

THE RESEARCH ON THE SYSTEM OF COASTAL GUARD TOWNS IN MING DYNASTY—A CASE STUDY OF PUZHUANG GUARD TOWN, ZHEJIANG PROVINCE, CHINA

GAO NING LUO YINAN MA QIAN HUA CHEN

*Address: Room 412, Building of Architecture, Zijingang Campus, Zhejiang University, Hangzhou, Zhejiang province, P. R. China
e-mail: tintin1980@126.com*

ABSTRACT

Puzhuang guard town built in Ming Dynasty is the existing fairly complete system of coastal defense towns in China's southeast coast. Actually, instead of a separate town, Puzhuang guard town is a set of great and spectacular coastal defense towns system. The study involved historical background, geographical location, structure and transformation of the special towns system, in which the structure of the system was the focus of the study.

INTRODUCTION

The most famous defense system in northern China is Great Wall, correspondingly, in southern China, coastal defense towns system was set up in order to prevent harassment from pirates. The military defense system based on coastal towns established by Ming Taizu Zhu Yuanzhang around 1380 is the first complete coastal defense towns system along the country's coastline in the history of China, in which, Puzhuang guard town which retained relatively complete structure and form is the existing fairly complete system of coastal defense towns in China's southeast coast. Actually, instead of a separate town, Puzhuang guard town is a set of great and spectacular coastal defense towns system which contains a number of fortresses, beacon towers and other facilities in the ground. The study involved historical background, geographical position, structure and transformation of the system.

1 BACKGROUND OF THE SYSTEM

The process of coastal defense towns' construction and transformation not only had military significance but also involved household registration and immigration, taxes and state farming, religion and religious organizations, civil-military relations, trade and transport and so on.

Early Ming Dynasty (1368), the emperor built his capital in Nanjing in China's southeastern coastal area which was the Government's main sources of revenues. The invasion of pirates threatened to the security of Ming Dynasty's political and economic center, which made the government can not sit by. So the emperor decided to carry out large-scale coastal defense construction.

Ming government divided the coastal area into seven defense zones which covered the whole coastline of China. The fortification facilities of each defense zone were planned and built according to geographical location and terrain features. In which Fujian, Zhejiang were the key zones. Puzhuang guard town was under the jurisdiction of Zhejiang defense zone. The construction of coastal defense fortification facilities of Ming Dynasty matched the military system. Guard towns system was the most basic military organizational system in the early Ming. Usually there were several guard towns in one defense zone, about 5,600 sergeants in one guard town. And there were five thousand household bureaus of defense (about 1120 sergeants) and several hundred household bureaus of defense (about 112 sergeants) in one guard town. The total population of each guard town was about 56,000 including dependents. Guard town was the defensive stronghold and command center¹. Shown in figure1 below.

"Sergeant" of guard towns was a fixed job, also a permanent organization system. Sergeant was hereditary, the whole sergeant family moved to the designated guard town and served for the army from generation to generation². So the guard towns system provided the stable source of troops, and reserved forces in order to prepare assignment. Guard towns practiced state farming system. Sergeants and their families farmed and fed themselves by the land, seeds, cattle and other means of production got from State. The state farming system was actually a kind of form of state development, so the guard towns were not just purely military organizations, but the geographic units with military and cultural characteristic which had great influence to the development of regional culture³. These military immigrants and their descendants who came from the same place and lived together had significant impact on the local education and culture, customs, dialects, folk beliefs and so on. And their base became a unique cultural and geographical unit which was so different with other around regions. For example, the dialect of residents lived inside the wall of Pu guard town (locally known as the "inside town dialect") had great difference with the dialect of residents lived outside the walls of Po guard town (locally known as "outside town dialect")⁴.

In the development process, due to geographic location, military system, national policy and other reasons, the guard towns usually became the local political, economic and cultural center, and promoted the rise of cities and towns. Most of these towns in the Ming and Qing dynasty had sustainable development, and became the basis for today's distribution of the local towns. Pu guard town, the core of Puzhuang guard town system, had been the center of the region before 1950. The guard towns had been maintained to the early Qing Dynasty, and then were changed and combined into counties by a large scale.

2 GEOGRAPHICAL LOCATION OF THE SYSTEM

Puzhuang guard town is located in Pu door region, Cangnan County, the southernmost coastal region Zhejiang Province. In Cangnan County, except the northern region is plain, the southern and western region are mountains, the eastern has winding coastline with the length of 155km, harbors, marine outfalls. Sea transport is very developed. Pu door region had been ancient military site from Tang Dynasty with advantageous terrain, which guarded the marine outfall, backed mountains. In about AD 860 (Tang Dynasty) , Pu door garrison was set up; in AD 1090 (Song Dynasty), Pu door region was guarded by troops; in about AD 1387, the first Ming emperor began to construct guard tow system in this region⁵. Most towns in this system which covered most of the coastline and nearby islands usually were backed by mountains and faced the sea, closed to the harbor、estuaries and post road where easy to defend, difficult to attack with a very vast field of vision. Shown in figure1 and figure 2 below.



Figure 1 Puzhuang guard town system location,



Figure 2 Puzhuang guard town environment,

Pu guard town is located longitude 120 degrees 24 minutes, north latitude 27 degrees 14 minutes. Being located the junction of Zhejiang province and Fujian province, the place had always been the coastal defense strategic location. In Ming Dynasty, Pu guard town was only 500 meters from the sea, and was the great pass which stoped the pirates invading inland of the south of Zhejiang province and east of Fujian province after landing. According to military theory, Pu guard town had the appropriate terrain elevation, unique geographical and natural environment, broad perspective. It is favorable to observe the enemy from the sea and liaise with other fortress, control the enemy, transport supplies and fishing operations at sea. Outside of Pu guard town, there were rolling hills where were good places for crouching tiger hidden dragon, and for station troops and practice. So this area had been relatively calm. This showed strategist with rich war experience and strategic vision were familiar with the geographical environment, and achieved a "seting risk to keep its solid" purposes.

Other defense facilities were mostly backing mountains and overlooking the sea, like Zhuangshi guard town, Cheng menzhu castle, Baiwan castle; stronghold, patrol agency, battlement and beacon tower were all at the control points of overlooking sea and covered the whole area. The coverage of the entire town system is about 550 square kilometers and involves the southern mountain region and coastal areas of Cangnan county.

3 STRUCTURE OF THE SYSTEM

3.1 SYSTEM COMPONENTS

After 180 years of construction, the multi-level, large depth coastal fortification system gradually formed which combine guard town with stronghold, patrol agency, battlement and beacon tower. There were complex relationships between various components which were at different levels in the system in accordance with the different geographical location. The system had high integrity and clear focus which facilitated mutual support of all fortified points; setting up fortification facilities according to the enemy’s situation and terrain; paying enough attention to the system’s in-depth configuration and composition of multi-channel fortification line. Therefore, due to the particularity of the military system, different from the common meathod in the past just study one or several different town body of the entire system, this study introduced the concept of field area which means the absolute range of bodies in the system and the space guarantee the integrity of the system and the echoing of facilities to described the system more comprehensive. Puzhuang guard town consists of two center guard towns, two castles, two strongholds, three patrol agency and eighteen beacon towers distributed radially, shown in

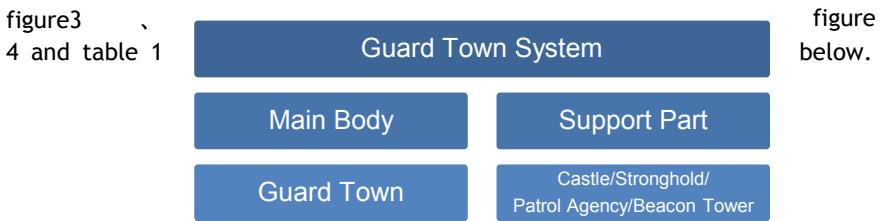


Figure 3 Puzhuang guard town facilities distribution,

Table 1. Puzhuang Guard Town Components

	Level	Name	Town Area(Ha)	Radiation Area(Ha).
Puzhuang	Guard town	Pu guard town	24.9	50
		Zhuangshi guard	11.2	45
Guard	Castle	Baiwan castle	1.5	10
		Cheng menzhu castle	0.27	5
Town	Stronghold	Chengxi stronghold	1.5	10
		Chao puyang		

14th INTERNATIONAL PLANNING HISTORY SOCIETY CONFERENCE

System	Patrol agency	Guifeng patrol	1.8	6
		Dage patrol agency	0.198	6
		Zong litou patrol	0.41	6.7
	Beacon tower	Nanbao beacon tower, Sibiao beacon tower, Shi zhonggang beacon tower, Fenshui beacon tower, Da anshan beacon tower, Xuanzhong beacon tower, Bu daiiao beacon tower, Liulong beacon tower, Jianshan beacon tower, Da paoshou beacon tower, Gaoyang beacon tower, Da shikeng beacon tower, Tianliao beacon tower, Che lingtou beacon tower, San bulei beacon tower, Shi jiadun beacon tower, Lei'ao beacon tower, Nantou beacon tower		



Figure 4 Puzhuang guard town facilities distribution,

3.2 SYSTEM STRUCTURE

According to the location and function, these facilities of Puzhuang guard town can be divided into cordon town, island town, coastal town and seaport town. Cordon town was the alarm and inspection system, including patrol agency and beacon tower which usually scattered in the advantageous locations of coastal

frontier and areas easily landing and the vicinity of the must pass through road for pirates after landing. Army and militia stationed here and patrolled day and night. In case the enemy, relying on these engineering facilities to against pirates while alarming and gain time for the rear defense. Island town controlled the main islands and channels and against water forces according to the size and terrain characteristics of the islands. Coastal towns were usually set up in the coastal areas easily attacked by enemy, along the coastline and had a certain depth. Seaport town usually combined with barriers blocking estuary, formed multi-channel defense line and protected inland area. Guard town, castle, stronghold and patrol agency were usually linked by roads, connected with the other guard towns of coastal areas and formed a whole anti-pirates defense system of east China coastal which echoed each other.

Guard towns is the main body of the towns system, the defensive positions and command centers, including Pu guard town and Zhuangshi guard town. Pu guard town built in AD1384 was the center of defense facilities of Pu door region in Ming Dynasty, and one of the most complete military facilities, an important historical, military, and cultural development witness. The streets, lanes and wells of Pu guard town with irregular rectangular plane and integral town wall are still well preserved at the initial pattern. There are several beacon towers outside Pu guard town which quickly spread the situation of enemy at sea to the guard town. Zhuangshi guard town built in AD 1387 with irregular rectangular plane. North of the guard town was built along the hillside and the other three sides was built on flat land. Due to the influence of typhoon and the lonely topography at the beach, it's hard to defense pirates. So, Zhuangshi guard town was abandoned. Initial streets no longer exist, only stream from west to east, town god's temple, three old wells and a few folk houses are preserved. South and west town walls retain the basic integrity and the rest damaged, shown in figure 5 below.



Figure 5 Pu guard town and Zhuangshi guard town,

URBAN TRANSFORMATION: Controversies, Contrasts and Challenges

Castles were built spontaneously by common people for fighting against pirates with a smaller scale, including Baiwan castle, Cheng menzhu castle. Baiwan castle is surrounded by mountains, facing the bay, guarding the seaport, was a major frontier checkpoint of Chixi bay with important geographical location and military value. Baiwan castle has rectangular plane and well-preserved castle walls and doors, shown in figure 6 below. Cheng menzhu castle with irregular plane was family in early now, the residents in neighborhood Only part of walls and are preserved.



Figure 6 Baiwan castle,

Strongholds usually had smaller scale than guard towns, lower stronghold walls, and training field for soldiers' drilling, including Chengxi stronghold, Chang puyang stronghold. Chengxi stronghold's plane is almostly square. The length of north-south wall is about 120 meters, and east-west is 100 meters. The walls were made with stone. Now, the stronghold is completely abandoned. Except part of the land used to grow crops, the rest are covered by trees and weeds, shown in figure 7 below. Chang puyang stronghold still need to research.



Figure 7 Chengxi stronghold,

Patrol agency which responsible for inspection between pedestrians, fight against smuggling and arresting thieves located in main arteries and strategic areas, had jurisdiction over 100 archers. It was flexible to set up or withdraw patrol agency, because archers of patrol agency were local armed forces and came from local farmers without state financial support. Because of the limited





number of regular troops, it was impossible that guard town spread through the vast rural area. So patrol agency made up the shortage of guard town system, became an important supplement to guard town. Guifeng patrol agency was built in AD 1393 to strengthen the coastal defense system. The training field and walls of Guifeng patrol agency had been destroyed, but the size and profile are preserved. Guifeng patrol agency with important geographical location and military value located in the middle position between Puzhuang guard town and Zhuangshi guard town. It's a good place for stationing troops and training with hidden terrain, shown in figure 8 below. Dage patrol agency, guarding Yanpo bay, the plane is slightly square, and the area is 1980 square meters. Now, Dage patrol agency is covered by various plants, leaving only residual site. Zong litou patrol agency is slightly slender shape. The length of north-south wall is about 30 meters, and east-west is about 110 meters.





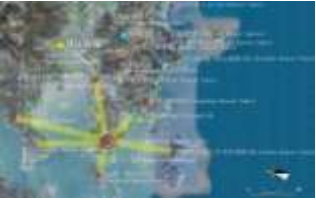









Figure 8 Guifeng patrol agency,




Beacon towers were mainly used for observation and alarm, located in the highest terrain. Burning smoke during day and firing during night when enemy invade. The visible smoke and light were used to alarm to the surrounding areas as well as higher. Beacon towers also can be used for against enemy. 18 beacon towers were divided into Pu guard town beacon tower system and Zhuangshi guard town beacon tower system according to regions and observation lines. Shown in table2 below.

Table 2. BeaconTowers Position and Perspective

Name	Position and perspective	Name	Position and perspective
Pu guard town beacon tower system		Zhuangshi guard town beacon tower system	
			
Nanbao beacon tower		Jianshan beacon tower	

URBAN TRANSFORMATION: Controversies, Contrasts and Challenges

<p>Xiaozhu beacon tower</p>		<p>Da shikeng beacon tower</p>	
<p>Da anshan beacon tower</p>		<p>Da paoshou beacon tower</p>	
<p>Sibiao beacon tower</p>		<p>Gaoyang beacon tower</p>	
<p>Xuanzhong beacon tower</p>		<p>Leiao beacon tower</p>	
<p>Bu daiao beacon tower</p>		<p>Shijia beacon tower</p>	
<p>Liu longshan beacon tower</p>		<p>Tianliao beacon tower Che lingtou beacon tower</p>	

<p>Shi zhonggang beacon tower</p>			
<p>Fen shuai beacon tower</p>		<p>San bulei beacon tower</p>	

4 TRANSFORMATION OF THE SYSTEM

Coastal defense system of the Ming Dynasty emphasizes on fortification facilities, with both in-depth configuration and composition of multi-channel. Making use of this system, the Ming Dynasty won more than 50 years coastal calm period. Guard towns system contributes to a large scale population gathering in Pu guard town, thus promotes continuous economic prosperity. However, since the Qing Dynasty, rulers carried out closed-door policy, blocking sea area and compelling coastal residents moving 10 Chinese miles to inland. So the coastal defense system on southeast coast gradually declined⁶. Also the military position and the political status of Puzhuang guard town experienced a corresponding decline. People were not allowed to remove the belt area until AD 1681. Since then, Pu guard town again became a regional center. Nevertheless, in 1950, due to the adjustment of national administrative divisions, the administrative center transferred, and the political and economic status of Pu guard town once again declined, and economy of Pu door region developed slowly. Fortunately, the basic city pattern of Puzhuang guard town in Ming Dynasty stayed fully alive. In addition to a complete system of coastal defense, several center towns such as Pu guard town, Baiwan castle survived with the original fortification pattern and a number of historic buildings. Besides, the Puzhuang guard town system is integrated cultural relics reflecting military, geomantic omen, literature and folk beliefs, which is related to military culture of the Ming Dynasty. And the system is also an important cultural carrier of immaterial heritage.

Pu door region lagged relatively behind township building, and there have been few new construction projects since the planning control by the end of the century. As a result, the guard towns, castles, strongholds, beacon towers didn't experienced a large-scale construction, agricultural landscape in villages was well kept, mountains and terrain surrounding were kept away from destruction, views with historical military role and were well retained, and overall regional environment that bear facilities system were kept integrity. But

with population increase and lack of necessary maintenance to old houses, requirements of alteration and new construction have increased. New problems were raised such as: expansion of constructive land; conflict of new buildings and the surrounding environment; extrusion of heritage. And these result to encroachment and destruction of historical environment to varying degrees. Meanwhile, in recent years, Puzhuang guard town started to develop the tourism industry as an important measure to revive the local economy, which is bound to set off the construction of tourism facilities, and also the climax of the development of tourist attractions. Therefore, faced with the dual pressures of regional development and influx of tourism population, the city system of Puzhuang guard town needs to explore new suitable development. Because of the rich layers and numerous facilities of the military town system, and also the specific requirements over regional view environment, it becomes particularly important to protect the intact unobstructed sight corridor between the facilities and the existing town pattern in the process of city expansion. Therefore, the research over Puzhuang guard town especially the internal relationship between the various components is the foundation of the formulation of development & protection policies in the region.

Because of the wide geographical area, complex administrative unit, the traditional ancient city protection plan can not meet the needs of protection and development of the guard towns system. Therefore, on the base of study about the system's level and structure, a new kind of planning approach which co-ordinate the various components of the system from the perspective of regional development must be considered. This will be the next step.

REFERENCES

- ¹ Guo hong and Yu cuiyan, (2004) "The System of Commanding Stations and Military Control Administration Division in the Ming Dynasty," Military Historical Research 4, 78-87
- ² Gao yisheng, (2009) "Ming Dynasty Coastal Defense Town Dapeng Ancient City," Shanxi Architecture 35, 8, 35/164.
- ³ Chen chunsheng, (2007) "The Coastal Defense of Teochow in the Early Ming Dynasty and Its Historical Effect(Part One)," Journal of Sun Yatsen University(Social Science Edition) 47, 2, 24-32.
- ⁴ Guo hong, (2003) "Ming Dynasty guard towns immigration and regional culture change," Journal of Chinese Historical Geography 18, 6, 150-155.
- ⁵ Song xuan, (2005) "Ming Dynasty Coastal Defense Relic in Zhejiang Province ," Cultural Relics of the East 14, 3, 62-68.
- ⁶ Zhang jinkui, (2007) "A Preliminary Analysis of Ming Dynasty Guard Office Registrars System ," Palace Museum Journal 130, 2, 118-126.
