HYBRID APPROACHES IN CULTURAL HERITAGE RECONSTRUCTION OF CHINESE LIEUTENANT TOMB IN BANDUNG: A MULTIDISCIPLINARY SURVEY

Krismanto Kusbiantoro[1)], Cindrawaty Lesmana[2)], Irena Vanessa Gunawan[3)]
[1)] Architecture, Universitas Kristen Maranatha, krismanto.kusbiantoro@art.maranatha.edu
[2)] Civil Engineering, Universitas Kristen Maranatha, cindra@eng.maranatha.edu
[3)] Interior Design, Universitas Kristen Maranatha, irena_75@yahoo.com

Introduction

Merdeka Belajar Kampus Merdeka (Freedom to Learn and Independent Campus or MBKM) is a policy taken by Education and Culture Minister Nadiem Makarim for higher education started in the year 2020. The minister issued five new ministerial regulations this year to accommodate four reforms in universities: autonomy for universities to establish new programs, easier requirements for state universities to become legal entities, a new accreditation system for higher education programs and students' right to take up to three semesters studying outside of their program.[1] This is a breakthrough in the management of higher education policy in Indonesia, which opens up various opportunities for all stakeholders in improving the quality of higher education. The most significant aspect from the implementation of this policy is the opening of wider opportunities to conduct cross-disciplinary research collaborations that can be followed by students and lecturers. This research is the result of cross-disciplinary collaboration, both lecturers and students involved in it. The lecturers involved come from 3 different departments: architecture, civil engineering and interior design. Meanwhile, the students involved are from the electrical engineering department.

The city of Bandung does not have a history as long as Jakarta or Semarang. However, the city of Bandung is recorded as the place for various important historical events, including as a place of battle during the independence period so it is known as the *Bandung Lautan Api*, the establishment of the first Technical College in Indonesia (Technische Hoogeschool te Bandoeng - TH Bandung or ITB now), also was once the venue for the 1955 Asian-African Conference. This conference was an international meeting that voiced the spirit of anti-colonialism. Even Indian Prime Minister Jawaharlal Nehru in his speech said that Bandung is the capital of Asia-Africa.

Bandung is also the home to various ethnic groups who have fought together since the era of the struggle for independence. One of them is the Chinese. In carrying out the segregation policy, the Dutch government carried out the government indirectly by appointing community leaders who were expected to be intermediaries between the Dutch government and the native. The Chinese community was gradually led by officers appointed by the Dutch government, namely *Majoor, Kapitein* and *Liutenant der Chineezen*. In Bandung, there were only 3 Chinese Liutenants, namely Oei Bouw Hoen (1881-1882), Tan Haij Long (1882-1888) and Tan Joen Liong (1888-1917). (Kustedja, 2017)

The role of this Chinese Lieutenant in the development of the city of Bandung is very large. Even the name Tan Joen Liong, the third Chinese Lieutenant in Bandung, was once used as a street name: Jl. Joen Liong which is now changed to Jl. Baranang Siang. Tan Joen Liong is also known as a Chinese figure who is active in various community activities. He died on August 23, 1917, 4 months after he resigned as a Chinese Lieutenant. He was buried in TPU Cikadut on September 7, 1917 with a large and magnificent Chinese tomb. (Kustedja, 2017)

The tomb of the 3rd Chinese Lieutenant of Bandung, Tan Joen Liong at TPU Cikadut is currently in a very poor condition. Not many people know the history, contributions, and services of this leader in the history of the development of the city of Bandung. Therefore, the tomb of Tan Joen Liong is left behind with lack of attention. Figure 1 illustrates the current condition of the tomb; the roof is damaged; the walls are also damaged and the tombstones are damaged due to vandalism by scribbling on them.

[1] This article was published in thejakartapost.com with the title "Nadiem's campus reforms have yet to address student exploitation during internships". Click to read: https://www.thejakartapost.com/news/2020/02/11/nadiems-campus-reforms-have-yet-to-address-student-exploitation-during-internships.html.

Fig 1 The tomb of Tan Joen Liong the 3rd Chinese Lieutenant of Bandung

This research aims to collect documentations of the tomb of Tan Joen Liong and propose reconstructions guide using hybrid approaches that elaborates historical data, theoretical data and empirical data that collected using mobile topographer and UAV 3D modelling technology. The reconstruction guide produced will describe all essential elements of the Chinese tomb and its significance to explain them to public of how important the act of preserving and ensuring the sustainability of the heritage, while appreciating the work of this leader throughout his life.

Discussion

1. Chinese in Bandung

Sugiri Kustedja in his article entitled Traces of the Chinese Community and the Development of the City of Bandung (Kustedja, 2012) wrote the history of the Chinese community in Bandung as follows: when the VOC went bankrupt, government power was transferred to the Dutch kingdom. Then when the Netherlands was occupied by Napoleon, the Dutch Batavian Republic was formed. In 1808 governor general Herman Willem Daendels was sent to the Dutch East Indies. At the time of Deandels, for the sake of economic interest and defense against possible British attacks on Java, he ordered to build a highway along the island of Java from Anyer to Panarukan. The highway is known as the *groote postweg*. Later this highway will serve as the main road for the development of the cities it passes along the island of Java. The road construction work was completed within two years and cost many people who were forced to work. (Tunas, 2009)

After this highway is completed, the horse ride from Batavia to Surabaya can be taken in nine days. Every nine kilometers along this road, a place to rest is provided to change horses. Along with this work, Daendels also ordered the regent Wiranata Kusumah to start the construction of the city of Bandung on the side of the highway. The point indicated by Daendels to start construction, is now the benchmark for km 0 (zero) Bandung. The oldest populated villages in the city of Bandung are Cikapundung kolot, Balubur, Babakan Bogor (Kebon kawung), Cikalintu (Cipaganti).

Since the VOC rule, the Priangan area has been characterized as being especially closed to foreign visitors. April 1764 was issued a ban on entry for ethnic Chinese, Europeans, or other groups who are not native to Priangan, with threats of punishment for those who violate. According to records in 1809 only Chinese settlers were allowed to trade rice. In 1810, Daendels ordered that a special *wijk* be built for the Chinese: *Chineesche camp*. (Kustedja, 2012) The main purpose of issuing the designation of this Chinatown area is to empower vacant lands that cannot be planted with coffee and rice and to improve people's welfare by encouraging trade. The decision to establish Chinatown was taken after it was proven that the Chinese had succeeded in promoting prosperity and trade in the Kedu area and the surrounding *vorstenlanden*. (Kustedja, 2012)

In the Bandung area, there was no record of where this Chinatown is located, but it is estimated to be west of Bandoeng Square. In Kunto (Kunto, 1986) it was stated that Professor Dr. Godee Molsbergen estimates that the first market was built in 1812 in the village of Ciguriang, behind the present Kepatihan. Then, the market burned down during riots in the mid-19th century. The traders in the market then gathered again and traded around the Pasar Baroe.

In 1821 the Governor General GA van der Capellen issued a regulation that forbade the Dutch, Europeans, and other foreigners to settle or trade in the Priangan area (9 January 1821, *staatsblad* no. 6 of 1821). This regulation was intended so that the coffee trade could remain controlled only by the Dutch East Indies government. It was not until 1852 that the Priangan residency was declared open to immigrants by the Dutch East Indies.

In contrast, cities on the coast of Java's north coast are more open to ethnic Chinese immigrants. There was found a Chinatown area that was homogeneous, dense, and clearly demarcated, while for the ethnic Chinese in the Bandung-Priangan area, Bandung was the last area that was allowed to be entered and inhabited. This situation was even more widespread after 1911 when the Dutch East Indies government lifted all restrictions that limited it. Thus, the Chinatown area in Bandung only had a short history until when the Japanese entered which was followed by Indonesian independence, the Chinatown boundaries became blurred and not too clear.

The Chinese in Bandung succeeded in forming a community and optimizing their role in the economy. Most of the Chinese in Bandung are engaged in the business of trading goods and services such as wood craftsmen, barbers, butchers, building contractor services, and others. Their expertise in carpentry also gave them a big part to play a role in the construction of the railway line in Priangan in the late 19th century.

The government was indirectly used by the Dutch to carry out a segregation policy, dividing based on religion and ethnicity. This is done by appointing community leaders. For the Chinese Community, a *Lieutenant de Chineezen* is appointed for small towns, in large cities with several Lieutenants a *Kapitein der Chineezen* is appointed, and for several large cities a *Major de Chineezen* is appointed.

Based on Regeerings Almanac, 1815-1942, there are 3 Lieutenant in Bandung, namely:

1. Oei Boen Hoen (1881 – 1882)
2. Tan Hay Liong (1882 – 1888)
3. Tan Joen Liong (1888 – 1917)

2. Tan Joen Liong the Chinese Lieutenant of Bandung and his tomb

Fig 2. Photograph of the 3rd Chinese Liutenant of Bandung: Tan Joen Liong (Source: collection of Li Lian Tjen)

Tan Joen Liong or Chen Yun Long (陳雲龍)was born in Jiao Ling village, China. He has family in China and migrated to Bandung following his father Tan Haij Hap. Not long after, his son, Tan Yoek Tjong, and Soen Foeng Thin (Tan Yoek Tjong's wife) followed him and they all lived in Bandung. The tombs of Tan Yoek Tjong and Soen Foeng Thin can be found at TPU (public cemetery) Cikadut close to the tombs of Tan Joen Liong and Ong Kwi Nio.

After settling in Bandung, Tan Joen Liong married Ong Kwi Nio (1866 – 1909) and after that he also married Liauw Tjoan Nio and his last wife was The Soei Hong (the first daughter of the Cirebon Chinese Lieutenant, The Han Tong). Tan Joen Liong was married several times after the death of his first wife and had children from each marriage.

Fig 3. The house of Tan Joen Liong in Jl. Sudirman (Source: collection of Li Lian Tjen)

In the news about the appointed member of the "*Gewestelijken Raad, der Preanger Regentschappen*" on April 1, 1908, the Chinese Lieutenant of Bandung Tan Joen Liong was equated with his position with the member of the local echelon 2 parliament for the residency of Bandung besides another Chinese Lieutenant from Cianjur, namely Oeij Hin Haij. This position is considered high considering that he was appointed as a foreign citizen and had access to the Dutch East Indies government for the Bandung residency administration. His position was then replaced by his son-in-law named Tjen Djin Tjong (husband of Tan Moy, daughter of Tan Joen Liong and Ong Kwie Nio) as a *wethouder* (counselor). Tjen Djin Tjong, who was the son of the Chinese Lieutenant Blinyu Tjen Ton Long (1898-1913) in Bangka, was later appointed Deputy Major of Bandung.

Contribution of Tan Joen Liong in the economic life of Bandung is that he continued the business of Hai Hap Liong Kie's tapioca factory and rice mill in Cikudapateuh, Bandung. His name was once used as a street name, namely Jl. Joen Liong which is now Jl. Baranangsiang, next to Kosambi Market, Bandung.

The name Tan Joen Liong was also recorded on a 1907 plaque at the Great Temple of Bandung, namely the Xie Tian Gong Temple. His name also appears on the nameplate above the statue of Guan Gong which was written in 1917. His name is also found on a pair of *duilian* boards hanging on the temple pole and written in 1917. This shows his enormous contribution in the renovation and development of the Xie Tian Gong Temple, Bandung .

Fig 4. Xie Tian Gong temple of Bandung

Another social activity of Tan Joen Liong is that his name is included in the "*History of 40 years from Tiong Hoa Hwe Koan – Batavia 1900 – 1939*" pages 58, 59 and 147. In connection with the spirit of the times realizing the importance of education in Asia, on March 17, 1900 community leaders The Chinese in Batavia agreed to establish an association which became known as *Tiong Hoa Hwe Koan* to provide education for Chinese children. Tan Joen Liong became the motor and pioneer of the establishment of the *Tiong Hoa Hwe Koan* association in Bandung on July 10, 1904. The Bandung THHK school opened on November 11, 1904 and was later announced as an official organization on December 11, 1914.

Tan Joen Liong was the last Lieutenant because after him the officer system was changed. Meanwhile, Benny G. Setiono in his book Tionghoa in the Political Circle (2008) stated, in mid-1918 the Dutch government considered abolishing the Chinese officer system in the hope that the entire Dutch East Indies could be united and the ethnic Chinese were placed directly under its supervision (Setiono, 2008).

Tan Joen Liong received the title of Chinese Capitan. He resigned in April 1917 and died 4 months later due to illness and finally buried in the Cikadut Chinese public cemetery on September 7, 1917.

Cikadut Chinese public cemetery is the largest Chinese cemetery in Southeast Asia with 125 hectares of area. Inside there are more than 22,000 tombs with 18 *bong* tomb styles (Heriyanto, 2019). This cemetery consists of 21 Blocks, Block N is called Blok Kapiten, where the tombs of Tan Joen Liong and his wife are located. From the historical value of the Cikadut burial area, including this tomb, it should be part of the cultural heritage but has not received attention from the government. This is an important issue raised by cultural activists in the City of Bandung in the cultural discussion "*Ignored Cultural Heritage*" (Heriyanto, 2019). Even though there is already *Undang-undang No. 11 of 2010* (regarding Cultural Conservation) as well as Regional Regulation (Perda) of Bandung City No. 9 of 2009 concerning Management of Cultural Conservation Areas and Buildings, which was revised by Regional Regulation (Perda) number 7 of 2018.

This tomb is unique because the other tombs of Kapitan in Indonesia were not covered by a house-like construction. This tomb consists of a *bong* with a building that has a roof with a balcony-like design with European ornaments. Then next to each other attached to the building which is covered with a zinc aluminium roofing supported by concrete pillars.

Some of the elements seen in the tomb complex apart from the building and the *bong*/tombstones of the tomb are a pair of towering pillars with a lion statue on top. This statue is facing each other like a lion statue that is often found in the temple as a gate guard. Another element that was also found was the Earth God monument in front of the tomb building which is part of the Chinese tradition commonly found in tombs. In addition, in front of the tomb there is also a

semicircular pool, which is often also referred to as a *feng shui* pool. Supported by a mountain on the back of the tomb overlooking the "pool of water" that reflects harmony in nature.

3. The Chinese Tradition of Tomb design

Chinese tradition has its own rules when it comes to determining tombs and building tombs. This tradition is closely related to the science of *fengshui* which one of its branches is *yin fengshui* or *fengshui* for the dead. Bruun in his book "*Fengshui in China: Geomantic Divination between State Orthodoxy and Popular Religion*" (Bruun, 2003) explains that *fengshui* is not a belief; but in essence it is a science that studies the configuration of the shape of the soil and the position of water which is directly related to the flow of "*qi*" or "*chi*" which is studied by a specialist to bring optimal benefits to one's prosperity, happiness, longevity and fertility. Bruun also explained about the existence of 2 *fengshui* schools, that is *yang fengshui* for the dwelling of the living and *yin fengshui* for the graves the dead. Correct placement for these two entities (residential position for the living and grave position for deceased ancestors) is believed to bring the family to a successful and happy life.

The Chinese community interprets *bong pay* or a typical Chinese tomb as a form of a child's devotion to his parents and as a tribute to his ancestors. According to Confucianism, filial piety is one of the most important things. *Bong pay* is a form of children's devotion to their parents/ancestors. Based on this belief, those who make *bong pay* are the same as building houses for their ancestors. (Masruroh & Demartoto, 2015)

Things to be carefully noted in *yin fengshui* are:

1. Choose a good location with a beautiful mountain background and the right direction of water flow.
2. Choose a good day for groundbreaking (laying the first stone).
3. Perform calculations carefully (micro scale) for the position and depth of the tomb pit.
4. Make sure the coffin has the proper alignment size.
5. Ensure the determination of the direction of the tombstone (bong).
6. Ensure the flow of water in the right location because it will determine the wealth and health of the bereaved family.

The *yin fengshui* tomb theory is that the bones of the buried ancestor will receive the *qi* from the heavens and earth after being buried. The bones of the ancestors who receive good *qi* then the offspring will have good luck and benefit from the *qi*. Therefore, the determination of the soil, the direction of facing and the elements in the tomb are not arbitrary.

Sugiri Kustedja in his book explains that the ideal state to achieve maximum Fengshui is to place the mountain on its back and face the lower water in front. The traditional *yin-yang* philosophy holds that the universe has two opposing components, an eternal force that is always moving dynamically to achieve balance. Traditional Chinese society believes that the sky is curved like a ball, while the earth is flat. In Chinese tombs found a half moon pool with the earth represented by its straight plane while the sky by its curved plane. Human life will be sufficient if the components of the universe: sky, land and water are balanced. It is depicted with a half-moon pool filled with water. (Kustedja, 2017) (Granet, 1975)

Some of the other elements commonly found in Chinese tombs besides the half-moon pool are:

1. *Mu Qiu / Mu Gui* (tomb hill): *Mu Gui* is a place to put the coffin and is shaped like a hill mound.
2. *Mu An Qian Kao*: is the inner wall / barrier that surrounds the hill tomb.
3. *Mu An Hou Kao / Mu Cheng*: is the outer wall / barrier that covers *Mu An Qian Kao*. *Mucheng* is based on the belief that the human world and the spirit world have boundaries. This gap space is also filled with soil. But in modern tombs, this part is no longer used.
4. *Bong Pay / Mu Bei*: is a grave tombstone. This is the most important part of the tomb, because it involves the identity of the buried (usually a married couple). For husband / wife who are still alive, their names must be written in red letters!
5. Altar: The altar is located right in front of the *bongpai*, and is used as a place to put offerings (food, fruit), incense, candles, flowers, etc. to the buried. The grave altar is made of stone, which is made to blend with the tomb complex.
6. *Qu Shou / Mu Shou* (hand curve): *Mu Shou* is a wall that surrounds the front of the tombstone, usually curved like an embracing hand.
7. An Altar to honor *Tu Di Gong / Hou Tu* (God of Earth): A small altar to honor *Tu Di Gong* is located beside the front of the tomb.
8. Prayer burner: Located on the left side of the tomb, or at the back of the tomb (make a pair, one each in each corner of the back side). Chinese people believe that money is also used in the afterlife, so when on pilgrimage they will usually send prayer money by burning the prayer money paper

4. Tomb Documentation and Mapping Using Mobile Topographer and UAV

There are 3 approaches taken in the object documentation process, namely: documentation using GPS via a mobile topographer operated via an Android-based mobile phone, documentation in the form of measurements and manual depictions in the field, and the use of UAV (Unmanned Aerial Vehicle) or drones for object visual data retrieval.

Data processing from the initial survey of the Tan Joen Liong Tomb at Cikadut public cemetery produces a contour map as shown in Figure 5 below. The coordinate points obtained are the result of several satellite iteration algorithms that utilize Global Positioning System (GPS) devices on mobile phones. The results of this mapping can then be used to determine the technical boundaries of the tomb.

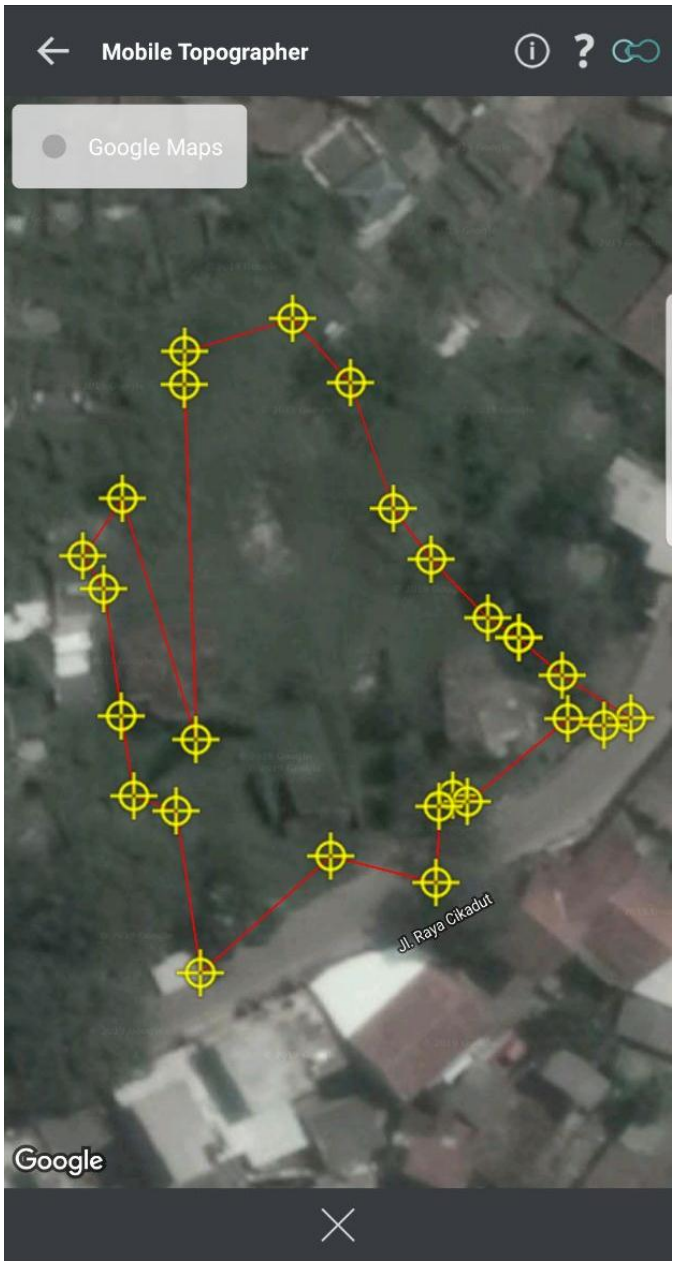

Fig 5. Result of the Mobile Topographer in Android mobile phone

The measurement of the tomb building complex is done manually to get the detailed size of the building. Figure 6 shows the measurement process which is then redrawn in the studio to produce architectural drawings (plan and elevation) of the building as seen in the Fig 7-9.

Fig 6. Measuring the size of the half-moon pool in front of the tomb

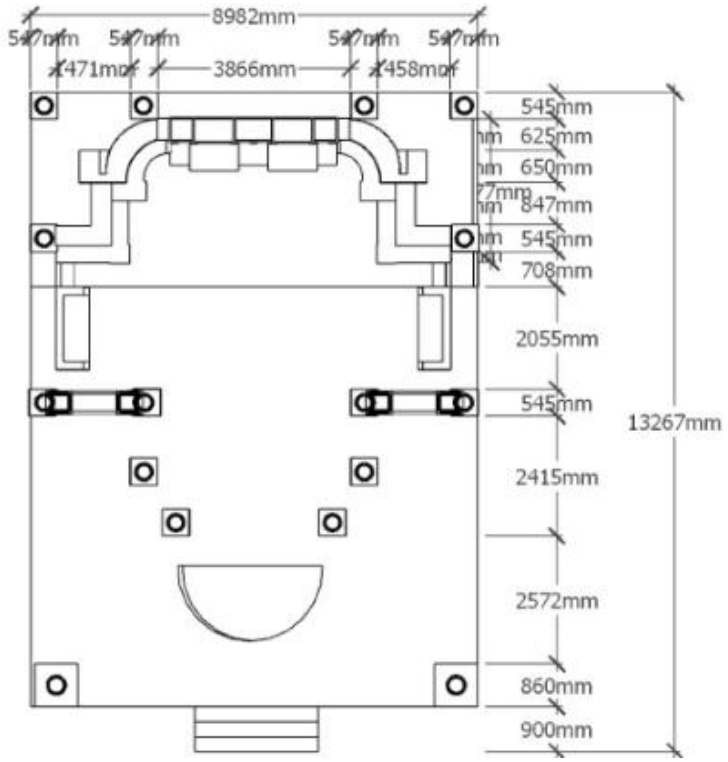

Fig 7. Plan of the tomb of Tan Joen Liong

From the plan it can be seen that this tomb was formed in the form of a courtyard complete with a building like a gazebo. The position of the ground is getting lower towards the front so that the front of the court is made higher, about 1 meter from the ground, and to reach the court using the stairs in the middle. After the stairs there is a semicircular pool and a gazebo entrance. There is a sitting area, then there is another raised courtyard in the area near the *bong*.

The gazebo building of the tomb as a whole consists of a roof supported by pillars, this building is not walled. There is a staircase in the middle leading to the main door of the tomb, the difference between the floor of the tomb and the terrace in front of it is about 1 m. The main door is flanked by a pair of pillars. From this pillar there is a low wall that continues to the next pillar fenced off the front of the tomb area. The roof is made of zinc material and has a broken pediment decoration with balustrades on the left and right.

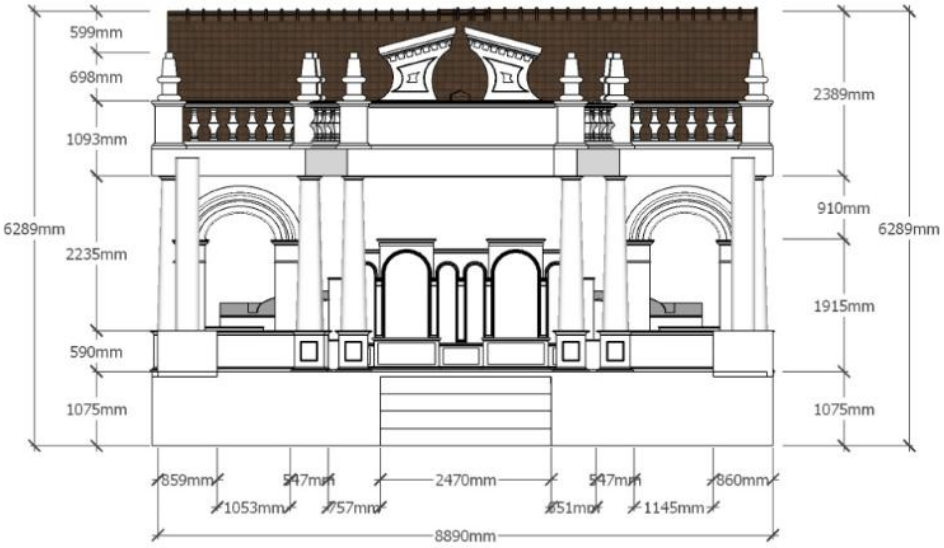

Fig 8. Front Elevation of the Tomb

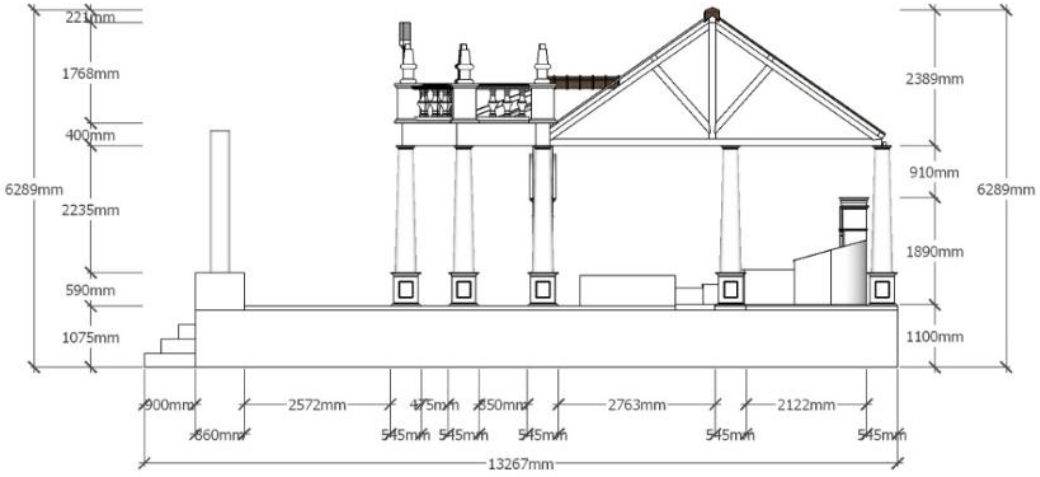

Fig 9. Side elevation of the Tomb

The poor condition of this tomb can be seen in the wooden construction on the damaged roof. Some of the roof sheets are out of place because the wood has been damaged. The entire wooden construction on the roof of this building needs repairs. Some of the wall plaster and pillars on the building have been severely damaged. The damage also resulted in missing some of the Chinese characters on the *duilien* on the pillars. (Figure 10)

Fig 10. The poor condition of the Tomb

The use of UAV/Drone to obtain a complete image of the tomb is carried out using a UAV device with specifications as shown in Table 1 below. The documentation process is carried out thoroughly on the tomb building with various angles and UAV flight heights to get the most accurate data possible. (Figure 11)

Table 1. The specification of the UAV

UAV Specification	
Weight	1388 g
Diagonal size	350 mm
Max. flight speed	72 km/h
Max. flight time	30 mins
Max. height	6000 m
Operating temperature	0°-40°C
Range	6.4 km
Max. vertical speed	6 m/s up 4 m/s down
Camera Parameter	
Sensor size	1-inch CMOS (16 mm diagonal)
Focal	8.8 mm
Width	13.2 mm
Focal length	20 mm
Effective pixels	20 Megapixel

Fig 11. The process of documentation using UAV/ Drone

The result of the process is that the images are converted into a sparse point cloud. In creating a sparse point cloud, the images in the dataset are aligned (arranged) first and then processed using a feature extraction algorithm. The points in the sparse point cloud represent the features contained in the dataset. The sparse point cloud serves as the initial framework for performing dense point cloud computing. Dense point cloud is a computational result that combines all the features in the image based on the sparse point cloud. The creation of a dense point cloud clarifies the extracted features by building on the existing features in the dataset with higher detail. Dense Point Cloud represents the final feature measurement/estimation result in the 3D reconstruction performed. Point clouds can be processed into 3D models in the form of a mesh, using a meshing algorithm. In contrast to a dense point cloud which consists of points that represent features, a mesh consists of faces that show the shape of an object better. The term solid mesh refers to a type of mesh that does not have gaps on its surfaces. Finally obtained a 3D model of the building to be reconstructed as seen in Figure 12 – 14 below

Fig 12. 3D model of the Tomb: Front view

Fig 13. 3D Model of the Tomb: side view

Fig 14. 3D Model of the Tomb: bird eye view showing the back of the Tomb

5. Research Findings

Based on the survey data collected at the site, several points were found during the research, that is:

1. Physical and Material Condition of the Building

Physically, the tomb building is still standing, supported by the main construction of brick walls and the construction of a wooden roof. However, the condition is that there are many damaged surfaces finishing. Walls and poles with painted plaster finishes suffered a lot of damage due to high humidity and vandalism activities by irresponsible people. The plaster appears to have come off the brickwork and in some places; there are dangerous cracks, which are thought to be the result of an earthquake or ground shifting. (Figure 15)

On the roof construction, several wooden beams were seen that were porous and needed to be replaced immediately. Especially in the truss section that crosses between the columns. The porous condition is thought to be due to the delay in changing the roof covering which resulted in rainwater leaking and wetting the wood for a long time.

In the interior, there were many damaged marble slabs in the seating area, most likely because they were about to be forcibly removed. However, the tiles of this tomb building are relatively well preserved and just need to be cleaned.

On the bong or tombstone, there are traces of vandalism activity, namely by scribbling with spray paint. It needs to be cleaned and returned to its original condition. (Figure 16)

Fig 15. Damaged wall plaster and structural crack due to earthquake and ground shifting

Fig 16. The bong of the Tomb that shows traces of vandalism activity

2. Broken and loss elements

Duilien on the main pillar which was damaged as the plaster was peeling off the post. (Figure 17) The Duilien in the left column took less damage than those in the right column. The research team has discussed this duilien with the Chinese language teacher: Dr. Pauw Budianto to try to guess and complete the contents of the writing on the wall. He guessed that the words in the column to the left hand side were:

任西爪参政之侨 ren xi zhao canzheng zhi Qiao, which means: As a *Huaqiao* (citizen of Chinese descent) who participates in politics / sits in government in West Java

And the words in the column to the right hand side were:

学事实分明启待功X xue shishi fenming qi dai gong, which means: learn to analyse reality clearly to make a services

Fig 17. Duilien in both front pillar of the Tomb

The condition of the half-moon pool has almost disappeared and is filled with garbage and looks used to burn garbage. This pool is an important element of the tomb, so it needs to be reconstructed immediately. (Figure 18)

Fig 18. The damage of half moon pool

3. Some technical recommendations for reconstruction of the Tomb
   Here are some things to consider in the reconstruction process
   a. Need to replace the roof construction, while still using wood. Zinc roof covering is not recommended, and it is better to replace it with clay tiles so that it can last longer
   b. It is necessary to pay attention to the cracks in the walls, especially those that are structural cracks. These cracks need to be strengthened by structural repairs, namely by temporarily supporting and adding structural elements to avoid structural deformation.

c. The finish of the walls should be in harmony with the old; or try to be homogeneous with old plaster. It is not recommended to replace it with cement mortar because it is not homogeneous with the existing plaster and can result in serious cracks
d. The damaged marble is sought to be replaced with similar marble if any. But if you don't have one, you can use other marble that is of good quality and in harmony with the existing one
e. Additional elements such as the altar table, the semi-circular pool, the place of the earth god and the pillar with the lion on top need to be maintained in position, repaired and the finishing must be in harmony with the main building.
f. Iron supporting elements with ornaments need to be maintained by replacing them with new ones, but with the same shape.
g. Wooden list on the roof with a lower lip in the form of a rhombus ornament needs to be maintained. Some that are missing need to be added according to the existing ones.
h. It is necessary to add a permanent media of information (can be in the form of panels of stone or concrete) that explains who Tan Joen Liong is, his services and a statement that this Tomb Area is a tomb that is included in a protected Cultural Heritage.

Conclusion

Cross-disciplinary collaboration in research in the MBKM era can provide various techniques and approaches in object observation and data collection. In this study, a hybrid approach that includes theoretical, historical studies, supported by the use of technology in data collection opens up many opportunities to understand objects more comprehensively.

Through a theoretical approach to the fengshui of Chinese tombs, it is known that there are 9 elements of the tomb that must exist in the Chinese tradition, that is: 1. tomb hill, 2. inner wall / barrier, 3. outer wall / barrier, 4. Bong Pay or grave tombstones, 5. altar, 6. wall of hand curves, 7. altar of the God of the Earth, 8. place of prayer paper burning and 9. semi-circular pool. In Tan Joen Liong's tomb most of these elements are under a European-style Gazebo-like building.

The condition of the tomb is currently in poor condition with various damages as follows: roof construction is porous and needs to be replaced, structural cracks in walls, broken wall plaster to almost vanishing *duilien,* damaged half-moon pool, scribbled *bong pay,* and damaged marble in the interior. The reconstruction and repair of this site needs special attention and involves experts so as not to damage its originality because this site is a cultural heritage site. For this reason, experts from various disciplines are needed so that this cultural heritage site can be maintained and then socialized to the wider community of its existence as a relic of one of the Chinese leader who contributed to the construction and development of the city of Bandung at that time.

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