

Makkasan Train Factory: an attempt to preserve Bangkok's urban heritage

BY PONGKWAN LASSUS

The Makkasan Train Factory, opened 110 years ago, is the first industrial estate in Thailand and used to be the biggest hub for train production in Southeast Asia. Nowadays, this huge land of 80 hectares, with direct access from the Savarnabhumi airport rail link, is considered a golden land right in the business center of Bangkok, that attracts real estate investors. A third of the land set aside at the end of last year for the development of a mixed use commercial project as a part of the High Speed Train project. As this land is the last big area of public land in the capital, civic groups for urban heritage conservation and the environment tried to point out its tangible and intangible heritage value hoping that there would be a proper master plan to preserve these values for future generations.

History of Thai Railways and the Makkasan Train Factory

During the reign of King *Chulalongkorn* (RAMA V), when Thailand became a buffer state between the expanding British and French colonial empires, His Majesty recognized the tactical importance of developing rail transport in the country. In 1890, the Royal State Railways of Siam (RSR) was founded under the Department of Public Works and Country Planning and the construction of the first Royal line, Bangkok-Ayutthaya railway, started. It was inaugurated in 1896, followed by the construction of more lines. A first repair factory for steam locomotives and trailers was established at the Bangkok Railway Terminal in the center of Bangkok, and another one at the Bangkok Noi Station on the left bank of the river.

In 1905, the Bangkok Railway Station started to become too small to cater to the new railway lines, and plans were made to build a bigger, more modern and spectacular-looking station. The Thai Railways Maintenance Centre was moved to Makkasan in 1910, and its former site was used for the new Hualamphong Railway Station, which opened in 1916. Makkasan became a repair center for locomotives and all kinds of vehicles. In 1917, the Government decided to merge the Northern and Southern Railway Department and incorporate all the repair factories into the Makkasan Factory. Its area was expanded and new buildings were built.

A second wave of expansion and improvement of the Makkasan Factory started in 1938, with new buildings hosting repair shops

for diesel locomotives, electrical appliances, trucks, and so on, as well as a train engineering school and welfare housing for Makkasan factory crew and officers. However, the construction was cut short with the outbreak of WWII. Deemed to be an unsafe location, most of the repair equipment was moved to temporary factories, near the Kaeng Khoi Junction Railway Station area and the Nakhon Ratchasima Station during the war, leaving Makkasan with only secondary equipment. The Makkasan Factory was bombed four times during the war, and some buildings and structures were severely damaged.

The RSR renovated and continued construction after the war. On top of the existing Makkasan Factory and Makkasan Station, Burachat Chaiyakorn Hospital was established in 1950 for the train officers and their families, and a Makkasan welfare housing community was built in 1954 for the workers affiliated with the Makkasan factory. In 1959, a rail welding factory was created. In an effort to decentralize repair work, additional repair factories were built in other districts, leaving the Makkasan Factory with the main tasks of repairing and replacing diesel locomotives, carriages and wheels.

In the meantime, in 1951, the Royal State Railways of Siam became a public enterprise under the name of The State Railway of Thailand (SRT). With this new structure, the SRT had control over the whole railway system and pushed for its modernization. The Makkasan Factory became the biggest hub of train production in Southeast Asia after 1967. In 1982, the SRT discontinued the use

of steam engines, replacing them with diesel locomotives. And in 1983, as imports were less costly than domestically produced trains, the government ceased production.

Makkasan Train Factory to become a mega project development

Thailand faced the financial crisis in 1997. The SRT, with its poor performance and resistance to reform, was obliged by order of the Thai cabinet to reduce the staff such that only 5 new employees could be hired for every 100 retirees.

There has never been a clear official explanation why rail transport in Thailand was not properly developed like in other developing countries. What we can note is that there was a more rapid development in construction of highways to serve cars, buses, and trucks made in the USA and Japan. The SRT seems to be an organization that is forced to be "in debt" by the obligation to give a low cost public transport service and running at a "loss". The Thai government should actually be subsidizing this "loss" but instead they consider that the SRT has a big debt to pay back from decades of operation. So this financial pressure pushed the SRT to want to develop their big plot of land in the center of Bangkok in order to pay the debt.

In 2004, the Thai Government allowed the SRT to construct a mass rapid transit line, the Airport Rail link (ARL), to connect the new Suvarnabhumi Airport to the City Terminal at Makkasan and Phayathai station in the center of Bangkok. The SRT also planned to move the train factory and maintenance plant in Makkasan to Kaeng Khoi in Nakhon Ratchasima Province in order to develop Makkasan into a mix-used commercial complex. In 2005, the SRT drafted a development plan to turn the plot into the Makkasan Complex, an ambitious project for commercial use. The plan was to maximize land use, with a set of skyscrapers. The ARL and its stations opened in 2010, Makkasan station becoming the biggest rapid transit station in Bangkok. The Makkasan Complex plan, however, was shelved and then dusted off in 2012. For the reasons that Bangkok, despite being the capital, lacked green spaces, public parks and cultural infra structure, the redevelopment proposals drew criticism from the civic sector which wanted to keep the maximum of area for public parks, an exhibition center and museums.

I began to be involved in this project in 2013, when I was a chairperson of the Architectural Conservation Committee of the Association of Siamese Architects under Royal Patronage (ASA). One of the Architectural heritage buildings in Makkasan, which

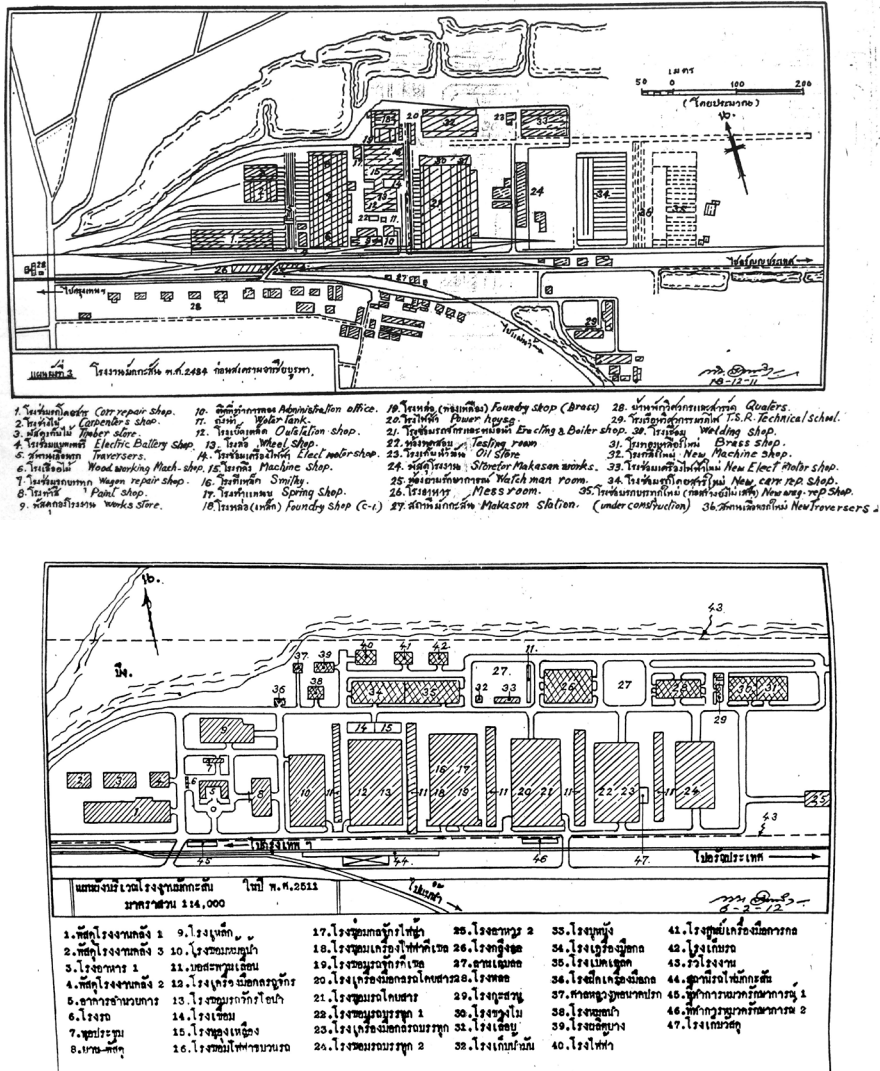
01 Makkasan Factory land, bird eyes view. © Survey and Inventory of Valuable Buildings Worthy of Preservation in Makkasan Factory District, 2017.



02 Carriage Shop, photo taken at its opening in 1922. © Survey and Inventory of Valuable Buildings Worthy of Preservation in Makkasan Factory District, 2017.

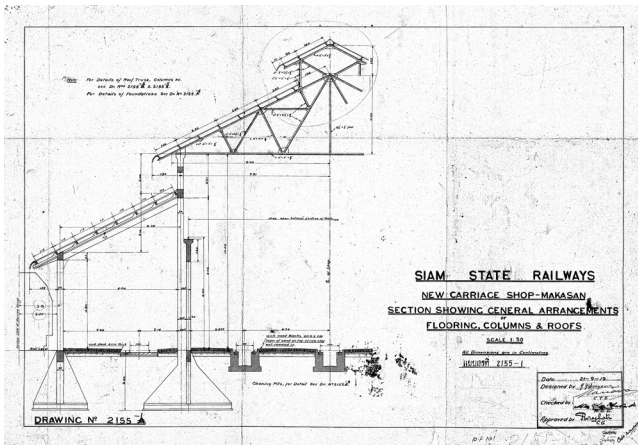


03 Comparison layout plan of Makkasan Train Factory before the war (in 1941) and in 1968 (after the war). © Survey and Inventory of Valuable Buildings Worthy of Preservation in Makkasan Factory District, 2017.



04 Comparison layout plan of Makkasan Train Factory before the war (in 1941) and in 1968 (after the war). © Survey and Inventory of Valuable Buildings Worthy of Preservation in Makkasan Factory District, 2017.

05 Carriage Shop construction drawing dated 19th September 1921. © Survey and Inventory of Valuable Buildings Worthy of Preservation in Makkasan Factory District, 2017.



06 Carriage Shop, built in 1922, in use as Workshop Store nowadays, is the oldest building still standing after the war. © Weerapon Singnoi, 2016.



was awarded an architectural heritage prize by our association, was at risk. The Makkasan complex master plan projected the demolition of all architectural heritage on the site. As the land is very vast, it is possible to create a new mixed use zoning for many purposes, such as industrial heritage adaptive reuse zones for cultural and commercial activities, public parks, a creative village and new commercial and business center zones. I succeeded in meeting with the governor of the SRT to discuss this new idea of zoning that would allow the SRT to comply with both its financial interests and the public interests. It is unclear whether my proposition to modify the SRT master plan of Makkasan complex was well-accepted or not, but many civic society activist groups collaborated to create a campaign via social networks and the press in order to put pressure on the SRT. The campaign pushed for the Makkasan Complex project to become more public-oriented instead of only commercial, with its main emphasis being “We want Makkasan to be a public park and a museums complex”. Our aim is not to oppose the new development, but to add a socio-cultural and environmental value. Public talks and exhibitions to promote these ideas were organized by ASA and other NGOs. In 2014, the project was halted as Thailand entered a political crisis, ending in a *coup d'état*.

The new military government raised the Makkasan Complex project again in early 2015. This time the civic groups gathered again under the name of “Makkasan Network”. Campaign events were organized in March 2015 at the Bangkok Arts and Culture Centre (BACC) and included public talks and

the exhibition “Makkasan Creative Park” showing a model of an alternative new master plan based on new requirements to maximize the public interest. After the event, the Prime Minister announced that the Makkasan Complex project will include a public park and a museum in it to serve the public interest. This new decision from the government stressed that the land at Makkasan should be leased to the Finance Ministry for long-term commercial development, which is expected to generate revenue for the SRT to settle its huge debts. Later that year, the “Makkasan Network” members, comprised of multidisciplinary experts, met with the Public Treasury Department of the Ministry of Finance in charge of the project, to discuss our needs to establish a proper terms of reference (TOR) for the new master plan. The Ministry of Finance announced that the new master plan will consist of two-thirds of the land being used for roads and commercial developments, with the remainder reserved for a rail museum and a green zone. However, it was suspended after legal concerns were raised over whether the land can be developed for purposes other than those related to the rail system. The year after, the decision to lease the land to the Finance Ministry was finally abandoned.

In 2017, the SRT hired the NIDA Consulting Center (NCC), National Institute of Development Center to study its new master plan and new project investment model. The “Makkasan Network”, including myself, took part in the public hearing process. This time, they split one zone near the Makkasan Airport Rail Link to develop in priority as part of Thailand's future first high-speed rail

project to link the three airports, Donmuang, Suvarnabhumi and U-Tapao. This first zone of around 24 Hectares, which is currently a train stock yard for trains awaiting repair, has no significant heritage buildings nor old trees in it. Three more zones are proposed to be leased afterward, when plans to move all Makkasan Factory's repair activities is completed. The new master plan also includes a zone dedicated to conserve the Makkasan heritage and a public park zone to conserve its natural heritage. Unfortunately, there is no guarantee that this master plan will be respected in the future, as only two buildings of the Makkasan factory were recognized as historical monuments by the Fine Arts Department.

Raising awareness of the heritage value of the Makkasan Train Factory

The best way to ensure its conservation is to raise the public's awareness and especially that of the SRT of the heritage value of Makkasan. The SRT still struggles with financial difficulty, poor management. In 2016, as the advisor of the ASA Architectural Conservation Committee, I advised ASA to allocate a budget for a first survey and Inventory on Architectural heritage in Makkasan. In the report that was finished in 2017, *Parinya Chukaew*, the head of the project mentioned that

From the evaluation of the value and importance of the Makkasan Factory District by the standard of The Nizhny Tagil Charter for Industrial Heritage, it is found that the Makkasan Factory District reflects the qualifications of value and importance as follows:

1. The Makkasan Factory District is a testimony

07 Steam Locomotive Repair shop, built in 1928, in use as Train & Factory Tools Repair Shop nowadays, is the 2nd oldest building still standing after the war.
© Antoine Lassus, 2019.



08 The workers still work on old machine in Smith Shop.
© Antoine Lassus, 2019.



09 SRT Makkasan Complex project 2012, birds eye view. © Survey and Inventory of Valuable Buildings Worthy of Preservation in Makkasan Factory District, 2017.



10 Old large trees and the lake in Makkasan factory district's housing zone.
© Pongkwan Lassus, 2013.



11 My presentation about the valuable urban heritage of Makkasan, during the Makkasan Campaign event at the Bangkok Arts and Culture Centre (BACC).
© Antoine Lassus, March 2015.



12 mASEANa post-conference site visit at Makkasan Factory, 27th October 2018, from left to right, Prof. Ana Tostões, Asst. Prof. Parinya Chukaew and Prof. Yoshiyuki Yamana. © Pongkwan Lassus, 2018.



13 24 hectare land on the east side of Makkasan Factory, used to be the train stock yard, will be the area for a mixed use development project under the high speed train project to link Bangkok's three airports.
© Survey and Inventory of Valuable Buildings Worthy of Preservation in Makkasan Factory District, 2017.

to the era of manufacturing and industry that emerged in Thailand since 1910, which related to the industrial and technological development in Europe and America. This reflects through the work of its engineering, architecture and city plan.

2. The Makkasan Factory District reflects the way of life and well-being of the employees and officers of the Royal State Railway of Siam through the repair and production of the tools, wheeled vehicles, and locomotives etc.

3. The Makkasan Factory District reflects the co-dependence among factory buildings and engines, Makkasan station, Makkasan station's officers' residential estates and the Burachat Chaiyakorn Hospital, which contributes to the unique atmosphere of the area.

Therefore, the guidelines for the conservation and development of the Makkasan Factory District are that: there should be conservation with the consideration of the aforementioned value and importance, there should be a comparative study between the Makkasan Factory District and other industrial heritage sites. If found that the Makkasan Factory District has outstanding qualifications, it should be nominated as world heritage.¹

The document was submitted to the SRT and is used partially for the new SRT Makkasan masterplan. This new awareness of the heritage value of the Makkasan site spread among the Makkasan workers and factory staff, reminding them of the importance of their work and of the Railway Syndicate's significant value and legacy. They started to take on a more active role, coming up with their own masterplan for the development of Makkasan and organizing public talks. The Makkasan Factory, which was a place unknown to outsiders, began to open their doors to public, especially when Dr. Siriphong Prutthipan became the SRT Deputy Governor and facilitated its access for civic groups and academic institutes.

In October 2018, when I was a chairperson of the 6th mASEAN² International Conference organizing committee in Bangkok, we organized a post-conference site visit to the Makkasan Factory with international participants such as Prof. Ana Tostões, Chairperson of **docomomo** International, and other experts. Discussions with these experts during the visit confirmed the importance of the site for its architectural but also its intangible heritage value and encouraged me to put more effort to preserve it. This place is a real living museum, with many original machines from the factory's opening still in use today. The most surprising discovery of this visit was the old "Pattern Shop" that was locked down for several decades. Filled with teak wood molds of all parts needed to manufacture a

train, this shop should be turned into a small museum as a priority. In 2019, I retrieved all the technical drawings of almost all pieces that were hiding in a small room that had been locked for almost 40 years.

In early 2019, a preliminary survey of old large trees was performed by Big Trees³ Network. Activities to raise awareness that could lead to the protection of old large trees was organized and resulted in the Makkasan Factory workers responding well. In August 2019, the VERNADOC⁴ Network Thailand organized a measured drawings documentation project. The resulting documentation drawings of five buildings in Makkasan were shown in an on-site exhibition to celebrate 109 years of the Makkasan Factory, leading to a heightened sense of pride of the Makkasan workers and more recurrent university visits and work on the site.

That same year, the government launched the tendering process for the high speed train project and the right to develop the 24 hectare plot of land (the first priority zone of the masterplan to be developed), which was won by a Charoen Pokphand Group (CP)-led consortium in October 2019. The SRT will have to hand over that land to the developer within 18 months. Even though that land has no significant architectural or natural valuable heritage, this will affect the other zones of the Makkasan factory land. Factory buildings next to the leased land may have to be demolished or century old big trees cut off to make room for the railway for trains waiting for repair that are now located on the leased land. With the urgency to complete the next step of the heritage assessment to counter that risk, I conducted a project called "Makkasan Heritage Documentation". Running under an independent structure called Urban Heritage Network, it is an open initiative for everyone (volunteers, professionals, photographers, civic groups, academic institutions and private sectors) to help start documenting the site through photography, the GIS survey of old large trees and natural heritage and a 3D scan of architectural heritage to begin with. The project also aims to celebrate 110 years of Makkasan Train Factory in June 2020. With the COVID-19 pandemic severely affecting Bangkok in March 2020, parts of the work can still continue, but the project is forced to slow down. Nevertheless, I hope that the result of the ongoing project will help shape a better sustainable development of the Makkasan Complex project to preserve as much heritage value of the place as possible for public benefit and for future generations.

Notes

- 1 Chukaew Parinya, *Survey and Inventory of Valuable Buildings Worthby of Preservation in Makkasan Factory District*, 2017.
- 2 mASEANa (modern ASEAN architecture) is a 5 year project organized by **docomomo** Japan and The Japan Foundation, co-organized by **docomomo** International, 20CSC of ICOMOS International, mAAN and supported by the Toyota Foundation.
- 3 Big Trees Projects is a social network civic group for the protection of large trees in urban areas, founded in Bangkok in 2010.
- 4 The word VERNADOC refers to a methodology for vernacular architecture study that emphasizes the collection of data and information on site by basic techniques to produce high quality measured drawings. It is expected that the results of taking field measurements will inspire building owners as well as people in the community to realize the value of their property as perceived by outsiders, so that they will co-operate in conserving those buildings. Architect Markku Mattila (Finland) started the first international vernacular documentation camp (VERNADOC) in 2005, then Architect Sudjit Sananwai (Thailand) spread this idea all over Thailand from 2007 with the support of ASA and ICOMOS Thailand.

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