Case Study Report on
Regional Promotion in Hokkaido

March 2001

JICA

Hokkaido International Centre (Sapporo)

Preface

As Hokkaido underwent rapid transformation from a developing region to a developed region over the short period of 130 years, it has an abundance of expertise in and case examples of regional development and promotion.

Aiming to make these case examples and expertise useful, as references, for the regional development and/or regional promotion of developing nations, the JICA Hokkaido International Centre (Sapporo) has held a great number of training courses in the field of regional development.

We held review meetings to improve training courses in this field from FY 1998 to FY 1999, where various studies were conducted and many valuable proposals were made for more effective and efficient courses.

At the same time, the review meetings shed light on the importance of operational systems for voluntary and effective coordination of active promoters of development, personnel, money, goods and information, and proposed a case study on regional promotion in Hokkaido emphasizing these perspectives.

Against this backdrop, the JICA Hokkaido International Centre (Sapporo) requested the Northern Regions Center (NRC), a partner in international cooperation in Hokkaido, to conduct the study, and NRC made surveys designed to find case examples of regional promotion which focus on agriculture yet highlight regional collaboration systems.

The study was carried out primarily by NRC staff, NRC fact-finding study members and NRC fact-finding study collaborators. Thanks to their cooperation, we were able to obtain wonderful study results that were better than initially expected.

This report is the summary of study results.

March 2001

Takeshi Komori
Managing Director
JICA Hokkaido International Centre (Sapporo), HICS

Organization of the Fact-Finding Study

This study was consigned to the Northern Regions Center by the JICA Hokkaido International Centre (Sapporo). In addition, the JICA Hokkaido International Centre (Sapporo) established an external study committee to allow expert study members to provide advice on fact-finding study directions. The organization of the fact-finding study is composed of the following:

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President, Ex-JOCV (Japan Overseas Cooperation Volunteers) Association (Deputy Director General, Hidaka Seibu District Agricultural Extension Center)	Makoto Okuyama

Observers

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The External Study Members held a total of three meetings as mentioned below, where they examined study directions and details. Fact-Finding Study Members shared in the writing of this report as follows:

Time and Date for External Study Members' Meeting

1st meeting:	16:00-17:30, December 22, 2000 (Friday)
2nd meeting:	15:00-17:10, February 8, 2001 (Thursday)
3rd meeting:	15:00-17:30, March 23, 2001 (Friday)

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Shimokawa Town	Riichiro Iizawa, Shin Sato
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Case Study Report on Regional Promotion in Hokkaido

Contents

Summary

Agriculture and farming villages in Hokkaido, which value rural area promotion measures, have been developed on the premises of "small-scale industrial promotion," "community building" as well as agricultural promotion measures focusing on technical fields ranging from farmland reclamation to productivity improvement. The course of the development, successful measures that have addressed a great number of challenges and problems thus far and case examples of activities are considered to have many things in common with those for regional development in developing countries.

This study examines the role of agriculture in regional promotion and economic development on the historical course of Hokkaido's development, and surveys the role of agriculture in today's regional promotion and economic development of rural areas. This report considers and summarizes factors required for agriculture-centered regional promotion and economic development of rural areas by surveying specific cases of regional policies that led to the promotion of agriculture and farming villages.

Characteristics of ten regional case examples subject to this study are as follows:

Takikawa City provides a successful case example of networks for urban-type agriculture that capitalizes on its rich lands and geographical location. Takikawa's success is based on 1) lands and relatively temperate climate suitable for rice, vegetables, fruit trees, flowers, ornamental plants and dairy farming, and 2) geographical advantage off the Do-o (central) Expressway connecting the city directly to the densely populated Sapporo area, thus contributing to market development. The city government and agricultural cooperatives played a central role in conducting far-reaching activities while searching for ideal agriculture that satisfies the needs of cities. Such activities extend to the development of specialty products, processing for added value, distribution systems, marketing strategy, etc. The city government and agricultural cooperatives also support private projects through stable supplies of raw materials/ingredients and advertisement. The private projects include "Genghis Khan" or mutton barbecue for which sauce to reduce the odor of mutton was contrived, making it a popular specialty of Hokkaido.

Furano City was selected to introduce a case example of agricultural production promotion making full use of its outstanding name recognition. The name value of Furano is extremely high nationwide due to its lavender fields that attract tourists, the ski area where the World Cup has been held and the fact that the city served as the stage of "Kita-no-kunikara (From the Northern Country)," a popular TV drama. The city embarked on the creation of specialty products and the diversification of agriculture by taking advantage of the name value to make one "Furano brand" after another on the basis of tourism resources, such as "Furano Wine" and "Furano Cheese." A variety of these specialty products ultimately contributed to the enhancement of regional images.

In Ikeda Town, a "wine-oriented" community building was made successful by strong leadership. As wild grapes are viable, a person later nicknamed "Town Mayor of Wine" carried out thorough human resource development to improve farm incomes through the cultivation of grapes. He dispatched employees of the Town Office to research institutes in Tokyo, Yamanashi and Nagano prefectures, where the cultivation of grapes was advanced, as well as Germany and other countries. The Khabarovsk region in the former Soviet Union was also visited to deepen the understanding of wine. Finally, "Tokachi Wine" was born under the strong leadership of the former mayor. Thanks to his "insatiable desire for the unprecedented" and exhaustive efforts of citizens and town government officials who shared pleasures and pains, wine production was developed in a variety of ways and served as the core of the town's economic development.

Hamanaka Town introduced community building through advanced dairy farming, which was the brainchild of those willing to learn. Engulfed in a deep, cold sea fog even in summer, the town has hilly terrain where ordinary plants never grow. Located in one of the nation's coolest climatic regions, the town only has dairy farming to survive. The town has adhered to improving quality and adding value in order to survive in this industry constantly exposed to fierce market competition, and established its unique dairy farming support system as a result of untiring efforts, such as overseas training and invitation of experts. The town's high-quality milk is consumed primarily in the Tokyo metropolitan area and is also used as the ingredient of dairy products, such as Calpis (a citric acid drink that consists of water, fructose and dry milk) and Häagen-Dazs ice cream.

Takasu Town features a uniquely named tomato juice, which triggered its development into a local specialty

product. The new specialty product was born from efforts to improve citizens' diet to make up for the deficient intake of highly pigmented vegetables in winter by processing excess tomatoes kept for home consumption. Although the tomato juice was initially designed for home consumption, it was recommended that it be entered to an exhibition in Sapporo. The tomato juice named "Okami-no-momo" (wolf's peach), a translation of the scientific name for tomatoes, by a dietitian fresh from college, was popular due to not only its unique naming, but also being additive-free and low in salt content. Subsequent marketing strategies that took advantage of the product's characteristics helped it to take root as a local specialty product and contributed greatly to the revitalization of the region.

Koshimizu Town introduces a case example of activities conducted under the theme: "Soil is Our Life – Exhaustive Challenge at Soil Maintenance and Restoration." During the course of modernizing agriculture, we tended to depend on large amounts of chemical fertilizer. As a result, the quality of agricultural products deteriorated due to soil problems, diseases and pests caused by insufficient organic matter. Although the challenge confronting this typical upland farming area was how to survive the fierce market competition of low prices, the town has embarked on a new challenge of using locally discharged livestock excreta and processing compost based on the concept that the "centerpiece of agriculture is soil improvement," which was born out of a sense of crisis.

Shimokawa Town embodies a case example of successful community building through "charcoal production boosted by forest damage." With the town of timber surrounded by forests facing stagnant prices of building materials, the mainstay of the town's products, due to increased amounts of imported timber, the town government and forest cooperatives were struggling to find countermeasures. Under such circumstances, Japanese larch forests sustained significant damage due to wet snow. To cope with damaged trees, they came up with the idea of producing and selling charcoal. Product development that utilized timber subject to disposal was conducted without causing competition among local timber-related companies. During the course of product development, new derivative products were also created. The town is aiming to achieve endogenous development through regional, recycling-oriented community building by accumulating human resources.

Kuromatsunai Town presents a case example of regional development with the motto that "the symbol of regional revitalization is the location of the northern limit of beeches." The wide temperature range and heavy snowfall make the environment difficult for agricultural production, which is the main industry of the town. Nevertheless, this town is blessed with natural beauty. Symbolizing the town is its "location as the northern limit of beeches, a protected species." Since no companies advanced into the town while resort development prospered in other areas, economic development of the town was pursued with the beech, valuable for the region, as the keyword – "Creation of the Home to Beeches at the Northern Limit" – without relying on contractors. Creation of specialty products was promoted while developing events and facilities designed for exchange with cities and rural areas, and the human-friendly environment and the "beech brand" were publicized both inside and outside the town.

Hokuryu Town shows a case example of community building by "sunflowers." The town is currently known nationwide as the Home of the Sunflower. Initially, however, only an are (100 m^2) of sunflowers was planted per household. Community building by sunflowers started with a report by an official of the agricultural cooperative in Hokuryu who was fascinated by the beauty of sunflower fields he saw from over Yugoslavia. The report prompted local residents centering on members of women's department in the agricultural cooperative, who were trying to conduct distinctive community building activities, to promote the "One Household One Are" campaign" and ultimately the "Creation of the Home of the Sunflower" campaign. Economic development of the town by "sunflowers," aiming to beautify farming village environments and to improve diets with sunflower oil, took root through activities by farming groups. With the sunflower landscape fascinating people from both inside and outside town, many sunflower-related products were developed to revitalize the region.

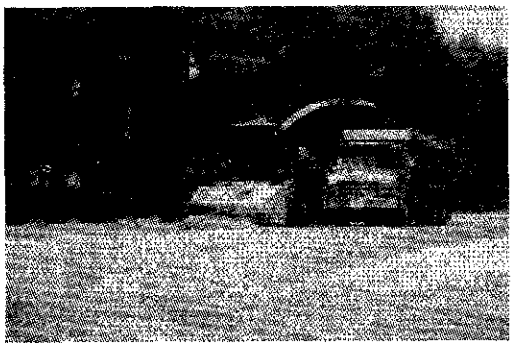
Horokanai Town exemplifies a successful case example of "activities making use of buckwheat, the plant that caused depopulation." Due to the fact that the town is located at the northern limit of rice cultivation, the central government's policy of reducing rice acreage caused citizens of the town to face adversity. While workers had no choice but to work away from home, the town decided to plant buckwheat. Although the town was somewhat reluctant to make the decision, the term "buckwheat" has now become synonymous with the town thanks to the

"spirit of independence," trying to take advantage of "buckwheat cultivation" as a local resource to revitalize the region, coupled with the advent of the recent health boom. Community-oriented activities, such as the "New Buckwheat Festival" held in summer, when buckwheat flowers bloom, have steadily taken root.

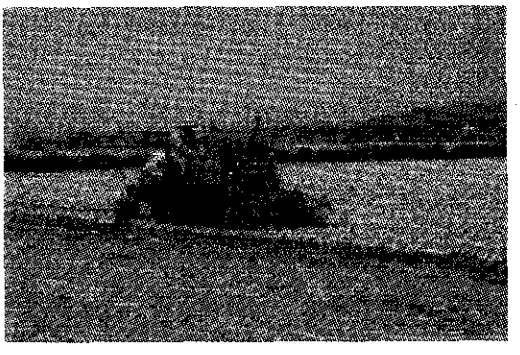
As a result of considering the essence of regional promotion measures and regional development centering on these ten case examples, the following seven main factors are highlighted: ① recognition of and ideas for changing "materials" into "resources"; ② presence of enthusiastic subjects = enthusiasts; ③ consolidation of various civic capabilities; ④ importance of concept that "citizens should enjoy local products/resources first"; ⑤ emphasis on "software" and investment commensurate to regional ability; ⑥ importance of introducing various policies according to regional dimensions; and ⑦ appropriate size of community. It is not too much to say that these seven factors constitute the essence of self-help efforts, the fundamental secret of Japan's development.

It also became cleared that effects of regional promotion and economic development include the following: ① A sense of self-reliance in the regions especially increased; ② Creativity and capability of technical application in the regions significantly increased; ③ Employment opportunities were created in the regions; ④ During the course of regional promotion and economic development, the elderly became active in activities by finding their own roles and something to live for in their community; and ⑤ The mindset to cherish regional natural environments and pastoral landscape were steadily cultivated, not simply immediate economic benefits.

In the municipalities taken up in this report, revitalization of the entire regional economy was pursued by fostering "semi-secondary industry," in which products are processed, as well as related manufacturing industries on the basis of the promotion of agriculture, the main industry of each region. These regions promoted comprehensive regional promotion by not only focusing on local agricultural products, traditional culture, landscape, nature and creatures, but also taking the current of the times into account.



Mowing of pasture grass by combine harvester (Hamanaka Town)



Mechanical harvest of onions (Takikawa City)

Introduction: Purposes and Objectives of the Study

1. Agriculture-centered regional promotion measures and regional development in Hokkaido

Since the Development period, not only Hokkaido, but also the central government upheld agricultural policies focusing on agricultural promotion. In recent years, however, the "promotion of agriculture" and the "promotion of rural areas" have been considered in parallel.

The "Rural Area Vision for the 21st Century" stipulated by the Ministry of Agriculture, Forestry and Fisheries states the following: "Improvement, expansion and reinforcement of agricultural production infrastructure are the most important pillars of Japan's agricultural policies. These pillars will modernize agriculture and promote its increase in scale and advancement, enabling sturdy and affluent lives not to be outdone by other industries. In addition, agricultural successors will be nurtured, settlement of people in rural areas will be promoted and population in rural areas will be maintained. Rural areas will therefore be promoted and developed through a series of cycle of these agricultural policies."

These policies have served as the important guidelines for promoting regional development and are believed to be the policies, processes, etc. applicable to development aid for developing countries.

Thus far, guidance for developing countries has placed importance to agricultural promotion to increase yields of agricultural products in the agricultural field, i.e., improvement of technical expertise and technical capabilities. In the future, however, regional promotion measures centering on Hokkaido's agriculture are considered useful for making full use of such techniques and expertise in practical scenes.

In particular, it is necessary to establish socioeconomic systems under which nature, culture, economy and other factors are well balanced by repeatedly studying "R, P, D, C and A" – "Research: commercialization and market research"; "Plan: planning of policies and operational measures"; "Do: establishment of efficient operational systems"; "Check: review and understanding of effects"; and "Action: effective actions" – during the course of actual implementation of projects so that the expertise and technical capabilities will be maximized, along with technical transfers appropriate for development plans, regional characteristics, the environment, etc.

To this end, development assistance to developing countries requires providing the following information on "software," which is deemed necessary to build "socioeconomic systems in harmony with regions," along with technical knowledge and expertise related to the improvement of technical capabilities: "environments and conditions leading to ideas"; "policy-making processes"; "measures to create consensus among community and consumers"; "processes and theories for project implementation"; "conditions and requirements for success and solutions to problems and challenges"; "roles played by related people and organizations"; and "roles of key persons and fostering of leaders."

The following items in particular are considered to have much in common with regional development in developing countries: "agricultural promotion measures" that focus on technical fields ranging from farmland reclamation to productivity improvement; "industrial promotion measures" designed to establish effective operational systems of "people," "goods," "money" and "information" along with the development of agricultural technology; "community building" on the premises of networking inter-regional and intra-regional collaboration and creating comfortable living spaces; development processes of agriculture and rural areas in Hokkaido, where "rural area promotion measures" have been emphasized; and successful measures and case examples to address a great number of challenges and problems.

This study aims to consider and summarize the study of case examples of Hokkaido's regional policies that led to the promotion of agriculture and farming villages from such viewpoints.

2. Perspectives and policies of this study

Regional policies are roughly divided into two: the "nationwide regional policies (national land policies)" and "regional policies by local governments (regional policies)."

The former refers to extraneous development, such as the invitation of companies from outside regions and selective development in special or specific regions performed from the national perspective (e.g., comprehensive utilization of all national land).

On the other hand, the latter refers to the development that prompts endogenous development from national and global perspectives, with the vitality of individual regions as the driving force, for example, by redesigning, fostering and promoting existing industries and companies in regions to meet the needs of the times and by creating new industries and companies through merged expertise and exchanges among companies in order to make up for deficient fields and economic forces of existing industries.

This study focused on the case that satisfied the following three requirements out of the latter regional policies: The first case example exemplifies "regional policies under which nature, economy, culture and other factors are well-balanced whereby human beings join forces in dealing with nature and consider social and individual lifestyles in harmony with nature as the foundation"; the second case example symbolizes "regional policies based on the idea 'Think Globally, Act Locally,' i.e., the development of regional development policies from comprehensive viewpoints assuming that regions are organically related components of the nation or the world; the third case example typifies unique yet balanced regional policies with distinctive appeals which change in accordance with the needs of the times while industries capitalizing on the individuality and characteristics of regions develop, intra-regional employment opportunities and incomes increase, depopulation is stemmed and the promotion and revitalization of the entire regional economy are maintained.

At the same time, due consideration was given to historical changes in agriculture and rural area improvement in Hokkaido, social background surrounding such changes, specific regional measures and processes that contributed to the development and promotion of the regional economy, etc. Effects of these items and future challenges were also surveyed and investigated to summarize case useful for forming "effective operational systems" and building "balanced socioeconomic systems," which contribute to the development and promotion of developing countries' regional economies.

Agriculture in Hokkaido is roughly divided into "rice cultivation," "upland farming" and "dairy farming and beef cattle farming." In addition to agricultural promotion measures that center on technical fields ranging from farmland reclamation to productivity improvement, Hokkaido has directed its energy to rural area promotion measures on the basis of "industrial promotion" and "community building." Case of developmental processes of agriculture and farming villages in Hokkaido, as well as respective measures and activities are therefore deemed to have much in common with regional development in developing countries. The study shed light on the roles of agriculture in regional economy and regional revitalization from such perspectives during the course of historical development in Hokkaido. This study also examines the current roles of agriculture in regional promotion and economic development through analysis of case of regional policies that brought about the promotion of agriculture and farming villages. This report considers and summarizes necessary factors for regional promotion and economic development with agriculture as the core.

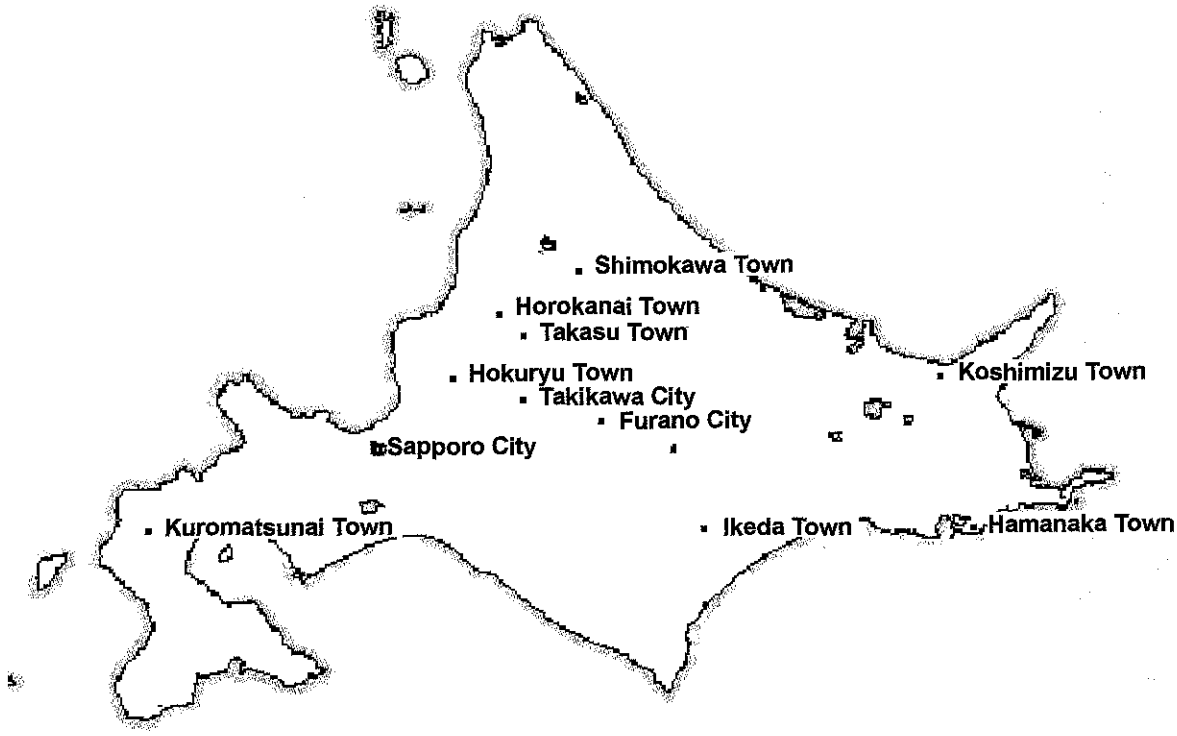
Considering the purpose of this study, i.e., highlighting revitalization processes for and by regions, rice-producing areas were excluded from the study and regional promotion measures capitalizing on flowers, ornamental plants and forestry resources were brought in the limelight in addition to upland farming areas and dairy farming areas. In selecting areas to be covered by the study, we roughly categorized regions where agriculture-centered regional promotion measures proved successful into three sizes – large, medium and small, and studied several case examples in each category because farming villages (regions) vary in size.

Specific items studied cover far-reaching fields: "relations between regional policies, historical background and development processes"; "processes of establishing objectives and philosophy"; "processes of reevaluating regional resources"; "reasons for selecting regional specialty products, details of the introduction of regional promotion measures"; "processes of establishing themes and goals"; "policy-making processes, theory of formulating effective operational systems"; "methods of technological transfers, measures to improve technical capabilities"; "measures to enhance citizens' awareness and consciousness"; "project implementation systems,

creation of key persons, human resource development programs"; "collaboration and partnership among municipalities, agricultural cooperatives, experimental stations, agricultural extension centers and other related organizations, farm managers, farm product processing managers and local residents"; "methods of addressing problems and challenges, factors for success"; "measures to collect and transmit information"; "distribution systems, marketing strategy"; "harmony among nature, culture, economy, etc."; and "methods of evaluating and reviewing harmony and continuity."

3. Surveyed regions

Size of Region	Name of Region Population in the parentheses	Major regional specialty products, regional promotion measures, etc.
Large	Takikawa City (approx. 48,000)	Genghis Khan barbecue, ducks, onions, apples, etc.
	Furano City (approx. 26,000)	Lavender, grapes, Furano wine, Furano beef, food processing complex, etc.
Medium	Ikeda Town (approx. 9,100)	Tokachi wine, Tokachi beef, ice cream, ham, sausage, charcoal, etc.
	Hamanaka Town (approx. 7,800)	Milk, cheese, training ranches, etc.
	Takasu Town (approx. 7,200)	Tomato juice, miso (bean paste), sunflower oil, etc.
	Koshimizu Town (approx. 6.300)	Potatoes, starch, burdock, dyeing with vegetable dyes, farms contracted with food manufacturers, etc.
Small	Shimokawa Town (approx. 4,500)	Charcoal, handmade noodles (Japan's northernmost place for handmade noodles), tomato juice, jam, etc.
	Kuromatsunai Town (approx. 3,600)	Glutinous rice, ham, sausage, milk, cheese, ice cream, etc.
	Hokuryu Town (approx. 2,700)	Sunflower products, melons, watermelons, etc.
	Horokanai Town (approx. 2,300)	Buckwheat, clean alpine vegetables, bamboo products, etc.



Chapter 1 Development and Agriculture of Hokkaido

1. Overview of Hokkaido

The Japanese archipelago consists of four main islands – Honshu, Shikoku, Kyushu and Hokkaido – and approximately 6,800 smaller islands. Hokkaido is the second largest island following Honshu, located at the northern end of the Japanese archipelago, which extends north and south. Hokkaido, composed of the main island and 508 surrounding small islands, is located between 41° 21' and 45° 33' north latitude, between 139° 20' and 148° 53' east longitude. The area is approximately 83,452 km^2, which is the largest among all 47 prefectures and accounts for about 22% of the nation's total area. Topographically, the ratio of mountains and flatlands is almost fifty-fifty. Compared with Honshu, Hokkaido has fewer mountains and slopes and more gentle terrain. This island is surrounded by three seas: the Sea of Japan to the west; the Sea of Okhotsk to the northeast; and the Pacific to the south.

The population is approximately 5.7 million, which is similar to that of Denmark or Switzerland, accounting for approximately 4.5% of the total population of Japan. Population density is 73/km^2, which is approximately one-fifth of the national average (337/ km^2) and the lowest among all prefectures.

Climatically, Hokkaido is located at the northern limit of the temperate zone or the southern limit of the subarctic zone. The average annual temperature is between 6 and 10℃ and the average annual precipitation is between 800 and 1,500 mm. Being low both in temperature and humidity, Hokkaido has no rainy seasons and is not severely affected by typhoons. In terms of temperatures and precipitation, it is similar to Boston, U.S.A., and Montreal, Canada.

With distinctive four seasons, Hokkaido is roughly divided into four regions based on the location, geography, ocean current, seasonal wind and other effects: the western region on the Pacific side; the eastern region on the Pacific side; the region on the Sea of Japan side; and the region on the Sea of Okhotsk side. Although fogs frequently occur and temperatures remain low in coastal areas of the eastern region on the Pacific side in summer, the remaining regions have little rain, low humidity and many refreshing days. In winter, the regions on the side of the Sea of Japan have heavy snowfall whereas those on the side of the Pacific receive little snowfall and many sunny days. In inland areas, it is bitterly cold and there are many days with subzero temperatures.

2. Development of Hokkaido and Evolution of Agriculture

(1) Development processes of agriculture in Hokkaido – from the establishment of Colonization Commission to the World War II period

More than 130 years have passed since the Colonization Commission was established and Ezo was renamed Hokkaido in 1869. The Colonization Commission was the institution responsible for the defense and development of Hokkaido and promoted a variety of policies centering on the following three pillars: firstly, agricultural development policies designed to reclaim a vast wilderness or create farmlands; secondly, the foundation of Sapporo Agricultural College, the establishment of governmental factories that purchased and processed agricultural products, the improvement of transportation networks, the development of coal mines and various other measures; and thirdly, "population settlement" policy to encourage people who engaged in the aforementioned tasks to immigrate to and settle in Hokkaido. It goes without saying that agricultural development policies played the most important role, under which the government was active in the disposal of uncultivated lands, i.e., the encouragement of reclamation, to settlers as well as the formation of markets for agricultural products and daily commodities.

After the period of three prefectures and one bureau (1882-1886), when the Hokkaido Administration Bureau and three prefectures were established in Sapporo (in central Hokkaido), Hakodate (in southern Hokkaido) and Nemuro (in eastern Hokkaido), and the establishment of the Hokkaido Government (1886), the first stage of the government's policy of disposing of uncultivated lands was completed during the closing days of the Meiji period (1868-1912). Cultivation of the land in central Hokkaido, which spearheaded the efforts, made great strides. As railways, roads, ports, harbors, etc. were constructed, the center of reclamation shifted toward rural areas, enabling agricultural products to be distributed actively throughout Hokkaido as well as to outside Hokkaido.

After the establishment of the Hokkaido Government, due to the enactment of the "Regulations regarding Government Disposal of Land in Hokkaido," which clarified "capital promotion," large-scale, across-the-board disposal of uncultivated land progressed, resulting in the formation of "large farms for tenant farming" based on large-scale land ownership throughout Hokkaido. Reclamation by tenant farming, which was promoted along with the large-scale, across-the-board disposal, created the large-scale land ownership system different from other prefectures, i.e., the landlord system. In other words, it was the landlord system or a large-scale land ownership system that created one spatial group and covered a large area of land which could form the foundation on which to build a village. Clearly different from the landlord system in other prefectures under which small pieces of dispersed lands were concentrated, this was similar to plantations widely seen in Southeast Asian nations.

Now, the question was how to develop agriculture on cultivated land, i.e., farmland. In 1870, Kiyotaka Kuroda, then Vice-Governor of the Colonization Commission, proposed inviting agricultural experts from foreign countries having similar climatic conditions to Hokkaido for receiving guidance because Hokkaido had different climatic conditions from other prefectures. Based on this proposal, agricultural experts were invited from abroad to provide guidance. The first expert was Horace Capron, the former Secretary of Agriculture of the U.S. Government, who was invited as Advisor to the Colonization Commission in 1871, followed by Edwin Dun in 1873. In 1876, William S. Clark, President of Massachusetts State Agricultural College, U.S.A., was invited to serve as dean of the Sapporo Agricultural College. Doctor Clark recommended upland farming and dairy farming.

This is how the foundation of agriculture in Hokkaido was laid centering on upland farming and dairy farming as in the United States and Europe, instead of Japan's traditional "paddy field" agriculture.

Nevertheless, American- or European-type agriculture was not introduced as it was. Among other reasons, settlers who led Hokkaido's agriculture could not easily extricate themselves from the images of agriculture in other prefectures. Created as a compromise between the American and European farming method and Japan's traditional farming method was the "Hokkaido farming method," which formed the foundation of future agriculture in Hokkaido. It was a combination of American and European horse plowing and Japanese conventional hand harvesting based on the selection and cultivation of cold-resistant species. It featured a partially labor-saving technical system of "livestock plowing and hand harvesting."

Depending on the natural soil fertility, agriculture in Hokkaido was initially developed without fertilizer on a continuous cropping basis. Although this resembled the development processes of the United States, natural soil fertility would deplete some time. The reclamation expanded from central Hokkaido to its surrounding areas and was almost completed except for some regions after World War I, when wear and depletion of soil fertility surfaced. After that, countermeasures were taken to improve soil fertility, establish intensive upland farming and convert land into paddy fields.

In the meanwhile, increasing numbers of farm households settled in communities while conflicts frequently occurred between landowners and tenant farmers. Under these circumstances, the landlord system lost ground and "villages" unique to Hokkaido appeared. They are the "villages" formed primarily by medium-hold farmers, not large- or small-hold farmers, in local communities. Nonetheless, migration of farm households was still rampant compared with other prefectures, and regulating/integrating authority remained weak. They were like functional organizations centering on "agricultural producers' cooperatives" in local communities. Farming villages consisted of distributed/scattered farm households and the functional center where living- and production-related facilities were concentrated. The salient characteristic of farming villages in Hokkaido was high interdependence in various elements of livelihood, compared with those in other prefectures.

(2) Postwar development of agriculture and agricultural policies in Hokkaido

After World War II, agricultural policies attached importance to the promotion of "democratization of farming villages" and "food security." The most significant policy to bring them into shape was the "agrarian land reform," which ultimately dismantled the prewar-type landlord system and caused medium size farmers referred to as the "postwar-type landowning farmers" to play a central role in agriculture and farming villages.

Together with agricultural land reform, we cannot overlook "postwar development" policies, which aimed to increase food production and employ a large number of repatriates from overseas. Also in Hokkaido, a vast area of "postwar development lands" was selected and repatriates engaged in agriculture. It is unnecessary to point out that the majority of them failed because of geographically disadvantageous conditions.

Starting in 1955, Japan underwent a "high economic growth period," expanding the disparity in income between agriculture and industry at an unprecedented speed. Aiming to bridge the disparity, the "Agricultural Basic Law" was enacted in 1961 with the following two pillars: "improvement of agricultural productivity" and "selective expansion of crops." Since then, Hokkaido's agriculture has been referred to as the "model student of the Agricultural Basic Law," and the expansion of size and narrowing down of crops, i.e., monocropping, progressed.

"Improvement of agricultural productivity" was pursued, with the improvement, expansion and mechanization of farms under the 1962 "Agricultural Structure Improvement Project" as the main pillars. Specifically, "selective expansion of crops" was performed to increase the size of remaining farm households after a large number of farmers gave up agriculture. In particular, central Hokkaido was specialized in paddy fields whereas the Konsen (in eastern Hokkaido) and Tenpoku (in northern Hokkaido) regions were specialized in dairy farming. In addition, the mixed farming of "upland farming + dairy farming" centering on the Abashiri (in eastern Hokkaido) and Tokachi (in eastern Hokkaido) regions was separated into upland farming and dairy farming.

As these efforts presupposed a large number of farmers giving up farming, population in rural areas plummeted. In addition, disorderly conversion of farmland into non-farmland in conjunction with the expansion of urban populations caused a variety of problems. In this context, the "Mountainous Village Development Law" was enacted in 1965, and the "New City Planning Law" was established in 1968. In addition, the "Law Concerning Establishment of Agricultural Promotion Areas" and the "Emergency Countermeasure Law for Depopulated Areas" were enacted in 1969 and 1970, respectively, to facilitate orderly development and provide countermeasures for depopulated areas.

In 1970, against the backdrop of "rice surplus" or "rice cultivation adjustment policies," the "Second Agricultural Structure Improvement Project" was launched to foster independent farming and further improvement of productivity. Based on the "Integrated Rural Development Pilot Project" in 1972 and the "Integrated Rural Development Model Project" in 1973, agricultural production infrastructure was rigorously improved, including the enlargement of agricultural land lots as well as the improvement of farm roads and agricultural drainage canals. In addition to the improvement of productivity, the administration and local residents joined forces in regional promotion and other activities from around 1975. To develop such efforts into projects, the "Hands-on Village Improvement Project" and the "New Agricultural Structure Improvement Project (first stage countermeasures)" were introduced in 1978.

Since then, regional agriculture has been reorganized by respecting the will of farmers and capitalizing on the characteristics and nature of each region, and activities designed to establish lively farming communities have been developed.

In the 1980s, land use-oriented farm management was forcefully developed by expanding the management scale of hard-core farmers and fostering production organizations. In addition, various measures to reinforce land use and village functions were developed centering on villages where production and livelihood of rural areas were integrated. Serving as the legal corroboration was the "Suburban Community Area Improvement Law" (enacted in 1987). In particular, community spaces where production and livelihood were integrated in rural areas were improved in areas covered by both the "City Planning Law" and the "Law Concerning Establishment of Agricultural Promotion Areas."

With increasing interest in comfortable living environment and environmental problems among the general public as its background, the "Structural Improvement Project for Agriculture and Rural Area Revitalization" was launched in 1990. The Project was designed to consolidate the promotion of agriculture and rural areas, which had been considered separately, and digitization of agriculture was also advocated. In addition to the "Structural Improvement Project for Agriculture and Rural Area Revitalization," the "Agricultural Structure

Improvement Project for Establishment of Regional Agriculture" was newly established with the supplementary budget for FY 1994. The Project emphasized the improvement of amenities in rural areas from the viewpoints of "establishing agricultural infrastructure," "forming regional cooperation" and "utilizing rural resources."

In the wake of the establishment of the World Trade Organization (WTO), countermeasures were taken to address the widening supply-demand gap of agricultural products, deal with rice acreage reduction and other unfavorable conditions, enhance market competitiveness, such as the enhancement of added value and cost reduction, and develop agriculture and local industries by capitalizing on regional characteristics.

3. Agriculture as the Foundation of Regional Development

(1) Position of Hokkaido's agriculture

According to the 1999 Agricultural and Forestry Census by the Ministry of Agriculture, Forestry and Fisheries, the total number of farm households in Hokkaido was approximately 74,000, of which approximately 67,000 were selling their products. This figure accounted for only 2.3% of that of the nation. However, the ratio of full-time farm households was approximately 71.2%, about three times as high as the national average of 20.7%. The cultivated acreage was approximately 1,187,000 hectares, accounting for approximately 22.1% of that of the nation. This figure was equivalent to the cultivated acreage of six prefectures in the Tohoku region and Niigata Prefecture combined. Cultivated acreage per household was approximately 16.1 hectares, 13.4 times as high as the national average.

The 1998 production volume of agricultural and livestock products indicates that Hokkaido registered the nation's largest volume in many items, such as rice, wheat, soybeans, adzuki beans, kidney beans, potatoes, sugar beets, onions, carrots, pumpkins, sweet corn, Japanese radishes, buckwheat, milk, beef and mutton. Gross agricultural production value was approximately ¥1.1 trillion, accounting for 11.1% of the national total and recording more than twice the figure of second-placed Chiba Prefecture (¥480 billion). Hokkaido has thus established a firm position as Japan's top "food center."

With regard to the status of forestry, which is closely related to agriculture, Hokkaido tops the list of prefectures in terms of the area of forests with approximately 22% of the national total. Forestland in Hokkaido features many natural forests, which account for 65% of the prefecture's forests. The timber-related industries that capitalize on an abundance of forest resources account for approximately 16% of Hokkaido's total value of product shipments. Forests also assume an important role in conserving national land and the environment and recharging water resources.

In addition to the roles as the food supply center and the regional foundation of production and livelihood, agriculture and forestry have multi-faceted functions: the conservation of national land, nature, flora and fauna, the environment, etc.; and the provision of beautiful landscape and opportunities for nature-based experience, recreation, education, leisure and relaxation. On the other hand, they are closely related to the rise and fall of the regional economy. According to the Hokkaido Government's Department of Agriculture, their external economy effect is estimated to reach ¥1.26 trillion (1998).

(2) Regional development based on agriculture

Many agricultural products produced in Hokkaido are shipped outside Hokkaido. Approximately 80% of wheat and beans and about 60% of rice, vegetables and cut flowers are shipped. In addition, sugar beets are processed into sugar whereas fresh milk and meat are processed into milk/milk products and meat products such as ham and sausage, respectively, before shipment. The industry that processes the produce to manufacture products accounts for about 30% of industrial shipment value, the number of industrial employees and the number of factories, as referred to as the "30% industry," and is Hokkaido's largest industry. However, the processing mentioned above is limited to that of materials, not advanced processing, as ridiculed as the "raw material supply base." The necessity of collaboration with companies, research institutions, universities, etc. to produce high value-added processed and finished products has been called for.

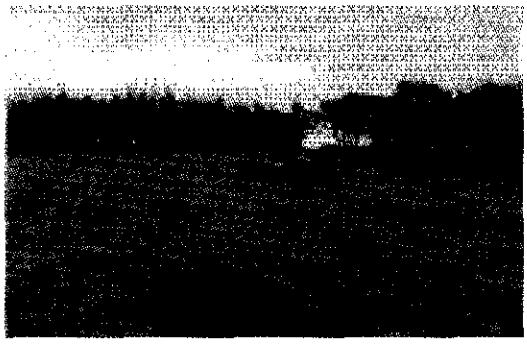
We can say that Hokkaido will not survive without the primary industry, such as agriculture and forestry.

Financial and information technology-related fields have recently attracted attention also in Hokkaido.

We do not think that that situation will continue forever even if they can lead the economy of Hokkaido temporarily. This is because financial and information technology-related fields do not have to be in Hokkaido and they may go outside Hokkaido as long as conditions are met.

In contrast, agriculture and its related industries – agriculture, in particular – need to be in Hokkaido to survive. They are typical "local industries" as the phrase goes and constitute the very foundation of industries in Hokkaido. It is said that the economy and society of Hokkaido have been losing steam. This is because agriculture, which is the very foundation of this prefecture, has been stagnant, not because the Hokkaido Takushoku Bank, Ltd. went into bankruptcy or the construction industry has declined.

The case examples taken up in this report look lively because they have spent decades taking a different course. These municipalities have revitalized the entire regional economy by fostering the "semi-secondary industry" (middle industry between the primary (1) and secondary (2) industries)" which processes produce as well as related manufacturing industries based on the promotion of agriculture, the main industry of each region. In these regions, attention has been directed not only to locally produced agricultural products, but also to traditional culture, landscape, nature, flora and fauna, etc. and comprehensive regional promotion has been pursued.

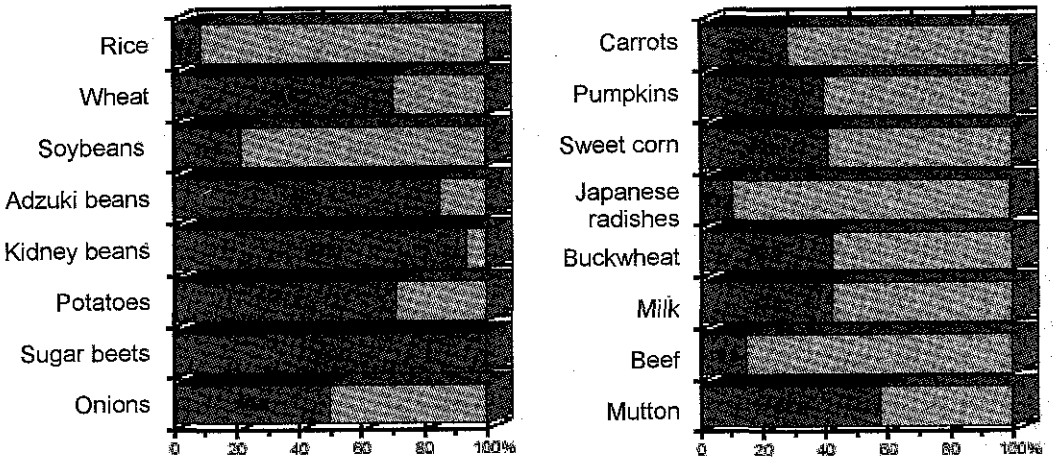


Development of eco-friendly agriculture in accordance with the ecosystem (Hamanaka Town)

Exchange program in which children from cities experience agriculture and rural life (Hamanaka Town)

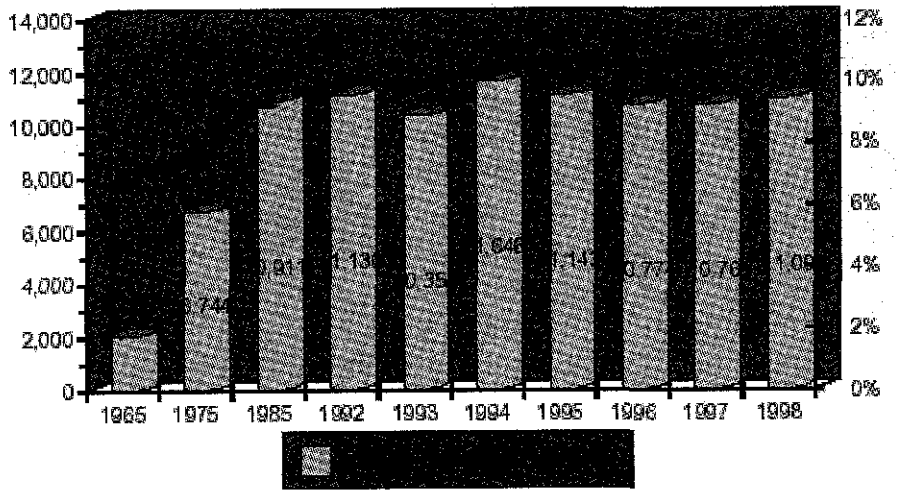
Statistical data of agriculture in Hokkaido

○ Plants with the nation's top production volume and their shares

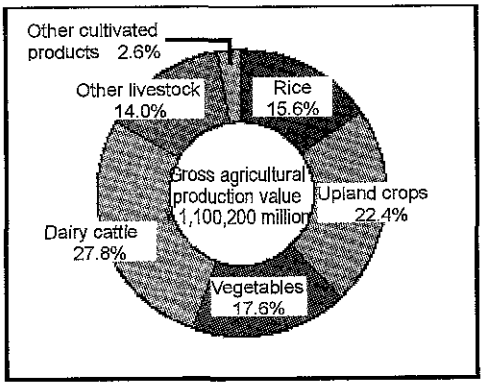


○ Changes in gross agricultural production value

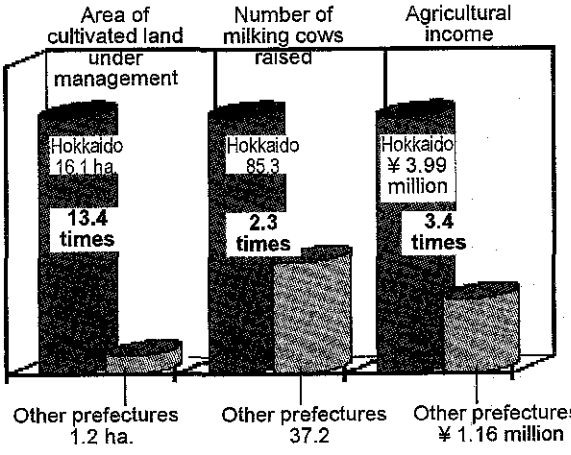
¥ 100 million



○ Composition of gross agricultural production value (1998)



○ Comparison per household



Source: "Agricultural and Forestry Census," "Survey on Agricultural Land and Acreage under Cultivation," "Statistics of Livestock" (1999) and the "Survey of Farm Household Economy" (1998) by the Ministry of Agriculture, Forestry and Fisheries

Position of Hokkaido's agriculture in Japan

Classification	Unit	Hokkaido A	National B	A/B	Data	
					Year of Survey	Source
Area of agricultural land					1999	
Total land area	1,000 ha.	8,345	37,785	22.1%	1999	Geographical Survey Institute, Ministry of Construction
Cultivated acreage	〃	1,187	4,866	24.4%		
Paddy fields	〃	222	2,501	8.9%		Ministry of Agriculture, Forestry and Fisheries
Ordinary field	〃	414	1,197	34.6%		
Orchard	〃	4	363	1.1%		
Pasture	〃	534	648	82.4%		
Per household Cultivated land under management	ha.	16.1	1.2	13.4 times		
Number of farm households						
Total number of farm households	1,000 households	74	3,239	2.3%	1999	Ministry of Agriculture, Forestry and Fisheries
Number of farm commercial households	〃	67	2,475	2.7%		
Number of full-time farm households	〃	32	433	7.4%		
Number of part-time farm households (agricultural income > non-agricultural income)	〃	21	359	5.8%		
Number of part-time farm households (agricultural income < non-agricultural income)	〃	13	1,682	0.8%		
Ratio of full-time farm households (commercial farm households)	%	71.2	20.7	3.4 times		
Population of farm households						
Total population	1,000 people	5,692	125,570	4.5%	1995	Management and Coordination Agency
Population of mainly engaged in farming	〃	269	11,011	2.4%	1999	Ministry of Agriculture, Forestry and Fisheries
Population of farmers	〃	151	3,845	3.9%		
Income						
Income of Hokkaido (national) citizens	¥ 100 million	160,175	3,923,194	4.1%	1997	Economic Planning Agency
Income from agricultural production	〃	4,165	40,111	10.4%	1998	Ministry of Agriculture, Forestry and Fisheries
Gross agricultural production value						
Gross production value	¥ 100 million	11,002	98,680	11.1%	1998	Ministry of Agriculture, Forestry and Fisheries
Cultivated crops	〃	6,411	72,416	8.9%		
Rice	〃	1,721	24,559	7.0%		
Livestock	〃	4,589	25,543	18.0%		
Fresh milk	〃	2,663	7,019	37.9%		
Volume of agricultural and livestock products						
Rice	1,000 t	739	9,159	8.1%	1999	Ministry of Agriculture, Forestry and Fisheries
Wheat	〃	300	583	51.5%		
Potatoes	〃	2,388	3,024	79.0%		
Soybeans	〃	40	187	21.4%		
Adzuki beans	〃	68	81	84.0%		
Kidney beans	〃	20	21	95.2%		
Sugar beets	〃	3,787	3,787	100.0%		
Fresh milk	〃	3,666	8,457	43.3%		
Beef	〃	79	540	14.6%		
Number of livestock and poultry raised						
Dairy cattle	1,000 head	878	1,816	48.3%	1999	Ministry of Agriculture, Forestry and Fisheries
Beef cattle	〃	414	2,842	14.6%		
Pigs	〃	549	9,879	5.6%		
Hens for eggs	〃	8,325	88,892	9.4%		
Farm household management (per household)						
Gross agricultural earnings	1,000 yen	14,323	3,379	4.2 times	1998	Ministry of Agriculture, Forestry and Fisheries
Agricultural income	〃	3,985	1,162	3.4 times		
Non-agricultural income	〃	2,058	5,411	38.0%		
Total farm household income	〃	8,147	8,696	93.7%		

Chapter 2 Case study (10 municipalities)

Takikawa City

Urban-type agriculture maximizing fertile soil and good location

Takikawa's highly productive soil is ideal for the production of rice, vegetables, fruits and flowers, as well as for stock raising. The city is also blessed with a relatively mild climate and easy access – directly linked to the Sapporo area by the Do-o Expressway. The municipal government, in cooperation with JA (Japan Agricultural Cooperatives) and other organizations, endeavors to promote agriculture that meets urban needs, through various measures such as the improvement of distribution and the development of food processing to add value to local products. Private companies are also striving to develop value-added products, thus realizing the epochal popularity of the "Genghis Khan barbecue" specialty dish.

1. Overview of Takikawa

Takikawa, located in the middle of Sorachi subprefecture, was first settled by 440 farmer-soldiers in 1890. In the following year, paddy-rice cultivation was started on a trial basis and apple farming was introduced. In 1902, onion farming was started in some parts of the city. In this way, the city has played a leading role in the development of Hokkaido agriculture.

Takikawa is located at the confluence of the Ishikawa and Sorachi rivers. While suffering frequent floods because of its location, Takikawa has accumulated urban functions through the establishment of advanced urban infrastructure and the promotion of agriculture, thus developing into a core city in the central Sorachi area. The city has a population of 48,000 and its annual commercial sales are ¥138 billion and industrial shipment is ¥21 billion.

With the Do-o Expressway and National Routes 12, 38, 275 and 451 running across the city, Takikawa is also advantageous in road transportation.

Takikawa has an area of approximately 115.82 km^2, with cultivated acreage of 5,510 ha. The city's mean temperature is 6.8℃ and annual precipitation is 1,164mm. The mean temperature during the farming period (from April to October) is 14℃. The climate is relatively mild compared with elsewhere in Hokkaido. The average snowfall is 1,200 cm, indicating that the city has much snow in winter. However, snowmelt from mountains serves as an important water source for paddy field irrigation.

2. Current status of local agriculture

(1) Development of local agriculture

Agriculture in Takikawa, developed primarily by the Takikawa Agricultural Cooperative (hereinafter called "JA Takikawa"), has supported the city's economic bases through the production of rice, vegetables, fruits and other products. Maximizing social infrastructure as the core city of the Nakasorachi area and advantageous locations with good traffic access, new projects to directly link consumers and farmers have been promoted to encourage exchange between cities and villages.

Takikawa's mainstay farm products (and their acreages) include paddy rice (2,550 ha, of which 202 ha is for collecting seeds), buckwheat (483 ha), wheat (350 ha), beans (250 ha), onion (94 ha), asparagus (46 ha), other vegetables (50 ha), apples (50 ha) and grass for livestock (930 ha). The rough total of the 1998 yields of agricultural products was approximately ¥5.5 billion (¥3.2 billion from rice, ¥860 million from vegetables, ¥250 million from buckwheat and beans, ¥770 million from stock raising, ¥160 million from fruits, ¥170 million from wheat and ¥50 million from flowers).

The total number of farming households is 790, and the average cultivated acreage per household is 6.7 ha, which is smaller than the Hokkaido average (16.0 ha). Therefore, to promote agricultural development in the future, Takikawa has promoted the introduction of facilities to cultivate highly productive products (tomatoes, flowers, etc.). Measures have also been taken to improve soil by upgrading drainage and to improve

cultivation technologies in cooperation with agricultural research institutes, agricultural technology dissemination centers and other related organizations.

To enhance the competitiveness of local farm products and to revitalize local agriculture, it is necessary to improve various agricultural facilities related to the production, processing and distribution of agricultural products.

Thus the City of Takikawa and JA Takikawa have established agricultural facilities for gathering, collecting and forwarding vegetables, and for harvesting and drying paddy rice seeds. Also, asparagus sorting machines, low-temperature rice storehouses and crop drying facilities have been introduced. Moreover, to promote exchange between urban residents and villagers, the Maruka Kogen Denshukan (facility for hands-on learning of agriculture, forestry and fishery activities), Takikawa Fureai-no-sato (healthy diet promotion center), the Comprehensive Exchange Activities Terminal Center Takikawa (roadside station) have been established with the support of the Ministry of Agriculture, Forestry and Fisheries.

In recent years, the City of Takikawa has endeavored to promote tomato production as a measure to encourage a change of crops. Prompted by the city's incentive that will cover half of the cost to establish plastic greenhouses for tomato production, a total of some 800 plastic tomato greenhouses have been established.

The City of Takikawa has also positively promoted international exchange activities to contribute to international cooperation. Last year, JICA trainees stayed in the city for four months to learn farming technologies.

(2) Agriculture-related research and production facilities

In Takikawa, there are many facilities for agricultural production and technological research, such as the Hokkaido Prefectural Plant Genetic Resources Center, the Hokkaido Ornamental Plants and Vegetable Research Center, the Seedling Production Center and the Swine Station run by Hokuren Federation of Agricultural Cooperatives (hereinafter called "Hokuren"), contributing to the promotion of agriculture in Sorachi and other parts of Hokkaido.

① Hokkaido Prefectural Plant Genetic Research Center

The Hokkaido Prefectural Plant Genetic Research Center was founded as a foundation seed farm in 1950 and reorganized into the present center in 1986. As a result of intensive production of limited species and the tendency to reduce differences between species, valuable plant genetic resources have decreased in number considerably, making more urgent the need to collect and keep these resources suited to the northern area. The center uses plant genetic resources collected and kept by prefectural agricultural experiment stations (of 25,000 items stored by agricultural experiment stations, 14,400 are used by the center). By reinforcing data on properties and creating useful materials, the center contributes to the development of new breeds. In addition, the center breeds seeds from breeders, conducts preliminary reproduction and advises breeders on seed breeding, acting as an overall coordinator for the screening and distribution of seed production.

② Hokkaido Ornamental Plants and Vegetable Research Center

This center was founded in April 1996 to conduct guiding research and tests for and offer instructions on the production of flowers, ornamental plants and vegetables that have come to be widely produced throughout Hokkaido in recent years. To promote advanced, energy-saving and low-cost production methods for flowers and ornamental plants (*hanayuri* [a kind of lily], Russell prairie gentianand and delphinium) and vegetables (onions, asparagus and edible lilies) by maximizing the cool climate of Hokkaido, the center endeavors to develop new species, cropping types and transportation and storing technologies. The center also offers farmer training programs on specialized technologies and comprehensive technological training for future farmers.

③ Hokuren Takikawa Seedling Production Center

The 1986 revision of the Seedling Law has allowed private companies to produce and distribute seeds of mainstay agricultural products. In 1992, Hokuren started producing superior seeds such as those of rice, wheat, beans, buckwheat, onions, lily bulbs and sweet corn.

That year, Hokuren opened the North Plug Center on the fourth floor of the Hokuren Takikawa Seedling Production Center to produce and supply the seedling plugs (flower/vegetable seeds easy for farmers to treat). To produce and supply high-quality seeds to farmers, Hokuren established a new Paddy Rice Seed Center in 1996 by integrating existing facilities.

④ Hokuren Takikawa Swine Station

Hokuren Takikawa Swine Station was established in 1991 as a supply base for stud swine to be used for the production of "hi-coop" hybrid pork by crossbreeding high-quality pigs. The station maintains and multiplies the number of Hamanasu W1, large Yorkshire-type swine, and produces Hi-coop F1 gilts, supplying 500 pigs annually to related hog raisers throughout Hokkaido.

This station also serves as an SPF stud production farm to produce pigs in germ-free environments and to conduct a variety of research on the physical constitutions and management methods of the swine.

⑤ Marukayama Pastureland

The preparation of Marukayama Pastureland, started in 1972 using municipal land of 313 ha on the city's eastern hill, was completed in 1981. The pastureland consists of 270-ha grassland, an administrative building, a feed storehouse, a farming apparatus storehouse and other facilities. Pasturage on commission and tractor-mowing are conducted during the summer period (from mid-May to October). Marukayama Pastureland is managed by the Marukayama Pastureland Cooperative, primarily consisting of livestock farmers, and is playing an important role as the roughage supply base for beef cattle (black-hair Japanese beef).

3. Development and networking of local agriculture

Farming households in Takikawa are facing difficult challenges due to the change of Japan's rice price support policy (rice is the city's mainstay product), the falling prices of agricultural and livestock products after import liberation, and the scarcity of young farmers due to the worsening economic conditions of agricultural households. It is necessary to assist farmers in improving their agricultural management techniques and to realize a smooth flow of agricultural products from production through processing/distribution to sale by networking related organizations in the same area.

For the survival and development of local agriculture, it is important to develop the network of (1) agricultural organizations, (2) local industries, (3) research and development and (4) urban and rural areas. Systematic cooperation of each network is also necessary.

(1) Network of agricultural organizations

In 1977, the City of Takikawa established the Liaison Council for Agricultural Promotion, consisting of the Takikawa City Agricultural Committee, JA Takikawa (local farmer's group), Nakasorachi Agricultural Mutual Benefit Association (for farmers' mutual aid systems), Agricultural Extension Center, Eastern Sorachi District, Sorachi Subprefecture (for agricultural technology guidance, farm life improvement, etc.; local agency of the Hokkaido Government; hereafter referred to as "Eastern Sorachi District Agricultural Extension Center") and the Sorachi Land Improvement District (an organization responsible for local land improvement and irrigation projects). The Council has since played a central role in the improvement of local agriculture.

The Council addresses a variety of matters on its agenda, including farming technologies, agricultural management, improvement of various production organizations, fostering of future farmers and improvement of farming environments. Its specific agenda includes: (1) dissemination of farming technologies; (2) promotion and dissemination of soil improvement technologies; (3) prevention of accidents caused by the use of agricultural machinery and chemicals; (4) reduction of production costs; (5) improvement of production structure and fostering and securing of future farmers; (6) processing of home-made foods; (7) improvement of farming conditions; (8) planning of study sessions, gatherings and other events; (9) surveys on agricultural damage; (10) promotion of technologies for stable fruit production, such as dwarfing culture of apples; (11) promotion of the cultivation of highly profitable products in former orchards; and (12) promotion of gardening and crop production in fields, including those converted from paddy rice fields.

(2) Networking local industries

Figure 1 shows the flow of farm and stock farm products from the field to the consumer table, by focusing on the flow of physical distribution on the side of producers and by using local industry networks centering around Takikawa agriculture.

Fig. 1 Networks of local industries centering around agriculture and distribution of farm products and processed products

Production structure	Collecting, forwarding and storing of products	Processing	Sale
○JA Paddy Rice Production Promotion Organization JA Wheat Producers' Group	【Managed by JA】 Grain drying/preparing facility (Rice Center) Low-temperature storage and wheat silo		JA commission (sale using JA networks)
・Buckwheat (farmer)	Takikawa Fureai-no-sato	(Milling / Noodle making)	JA-affiliated direct sale store
・Beans (farmer)	JA Women's Section, etc.	(Miso / Tofu)	JA-affiliated direct sale store
・Rapeseed (farmer)	JA	Oil manufacturer / Co-op	Seller / consumer
○JA Onion Producers' Group	JA	Takikawa Agriculture Promotion Corporation (Processed foods, such as onion sauté)	JA-affiliated food processing company
○JA Vegetable Producers' Group (asparagus, green onions and kidney beans)	Vegetable collection / forwarding facility (joint selection) (pre-cooling)		JA-affiliated direct sale store
・Tomato (farmer)	(individual selection) Collection / forwarding facility (pre-cooling)		JA-affiliated
・Apple (farmer)	Fruit selection facility Fruit Study Group etc.	(Apple juice, jam, etc.)	JA-affiliated direct sale store
○JA Flower Producers' Group	(individual selection) Collection / forwarding facility		JA-affiliated
○JA Beef Producers' Group	Breeding cattle		JA-affiliated (Shiraoi Market)
・Rice Duck (Takikawa Agriculture Promotion Corporation)	(Takikawa Agriculture Promotion Corporation)	(Slaughter / processing)	Chicken wholesaler (Osaka) Hokkaido retail store / direct sale store
・Imported mutton	(Matsuo Co., Ltd.)	(Genghis Khan barbecue) (Using locally-produced apples and onions)	Direct sale store / chain store

Legend: distribution of agricultural products ------> distribution of processed food ——>

Main farm products produced in Takikawa are sent to production facilities, then to collection / forwarding (storage) facilities and further to proceeding facilities before being sold on the market (some products are directly sold to consumers). A variety of local industry networks have been established depending on characteristics of each farm / stock farm products. JA Takikawa plays a central role in these networks.

Of Takikawa's local industry networks, particularly active are those for the processing of onions by Takikawa Agriculture Development Corporation, for the production and processing of rice duck by Takikawa Development Corporation, and for the processing and sales (particularly direct sales) of buckwheat, apple juice, miso and vegetables by farmers. Although most mutton materials are imported, locally produced onions and apples are used for a barbecue sauce for mutton, greatly contributing to the promotion of local industries.

(3) Research and development network

To develop local agriculture in the future, it is particularly important for agricultural organizations to develop partnerships by sharing each other's roles and striving in cooperation to promote R & D on new technologies.

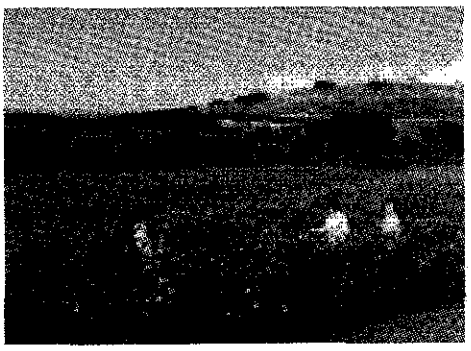
Fig. 2 Structure for activities to enhance added value

①Takikawa Liaison Council for Agricultural Promotion	②Project team	③Hokkaido Ornamental Plants and Vegetable Research Center Working Committee for Systematic Promotion of Technologies
• JA Takikawa • The City of Takikawa • Sorachi Subprefectural Office • Eastern Sorachi Agricultural Extension Center • Hokkaido Ornamental Plants and Vegetable Research Center	• Representative of producers • JA Takikawa • Eastern Sorachi Agricultural Extension Center (in charge of the Sorachi area and specialized areas) • Hokkaido Ornamental Plants and Vegetable Research Center (technical systemization team)	• Chairperson (technological promotion manager) • Vice chairpersons (director of research department and director of general affairs department) • Secretary-general (deputy director) • Working committee members (manager of general affairs, chief researcher, group leader, etc.) • Team leader (technical expert, chief researcher, group leader, etc.)

One example of activities based on this network is a project team established by networking the Hokkaido Ornamental Plants and Vegetable Research Center (responsible for research and instruction), the Eastern Sorachi Extension Center (for research & analyses and dissemination of technologies), the Flower and Ornamental Plant Producers' Group of JA Takikawa and flower and ornamental plant producers. To add value to flowers and ornamental plants – one of Takikawa's mainstay products, the aforementioned parties have cooperated in conducting experiments and research on the nighttime cooling technique for the raising of seedling, which enables the production of high-quality delphiniums in autumn, when their stock tends to be in short supply. This project team has succeeded in developing a technology to have the flower come into blossom in October by transplanting its seedlings (grown in July with a nighttime cooling technique at 16℃) to green houses in October. The team members examined the growth in the plots of 11 farming households, conducted marketing research, contributing to the enhancement of advanced technologies in flower cultivation.

(4) Exchange networks between cities and farming villages

One of the multiple functions of agriculture and farming villages is the preservation and use of rural landscapes, which are naturally formed in the course of normal operations of local agriculture. As a new network linking farming villages and citizens (consumers), the City of Takikawa improved three core facilities for exchange activities where local residents and visitors can try foods and appreciate scenery. These facilities have greatly contributed to the formation of exchange networks between cities and farming villages (see Fig. 3 for information on use, specific services and management of these three facilities).



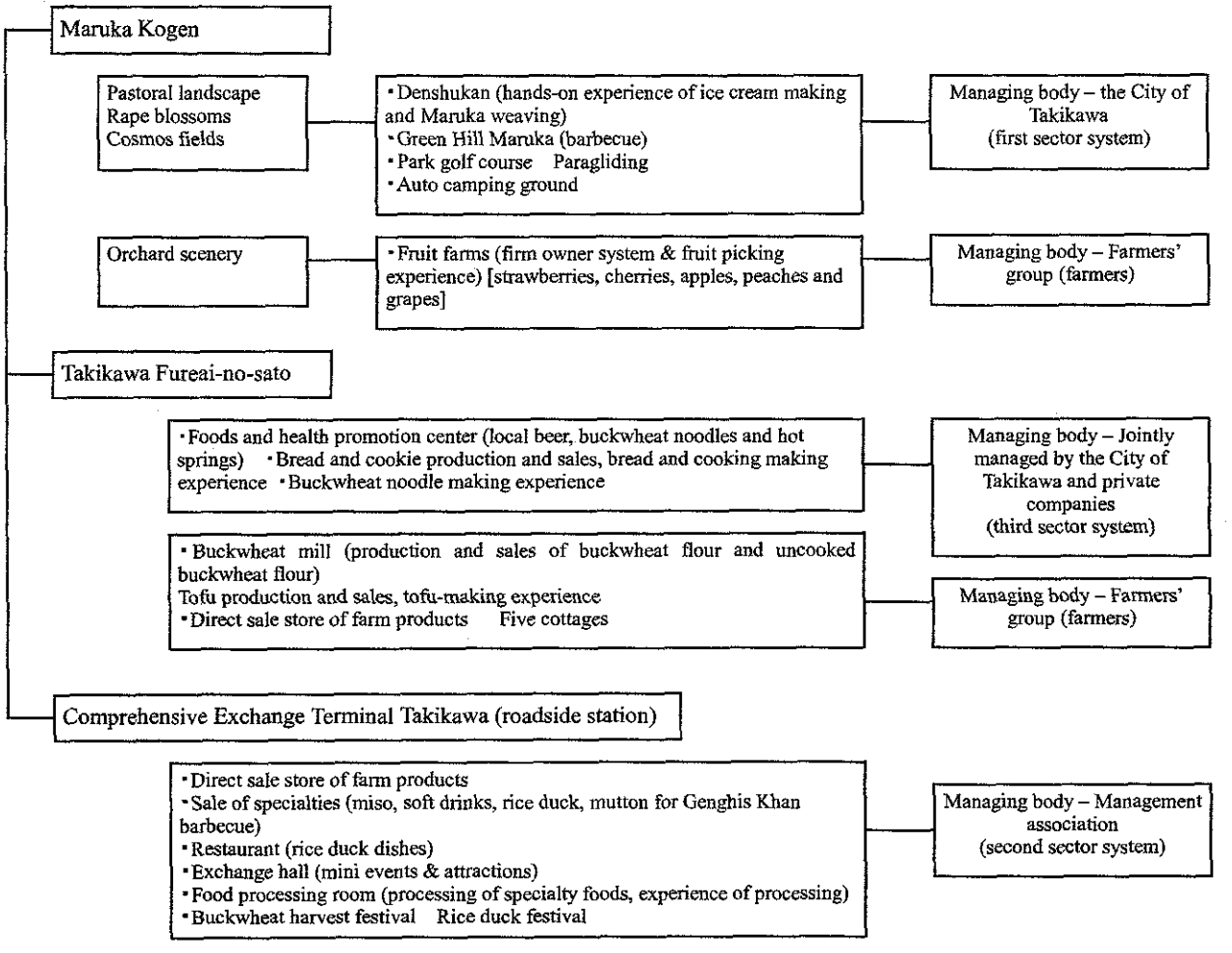
Agriculture, Forestry and Fishery Experience Center (Maruka Highland Study Center)

The facility for hands-on learning of agriculture, forestry and fishery activities (Maruka Kogen Denshukan) was established in 1990 on Maruka Highlands in eastern Takikawa. Visitors can experience Maruka weaving methods and ice-cream making there. The center also has park golf and paragliding courses. The City of Takikawa also established Takikawa Fureai-no-sato in 1997, a facility which sells a variety of foods (buckwheat flour, local beer, cookies, soft drinks, tofu, etc.) and offers buckwheat noodle-making experience programs. This facility is expected to help reinvigorate local industries through the comprehensive use of locally produced foods (buckwheat, apples and tomatoes), beautiful natural landscapes and various local resources (hot springs, etc.) to promote multiple ways of exchange between cities and farming villages. The managing body of this facility is the local farmers' union.

The Comprehensive Exchange Terminal Takikawa, completed in 2000, is run independently by a management association (the second sector) formed by local farmers and business people. Many groups, such as JA Sosai Promotion Society (vegetables for direct sale), JA Women's Section (miso production), Fruit Study Group (apple juice production), Fruit Juice Group (apple / tomato juice), Processed Farm Product Study Group (a variety of soft drinks), are also involved in managing this facility, supporting the operation of its

restaurant and developing this facility as a farmer's market. Many monthly events, such as the Maruka Kogen Cosmos Photo Exhibition and the Bolivia Exhibition & Concert, are also organized by local residents. This facility is expected to develop as the base for the promotion of local foods and culture.

Fig. 3 Exchange network between cities and farming villages

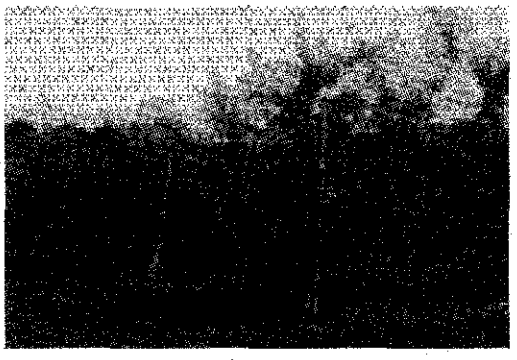


4. Development of local specialties

The development of local specialties has been greatly effective in revitalizing the local economy because it adds value to locally produced farm / stock farm products. Of these specialties, the development process and sale conditions of (1) apple-based processed foods, (2) rice duck, (3) mutton for Genghis Khan barbecue (very popular with tourists) and (4) onion-based processed foods, are described below.

(1) Apple and apple wine

The apple cultivation area in Takikawa grew to 558 ha in 1970. The outbreak of cankers in 1972, frost damage in 1977 and subsequent drops in apple price forced apple growers to reduce their management scale. Meanwhile, they have endeavored to find new directions in apple production, by introducing new breeds and technologies (dwarfing technique etc.) and by promoting tourist farm projects.



Apple orchard

One of the significant achievements of these efforts is the marketing of apple wine in 1986 by four farming households, which commissioned the brewing of 6,000 bottles of wine (720 ml) to wine manufacturer Hokkaido Wine, Co., Ltd. This wine is produced with a special method – by freezing and crushing apples, not by directly squeezing the fruit. This allows for the utilization of non-standard apples that cannot be sold on the market. The annual shipment of this wine (Sorachi Wine) has been 35,000 bottles. A new brand of wine mixed with hascup fruit juice has also been marketed.

Locally produced original juice

Also, home-made apple juice, apple jam and prune jam, produced by fruit growers (members of a study group of farm product processing), are sold in exchange facilities in and outside the city.

(2) Rice duck

The raising of rice ducks was started by Ebeotsu Nosan, Inc., an agricultural company in Ebeotsu, in 1973. The company used rice hulls as litter for rice duck, and reused them as organic fertilizer to enrich paddy fields and orchards. The rice duck eggs were first obtained from the Tokyo Livestock Research Station, and were hatched by the Hokkaido Prefectural Takikawa Animal Research Station. In recent years, selective breeding has been promoted by importing not only the Peking duck (prevailing species) but also the Denmark duck and the British duck. Currently, the crossbreed of British Cherryvally wild duck and blue-neck duck are raised.

Rice duck-related products

In 1984, the Takikawa Agriculture Promotion Corporation, a "third sector" company (joint public-private venture), succeeded the facility of Ebeotsu Nosan Inc. Since then, systematic management – from hatching, raising and slaughtering to feather treatment – has been promoted. Currently, the facility does not conduct hatching but raises and dresses chickens imported from the Shikoku region.

The rice duck hatches in about 28 days and is fed for 70 to 75 days. Its weight is some 3.5 kg at the time of slaughter and its meat yield rate is 45%. The facility (8 ha

in area), surrounded by the natural canal of the former Ishikari River, raises some 50,000 ducks annually and ships approximately 74 tons of raw meat under the brand name "Hokkai Rice Duck." The shipping amount has slightly decreased in recent years due to the increase of ducks imported from China. Some 60% of Hokkai Rice Duck is shipped to Osaka (raw) and the remaining 40% is sold in Hokkaido. Hokkaido's cold climate is also ideal for the production of quality feathers of the rice duck. The feathers are sold to Kyoto manufacturers of bedclothes.

(3) Mutton for Genghis Khan barbecue

Although many farming households used to keep sheep to obtain raw wool, they came to seek ways to raise the sheep for meat after the wool price began to decline from around 1952. Because of the peculiar smell of mutton, however, it was difficult to promote the sale of mutton. Nonetheless, some entrepreneurs in Takikawa conducted joint research for several years to develop barbecue sauce for mutton under the instruction of the director of the sheep association, succeeding in 1956 in producing a special sauce by using Takikawa-produced onions and apples. They opened a meat store by renovating a stable of a private house.

The mutton products seasoned with this special sauce won great popularity, and people hearing their reputation flooded the store. The sales expansion resulted in the foundation of a private limited company in 1961. Because of the decrease in the production of Hokkaido sheep, the company started importing mutton from New Zealand. In 1964, the company visited Australia and New Zealand as an official representative of Japan's mutton industry to conduct research on the resource. The company was reorganized as a stock corporation and renewed its organization and trade name in 1972, now operating 250 barbecue chain stores throughout Hokkaido. Its market has also been expanded to supermarkets and department stores nationwide. The company also directly manages large stores in Takikawa, Sunagawa and Kamifurano, among other municipalities, promoting multiple production and sales strategies.

(4) Onion-based processed products

To stabilize the sale of locally produced onions by processing sub-standard onions, Takikawa Agriculture Development Corporation was established in 1990 with an investment of ¥35 million from the City of Takikawa, JA Takikawa, as well as local financial institutions, companies and farmers. This public corporation has since promoted the development of new local specialties.

Currently, the public corporation is commissioned with the operation of the Takikawa Gardening Center and the Cattle Breeding Center, while promoting the processing of local farm products. Its output in 1999 was ¥83 million and its main processed foods include peeled onion (80 tons), sautéd onion (250 tons), sliced onion (135 tons), frozen garlic (12 tons) and processed lard (22 tons). These products are shipped to food processing companies and others.

5. Conclusion

Takikawa is blessed with splendid local resources, such as the mild climate ideal for agriculture, social infrastructure as a core city of the central Sorachi area and an advantageous traffic system incorporating the Do-o Expressway. By maximizing these resources, a variety of agriculture-based local development projects have been promoted citywide.

First, the development of local specialties (e.g., Hokkai Rice Duck developed by the Takikawa Agriculture Promotion Corporation, seasoned mutton for Genghis Khan barbecue by Matsuo Co., Ltd. and processed onion products by the Takikawa Agriculture Development Corporation) has contributed to the establishment of the integrated system (with JA Tachikawa at the center) from production to sale of farm products. It has also greatly helped develop networks among local industries.

Also, the Takikawa Liaison Council for Agricultural Promotion has played a significant role in promoting local revitalization measures and in networking local industries. Specifically, the Council has supported the development of local specialties, the establishment of an efficient structure by integrating production, processing and sales systems, and the addition of value to local farm products. The Council has also initiated local supports for the promotion of Genghis Khan barbecue products developed by private companies.

Second, facilities to promote exchanges between cities and farming villages, developed by the City of Takikawa with subsidies from the Ministry of Agriculture, Forestry and Fisheries, are managed in a diverse manner, such as direct management by the City of Takikawa (first-sector system), joint management by private companies and farmers (second-sector system), and joint operation by the City of Takikawa and private companies (third-sector system). Whatever the management system, all of these facilities are to be run independently by encouraging original ideas from the private sector.

Third, many local farmers have joined in the direct sales of vegetables, apples and processed foods, such as miso and tofu. This has enabled these farmers not only to gain additional income but also to reaffirm the merits and joy of growing plants themselves. Through conversation with consumers, the farmers can gain confidence and joy in engaging in agriculture.

Thus the exchange between cities and farming villages (and between consumers and producers), based on various local resources such as rural landscapes, fresh and safe agricultural products and their processed foods, has become an important aspect of Takikawa agriculture and farming villages. Positive exchange activities accumulated so far are expected to develop into a new culture in agriculture and farming villages.

Furano City

Maximizing the city's great name value in promoting agricultural production

Furano is well known nationwide for its lavender fields, a popular tourist destination, and ski hills where World Cup Ski Competitions are held. The city has become particularly famous since it became the stage of a popular TV drama "Kita-no-kunikara" (From the North). Taking advantage of this exceptional name value and rich tourism resources, the City of Furano has marketed many Furano-brand specialties, such as Furano Wine and Furano Cheese.

Furano has been successful in enriching its image through the diversification of agriculture and the promotion of various specialties.

1. Overview of Furano

Furano, located in the middle of Hokkaido, has 601 km^2 in total area and an oblong shape of 33 km west to east and 27 km north to south. The city has a population of 26,046 (1995). Furano is surrounded by two high mountains: Mt. Tokachi of the Taisetsu Mountains to the east and Mt. Ashibetsu of the Yubari Mountains to the west. With an extensive sea of virgin forests extending to the south of the city, the forest area accounts for approximately 70% of the overall city area. The fertile Furano Basin stretches from north to south, through which the Ishikari River flows while gathering its tributaries, such as the Sorachi and Furano rivers. The flatlands along the rivers and on their surrounding hills are used for agriculture.

The climate is a typical inland climate. The average temperature in 1997 was 6.6℃ and the highest and lowest temperatures were 35℃ and –25℃, respectively, indicating great differences between summer and winter temperatures. The temperature also differs greatly between daytime and nighttime.

Vegetables such as onions and carrots are Furano's mainstay farm products. Vegetables account for 70% of the city's gross total agricultural production, followed by stock raising (primary dairy cattle) of 11% and rice production of 7%.

As shown in Table 1, rice plants were the largest in acreage under cultivation in 1970, followed by potatoes, beans and other crops. However, with the rice production control policy introduced that year, the cultivated area of paddy rice decreased considerably, while those of carrots and onions rose sharply. This change has made Furano a huge vegetable producing area.

Furano is blessed with rich tourism resources. Furano International Ski Resort (the former Yamanomine Ski Slope) has long been the venue of the World Cup Ski Competitions and other international events. Farm Tomita, a lavender farm in Nakafurano (Furano's neighboring town), began to draw tourists in the late 1970s. It was the 1981 airing of a popular TV drama "Kita-no-kunikara" by scriptwriter So Kuramoto that made the name of Furano known nationwide. This drama, a story about family love unfolding with Furano's magnificent natural scenery as the background, greatly enhanced the city's pastoral image. Meanwhile, lavender cultivation also started in Furano, enabling the city to use the picturesque view of lavender fields to promote its image as a splendid sightseeing area. The opening of the New Furano Prince Hotel adjacent to the ski hills has also helped the city attract attention as an ideal winter resort.

Table 1 Change in crop yield in Furano

(Unit: ha)

	1970	1980	1990	1995
Rice	3,691	1,901	1,486	1,446
Wheat	169	1,601	1,675	1,267
Cereals	584	187	162	97
Potatoes	1,403	459	486	426
Beans	1,322	747	707	655
Industrial farm products	884	884	815	694
Vegetables	997	2,556	3,573	3,874
Flowers, ornamental flowers and flowering trees/shrubs	7	16	14	4
Seedlings and young trees	3	10	17	38
Feed crops	629	851	726	789
Other		75	15	136
Chestnut trees		32	25	35
Total	9,689	9,319	9,701	9,461

Source: *Agricultural Census*, the Ministry of Agriculture, Forestry and Fisheries

By using these abundant tourism resources effectively to enhance its image, Furano has marketed a variety of local specialties targeting tourists, such as Furano Wine, lavender goods, cheese and other processed stock-raising products. These tourism resources also help develop agricultural production. Meanwhile, facilities where specialties are produced (wineries, cheese workshops, etc.) and restaurants and hotels where specialties are served are also used as the city's important tourism resources to attract more tourists. Such utilization of tourism resources has contributed to the revitalization of the local area.

2. Development process of local industries

(1) Backgrounds for the selection of material grapes and wine

It was around 1970 when a decision was made to promote the production of wine and its material grapes as local specialties. Although onions, carrots and other vegetables were extensively cultivated in Furano at that time, local farmers were suffering through unstable economic conditions because of fluctuations in vegetable prices. At one time, vegetable prices dropped sharply, forcing some farmers, unable to pay their employees, to leave harvested vegetables in the fields. This situation made urgent the need to introduce products that would not be affected by price fluctuations or harvest outcomes.

Amid such circumstances, local citizens began paying attention to the feasibility of producing wine and its material grapes as local specialties, because of the following reasons.

First, material grapes had already been a stable income source for farming households. In the case of edible grapes, as well as onions and carrots, their growers have to forward the products when there is an abundant supply on the market, because these crops are widely produced not only in Japan's mainland but also in Hokkaido (Niki, Yoichi and other municipalities). Unlike these products that are subject to price fluctuations, the market price of material grapes is not directly affected by harvesting periods, and it is possible to preserve the product by processing it into wine. Material grapes are also advantageous in that they can be sold at value-added prices.

Second, grapevines can be raised on land not suitable for other kinds of agriculture, such as sloping farmland and gravel land surrounding the Furano Basin. These places are ideal for fruit production. Also, because the grapevine is a perennial plant, it is possible to obtain grapes from one grapevine for at least 30 years in succession. Although there used to be apple orchards in Furano, apple production was almost completely abandoned after the spread of the ulceration canker. After that the local farmers began searching for a substitute to be planted in the hilly area.

Third, Furano's climate was considered suitable for producing material grapes. Mountain grapevines abound in Furano mountains; many citizens remember picking grapes while playing in the fields in their childhood. Farmers sometimes plant grapevines in their gardens, although not for commercial purposes.

Fourth, the Town of Ikeda in the Tokachi area had already succeeded in the marketing of wine. This example suggested the new possibility for Furano, which has better climatic conditions than Ikeda for grapevine cultivation, to market its own wine brand from locally grown grapes.

Therefore, under the leadership of then Mayor Taketsugu Takamatsu, agricultural development projects through grapevine and wine production were started. In April 1972, the Furano Viticulture and Enology Experiment Station was founded and it conducted experimental cultivation of material grapes at experimental farms. In June of that year, the City of Furano obtained a License for Experimental Liquor Production, beginning wine production on a test basis.

The outcome of the experimental production was analyzed by Tadao Iwano, the first director of the Ikeda Research Institute for Viticulture and Enology, and Masahiko Nakasone, a former researcher at a food company (see Table 2 for the development of wine businesses in Furano).

(2) Development process of the cultivation of material grapes

To conduct experimental production of material grapes, it was necessary to select breeds best suited to Furano's climate. In September 1974, a test site commissioned by the Hokkaido Prefectural Central Agricultural Experiment Station was established in Furano, to conduct experimental cultivation on 59 breeds imported from Europe. Adjacent to this test site, another test site for the cultivation of Furano grapes was established, producing 25 breeds of local grapevines. Although many breeds were tested in these experiments, the number of grapevines that grew sufficiently was small. In consideration of properties such as cold-resistance, vine growth, disease tolerance and the quality of wine produced from the tested grapevines, two breeds (Sable 13053 for red wine and Sable 5279 for white wine) were designated in October 1974 as breeds to be raised in Furano.

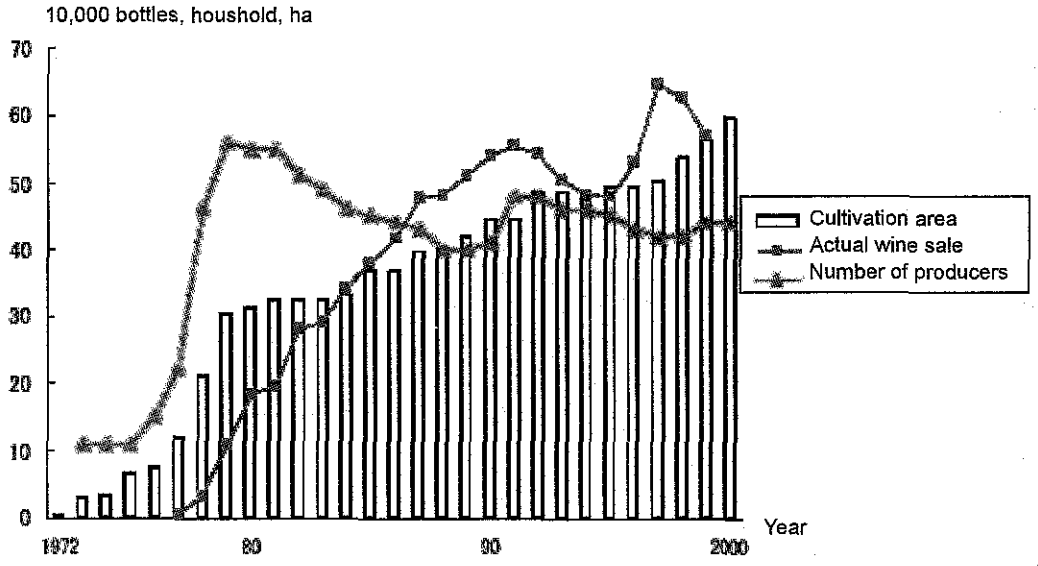
The next step to be taken was to encourage farmers to grow these breeds. The number of material grapevine producers and vine production area in 1973, the first year of this project, were 11 households and 2.87 ha (see Fig. 1). The number increased to 15 in 1976, 22 in 1977, 46 in 1978 and to 56 in 1979, while the cultivation area (including test plots) increased to 30.41 ha by 1979. There are two primary success factors behind the expansion of the cultivation area at the initial stage of the project. First, the experiment station encouraged grapevine cultivation by explaining to local farmers the advantages and profitability of growing material grapevines. Second, farmers who cultivated material grapevines actually increased their incomes, prompting other farmers to follow suit. In the 1980s, the number of grapevine producers declined due to the elimination of farmland unsuitable for grapevine production. Nonetheless, the citywide production area continued to rise because of the increase of cultivation area at the experimental farm. After that, grapevine production has taken root among local farmers. The production area in 2000 was 59.9 ha, of which about 40 ha was cultivated by 45 farming households and 20 ha was at the experimental farm.

The reasons material grape production has become firmly rooted among Furano farmers can be summarized as follows. First, the municipal government subsidized material grape producers. Fruit growers sometimes have to wait a few years to gain income after planting

Table 2 Changes in wine sales and material grapevine production

	Actual sales of wine (unit: 1,000 bottles of 720-ml wine)	Number of producers (household)	Production area (ha)
1972			0.13
		11	2.87
		11	3.35
75		11	6.54
		15	7.54
	0.5	22	11.76
	3.2	46	21.07
	10.8	56	30.41
80	18.5	55	31.27
	19.5	55	32.35
	28.1	51	32.35
	29.1	49	32.39
	34.1	46	33.13
85	38.1	45	36.77
	41.7	44	36.87
	47.7	43	39.72
	48.1	40	40.57
	51.2	40	42.00
90	53.9	41	44.60
	55.4	48	44.60
	54.2	48	48.56
	50.5	46	48.6
	48.3	46	48.6
95	47.9	45	49.3
	53.0	43	49.3
	64.7	42	50.3
	62.7	42	53.8
	57.1	44	56.5
2000		44	59.9

fruit trees. Thus the municipal government subsidized farmers when they planted new material grapevines. These farmers were given subsidies (¥35,000 per 10-are farmland to be used for new planting) for three years after the initial planting. Also in the first year, an additional ¥30,000 was given to farmers as a subsidy to cover the cost of props.



Second, the municipal government, the Furano Viticulture and Enology Experiment Station and the prefectural experiment station cooperated in providing technical support and instruction. The station raised and distributed nursery grapevines to local farmers, because these vines are difficult for individual farmers to raise and transplant. The production methods came to be rooted through much trial and error.

Through these efforts, Furano's unique production methods suited to its climate have been developed. Although chemical fertilizers were initially applied to the farms, they have been replaced by a *sosei* management method (in which weeds and grass are allowed to grow and then plowed into soil). To prevent frost damage, pruning is conducted by growing one of the main trunks horizontally to have branches grow upward from it, so that the bunches of grapes will be formed in a uniform manner.

Third, the stable supply and quality of material grapes are ensured by using a contract system between the municipal government and farmers and by producing the crop at the city's experimental farms as well. The city's winery buys all the grapes produced by the contract farmers. The quantity of production is adjusted at experimental farms depending on wine sale conditions. Some breeds that are technically hard to grow for farmers are raised at the experimental farms.

Fourth, to stabilize the economic conditions of farming households, the municipal government buys grapes from farmers at stable prices to enable farmers to reproduce the crop. The price disparity system has been introduced step by step. Although the price was uniform for all material grapes in 1974, price differentials between red-wine and white-wine material grapes were introduced in 1978. Since 1980, prices have been determined depending on the grape sugar content. Farmers check the sugar content of their products at the time of forwarding. This price system depending on the sugar content works as an incentive for farmers to produce grapes of higher quality.

(3) Development process of wine production and sales

Wine production in Furano started in October 1976, when the winery was constructed with a state subsidy for the Natural Recreation Village Improvement Project by the Ministry of Agriculture, Forestry and Fisheries. After the initial process of trial manufacturing and sampling, Furano Wine, was first sold on the local market. Then the newly founded pubic corporation started selling the product to tourists and restaurants.

The experimental wine was served free of charge when ski competitions were held in Furano. This service was first conducted in 1975 at the National Ski Meet in Furano. When the World Cup Ski Competition was held in Furano in 1977, Furano Wine was favorably received not only by Japanese but also

by foreign skiers. Based on these outcomes, the sale of two major Furano brands – Furano Red Wine and Furano White Wine – was started in January 1978.

Sales of Furano Wine rose significantly in the 1980s. The annual sales of 720-ml bottles, which were 32,000 in 1978, increased to 554,000 in 1991. Although sales dropped from 1992 to 1995 due to the dying-down of the wine boom, the 1995 revival of the boom prompted sales to pick up again. More than 60,000 bottles were sold in 1997 and 1998, respectively.

With the boom ending again, the sales show a downturn trend. Still, 57,100 bottles were sold in 1999.

The increase in sales may be primarily attributed to Furano Wine's marketing strategies. Specific factors for the sales increase are as follows.

First, although the third wine boom from around 1982 certainly helped Furano Wine increase its sales, the greatest driving force to expand the market was the 1981 airing of a popular TV drama "Kita-no-kunikara," which instantly made Furano an attractive tourist site. Also, when Furano Wine was put on the market, Tokachi Wine of Ikeda was increasing its sales. The success of Tokachi Wine paved the way for Furano Wine to enter the market smoothly as another Hokkaido brand.

Second, the sales target was initially limited to local liquor retailers to offer Furano Wine first to Furano citizens. This sales channel was then expanded to include all of Hokkaido. Two wholesalers (Hokushuren and Hokushuhan) were commissioned to select retail stores. The sales area, however, was limited to Hokkaido to encourage people to come to Furano (or Hokkaido) to enjoy Furano Wine and to increase the sales of Furano Wine as a souvenir. This sales strategy has since been maintained to this day.

Third, Furano Wine has always been produced based on the philosophy "quality before quantity." Furano Wine should be made from grapes produced in Furano – this is what Furano has stuck to from the beginning. Furano Wine, as a newcomer to the market, will not be able to outdo rivals without realizing supreme quality. With this in mind, major Furano Wine brands have been produced and new brands using quality grapes have been developed one after another. Chateau Furano Red Wine (1982), Muller (1984), Chateau Furano White Wine (1987), Zweigelt (1990) and Muscat (1994) have been put on the market. In recent years, Nord (Red), the first product made from Furano II (Furano-produced hybrid grapevine) was commercialized in June 1999.

In 1982, Furano Wine won Gold Prize in the wine spirit category at the 20th World Selection organized by the Monde Selection.

(4) Development process of lavender production as tourism resource

Lavender production in Japan started in 1937, when the late Masaji Soda (founder of Soda Aromatic Co., Ltd.) obtained seeds from France to cultivate it as material for the perfume in cosmetics. Subsequently, lavender came to be planted extensively in Hokkaido, and experts succeeded in the extraction of lavender oil for the first time in Japan in 1942. During World War II, however, the planting of lavender was suspended because of the necessity of increasing food production.

After the war, Soda Aromatic resumed lavender oil production in Hokkaido in 1948. Furano farmers also started to produce lavender, and a distillation factory was constructed in Kamifurano in 1952. The Department of Agriculture of the Hokkaido Government started experiments on lavender seeds in 1953 to select quality seeds.

Tadao Tomita, the owner of Farm Tomita in Kamifurano (currently the most important in lavender production farm in the Furano area), started to produce lavender as perfume material. The lavender cultivation acreage in the Furano area peaked in 1965 at 200 ha. However, due to the 1972 trade liberation that allowed the import of inexpensive perfumes from abroad, as well as the rapid technological progress of synthetic perfumes, perfume manufacturers stopped buying perfumes from lavender growers in 1973. The lavender cultivation area in the Furano area continued to decrease, and Tomita became the only lavender grower in the area in 1973. Tomita at one time decided to give up raising such an unprofitable flower, and drove his tractor into his lavender farm to plow the lavender, roots of lavender and all. However, he stopped short of doing it because the scent overwhelmed him, as if the flowers were pleading to him for help. Unable to move the tractor further onto the farm, he continued to cultivate on a small scale.

A turning point, however, came soon. In 1976, Tomita's lavender farm was introduced nationwide

through a JR calendar, prompting tourist groups to visit his farm. Pot-pourri production was then started, and lavender perfumes were put on the market in 1980. Other lavender-related goods came to be developed one after another.

Such attempts in Kamifurano, Furano's neighboring town, prompted the Furano Promotion Corporation to use lavender as a means to attract tourists, planting the flower at its operating facilities such as Highland Furano and Wine House. Since then, the lavender came to be produced all over Furano, strengthening the connection between the city and lavender. The cultivation area is currently 3.4 ha at Highland Furano and 1.6 ha at Wine House. In this way, lavender production has enabled Furano's hotels and restaurants to attract more customers. Other major lavender farms in Furano include those managed by the winery (0.15 ha) and Taiyo-no-sato Farm operated by the Tourist Department of the City of Furano (2.4 ha), as well as private farms such as Pot-Purri Farm (2.0 ha) and Furano Jam Farm (1.5 ha).

3. Development of local economy and municipal government

The municipal government has played a significant role in the development of local specialties mentioned above. The importance of the wine projects to the city is expressed in the Ordinance on the Implementation of the Wine Project in Furano. Article 1 of the ordinance gives two objectives of the city's wine project: (1) the improvement of citizens' culinary culture and (2) the economic development of farming households. As a measure to promote (1), a bottle of rose wine is given free of charge annually to every Furano household. It should be noted that this service to return the profits from the municipal wine project to citizens is intended not only to ensure income for farmers but also to benefit all the citizens. Article 3 (management policy) states that the wine project should be developed: (1) to enhance the business performance of companies involved in this project and (2) to contribute to public welfare. These principles indicate that the pursuit of profits is not the ultimate goal of this project; the wine business should be operated by ensuring sufficient profits and in a way that improves public welfare.

The construction and expansion of the winery have been conducted under the responsibility of the municipal government. Its renovation project in 1979 was subsidized by the national and prefectural governments, while the renewal of the winery's stores and exhibition rooms in 1995 and the construction of its barrel storehouse in 1999 were conducted as the city's independent projects for the production of vintage wine. The municipal government has also constructed various winery-attached facilities (e.g., delivery center, empty bottle storehouse, fermentation tank and fixed-temperature storehouse) and improved the surrounding environment of the winery. Also, to produce pure Furano breeds, the Seed Center was constructed and breeding houses and greenhouses were improved.

The Grape Juice Factory was newly constructed in 1989. Product storehouses and material storehouses were also constructed. All of these projects, excluding the initial construction and extension of the main building of the winery funded by government subsidies, were conducted as the city's independent projects. Furano's wine project is exceptional in that the size of the wine manufacturing facilities was gradually expanded in proportion to the increase of wine sales.

4. Development of local industries and Furano citizens

(1) Activities of the Grape Cultivation Union

Although the cultivation of material grapevines has been promoted under the leadership of the municipal government, the efforts of individual farmers cannot be ignored. To share high-level cultivation technologies, producers cooperated with local agricultural cooperatives and also founded their own associations. Specifically, the Yamabe Union for the Cultivation of Wine Material Grapes in the jurisdiction of the Yamabe Agricultural Cooperative (1977), the Furano Union for Wine Material Grape Production in the jurisdiction of the Furano Agricultural Cooperatives (1979) and the Federation of the Furano Unions for Wine Material Grape Production (January 1980) were founded. These organizations have endeavored to collect and share expertise through study sessions and visits to advanced regions, thus playing an important role in improving cultivation technologies of grape producers.

(2) Exchange of local citizens through Furano Wine

The abovementioned Furano Wine projects have not only promoted wine sales but also prompted the following exchange activities of local citizens through wine.

First, a variety of events featuring wine have been organized. The Furano Wine and Grape Festival, started in 1978, has become an annual event. The Commerce, Trade and Tourism Department of the City of Furano has served as the secretariat of the festival's executive committee. This event, held in mid-September at Furano Budogaoka Park, attracts 5,000 citizens and tourists. Rose wine and grape juice are served free of charge, and young women demonstrate a traditional wine making method by treading on grapes. In recent years, this festival has come to attract students in school trips and foreigners from Taiwan and other regions.

In the Furano Wine Festa, organized by the Furano Tourist Association in cooperation with the Furano Hotel Union, some 50 wine lovers from around the city taste a variety of foreign wines, learn about wine from sommeliers, and compete in the Wine Brand Guessing Contest. This event intends to help people involved in wine businesses (hotels, pensions, restaurants, etc.) increase knowledge of wine and improve their services.

Second, the City of Furano uses grapevine cultivation and wine production as a means to learn about the local area. For example, the city's junior high schools own school vineyards to give students the experience of harvesting work. The harvested grapes are sold to local wineries. Students from Furano Agricultural High School harvest grapes at a municipal vineyard as part of on-site training programs. Also, wine preparation work at the Furano Winery is included in the training program for newly employed high school teachers in Furano. In this training, the teachers throw material grapes from containers onto conveyor belts, eliminate foreign substances and conduct other works. These projects help citizens become familiar with the local industry.

Treading on grapes at the Furano Wine and Grape Festival

(3) Promotional activities for local specialties by public corporations

Activities by the following three public corporations have greatly contributed to the development of local industries in Furano.

Efforts by Furano Agricultural Production Corporation (founded in November 1983) to develop specialties relating to Furano Wine are significant. This public corporation, operated under the third sector system with investments from the City of Furano and the Agricultural Cooperative, manufactures and sells cheese, milk, butter and iced milk. Naturally, these products are made from locally produced milk. Visitors to the Furano Cheese Factory can observe the cheese-making process and attend homemade butter classes to experience butter-churning. In the Dairy Product Study Room, culture and history relating to milk and cheese are introduced through panel exhibitions and at the milking experience section.

Furano Promotion Corporation (founded in November 1962) runs restaurants and hotels where Furano's local specialties are served. This public corporation, operated under the third sector system with investments from the City of Furano, the Agricultural Cooperative and the Chamber of Commerce and Industry, opened the Furano Wine House in 1979 on a hill overlooking the city. In this restaurant, guests enjoy Western meals while marveling at the panoramic view of the immense pastoral landscapes and the Tokachi mountain range. This restaurant serves Furano Wine, Furano Grape Juice, locally produced beef and Furano Cheese fondue (which uses special bread as a bowl). Highland Furano, opened in 1986, is Furano's only public facility with hot springs. All of these facilities are surrounded by lavender fields, allowing summertime visitors to stay and wine and dine while enjoying lavender in full bloom.

Furano Products Corporation, founded in October 1985, uses a stock company-style management system with private capital. This public corporation is commissioned with the operation of the Furano Products Center, where Furano Wine, dairy products, meat products, lavender goods and other Furano specialties are

manufactured and sold. This center is always crowed with tourists buying souvenirs.

5. Success factors

Furano's success in local revitalization can be attributed to the following factors. First, rich tourism resources were used effectively. For example, the image of Furano came to be associated not only with existing ski resorts but also with pastoral landscapes which became famous nationwide through the TV drama "Kita-no-kunikara" and with lavender fields covering the hilly areas. This image has enabled Furano to attract more tourists and to increase the sale of Furano Wine, Furano Cheese and lavender goods. Also, by using facilities for the production and sale of specialties as a means to attract tourists (e.g., by offering dairy making classes at the Cheese Workshop and by growing lavender at the winery), Furano has succeeded in the promotion of tourism.

As for local specialties, it should be remembered that Furano Wine has been sold since 1972, long before the airing of the TV drama. This means that, because the basis for advancing local development had already been established, local citizens were able to maximize the opportunity given by the drama for local revitalization.

Second, the City of Furano as the local authority has played a leading role in promoting local revitalization. It is difficult for private companies to operate tourist businesses because of the huge costs required for improvements, operation and promotion of tourist facilities. Thus the City of Furano directly operates the Furano Viticulture and Enology Experiment Station to promote agricultural promotion through grape cultivation and produce and sell wine as a local specialty. The City of Furano has also financed various public corporations, supporting their activities. For example, Furano Promotion Corporation offers specialty sales and promotes lavender cultivation, Furano Agricultural Production Corporation conducts the production, sales and experience programs of dairy products, and the Furano Products Corporation exhibits and sells specialties. The City of Furano also finances vine growers and serves as the secretariat of the Wine and Grape Festival Executive Committee.

Third, Furano's local revitalization projects have been promoted based on Furano's own principles, while referring to advanced projects of other municipalities. The City of Furano has introduced the wine project following the success of Tokachi Wine by Ikeda, and has started lavender production after the example at Farm Tomita in neighboring Nakafurano. In this way, Furano has accurately read the need of the times and introduced various projects following advanced examples. These projects, however, have not been implemented haphazardly. Although wine production may have been promoted by riding on the wave of the wine booms, i.e., through mass production with materials procured from outside the city, Furano Wine has been made under the policy "quality before quantity" using locally produced material grapes alone. As for lavender tourism, it is Nakafurano that is the most important producing center of the flower. Thus Furano has not recklessly promoted lavender cultivation to promote tourism, because the city has many other tourist resources and considers it inappropriate to compete with neighboring municipalities in lavender cultivation. In this way, Furano is endeavoring to realize the development of the overall Furano area.

Furano Viticulture and Enology Experiment Station amidst lavender fields

Table 3 Development of Furano Wine Project

Year	Project	Grape-related events	Wine Production	Wine sale	Related events
1972	Establishment of Furano Viticulture and Enology Experiment Station				
		Experimental cultivation sites established; breeding tests started	License for Experimental Liquor Production granted		
			Grape preparation started		
1973		Determined to be subject to the Fruit Cultivation Promotion Law			
1974		Experiment sites commissioned to the Hokkaido Central Agricultural Experiment Station established (50 ares)			
		Furano's experimental cultivation sites established (30 are)			
		Two breeds designated as material grapes for Furano Wine			
1975	Implementation of the Wine Project officially decided			Trial wines offered at National Ski Meet held in Furano	
1976		Publication of "Cultivation Textbook"	License for Limited Production of Fruit Wine granted	Label design determined	
			Winery completed		
1977				Trial wines offered at World Cup Ski Competition held in Furano	
1978				Sale of Furano Wine started	
1979			Winery expanded	Projects to return wine sale profits to citizens started	Wine House Opened
1980			Official License for Fruit Wine Production granted		
			Delivery Center completed		
1981		Farmland for new breeds established (4 ha)			Airing of TV Drama "Kita-no-kunikara"
1982				Chateau Furano Red	Awarded Gold Prize at Monde Selection
1983		Farmland for new breeds expanded (5.3 ha)			
1984				Muller	Operation of the Furano Cheese Factory started
1985	Shifted to the Wine Project Special Account	Purchase of farmland for experimental raising of seedlings (5 ha)			
1986		Seed Center completed			Highland Furano opened
1987				Chateau Furano White	The First Wine and Grape Festival
1988			Experimental production of material grapes started		
1989			Grape Juice Factory completed	Red Grape Juice	
1990				Zweigelt Red	
1991				White Grape Juice	
1992	Basic Plan for Furano Budogaoka published				
1993		Europe observation tour by grapevine producers			
1994				Muscat White	
1995			Winery expanded	White Grape Juice (180ml)	
1996				'91 Vintage Red	Pilot sale of paper made from grapevines started
1997	Shifted to the Wine Project Account			Prière Red & White	
1998			Winery expanded	'94 Vintage Red	
				Nord White Matured in Barrel '95 Red	
1999			Barrel storehouse constructed	Nord Red	

Ikeda Town

Strong leadership culminating in the construction of the Wine Castle

Taking a hint from wild vines that grow in local areas, a man (later called the "Wine Mayor") promoted a project to increase local farmers' income through grapevine cultivation. Accordingly, town officials were sent to Tokyo research centers and advanced vine-growing municipalities in Yamanashi and Nagano prefectures. The mayor himself went on an observation tour to Khabarovsk in Russia. Tokachi Wine was born under his strong leadership. Through the mayor's insatiable desire to unprecedented things and strenuous efforts by townspeople and town officials who shared their lot with the mayor, Ikeda's wine production has developed into diverse new projects, serving as the core for local revitalization.

1. Overview of Ikeda

The Town of Ikeda, which observed its 100th anniversary in 1998 since its foundation, is located to the east of Tokachi subprefecture. The town, 372.04 km in total area, features flat land with hills of 100 – 200 meters above sea level to the south.

Ikeda's annual mean temperature is 6℃ and its annual precipitation is 600 – 1,200 mm. Although Ikeda does not have much snow, it is very cold in winter with the lowest temperature dropping to –25℃, and the soil becomes frozen. Because of the cold wind from autumn to winter and much rain from July to August, the climate is suited to farming but not to fruit cultivation.

Primary industries (particularly agriculture) are the major type of industry in Ikeda. Gross agricultural production value is ¥7.2 billion (¥5 billion from crop cultivation and ¥2.2 billion from stock raising). The industrial output is ¥10.5 billion and commercial sales are ¥14.7 billion, which include sales from wine production and many other tourist-related businesses. There are about 400 farming households in Ikeda, producing grass for feeding (3,740 ha), wheat (2,050 ha), beets (1,390 ha), beans (1,530 ha), potatoes (400 ha), vegetables (246 ha) and grapes (45 ha). The planting area of paddy rice dropped to 19 ha, which is 19% of the peak year.

Ikeda Agricultural Technology Research Station, established in 1994, conducts tests and analyses on new technologies and breeds to examine and promote agricultural technologies. In stock farming, some 3,700 milk cows and 5,600 beef cattle are raised.

The population of Ikeda, which was 18,000 in the 1960s, has since decreased to 8,700. Nonetheless, forward-looking development projects, such as local revitalization projects through the promotion of the wine industry and citizen participation systems in local administration, have been promoted. In 1973, municipal cable television (CATV) started its service to promote communication among citizens.

2. Development process of local industries

It has been 34 years since Tokachi Wine was first put on the market. Also, 40 years have passed since Ikeda farmers started growing vines despite the difficulty of raising fruits here. As wine requires delicate care to produce and much time to mature, the 40–year history of Tokachi Wine production, which started from zero, demonstrates the high level of citizens' patience and ambitions with which they overcame a series of new challenges. The progress, however, was not always smooth.

The 1952 Tokachi Offshore Earthquake (Magnitude: 8.3; damages: ¥1.2 billion) and poor crops caused by cold weather for two consecutive years (1953-54) tightened Ikeda's financial conditions. In 1956, the Town of Ikeda was designated as a deficit-ridden organization requiring financial reconstruction under the Special Measures Law for the Financial Reconstruction of Local Municipalities. Ikeda was able to pay back the debts in three years, two years earlier than the initially planned five years, through all-out efforts to cut expenses.

In the process of preparing the Five-Year New Village Establishment Project to be started in 1960, extensive discussion was made on how to promote the town's fruit production. This discussion prompted townspeople to pay attention to local wild vines they knew very well, leading to the conclusion that, as wild vines grow in Ikeda despite the severe winter climate, it must be possible to raise grapevines on farms. Hoping to utilize unused

slopes and to increase farmers' incomes through grapevine cultivation, diverse studies were conducted to materialize the plan to produce grapes for raw consumption.

That year, at the request of Ikeda, the Agricultural Science Research Institute in Kunitachi, Tokyo, started research on the feasibility of raising grapevines in Ikeda. Also, the Society for Grape Lovers was founded by 26 young farmers who supported the ex-mayor Kaneyasu Maruya. In 1961, 2,400 seedlings of ten breeds (Portland, Fredonia, Sable, Delaware, etc.) were distributed among the society members, farmers and municipal officials. Although the majority of breeds except Fredonia and a few others died due to frost damage, cultivation continued using the remaining breeds. That year, on-site study sessions by the Director of the Agricultural Science Research Institute were conducted and four town officials were dispatched for an extended period to the research institute in Kunitachi and grapevine growers and wineries in Yamanashi and Nagano.

In April 1962, the Town of Ikeda started research on wine production by establishing the Ikeda Agricultural Products Processing Research Center, using the basement of a waterworks facility. A total of 1,400 young grapevines were imported from Yamanashi and other prefectures and research was conducted on local wild vines. Under the slogan "no proposal without research," advocated by Mao Zedong, the members of the town assembly, members of the Society of Grape Lovers, and town officials cooperated in conducting extensive research on grapevine producing areas in and outside Hokkaido.

In 1963, the former mayor Maruyama visited Georgia and Khabarovsk in the former Soviet Union to confirm the possibility of raising grapevines in cold regions, becoming confident of the feasibility of Ikeda's project.

In June 1963, the Town of Ikeda was granted the license for experimental production of fruit wine by the Ikeda Tax Office, under a provision of the Liquor Tax Law: "the license for schools or experiment centers stipulated in the School Education Law to experimentally produce fruit wine for the purpose of education or to test or research special material or production methods shall be granted provided that such license is necessary and is not for commercial purposes." With this license, the first experimental wine was produced. Because of the immature wine-making techniques, however, the finished products were far from marketable wines. That year, town officials were dispatched to Germany for a one-and-a-half year training program to learn about grapevine production and wine producing methods.

In August, the Khabarovsk Far East Agricultural Research Institute in the former Soviet Union confirmed that the wild vines native to Ikeda belong to *Vitis Amurensis Subp* similar to European grapevines for vinification.

Ikeda Research Institute for Viticulture and Enology, which was reorganized from the Ikeda Agricultural Products Processing Research Center, started tests on appropriate breeds at the 3-ha experiment plot. Following the advice of the Director of the National Research Institute of Brewing of the National Tax Administration Agency who stopped at Ikeda after attending the meeting of the Japanese Society of Horticulture Science, Tokachi Ainuyama Wild Wine, a red wine made from wild vine, was submitted to the fourth International Wine Competition held in Budapest in Hungary. Although the name of Tokachi Wine was totally unknown at that time, this wine won third place in the dry wine category (approx. 2,000 items from 23 countries). This enabled Ikeda to gain confidence and encouragement in promoting wine production.

That year, Ikeda farmers suffered damage from cold weather and poor grape harvest. However, the town obtained the license for experimental brandy production, starting tests on brandy and sherry production from grapes unsuitable for raw consumption. Ikeda was granted an official license for liquor production in October 1966, putting Tokachi Wine on the market in 1967.

That year, the total sales of wine, sherry and brandy were 17.7 kl. In 1968, the wine-related businesses were shifted from the special account to a public corporate account. With this shift, Ikeda's wine production has come to be managed as an independent commercial enterprise.

Tests on the improvement of breeds were continued. For five consecutive years after 1970, Sable 13053 raised in France was cloned, producing "Kiyomi," a cold-resistant new breed suitable for red wine production. To enable townspeople and visitors to Ikeda to enjoy wining and dining, Restaurant Tokachi, a municipally operated restaurant, opened inside the town hall.

In 1971, Ikeda obtained the permanent license for liquor production. With the annual production reaching 170 kl, a full-scale production structure was established. In 1973, the construction of a large-scale grass raising farm was started in the town's Todai district. In July 1970, the Ikeda Wine Castle was completed and the wine production increased to 1,800 kl. That year, the first Wine Festival was held in the front garden of the Wine Castle.


Lineup of Ikeda Wine brands

Meanwhile, delegates of town officials visited West Germany (1963), Bulgaria (1972), Hungary (1975) and Cognac in France (1981) for one-year (or one-and-a-half- year) training programs to learn viticulture and vinification methods.

At the 1984 International Wine Competition, Tokachi Brandy XO, Amurensis Red Wine won Grand Gold Prize and Kiyomi won Gold Prize. Ikeda commercialized Japan's first champagne-style sparkling wine in 1985. In 1986, the municipality obtained the license for liqueur production, starting the manufacturing of "Yusuraume." That year, the annual wine production exceeded 1,600 kl.

Over the last 30 years, the Town of Ikeda has conducted research on the development of new breeds to enhance the cold-resistance of wild vines, by crossbreeding wild vines with European grapevines such as the Kiyomi breed suitable for vinification.

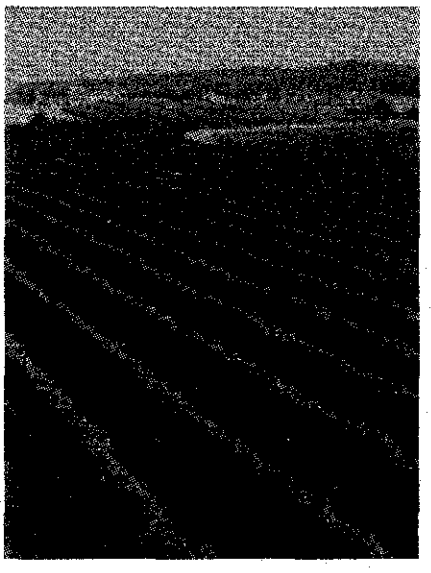
The total number of young plants introduced from 1961 to 1978 was 42,000 (150 breeds). After 1973, approximately 16,500 young plants (48 breeds) to be processed into wine were imported from West Germany, Australia, Hungary and the former Soviet Union.

It required a long time and great patience to develop material grapevines that are resistant to the cold weather, easy to raise, highly productive, and suitable for vinification of quality wine.

More than 17,000 breeds have been raised at the municipal experimental farm. Of them, IK567, which was crossbred in 1975 as Ikeda's 567th test breed, was found to have sufficient acidity and sugar content and likely to be grown in Ikeda. After maturing it in barrels and bottles, the quality was tested and determined to be suitable for processing into red wine of supreme quality – only next to wine made from the Kiyomi breed. This new breed was named Kiyomai.

To grow the Kiyomi breed, it is necessary to spread earth on the ground to winter the breed after harvesting and pruning. The earth should be removed in spring to allow the plant to grow above the ground. Such work is unnecessary to grow Kiyomai, which is highly resistant to the cold weather. Thus this breed is expected to help increase the cultivation area.

Although the production of Tokachi Wine started to promote local agriculture, the grapevine cultivation area has not increased as expected. This is because harvesting and other jobs involved in grapevine cultivation require much labor. Also, it is difficult to use machinery in raising and harvesting the crop. Thus the number of vine growers in the town is around 10.


Vineyard

Ikeda's grapevine cultivation area is currently about 44 ha, of which 4 ha is produced by individual farmers and 40 ha at the municipal farm. To secure the procurement of material grapevines, the municipal government contracted in 1981 with farmers in Niki, a vine-growing town in central Hokkaido, to produce wine material grapevines.

Because wine making is conducted as a municipal enterprise, the town officials are required to deal with various jobs from distribution to sales promotion. At first, it was very difficult for town officials who were not familiar with business practices, to assume these responsibilities. The sales promotion activities immediately after the start of the sales were particularly hard; town officials visited a number of wine stores and

department stores with Tokachi Wine in their traveling bags. Some officials even boarded a train with wine bottle cases.

Currently, the distribution of Tokachi Wine within Hokkaido is conducted by a Hokkaido liquor wholesaler, and that in Japan's mainland is commissioned to Tokachi Co., Ltd. and Kansai Tokachi Co., Ltd. (both are third-sector companies).

3. Development of local industries and involvement of local citizens

Ikeda's wine production and sales project, initiated for the purpose of promoting the revitalization of local industries, have achieved significant results by overcoming many difficult challenges. Efforts have been made to enable townspeople to enjoy the locally produced wine, so that Tokachi Wine will be firmly rooted as a local specialty. In an attempt to return the sales profits to citizens, Tokachi Wine is offered to them at reasonable prices. To realize another of their goals, promoting local culinary culture through wine, it is necessary to organize various wine-related exchange activities between people in and outside Ikeda and encourage citizens' positive involvement in these activities. To this end, the Town of Ikeda hosts a variety of events, such as the Wine Tour and the Wine Festival.

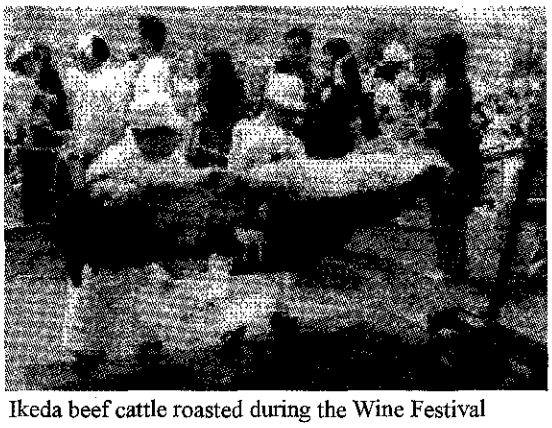
(1) Wine Tour

The first wine tour by local resident was conducted in August 1972, when wine production was well under way and the prospect of business operation by the municipal government began to look promising. In this tour, citizens visited vineyards and wineries in France, West Germany, Spain, Italy and Switzerland – nations with long wine-making histories and the birthplaces of wine culture. This tour has been conducted 14 times to this day in every other year, with the attendance of some 400 townspeople (4% of Ikeda's population) in total.

(2) Wine Festival

The first Wine Festival was held in 1974 in the front garden of the Wine Castle to celebrate the completion of the castle. During the festival, an Ikeda beef cattle was roasted whole and Tokachi Wine was served free of charge and on an all-you-can-drink basis. These attractions were so favorably received that from the second festival it was opened to people from outside Ikeda. This festival has come to be held twice a year, in July as the Tokachi Wine Wai-Wai Festival and in October as the Autumn Wine Festival. The preparation of these festivals is conducted by volunteers from the Chamber of Commerce and Industry or the chamber's youth division. Many local companies also join in organizing various attractions. In this way, the Wine Festival has developed into one of the greatest local events to appreciate every aspect of Tokachi's cuisine culture. Since 1982, another festival "Gathering in September," organized by the Ikeda Local Product Association, has been held, serving as an opportunity for gourmets to appreciate vintage wine and Ikeda Beef dishes.

That year, the Wine Society, a group of aspiring local youth, was founded, offering opportunities for young people to increase their knowledge of wine and to make friends through wine.



Ikeda beef cattle roasted during the Wine Festival

Tokachi Wine Wai-Wai Festival

(3) Development of wine-related products

With the increase of sales of Tokachi Wine, local merchants have developed and marketed a variety of wine-based products, including wine *yokan* (sweet jelly bars), wine cake, brandy cake, cookies, bean snacks and ramen. Processed foods from beef have also been manufactured by third-sector meat processing companies and marketed nationwide as gifts.

(4) Establishment of the Denen (Pastoral) Hall

In European towns and villages (even very small ones), citizens organize their own music and drama festivals. In response to requests from citizens who have attended the Wine Tour, the Ikeda Music Camp was organized following European examples and as a measure to promote wine culture.

In 1990, the Denen Hall was established as a core facility to revitalize Ikeda as a town of "supreme taste, music and aroma" through the promotion of wine culture. This facility has since offered townspeople precious opportunities to appreciate live music, playing an important role in promoting local culture.

(5) Development of "Green Tourism"

One of the town's exceptional tourism resources is the scenery of extensive vegetable fields and dairy farms, which look different in each season against the background of the Hidaka mountain range. Maximizing this great asset, the Town of Ikeda has promoted "Green Tourism," an attempt to promote exchanges between urban and rural dwellers through the positive use of various functions of agriculture and faming villages.

At the Makiba (meadow) House, visitors can enjoy fresh agricultural products while viewing the pastoral landscape outside. This is now one of the most popular destinations for tourists traveling to Ikeda, which number about 500,000 annually. Paparagi Inc., managed by a local dairy farmer, sells low temperature-pasteurized milk, fresh cream, yogurt and *monaka* sweets made from organically grown beans. Also, the Happiness Dairy (Shimaki Farm) produces natural ice cream from Jersey milk. These facilities contribute to the promotion of Green Tourism in Ikeda.

(6) Beef production and the Meat Center

To promote dairy farming and meat production and to improve citizens' dietary life, the Town of Ikeda in 1968 established the Ikeda Meat Center by obtaining a license to operate a facility to slaughter animals. In 1974, town officials were sent to the United States to acquire skills for raising livestock in cold regions. After that, an experimental cowshed accommodating 100 head of cattle was established to test beef cattle raising methods and to promote beef production. In 1973, *akaushi* (Japanese Brown Cattle), a breed easy to raise efficiently, was introduced from Kumamoto. This breed has since become Ikeda's local specialty. In 1993, there was a total of 1,688 heads of breeding cattle in Ikeda raised by 56 farmers. Although beef cattle business has faced various challenges, partly due to trade liberalization, there are now 740 Japanese Black Cattle (raised by 78 farmers), 988 Japanese Brown Cattle (39 farmers) and 2,200 dairy cattle and bulls (three farmers) in Ikeda. These beef cattle breeders endeavor to improve the quality of their cattle.

The Ikeda Meat Center, established in 1968 as a public slaughterhouse, handles the dressing and storage of meat brought in by farmers in and outside Ikeda. Next to the center is Tokachi Ikeda Food Co., Ltd. (financed 75% by Tokachi Hannan (private sector) and 25% by the Town of Ikeda), which manufactures and sells meat and processed meat products, such as ham, sausage, hamburgers and roast beef. The production of quality meat by farmers and the close cooperation among farmers, the meat center and private companies have contributed to the development of Ikeda's livestock industry.

(7) Acceptance of JICA trainees

From September to October in 2000, three trainees from South America (Colombia, Bolivia and Peru) attended training programs held in Ikeda under the theme "Economic Revitalization of Local Municipalities through Wine." In this training, the participants learned the history and methods of grapevine cultivation in Ikeda, wine-making, stock farming, meat processing and forestry. They also joined local citizens at the Wine Festival and stayed at farming households. This training program, which has been acknowledged as an

effective means to promote the internationalization of the town and its citizens, is to be held for the next three years.

4. Development of local industries and municipal governments

The municipally owned Tokachi Wine Co. is a wine manufacturer currently ranked middle among domestic wine makers. Although Ikeda and Furano are the only municipalities in Hokkaido that directly conduct wine-making businesses, there are some wine makers run under the third sector system financed by local authorities.

Although municipally owned wineries are exempt from corporate taxes and property taxes, it requires a great deal of time, labor and money to produce material grapes of good quality under Ikeda's severe winter climate. Actually, Ikeda has invested a great sum of money – almost equivalent to the exempted taxes – on R&D on grapevine and wine production.

Tokachi Wine is operated by the Town of Ikeda with the budget from the Ikeda grapevine and vine business account under the Local Public Enterprise Law. Since 1968, Tokachi Wine has been run with the budget from the special account. Over 27 years from 1971 to 1998, a total of ¥1.25 billion in profits have been appropriated to the general account and others to be used for painting municipal roads wine-color, constructing the citizen hall and community center and for promoting projects relating to arts, culture and education.

Ikeda's 2000 budget of the general account was about ¥6.9 billion and that of the special account (to be used for public sewerage, senior citizens' welfare and the operation of the Meat Center) was about ¥3.9 billion. Of the corporate account budget, ¥2.6 billion was set aside for grapevine and wine businesses and ¥280 million for restaurant businesses.

Of 230 Local goverment officials in Ikeda, 30 belong to the corporate section and 100 work for wine-related businesses and municipal restaurants. As a result of the promotion of wine-related businesses, it has become possible to appropriate part of the profits in the special account to the general account. The development of the wine industry has also benefited the town in that it has produced new employment opportunities in a town where there are few large companies and that it has helped increase sales in commercial and manufacturing industries.

Visitors to Ikeda include not only tourists but also reporters from the media and politicians and assembly members for observation tours. The town has accepted almost all of these visitors. This may be one of the reasons the names of Ikeda and Tokachi Wine have become known nationwide.

At the Ikeda Wine Castle, completed in 1974, visitors can observe the bottling of wine and the wine cellar (where wine is matured in bottles and barrels) through glass panes, and wine and dine at Restaurant Tokachi on the third floor overlooking Ikeda's pastoral landscapes from the window. They can also buy souvenirs at a store inside the castle.

Restaurant Tokachi offers not only wine but also steak and stew made from Ikeda Beef and local vegetables. Although the number of customers has decreased in recent years to 45,000 annually, many ardent fans support the operation of the restaurant.

In 1998, the Town of Ikeda implemented the "Concept of 100-Year Forests," a project to preserve and grow greenery for future generations by the hand of local citizens through the restoration of forests lost over the past 100 years in the process of local development. Accordingly, tree-planting festivals were held with the participation of townspeople. As part of this project, the "Concept for Oak Forests" has been promoted. This is an attempt to develop oak forests from acorns gathered by citizens and to use the grown oak trees in producing wine barrels. Currently, 3,000 young oak plants are being raised. Through this project, a main pillar in Ikeda's future development as a town of wine supported by its citizens is being built. To produce cityscapes suitable for a town of wine and to enable citizens to become familiar with wine material grapes, a campaign to fill Ikeda with grapevines has been promoted to encourage many townspeople to raise young grapevines for vinification.

Ikeda Wine Castle

In this way, Tokachi Wine has been promoted as a municipal

project. Nonetheless, competition with inexpensive import wines of high quality has become fierce and sales of Tokachi Wine have been decreasing. How to develop this project in the future and how to improve related facilities shall be determined based on thorough discussions at the town assembly.

5. Success factors and their impact

One of the success factors of Ikeda's wine project is the positive attitude of the ex-mayor Maruya, which is demonstrated in his principle: "incessant challenge to the unprecedented." During the initial process of the project, namely, when he introduced grapes for raw consumption and started the wine project based on the outcome of experimental production, he was sometimes called the "braggart mayor" by townspeople. At the same time, however, he was supported by the strenuous efforts of the members of the Society of Grape Lovers, townspeople and town officials who talked with the mayor about their dream of making wine. Sharing the pain and pleasure of producing something from nothing, the mayor and his supporters finally realized their dream.

Under the slogan "no proposal without research," the Town of Ikeda obtained the license for experimental wine production on the basis of a provision of the Liquor Tax Law and dispatched town officials to domestic and foreign cities for long-term training on grapevine cultivation and wine production technologies. Since all of these were without precedence, it was necessary to promote each project positively based on research on wine and related laws.

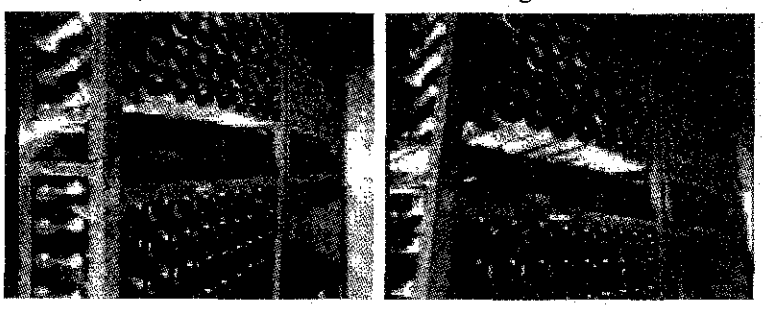
In 1967, ex-mayor Maruya visited a German farmer where town officials once stayed for training programs. The farmer treated Maruya with bread and beef dishes. These dishes – all of which were home-made – impressed him so much that he decided to enrich the culinary life of Ikeda citizens. Although it was not the custom for townspeople to eat beef at that time, he established the Meat Bank, from which citizens when necessary can withdraw the meat they have commissioned. He also organized cooking classes to teach citizens how to use beef tails and tongues which had been thrown away. Encouraged by the popularity of these cooking classes, he started the Restaurant Tokachi project to develop local culinary culture. As a preparation for this project, the ex-mayor dispatched the employees of the municipal school lunch service center to a Tokyo hotel where his close friend worked as the manager. This was the staff training method to which Maruya had always attached importance.

Through these measures, Ikeda has developed from a "town of wine" to a "town of wine and beef dishes." In 1969, at the recommendation of the above-mentioned Tokyo hotel manager, Tokachi Co., Ltd. was founded with capital from the Town of Ikeda (25%), the Society of Grape Lovers (25%) and a Tokyo company (50%). Restaurant Tokachi Tokyo was opened in Nihonbashi.

The wine project has been managed to use the budget of the municipal corporate account. To promote the project, diverse methods based on private company management style (e.g., Tokachi Co., Ltd.) are used.

To locally produce grapevines for vinification of quality wine, young plants have been imported from abroad and town officials were dispatched to foreign countries to learn cultivation and wine-making technologies. One of the characteristics of Ikeda's town hall is the high percentage of officials from outside Ikeda. Town officials from within and outside the town have from diverse perspectives discussed wine production methods and sales strategies, endeavoring to promote various projects. Ikeda's city planning has always been equivalent to the fostering of human resources, as demonstrated in various projects. Ikeda has obtained information from tourists, media reporters and people visiting for observation tours, and also sent information through the sales of local products. The accumulated information has become an invisible yet invaluable asset of the town.

The future challenge of Ikeda is whether town officials and citizens will be able to develop and pass on to tomorrow's generations the enthusiasm for Ikeda's further development and the sharp sense for management nurtured through diverse exchanges with people in and outside Japan.



The wine cellar of the Ikeda Wine Castle

As mentioned before, Ikeda should also conduct research on the crossbreeds of material grapes and improve the Green Tourism programs targeting tourists. Nonetheless, as long as Tokachi Wine is the wine of Ikeda's citizens, the Town of Ikeda will be able to continue developing this product as the wine of the North.

Town of Ikeda – Organization