

A Study on Agricultural Production and the Vicissitude of Settlements in Japanese Colonial Period-A Case of Kaohsiung Settlement in Taiwan

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The Asian Conference on Cultural Studies 2020
Official Conference Proceedings

Abstract

In the past, traditionally agricultural farming methods usually followed family members in Taiwan. To get cheaper crop materials, the Japanese government changed the way of agricultural production by capitalism in Japanese Colonial Period. The role of farmers changed gradually in the market mechanism, return to the complete producer in the market from producer, processor and salespeople. After the invention of changing structure of production and capitalist, the workforce lost balance. The Japanese government wanted to make up for Taiwan 's workforce through immigration policies, get the shock from immigrants and worker, then changed Kaohsiung Harborside Settlement by immigration indirectly. This research studied by a geographic viewpoint, case analysis by historical data review, historical map, and statistical data in Dazhu Vil of Kaohsiung Harborside Settlement. Presenting changes in life support space and settlement area through Penghu immigrants in Kaohsiung. Data showed that the settlement location of Penghu immigrants was closely related to the development of Kaohsiung City. They usually chose on the edge of the city and living areas, changed life support way method accompanied by Southward Policy, and the composition of the migrant settlements was formed by the regional relationship of Penghu. The appearance of Kaohsiung Harborside Settlement mainly composed of regional immigrant settlements.

Keywords: Immigration, Dazhu Vil, Family Farming, Life Support Areas, Penghu

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Introduction

*All along, Kaohsiung impression with chimney on the skyline.
What did look like before in Kaohsiung ?*

The composition of the city is to form a spatial appearance through people and settlements, people living in the city cannot feel the existence of space that must be defined by activities and events. To study the way people lived in the past in Kaohsiung that location of settlements, the way of subsistence, and economic activities through the changes in agricultural structure during the Japanese occupation. Penghu immigrants in Kaohsiung in Japanese Colonial Period as a research object, analyze the impact of agricultural changes on settlements by selecting settlement locations and transition processes, defining the settlement space by life support and religion that reinterpret Kaohsiung through agriculture.

Because of the policy during the Japanese Colonial Period, the settlement position will be affected by life support way and economic behavior that be the key to choosing location. Then after a stable life, religion becomes the center of residents' lives, and also connected with people and their emotions in the settlement, finally forming a settlement space, especially important for immigrants. When immigration left home who also brought religion to the new settlement that enshrine at home. After immigrant life was settled which built the temple and continued the emotions of the original settlement.

The research used agricultural data analysis during the Japanese colonial period, and then reconstructed the settlement changes in Kaohsiung from 1895 to 1945 through GIS. Finally, through agricultural data, the amount of agricultural land, and crops, the analysis responded to the research issues.

Changes in the structure of Agricultural Production through Capitalism

The Japanese government increased rice production by repairing agricultural facilities in 1908, at the same time, the original living crops are crowded out that production volume reduction. Capitalism affects farmers' lives and changes economic behavior that from self-sufficient agricultural production to commercial production, also affect farmers' farming projects by Government of Taiwan policies, farmers must obtain food and life supplied through the market. In other words, production and sales are controlled by the market, and the workers is hired through salary. The main income is owned by capitalist plutocrat who become the market control mechanism in Taiwan, at this time the biggest plutocrat is the Japanese government.

透早就出門，天色漸漸光，受苦無人問，行到田中央，
行到田中央，為著顧三當，顧三當，不驚田水冷霜霜。
炎天赤日頭，悽悽日中單，有時踏水車，有時著搔草，
希望好日後，苦工用透透，用透透，曝日不知汗那流。
日頭若落山，功課才有煞，不管風抑雨，不管寒抑熱，
一家的頭嘴，靠著稻仔大，稻仔大，阮的過日就快活。

《Rural Song》 write words : CHEN,DA-RU · 1937

From the traditional Taiwanese song "Rural Song" that is close to a representative work of a farmer life, you can feel the farmers life and work hard every day before the sun rises. Farmers want to improve their lives.

Presenting the life of farmers through songs. In the past, Taiwan's agriculture was based on family farms during the Early Period of Japanese. The agricultural production method is self-sufficient that with rice and sweet potatoes as subsistence production crop, agricultural production methods are self-sufficient, with rice and sweet potatoes as live crops, and limited production, only for farm family, in addition to this, sugar production becomes economic crop that important economic sources for farmers. Economic crop and subsistence production crops are collaboration relationship that not competition, the cultivated area has not decreased or increased between 1899 and 1900.

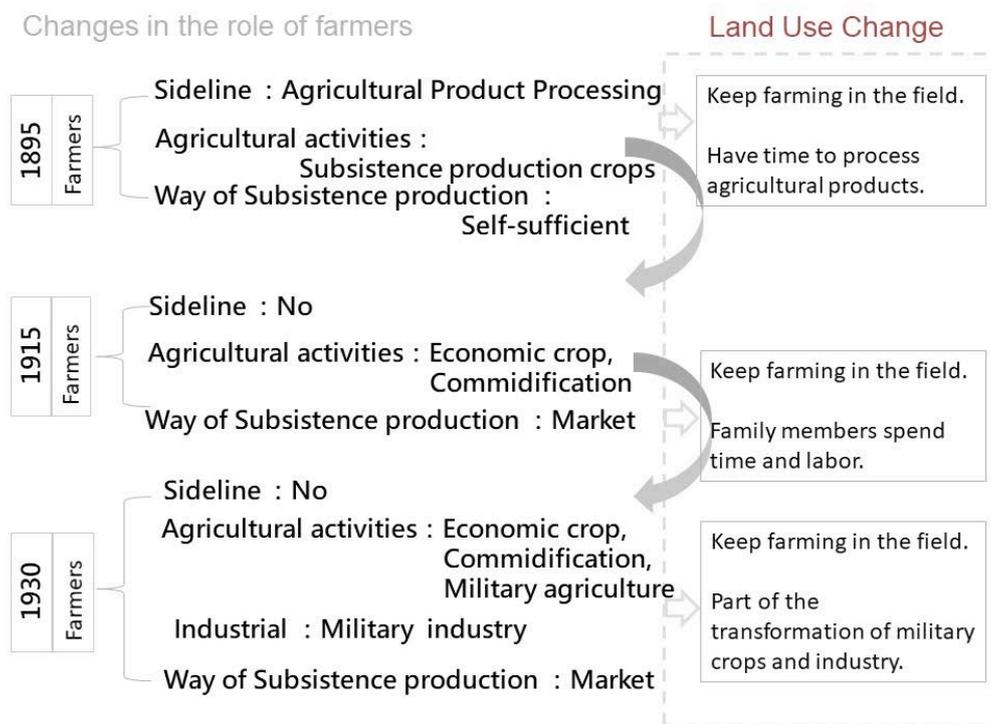


Figure 1: Changes in the role of farmers.

The Japanese government's policy to intervene in production methods through capitalism in Taiwan began "industrial Japan, agriculture Taiwan.", industrial transformation also affects production methods, In the past, farmers farmed in family farms. Workers were family members and farmed near their homes. In addition, the land was owned by them. At this time, farmers have multiple roles, being producers, processors and sellers. At the same time, it can also affect the market price. In addition to farming, processing agricultural products in spare time who can increases income and self-sufficient. Farmers change their lives to get extra income through processing; Because capitalism changed the way of production, the government of Taiwanese acquired land, restricted the area of agricultural raw materials, farmers became workers, and the role of farmers changed into producers, living through salary that to buy food in the market through cash, which causes changes in land cultivation

and farmer population, and restricts development and changes to settlement spaces. Taiwan's lack of workers due to industrial transformation.

Changes in the Role of Workers and Immigrant

The Japanese government conducted an agricultural survey in 1919. In order to maintain agricultural development in Taiwan, the Japanese government proposed several issues for Taiwanese agricultural workers: (1) supply of agricultural workers; (2) balance of cultivated land and agricultural workers; (3) employment relationship; (4) the mode of adjustment between workers and immigrants; (5) the salary of agricultural workers; (6) the control of worker resources.

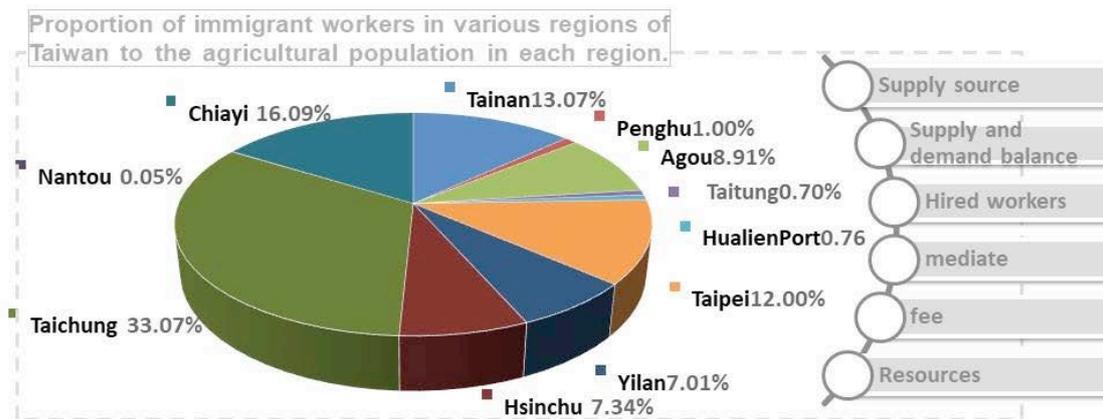


Figure 2: Proportion of immigrant workers in various regions of Taiwan to the agricultural population in each region.

Adopted immigration policies by the Japanese government that supply and hired of workers, and resources. In 1915, the total number of agricultural in Taiwan was 1,362,529, Full-time agricultural workers accounted for 85.31%, and sideline agricultural workers accounted for 14.69%, Proportion of immigrant workers in various regions of Taiwan to the agricultural population in each region in 1915. the most workers in Taichung, Chiayi and Tainan that immigrant workers are non-residents.

Table 1: Employment of agricultural workers in 1919.

	Farm operator		Family farm		Workers	
	Number of people	Percent	Number of people	Percent	Number of people	Percent
full-time	345,029	29.68%	350,666	30.17%	466,504	40.13%
Sideline	176,385	87.26%	0	0%	25,752	12.73%

Statistics on Taiwan's Immigrant and emigrate in 1919. From the tabulation, the worker of Agou and Tainan is mainly from Penghu, with a total of 9,596 people

working in Taiwan, therefore, Penghu Department formulates immigration policies that it conducts immigration control.

Table 2: Statistics on Taiwan 's Immigrant and emigrate in 1919.

Immigrant Emigrate	Taipei	Yilan	Taoyuan	Hsinchu	Taichung	Nantou	Chiayi	Tainan	Agou	Hualien Port	Immigrant total
Taipei	0	303	1343	0	0	0	0	0	0	0	1688
Yilan	17	0	0	0	0	0	0	0	0	0	195
Taoyuan	1086	0	0	1451	340	272	0	0	0	0	3149
Hsinchu	62	32	262		671	420	178	8	188	15	1994
Taichung	0	0	0	26	0	889	280	0	6	0	1202
Nantou	0	0	0	0	133	0	8	0	0	0	141
Chiayi	0	1	0	0	14	0	0	217	21	0	258
Tainan	0	0	0	10	1	0	520	0	2503	28	3062
Agou	2	0	0	0	1	0	0	247	0	243	667
Penghu	0	0	0	0	959	0	1919	2879	2879	480	9596
Emigrate total	1167	336	1605	1487	2119	1581	2905	3351	5597	766	

Agricultural Changes and Subsistence Production Space Changes in Kaohsiung Harborside Settlement

After the Meiji Restoration, Japan changed from agriculture to industry. In 1890, the population was concentrated in cities. Workers chose industries to work, resulting in reduced agricultural production and food shortages. In order to solve the problem of shortage of subsistence production crops, the Japanese government opened imports in 1900, government of Taiwan forces Taiwanese farmers to plant rice, while considering the demand for sugar and southbound policy, changes in sugar production, traditional sugar making requires a lot of workers and a lot of time. Therefore, the construction of new sugar factory was established in 1900, and the sugar industry policy was promoted in 1902 to increase sugar production. Sugar production has become an industry for Taiwan's industrial development, many subsistence production crop fields are converted to sugarcane, then ensure the supply of raw materials in sugar factories, the raw material area is divided. Then in 1903, the Japanese could not adapt to Taiwanese rice, so rice improvement was carried out.

The Japanese government conducted a land survey that to control land in 1905. At this time, the Japanese government positioned the industry in Taiwan as "industrial Japan, agricultural Taiwan", and became a colony for supplying agricultural raw materials. In 1908, in order to increase rice output, construct irrigation facilities, and provide subsidy policies, the agricultural production of workers in the agricultural survey accounted for 86.37%, and the source of agricultural workers was provided by immigrants.

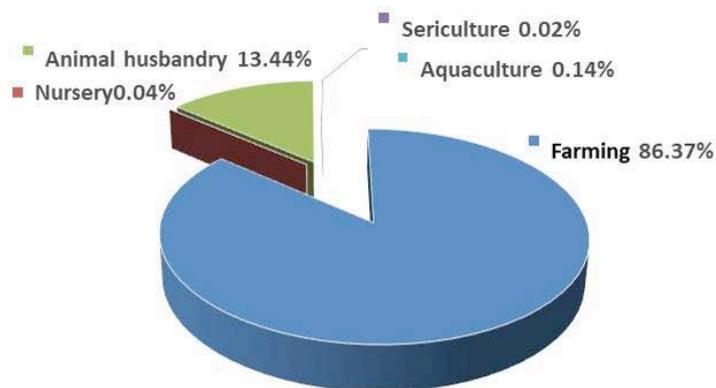


Figure 3: Workers' job categories in 1919.

Immigrant agricultural workers have to rotate crops more than two crops. The Penghu Immigrant agricultural worker went to Tainan and Agou who do farming, rice cultivation, sugarcane cultivation. The sugarcane cultivation became the main job of immigrants about 80%. Immigrant agricultural workers in regions have become workers supply for capitalist sugar factories and family farms.

Table 3: Statistics on Penghu agricultural workers immigrant for work item in 1919.

District Item	Taichung	Chiayi	Tainan	Agou	Taitung	Hualien Port	Immigrant total
Farming	97	192	289	289	49	49	965
Rice cultivation	97	192	289	289	49	49	965
Sugar cane cultivation	765	1535	2301	2301	382	382	7666

Great Depression in 1920, Japanese rice prices fell, unbalanced agricultural production and demand and overproduction of rice. In order to balance the price of rice, Taiwan farmers were required to reduce production, and then sugar production was also excessively produced in 1926, government of Taiwan banned the construction of irrigation facilities in 1937, while encouraging farmers to plant military crops and military supplies produce. Entered "Industrial Taiwan, Agricultural Nanyang" in 1940.

The first phase of the construction of the Kaohsiung Harbor and the opening of the railway were opened in 1908. Sugar, rice and economic crops were transported to the port through the railroad and shipped back to Japan. In cooperation with local consortia, the salt land was reclaimed into land, and then the second phase of the harbor was carried out. After the completion of the construction of the Kaohsiung Harbor, the Japanese government purchased the land in Kaohsiung Shihjia for the use of military supplies industry due to the demand for war supplies, and produced military supplies products, and the construction of the power plant was completed in 1938. Kaohsiung entered the industrial age.

Table 4: Kaohsiung development process and industry stage.

Age	event	Industry stage	Crop category	
1895s	Japanese Colonial Taiwan.	Agriculture	Subsistence production crops	Agriculture Industry Japan Agriculture Taiwan
1900s	Insufficient by living crops in Japen.	Agriculture	Subsistence production crops Economic crops	
1901s	Set up a new sugar factory in Qjaotou.	Agriculture Agricultural processing	Subsistence production crops Economic crops	
1904s	Railway completed to harbor.	Agriculture Agricultural processing	Subsistence production crops Economic crops	
1908s	The first building port project was initiated.	Agriculture Agricultural processing	Subsistence production crops Economic crops	
1912s	The first building port project was finshed.	Agriculture Agricultural processing	Subsistence production crops Economic crops	
1913s	Acquired land that converted it for military use in Shihjiaand.	Agriculture Agricultural processing	Subsistence production crops Economic crops	
1920s	Rice prices fall.	Agriculture Military agriculture	Subsistence production crops Military crops	Agriculture Industry Taiwan Agriculture Nanyang
1938s	Production expansion and power plant construction completed due to war.	Agriculture Military agriculture Military industry	Subsistence production crops Military crops Military products	
1939s	Industrial production exceeds agriculture.	Military industry Industry	Subsistence production crops Military crops Military products	

This tabulation show the relevance of Kaohsiung's industrial development process and subsistence production crops. It can also be seen that the key to industrial transformation is through Japanese policy. Area of study which Dazhuli, and belongs to the Tainan Hall in 1904, includes 19 settlements, now Sinsing Yancheng Cianjhen Lingya Sanmin Cianjin and Fongshan Dist. Dazhuli covers all urban and farmland areas in Kaohsiung, close to the sea area through cultivation and fishing

This study analyzes the development status of Kaohsiung Harborside Settlement agriculture from the "Agriculture Statistics Book" from 1899 to 1912, After 1913, the statistical data range of the Kaohsiung State Statistics Book was different from 1899 to 1912, Therefore, it cannot be used as a basis for analysis and comparison after 1913. and The first building port project was finshed and start industry in 1912, so Kaohsiung 's initial agricultural pattern was based on agricultural statistics before 1912.

From the analysis of land use, the paddy field area is maintained at 30%. The use of agricultural land occupies the most important part of Dazhuli by the historical map of 1904. Dazhuli agricultural professional and part-time demographics from 1896 to 1910, and the number of farmers decreased due to natural disasters in 1905.

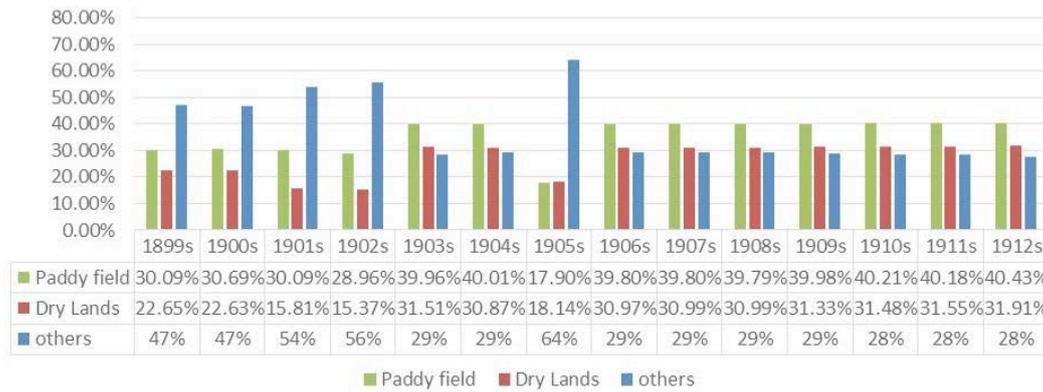


Figure 4: The land use pattern of Dazhuli changed from 1899 to 1912

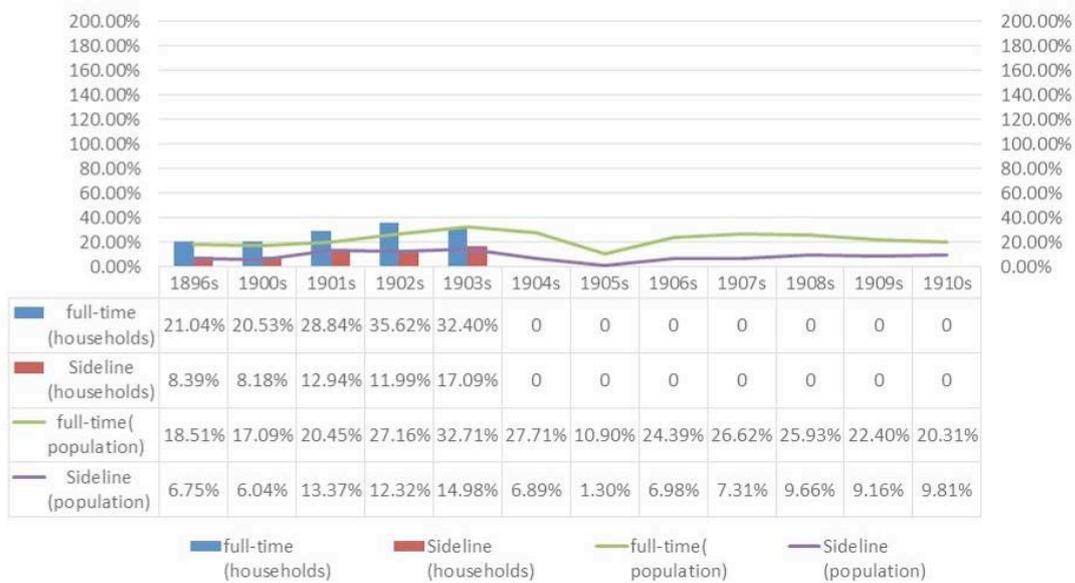


Figure 5: Dazhuli agricultural professional and part-time demographics from 1896 to 1910

Dazhuli agricultural professional and part-time demographics from 1896 to 1910, and the number of farmers decreased due to natural disasters in 1905. According to historical documents, sugar cane, sweet potato, rice, beans, peanuts, sesame planting area. Distinguish into subsistence production crops and maintenance crops, the rice produced at that time was not used subsistence production by Taiwanese farmers, but was exported to Japan.

It shows that the agricultural production structure cannot support the family by means of self-sufficiency. It needs to rely on economic crops by the market or use work get salary. Agricultural production is no longer the only way to subsistence production.

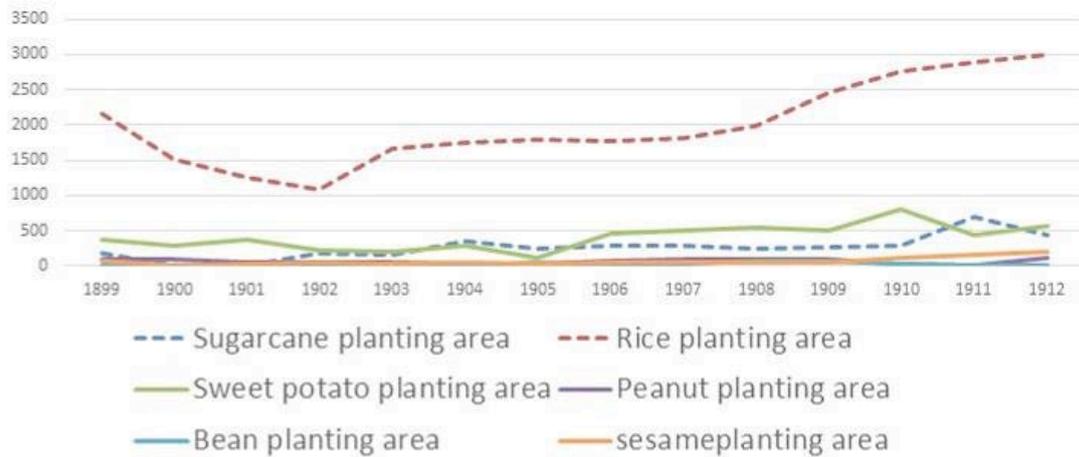


Figure 6: Trends in cultivated area from 1899 to 1912 that economic crops and live crops

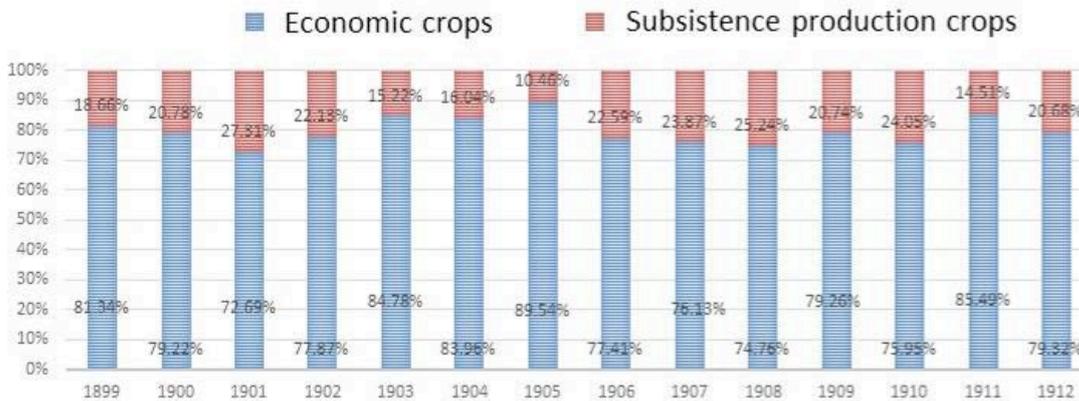


Figure 7: Percentage of Dazhuli agricultural economic crops and subsistence production crops from 1899 to 1912

From the historical map of 1904, it can be seen that the settlements mainly gathered along the edge of the agricultural area. Through the traffic route in Dazhuli in 1904, it can be seen that the settlements are mainly adjacent to the path, which does not have much impact on the dependence of the main and secondary road. The settlement is still near the Subsistence production farmland.

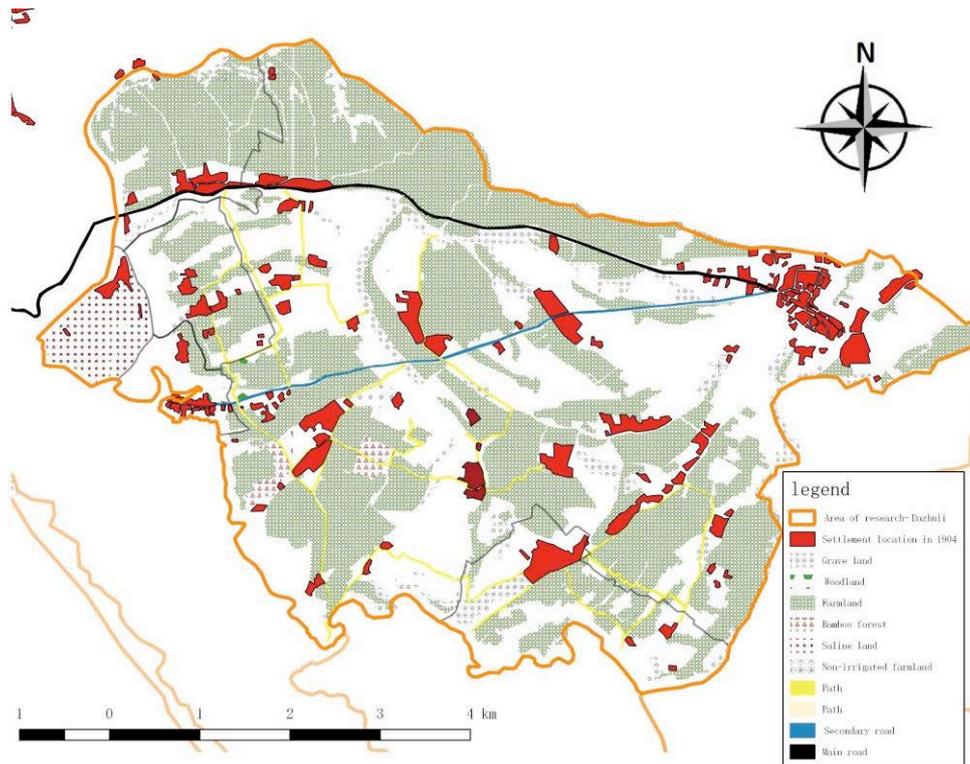


Figure 8: Dazhuli land use with historical map in 1904.

Draw the settlement area with a historical map of 1924, Showing expansion, and the position does not reduce the area of farmland, but expands in the area of non-farmland and surrounding settlements, At this stage as natural expansion of settlements.

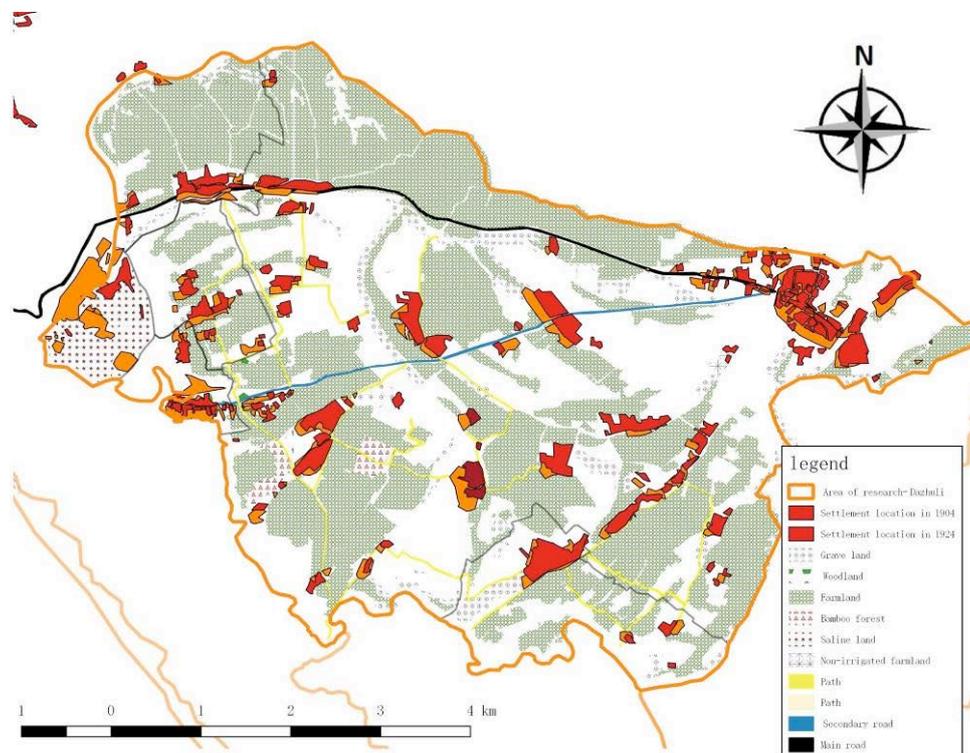


Figure 9: Dazhuli land use and settlement with historical map in 1904 to 1924.

The water supply system was completed in Dazhuli in 1915, in addition to the settlement turned to the irrigation area and expanded.

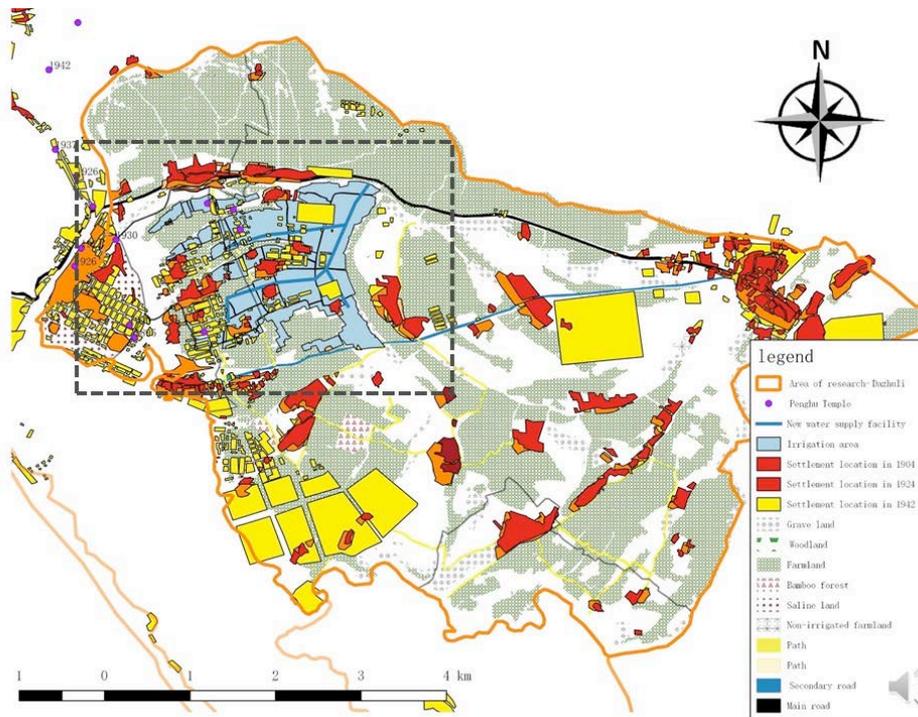


Figure 10: Dazhuli land use and settlement with historical map in 1904 to 1942.

Then it can be seen that the settlement expansion pattern has covered the area that was originally farmland. The artificial expansion by urban planning intervention and war needs, And close to major and minor road expansion.

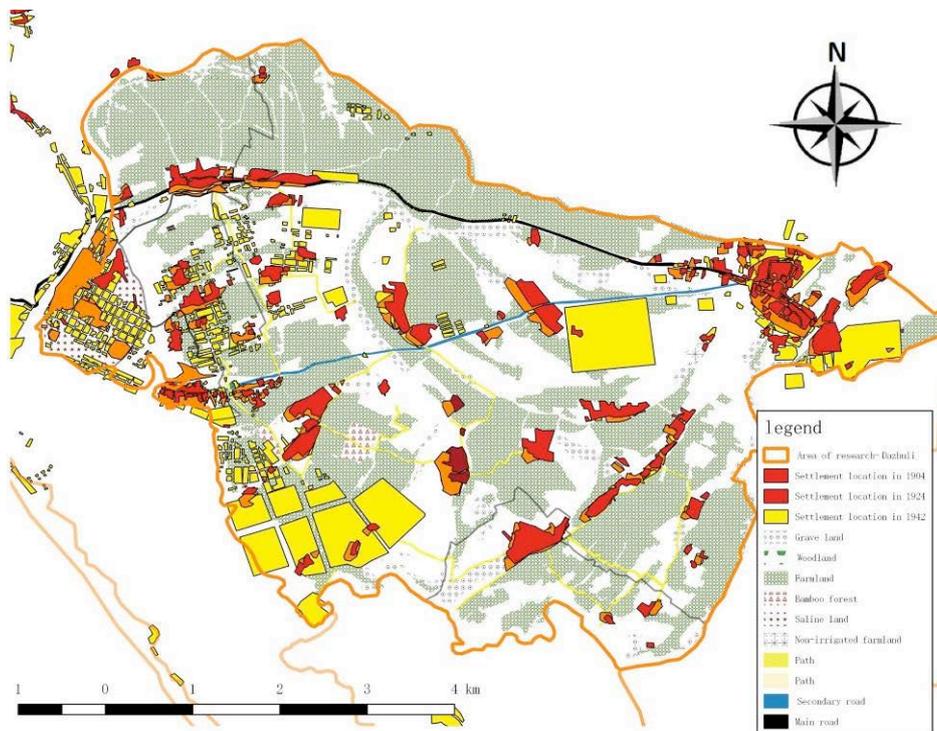


Figure 10: Dazhuli land use and settlement with historical map in 1904 to 1942

Immigrant Working Population Chooses Settlement Location

The Japanese government started the construction of the Kaohsiung Harbor in 1899, so it required a lot of workers, and many people from Penghu came to work, which made many Penghu people come to work to fill the worker that harbor construction project and the basic construction in Kaohsiung.

Penghu documentation was recorded in 1893, Penghu has a small land area and a large population, but also because of the climate. Affecting the development of agriculture and fisheries, Penghu's lack of land area affects the survival of residents, causing Penghu residents to become immigrants.

Penghu literature records in 1960, residents became seasonal migrants due to monsoon relations. Later, in order to maintain subsistence production, Penghu residents became permanent immigrants in Taiwan. Therefore, control immigration in Penghu by decree restrictions were issued.

Taiwan Daily News article In 1907, Penghu government solved the problem of overpopulation and insufficient agricultural land by encouraging residents to migrate to Kaohsiung or Taitung. The cumulative number of immigrants over 3,000, accounting for 24.19% of the total growing population, Kaohsiung has become immigration location for immigrants from Penghu.

Government of Taiwan formulates incentive policies that encourage Penghu residents to emigrate, including adjustment of administrative areas, sea routes and traffic vessels. At the same time, Penghu has included in the scope of Kaohsiung, caused an increase in the immigrant population during Japanese Colonial Period. Penghu immigrants were originally seasonal immigrants who went to Kaohsiung in winter and returned to Penghu twice every year, immigrants send their salaries home in Penghu, and later immigrants settle in Kaohsiung and become permanent immigrants. In the past, the construction of Penghu immigration temples was carried out by the people in Kaohsiung, and these temples were all from Penghu, and were divided into many small temples from the main immigration temples and among the settlements of immigrants. Therefore, the development of immigrant settlements can be studied through immigration temples, and settlements people religion lean on temples. In addition to the location and expansion of settlements can be studied through immigration temples. According to the literature review, a total of 19 temples built during the Japanese Colonial Period in four areas are from Penghu.

From Tseng Shui-ping "Transition of Social Space Structure from Village Temples to "Urbanized Immigration Temples" in Taiwan: Penghu Immigrants and Immigration Temples in Kaohsiung City as a case" In 2005, Penghu immigrants were divided into four stages in Kaohsiung, The first stage is the migration of fishermen to the sea area in Kaohsiung, the second stage is the development period in Hamasen, the third stage is the development area in Yancheng, the migration is mainly harbor workers, and the fourth stage is the formation of the Penghu community. In order to clarify the relationship between the location of Penghu immigrant settlements and the structure of agricultural production in 1895-1945, an attempt was made on the geographic information system to perform nesting through Tseng Shui-ping paper that analysis of immigrant settlements was conducted through expansion and location.

Table 5: Information about the Penghu Immigration Temple created by Kaohsiung in 1895-1945.

No.	District	Temple	Build	Deities	Location	Derived from
1	Yancheng	Wenwu Temple	1921s	文衡聖帝 孔子	No. 170, Fuye Rd., Yancheng Dist.	澎湖紅木埕(朝陽里)武聖廟
2	Yancheng	Willing Temple	1926s	保生大帝	No. 220, Daren Rd., Yancheng Dist.	澎湖後寮威靈宮
3	Yancheng	Wenwang Temple	1930s	溫府王爺	No. 8, Ln. 12, Xinghua St., Yancheng Dist.	澎湖人攜帶香火來祀
4	Yancheng	Willing Temple	1940s	保生大帝	No. 64, Bizhong St., Yancheng Dist.	澎湖雞母塢(五德)威靈宮
5	Yancheng	Sengdi Temple Japanese Colonial Period- Shoushan Temple	1896s	文衡聖帝	No. 32, Gongyuan 2nd Rd., Yancheng Dist. (Built the park in 2009)	澎湖豬母水(山水)
6	Gushan	Xuanwen Temple	1942s	玄天上帝 溫府千歲	No. 33, Ln. 701, Jiuru 4th Rd., Gushan Dist.	澎湖外垵溫王殿
7	Gushan	Zhuling Temple	1926s	朱府千歲	No. 1, Aly. 14, Ln. 168, Gushan 2nd Rd.	澎湖雙頭掛(興仁)懋靈殿
8	Gushan	(Wenwu) Chenghuang Temple	1937s	文武城隍	No. 223-3, Gushan 2nd Rd., Gushan Dist.	鄭清一口述祖先生前行善被封為城隍而奉祀
9	Gushan	Shenggongma Temple	1941s	聖公媽	No. 80-18, Gushan 2nd Rd., Gushan Dist.	澎湖吉貝人創廟
10	Gushan	Baohua Temple	1928s	阿彌陀佛(佛堂)	No. 272, Cuihua Rd., Gushan Dist.	澎湖洪敏定祖母(隘門人)創建
11	Singsin	Mingsheng Temple	1941s	文衡聖帝	No. 123, Nantai Rd., Xinxing Dist.	澎湖菓葉聖帝廟
12	Singsin	Zushi Temple	1924s	清水祖師爺	No. 68, Zhongshan Rd.	澎湖文澳祖師廟
13	Cianjin	Wensheng Temple	1935s	文衡聖帝	No. 272, Chenggong 1st Rd.	澎湖豬母水(山水)上帝廟
14	Cianjin	Fufeng Temple	1912s	萬府千歲	No. 167, Ruiyuan Rd., Qianjin Dist.	澎湖林投鳳凰殿

From the map in 1904, the location of the original settlement in 1904 and the location of the Penghu Temple built in 1895. It can be seen that the location of the Penghu Temple is a remote area and also maintains a certain distance from the original settlement.

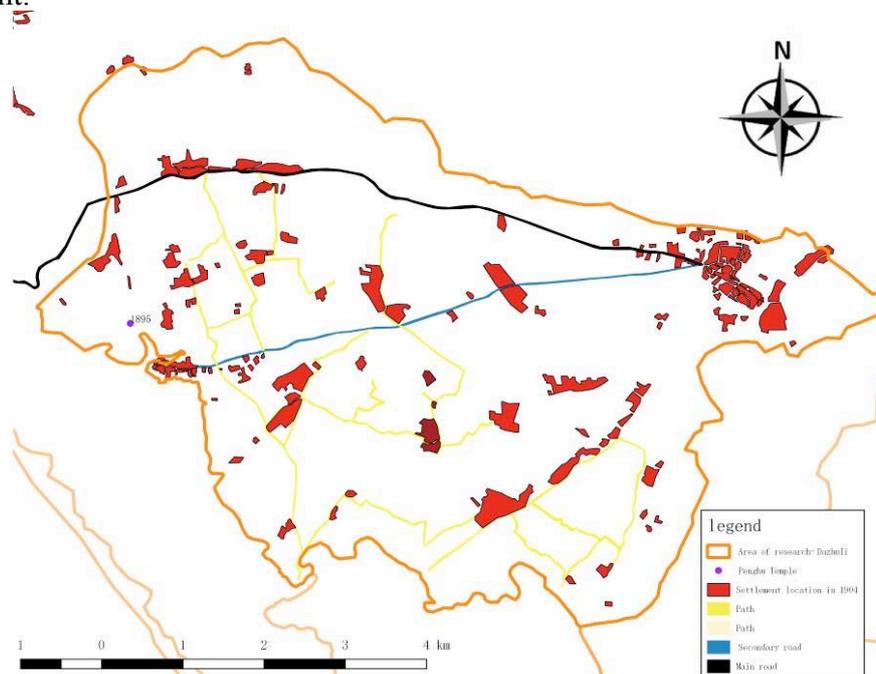


Figure 11: Dazhuli settlement and Penghu Temple map in 1904 .

The Penghu settlement was mainly located in a remote area and on the edge of the original settlement and around the secondary road in the historical map of 1924. At this time, the expansion mode is a natural expansion.

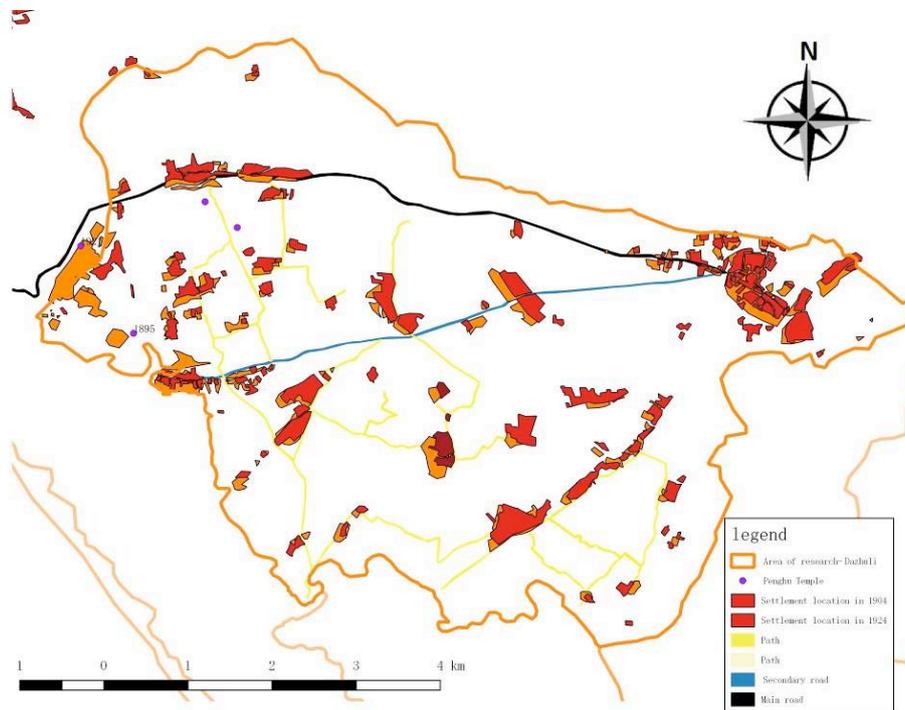


Figure 12: Dazhuli settlement and Penghu Temple map in 1924 .

The settlement expansion pattern has covered immigration settlements, and has gradually formed the expansion pattern of urban planning, not in a natural expansion way through the historical map of 1942.

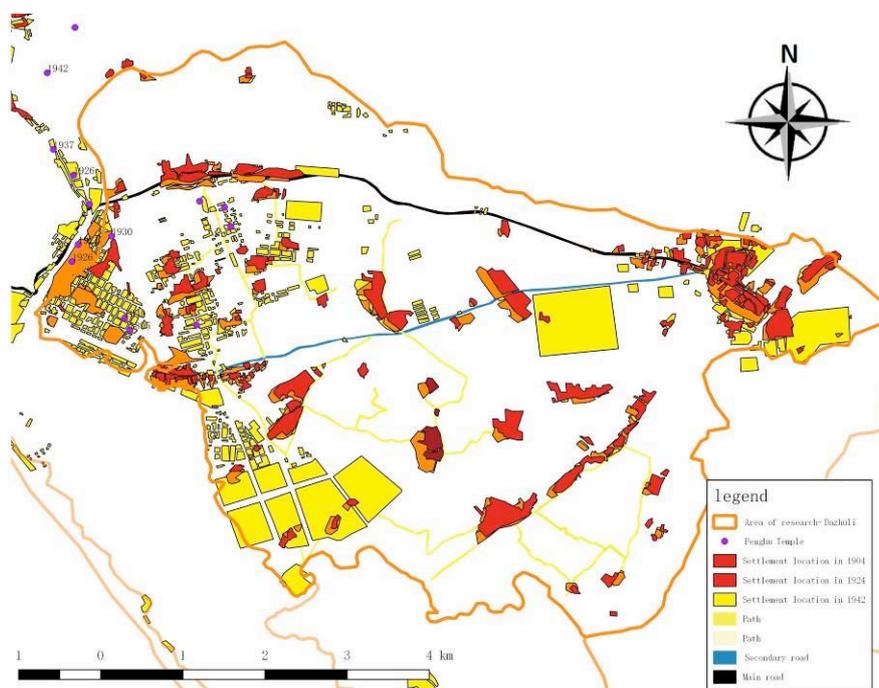


Figure 12: Dazhuli settlement and Penghu Temple map in 1942 .

The location of Penghu temple is still based on the context of Kaohsiung economic development. The location of the Penghu Temple in the Cianjin District is still remote, and it is on the edge of the crops that support the subsistence production. It was settlement type gradually formed until 1942. Yancheng became relevant to Kaohsiung economic center. Penghu immigrants moved from agricultural worker to business and industry in 1930; Gushan became a Penghu immigrant to Kaohsiung due to the development of industry in 1917. And The water supply system in the emerging area was completed, increasing the farming area. Penghu immigrant settlements appeared in 1924.

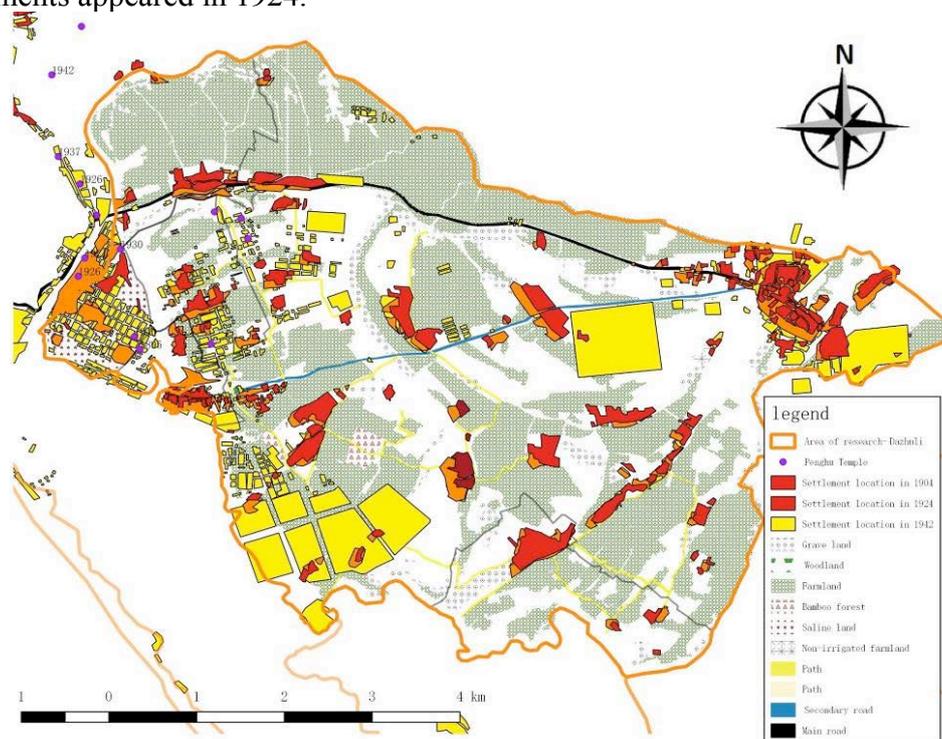


Figure 12: Dazhuli settlement and Penghu Temple map in 1904-1942 .

Conclusion

The special settlement pattern is through the change of agricultural production process, the increase of agricultural irrigation facilities, which affects the increase of irrigation area, so the subsistence and economic space will also be reduced, and the way of subsistence is changed by the reduction of farmland area and agricultural workers methods. Immigrant settlements choose settlement locations and traditional settlement expansion methods through industrial transformation, thereby reflecting the impact of industrial changes on the stage of city development.

Capitalism intervened in traditional agricultural production in 1895 to 1920, farmers were originally producers, processors and sellers, and had returned to producer, at the same time, the Japanese government issued fertilizers, seedlings, restricted planting projects and schedules. The self-sufficient production method has become a thing of the past, it takes a lot of workers to produce to provide supplies to Japan. The workers are insufficient in the original Taiwan, and it has become an immigrant job opportunity.

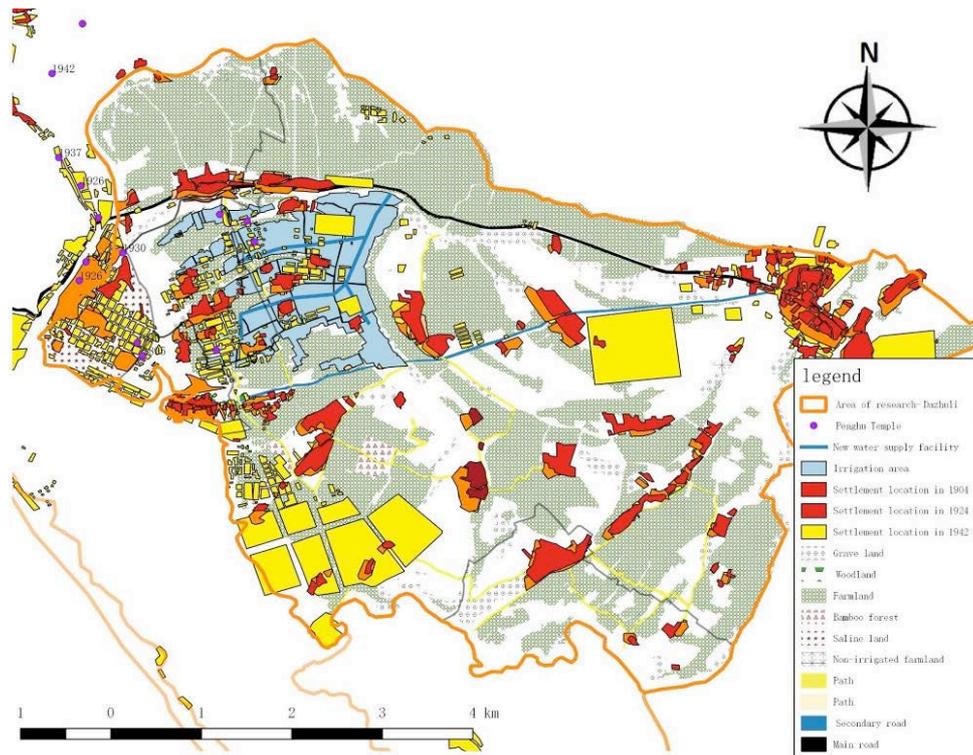


Figure 13: Dazhuli settlement and add a new water supply system (Dagangpu Irrigation System) in 1915

The following is divided into three parts to make a conclusion: The first 1895-1920s Capitalism changes the mode of agricultural production, and requires a lot of workers. Second 1921-1940s Industry transformation, "Agricultural Taiwan, Industrial Japan" changed to "Industrial Taiwan, Agricultural Nanyang", immigrants choose emerging industries. Third Kaohsiung harborside settlement, the original settlement is located in subsistence production, and continue to expand near main road. Immigrant settlements are located in edge or remote areas in 1904. The original settlement expanded that cover and mix settlement of immigrants. The change of settlement is both repelled and fused in Kaohsiung.

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