

# Commodification of rural space in Uwajima City

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## 1. Introduction

The Uwajima city is situated in the southwestern part of Ehime Prefecture. It is the largest city of the Nanyo region. Uwajima started to develop as a castle town in 1595 (the 4th year of the Bunroku Period) and its basic form was completed during the era of clan rule by Takatora Todo and Nobutaka Tomita. After Hidemune Date became the lord of the Uwa District in 1614 (the 19th year of the Keicho period), the town prospered as a Date 100,000-koku<sup>1</sup> castle town until the Meiji Restoration. The town was reinstated as a township in 1889 (the 22th year of the Meiji period), and became into a city in 1921 (the 10th year of the Taisho period) (Shinohara, 1985a, 639-640, 645, 648). The current Uwajima City was established by combining former Uwajima City, Yoshida Town, Mima Town and Tsushima Town in 2005, becoming home to 92,602 citizens (according to the official Website of Uwajima City Hall.)

The area is blessed with rich fishery resources with a typical ria coast stretching along the Uwakai sea. The eastern part of the city, on the other hand, is a mountainous region with the Onigajo and other ranges. Cities and villages are dispersed on flatlands in the coastal area and basin-shaped valleys in the inland area. The total area of the city

is 469 km<sup>2</sup>, 70.9% of which is covered with forests, 17.3% is agricultural land, and 2.9% is residential areas. The coast of the Uwakai sea used to be famous nationwide for terraced-field farming, as people called it “Plowing to Heaven.” Thanks to warm, rainy climate conditions, the place is suitable for growing tangerines. In addition, the Uwakai sea is a well-known sardine fishing ground. Dried sardine was the main source of revenue for the Uwajima Clan. In this way, agriculture and fisheries have equally contributed to the local economy; the place has been a half-agriculture and half-fishing community since early times.

With a quiet harbor along the ria coast, where water is ideally warm and water quality favorable, the Uwakai sea is one of the best sardine fishing grounds (Shudo, 1985a). The local fishing industry shifted to higher value-added aquaculture business with mother-of-pearl shells in the latter half of 1950s and yellow tail in 1965 (Shudo, 1985b). The area satisfies many conditions for fish farming: the quiet harbor of the Uwakai sea along the ria coast is suitable for fishpond farming; young fish inhabit the Uwakai sea; local seine fishers can provide fresh feed; and the fishing ground is uncontaminated. As a result, this fishing community once constituted one tenth of the

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<sup>1</sup> koku represents a unit of rice production

national production in the first stage of its development. Following a downturn of the pearl farming business, the industry made a shift to yellow tail breeding and peaked in 1980 with 28% share of national production.

Since the high-economic-growth period, however, the city of Uwajima, which did not have strong industrial capabilities, as exemplified by its nickname “a Town without smokestacks,” saw a clear evident waning of the local economy. The business environment for the agricultural sector deteriorated due to a slump in pearl farming caused by weak sales, depopulation in farm and mountain villages, emergence of marginal villages (meaning “villages in danger of disappearing” Written in Japanese regulatory terms,) declining and aging of agricultural workforce, increase in abandoned farmland, and other local factors, as well as competition with other production areas and inexpensive imported farm products.

Against the backdrop of these changes, the industry started to explore new values by re-evaluating all the resources the rural community had, including agricultural landscape and rural space and culture, in addition to agriculture as an industry. In other words, the rural spaces started to show their aspect as a consumption space, while the traditional role as a production space to yield farm products relatively declined (Ilbery and Bowler, 1998.) As pointed out by Takahashi (1999) and Tachikawa (2005), Japanese agricultural areas that have long served as production centers for farm products are now considered as space to provide leisure, comfort, cultural and educational value, environmental protection, and so on. Farm villages in the post-productivism era can be characterized by extensive agriculture, diversification of management (adding economic activities other than crop production, such as rural tourism, direct sales stores, horse-riding and fruit

picking) , stewardship of farm villages, and improved profitability through the production and sale of small-lot, high-grade specialty and top-brand products (Woods, 2004.) It is also pointed out that abandoned farmlands are increasing in advanced countries as a result of decreasing subsidies in agriculture and a policy of trimming rice production.

This paper explains the process of commercializing rural space, by taking Uwajima City as an example, and analyzes the regional characteristics in the commodification tailored to the local natural conditions. Lastly, we will discuss the changes in the landscape of terraced fields in Yusumizugaura and the current status of its commodification.

## **2. Process of commercializing rural space in Uwajima City**

One of the most noticeable features of rural spaces in Uwajima is the large extent of mountainous areas. About 90% of the municipal land is covered with mountains, with 2% being hilly areas and 5% being lowland areas, roughly. These topological conditions suggest that the area does not have much potential for agriculture. On the other hand, its location facing the Uwakai sea rich in fishing resources makes it favorable for fisheries. If we look at the cross-section of the area from offshore toward the southeast, it consists of water, islands, peninsulas, coast, inland basins, and mountains in the back, providing diverse spaces for development of fisheries, agriculture, urban-type settlements and forestry (Fig.1)

How can we make use of rural space with these features? First, let us look at the changes in the income from agricultural production in the major agricultural subsectors in Uwajima. As former Uwajima City, Yoshida Town, Mima Town and Tsushima Town were merged in 2005, the data for

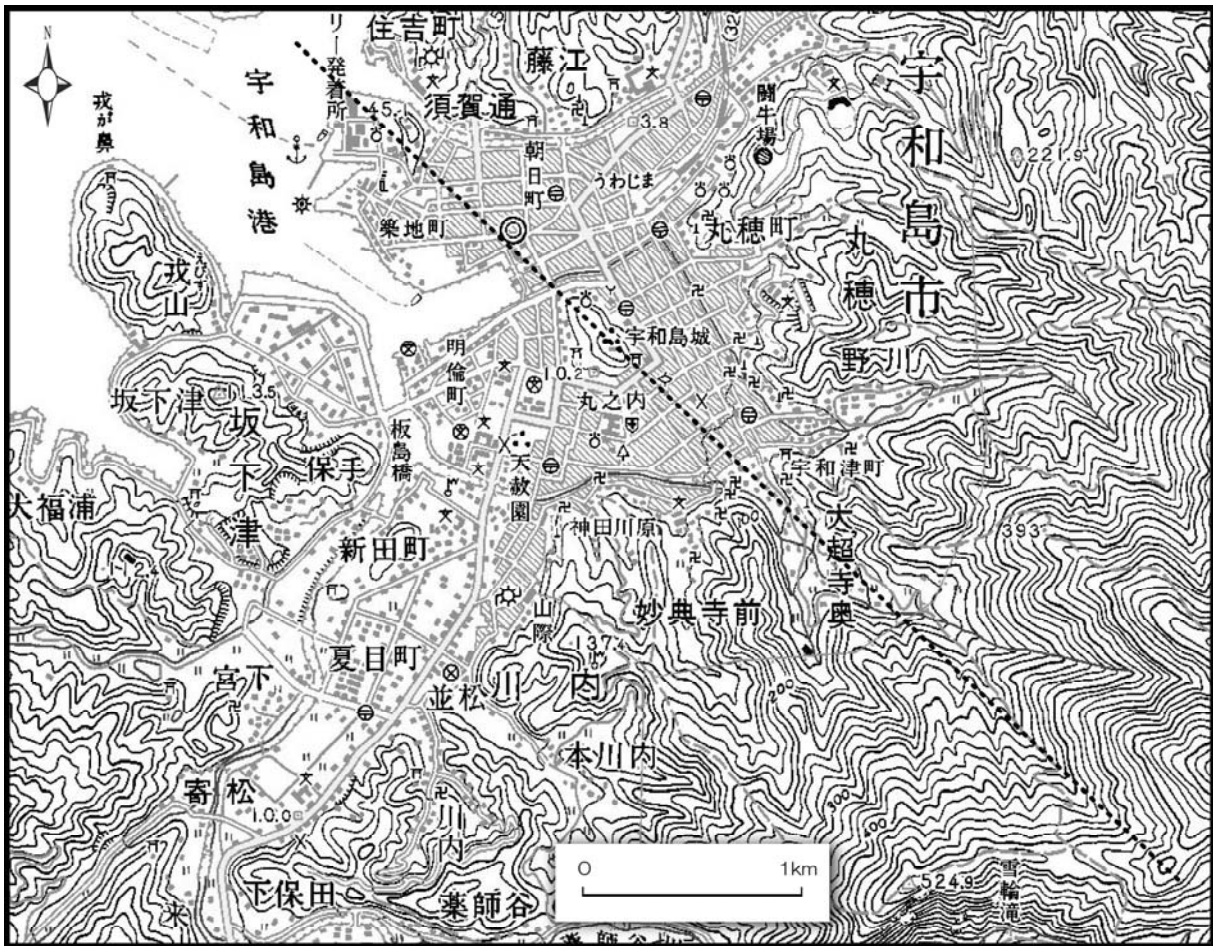


Fig.1 Rural Space in Uwajima City  
Source: Geographical Survey Institute

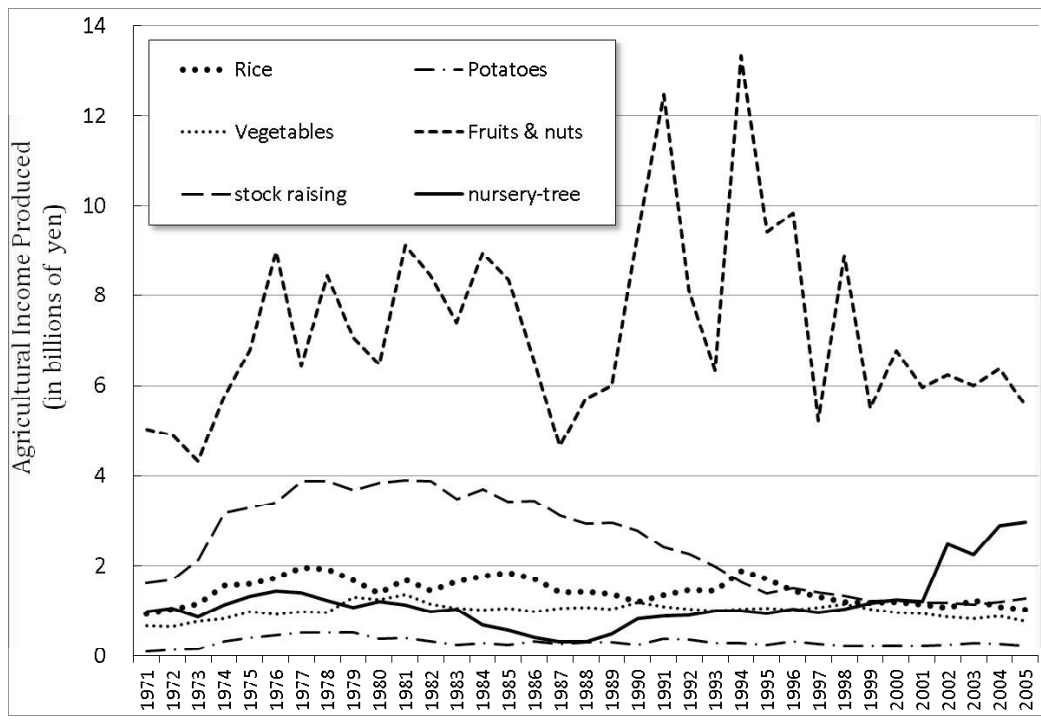


Fig.2 Changes in Agricultural Income Produced in Uwajima City  
Source: <http://www.e-stat.go.jp>

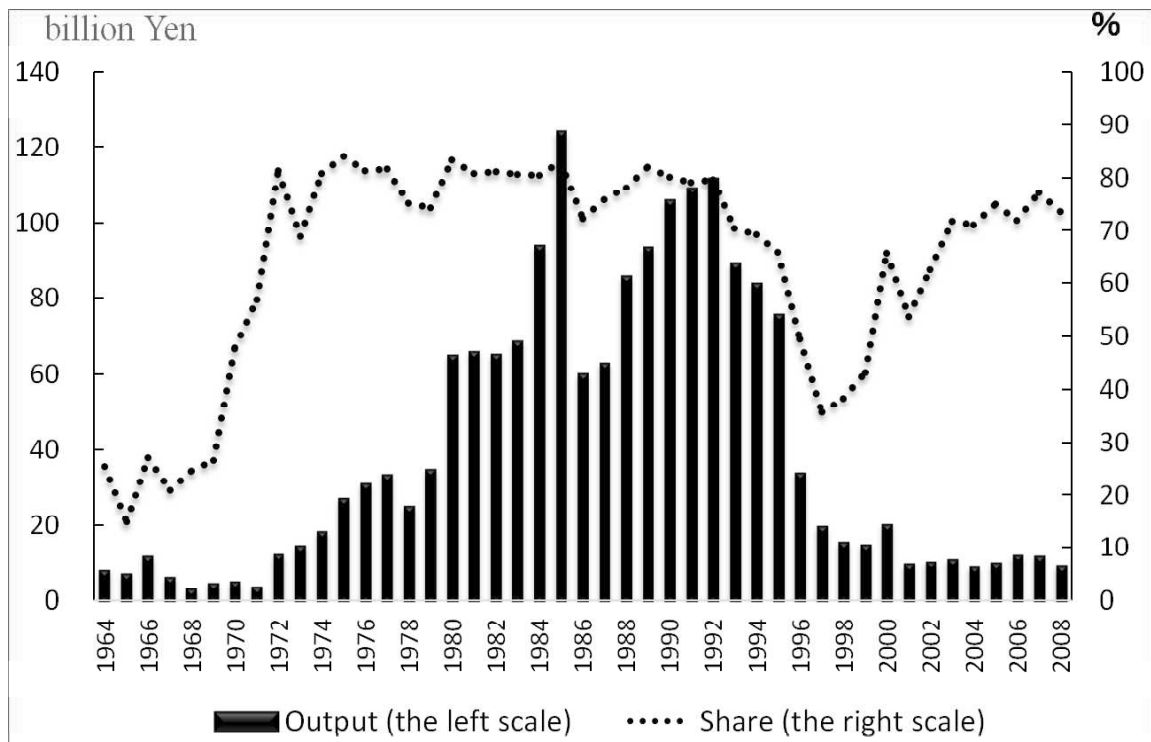


Fig.3 Changes of output of mother-of-pearl in Ehime Prefecture

Sources: ① Ministry of Agriculture, Forestry and Fisheries: Annual Statistics of Fishery and Fish Culture.  
 ② Ehime Prefecture: Annual Statistics of Agriculture, Forestry and Fisheries.

these city and towns for up to 2004 are integrated in Fig.2. The figures suggest that newly-established Uwajima City occupies the most important position in fruit production in any of these years. It ranked second in stock-raising until the 1990s, and went down afterwards. Other crops include rice, vegetables, young plants and roots, all of which rank relatively low. Since Uwajima has limited flatland, the planted acreage for rice and vegetables is small, and the market for these products is limited to the local community. The farming of these crops is meant more for self-sufficiency and local production for local consumption than anything else.

Uwajima, where many hilly areas and production areas are concentrated, is suitable for growing tangerine and other fruit trees. Main commercial fruit products dominate the largest

portion of income from production agriculture. At the same time, they are sensitive to weather conditions compared with other crops and fluctuate greatly from year to year. This instability is a challenge for the producers. The fruit business grew from the latter half of the 1970s to the mid-1980s, generating a relatively-stable revenue of more or less than eight billion yen per annum. In 1987, however, it dropped sharply and experienced the most violent fluctuation in the 1990s. Since the beginning of the 21st century, it has remained at the six billion yen level.

On the other hand, the commodification of the sea area dates back to the period of domain duties. The Uwakai sea was a well-known sardine fishing ground, providing the stock for dried sardine, one of the major revenue sources of the Uwajima Clan. The pearl farming and yellow-tail breeding, which



started around the 1950s, underpinned the peak of the fishing industry in Uwajima. Pearl farming is very active in Uwajima, making the city one of the largest pearl producers in Japan. The history of pearl farming in Uwajima began in 1935, when Kikuo Otsuki set off the business in the Sakashizu and Miura Bays. With the ria coast and deep harbors, the Uwakai sea is said to be the most desirable natural environment for pearl farming. It actually raised the brand of Uwakai pearls over time by producing high-class pearls (Shudo, 1985c.)

Uwajima ranks top in Japan in terms of quality and output of pearls. It is no exaggeration to say that almost all the pearls from Ehime Prefecture come from Uwajima. Ehime Prefecture maintained the top position in the quantity and output of mother-of-pearl shell production between 1971 and 2008, outproducing Mie, Oita, Nagasaki and other pearl-producing prefectures ("Annual Report of Agriculture, Forestry and Fisheries Statistics in Ehime"). Fig.3 traces the changes in the output of pearl oysters farming in Ehime Prefecture and the share in the national market, virtually describing the process of commodification of the ocean space. As shown in the figure, the production output of mother-of-pearl shells, shown on the left scale, jumped from approximately 800 million yen in 1964 to 12.4 billion yen in 1985, marking an upward-sloping growth. It dropped by half to six billion yen in 1986, and after recovering to a certain level by 1992, it again plunged to a one-billion level. In terms of national share, however, it grew from 20% in 1964 to 80% in the early 1970s. It has constantly maintained, except during the doldrums in the last years of the 1990s, a national share of 70%.

In this way, the agriculture-fisheries-combined community along the Uwakai sea has successfully taken advantage of its natural surroundings. It has

made many shifts, from the fishing-primary/agriculture-secondary structure to the agriculture-primary/fishing-secondary structure, back to the fishing-primary/agriculture-secondary structure, then from fishing-boat fishery to fish aquaculture and pearl farming, all for the sake of enhancing product value. The community is now trying to create new value of rural space by providing tourist farms, private-house restaurants, farmer's inns, fisher's inns, and so forth.

### 3. Regional characteristics in commodification of rural space in Uwajima

As described above, the topography of Uwajima City is rather complicated, with extensive mountainous areas and numerous islands floating in the Uwakai sea and the outer sea. These represent distinct diversity and regional character of the rural space in Uwajima. The diversity of natural conditions controls the demographic distribution, distribution of farming areas and land use. The following analyzes the regional characteristics of Uwajima based on the demographic distribution and the distribution of citizens engaged in agriculture.

Fig.4 illustrates the demographic distribution of Uwajima City. It reveals that most of the population in Uwajima unevenly concentrates in the downtown area of former Uwajima City and the central part of former Yoshida Town in the northwest.

These rural spaces act mainly as residential areas for the villagers. Thus, these areas are equipped with urban infrastructure developed to a certain extent and provide a comfortable living environment. They also provides opportunities for interactions with urban residents, by being home to traditional festivities, Uwajima Bullfighting, Ushioni Festival, and Uwajima Castle, rich tourism

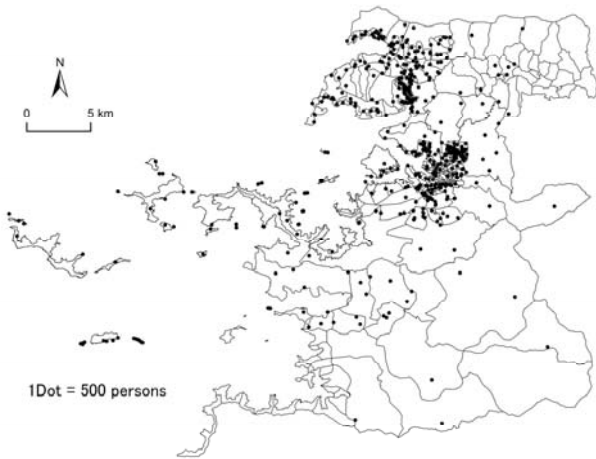


Fig.4 Population Distribution in Uwajima City  
Source: 2005 National Census

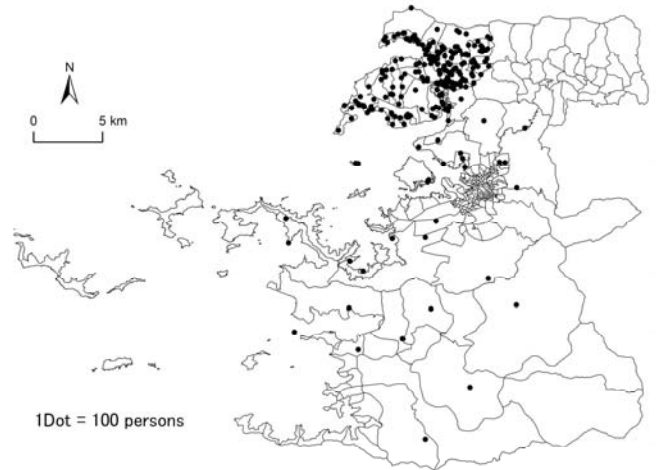


Fig.5 Distribution of Farm Workers in Uwajima City  
Source: 2005 National Census

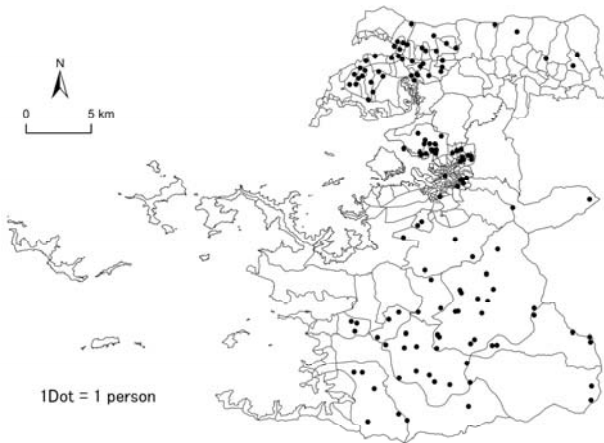


Fig.6 Distribution of Forestry Workers in Uwajima City  
Source: 2005 National Census

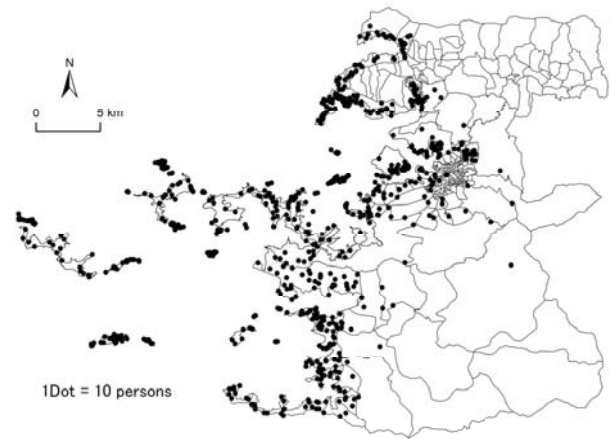


Fig.7 Distribution of Fishery Workers in Uwajima City  
Source: 2005 National Census

resources. In addition, private-house restaurants, farmer's inns and fisher's inns are spatially spreading from urban areas.

On the other hand, the citizens engaged in agriculture (field husbandry) reside mainly in former Yoshida Town in the northwestern area. Those engaged in agriculture in the other areas are small in number and practice small-scale farming activities in small basins among mountains or on plains at the bottom of valleys (Fig.5.) Former Yoshida Town is specialized in tangerine farming. Of the income from production agriculture, 80% or

more comes from fruit production.

In other words, the northwestern area of Uwajima City is a typical rural space (for field husbandry.) The local authority is now seeking green tourism in forms of tangerine picking and experience farming.

Fig. 6 presents the distribution of citizens engaged in forestry in Uwajima. There are much fewer foresters than farmers in the city. Many of the foresters comparatively concentrate in former Yoshida Town, the northwestern part of the city, and peripheral areas of former Uwajima City,

whereas they are also scattered in former Tsushima Town, the southern part of the city (Fig.6) Former Tsushima Town used to rely mainly on fruit trees, stock-raising and rice. In recent years, however, the community has focused on seed, seedling and nursery stock, which are closely related to forestry. These products accounted for 63% of the income from production agriculture in 2004.

The southern part of Uwajima City is a forestry space. It used to conduct exploitation forestry and coal production (Shinohara, 1997a, 2005), but has become a refreshing place for urban residents by setting up hiking and climbing courses, taking advantage of the health boom these days (Otani, 1990.)

Meanwhile, citizens engaged in fisheries concentrate equally in coastal areas facing Uwakai sea and islands, from north to south, in former Yoshida Town, former Uwajima City and former Tsushima Town (Fig.7) The ocean used to provide one of the best fishing grounds for sardine. The fishing community steered to aquaculture business with high added-value, based on pearl oysters farming and later yellow-tail breeding. Today, Uwajima-produced pearls are top ranked across Japan, in terms of quality and yield. Uwajima has fame as the "Town of Pearls." Furthermore, blue tourism is advocated; through angling, experience pearl accessory making, fish dishes, fisher's inns, and the like, various attempts have been made to create spatial value in the sea area, together with the terraced fields along the coastline.

As discussed above, the rural spaces in Uwajima City exhibit obvious regional character standing on the characteristics of natural conditions. In addition, the history, occupations and living styles differentiate the city from others. Directions of future spatial commodification must be sought otherwise.

#### **4. Transition in the terraced fields in Yuseumizugaura**

The terraced fields along the coastline of the Uwakai sea used to stretch to the mountaintop. These fields were developed for providing food to the local fishing villages (Shinohara, 1985.) Sweet potatoes were mainly grown in summer because they were resistant to drought, and wheat was grown in winter. These foods for self-sufficiency supported the livelihood of fishers. Wax trees were grown in the terraced fields as a commercial crop during the Edo period and Meiji years. The shore of the Uwakai sea was the most important production site across Ehime Prefecture. In the mid-Meiji period, the wax tree was taken over by mulberry, transforming the city into the number-one silkworm grower in the prefecture. After the war started, the land was inevitably converted into sweet potato and wheat fields to provide emergency foodstuff rather than mulberry as a cash crop. The production of food continued even after the end of war until around 1955 (Showa 30), when citrus farming, farming of cash crops, was introduced in the north part of the coastal area along the Uwakai sea. It gradually spread southward with more and more land dedicated to citrus farming. It was around that time that the agricultural sector of Uwajima City made a dramatic transformation. Since the high-economic-growth period, the northern part of the Uwakai sea coast, which is suited to citrus growing, has expanded the farming area, while the southern part left with increasingly abandoned terraced fields. The dilapidation of terraced fields was spurred by high productivity of fisheries, such as aquaculture of mother-of-pearl shells in the Uwakai sea (Shinohara, 1997b) and yellow tail breeding, and an outflow of labor force due to the high economic growth.

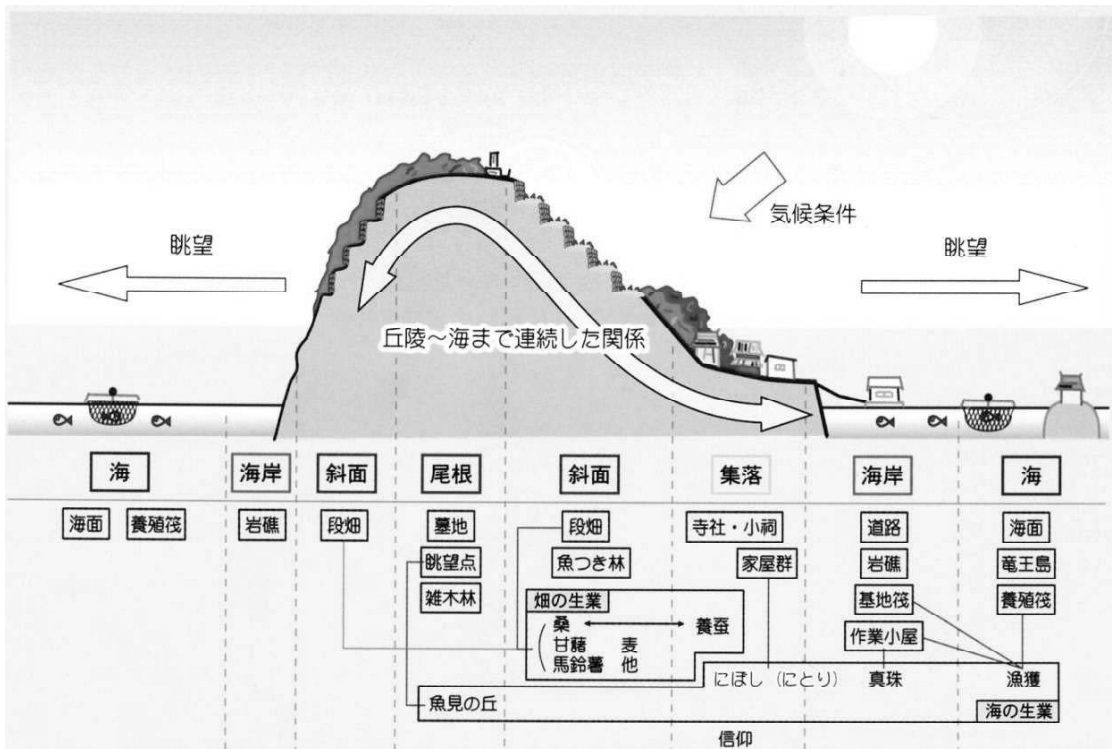


Fig.8 Rural Space in Mizugaura  
Source: Uwajima Education Board (2007)



Photo 1 Landscape of Yusumizugaura, Uwajima City



Photo 2 Terraced fields in Yusumizugaura, Uwajima City



Alternatively, the terraced fields deprived of its role to produce food and the view over the blue Uwakai sea from there (Photo 1) gained a recognition as an important agricultural legacy. In particular, the terraced fields (8.3 ha in total) in Yuseumizugaura were designated as an “Important Cultural Landscape” by the Japanese government in July 2007 for its distinct half-agriculture and half-fishing culture. The Mizugaura village is located on the south shore of a small peninsula protruding in the northeastern direction from around the center of the Komobuchi peninsula. According to a book “History of Yusu – Living in between Heaven, Earth and Ocean,” the settlement belongs to the Yusu district, a part of the former village of Uwaumi (meaning the Uwakai sea) (Fig.8) While the terraced fields on the Uwakai sea coast have rapidly diminished, the masonry terraced-field landscape in Mizugaura has been well maintained. There is some movement of resuming farming on the current fallow lands, partly due to a fall of the aqua-farming business. In the area, six or seven aged people still practice agriculture in the terraced fields, and some fishers aged around 60 have started working on the terraced fields after retirement (Ehime Prefecture Life Learning Center, 1997)

Today, an NPO for protecting terraced fields is leading various activities, based on growing of early digging potatoes on terraced fields, in search of potentials as a tourists' space (Photo 2). Incidentally, the NPO is supported by volunteers with the financial assistance of local banks and companies. Mr. M, vice president of the NPO, is also one of those volunteers, coming back to his homeland after the compulsory retirement from a construction company.

## 5. Conclusion

Uwajima city is one of the largest pearl

producers in Japan with active pearl farming. Pearls from Uwajima are acclaimed for its top-level quality and output and are one of the key industries of the city. The city initiated a unique project called “Pear Biz Campaign” in 2008 to gain more publicity. It is a collaboration between the administration and the people of Uwajima City, in which the citizens wear pearl articles to promote the Town of Pearl, Uwajima. This year, the third “Uwajima Festival for Sea Lovers” was held and many attractions related to pearls took place. This was a project for promoting the brand of the Uwajima region with a strong emphasis on commodification of the ocean and fishing village spaces. What is more, as the “Uwajima Rainbow Color Tourism” study club has taken notice of, the rural spaces comprise rich and varied elements, such as the castle town of Date 100-thousand koku, the ria coast and bountiful Uwakai sea, 1,000-m-class peaks in the right vicinity of built-up areas, overwhelming terraced fields, lush forests and clear streams inhabited by ice fish, and accordingly have abundant potential.

In addition, the social experiment on toll-free expressway conducted in 2010 had a significant implication. The toll-free expressway from Capital Matsuyama increased the traffic of vehicles and people flowing into Uwajima. As a result, the consumption was expanded, which produced a lot of reaction in the local area. If external problems, such as travel cost, are solved, the commodification of rural spaces in Uwajima should further advance.

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