Chapter 13
Geo-ecological Similarity and Biocultural Diversity – A Case Study in Shinan Dadohae Archipelago in Korea

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Abstract Comparing geographically neighboring islands is necessary to explore the significance of their ecology and culture. However, when research is made into neighboring islands, the scale of space to which the comparison shall be made may be very dependent upon the research fields. Neighboring islands are different in many ways but also the same in many ways. In some cases, their differences serve as complements to the other isles. The archipelago in Shinan-gun is mostly made up of tidal islands, which neighbor each other. Exploring ecological and cultural homogeneity and heterogeneity of the islands is helpful to understand the identity of the islands and the communication among them. This research is aimed to compare ecological characteristics, bio-cultural diversities, and geographical and topographic similarities of Haui-myeon and its neighbor Sinui-myeon, located in Shinan-gun, and to analyze the heterogeneity and homogeneity of the two islands.

Keywords Archipelago • Ecological geography • Island cultures • Southwestern Korea • Tidal-flat island

13.1 Introduction

In researching the culture of islands, investigating into the geographical characteristics, the arrangement, the type of island, and the connection between islands is regarded as a basic pre-survey to analyze and infer their ecological and cultural connections in the future. According to the Theory of Island Biogeography, geo-ecological characteristics of an island are defined by the distance between the island and the mainland, the island's size, and the distance between islands (MacArthur and Wilson 1967). It cannot be said that the 'Theory of Island

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Biogeography' explains ecological characteristics and biodiversities of all islands across the world, but it may be said that the definition is based on the most basic principle of fundamental attributes of an island (Campbell 2009; Hong 2011a). It has not been clearly verified that the theory is applicable to ecological and cultural characteristics of islands. However, seeds of bioculture created while being dependent upon the ecosystem and biodiversity of islands are spread through various methods and channels to neighboring islands (Maffi 2007; Lee et al. 2010; Hong 2012). Research needs to be conducted into the ecology and culture of the archipelago in southwestern Korea, with a focus on the number of islands and the connection between islands. It is meaningful for researchers to make an investigation into individual islands, and it is interesting to compare ecological and cultural characteristics of islands since their mutual homogeneity and heterogeneity are interrelated (Browaeys and Beats 2003). In fact, with the exception of several islands such as Ulleungdo, Jejudo, and Heuksando, most islands in Korea are located near the mainland, with many forming groups of islands, and a number of islands having a tidal flat (tideland).

An island community is connected with a tidal flat or a sand-hill so that it is known as a "land-bridge." It is a strip of land that appears to be in connection with land by means of ebb and flow, and it is surrounded by a tidal flat so that it is considered a religiously sacred place in worshiping the sea (Ex.: Mont Saint Michel in France; Modo of Jindo in Korea). It is also sometimes used as a major stronghold because access to it is difficult (http://en.wikipedia.org/wiki/Tidal_island). Across the world, islands of such a type are developed in Korea, France, UK and others (Gillespie and Clague 2009; Hong 2011a). Tidal islands are characterized by the fact that they have temporal landscape under the influence of ebb and flow, so that islands may be revealed by a tidal flat or a sand-hill. A tidal island may be also defined as an 'island which has developed tidal flat' or 'island of tidal flats'. So, it seems necessary from the standpoint of comparative humanities that research should be made into each isle and the connection between islands in the western sea and southern regions of the Korean peninsula. It may also be meaningful to propose policies for future development of islands since connecting and developing neighboring islands will contribute to synergy development of neighboring individual islands, which lack resources. This thesis is intended to investigate and analyze the characteristics of ecological resources and landscape of Haui-myeon and Sinui-myeon in Shinan-gun, where the two islands share their border in a narrow watercourse of a tidal flat, for the purpose of understanding homogeneity and discriminations of their ecological geography.

13.2 Landscape Geography

The archipelago in southwestern sea was generated about 7,000 years ago when valleys and low lands were submerged and mountain peaks and hills were isolated due to rising sea level. The southwestern sea in Korea is characterized by a ria-type

coast and by the fact that the topography of islands is much transformed by means of a repetition of natural erosion and artificial reclamation (Hong et al. 2010a, b). In Korea, Jeollanamdo Province accounts for 65 % of the total islands, most of which have an extensive tidal flat and very dynamic seascape since they are transformed by oceanic tides. In Korea, the only county which borders on the sea and made up of islands is Shinan-gun, Jeollanamdo Province. Shinan-gun has a group of islands including 11 administrative districts, including Jido-eup, Aphae-eup, Jeungdo-myeon, Imja-myeon, Jaeun-myeon, Amtae-myeon, Palgeum-myeon, Anjwa-myeon, Jangsan-myeon, Sinui-myeon, Haui-myeon, Docho-myeon, Bigeum-myeon, and Heuksan-myeon (Terms of each 'Eup' and 'Myeon' are corresponding to 'village' and 'sub-county' in English. Moreover, 'Myeon' is corresponding to 'do' and same terminology with 'island' in English). All nine administrative districts border on the sea and may be geographically and broadly divided into coastal islands, open-sea islands, and inland-sea islands (Fig. 13.1).

Speaking in more detail, each of the archipelago islands has inland sea and open sea due to the geographical characteristics of the islands. In this paper, I classify all the islands of the archipelago according to their regional scale. From the standpoint of their history and culture, the islands are also divided into Jaeun-Amtae-Palgeum-Anjwa, Bigeum-Docho, Jeungdo-Aphae, and Imjado comprising lower and upper islands. In this paper, the islands are not geographically divided simply for ecological geography purposes but also for the purpose of knowing the meaning of the lives of island residents, including their transportation and culture. On the whole, it may say that, excluding Heuksan-myeon, almost all of the islands are located on the inland sea or adjoining seas. After all, the inland sea and open sea on the southwestern coast are characterized by their close relationship with the surrounding environment, including the tidal flat. Islands on the inland sea have an arc-form arrangement of Jaeundo, Amtaedo, Palgeumdo, Anjwado, and Jangsando; and islands on the open sea include Bigeumdo and Dochodo. Hauido and Sinuido are located at the lower end of the group of islands and partially sit both on the open sea and inland sea.

As Fig. 13.1 shows, it may be said from the standpoint of landscape connectivity (Forman 1995), that the topography of Shinan-gun well represents evolutional and geographic characteristics of islands since a throng of islands are developed in such a manner that their homogeneous ecosystem may be regarded as a group. Jido-eup, Aphae-eup, Jeungdo-myeon, and Imja-myeon are connected with the inland and form a boundary (Group 1), while Ja-eun-myeon, Amtae-myeon, Palgeum-myeon, Anjwa-myeon, and Jangsan-myeon form another boundary (Group 2). Bigeum-myeon, Docho-myeon, Haui-myeon, and Sinui-myeon have a relatively wide surface touching the open sea, and form the last boundary (Group 3). The landscape of the islands is characterized by the scene that the open sea protects islands on the inland. Groups 1, 2, and 3 of the islands are ecologically and geographically divided, and also directly and indirectly influenced by the landscape matrix called a tidal flat and by ocean currents. In contrast, Heuksan-myeon islands (Heuksan Archipelago) on the open sea are far away from the influence of a tidal flat (Group 4). Bigeum-myeon, Docho-myeon, Haui-myeon, and Sinui-myeon belonging to

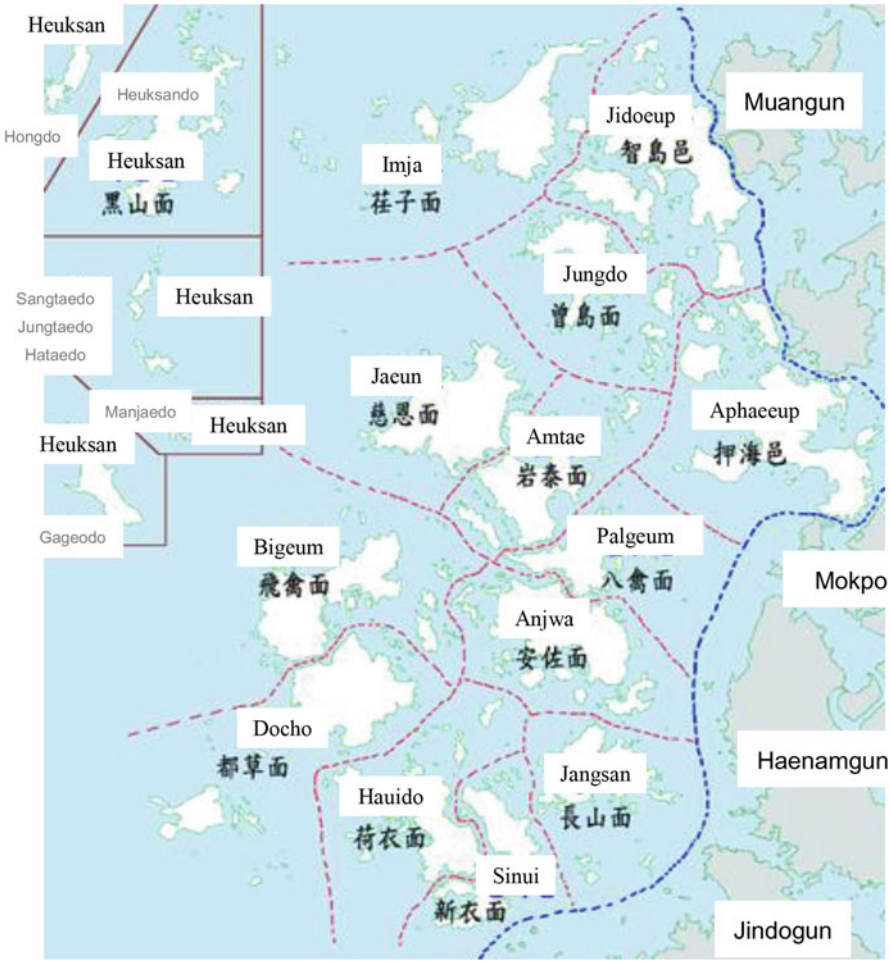

Fig. 13.1 Administrative of Shinan-gun, Jeollanamdo Province (The homepage of Shinan-gun http://www.shinan.go.kr/)

Group 3 border on the open sea, but each of them is differently influenced by a tidal flat depending upon the direction and geographical position for them to face the sea. Nevertheless, like the other groups of islands in Shinan-gun, it appears that Bigeum-Docho and Haui-Sinui have very high geographical connection and ecological connection.

13.3 Landscape Structure and Major Biocultural Elements

The geographical strengths in Shinan-gun include agriculture using tidal flat deposits, which contain a lot of organic matter. On this island, agricultural products are well protected from damage caused by diseases and harmful insects, so that sound agricultural products may be cultivated. However, difficulties in production and smooth distribution of sound agricultural products include such meteorological conditions as typhoons and an increase of transportation and logistical costs. Meteorological characteristics have varied influence on the use of land in Shinan-gun. However, a warm and wet oceanic climate is subservient to the growth of crops; yet an oceanic climate has double influence since it often leads to such low pressure climate as typhoon. Of course, such meteorological characteristics are not contributory to the production of crops on all the islands in Shinan-gun.

Considering the landscape matrix and topographic similarity of a tidal flat, comparison of the two islands Sinui-myeon and Haui-myeon finds that they have a different and heterogeneous landscape. Figure 13.2 shows the characteristics of land use types including agriculture and salt industry (sun-dried salt), which are representative primary industries in Shinan-gun. Concerning agriculture, compared to Sinui-myeon, Haui-myeon more excellently uses the land to produce rice and has a relatively wider area of fields (Institution for Marine and Island Cultures 2011). In contrast, the area of farms for producing sun-dried salt is wider at Sinui-myeon. In Haui-myeon, salt farms are distributed in east and south coastal regions, which include tidal flat; In Sinui-myeon, salt farms are distributed throughout the island including Sangtae-ri, Jungtae-ri, and part of Hatae-ri. In the case of Jungtae-ri at Sinui-myeon, Sangtae and Hatae have been reclaimed so that salt marsh on a tidal flat surrounding the island has turned into a salt farm; also, abandoned salt farms are used as shrimp farms or other uses in some parts of the island (Institution for Marine and Island Cultures 2012). According to Table 13.1, which shows a comparison of the quantities of sun-dried salt produced at each ‘eup (corresponding to ‘village’ in English)’ or ‘myeon (corresponding to ‘sub-county’ in English)’ in Shinan-gun, Sinui-myeon is overwhelmingly more predominant in the salt industry population, production area, and quantities since salt farms have been formed by means of tidal flat reclamations.

13.3.1 Vegetation

According to temperature conditions set up by Yim and Kira (1975), most subtropical and temperate evergreen forests of islands located on the west and south seas in Korea are divided by the isopleths of coldness index −10 °C month (Yi and Kim 2010). In general, southwestern sea regions, where subtropical and temperate evergreen forests are distributed, have a warm climate, abundant resources, a high population density, and mostly play a central role in politics, economy, and

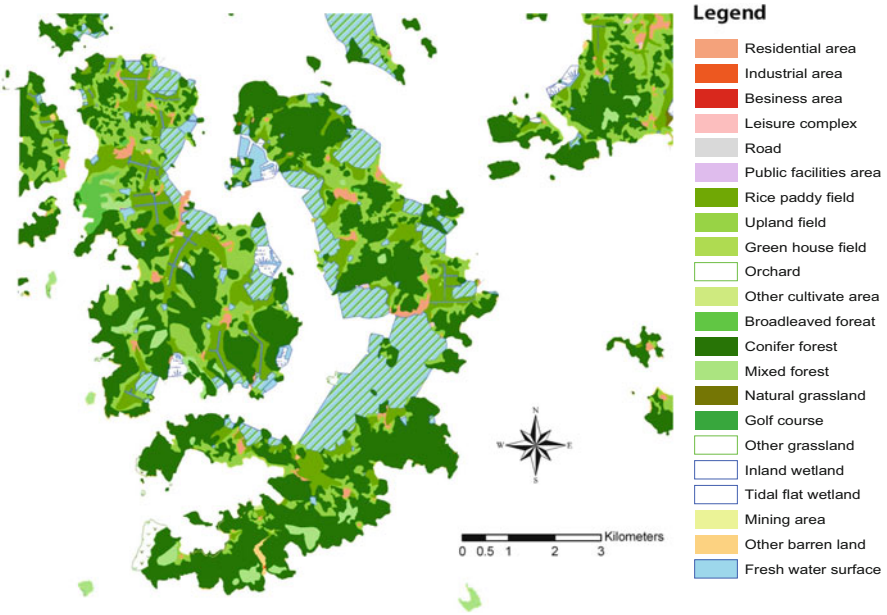

Fig. 13.2 Land use map of Sinui-myeon and Haui-myeon

industry. Subsequently, many regions have been uniformly developed by local residents and governments, and natural vegetation remains intact almost nowhere in the region.

Considering the features of creature communities, potential natural vegetation in Shinan-gun mainly includes evergreen broadleaf forests, which comprise bramble, Japanese Evergreen Oak, *Castanopsis cuspidate* var. *sieboldii*, and silver magnolia. However, due to such human interventions as fire, lumbering, cultivation, and grazing, most of extant evergreen forests have been destroyed and evergreen needle-shaped leaf forests including *Pinus thunbergii* are primarily distributed. Moreover, such deciduous broadleaf trees as *Platycarya strobilacea*, *Mallotus japonicus*, *Carpinus turczaninowii*, *Quercus serrata*, and chestnut tree stand along with or in the neighborhood of *Pinus thunbergii* and others; herbaceous plants and communities of *Pueraria thunbergiana* including *Miscanthus sinensis* and arrowroot are distributed in a wide area. It seems that hornbeam and *Magnolia officinalis* communities, which are considered as potential natural vegetation in this region, will develop into climax communities in compliance with geographical conditions of the region and continuously retain their status. According to climate and geographical conditions, if human intervention is stopped, it is expected that evergreen needle-shaped leaf trees will give way to evergreen broadleaf trees via deciduous broadleaf trees, or directly to evergreen broadleaf trees in this region where *Platycarya strobilacea*, Japanese green alder, chestnut tree, oak tree and others stand together with *Pinus thunbergii* community and *Pinus thunbergii*

Table 13.1 Sun-dried salt production in Shinan-gun (Data of 2010, unit: person, ha, ton)

	No. of Laborer (person)		Area (ha)				
Administrative	Permitted no.	Operated no.	Permitted no.	Operated no.	Remained salt in 2009 (ton)	Production (ton)	Sale (ton)
Shinan-gun	945	846	2,434.4	2,162.5	46,366	203,602	198,404
Jido-eup	87	84	298.4	292.6	788	28,730	25,988
Jeungdo	37	32	274.6	268.0	4,524	17,032	17,209
Imjado	46	46	143.6	143.6	350	9,805	9,336
Jaeundo	9	2	42.0	6.0	9	130	107
Bigeumdo	221	217	429.9	425.8	4,037	44,823	42,038
Dochodo	104	102	247.8	243.0	23,538	20,852	28,172
Hauido	79	72	144.9	132.8	619	11,440	10,456
Sinuido	239	237	470.1	466.5	10,313	57,170	51,796
Jangsando	21	6	53.2	16.6	–	873	494
Anjwado	23	1	61.1	1.6	51	88	98
Palgeumdo	19	14	54.1	43.9	1,995	1,616	2,068
Amtaedo	14	11	46.9	40.8	142	2,240	2,036
Aphaedo	46	22	167.8	81.3	–	8,803	8,606

communities. *Castanopsis cuspidata* var. *sieboldii*, *Carpinus turczaninowii*, and others may be regarded as potential natural vegetation in this region; most of the *Pinus thunbergii* community, *Pseudosasa japonica* community, grasslands, and others are not potential natural vegetation but substitutive communities in this region. Therefore, it appears that values for preserving plant communities are relatively low but their values are high when the plants are considered as a foundation of the transition stage for forming evergreen broadleaf forests or as a community to protect the coast.

Excluding Heuksan-myeon, *Pinus thunbergii* (Korean black pine) is dominant in the vegetation of tidal islands including Haui-myeon and Sinui-myeon in Shinan-gun. The vegetation is not a natural forest, but secondary woods which are artificially influenced or planted (Hong et al. 2006; Kim and Hong 2009). *Pinus thunbergii* communities are intensively distributed in most low lands which are 0–100 m above the sea level. 100–150 m-high low lands are divided, according to the direction and degree of their slope, into *Pinus thunbergii-Quercus serrata* community and *Pinus thunbergii-Carpinus turczaninowii* community. As the fertility of soil increases, more *Quercus serrata* trees tend to be planted; as the surface area of bedrock gets greater, *Carpinus turczaninowii* Hance communities multiply. In reality, Shinan-gun does not have a suitable kind of tree that can replace *Pinus thunbergii*, which has been widely used as firewood since the 1950s. Compared to the black pine tree (*Pinus thunbergii*), the pine tree (*Pinus densiflora*), a wild plant in Korea, has such a physiological trait that it can endure sea winds well, which contain salt. Consequently, *Pinus thunbergii* is still favored for restoring and planting forest in Shinan-gun according to meteorological conditions such as oceanic climate and typhoon. In addition to *Pinus thunbergii*, such tall plants are often seen as *Carpinus turczaninowii*, *Albizia julibrissin*, *Juniperus rigida*, *Platycarya strobilacea*, *Styrax japonicus*, *Ficus oxyphylla* and *Kalopanax pictus*. Also, the Microphanerophytes or shrub layers comprise such various plants as *Eurya japonica*, *Quercus serrata*, *Symplocos tanakana*, *Viburnum dilatatum*, *Lespedeza bicolor*, *Smilax china*, *Kalopanax pictus*, *Meliosma oldhamii*, *Viburnum dilatatum*, *Meliosma myriantha*, *Rhus succedanea*, *Hedera rhombea*, *Juniperus rigida*, *Ligustrum obtusifolium*, *Lindera obtusiloba*, *Sorbus alnifolia*, *Zanthoxylum schinifolium*, and *Pittosporu tobira*.

13.3.2 Maeul, Traditional Villages and Sacred Spaces

Maeulsup (traditional village woods) do not simply have biological importance but serve as a cultural device and an ecological space wherewith to confirm the identity of island villages (Hong and Kim 2007). Maeulsup may be divided into various kinds and uses, and each has different ecological and cultural functions. Maeulsup on tidal islands in Shinan-gun are classified into several functions (Hong et al. 2010a, b). First, as a protective forest aimed at protecting a village. It is also called '*wooshil*' and it protects the safety of arable land, buildings, men, and

livestock from sea winds. The second function is a fish-provision forest. According to former research on this type forest, I requests that the term of "Fish-Provision Forest" should be disused. The term began to be used by Japan during the Japanese colonial rule in Korea, as is attested in '勿巾防潮魚付林.' However, it is confirmed that, in fact, no Korean woods have such ecological functions as the Japanese definition of them implies. Only it is recognized that woods formed beside rivers or coasts not only function as a fish-provision forest but also have ecological-engineering meanings for the purpose of water quality improvement, protection against wind, and prevention of the loss of soil. It appears that the term began to be used in 1908 during the Japanese colonial rule of Korea when Forest Order was issued (Hong 2011c). It is belt-type woods mainly developing along the coast and it serves as a space that provides a shady shelter to a coastline, regulates the loss of soil, provides a refuge for fish gathering to the coast, and offers a home for the growth of young fish. However, an ecological investigation needs to be further conducted to determine if it serves as a proper place for fish to spawn, as its name implies. The third function is as a sacred place such as divine trees or shrine woods. This is a cultural device in which island resident's wish for a big catch and/or safe voyage. Values of biological resource of such shrine woods and old-large trees are increased so much in recent times that they are designated as a gene-protecting forest. At all times, *Maeulsup* composed of secondary forest, shrine woods, and old-large trees have existed together with other land use.

The form of a village and the arrangement of woods may be decided according to the residents' traditional recognition of nature and topography (such as *Fengshui* theory, *see* Hong 2007, 2011c). Yet, to the village residents who add transcendent meanings to woods while seeking oneness with nature and wishing for abundance and safety, gigantic trees on islands may serve as an important sacred place or a representative cultural complexity (Browaeys and Beats 2003), which has complex functions (Hong et al. 2010b). To island residents, unlike sacred places on land or forest regions, the sea is a very important resource and, at the same time, a dangerous space where they pray for a safe voyage and a large haul. In modern days, all island wood on the inland sea in Shinan-gun are used as lumber and firewood and, in fact, there are very few evergreen broadleaf forests which maintain oceanic climate features of the archipelago and have potential natural vegetation. Nevertheless, village woods, shrine woods, and old-large trees are among representative forests and cultural resources in Shinan-gun, which will be richly developed in the future. The old-large *Zelkova* tree on Okdo at Haui-myeon and the old-large nettle tree on Gido at Sinui-myeon are rare gigantic trees and shrine woods in this region. An old-large *Zelkova* tree stands at Okdo-ri, Haui-myeon. The gigantic tree, whose diameter is more than 50 cm, is surrounded by *Camellia japonica*, *Castanopsis cuspidata* var. *sieboldii* and other evergreen tall trees. It is very peculiar that, only in this place on Okdo, evergreen broadleaf trees grow intensively. Meanwhile, along with the nearby 'shrine rock,' a shrine tree cloth upon the old big tree (*Celtis sinensis*) on Gido, which is a subsidiary isle at Sinui-myeon, is considered a sacred place.

It is assumed that these old-big trees on the two islands have survived people's abuse of them as firewood, as is explained above, since the trees have been considered by the village residents to be a meaningful and sacred place. It is very significant that both of the trees have not survived on the main isle, but have on a subsidiary island. It is probable that, if they stood on the main isle, they should have been felled and used as a site for constructing a church under the influence of a religion. As islands are quickly urbanized, cultural assets like old-large trees or shrine woods are removed by religion or development (Hong 2011c). However, local residents understand more than the biological significance of woods (including gigantic trees) on a subsidiary island, and that they know well that landscape should be preserved and woods should no longer be misappropriated as firewood.

13.3.3 Tidal Flat and Inlets

Okdo of Haui-myeon is located at the center of the Diamond Islands (The name is given because nine administrative districts of Jaeun, Amtae, Palgeum, Anjwa, Jangsan, Sinui, Haui, Docho, and Bigeum in Shinan-gun stand together in the form of a diamond. Okdo stands at the center of the sea rout, and the watercourse called 8-inlet estuary goes from Okdo to the nine districts) in Shinan-gun. Therefore, it has been a center of marine transportation and logistics since a long time ago. Okdo is called an '8-inlet estuary' since it is connected to nine inhabited islands such as Jaeun, Amtae, Palgeum, Anjwa, Jangsan, Sinui, Haui, Docho, and Bigeum (National Research Institute of Maritime Cultural Heritage 2012). From each inlet of Okdo, you can board a ship to a neighboring district. So, Okdo had a Japanese military observatory even before Japanese colonial rule. There is also a sea route between Haui-myeon and Sinui-myeon. However, this sea route is so narrow that ferry boats would frequently come and go between the two districts. Okdo produces "Okdo common octopus", which is recognized as the most delicious among common octopus produced at Haui-myeon. Perhaps, it is not only because Okdo is surrounded by tidal flat, but also because Okdo has a very excellent tidal flat ecosystem that is connected via a waterway to neighboring inhabited islands and has seawater in which there are affluent nutriments. Sinui-myeon mostly consists of tidal flat from which common octopi and others are abundantly caught. Excluding Wolhang-ri tidal flat on Hataedo, most of the tidal flat have tide embankments for establishing salt farms, farm lands, and breeding grounds, and the embankments have an influence on the circulation of a tidal flat ecosystem. Like most of islands in Shinan-gun, Sinui-myeon is surrounded by tidal flat, the representatives of which includes eight of them at Yumi-ri, Pido, Noeun-ri, Wonhang-ri, and Ta-ri, Sangtaeseo-ri (Fig. 13.3).

Fig. 13.3 Tidal flat area near Gido at Sinui-myeon, Shinan-gun (Photo by Shinan-gun)

13.4 Ecosystem Service of Biocultural Elements

The topographic form of Haui-myeon and Sinui-myeon has very similar characteristics, as if they were separated from one island. Like the other islands comprising Diamond Islands in Shinan-gun, Haui-myeon and Sinui-myeon are administratively divided from each other but they are almost the same in terms of their geographical and geological characteristics. When it comes to their concrete features, the islands have various differences; as a whole, however, these two are mutually complementary. Their characteristics are broadly classified from the standpoint of geography, topography, ecosystem service, and landscape aesthetics (Hong 2011b).

First, they are geographically and topographically complementary. Haui-myeon has well-paved coastal roads, and Sinui-myeon has not only a well-developed national road number 2, which connects Sangtaedo to Hataedo, but coastal roads as well. Also, transportation is very convenient because well-constructed county roads connect villages with villages. Recently, a land bridge has been constructed to connect Sinui-myeon with Haui-myeon. Communications and exchanges between Sinui-myeon and Haui-myeon will be conducted more quickly and smoothly with the help of the bridge.

Second, they are complementary in terms of ecosystem services. A representative of landscape resources at Haui-myeon is agriculture; spacious farmland, which is similar to agricultural villages on the mainland, is well established. At Sinui-myeon, there are many salt farms, which predominantly utilize a tidal flat. All of the historical and practical features of tidal flat, salt, and reclamation are much better represented by Sinui-myeon than Haui-myeon. '*Mosil*' Road (ecological tracking road including mountain road and village road) which has been constructed recently in Shinan-gun plays an important role as an unpaved tracking road, and Sinui-

myeon and Haui-myeon also have similar roads in woods, which are not yet completed but filled with images of the islands.

Third, they are complementary in terms of landscape aesthetics. Different characteristics of Haui-myeon and Sinui-myeon are mutually complementary since the former has such landscape elements as rice paddies, village woods, and large rocks while the latter has a tidal flat, salt farm, and setting sun. Ecological tourism resources of these two islands can be coordinated and supplemented. The colors (sea, soil, and wood), flavors (grass flavor and pine tree flavor) and sounds (bird sounds, wind sounds, and wave sounds) of the islands can be utilized to make their images. After a land bridge was constructed between Sinui-myeon and Haui-myeon, it was necessary to develop an ecological culture tourism program covering Haui-myeon. It seems to be advisable that the program should be developed in such a way that it may be an "ecological health exploration road program," which utilizes such unpaved ways as mountain roads and village roads. It is recommended that the program should include multi-purpose ecological exploration routes which make use of historic relics, farm lands, and village woods at Haui-myeon, photos of salt farms and neighboring ecological environments at Sinui-myeon, habitats of salt plants or marshy land plants (eg. *Nymphoides peltata* communities), and other wild plants.

Theory of Island Biogeography explains geographical homogeneity and heterogeneity including biogeographic differences of islands simply by considering the physical separation and adjacency of the islands including the size of, distance between, and closeness of them. However, for Korean islands where tidal flat are major landscape elements, such biogeographic principles need be reconsidered. As a whole, almost all the islands in Shinan-gun are separated or connected by 'tidal flat' which have an ecosystem different from land ecosystems and have an ocean landscape background (matrix) peculiar to islands. It is said from the standpoint of regional ecology that the landscape or characteristics of a region are not decided by the attributes of landscape or system of the region, but by the background (surroundings) of the system (Hong 2012). Consequently, after all, ecological and cultural attributes of such geographically neighboring tidal islands as Bigeum-Docho, Jaeun-Amtae, and Sinui-Haui are decided by 'tidal flat or sand hills', which are the surroundings and background of the islands. It is conceived that these ecological attributes may be also connected to the island identity (or islandness) and that similar ecological attributes and cultural characteristics of individual islands play a role in forming a cultural complex of the islands (Browaeys and Beats 2003).

It may be considered that, as for the archipelago in Shinan, ecological and geographical characteristics have triggered cultural homogeneity and heterogeneity of the islands, including the presence of tidal flat and/or the difference in tidal ebb and flow. Furthermore, on tidal islands in Shinan-gun, cultural characteristics of local residents who have been adapted to their environments are homogenized since they have very similar and homogeneous landscape and natural resources, including the distance between islands, physical characteristics of their geography, tidal flat life, vegetation, and oceanic life.

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