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A STUDY OF URBAN MORPHOLOGY OF JAPANESE COLONIAL TOWNS IN NAN’YØ GUNTO

Part 3 Origins of the model Japanese sugar plantation town in Taiwan

Keiko ONO* and Tetsuya ANDO**

Sugar plantations underwrote Japanese colonial expansion in its southern colonies in the early 20th century. This article explores the establishment of the sugar plantation towns in southern Taiwan and traces their origins and civic characteristics from archival sources and interviews with former employees and their families. Late in the 19th century, overseas visits by Japanese entrepreneurs to plantations in other countries where the industry was well established were instrumental in the transfer of new technology and urban design ideas to Taiwan. Examples provided by the well-established sugar plantations of Hawaii in particular are shown to have been most influential. Case studies of Kyoshito, Kohekirin and Heito, together with the Taiwan Seito company, provide much of the historical evidence.

Keywords: Japanese colonial settlements, urban design, sugar plantation, Taiwan, Micronesia, Hawaii, Nan’yo

1. INTRODUCTION

Japanese entrepreneurs established a successful sugar plantation industry in colonial Taiwan and the islands of Micronesia early in the 20th century. Although the towns built to service the new industry were modest in size and significance by comparison with the 'showcases of municipal splendour' built elsewhere in Japan's colonial empire at this time (Young 1998:250), they were of considerable importance in bringing development and change to island societies that had largely escaped modernising influences. They also provided obvious evidence of the economic possibilities attached to the southwards advance (Nanshin). In previous papers we have examined in some detail the formation and land use characteristics of four Japanese colonial settlements in Micronesia: Koror in Palau and Garapan, Chalan Kanoa and Tinian Town in the Northern Marianas, the latter two being purpose-built sugar plantation towns (Ono, Lea and Ando 2002a; 2002b). The origin of the design ideas upon which the development of these settlements was based -- particularly the model plantation towns -- has not been investigated previously and is of interest to urban historians and others examining the effects of Japanese colonialism on Western Pacific societies.

Whereas the Japanese colonial government in Micronesia simply expanded existing villages like Garapan (Ono et al. 2002a) and Koror (Ono et al. 2002b) into regional centres, the design of the new sugar towns was primarily in the hands of private entrepreneurs and influenced by previous company experience elsewhere and international best practice at the time. For example, Nan’yo Kohatsu, the sugar plantation company that led the economic development of Japanese mandated Micronesia (Nan’yo Gunto), built fully equipped towns that had modern amenities such as a social club, tennis courts, a kindergarten and included well designed employee housing laid out systematically in residential precincts. The most advanced of these settlements was Tinian Town, described by Haruji Matsue, the founder of Nan’yo Kohatsu, as 'resembling the latest urban planning' and symbolising a 'cultural city' (Matsue 1932: 188-89). Matsue had been manager of a small sugar plantation company based in central Taiwan prior to founding Nan’yo Kohatsu, and it is understandable that the design of Micronesian company towns was closely linked to that of plantation settlements in Taiwan where the industry had been first established some two decades earlier.

A general overview of the sugar plantation towns in Taiwan and how their design has influenced the history of urban planning has been revealed by Kaku (2000) but such studies have not explored where the design ideas incorporated in the innovative Taiwan sugar towns came from or how they share characteristics with later developments in the Northern Mariana
Islands in Micronesia. In this paper we aim to explore these questions based on the evidence of archival sources, photographs and aerial photographs (original maps were created for the study based on them), as well as interviews with former sugar company employees and town residents who are now aged in their 70s and 80s. In particular, we were able to meet with the grandson of the engineer who designed one of the earliest sugar company towns in Taiwan and found previously unrecorded evidence of how the urban design was directly linked with that in Hawaii at the turn of the century. In its broader context this work forms part of an expanding literature looking at relationships between colonial ideology and the urban landscape which emerged at the peripheries of the Japanese empire in the first half of the 20th century and is exemplified in the historical research of Tessa Morris-Suzuki in Karafuto (2002) and Jeremy Taylor in Takao, Taiwan (2004).¹

2. THE ESTABLISHMENT OF TAIWAN SEITO SUGAR MANUFACTURING COMPANY

Although sugar had been produced for some centuries in southern Japan, the Meiji government depended heavily on imported supplies. Expansion of domestic production was national policy but several attempts to establish a modern sugar plantation industry had failed in Hokkaido and Okinawa in the 1880s and 1890s (Taiwan Seito 1931). In 1895, following the Sino-Japanese War, Taiwan was ceded to Japan, becoming its first overseas colonial territory. The Japanese government was an almost accidental coloniser and had few development plans in place when suddenly presented with the opportunities provided by this territorial expansion (Kubo 1997: 32). Nanshin promoters saw Taiwan as forming a critical stepping stone on the path towards expansion in the South Seas but the outbreak of serious social disorders in the province in its early years prompted calls from within the government to ‘sell the island to a foreign power. By 1898, the need for economic development was urgent and Kasoru Inoue, a former minister of foreign affairs who had held other influential posts in the Meiji government, suggested to Gentaro Kodama, the Governor of Taiwan, that the existing traditional method of sugar production in Taiwan could be transformed into a modern and profitable industry. A lack of sufficient capital caused Kodama to send Shinpei Goto, his Director of Civic Affairs, to negotiate the investment possibilities with the Mitsui family, one of the powerful Japanese plutocracies. Mitsui agreed to finance a new sugar company in Taiwan on the conditions that the colonial government would deliver a generous five year subsidy, as well as providing an extensive new transport infrastructure. Meanwhile Inoue, together with Hirofumi Ito, the first Prime Minister in the Meiji government, assisted Kodama and Goto by attracting investors among the royal family and the aristocracy, demonstrating the degree of political importance attached to the project.² Taiwan Seito, founded in Tokyo in 1900 as a joint public and private enterprise, now became the first Japanese sugar manufacturing company to operate in colonial Taiwan (Taiwan Seito 1931).³

3. BUILDING KYOSHITO, THE FIRST SUGAR SETTLEMENT IN COLONIAL TAIWAN

Tozaburo Suzuki who owned a successful sugar business in Japan and was an innovative private entrepreneur,⁴ was invited to be a shareholder and the first president of Taiwan Seito. Prior to that he had travelled the world for five months in 1896, visiting the latest sugar refineries and machinery manufacturers in places like Hawaii, other parts of the United States, Britain, Germany and France (Suzuki 1939). After completing local investigations he chose Kyoshito, located a few miles north of the port city of Takao in Southern Taiwan as the site for the new company mill, for two main reasons (Fig. 1). First, it was in an area where extensive cane fields were already under cultivation and where some landowners had shown an interest in selling their land holdings in return for company shares. The ownership of land under direct management suited company policy whilst at the same time avoiding conflict with local Taiwanese sugar businesses. Second, a new railway line was proposed by the colonial government which would provide good access to the port of Takao for exporting the product (Taiwan Seito 1931:106-113).

In a demonstration of self-sufficiency, Suzuki based the design of his first sugar refinery in Taiwan on the contents of a book called Sugar: a handbook for planters and refiners, published in London in 1888.³ He acquired both old and new machinery overseas, importing it from Japan, Britain and France, but did not go the additional expense of hiring foreign engineers.⁶ The new refinery building, completed in 1902, was a solid brick structure and constructed along with offices and company housing (Fig. 2). An added complication in the construction process was the presence of an indigenous armed force in the area that mounted repeated attacks (Taiwan Seito 1931). The main brick office building was of an elegant European-style with arched verandas, but also possessed loopholes in the walls and several points around the roof for guns in case of danger (shareholders at the time complained about the building’s excessive expense) (Taiwan Seito1931). From the outset employees suffered greatly from malaria and other diseases which caused Suzuki to emphasise to his shareholders the importance of providing hygienic housing.⁷ The residential buildings were clustered around the main offices but there was no formal ‘site planning’ of this arrangement. From what can be seen from early photographs, the refinery and main office building were the only powerful new symbols of modernity (Fig. 3). Although the first years of company operation were marked by many trials and failures, sugar production steadily improved and direct subsidy by the colonial government was successfully terminated in 1906 (Taiwan Seito 1931).
4. BUILDERS OF KOHEKIRIN, THE FIRST MODEL PLANTATION TOWN

Teijiro Yamamoto, manager of Kyoshito sugar refinery, and three engineers went to Hawaii in June 1905 to prepare for the next phase of Taiwan Seito’s development (Taiwan Seito 1931). Among them was Sukekichi Kusakado (Fig. 4), a young engineer and graduate of applied chemistry from Tokyo Imperial University. Kusakado was born in 1875 in Mikawa Ichinomiya in Aichi prefecture to an established priestly family attached to an ancient Shinto shrine. The family was obliged to relinquish its special inherited position when Shinto was formally designated as the national religion at the beginning of the Meiji era and Kusakado thus received most of his education in Tokyo. Although Kusakado was not an architect, as an amateur artist he drew and painted from his student days. He took a sketchbook with him to Hawaii and left several scenic views of the island as well as a small diary in which he recorded where they went and how they travelled.

The group of engineers from Taiwan Seito landed in Hawaii on 21 June 1905 and embarked on a vigorous set of site visits to sugar plantations on Oahu, Hawaii and Maui islands over a period of five weeks. Systematic cultivation of Hawaiian sugar cane had begun 70 years earlier on Kauai and had become an advanced export industry by the time of the Taiwan Seito visit. Kusakado was overwhelmed by the sheer scale of sugar cane production in Hawaii and amazed how the mills there were run effectively by very few staff in comparison with their own mill in Taiwan. He was also fascinated by the plantation rail system used to transport the cane but it seemed too extensive a solution to introduce in their relatively small operations in Taiwan. Eventually they discovered a good example to suit their needs at the Orowal plantation on Maui Island which used a 30-inch narrow gauge railway of a type that would later become the standard in Taiwan, Okinawa and the Micronesian islands. After returning to Taiwan they immediately introduced the Hawaiian cane management system at Kyoshito and the first narrow gauge railway was installed there in 1906. A year later a complete new refinery was ordered from the Honolulu Iron Works Company which was to become the second mill (Taiwan Seito 1931).

Taiwan Seito acquired a second refinery site from the Taiwan colonial government at Kohekirin, south of Takao, in 1906 and appointed Kusakado, now in his early 30s, as manager of the project. His aim was not only to create a refinery and its associated cane fields, improve the soil and introduce railways and canals for cane transportation, but to model the whole, including a new company town, after the developments he had seen in Hawaii (Fig. 5-8). One of the major decisions was to bring in migrants from Japan instead of using local labour. Some 373 men and women were recruited from Nagasaki, Fukuoka, Kumamoto, Yamaguchi and Hiroshima (these were prefectures that also sent many migrants to Hawaii) and housed at the company site (Kusakado 1957; Taiwan Seito 1931). Five decades later Kusakado wrote retrospectively about his plan:

In Kohekirin, I decided that not only the mill but also land sub-divisions, the buildings, and the design of the residential area were to be modelled after examples in Hawaii. First, I placed an open space of 45 ken (81 meters) north-south and 70 ken (126 meters) east-west at the centre of the housing area for sports activities; in the western part of the open space was a club house; across the street from there to the west was a daily needs and food store; to the east of the club house were two tennis courts; and further to the east was a baseball ground. Houses surrounded the open space and, for fire prevention, the distance between each building was a minimum of 20 ken (36 meters). This plan was approved by manager Yamamoto but I suppose, looking back on it, that it was too idealistic because afterwards, women living in the houses complained that ‘the houses were too far apart and lonesome,’ and I felt a bit ashamed (Kusakado 1957: 8, translated from Japanese).

Not everything he planned was built. His design for a clubhouse, for example, was not approved because it was considered too large and costly (Kusakado 1957: 8). Nevertheless, the streets and houses were laid out as planned and photographs from the early years at Kohekirin suggest the development of a modern, airy and idealistic model community. While the site plan was a direct copy of the Hawaiian plantations, the buildings themselves were designed in the Japanese style (Fig. 9). It should also be noted that in the early 1900s provision of dedicated company housing areas, rather than the usual ‘camp site’ for plantation workers, was seen as very progressive, even in Hawaii. From this perspective, probably the most influential plantation that...
Fig. 4 Sukekichi Kusakado 荒垣通喜 (1875-1961). Source: Nobukazu Kusakado.

Fig. 5 Kosekiran sugar mill and a new canal. Source: Taiwan Seito 1915

Fig. 6 Kosekiran in 1911. Employees' housing is seen in the far back. Source: Nobukazu Kusakado.

Fig. 7 A tennis court in the central openspace of Kosekiran in 1910. Three gables of employees' housing can be seen at the back. Note the distance between them. Source: Nobukazu Kusakado.

Fig. 8 Kosekiran, 1944
Buildings and street layout based on aerial photographs taken by US Navy for Military Intelligence Photographic Interpretation (MIP) in 1944 (National Archives at College Park, Maryland) and by Dep. of Forestry, Taiwan in 1976 (National Library of Taiwan).

Fig. 9 Kusakado's sketch of semi-detached housing plan with tatami matted rooms in 1907. It is 21 tsubo (69.3 sq.m.) per unit. The note reads 'Or six-unit row house.' Source: Nobukazu Kusakado.
Kusakado and others had visited in 1905 was the Ewa Plantation on Oahu, where the manager, George Renton, was just starting to develop company housing in the belief that providing decent family homes and facilities was crucial for the well being of workers and the stabilisation of the labour supply (Fig. 10-12). More explicit 'urban planning' of sugar plantation villages in Hawaii, resembling low density suburban residential developments, did not occur until the beginning of the 1920s.

Fig. 10 Employees' housing at Ewa Plantation, Oahu in 1907. Source: Bishop Museum Archives

Fig. 11 Maps of employees' housing at Ewa Plantation, drawn by Japanese in the early 1910s. Source: Takechi (1914)

Fig. 12 Tennis courts at Ewa Plantation around 1910. Source: Bishop Museum Archives

5. THE JAPANESE SUGAR TOWN MODEL AND LIFE ON THE PLANTATIONS

Taiwan Seito's third plantation opened at Heito, to the east of Takao, in 1908, which soon became the largest sugar plantation of Taiwan Seito (Fig. 13). The company headquarters was moved there in 1920 (Taiwan Seito 1931). A large plantation town was planned and built at the centre of its extensive cane fields and the housing was laid out on a systematic grid of avenues (Fig. 14). In the 1910s, extensive economic development was taking place in Taiwan and many Japanese companies flocked to expand the sugar industry adding more than 20 modern refineries (Kaku 2000). Together with mechanization and technical innovations, there came the provision of modern company housing ranging from detached to row houses, grid pattern layouts, avenues, gardens with hibiscus hedgerows, clubhouses, tennis courts, company stores, hospitals, and other modern facilities. These features now became the devel-

Fig. 13 Housing area of Ako (later called Heito) sugar refinery in 1915. Source: Taiwan Seito 1915.

Fig. 14 Heito, 1944

Buildings and street layout based on aerial photographs taken by US Navy for Military Intelligence Photographic Interpretation (MIP) in 1944 (National Archives at College Park, Maryland) and by Dep. of Forestry, Taiwan in 1976 (National Library of Taiwan).
The role of the original Kyoshito refinery was not as crucial now to the company's future as it had been at the beginning but an alcohol plant was added and the residential area expanded southwards up to the late 1930s (Fig. 15-16). Emiko Uchiyama, who was born in Heito in 1929 and whose father was a Taiwan Seito employee, moved every few years from one company plantation to another with her father, including Kyoshito, said 'it was basically the same everywhere'. They were self-sufficient towns occupied exclusively by company employees. Daily needs were delivered from company stores and the need to go to shopping at a Taiwanese village nearby was very limited. Detached and semi-detached housing for the higher ranks included their own internal bathrooms but the row houses shared a public bathhouse. A shrine was built in the settlement and a priest with his family also lived in the community.

The inter-racial arrangements in the towns saw families of skilled Taiwanese employees, though few in number, living in the same housing areas as the Japanese workers, recalls Chen Shui-neng (1918-2005), a resident of Kyoshito who was an agricultural engineer supervising field production after graduation from Tokyo Agricultural College. He occupied company housing in various places over his career. Racism against the Taiwanese did exist in various forms and places but the majority of Taiwanese workers commuted to their jobs from outside. Chen Sen-xi (1929-), also a Kyoshito resident, remembers that most Taiwanese children believed that Taiwan Seito was the colonial government and considered life inside the company wall as a separate world.

Two clubhouses were eventually built in Kohekirin, the first being a large hall complete with a tatami-matted platform and concrete floor. It was used as a reception hall as well as for showing movies for entertainment. The second served as a small community centre and was often used as a temporary shop by visiting merchants who sold kimonos and other clothes. An elementary school was established within the site and, though small, was equipped with a separate library building, indoor gym and a large grass-covered sports ground. High school students commuted to Takao on a sugar train especially arranged by the company for employees' families. The level of amenities was much higher in every aspect than the standard they were used to at home. By the 1940s many of the Japanese families in the towns came from Okinawa and Amami, which was not necessarily typical of other sugar plantation settlements in Taiwan. Kohekirin in the 1930s and 40s was seen as a model plantation and also used as a company training centre for new employees who would later work elsewhere in Taiwan and beyond.

6. CONCLUSION

The purpose of this paper has been to trace the origins of the model sugar plantation settlements in Taiwan from their beginnings. Two findings are particularly significant: first is the existence of a link between the Japanese model of plantation settlement design in Taiwan and the Hawaiian sugar plantations established several decades earlier. It appears the basic characteristics of Japanese model were established from 1900 to 1910. Not only were advanced and proven technical aspects of the industry transferred directly from Hawaii to Taiwan by engineers like Kusakado but also the idealism of establishing an advanced industrial community. Key social elements copied from the Hawaiian model were found in the new housing arrangements and provision of modern amenities in Taiwan, whereas design of the buildings constructed there originated in Japan. Where the early model of Hawaiian housing came from at the turn of the 20th century still remains to be investigated and some resemblance with contemporary plantation housing of the southern states of U.S. mainland is noticeable.

Second, the colonial sugar towns in Taiwan shared most of their basic elements and characteristics with the Japanese ones in Micronesia. They were self-sufficient places, providing the daily needs and modern amenity for employees' families. Differences between the two mainly lay outside the respective company sites. In Micronesia, commercial strips consisting of numerous Japanese shops and entertainment quarters, complete with bars, restaurants and brothels developed to service the needs of sugar industry workers from the company sites, whereas in Taiwan such amenities were
not nearly as viable. This was probably because in Taiwan it was not necessary to bring many Japanese farmers to an already well populated region. Thus the number of Japanese engaged in sugar industry there was rather limited. In addition, the big Taiwanese cities like Takao and Taipei were easily accessible and much more urbanised places than their Micronesian counterparts.

The economic success of the Japanese colonial sugar industry in Taiwan, and the fact it had reached the limits of feasible growth in what was becoming a fully developed region, led the sugar companies to look further south for opportunities to expand. As we recounted in the earlier papers in this series (Ono et al., 2002a; 2002b), most notable in this endeavour among the later sugar entrepreneurs was Hariji Matsue. He was a leader in the transformation of the regional economy of the Northern Mariana Islands under the Japanese Mandate in Micronesia during the 1920s and 1930s through his new company Nariyo Koboatsu. Experience gained during this formative period in Taiwan and the evident economic success of the sugar industry there strengthened the likelihood of government support for new plantation ventures in Micronesia, an island region where little or no modern development of any kind had taken place.

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END NOTES:
1 In this paper, place names are pronounced in Japanese as they were called during the colonial period (for example, Takao for Kao-hsing).
2 The royal family and aristocracy together initially owned 21 per cent of company shares (Kubo 1997:35).
3 Taiwan Seito was not solely a private company and the government provided some capital directly, as it did with other semi-public companies in Korea and later in Manchuria (Kubo 1997).
4 Tozaburo Suzuki was born in 1855 in Shizuka and adopted by a modest family who sold traditional confectionary. He expanded the family business and invented a new method of making rock candy in 1883. He held 159 patents for various machines from a fish grinder to soy sauce maker. He died in 1913 at the age of 59 (Suzuki 1939).
6 Suzuki's system worked well at the outset but it was too primitive for industrial production. Teijiro Yamamoto, the first manager of Kyoshito, subsequently complained about it which was the chief reason that a second mill was ordered from Hawaii (Taiwan Seito 1931).
7 During his world tour in 1896, Suzuki visited Ewa Plantation on Oahu which was considered 'the best equipped among the sugar mills on Oahu' at the time and noted the 'Japanese immigrants' housing' during his visit. There was no explanation of what it was like however (Suzuki 1939: 140). The first Japanese immigrants to work on the Hawaiian sugar plantations had been recruited in 1868 under a scheme which failed but the idea was successfully reintroduced in 1885 bringing thousands of Japanese immigrants to Hawaii until 1920s.
8 Suketakichi Kusakado's uncle, Toraji Kusakado, led the first group of Japanese migrants to Mexico in 1897 (assisted by Namshin promoter Enomoto Take'aki), which may have influenced Suketakichi in his decision to join a new venture overseas.
9 Kusakado was an accomplished watercolourist but he told his grandson that he didn't study engineering but chose chemistry because he 'was not good at drafting' (interview of Nobukazu Kusakado, Suketakichi's grandson, August 2005).
10 Kusakado kept diaries for most of his life and preserved them well. He also kept numerous sketchbooks of his drawings and paintings. The authors would like to thank Nobukazu Kusakado for permission to use his grandfather's records.
11 Those visited were: Aiea, Waipahu, Ewa, Hāliewa, Wahiawa and Kahuiku plantations on Oahu; Lahaina, Wailuku, Speckles, Paia, Kohala and Ourawal plantations on Maui; and Kohala, Kohaku, Harakila, Waimea, Honokaa, Lilihi, Paauhau, Laupahoehoe, Onomea, Waimau, Olaa and Waiakole plantations on the Big Island.
12 See, for example, the timeline of sugar industry developments published in www.gandrtours-kauai.com/gartimeline.html.
13 This description of their trip to Hawaii is included in an article titled 'Kyonshito no komiide to nato zatsuwa [Memories of Kyoshito and other miscellaneous talk on sugar]' by Suketakichi Kusakado reprinted in Kao-hsing Prefecture Ciao-tou County's publication titled 撮取記録 published in 1997.
14 Same as note 13.
15 Honolulu Iron Works Company was founded in 1852 as a repair shop and flour mill but by this time it was an established builder of sugar machinery as well as owner of several sugar companies (Hawaii Sugar Planters Association Plantation Archives, Hamilton Library, University of Hawaii).
16 It was also called 'Kominato.' The area was where a local Taiwanese resistance group fought the Japanese colonial army for several years after colonisation. The group was defeated in 1902 and the land was taken by the colonial government.
17 The Ewa Plantation near Honolulu had been founded in 1890 and employed immigrant Japanese labourers from the outset. By 1910 it had grown to a community of 2,500 people containing a hospital, clubhouse, kindergarten and several labour camps as well as a baseball park and tennis courts (Pagliaro 1987). Tennis courts became an essential element of Japanese sugar plantation towns in Taiwan and Micronesia.
18 Based on archival search of photographs and maps by Keiko Ono in August 2005 at Bishop Museum Archives and Hawaii Sugar Planters Association Plantation Archives, Hamilton Library, University of Hawaii. In the collection, there are many blueprints of sugar plantations in the 1920s and 30s.
19 The plantation was first developed as a separate company and then merged with Taiwan Seito (Taiwan Seito 1931).
20 Interview of Emiko Uchiyama, May 2005, Tokyo.
21 Interviews of Chen Shui-neng in Kyoshito in August 2002 and May 2005. Although he was in good health and generously assisted our research, he passed away suddenly three weeks after our second visit. This shows there is little time left to directly hear the voices of those who experienced life in these colonial settlements.
22 Emiko Uchiyama also recalls some cases where the housing units occupied by senior Taiwanese employees was in accommodation designed for lower ranks. In Kyoshito, she remembers there were a few row houses where Taiwanese workers' families lived which were on the western side separated by the railway (Fig. 4) (Interview, May 2005, Tokyo). When asked if there was a wage difference between Japanese and Taiwanese engineers, Chen Shui-neng said, 'probably there was' (Interview, August 2002).
23 Interview of Chen Sen-xi, August 2002, Kyoshito.
24 Interview of Masako Shiohira, a former resident of Kokekihin, June 2005, Naha.
25 Interview of Izumi Yamakawa, a former resident of Kokekihin, June 2005, Chiba.
26 Same as footnote 21. Kokekihin site was cleared in 1983 and buildings no longer exist.
27 See Wright 1989.

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1) Kaku, Chutan: Taiwan tagyo shokukagura/ Taiwan, Koren: Taiwan tagyo to sono

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