Exploring Joglo's Translocation as an Effort in Conserving Indonesian Vernacular Architecture (Case Study of Griya Joglo in Kampoeng Djawi)

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Abstract. Many efforts are made to maintain the existence of Joglo. Broadly speaking, the Javanese house can be divided into five types, namely the Panggang-pe, the Kampung, the Limasan, the Tajug and the Joglo. Initially, the Joglo is a house owned only by respected people, such as the nobles or a king. But over time, the mention of Joglo itself refers to all forms of Javanese vernacular buildings in general. Due to the costs of maintenance, many Joglo was eventually traded and then translocated to a new place for business purposes as found in Kampong Djawi Wonosalam. The objective of this paper is to describe qualitatively the phenomenon of Joglo’s translocation which is increasingly happening in Jawa. Using the Griya Joglo of Kampong Djawi as the case study, the findings show that the transformation has been happened not only in the appearance physically due to the translocation process but also the sense of the place due to its new role. Assessment results reveal important outcomes that conservation of vernacular architecture in Indonesia now has entering a new paradigm as well as an option in conserving vernacular building ex-situ.

1. Introduction
Home for Indonesians not only as a physical entity but also as a representation of life manifested in symbols. Rapoport said that the form of the house is not only a physical or one factor but also includes the implications of socio-cultural factors [1]. Over time and the changing of social order, physically, the house also changes according to cultural trends. Physically, the house changes are affected by several factors, such as; material, construction methods, climate change, land availability, and changes in socio-cultural order [2]. Especially for vernacular homes that built by natural materials, the change is inevitable. The growing age, vernacular buildings began to be abandoned because of the scarcity of building materials needed to build. In addition, there is also a lack of written knowledge about the structure and construction of vernacular buildings.

Nowadays, fewer people want to use wooden vernacular buildings as homes because the materials are increasingly hard to obtain (for example the teak), relatively expensive in maintenance, and the new building materials that easier to obtain and easy to maintain, making everyone have shifted using contemporary building design, like thatch roof shifted to corrugated zinc [3]. The vernacular buildings gradually began to disappear in the suburban areas, but some still survived in rural areas, because of the remoteness from modernization [4]. Nowadays, this phenomenon is rife in Indonesia.

The paradigm of building preservation that has been carried out in Indonesia is still concerned with an In-situ approach, by trying to keep the vernacular house in its origin. By regulation, this type is
preferable because the issue of conservation is not only about the completion of the building, but also it should preserve the sense of place simultaneously. But again, the costly maintenance makes buildings like traditional houses left to be rotten and damaged, or if saleable, the house is offered to the interested ones (the collectors or brokers).

The last subject is still a polemic in Indonesia, especially if categorized as a strategy in the conservation issues. The trading cultural object is one of the rules violations. Whereas in fact, the economic matter in conservation is an ethical dispute that cannot be ruled out. This is very dilemmatic where on the one hand the community no longer wants to live in that antiquity with dust and smoke, but on the other hand, they don't know what to do because of financial reasons. Coupled there are no clear rules and supervision, making people still thinking the deal is something common, especially in Indonesia.

However, reflecting on several countries in Europe, for example, Austria in saving its vernacular homes, this effort can be categorized as Ex-situ conservation [5]. In Indonesia, this effort has begun to be seen as found in TB Silalahi Center in Balige and Taman Nusa Bali [6]. At there, vernacular houses from various locations were translocated there to enhance the place for tourist destinations as an open-air museum. In East Java, the same phenomenon could be found in Kampoeng Djawi Wonesalam, Jombang Regency. The tourism concept at there combines the glance of Javanese vernacular buildings with a beautiful hilly rice-fields environment as the background. Kampoeng Djawi is one example of an eco-tourism-based tourism that uses translocated vernacular buildings as lodging places.

Therefore, seeing the indication of ex-situ conservation approach of Javanese vernacular houses, especially the Joglo type in Kampoeng Djawi, this research tries to trace this phenomenon which aims to examine the reasons of the owner in developing the Kampoeng Djawi and how the ex-situ conservation occurred, especially in the Joglo house. Particularly, this research is devoted to discussing changes in the structure of the Joglo that were translocated and run as lodging places. From the observations, there are three types of translocated houses at the site, namely Griya Dorogepak and Griya Jineman each with two units, and a unit of Griya Joglo. But in this paper, the discussion will be more focused on the Griya Joglo as is stressed with the title, which based from the field review, where identified that other houses (Griya Dorogepak and Griya Jineman) were not Joglo type, but classified as the Limasan type.

2. Methods
Essentially, the basic in developing this research will be qualitative studies. All basic material in this research was conducted qualitatively by observing the phenomenon in the field directly. By observing the fields, capturing existent phenomena, at once the behavior of the visitors, this research arranged descriptively by using direct experience during the survey run, assisted with field notes, some photographic documentation and a number of random interviews in order to get a holistic image of facts (Creswell, 2014).

This study also involves a case studies approach. Case study research is a qualitative method that can stand-alone (Denzin and Lincoln in Hyett et al, 2014). The case study approach is particularly useful to employ when there is a need to obtain an in-depth appreciation of an issue, event or phenomenon of interest, in its natural real-life context (Crowe et.al., 2011). In this study, the Kampoeng Djawi used as the location of research by taking Joglo house type that had been translocated at the site as the focus of this research. The investigation among the phenomenon itself runs through observation and interviews, in order to record the condition of each case vividly and descriptively, as well dig up valuable information on how these Joglos translocated to the Kampoeng Djawi.

3. Discussion
This research takes location in the Kampoeng Djawi (Figure 1) positioned in the hamlet of Gondang, Carangwulung Village, Wonesalam District, Jombang Regency, East Java. Kampoeng Djawi, which has been developed since 2010, originally established by Rudy Hermawan, the owner for outbound activities. Now, it has been developed as a place of training, lodging, to the snapshotting activities. He
carried out the development of the area gradually, by initially providing places and settings for outbound activities, and then began translocating some Javanese vernacular buildings for the lodgment. Besides that, he also added other facilities as a place for gatherings, such as an amphitheater, Balairung (pendapa) and more. He chose to use Javanese vernacular buildings, because of his ancestry and interest in Javanese architectural style. During this time, he had translocated the Javanese houses from Nganjuk, Pasuruan, Mojokerto, Lamongan, and Jombang to the Kampoeng Djawi site.

![Description: 1. Main Entrance 2. Parking area 3. Gapura (Gates) 4. Front Office 5. Pawon (Kitchen/Resto) 6. Dining area 7. Amphitheater 8. Pendopo 9. Griya Dorogepak 1 10. Griya Dorogepak 2 11. Griya Majapahit 1 12. Griya 13. Majapahit 2Langgar 14. Griya Joglo 15. Swimming pool 16. Griya Brawijaya 17. Artificial lake 18. Balairung 19. Griya Jineman 1 20. Griya Jineman 2 21. Gallery (planned) 22. Camping Ground]

Figure 1. Map of Kampoeng Djawi

3.1. The Development of Kampoeng Djawi

Buildings in the Kampoeng Djawi area consist of translocated buildings of Javanese vernacular houses, mixed with a number of modern buildings. Those translocated houses are re-used for various purposes, such as lodging, front office, restaurant, and pendhapa (a Javanese pavilion-like structure). The Griya Dorogepak as the first translocated built house. Then followed by the house that used as the front office, the restaurant (pawon), the second house of Griya Dorogepak, the Balairung (pendhapa), the Griya Joglo, and the last translocated building is a pair of Griya Jineman which was re-erected in the same time. Meanwhile, the Café located on the east side of the front office was built by using modern material but still patronized to Javanese home style.

Buildings in Kampoeng Djawi are arranged linearly in a cluster. Kusairi (the head of the craftsperson who helped Rudy in the translocation) stated that the arrangement of the building itself has a plot or a story. By exploring the site, the visitors should experience the storyline of the building from the beginning of the entrance gate to the back of the site. When entering Kampoeng Djawi, visitors will be greeted by the front office, Griya Dorogepak (two buildings) and the pawon which is portraying as the commonly original Javanese village. After that, there is a Balairung (pendhapa) and the Griya Majapahit to show the residence of the higher caste of Javanese people.

After going through ‘the part of the Javanese people’s residence’, there are two houses made of bricks that designate as the soldier’s house, namely Griya Majapahit. Then, as the tip of the story, the two houses of Griya Jineman located near at the back of the site as the end. In the past, Griya Jineman is a type of house that usually used by retainer soldiers or warrior's heads.

Due to does not want to just reveal the nuances of the "old Javanese", at the back of the area, Rudy added a contemporary building that has a rhythmic appearance with the old Javanese style, namely Griya Brawijaya. Besides the Griya Brawijaya, there is settled Rudy’s villa, for his accommodation when visiting this place. Initially, this building was designed using modern minimalist style. But seeing the development of Kampoeng Djawi, he finally renovated this house into a modern house with
a Javanese architectural style to be in tune with the theme. Currently, Rudy continues to develop and plans to build several modern Javanese-style buildings to support the activities in Kampoeng Djawi, such as a gallery and so forth.

3.2. The Translocated Building
The translocated buildings in the Kampoeng Djawi were obtained by searching in online forums (like Facebook), galleries or by deals. The quests were carried out not only to the complete structures, but also the separate elements such as the gebyok (traditional door) to dipan (traditional bed). Rudy did not search those things alone but was assisted by his confidant who had cooperated with him since the construction of Kampoeng Djawi began.

After the targeted structure was found, the agent with Kusairi (as the construction chief) visited the building and assessed whether the building was still feasible and could be reused or not. This survey is intended to check whether the structure is still tough and can be reused without any modifications. If the building is affirmed feasible, then bargaining occurs until the seller and buyer reach an agreement about the rate. Soon after the transaction, Kusairi assembled his team to dismantle the building into parts per section so that easy to be transported by truck.

Demolition and reassembly of the translocated homes were supervised and controlled directly by Kusairi to be more comprehensive in the re-erecting process subsequently. Trial and error is a common thing that often happens in the process because of the rottenness, unused parts, or old form modification. Even frequently, a part of one building is used to complement another building so that the building reaches the appearance that Rudy wishes. Rudy, as the owner who in fact also works as an architect, plays an important role as a problem seeker and decision maker in here.

On the other hand, before rebuilding the structure, it is necessary to notice the site where the construction will be erected. The site of Kampoeng Djawi has hilly steep slopes. Thus, needs some adjustments in several parts of the site so that it can be fit for the foundation in establishing the lower structure of each translocated homes. Concerning the lack of backfill, Rudy creates an artificial lake (Figure 2) inside the site by optimizing a small river that flows through the site as a source of water. The dredged soil from the artificial lake used for leveling some parts of the site, which also reduce the cost of buying backfill.

![Figure 2. Artificial lake construction phase (Source: Kampoeng Djawi’s archive)](image)

After adjusting the site, Rudy and Kusairi designed the plan in order to make the building can stand safely. Starting from planning the foundation, making the soil steady, strengthening the structure to the subsequent maintenance issues such as prevention of the termites. Concerning the structure, some translocated buildings in Kampoeng Djawi were the results of the whole translocated house, such as the Griya Jineman and the Griya Dorogepak. But almost all of those houses have many adjustments to the structure. Some parts of the houses that deemed unfit will be replaced with parts from other buildings. Unsurprisingly, there are lots of adjustment can be seen as the result of the combination of two or three buildings. According to Rudy, this was done in order to form a complete vernacular structure that impresses the real Javanese house.
3.3. The Translocation Process of Griya Joglo

In Kampoeng Djawi, the Griya Joglo (Figure 3) is the sixth translocated building at the site. Initially, Rudy planned to build two units of Griya Joglo. The first one was planned would be located on the west side of the site and the second will be placed in the middle between the first one and the Griya Majapahit. After reconsidering about the construction material, Rudy finally decided to make one Griya Joglo only and located in accordance with the first plan. This decision was taken because the location to establish the second Griya Joglo will be diverted as the spot to establish a Langgar (Islamic prayer gazebo) as shown in Figure 4. Rudy considered that the addition of langgar preferably makes the impression of the middle court will be wider than adding the second Griya Joglo.

![Figure 3. The vicinity of Griya Joglo](image1)

![Figure 4. The Langgar of Kampoeng Djawi](image2)

As described earlier, the Griya Joglo is the result of a combination of two vernacular houses. The main construction used the Joglo type and the added one used the type of Limasan. This addition was used to replace some obsolete timbers of the main structure of Joglo. The main construction of Griya Joglo was acquired from collectors in the Trowulan Village, Mojokerto Regency. Although obtained from collectors, these two vernacular houses made-up from the original condition. The first building was once a home with complete four Saka Guru (the four main posts which supported certain Javanese buildings, as the most fundamental element because it supports the entire roof of the building) with the Tumpang Sari (the layered beams structure) and the Saka Penganggap (outer posts) around it.

Unfortunately, the condition of the Joglo before being translocated is no longer used as a home but as a livestock pen. The transfer process began by dismantling of the roof firstly, then the body parts to the structural columns. In this dismantling step, there were several parts of the original structure had to be demolished, especially the original Umpak (pedestal) to remove the wooden structure from its foundation. Also, there are parts of the house’s structure that can no longer be used like some Saka (posts). To preserve its authenticity, Rudy took the initiative by adopting several structures that identified similar to the original one from another house. This additional structure adapted from the Dorogepak house, one of the Limasan type, obtained from Mojosari District, Mojokerto Regency.
Before being translocated to Kampoeng Djawi, this building is a residence that had been converted into a warehouse.

Initially, the main building, Joglo type was moved first and then followed by the transfer of the Limasan. The structure of the Griya Joglo uses the standard of Joglo (Figure 5) according to Rudy's wishes, so the main structure of the first building is mostly reused with several adjustments, especially in Saka construction.

![Figure 5. Griya Joglo’s rebuilt progress (Source: Kampoeng Djawi’s archive)](image)

The adjustment of Saka at Griya Joglo is done by leveling up the height of the Saka Guru and the Saka Penanggap, as shown in Figure 6. The elevation of Saka is intended to make the body of the house is higher than the original form in order to set the Joglo’s shape to be more proportional. The addition is also intended to raise the sloping area of the roof to be higher so that the circulation to the new bathroom on the back has an ideal height for people passing through. If it is not elevated, the sloping area of the back roof will be short, resulting peoples who want to access the bathroom have to bow.

![Figure 6. Griya Joglo’s current condition (left); The Tumpang sari and Saka guru of Griya Joglo (right)](image)

The Saka has been increased, wherein Saka Pananggap had elevated around 20-25 cm and around 60 cm of the Saka Guru. While the Saka Emper did not elevated but was placed directly on the lower beam of the terrace. The Saka Pananggap has been elevated due to the addition of concrete beams with dimensions of 15 x 15 cm. The Saka Guru also got an increase of height, but not caused by the beams, but by the Umpak in order to raise the Saka’s height. After being translocated, the original Umpak of Saka Guru has been replaced with the new one. The past Umpak was no longer used because cracked during the translocation process. The new Umpak of Saka Guru has dimensions approximately 30 x 30 cm.

Due to the location of the Griya Joglo is situated on the west side of the site, which is steep to the west, Rudy finally decided to flatten the soil with backfill. The backfill is then strengthened with a sheet stone foundation surrounding the erected construction (Figure 7). The unstable land and loose soil condition make the pile foundation type is the best choice to be used and then connected to the lower structure of the Joglo.
Besides the height, there are several additions inside the Griya Joglo. The new spaces added to this building, namely a bathroom and kitchen located at the back of the building (Figure 8). A new bathroom was added because, in the real condition, there is no bathroom inside the Joglo. Also the kitchen area, which in the real condition usually appear as the hearth. These additions were built by using exposed brick walls in order to be in tune with the Javanese vernacular style.

In the upper structure, as shown by Figure 9, Griya Joglo's roof (Brunjung) is still using teak timber construction and most of the wood still maintaining timber from the original building. But the additional roof for bathroom and kitchen designed in contemporary wooden construction. The new roof is separated from the Joglo's roof but connected to the main structure. While in the front part of the building added a new patio roof for shading the terrace.
The teak board is also functioned as the ceiling. Beside to enhance building aesthetics, the boards were used also to prevent the dust of clay tiles falling directly inside the house. After installing the teak board, zinc plate covered the upper area to prevent leakage. Then, the lath, which used new teak wood, was nailed to the rafters to support the tiles. The old tiles from the original building were no longer being used since most all of it has been damaged and weathered.

Due to some modifications of the height, the roof of Griya Joglo has been extended as the terrace. In the front, the additional roof made longer than the existing which is sloping forward of ± 1.5 m. Likewise on the right side of the house which also functioned as the terrace. Meantime, the roof on the left side is used as eaves and to shade the circulation while in the back is used to cover the kitchen and bathroom.

4. Conclusion
The Griya Joglo in Kampoeng Djawi is the result of a combination of two translocated Javanese houses. This integration is intended so that the wished form of the main building could be enhanced by the addition of structural elements from the additional structure. The additional elements are intended to make the structural element of Griya Joglo stronger as well as maintaining the original impression of the Javanese vernacular building.

Concerning the translocation of Joglo house in Kampoeng Djawi, this approach can be considered as an adaptive reuse, which is rebuilding old buildings and be modified for new functions. Adaptive reuse is a process that modifies or changes building to meet the new purpose. The Joglo of Kampoeng Djawi, originally built as a home in the past and then it was abandoned, and later functioned as a cattle pen. By using it again as a lodgement, economically could be seen as an option to minimize the cost for new construction as well as creating a spot tourism by exploiting the romance of the ancient Javanese setting in the blanket of eco-cultural tourism subject. As a Javanese and a lover of Javanese culture, Rudy the owner tried to maintain this character but also bound by strict economic concerns. It can be seen from some adjustments to the new structure and some modifications to the shape (height adjustment) as well as the addition of space inside the building.

Generally, this approach is considered quite effective especially in preserving wooden vernacular houses. Although somehow, authentic values and the originality seem neglected. But this is simply done in order to extend the life of the structure and the safety aspect for the new function. Given that many people now no longer want to live with dust and smoke, people prefer to simply optimize a place like this for nostalgia as well as for vacation place. Those both concepts, the eco-tourism and adaptive reuse has proven are very suitable when adapted to enhancing the culture and sustain the environment as well.

References
[1] A. Rapoport, House Form and Culture. Prentice-Hall, Englewood Cliffs, N. J., 1969.
[2] A. Rapoport, House Form and Culture. Prentice-Hall, Englewood Cliffs, N. J., 1969.
[3] P. Oliver, Built to Meet Needs: Cultural Issues in Vernacular Architecture. Elsevier. 2006.
[4] Y. A. Yusran, “The Ebb Tide in Conserving Nusantara Architecture”, Procedia Engineering, vol. 161, pp. 1343–1352, 2016, doi:10.1016/j.proeng.2016.08.654
[5] Y. A. Yusran, “Ex-Situ Conservation on Nusantara Architecture: Implementation and Challenges (An Overview towards TMII and Stübing Freilichtmuseum)”, International Journal of Structural and Civil Engineering Research, vol. 5, no. 1, pp. 5–11, 2016, doi: 10.18178/ijscer.5.1.5-11
[6] Y. A. Yusran, “Envisioning Open-Air Museum for Indonesian”, Dimensi: Journal of Architecture and Building Environment, vol. 45, no. 1, pp. 63–72, 2018, https://doi.org/10.9744/dimensi.45.1.63-72