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Difference in Viewpoints of Coastal Forests in the Urban Areas Adjacent to Coastal Forests in Noshiro and Honjo, Akita

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Abstract : Coastal forests, which are an important characteristics of many areas, are regarded differently in different areas. It is said this is due to the ease of recognition. This study aims to clarify the differences in the viewpoints of coastal forests between the urban areas of Noshiro and Honjo, Akita Prefecture. Although the coastal forests have existed since the Edo period, the method of urbanization and the way of the viewpoints formation about coastal forests have been different in each area. In Noshiro, there are many places where local residents can see the coastal forest (viewpoints) from the streets, but there are few such places in Honjo. In Noshiro, there are urban facilities or the sights where coastal forests can be seen on the border between the coastal forest and residential areas. The viewpoints have been spreading with the development of urban areas, maintaining the grid structure of the port town. The viewpoints in the streets, urban facilities and the sights are consistent with the location characteristics as a coastal area.

Key Words : Coastal forest, urban area, viewpoints, Akita

INTRODUCTION

In Japan, which is surrounded by sea, the coastal forest forms part of the natural area characteristics and was planted by the local communities in order to control for wind erosion. Recently, the coastal forest has been called "White Sand and Green Pines" and has become a sightseeing destination, but some coastal forests have changed with regional development and pine wilt disease in the coastal areas. The coastal forests are managed by the government or local residents, so it seems that this difference is due to the difference in ease of recognition of coastal forests. Local residents should take part in the management of the coastal forests, so it is necessary to find the best way of providing the local residents with all necessary information about the forests.

It is well known that it is easy to see the mountain from the small village, where local residents regard it as holy (Akimoto *et al.*, 2004).

However, the coastal forest is usually not considered holy and its elevation is always the same as the residential area, so it does not have the same story as the mountain. Some studies have been conducted on the internal landscape of forests (Igawahara *et al.*, 2003), the external landscape of forests (Takayama *et al.*, 2002), and evaluation structures of forest landscape (Fukamachi *et al.*, 2004) (Oku *et al.*, 2004). Landscape is formed by the relation between an object and people (Son *et al.*, 2004), but there has been no study on this relationship or how it is formed. Moreover, the coastal forest originally had a strong relationship with the area in which it existed, but studies about coastal forests have been limited to their function, planting technology, and evaluation by present local residents.

This study aims to clarify the differences and the process of formation of viewpoints about coastal forests near urban areas and discuss the ease of recognition of coastal forests in present urban areas, as well as the relationship between the ease

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of recognition and the management of coastal forests. In this study, the coastal forest is defined as a black pine tree forest on sand dunes. In this study, viewpoints are defined as a place where coastal forest is visible to local residents.

1. METHODOLOGY

1.1 Study area

In Noshiro and Honjo, Akita prefecture, local residents have afforested the coast along the sea shore in order to control wind erosion and to protect crops from wind and sand. Both areas grew as port towns. Noshiro Port became a specialized harbor, but the two ports in Honjo (Furuyuki and Ishiwaki) have ceased operating because of restrictive geographical features and the lack of policy about ports during the Taisyo era. The national government planted the coastal forests in both areas beginning in 1953. Over 80 percent of the coastal forests in both areas are national forest. In Noshiro today, the coastal forest is a local attraction and is called "Kaze no Matsubara (Windy Pine Forest)" and is managed by local residents and the local administration, but in Honjo, the coastal forest is not an attraction and is not managed by local residents even though it has been damaged by pine wilt disease. It can be said that such local residents' management stems from a recognition of the existence of coastal forest. Therefore it can be said seeing coastal forest is one of the main causes in recognizing coastal forest. The study areas were limited to DID (Densely Inhabited District: an urbanization index meaning an area with a population density of over 4000 people/km²) areas of Noshiro and Honjo (Fig. 1).

1.2 Methods

In order to clarify the viewpoints of the coastal forests, the distribution of places where local residents can see the coastal forest from streets and outdoor urban facilities and the sites where local residents can see coastal forests was investigated by a local survey in each area. The data on distribution of the viewpoints was analyzed by plotting the places where the coastal forests can be seen continuously over 50m¹⁾ of

street on a residential map in a local survey. Then the shapes of the coastal forests local residents can see from streets were investigated by means of a local survey and a photographic survey. The changes of distribution of the viewpoints in the streets and urban facilities and points from where local residents can see the coastal forest were investigated by means of a literal survey using topographical maps and a guidebook describing each area from the Meiji era to the present time.

2. RESULTS

2.1 The view of coastal forests (Fig. 2)

In Noshiro, the view from the streets is 1500m away from the coastal forest, extending over 2000m. This is because the shoreline and the inland district are slightly elevated and the district streets have a grid system peculiar in a port town. Also, there are many sightseeing spots and urban facilities such as schools and sports grounds in the coastal forest and urban areas, so local residents can enjoy recreation or play within



Fig.1 Study Area

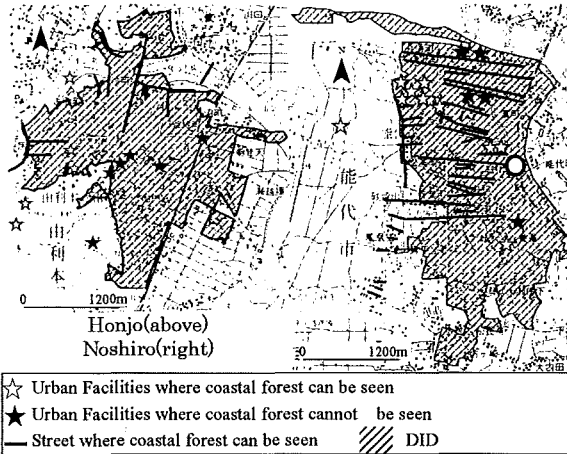


Fig.2 Distribution of viewpoints in the streets, urban facilities and the sights (2007)

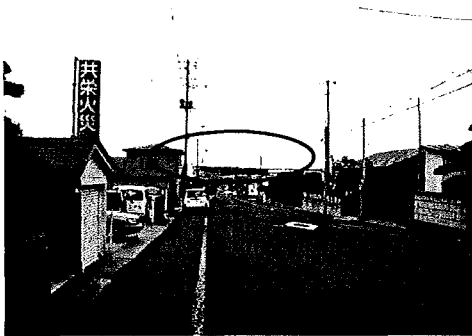


Fig3. The shape of coastal forest on the Chuwa Street (○ in Fig.2)

the sights of the coastal forest. On the streets away about 1.2km from the coastal forest, it can be seen and block the view (Fig. 3). But in Honjo, the distribution of the viewpoints in the streets is narrow and there are neither urban facilities nor sights as viewpoint. And while the coastal forest is planted on the top of sand dune in Noshiro, it is planted on the slope of sand dunes in Honjo. Therefore, local residents seldom see the coastal forests. Even if they can see the coastal forest, it is only visible over the roofs of houses (Fig. 4).

2.2 The changes of viewpoints in urban facilities and the sights

Time is divided into four periods by the changes of urban facilities and the sights: the first period is from the Meiji era up to pre-WWII (1873-1941) when land ownership changed with the process of the modernization; the second period is from post-WWII up to the pre-Regional Development

Period (1945-1954) when the infrastructure was established with post-war reconstruction; the third period is the Regional Development Period (1955-1980), and the fourth period is the post-Regional Development Period (1981- present).

1) Meiji era – pre-WWII (1873-1941)

Noshiro Park was established in the Banjakuyama where the coastal forest was planted in an area 23m above sea level and higher than the surrounding residential area. This was a lookout place that was established in commemoration of the marriage celebration of Emperor Taisho in 1900 and has become a sightseeing spot. Several restaurants were established in Banjakuyama where local residents were able to get a full view of the whole area (Noshiro City History Compilation Committee, 1964) and the scenery of coastal forest was evaluated as the sight (Kobayashi, 1904). The artillery ground, called the "Gun ground," which was placed adjacent to this park in order to defend the coast at the end of the Edo period was used as a ceremonial area (commemoration ground for the enthronement of the emperor) in 1915. Schools such as Noshiro industrial high school were established adjacent to this park as well (Noshiro City History Compilation Committee, 1964). Moreover, an outdoor education project was held during the Taisho era in the coastal forest adjacent to the elementary school. The aim was to promote children's health (Furuuchi, 1981).

Honjo was developed as a castle town belonging to Honjo castle and was prosperous as a port town, linked to Furuyuki port (Yoshioka, 1980). In the late Meiji era, Honjo was urbanized as the

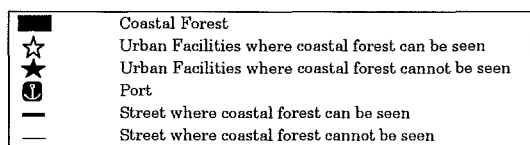
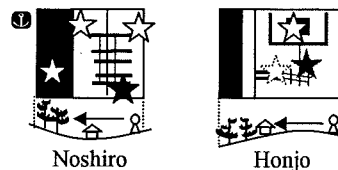


Fig.4 Models of viewpoints

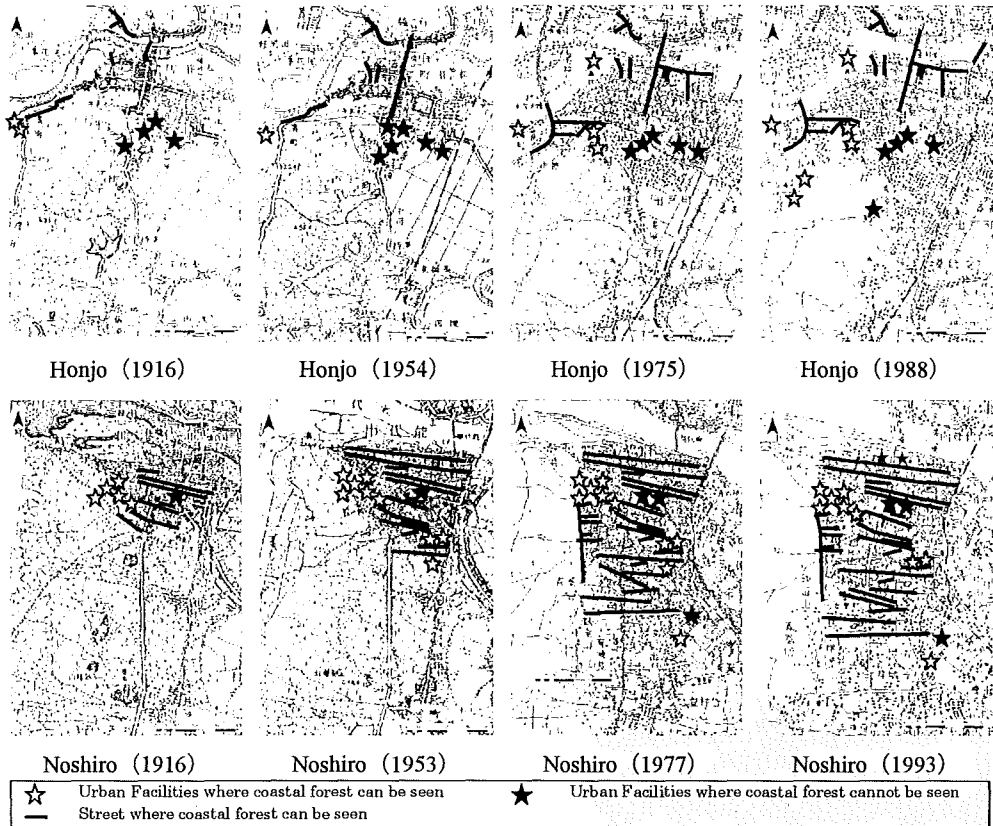


Fig.5 Changes of viewpoints

center of Yuri County and many urban facilities were established. Inland from Honjo, the former feudal lord sold Honjo Castle to Honjo town and a park was established there by the enthronement of an emperor commemoration business in 1909. Afterwards, the Showa Emperor Ceremony Commemoration Ground was built in 1934 near Honjo Park (Honjo City, 1994). In the coast of Honjo, on the other hand, Furuyuki Port was active and important, so there were many restaurants (Ryo-tei) facing the coastal forest. The view of the coastal forest from there was described in the "Guide of Honjo" in 1925 (Miura, 1925). It seems that the local government recognized the port as being the center of the town because it was decided to establish Honjo-cho Park (the present Sumiyoshi Park) adjacent to Sumiyoshi Shrine in Kannon-cho town near Fuyuki port in 1895 earlier than Honjo Park (Honjo City, 1994). In the Taisho era, the policy concerning harbors was disregarded

because the mouth of the river was narrow and shallow, which meant that the port, which was designed for conventional sailing vessels, could not accept newer vessels that were being introduced as the transportation system developed (Honjo City, 1994). Moreover, it is thought that the restaurants from where the coastal forest could be seen disappeared as the Furuyuki Port declined because the center of the town was moved further inland to meet the railway, and there is no restaurant in Kannon-cho near the Furuyuki Port. It seems that there were the only views of the coastal forest in places like the Nurehama iris garden and Honjo bathing beach, which were located south of the mouth of the Koyoshigawa River. Pleasure boats also sailed from Yuri Bridge on Koyoshigawa River, and the coastal forest could be seen from a variety of viewpoints (Honjo City, 1938).

2) Post-WWII - pre-Regional Development

Period (1945-1954)

Turpentine was gathered in the coastal forests, and all open spaces in both areas, such as the stadium and the schoolyard adjacent to the coastal forests, were reclaimed during the war and used for food production (Takashima, 1975).

In Noshiro, in the gun ground, the Noshiro baseball club established a commemorative baseball field soon after the war (1946), and it hosted big events, such as games between university and non-professional teams from outside as well as within Akita prefecture. Moreover, a movement to promote modern sports began in Noshiro, and various sports events were held in the ground next to the baseball field and coastal forest (Hokuu-Shimpo, 1977).

In Honjo, a plan to make the whole neighborhood area into a large park around the Niiyama Shrine in 1953 was put forward and a series of facilities were gradually established, starting with the creation of the Niiyama Mountain Park (Honjo city Ishiwaki-zaisanku, 1987).

3) Regional Development Period (1955-1980)

The afforestation of the coast by the coastal sands zone agricultural promotion business was nearly completed, and the present coastal forest was formed.

4) Post-Regional Development Period (1981-present)

In Noshiro, expectation to recreational utilization of the local resident for the coastal

forest of the national forest which cannot enter had been increasing (Kozuka, 1999). The management of the national forests started deteriorating and the policy of management of national forest converting to such as enlargement of the protective forest and forest service for recreational use. A part of the coastal forest of national forest was appointed by the public health forest and facilities for recreational use were established.

In Honjo, a large sports ground was established inland in the national forest, but people cannot see the coastal forest from there.

2.3 The changes of viewpoints from the streets

By considering a past topographical map with the present distribution of the viewpoints in the streets, changes were estimated in the distribution of the viewpoints in the streets in the urban areas for every period division.

Since Noshiro has a grid-style street structure peculiar in a port town (Takeuchi *et al.*, 1996) and the coastal forest was formed with expansion of the urban area, the distribution of viewpoints from the streets has expanded along with the urban area. The distribution of street viewpoints was about 1000m along the coastal line in the first period, 1300m in the second period, and then the same viewpoints at present.

In Honjo, since the distribution of the viewpoints in the streets has expanded where the urban area is not adjacent to the coastal forest, it is thought

Table2. Changes of viewpoints in urban facilities

	Meiji era – pre-WW2 (1873-1942)	Post-WW2 – pre-Regional Development Period (1943-1954)	Period of Regional Development (1955-1980)	Post-Period of Regional Development (1981-present)
Noshiro	-Park (Restaurant)	-Park (Restaurant)	-Park (Restaurant)	-Park (Restaurant)
	-Sports Ground	-Baseball ground and Sports Ground	-Baseball ground and Sports Ground	-Baseball ground and Sports Ground
	-School (Open air school)	-School	-School	-School -Resort
			Afforestation was completed Local Protest against deforestation plan	Named "Kaze no Matsubara (Windy Pine Forest)"
Honjo	-Restaurant -Bathing Beach -Resort	-Park -Park	-Park -Park	-Park -Park
	Became Castle Town rather than Port Town	Free offer of coastal forest to country	Afforestation was completed	

*Words without an underline indicate land use around a coastal forest; those with an underline indicate use of a coastal forest.

*Shading indicates the trends near a coastal forest

*The same line means the same place

that it has hardly changed. It is thought that the viewpoints on the national road No. 7 line are partially new (Fig. 5, Table. 2).

3. DISCUSSION AND CONCLUSION

In the urban area of Noshiro, which developed keeping the characteristics of a port town with a coastal forest that protects local residents from the wind and the sand from the sea, it was clarified that the distribution of the viewpoints from the streets has spread. Urban facilities were established both on the coast and inland. On the other hand, in the urban area of Honjo, which became more important as a castle town than a port town because of the decline of the port, the viewpoints have hardly changed, and remain narrow. The urban facilities were established centering on the ruins of a castle inland. Thus, the viewpoints, which relate the ease of recognition of coastal forest are decided by the development following the characteristics of coastal area. It can be said that the ease of recognition is related to local residents' management of coastal forests. So, in order to manage the coastal forest, not only the coastal forest but also the feature of whole area must be considered. The sights or recreational programs such as bathing beach, promenade, and open air school which is based on the coastal feature expect to be established in coastal area. This is why local residents enjoy the coastal programs seeing the coastal forests and recognize the relationship between characteristics of coastal area and coastal forests. This is the first step to let them recognize and manage the coastal forests.

NOTES

1) It depends on the mean distance between intersections being 50m in these areas.

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