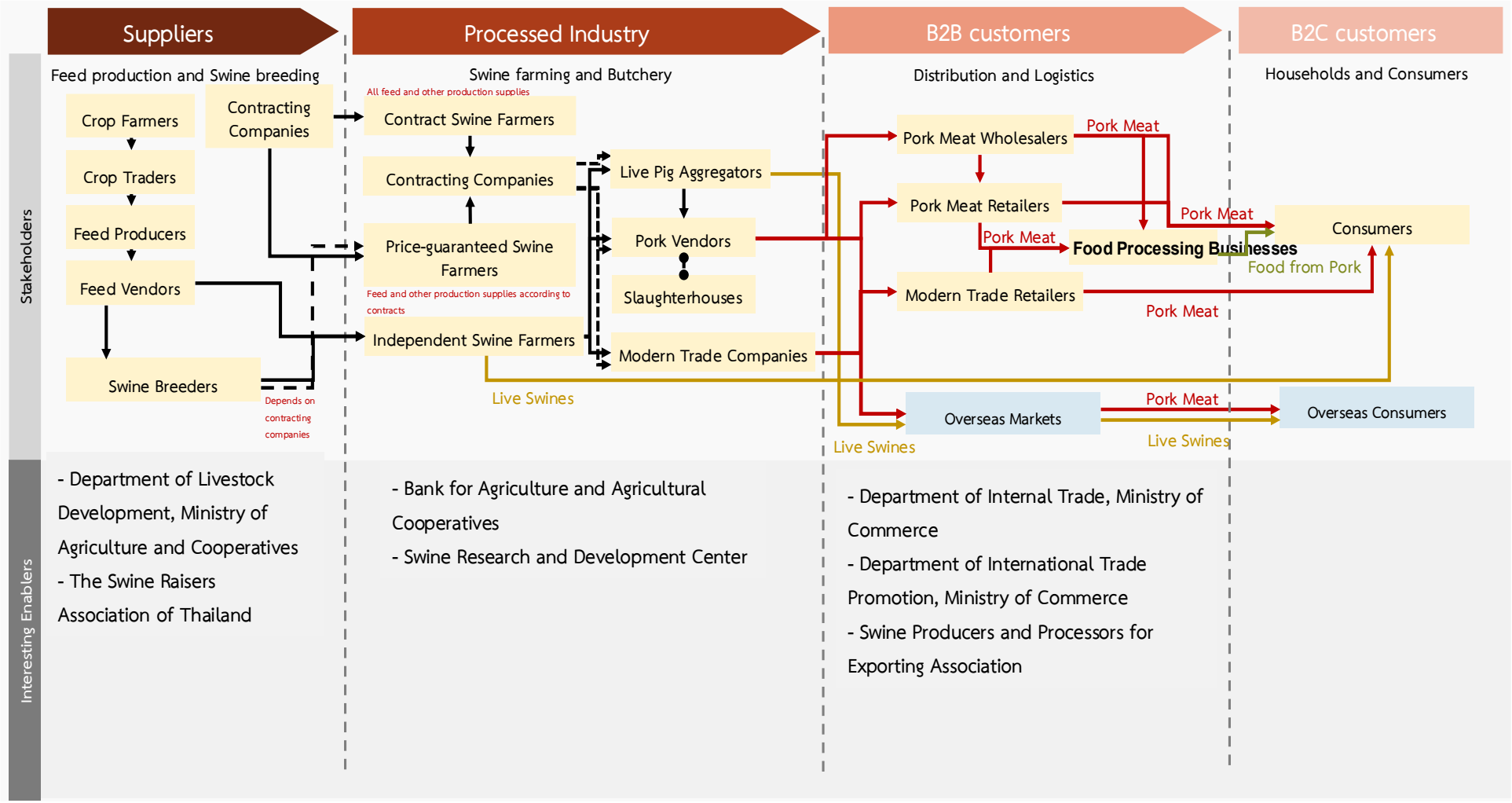


Figure shows the supply chain and key actors involved in Pig Products in Ratchaburi Province.

5.3.3 Lessons from the Okinawa Case Study

The comparison with Okinawa suggests that upgrading Ratchaburi's pineapple and swine product value chains should involve several interconnected policy tools. These include building a distinctive provincial identity that can generate economic value; developing raw materials into a wider range of higher-value products; linking local products with tourism to increase their visibility and consumption; improving swine production and quality so that products can enter higher-quality and premium markets; and developing research and technology based on the actual needs and challenges faced by farmers and entrepreneurs so that innovations can be applied effectively within local production conditions.



Recommendations for developing the pineapple and pork product supply chains in Ratchaburi Province include:

Firstly, create provincial identity into economic value: In Okinawa, the identity of being "Okinawan" has been clearly developed into economic value through strong emphasis on the production of goods and services within the region, consumption by local residents, and the presentation of local products, food, and experiences that reflect the identity of the islands to visitors. This approach reflects a cycle of local production–local consumption–external demand, in which local demand provides an initial market base for local producers before products and experiences are further developed for tourists and external consumers. As a result, local identity functions not merely as an image or branding device, but is directly connected with production, consumption, and income generation within the local economy (Please see Chapter 3, *Case Study of Okinawa Prefecture*).

For Ratchaburi, an important existing foundation is the "Ratchaburi Premium" certification mark, which could be further developed as a key instrument for strengthening the province's identity and increasing the value of local products. The mark should be more clearly associated with high-quality products and services that reflect the distinctive characteristics of Ratchaburi, while efforts should first focus on strengthening recognition and consumption within the domestic market. Once consumers increasingly recognise and trust "Ratchaburi" as a source of quality products, this identity can then be extended further to tourism markets and international markets in the longer term.

Secondly, further develop Ban Kha pineapple as a GI product through private-sector collaboration: In Okinawa, pineapple has been developed beyond its role as an agricultural commodity into a wider range of economic activities. One important example is Nago Pineapple Park, a privately operated attraction that functions as more than a conventional agricultural tourism site. The park combines family-oriented activities, opportunities to learn about pineapple, retail outlets, restaurants, processed products, and the development of other products such as pineapple beverages and wine. A similar approach is also applied to other local products, including sea salt (Please see Chapter 3, *Case Study of Okinawa Prefecture*). This type of integrated space allows a single local product to generate value in multiple forms, including products, food, beverages, knowledge, entertainment, and tourism experiences.

For Ratchaburi, Ban Kha pineapple already has an important advantage through its GI certification. The next step should therefore move beyond the sale of fresh produce towards the creation of spaces that integrate product distribution, processing, tourism, and services. These could be developed through collaboration among private-sector actors, local entrepreneurs, and local government organisations to provide infrastructure for product distribution, product testing, and visitor experiences. Such an approach would allow Ban Kha pineapple to generate income not only from the agricultural product itself, but also from a wider range of economic activities, while distributing more value to businesses within the local economy.

Thirdly, increase the visibility and consumption of local products throughout the consumer and visitor journey: In Okinawa, local products are not presented separately as individual items. Instead, they are brought together and made visible across multiple locations, including airports, retail outlets, restaurants, tourist attractions, and souvenir shops. Products such as pineapple, sea salt, and mozuku seaweed are used in a wide range of food products, processed goods, and souvenirs. Repeated exposure to these local products at different points along the consumer and visitor journey helps strengthen recognition and makes them part of the broader image and identity of Okinawa (Please see Chapter 3, *Case Study of Okinawa Prefecture*).

For Ratchaburi, a similar approach could be adopted by connecting several of the province's key products, such as Ban Kha pineapple, aromatic coconut, Kimju guava, and processed pork products, and making them visible together throughout the consumer and tourist journey. This could include points of entry into the province, restaurants, cafés, hotels, tourist attractions, souvenir shops, and other retail spaces. Creating this kind of continuous visibility would allow different local products to reinforce a shared provincial identity, increase opportunities for consumption, and help channel a greater share of tourism expenditure back to local farmers and entrepreneurs.

Fourth, upgrading the swine value chain from high-volume production towards quality and premium markets: In Okinawa, the upgrading of swine production does not focus solely on increasing production volume. Instead, quality control and branding are used to differentiate pork products and increase their value. An important example is Agu pork, for which the Okinawa Prefecture Agu Brand Pig Promotion Council is responsible for quality inspection, certification of producer farms, registration of Agu pigs, and oversight of breed

development. As a result, the name "Agu" is associated with clearly defined production conditions and standards rather than functioning merely as a marketing label. Relevant organisations also communicate with consumers about product quality, safety, place of origin, and distinctive characteristics in order to build confidence and encourage consumption of locally branded pork (Please see Chapter 4, *Swine Production Value Chain in Okinawa Prefecture*).

For Ratchaburi, its position as one of Thailand's major swine production bases provides an important foundation for further development. However, given the declining trend in both the number of farmers and production volume, the next stage of development should move beyond competition based primarily on quantity towards greater quality and differentiation of "Ratchaburi pork." This could include improving farming standards, meat quality, food safety, traceability systems, breed development, and products targeted at quality and premium markets. Developing a clear product image supported by standards that consumers can recognise and trust would help increase the value of swine products and provide stronger economic incentives for farmers to pursue quality-oriented production rather than competing on volume alone.

Next is develop an R&D system that begins with "real farm-level problems": In Okinawa, the development of Agu pigs continuously links research, breed improvement, and quality control with actual production systems. The Okinawa Livestock Improvement Association plays an important role in supporting breed development. Some producers cross purebred Agu pigs with Western breeds to improve production efficiency, while others continue to raise purebred Agu pigs in order to preserve product differentiation and the value of the brand. In addition, the Okinawa Prefecture Agu Brand Pig Promotion Council oversees both slaughter volumes and meat quality, allowing standards to be managed from the farm level through slaughtering and cutting processes (Please see Chapter 4, *Swine Production Value Chain in Okinawa Prefecture*).

For Ratchaburi, an important gap that should be addressed is the need to connect research and technology more closely with actual production conditions. Research should begin with the problems and constraints faced by farmers and businesses, while universities, researchers, livestock agencies, and private-sector actors work together to develop and test solutions under real farm conditions. Priority areas could include breed development, farm management, hygiene, production costs, productivity, and meat quality. This approach

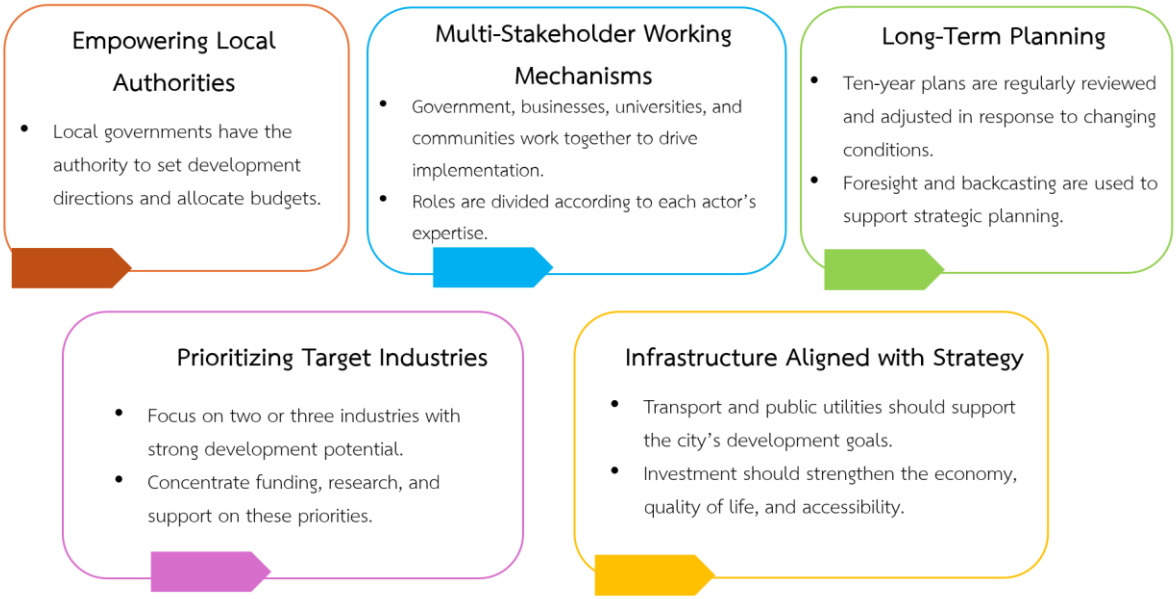
would help reduce the gap between laboratory-based research and practical application, while increasing the likelihood that newly developed technologies respond directly to the needs of local producers.

Chapter 6

Common Characteristics of Japanese Local Development Strategies and Approaches for Adaptation in Thailand

6.1 Common Characteristics of Japanese Local Development Strategies

The three Japanese case-study areas differ considerably in their economic structures, social conditions, and local resources. Despite these differences, several common features can be identified in their approaches to local development. These include strong local-government involvement in setting development directions, mechanisms for cross-sector collaboration, long-term planning, clear prioritisation of target industries, and the alignment of infrastructure investment with economic strategies. Taken together, these characteristics show that local development is not pursued through isolated projects. It is organised as a continuing process that connects policy, investment, institutions, and stakeholders around shared development objectives. The following sections examine these common features in greater detail.



1. Giving Local Governments the Authority to Formulate and Manage Development Policies

The first important characteristic is the strong role of local governments, at both the prefectural and city levels, in determining the development directions of their areas. Under Japan's local government system, local authorities have both budgetary authority and room to design measures and policies appropriate to their own contexts, even though their overall directions remain connected with national policies and strategies. As a result, the relationship between central and local policies is not simply one in which national policies are passed down for implementation. Rather, local governments interpret and adapt national objectives to suit the economic, social, demographic, and industrial conditions of their respective areas.

The ability to manage resources independently also allows local governments to decide which issues, areas, or target groups should receive budgetary priority. They can also connect different types of funding with a common development strategy rather than implementing them as separate activities. This enables policies to respond more closely to local needs. For example, a city seeking to revitalise local industries can design measures related to entrepreneurship, technology, tourism, human resource development, and city branding so that they all support the same overall objective.

2. Establishing Working Mechanisms and Dividing Implementation Roles among Different Sectors

Although prefectural or city governments often play a central role in setting directions and initiating policies, implementation is not monopolised by government agencies alone. In many areas, committees or working groups are established with participation from government agencies, private businesses, universities, communities, and other relevant stakeholders. Each organisation is then able to take responsibility for activities according to its particular expertise. Local governments therefore act as direction setters, resource coordinators, and facilitators of collaboration, rather than attempting to carry out every activity themselves.

These mechanisms are important for policy continuity. Once shared objectives have been established, different sectors can further develop their own activities or partnerships in support of those objectives. Universities, for example, may take responsibility for research and technology, while businesses develop products and markets, and local governments

provide regulatory support, budgets, or linkages with broader city strategies. In some cases, separate legal entities or companies are also established specifically to carry out business-related activities. This can make implementation more flexible and allow revenues to be generated and reinvested in activities serving public purposes, while reducing the constraints that arise when government agencies are expected to undertake every stage of implementation themselves.

3. Long-Term Planning and Continuity of Development

Local development in Japan is characterised by a clear long-term commitment to development goals. Many prefectural and city development plans cover a period of approximately ten years or are organised through interconnected medium- and long-term plans. This means that implementation is not tied to a single project or fiscal year.

A long-term timeframe is particularly important for issues that require structural change over time, such as the revitalisation of traditional industries, the development of a new generation of entrepreneurs, urban development for an ageing society, or the transition towards a low-carbon economy. Such changes cannot produce clear results through short-term projects lasting only one or two years. However, long-term planning does not mean fixing a plan unchanged for the entire ten-year period. Objectives are reviewed and policy tools adjusted in response to changing circumstances.

In addition, many areas use future-oriented planning tools such as foresight and backcasting as part of the policy formulation process. This begins by identifying the future that an area wishes to achieve and then working backwards to determine what actions need to be taken in the present to reach that goal. This approach helps ensure that projects implemented at different points in time do not become disconnected activities, but can instead be understood as parts of a longer-term pathway of local transformation.

4. Clearly Identifying Target Industries or Sectors

The Japanese prefectures and cities examined in this study do not attempt to develop every type of industry at the same time. Instead, they identify relatively clear target industries or sectors for promotion, based on factors such as the local resource base, existing capabilities, local identity, business networks, and future competitive opportunities. Once these priorities have been identified, supporting measures are developed continuously, with expansion into related activities or industries taking place gradually at later stages. This differs

from an approach in which budgets or projects are distributed across numerous sectors without a clear area of focus.

Moreover, the prioritisation of target sectors allows public budgets, personnel, research networks, and support instruments to be mobilised more intensively around selected industries. Once these industries develop a stronger foundation, they can then generate opportunities for other sectors through value-chain linkages. Examples include linking craft industries with tourism, design, and the creative economy, or connecting food industries with health and tourism. In this sense, local governments identify strategic areas of focus that they consider having high potential and continue to direct resources towards them until an economic ecosystem can develop around those industries.

5. Aligning Infrastructure with Urban and Economic Development Strategies

Finally, infrastructure development in Japanese localities is closely connected with broader urban and economic development strategies. Infrastructure is not treated as a development objective in itself, but rather as a tool for supporting the economic activities and quality of life that an area seeks to create. Investment decisions are thus considered alongside the question of what direction the area wishes to pursue. For example, if a locality seeks to develop a tourism destination or a new economic district, it must simultaneously consider transportation systems, accessibility, parking, public transport, public spaces, and other necessary facilities.

In this sense, concrete and efficient planning allows infrastructure to increase the effectiveness of other policies. Developing an industry or tourism destination alone may not generate its full economic impact if people have difficulty accessing the area or if supporting systems are unable to accommodate increased activity. Conversely, infrastructure investment without a clear purpose or intended use may result in assets that fail to generate long-term value for the area.

In summary, the common characteristics of the three Japanese case-study areas demonstrate that successful local development does not depend on any single project. Rather, it emerges from an interconnected system of local governance that includes empowering local governments, selecting strategic directions, establishing institutions and mechanisms for collaboration, making long-term investments, and allocating infrastructure and resources in support of common objectives. The key lesson is not to directly replicate

any particular Japanese model in Thailand, but to consider which elements of these systems can be adapted to strengthen the capacity of Thai provinces to determine and continuously drive their own development strategies.

6.2 Approaches for Adaptation in Thailand

The study of the Japanese case-study areas shows that effective local development does not result from any single policy or project. Rather, it emerges from several interconnected components that work together continuously, including governance structures, goal setting, support systems, and the capacity to build upon existing local assets to create new economic activities and respond to emerging development challenges.

To facilitate the application of these lessons to the Thai context, the key elements can be grouped into four areas: mechanisms for driving development, goal setting, supporting ecosystems of infrastructure and knowledge, and spillover and amplification.



1. Mechanisms for Driving Development

The first important lesson from Japan is that local authorities need sufficient authority and resources to manage their own areas, both in terms of budgets and policy decision-making. This enables them to respond to local problems and needs more quickly and in ways that are appropriate to their specific contexts. Such empowerment does not mean eliminating the role of the central government. Rather, it involves restructuring the

relationship so that the central government sets broad frameworks, provides support, and monitors performance, while local authorities have greater room to decide how resources should be allocated and which policy instruments should be used to achieve their own objectives.

However, greater local authority needs to be accompanied by systems of transparency, quality assurance, and performance evaluation, so that citizens, oversight bodies, and the central government can access information and assess policy outcomes. Decentralisation should involve the decentralisation of both authority and responsibility, supported by sufficient information to track how budgets are used, what results are achieved, and how implementation can be improved.

Another mechanism consistently observed in Japan is the establishment of committees or steering committees for major policies and projects. City or prefectural governments often initiate the process and establish the initial framework, after which the relevant organisations or sectors with the strongest expertise take the lead in further implementation. A key factor is the creation of a clear sense of ownership. When an organisation or group responsible for implementation feels that it genuinely owns the objective, a project is more likely to continue beyond the agenda or term of any particular government agency.

Thailand already has a large number of committees and working groups at the local level. The issue may therefore not be the need to establish more committees, but rather to improve the quality and authority of existing ones. Committees should have clear mandates and genuine decision-making authority, avoid unnecessary overlap with existing administrative structures, include members whose expertise is directly relevant to the issue, and be capable of translating proposals from meetings into actual implementation.

Lessons from Japan also show that consensus-building may take considerable time, but that this time can be used to ensure that stakeholders understand the problems and develop a shared sense of ownership. For example, the development of Okinawa Gateway 2050 took approximately two years of consultation and collaborative idea development among officials and stakeholders from multiple sectors before becoming a plan that could be carried forward into implementation. Similarly, in many cases, private businesses work

closely with universities or local institutions from an early stage in order to understand problems and jointly design solutions.

2. Goal Setting

The second lesson is the importance of long-term commitment and planning that connects vision with implementation. In the Japanese cases, planning is not treated merely as an administrative document, but as an important instrument for directing the use of local resources over the long term. Thus, a good plan needs to answer not only where a city or locality wants to go, but also how it will get there, who will be responsible, what types of resources will be required, and how progress will be monitored. If objectives are defined too broadly or lack sufficient implementation detail, there is a risk that the plan will not be translated into practice.

The definition of indicators is another important element. Indicators need to be linked to activities that the locality can realistically undertake and to outcomes that it can reasonably influence, rather than being based only on policy goals that appear desirable in principle. In several Japanese cases, expected outcomes are calculated and quantitative targets are clearly specified as a basis for monitoring and subsequent policy adjustment. This approach means that evaluation does not take place only after a project has ended, but is incorporated into the management process from the beginning.

At the same time, Japan places considerable emphasis on prioritising development objectives rather than distributing resources across every sector at once. A locality may select only two or three strategic industries or issues that are closely aligned with its existing assets, and initially concentrate budgets, infrastructure, research, and human resource development on those areas. Once these foundations become stronger, development can then expand into related activities or industries. This approach helps prevent resources from being spread too thinly and increases the likelihood that an area can build a visible and meaningful competitive advantage. Kanazawa provides a clear example of a city that did not attempt to follow the industrial development path of other cities, but instead built upon its existing cultural assets, crafts, and urban qualities.

For Thailand, provincial development planning should therefore begin by asking what distinctive assets the area already possesses, what capabilities have already been accumulated, and where additional investment is needed to turn those assets into long-term

advantages, rather than selecting development priorities simply because they are currently popular or promoted by central government policy.

3. Supporting Ecosystem: Infrastructure and Knowledge

Another clear lesson from Japan is that infrastructure development is not separated from broader urban development strategies. Instead, infrastructure is designed as part of the economic and social system that the area seeks to create. Infrastructure should not be constructed simply because funding is available or because there is a desire to create new physical assets. It should be possible to explain what activities the infrastructure will support, how it will contribute to employment, which areas it will connect, and how it will be managed and maintained over the long term. The development of roads, transportation systems, business centres, tourism areas, or public utilities also needs to be planned together with wider changes in the city and its economy.

In addition to physical infrastructure, knowledge and technology represent another equally important form of infrastructure. Across the three case-study areas, local governments work closely with universities and research institutions because they recognise that economic and industrial upgrading cannot take place without new knowledge. As a result, research is not conducted separately from local development challenges. Instead, research questions are connected as closely as possible with the real problems faced by businesses, farmers, and local authorities.

For Thailand, the key issue is not simply to increase the number of research projects implemented in each province, but to create a system in which local problems can enter universities, and knowledge from universities can return to and be applied in local areas. Relationships among provincial authorities, universities, businesses, and communities should be developed as long-term partnerships rather than occasional project-based collaborations, particularly in production sectors that require improvements in standards, technology, product design, and solutions tailored to the specific problems of each area.

4. Spillover and Amplification

The final lesson concerns the importance of extending development beyond improvements within a locality's existing sectors or products. Local assets and capabilities can also be used to generate value across related sectors, particularly by linking agriculture

and primary production with processing, tourism, retail, services, and exports. This allows the same resource base to support a broader range of economic activities.

Okinawa provides a clear example of this approach. Local agricultural products are connected with retail, restaurants, souvenirs, and tourism, enabling several sectors to generate value from the same underlying assets. Such linkages are strengthened by the presence of a shared local agenda, which allows public agencies, businesses, and other actors outside the immediate supply chain to contribute towards common development objectives. Value creation can emerge through connections across sectors rather than through the development of individual products or industries in isolation.

The concept of amplification also extends beyond linkages with existing markets and industries. Local assets can serve as a foundation for responding to emerging development challenges and opportunities. Kanazawa, for example, has connected its cultural base with issues such as the SDGs, sustainability, architecture, and energy. Hokkaido similarly links its existing agricultural and production capabilities with priorities such as food and energy self-reliance and more efficient resource use.

These cases demonstrate that development based on existing assets does not require local economies to remain tied to past structures. Existing strengths can instead provide a foundation for diversification, adaptation, and the development of new capabilities in response to future challenges.

For Thailand, the next stage of local strategy development should ask two questions simultaneously: **“From what we already have, what additional sectors can we create greater value in?”** And **“How can the assets we already possess help the area respond to challenges over the next 10–20 years?”** A development approach that can answer both questions will enable local areas not only to grow from their existing foundations, but also to adapt and build new capabilities for long-term change.

References

Abel, J. R. (2012). Japan's Sporting Diplomacy: The 1964 Tokyo Olympiad. *The International History Review*, *34*(2), 203–220. http://www.jstor.org/stable/23240822

Agriculture & Livestock Industries Corporation. (2023, November 24). ***加工原料乳生産者補給金制度の概要***. Retrieved November 12, 2025, from https://www.alic.go.jp/r-keiei/raku01_000423.html

Agriculture & Livestock Industries Corporation. (2025). ***加工原料乳生産者経営定対策事業***. Retrieved November 12, 2025, From https://www.alic.go.jp/r-keiei/raku03_000029.html

Another Side of Japan. (2024, November 7). *ISHIKAWA | KAGA-YUZEN, The Essence of Japanese Elegance* [Video]. YouTube. Retrieved November 20, 2025, from https://youtu.be/tbZW9Va7jH0?si=U8J03l07E_tGcimw

ArchDaily. (2011, June 27). *Kanazawa Umimirai Library / Coelacanth K&H Architects*. Retrieved June 6, 2569, From https://www.archdaily.com/145757/kanazawa-umimirai-library-coelacanth-kh-architects

Bouvier, G. (n.d.). *Overview of Kutani kilns*. The Kutani Ceramic Website. Retrieved November 18, 2025, from https://www.kutani.org/spip.php?article4

Business Insider. (2022, May 28). *Why Porcelain Is So Expensive | So Expensive | Business Insider* [Video]. YouTube. Retrieved November 20, 2025, from https://youtu.be/TnoGsbl2ANo?si=IFi_iFMaepVQ5OkR

Business Insider. (2022, September 24). *Why Chiso Kimonos Are So Expensive | So Expensive | Business Insider* [Video]. YouTube. Retrieved November 20, 2025, from https://youtu.be/b3xOKlvlkHY?si=mC9sIURMTSO5w8iY

Cabinet Office, Government of Japan. (2026, September 25). *Cabinet decision on the partial amendment of the ordinance designating National Strategic Special Zones*. Retrieved October 25, 2026, From https://www.chisou.go.jp/tiiki/kokusentoc/kettei/r080925.html

Claridge, T. (2018). *Introduction to social capital theory* (Version 1.0) [White paper]. Social Capital Research.

Compalyze. (n.d.). Kaga City Textile Cooperative. Retrieved November 25, 2025, from https://compalyze.co.jp/company/9220005004156

Craft Wagyu. (n.d.). *Chateau Uenae Hokkaido Snow Beef*. Retrieved November 12, 2025, from https://www.craftwagyu.com/hsb

Council for the Promotion of IMAGINE KANAZAWA 2030. (2020a, June). *IMAGINE KANAZAWA 2030* [Brochure].

Council for the Promotion of IMAGINE KANAZAWA 2030. (2020b, June). *Kanazawa future visions: Kanazawa SDGs action plan* [Action plan].

Cruz Bulete, V. (2025). *Economic development in Okinawa under the administrations of the United States and Japan: A historical approach* [Dissertation, Universitat Autònoma de Barcelona]. UAB Digital Repository of Documents. Retrieved July 1, 2026, from https://ddd.uab.cat/record/318966

Department of Agricultural Extension. (n.d.). *Ngan "Khon Khrang Khraf"* ["People, lac, and craft" event]. Retrieved July 30, 2026, from https://ndoae.doae.go.th

Department of Intellectual Property. (2025, October 24). *Prakat khotsana kan rap khuen thabian sing bongchi thang phumisat: Pha yom khrang Lampang (Lampang Lac Dyed Fabric rue Pha Yom Krang Lampang)* [Announcement of the registration of the geographical indication: Lampang Lac Dyed Fabric (Pha Yom Krang Lampang)] (Vol. 103, Announcement No. 283). Ministry of Commerce.

Dokduang, T. (2013). *Rupbaep lae konlayut thang kan talat khong phu prakopkan Talat Si Mueang, Tambon Na Mueang, Amphoe Mueang, Changwat Ratchaburi* [Marketing patterns and strategies of entrepreneurs at Si Mueang Market, Na Mueang Subdistrict, Mueang District, Ratchaburi Province] [Master's thesis, Silpakorn University]. Silpakorn University Repository. https://sure.su.ac.th/xmlui/handle/123456789/12388

East-West Center. (n.d.). *Map of Okinawa* [Map]. Retrieved November 13, 2025, from https://www.eastwestcenter.org/sites/default/files/fileadmin/stored/misc/SR00810MapOkinawa.pdf

Edgington, D. W. (2019). Comprehensive planning in Japanese large cities. *Planning Perspectives, 34*(1), 115–132. https://doi.org/10.1080/02665433.2017.1389655

Food Reborn. (n.d.). *Pineapple Owner*. Retrieved November 13, 2025, from https://food-reborn.co.jp/en/pineapple-owner/

Gautam, A. (n.d.). *Project in-depth: Kanazawa Station*. Rethinking The Future. Retrieved June 6, 2026, From https://www.re-thinkingthefuture.com/case-studies/a14526-project-in-depth-kanazawa-station/

Hennessey, J. L. (2020). A colonial trans-Pacific partnership: William Smith Clark, David Pearce Penhallow and Japanese settler colonialism in Hokkaido. *Settler Colonial Studies*, *10*(1), 54–73. https://doi.org/10.1080/2201473X.2019.1627697

Hokkaido Dairy Association. (n.d.). *Association Information*. Retrieved November 7, 2026, from https://h-nyukyou.jp/pages/9/

HOKUREN Federation of Agricultural Cooperatives. (n.d.). HOKUREN Group Report. Retrieved November 17, 2025, from http://webbook.hokuren.or.jp/bookdata/00000405/origin/all.pdf

Hood, C. P. (2010). The Shinkansen's Local Impact. *Social Science Japan Journal*, *13*(2), 211–225. http://www.jstor.org/stable/40961264

JA Bank Hokkaido. (n.d.). ***農業関係資金一覧***. Retrieved November 17, 2025, From http://www.jabank-hokkaido.or.jp/rent/agri_funds/

JA Okinawa Branded Pork Promotion Council. (n.d.). ***安心・安全の取り組み***. Retrieved December 6, 2025, from https://agu-pr.jp/safety

JA Okinawa. (n.d.). ***事業案内***. Retrieved November 16, 2025, from https://www.ja-okinawa.or.jp/about/service/

JA Town. (n.d.). *JA**タウンを知ろう***. Retrieved November 15, 2025, From https://www.ja-town.com/shop/pages/about.aspx

JA ZEN-NOH Group. (2024). *ZEN-NOH REPORT*. Retrieved November 8, 2025.

JA ZEN-NOH Group. (n.d.). *The JA Group*. Retrieved November 7, 2025, from https://www.zennoh.or.jp/english/cooperatives/jagroup.html

Japan Agricultural Cooperatives. *JA Multipurpose Co-operative and its Activities*. Retrieved November 7, 2025, from https://www.zenchu-ja.or.jp/eng/multipurpose/

Japan Dairy Association. (n.d.). ***一般社団法人Jミルクの概要***. Retrieved November 12, 2025, from https://www.j-milk.jp/about/index.html

Japan Dairy Council. (n.d.). ***一般社団法人中央酪農会議の概要*** Retrieved November 12, 2025, from https://www.dairy.co.jp/about/aboutus.html

Japan Dairy Industry Association. (n.d.-a). *About JDIA.* Retrieved November 7, 2025, from https://en.nyukyou.jp/

Japan Dairy Industry Association. (n.d.-b). ***事業活動について***. Retrieved November 7, 2025, from https://nyukyou.jp/weare/specialty/

Japan International Research Center for Agricultural Sciences. (n.d.). *About JIRCAS*. Retrieved November 17, 2025, from https://www.jircas.go.jp/en/about/jircas

Japan Kogei Association. (n.d.-a). ***日本工芸会について***. Retrieved November 7, 2025, from https://www.nihonkogeikai.or.jp/about/

Japan Kogei Association. (n.d.-b). ***次世代育成活動***. Retrieved November 7, 2025, from https://www.nihonkogeikai.or.jp/jisedai/

Japan Geographical Indication Council. (n.d.). *Tokachi Raclette*. Retrieved November 13, 2025, from https://pd.jgic.jp/en/register/entry/128.html

Japan Geographical Indication Council. (n.d.). *Tokachi Wakaushi*. Retrieved November 13, 2025, from https://pd.jgic.jp/en/register/entry/164.html

Japan Livestock Industry Association. (n.d.). ***畜産関係情報***. Retrieved November 12, 2025, from https://jlia.lin.gr.jp/business/

Japan Meat Grading Association. (n.d.-a). ***事業内容***. Retrieved November 12, 2025, from https://www.jmga.or.jp/service/

Japan Meat Grading Association. (n.d.-b). ***当協会について***. Retrieved November 12, 2025, from https://www.jmga.or.jp/about/

Japan Meat Grading Association. (n.d.-c). ***食肉格付とは***. Retrieved November 12, 2025, from https://www.jmga.or.jp/standard/

Japan National Tourism Organization. (n.d.). *Komatsu—A Rich Cultural Heritage Built on Stone*. Retrieved November 18, 2025, from https://www.japan.travel/japan-heritage/popular/komatsu-ishikawa-stonework-jewelry-kigan-yusenkyo

Japan National Tourism Organization. (n.d.). *Tango Silk Weaving Tradition*. Retrieved November 18, 2025, from https://www.japan.travel/en/japans-local-treasures/tango-silk-weaving-tradition-2022/

Japan Silk & Rayon Weaver's Association. (n.d.). ***日本絹人繊織物工業会について***. Retrieved November 18, 2025, from https://www.kinujinsen.com/corporation/index.html

Jiji Press. (2026, September 11). *Japan to promote AI-powered agriculture in Hokkaido with special zones*. *The Japan Times*. Retrieved October 25, 2026, From https://www.japantimes.co.jp/news/2026/09/11/japan/hokkaido-agriculture-special-zones/

KAGA-YUZEN Kimono Center. (n.d.). *About KAGA-YUZEN*. Retrieved November 17, 2025, from https://www.kagayuzen.or.jp/know_en/

Kahan, K. (2022, November 22). *Japanese Porcelain: A Guide to Kutani Ware*. Tokyo Weekender. Retrieved November 18, 2025, from https://www.tokyoweekender.com/art_and_culture/history/kutani-ware-guide/

Kanazawa City. (2022). *Kanazawa-shi ni okeru ki no bunka toshi no keish**ō** to s**ō**shutsu no suishin ni kansuru j**ō**rei* [Ordinance on the promotion of the succession and creation of Kanazawa as a city of wood culture]. Retrieved June 25, 2026, from https://www4.city.kanazawa.lg.jp/material/files/group/70/R0302shiryou.pdf

Kanazawa City. (2024). *Future prospects for Kanazawa*. Retrieved April 7, 2026, from https://www4.city.kanazawa.lg.jp/material/files/group/2/kyousouEnglish2.pdf

Kanazawa Craft Council. (n.d.-a). ***本展について***. Kanazawa Craft Exhibition Online. Retrieved November 23, 2025, from https://kanazawa-dkogei.com/

Kanazawa Craft Council. (n.d.-b). ***金沢市工芸協会*** Kanazawa Craft Council. Retrieved November 23, 2025, from https://www.kanazawashi-craft.com/

Kanazawa Tours. (2018, January 8). *Kanazawa Tours: Meet The Masters (Kaga Yuzen) (2024)* [Video]. YouTube. Retrieved November 17, 2025, from https://youtu.be/_XKB_ML4IdE?si=3k54n8l3iXudNta3

Kaosa-ard, M., Sirisoonthorn, S., Ratanawaraha, A., Saisingha, S., Potjanalawan, P., Phunkoet, C., Chumphu, C., & Wongsa, K. (2019). *Rai-ngan chabap sombun korani sueksa: Lampang seramik siti* [Final report: Case study: Lampang Ceramic City]. Part of *Phaen yutthasat phuea phatthana mueang yangyuen phuea rongrap kan thongthiao Thai 4.0* [The Strategic Plan for Sustainable Tourism Hubs for Thailand 4.0]. Thailand Research Fund.

Katsu, S. (2019). A study for the changes of period in comprehensive plan at Japanese local government. *Abstracts of Annual Conference of Japan Society for Management Information, 2019*(0), 50–53. Retrieved June 25, 2026, from https://doi.org/10.11497/jasmin.201910.0_50

Kedah Food Valley Tourism Portal. (n.d.). *What is the Kedah Food Valley?* Retrieved November 12, 2026, From https://kfv.slow-life-hokkaido.com/en/kedahfoodvalley/

Keio University Graduate School of Media Design. (n.d.). *Yanbaru Pineapple-no-Oka Aha Roadside Station Project (Okinawa Prefecture, Kunigami Village).* Retrieved November 17, 2025, from https://www.kmd.keio.ac.jp/realprojects/yambaru-pineapple-hills-aha-roadside-station/

Local Japan Exhibition. (n.d.). *A New Vision for Japanese Handicrafts: Komatsu Kutani Ware Meets Inami Woodcarving*. Retrieved November 18, 2025, from https://mayoralalliance.jp/localjapan2025/en/group_japanese-handicrafts/

Loo, T. M. (2019). “Paradise in a war zone”: The U.S. Military and Tourism in Okinawa, 1945–1972. *Japan Review*, (33), 173–194. https://www.jstor.org/stable/26652980

Lu, S. X. (2019). Eastward Ho! Japanese Settler Colonialism in Hokkaido and the Making of Japanese Migration to the American West, 1869–1888. *The Journal of Asian Studies*, *78*(3), 521–547. https://www.jstor.org/stable/26758246

Ministry of Land, Infrastructure, Transport and Tourism. (n.d.). *Sequence of development plan*. Retrieved November 12, 2026, From https://www.mlit.go.jp/hkb/en/sequence.html

Mizuho Farm Co., Ltd. (n.d.). *About Mizuho Farm*. Retrieved November 12, 2025, from https://www.mizuho-farm.co.jp/

Mizuho Farm Co., Ltd. (n.d.). *Company Profile*. Retrieved November 12, 2025, from https://www.mizuho-farm.co.jp/company-profile

MUSUBI KILN. (2024, June 15). *Tools of the Trade: The Vibrant Colors of Japanese Kutani Ceramics* [Video]. YouTube. Retrieved November 18, 2025, from https://youtu.be/WI7lgQWcqiE?si=I4yRCaEowO6evNGl

National Agriculture and Food Research Organization. (n.d.). *Kyushu Okinawa Agricultural Research Center, NARO*. Retrieved November 17, 2025, from https://www.naro.go.jp/english/laboratory/karc/overview/index.html

National Livestock Breeding Center. (2017, May 26). *Welcome to Tokachi Station Or*. Retrieved November 12, 2025, from https://www.nlbc.go.jp/tokachi/outline/index.html

Nihonmono. (2025, September 22). *Matayoshi Noen," which delivers high quality agu pigs that are made from pure blood / Nago City, Okinawa Prefecture.* Retrieved December 24, 2025, from https://nihonmono.jp/en/article/53590

Nippon.com. (2018, July 22). *The Nature-Inspired Beauty of Kanazawa's Kimono Prints | nippon.com* [Video]. YouTube. Retrieved November 17, 2025, from https://youtu.be/4jXpkso4j_8?si=Cwj4ymcRpYOmr56S

Nobels Food Co., Ltd. (n.d.). *Nobels Herb Beef*. Retrieved November 12, 2025, from https://tokachi-herb.com/english/

Ogata T., Yamanaka S., Shoda M., Urasaki N., & Yamamoto T. (2016, March 29). Current status of tropical fruit breeding and genetics for three tropical fruit species cultivated in Japan: pineapple, mango, and papaya. *Breeding Science 66*(1), 69-81. Retrieved November 11, 2025, from https://doi.org/10.1270/jsbbs.66.69

Okinawan Brand Pork AGU. (n.d.). ***沖縄県アグーブランド豚推進協議会について***. Retrieved December 24, 2025, from https://okinawa-agu.com/council/

Okinawa Export Promotion in Whole Council. (n.d.). *What is the Okinawa Export Promotion in Whole Council?* Retrieved November 11, 2025, from https://marutto-okinawa.jp/english/

Okinawa Livestock Improvement Association. (n.d.). ***家畜改良協会は?*** Retrieved December 24, 2025, from http://olia.or.jp/

Okinawa Prefecture. (n.d.-a). ***おきレシとは？*** Retrieved November 16, 2025, from https://www.okireci.net/introduction/

Okinawa Prefecture. (n.d.-b). ***沖縄食材情報サイト！くわっちーおきなわ***. Retrieved November 16, 2025, from https://kuwachii-okinawa.com/

Okinawa Prefecture. (n.d.-c). ***農業改良資金***. Retrieved November 16, 2025, from https://www.pref.okinawa.lg.jp/shigoto/nogyo/1010390/1010413/1010415.html

Okinawa Prefecture. (n.d.-d). ***農業近代化資金***. Retrieved November 16, 2025, from https://www.pref.okinawa.lg.jp/shigoto/nogyo/1010390/1010413/1010416.html

Okinawa Prefecture. (n.d.-e). ***青年等就農資金***. Retrieved November 16, 2025, from https://www.pref.okinawa.lg.jp/shigoto/nogyo/1010390/1010413/1010682.html

Okinawan Brand Pork AGU. (n.d.). ***沖縄県アグーブランド豚推進協議会について***. Retrieved December 24, 2025, from https://okinawa-agu.com/council/

Provincial Community Development Office of Lampang. (2025). *Pho Cho Lampang poet ngan "Lampang Khrang Khraf" suepsan moradok pha Thai nom ramluek nai phra mahakarunathikhun Somdet Phra Nang Chao Sirikit Phra Borommarachininat Phra Borommaratchachonnani Phan Pi Luang* [Lampang Community Development Office opens the "Lampang Khrang Craft" event to carry forward Thai textile heritage in remembrance of the royal benevolence of Her Majesty Queen Sirikit, the Queen Mother]. https://lampang.cdd.go.th/th/content/category/detail/id/74/iid/287818

Provincial Community Development Office of Lampang. (n.d.). *Khrongkan yokradap phalittaphan phuenthin pha yom khrang Lampang phuea sang ekkalak khong mueang Lampang* [Project to upgrade Lampang lac-dyed local products to strengthen Lampang's city identity]. Retrieved July 30, 2026, from https://lampangoldcdd.emskynet.com

Public Relations Office of Lampang Province. (2023, December 18). *Changwat Lampang khapkhluean khrongkan "Pha Thai sai hai sanuk" chat sadaeng doen baep pha Thai faechan cho kan kuson nai ngan thetsakan suam pha yom khrang "Khrang rak, khrang Lampang" ngan ruedu nao lae khong di Nakhon Lampang pracham pi 2567* [Lampang Province advances the "Pha Thai Sai Hai Sanuk" initiative with a charity Thai textile fashion show at the "Khrang Rak Khrang Lampang" lac-dyed textile festival and the 2024 Lampang Winter Fair]. https://radiolampang.prd.go.th/th/content/category/detail/id/9/iid/241736

Public Relations Office of Lampang Province. (2024, July 17). *Changwat Lampang chat ngan "Kaset Khrang Rak @ Lampang" ronnarong songsoem suam sai pha yom khrang tam naeo*

phra damri "Pha Thai sai hai sanuk" [Lampang Province organizes "Kaset Khrang Rak @ Lampang" to promote the wearing of lac-dyed textiles under the "Pha Thai Sai Hai Sanuk" royal initiative]. https://radiolampang.prd.go.th/th/content/category/detail/id/9/iid/307152

Ratchaburi Province. (2025). *Phaen phatthana changwat Ratchaburi Pho So 2566–2570: Thopthuan pracham pi ngoppraman Pho So 2570* [Ratchaburi provincial development plan, 2023–2027: Annual review for fiscal year 2027].

Saraburi Provincial Office. (2021). *Phaen phatthana changwat Saraburi Pho So 2566–2570* [Saraburi provincial development plan, 2023–2027].

Sakihara, M. (2009). History and Okinawans. *Mānoa*, *21*(1), 134–139. http://www.jstor.org/stable/25475063

Srisiri, P., & Nasomboon, B. (2022). Brand image and brand equity of the Hokkaido export brand affects the decision to purchase products from the Hokkaido region in Thailand. *Journal of Business Administration and Languages, 10*(2), 36–45.

Tagsold, C. (2010). Modernity, space and national representation at the Tokyo Olympics 1964. *Urban History*, *37*(2), 289–300. http://www.jstor.org/stable/44614276

Tango Textile Industrial Association. (n.d.). *Tango Silk*. Retrieved November 18, 2025, from https://tanko.or.jp/en/tangosilk/

Taniguchi Farm Group. (n.d.). *IDENTITY*. Retrieved November 11, 2025, from https://tf-g.co.jp/identity/

The Ceramic Society of Japan. (2022, March 4). *Overview*. Retrieved December 1, 2025, from https://www.ceramic.or.jp/en/about_e/outline_e.html

The Clay Science Society of Japan. (n.d.). *The Clay Science Society of Japan*. Retrieved December 1, 2025, from https://www.cssj2.org/english/

THE ROOTS OF SHUN. (2018, September). *Specialty Raclette Produced by Tokachi Cheese Manufacturers*. Shun Gate. https://shun-gate.com/en/roots/roots_76/

UU-Hokkaido. (n.d.). *Beef from Hokkaido*. Retrieved November 10, 2025, from https://uu-nippon.com/hokkaido/beef/

Visit Kanazawa Official. (2021, March 31). *KAGA YUZEN* [Video]. YouTube. Retrieved November 23, 2025, from https://youtu.be/dvYhPGiULx0?si=eyojqJbLdGHYWAMl

Wada, M. (2010). Japanese regional development system: The case of Hokkaido. *The Teikyo University Economic Review, 43*(2), 29–41.

WorldRankd. (2026, September 18). *Okinawa, Japan: The numbers, cities and landmarks*. Retrieved November 13, 2026, From https://www.worldrankd.com/country/japan/okinawa

Worldwide Uchina Network. (n.d.). *What is World Uchinanchu Day?* Retrieved November 12, 2026, From https://wun.jp/en/wud

Yakumo Village. *Wagyu Cattle Care*. Retrieved November 12, 2025, from https://yakumo-village.com/en/experience/wagyu-cattle-care/

石川県九谷陶磁器商工業協同組合連合会. (n.d.). ***鮮烈なる五彩の輝き 美の系譜は生まれた***. Retrieved December 1, 2025, from https://kutani.or.jp/#sc_kutaniyaki

石川県立九谷焼技術研修所. (n.d.). ***九谷焼技術研修所ってどんな学校***? Retrieved November 18, 2025, from https://www.pref.ishikawa.jp/kutanike/index.html

Annexes

List of Site Visits and Study Visits in Japan

6–11 July 2026: Kanazawa City, Ishikawa Prefecture

1. Kanazawa Institute of Technology (KIT)
2. Kanazawa University
3. Hakusan City
4. Imai Gold Leaves Studio
5. Akaneya Gallery
6. Kanazawa City (Planning and Coordination Division และ Craft Policy Promotion Division)
7. Kutani Porcelain Museum
8. Kutani Porcelain Studio Okadaya

12-16 July 2026: Obihiro City, Hokkaido Prefecture

1. Tokachi General Promotion Bureau
2. Yotsuba Milk Factory
3. Tokachi Federation of Agricultural Cooperatives
4. Hokuren Obihiro Branch
5. Obihiro City Hall (Economic Planning Division และ Food Valley Tokachi)

19-25 July 2026: Okinawa Prefecture

1. Planning and Coordination Division
2. Industrial Policy Division
3. Manufacturing Promotion Division
4. Science and Technology Promotion Division
5. Global Market Strategy Division
6. Okinawa Gateway 2050
7. Fisheries Division
8. Federation of Fisheries Cooperative Associations
9. Mozaku Processing Plant
10. Okinawa Prefectural Federation of Fisheries Cooperative Associations

11. International Exchange Division
12. The Ryukyus University
13. Okinawa Institute of Science and Technology (OIST)



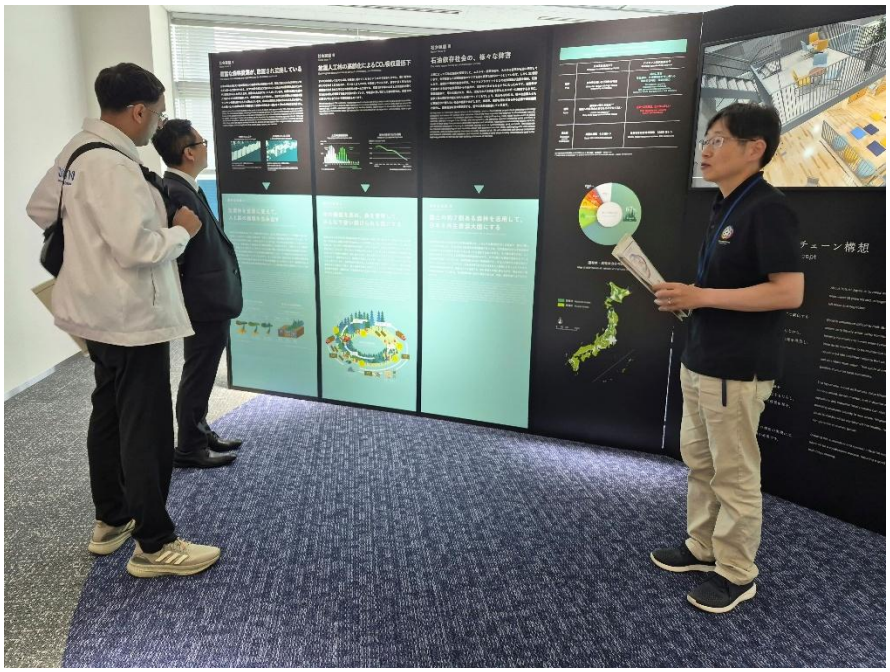




The research team visited the Kanazawa Institute of Technology (KIT).







The research team visited Kanazawa University



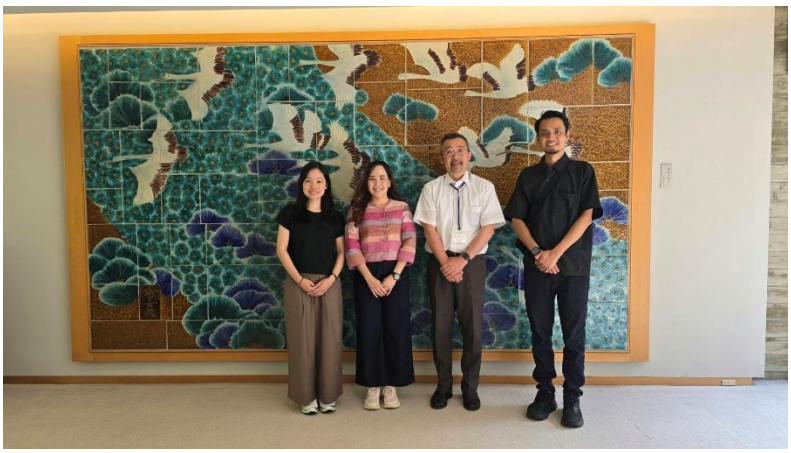




The research team visited gold leaf and Kaga Yuzen textile studios in Kanazawa.

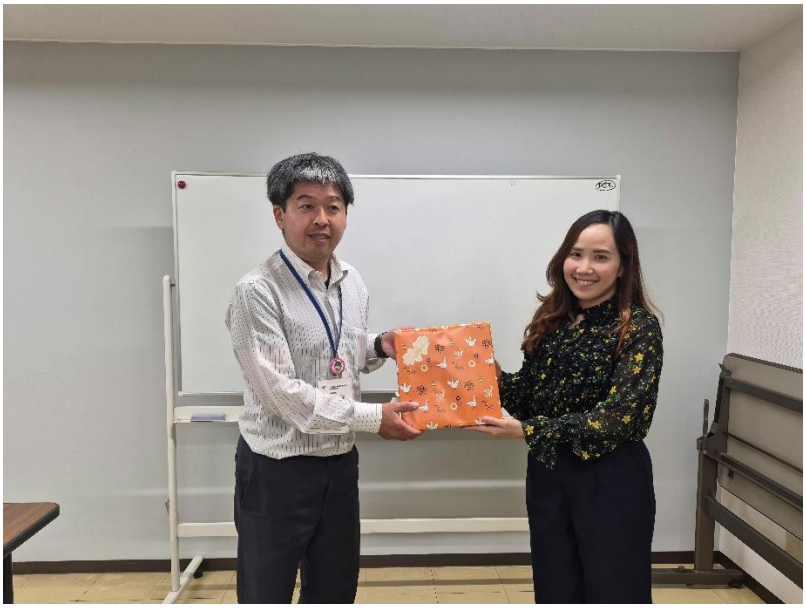






The research team visited Kanazawa City







The research team met with local government agencies in Tokachi, Hokkaido.







The research team visited the Yotsuba Milk Factory in Hokkaido.







The research team met with representatives of the Okinawa Prefectural Federation of Fisheries Cooperative Associations.







The research team met with the urban development team and representatives of the Okinawa Gateway 2050 initiative.

List of Site Visits and Study Visits in Thailand

Saraburi Province

1. Dairy Farming Promotion Organization of Thailand (DPO)
2. Saraburi Provincial Livestock Office
3. Saraburi Artificial Insemination and Biotechnology Research Center
4. Office of Provincial Commercial Affairs Saraburi

Ratchaburi Province

2 June 2026

1. Strategy and Information for Provincial Development Group, Ratchaburi Provincial Office
2. Ratchaburi Provincial Agricultural Extension Office
3. Office of Provincial Commercial Affairs Ratchaburi
4. Representatives of pig farmers in Ratchaburi Province







The research team conducted fieldwork in Ratchaburi Province.







The research team conducted fieldwork in Saraburi Province.







The research team jointly organised an event with the Lampang Provincial Administrative Organization (Lampang PAO) to advance urban development, drawing on Kanazawa as a model, on 2 July 2026.