

A Study on the Vernacular landscape Pattern of Nagan Walled Town(樂安邑城) in Suncheon

Sang-Sup Shin and Jae-Hyun Rho

Dept. of Landscape Architecture, Woosuk University, Jeonbuk 565-701, Korea

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Nagan walled town is located on an axis connecting symbolic places, which is a lucky place from the Fengshui point of view because a mountain sits to the rear and a body of water sits to the front. It represents the environmental development of cultural space by blending folk belief, religion, social systems, administration facilities and living culture buildings. Therefore, it has a sustainable cultural view connected with a formed or formless religious view and an artificial view (walls, government buildings, living houses, cultivated lands, etc.) in a natural landscape. Environmental design techniques, enlarging the meaning and value of living on a mental level, can be found in the arrangement of space composition and settlement of Nagan walled town. The organised spaces of government and residential areas were constructed within the wall with the view of searching for lucky places (from best, better and good places) in order to construct ecological networks (天+地+人, 山+水+方位+人, 地理+生利+山水+人心) according to the outlooks of space and settlement.

Key words : Sustainable cultural view, Ecological network, Environmental design

1. Introduction

1.1. Objectives and methods of the study

Korean walled towns, which enclosed government offices and common housing in a local main town, became a strategic point of traffic and the military as the administrative centers of local countries and districts in the Joseon Period. There are a few urban facilities like public establishments and markets. And they have generally a large scale and a typically planned form, compared with villages formed spontaneously.

In connection with administration, religion and life, the town became a traditional cultural space that had cultural variety and a multiplicity of meanings. This study is going to take notice of its environmental stages (mountain+water+human beings), such as location, territory, and cultural ecological aspect related to components of scenery.

As for the method of study of the cultural landscape of the Nagan Walled Town, the recognition of environment in our history will be ascertained by literatery research, the identity of cultural landscape in its aspects of space will be analyzed, and the geographical condition of the village will be studies. Finally, the conclusion of the study of cultural landscape will investigate the combined principal of environmental design and cultural environment.

1.2. Related studies of walled towns

Related and representative studies of walled towns are, on its structure, Lee, Sangku (1984, town wall in the middle of the Joseon period), Lee, Sunyeong (1990, town wall of the Joseon period), Kim, Jeenhee (1994, characteristics of space in Cheongju walled town), Shim, Jungbo (1995, town wall in the central and south region); on the analysis of natural scenery, Park, Chanyoung (1984, 1988, configuration of landscape in the settlement of town wall). Kim, Hanmyung (1987,1992, characteristics of landscape), Whang, Sandone (1999, government office garden); on the relation to space structure analysis, by Kim, Hongsik (1983, characteristics of space in Sungup

Corresponding Author : Sang-Sup Shin, Dept. of
Landscape Architecture, Woosuk University, Jeonbuk
565-701, Korea
Phone : +82-63-290-1492
E-mail : ssshin@woosuk.ac.kr

village), Chang, Kusik (1987) Shim, Subo (1991, space structure), Kang, Hyun (1995, changes in structure of space), Mun, Youngsik (1995, plot planning), and Na, Miyoung et al. (1998, space structure of Sungup village).

These studies obtained research results which comprehend the structure and natural landscape of walled towns by analysis of ideal background in the construction of town walls, the characteristics of location, scale, and other physical facilities. However, this approach has limitations in the derivation of identity from a wide, combined environmental and cultural view, in spite of results in the investigation of structures in traditional villages.

Therefore it is necessary take a sampling of the social landscape index and to identify the aesthetic environmental scene by analysis of the natural and artificial environmental elements of the Nagan walled traditional village. This is a systematic way of analyzing characteristic cultural aspects of folk villages.

2. Development of walled town and cultural view

2.1. Background of development of walled town

A walled town was a fortress, protecting local residents and having military and administrative functions. Historically, town walls at Hansagun(漢四郡) were established in plains. Those of the period of the three kingdoms were constructed on hills. In the unified Silla era, they were square shapes constructed on basins. In the Goryeo dynasty, they were made of mud in local towns, and they were reconstructed as stone walls and enlarged in the Joseon dynasty.¹⁾

The Korean capital city plan was based on the 'Construction manual in CHOU book'(周禮考工記); therefore, town wall plans were also carried out according to these this basic rules. Location, direction, the managing of surrounding landscape elements, and the shape or naming of facilities were performed based on the principles of Feng-shui and Yin-yang prevailing since the late Silla dynasty. Location and natural landscapes were determined according to Feng-shui and interior facilities were based on CHOU(周禮). Therefore both these

traditional principles of environmental plans were combined and applied.²⁾

2.2. Space structure and cultural view of walled town

As mentioned above, the exterior and interior systems of walled towns were affected by Fengshui and the 'Construction manual in CHOU book'. Walled towns were located looking to the south with a northern main mountain on its back. With a 'T' or cross-shaped road system, arranged in the north, markets were located inside or outside of the gates of walled towns. Educational facilities such as schools annexed to the confucian shrines or memorial halls for great scholars were arranged outside the walls, and altars were also located outside the walls. In the southern parts of the walls, there were annexes to government offices and governmental or private houses.³⁾

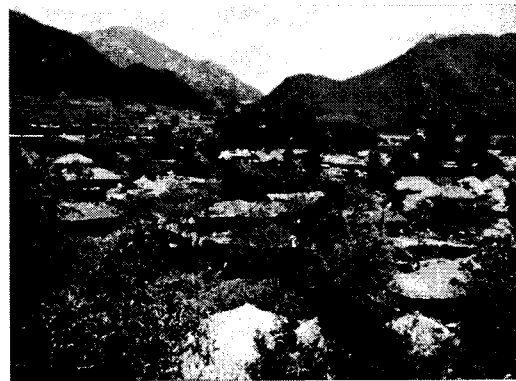


Fig. 1. Nagan walled town.

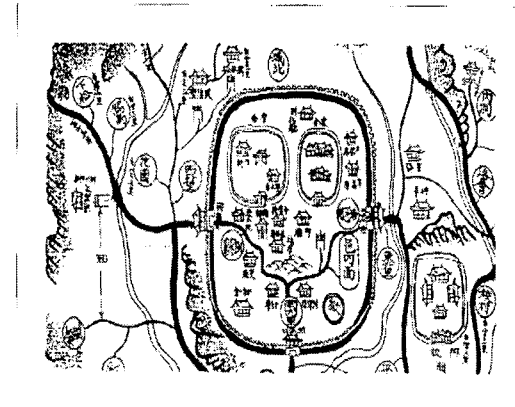


Fig. 2. Old map of Nagan walled town.

3. Case study of Nagan walled town

3.1. Construction

The Nagan walled traditional village is well-known as a lucky place according to Fengshui. As a strategic military and geographical location, it was a typical walled traditional village constructed by the government for protection from Japanese invaders. It is located south of Mt. Geumjeon as its main mountain and fronts toward the southwest. It is located at the basin, bounded by Mt. Jeseok on its east and Mt. Baki on its west. The wall is 1,406m in circumference, about 3.5~4.5m in height, 2~3m in width, and there are three gates. It is elevated on the north-western part, rectangular in shape, and longer on the east-west axis. Wide plains are spread to its south.

In 1397, in the days of the first king of the Joseon dynasty, Kim, Bingil, initially constructed a mud wall. In 1626 in the days of King Injo, Im, Kyungup, a county governor, reconstructed it as a stone wall. Governmental buildings and three villages were combined into the walled village. The walled town had a total of 108 households, which consisted of 78 households on the 41,018 pyong inside and 30 households on the 26,472 pyong outside of wall. Ceremonial facilities, Sajikdan(社稷壇), the local school, Sungwhangdan(城隍壇), Ryeodan (an altar for the dead) were arranged outside of the wall. Sajikdan is in the west, Ryeodan in the north, and the local school in the east. Sungwhangdan is located on Mt. Jeseok, its main mountain, which just follows only the principle of the 'Construction manual in CHOU book'.

This village was designated as historical landmark No. 302 in 1983, the first of its kind in Korea. It has 6 government buildings, 4 towers, and 231 private-houses. Among them are 9 living-houses, which are important folk properties, the official inn which is a provincially designated tangible cultural property, a pavilion for General Im, and Kyungup's monument, which is a cultural material. There also exist 15 old trees as local monuments. In October 2002, the Committee of Jeonnamnam Province Cultural Property requested that it be put on the tentative list of world cultural heritage.

3.2. Space composition and cultural view

3.2.1. Space composition

The space composition of the Nagan walled village is as follows. A ginkgo nut tree is in the center of the village with the main road connecting the east and west gate. There are government buildings such as an official inn or administration buildings on the north, and private houses are on the south of the main road. This village was named Nagan because it gave a comfortable and warm feeling as if in a mother's arms. Village roads are T-shaped. The market is located in its center, and functioned as a centripetal point for meetings. The main road is a living road which connects inside and outside of the village. The south gate road had a formal function. Streets connected to the main road met in a bow shape; byroads and alleys were made for easy access to living houses in consideration of easy approach and privacy.

The village is divided into rear land, a residential area, and a cultivated area, which reflects the sky-facing current in accordance with the axis and rank, and represents the symbolic transfer from secularity to holiness. The rear land is the mountain behind the village, and acts as a symbol, windbreak and scenic forests, tombs for ancestors, areas for folk belief, and practical areas providing living materials, fire woods, and a water reservoir. The residential area is located on the flatland, not in a confined place. Accordingly, cool south-eastern breezes blow in summer and also it controls cold northern winds in winter. It regards privacy and is determined by **geomantic** aspects. Therefore it would be a safe and well-lighted space. The cultivated area open wide in



Fig. 3. Feng-shui aspect of Nagan.

front of the south wall is divided into fields in front of the gate and in the distance by a stream. Subsidiary food crops were planted on the nearby fields and rice was planted largely on the distant fields.

3.2.2. Symbolic view

The aspect of Nagan in Fengshui looks like 'a lady putting on makeup to meet a general' or 'sailing ship'. A lady, Oknyebong, is putting on makeup with her hair down to meet a general, Jangkunbong. It is said to be very lucky if the sailing ship has equipment such as a rudder, sail, anchors, and oars. To maintain these conditions, natural land forms were used and many trees were planted. A ginkgo tree in the center of the village symbolizes the sail of the ship, Ginkgos planted on both sides of the central Ginkgo symbolized anchors which render the ship balanced. Also, large old trees around the wall symbolize oars. For this reason, digging wells have been restricted and wells which naturally spring out would be bailed out.

Dongcheon, which flows around outside of the east-side wall, functioned as a moat. There are stone dog statues in front of the stone bridge at the east gate. These were set up to cope with the rugged spirit of Mt. Obong. Particularly, there are 8 beautiful scenes in the greater Nagan area.

There are several folk performances which have been passed down. Shamanist service, which shrines (堂山祭), wished for safety and abundance for the village. Tug-of-wars using a great rope also wished for abundance. Folk-plays were performed in mid

July by the lunar calendar. There were also traditional farmers' band performances. Three villages had their own shrine and Shamanist service. The Shamanist service progressed in the following order: middle shrine → top shrine → lower shrine → well → shrine tree → totem pole → pole, signifying prayer for a good harvest as did the band performances.⁴⁾

3.2.3. Cultural view

The wall is somewhat elevated on the north-western side, in a rectangular shape longer on the east-west axis. Its circumference is 1,406m, which consists of 460m, 340m, and about 310m on its south, north, east and west sides, respectively. Its height ranges from 3.5m to 4.5m and its width, from 2m to 3m. The total inner space of the wall is 41,018 pyong. There are 3 gate towers, and a moat was constructed half-way around from east to south. The width of the wall is 7 to 8 meters at the bottom and 2 to 3 meters in the uppermost part. The wall is augmented with big talc at the bottom and gradually small stones to the upper side.

The highest-ranked government buildings (6 government buildings and 4 towers) are located in the north with Mt. Gumjeon on their back. An official inn is located in the center and the main office and a 7-shaped official residence are located in the west. Local government buildings Nakmin pavilion such as have views of the administration area.

There are three villages in the town, which have 231 private houses with distinct 108 households.

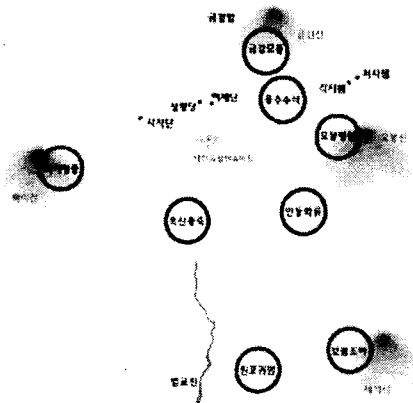


Fig. 4. Nagan Palgyeong (eight beautiful scenes).

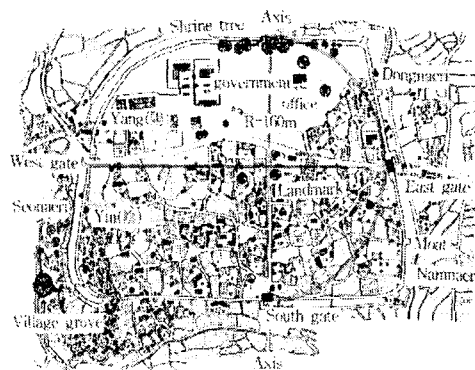


Fig. 5. Cultural landscape of Nagan walled town.



Fig. 6 Nagan gaeksa(government building).



Fig. 7. Ginkgo tree(shrine spot).

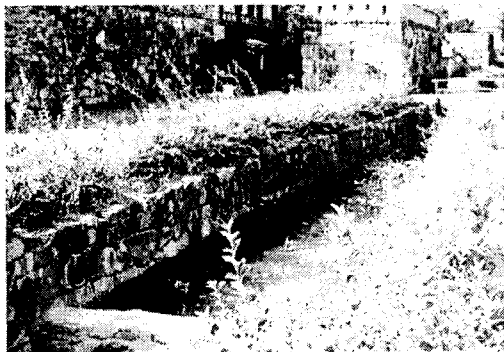


Fig. 8. Fengshui techniques(moat).

Seventy-eight households are inside and thirty households outside of the wall. Nine living houses 3 houses for each village are designated as important folk properties. Living houses (mostly of mid-sized or small-sized farm-residence type with a front yard and a family garden) are straw-thatched houses which resemble natural land forms. A low stone fence divides inside roads with natural curves and presents scenic beauty combined with ivy, pumpkin vines, and trees.

There are 32 scattered large old trees such as *Ginkgo biloba* on its central axis, and other. Fifteen trees are designated as local monuments; three *Ginkgo biloba*, six *Celtis sinensis*, a *Zelkova serrata*, three *Aphananthe aspera*, and two *Carpinus laxiflora*. *Ginkgo biloba* on the central point of the village symbolizes the sail of the ship and *Celtis sinensis* behind of the official inn, *Aphananthe aspera*, *Carpinus laxiflora* around the wall, symbolize the rudder and the oar respectively. Bamboo forests and village woods on the north-west side of the village were created to the west-north wind during the

winter season, which promotes comfortable living.

There are five dolmens outside of the east gate, which means that the villages have existed since the prehistoric age; dogs were employed to guard houses and to protect people from sundry evil spirits. Two stone dog statues are erected in front of the plate stone bridge outside of the east gate, which were created against the rugged spirit of Mt. Obong according to Fengshui.

Crossing as many times as his or her age, was performed on the plate stone bridge out of the east gate across the moat on the full moon day of the lunar January. People believed that this performance could make their legs healthy during the year. The moat is an adapted natural stream. Water flows from streams of northern Mt. Gumjeon and the valley of the eastern Mt. Shae, and runs through the east side of the wall and runs out of the south gate. It flows along plains, joins the Seocheon river, runs through the front of Mt. Oksan, and enter into the ocean. This Moat's length is 596 meters with 3 meters of width, from 1.5 to 2 meters in depth. It kept out invaders and appeased the rugged spirit of Mt. Myalak by its S-shape which symbolized the softening of this spirit.

There are wells of 1-meter depth in the center of each village. They maintain their water level even in droughts. The well at Namnaeri (south village) is called a big well because the county governors used it. From long ago, legend has it that people who drink the water of this well have a gentle mind and good appearance. Well ceremonies were held on the lunar January 4 at Namnaeri and on the full moon day of the lunar January at Dongnaeri (east village). According to Fengshui, the walled town looks like a ship. A local agreement prohibited the digging of

deep wells, because digging a well was like drilling a hole in the bottom of the ship. Therefore water would be bailed out from these wells, because the water symbolized the water sprung at the bottom of the ship which needed to be bailed out to make Nagan safe.

Human and pole shaped totems were erected on both sides of entrances at the east, south and west gates. Totem ceremonies were held every lunar January. In old days, human-shaped totems were erected in line, so this is called the totem street. Pole-shaped totems (a duck or wild goose on top of each pole) derive from a belief that the wild goose, a messenger of the sun god, leads dead souls to heaven. The duck, which lays many eggs, symbolizes abundant harvests without droughts, and prevents fires.⁵⁾

4. Discussion

Nagan walled town has a bright environmental

space because a mountain sits to the rear and a body of water sits to the front. It shows the pantheistic consideration connected with a sense of energy conservation, an environmental-psychological tendency preferring the natural environment, and a consideration of environments as spiritual spaces. Nagan is a type of 'woman with dishevelled hair' or a 'sailing boat' type, according to fengshui, which has the aspect that the northern Oknyobong, a symbol of a lady, welcomes the southern Jangkunbong, which symbolizes a general. Equipments of a ship (rudder, sail, anchors, and oars and others) were prepared by using natural land forms and planting trees, which made a symbolic view index. Especially the organised aspects, such as a moat, stone statues of dogs, and large old trees, and so on complement the incompleteness of environmental factors, which is understood as traditional science possessing environmental and ecological values.

Nagan has natural advantages such as the fine and proper main mountain in the back, a table mountain

Table 1. Techniques of environmental plan and vernacular landscape of Nagan walled town

Division	Techniques of environmental plan and vernacular landscape
Objective of plan	Settlement which reflect the system of universe and beauty of combined heaven, earth and human being and idea of land admire, Organic settlement which respect principal of ecological balance(yin yang, mountain+ water+declination+ human being) Practical+ideal =management of healthy and sustaining living place Pantheistic view of nature+land, Physical + mental wealth=reflection of life immortality idea)
Concept of plan	Construction of democratic environment by government and civil union. and plan of space which reflect land capacity, Real view(nature)+symbolical view(space for religious ceremony)+artificial view(town wall village)= cultural range of wide range, Existence(residential place, cultivated land)+ ideal place(pavilion, shrine, grove, moat)
Location	Calm valley on axial line of main mountain and morning mountain, Good place with gentle gradient Settlement of combine(nature+economy+community+environment), ideological good place+practically suitable place. A mountain sits to the rear and body of water sits to the front. Bright living place with secure.
Utilization of land and the line of flow	Residential land+cultivation land+rear land. Dong, Seo, Nam Naeri, United space management of village road+stream. Continuous system of adequate development and conclusion in dynamic space by blending motion and emotion . Government building, attached building, private house...etc according to the order of rank in master and servant discriminative utilization of land. use of land by check and balance, line of flow system which reflect capacity and branch shaped village road
Residential form	Energy saving house and village considering geographical features and water stream, landscape. Tile-roofed house and straw thatched roof house constitute higher class, middle class, lower class housing in order, exposure of house, view, adjusting environmental condition, structure of house combine interior and exterior
Ecology	Construct wide range of environmental network of ecology connecting natural green belt to living place. ecological landscape+village, which are well harmonized with, ecological capacity, natural habitat, track, environmental forest, water, rock, tree
Territory	Territory indicator inside and outside of village(natural environment, place for religious ceremony, village forest, well, village wall, pavilion.etc.), Specialized zone like private home, facilities for religious ceremony, school, cultural convenient facilities for living and culture
Culture of education	Management of school(local school annexed to the confucian shrine, village school house) and elegant and convenient living culture facilities, Standard of confucian idea of scenery
View	Complete view of combine inside yard+outside yard, inside garden+outside garden, and nature landscape+symbolical landscape artificial landscape., Manage of viewpoint in landscape like balanced view (eye patch) of environmental psychological and pavilion.. Establish a symbolic landscape, manage the wide range of view, native folk view, like Nagan 8 views
Community	Identified village territory as a boundary factors like village wall, totem pole, pole signifying prayer, village grove and embodiment of public community. Cooperative community program like accompaniment fraternity, market place, cooperative farming team, festival, ceremonies of coming of age, marriage , funeral and ancestral worship. Construction of self-sufficient public community united of peoples in diverse classes

which provides a feeling of safety, and joyful and handsome morning mountains and streams. These aspects combine with plains, residential areas, and administration facilities. Nagan does not compete with natural land forms, and even fine mountains envelope it. The composition system linked as half nature-artificial-nature or cultivated land-residence-rear land reflect beauty of combined heaven. Therefore it is an organised small space and an artistic space connected with ecological characters of biological societies. Also they managed the historic eight scenic beauties of Nagan. These were aspects for enjoying the local scenic beauty and landscape, which were accumulated and passed down.

The space composition of Nagan walled village is as follows. A ginkgo nut tree is in the center of the village, and the main road connects the east gate and the west gate. There are government buildings such as an official inn or administration buildings in the north, and private houses are to the south of the main road. This village is named Nagan because it gives a comfortable and warm feeling as if one were in one's mother's arms. Village roads are T-shaped. A market is located in its center, which functions as a centripetal point for meetings. The main road is a living road which connects the inside and outside of the village. The road to the south had formal functional streets connected to the main road in a bow shape, and narrow streets of Y-shape functioned as approaches to living with houses regard to easy access and privacy.

There are three villages with 91 households. Straw thatched houses resembled natural land forms. A low stone fence divides the inside road with natural curves and presents scenic local beauty combined with ivy, pumpkin vines, and trees. A bamboo forest and village woods on the north-west side of the village were created to break the west-north wind during the winter season, which promote comfortable of living.

It is considered to be reflect principle of plan according to human scale in selecting a village road which reflects scales of space and capacity, and in locating the walking boundary, private home unit and schools, pavilions, life-convenience facilities(well, wash place, village yard, market), and the folk belief service area. That is, the most comfortable village

scale setting both visually and aurally of 24 m or there about in residential place, and the village scale of 140m that is effective for feeling territory, ..etc. It includes a familiar scale and contents regarding space and environmental psychology. So, it could be an environmentally friendly space that provides a balance of comfort stability and a sense of security, even in encircled area.

5. Conclusions

Forming into a village, a Korean walled town, furnished as a military and administrative space, was based on the principles of 'the Construction manual in CHOU book'. Nagan walled town also reflected this base and Fengshui or yin-yang were applied for the location, direction, landscape, shapes, naming, and meaning of facilities. That is, location and landscape were based on Fengshui, and the construction of the interior was based on principles of 'Construction manual in CHOU book'. With temperance in utilizing nature and consideration of the environmental order, the towns people followed the design principle of place prosperity rather than people prosperity.

Forming an asymmetric space of harmony between government facilities and private houses, Nagan walled traditional village established its own cultural view by combining folk beliefs and social systems. The territory, divided into 3 towns, with landmarks of inside roads in the village, became a self-sufficient, secure space. And it became a dynamic space, blending motion and emotion and containing many cross-linked environmental planning factors such as a selection of government buildings and private homes in ranks, the introduction of landmarks which emphasize territory and identification, the reflection of rhythmical beauty that provides psychological tension-relaxation-buffer-relief followed by the movement of the line of flow and vision, and the introduction of a view indicator emphasizing territory and identification, establishing a view point of landscape and culture in the forms of foreground landscape, middle ground landscape, and long-distance landscape.

Living houses and the walled town have practical inner or outer yards adapted to nature, and which offer natural views. They also have waterscape presenting methods for ponds and moats, management of village woods or towered pavilions, and management of great

views like 8 beauties of Nagan. Environmental design principles of landscape aesthetics which reflect religious or natural sense and symbolism are applied to practical standards such as those of Shrine trees or pavilion trees.

Acknowledgments

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