ISSN: 0974-5823 Vol. 7 No. 1 January, 2022

*International Journal of Mechanical Engineering*

# Changes in the face of cultural heritage buildings due to revitalization: a case study of Fort Willem II Oenarang

`

**Djoko Indrosaptono*, Alfanadi Agung Setiyawan, Tri Susetyo Andadari**

*Department of Architecture, Faculty of Engineering, Diponegoro University, Semarang, Indonesia*
*Jl. Prof. Soedarto, SH, Kampus UNDIP Tembalang, Semarang, Indonesia 50275*

**Abstract**

Revitalization is an effort to restore the vital value of a building / historic environment by increasing economic, social and cultural activities around it which are solely aimed at conserving the Cultural Heritage building. This Revitalization of Benteng Willem II Oenarang, in addition to improving the physical structure of buildings that began to be damaged also to lift the image of Benteng Willem II Oenarang as a tourist icon of the city of Ungaran. This study aims to get any changes that arise in cultural heritage buildings as an impact of the revitalization of the building, related to make Benteng Willem II Oenarang increase its status as one of the historical buildings that might be included in the World Heritage. Descriptive qualitative method was applied in this research, with an empirical approach. Literature studies are applied to obtain theories about revitalization of cultural heritage buildings. The analysis is done by comparing the reality obtained from the results of observations on the building, with a theory that has been stated previously. And the result shows that the influence of revitalization due to a change in the physical form of the building, the functions of buildings, materials, building ornaments, contents and content of buildings and utilities in the cultural heritage building.

**Keywords***: revitalization, building facade, Benteng Willem II Oenarang*

## 1. Introduction

The revitalization of Fort Willem II Oenarang in the city of Ungaran by the local government in 2011 needs to be appreciated as an effort to preserve the existence of historical buildings that had stalled several years earlier. Revitalization is carried out by turning the object into a tourist area as well as becoming an icon for the city of Ungaran. In addition to carrying out physical repairs, the designation of the building which now belongs to the Indonesian National Police has also been repaired from a police dormitory to a public building.

All preservation efforts certainly have an impact, both positive and negative. In this case of preservation, of course, it will change the physical form (façade) of the building, building function, materials, ornaments, content, and utilities that appear as a result of the Revitalization of Fort Willem II Oenarang. The impact of the changes that have emerged will be studied and discussed in this study using descriptive qualitative methods in which a detailed description is needed from the informants' point of view (Setyowati & Setioko, 2013).

### Understanding Heritage and Fortress

Before studying specifically about Revitalization, first discuss Cultural Heritage Buildings. According to Burra Charter (1999), a Cultural Heritage Building is a group of historical buildings and their environment. Where the building and its environment contain science, socio-cultural values, as well as historical values, present and past (International Council of Monuments and Sites, 1999). Meanwhile, according to Law no. 11/2010, cultural heritage is a cultural heritage with material

characteristics, it can be an object or a Cultural Heritage Building that needs to be preserved because it has important value for humans through a process of determination.

Meanwhile, Benteng as the object of this research, according to Marihandono (2008), is a means of defense and protection. Along with the growth of the city, the function of the fort turned into a center of administration and government (Marihandono, 2008).

Based on the above Cultural Conservation Law states that "Objects, buildings or structures can be proposed as Cultural Conservation Objects, Cultural Conservation Buildings, or Cultural Conservation Structures if they meet the following criteria: a). Be 50 (fifty) years old or more; b). Representing a style period of at least 50 (fifty) years; c). Has special meaning for history, science, education, religion, and/or culture; and d). Has a cultural value for strengthening the national personality."

**Definition of Conservation and Its Kinds**

Conservation according to Burra Charter (1999) is an effort to safeguard and maintain historical objects so that information and meaning in them are well preserved. Which includes how to maintain and maintain according to Murtagh in Harastoeti (2011), among others:

a. Heritage, something (tangible and intangible) that was preserved by previous generations and then handed over to the current generation which is then passed on to future generations.
b. Cultural Heritage, a heritage that is related to humans and all their activities.
c. Historic Buildings, are buildings and their sites that have met the provisions stipulated in Law No. 11 of 2010 which reformed Law no. 5 of 1992 concerning Cultural Heritage.
d. Conservation are efforts to extend the age of historical cultural heritage. By reviving old functions or using new functions, all of which aim to protect the physical and meaning of damage so that its authenticity is protected.
e. Preservation, is an effort to maintain the original form of the building and the environment on the surrounding site. There needs to be continuous maintenance (stabilization) if needed so that authenticity is maintained.
f. Reconstruction is the act of rebuilding a structure or building that has been damaged with the aim of restoring its condition to its condition in a certain year.
g. Renovation, is the process of renewing historical buildings which is still being debated, because the improvements that have occurred have eliminated the original form of the building.
h. Restoration, is the act of returning a historical building and its details to the same original form as in a certain time period. By removing inauthentic additional ornaments and completing the missing parts.
i. Facade, is an effort to maintain a historic building by leaving only the original facade, while most of the buildings have undergone significant changes.
j. Adaptive-Use, the process of inserting a new function into a historical building that is different from the original function.
k. Rehabilitation, is the repair of historical objects into stages that can be reused, while the parts that have historical value are maintained as they are.
l. Revitalization, is the return of the vital value of a building/historic environment by increasing economic, social and cultural activities around it.

Revitalization is also an effort to revitalize an area of a city or area that has experienced changes in environmental quality so that the area can again make a positive contribution to the economic life of the city (Arahman, Afifuddin, & Yusuf, 2018). Revitalization with the aim of preserving and restoring historical landmarks, by assigning new functions that adapt historical buildings to modern needs (Svetlana & Murgul, 2015). Revitalization of cultural heritage is a development process that functions to regenerate important values of cultural heritage by adjusting new spatial functions according to current life and not leaving local culture (Putra & Wibowo, 2017).

The revitalization process, especially on the uniqueness and superiority of the building's character, must be maintained. Revitalization according to several journals tends to prioritize changes in function rather than physical changes in the facial elements of cultural heritage buildings and prioritizes economic growth alone.

In this study, the objective of this research is to see how much the changes in the physical elements that form the face of the nature reserve as a result of the revitalization measures.

**2. Methods**

The approach method used in this research is descriptive qualitative with an empirical approach. The main objective of qualitative research is to obtain a comprehensive understanding of the phenomenon under study as an approach that concerns the phenomenon of community behavior as users of the demands of the physical supporting elements of the building as needed (Moleong, 1994). Furthermore, to get the results of physical changes due to the determination of Revitalization by comparing the

real data on existing conditions with the Preservation Theory (Harastoeti, 2011), so that elements that are suitable and which are not suitable can be identified.

In conservation efforts, it must be based on the integrity and authenticity of historical objects or buildings (Harastoeti, 2011).

a. Integrity

Conservation must be carried out with the aim of returning historic buildings to their original conditions so that information from the past is conveyed in full. Reconstruction and restoration can be carried out to restore historic buildings in accordance with the conditions at a certain time in order to present complete authenticity. Completeness here includes: a). Completeness of building forms; b). Completeness of construction; c). Completeness of design/design; d). Completeness of the elements of beauty used; e). Completeness of the layout and use of the building, and; f). Honesty from the heritage/conservation community.

b. Authenticity

There are many elements of validity in historical buildings that need to be understood, such as the authenticity of the materials used. The validity referred to is related to: a). Design overview; b). Materials and materials; c). Methods, habits and processes; d). Location, content and layout; e). Benefits and uses of the building.

Replication or duplication is an example of an effort that has a weakness regarding validity/authenticity. Meanwhile, authentic materials in historical buildings are real witnesses for future generations, so that authentic materials in buildings cannot be massively changed and must be preserved. Even though there is already technology capable of replicating the same material, the authenticity and value of the building has been lost.

Physical changes and building functions according to Harastoeti (2011) that are allowed to occur in several conservation processes in Bandung, are as shown in Table 1 below.

Table 1. The Relationship between Physical and Function Changes in Conservation Efforts (Harastoeti, 2011)

| **Activities** | **Physical condition** | | | **Function** | |
|---|---|---|---|---|---|
| | *Do not change* | *Change* | | *Do not change* | *Change* |
| | | Addition and Inclusion of New Building Composition | Partial Disassembly and Transition of New Compositions | Continuous and Evolving (Extended-Use) | Adaptation to New Needs (Adaptive-Use) |
| **Conservation** | ü | ü | ü | ü | ü |
| **Preservation** | ü | x | x | ü | ü |
| **Reconstruction** | ü | x | x | ü | ü |
| **Renovation** | x | ü | ü | ü | ü |
| **Restoration** | ü | x | ü | ü | ü |
| **Facadization** | x | ü | ü | ü | ü |
| **Rehabilitation** | x | ü | ü | ü | ü |
| **Revitalization** | x | ü | ü | ü | ü |
| **Replication** | ü | x | x | ü | ü |
| ü | = Happened | | | | |
| x | = Doesn't happen | | | | |

**World Heritage Assessment Criteria**

In order to achieve World Heritage recognition, historical objects must complete the prerequisites for legality and protection as a guarantee of their sustainability. There are ten prerequisites for achieving World Heritage recognition (World Heritage Center, 2012):

1. Is a creative human work.
2. Shows the change of noble human values, at a certain period, in the fields of architecture, urban design or parks and monumental art.
3. Positioning yourself as a unique sign of a civilization that has either disappeared or is still remaining.

4. Model building models, technological or architectural arrangements, or landscaping that portray an important period in human life.
5. Exemplary models of traditional human settlements, being an example of a traditional human settlement, land use, or ocean that depicts a culture, or human relations with the environment when it is critically affected by change.
6. Relating directly or indirectly to events or ceremonies, thoughts, beliefs, literature and art, and there is a general meaning that stands out.
7. Including extraordinary natural phenomena or areas with extraordinary natural beauty.
8. Includes exceptional sample samples depicting the early stages of Earth's development, life records, significant geological processes currently taking place in the development of landscapes
9. An extraordinary sample representing the ecological and biological processes that are taking place in the evolutionary process of living things.
10. There are natural ecosystems most important for the in-situ conservation of biodiversity, including endangered endangered species that have tremendous value for science and conservation.

## 3. Results and Discussion

### Research Findings

The revitalization of Fort Willem II Oenarang in the city of Ungaran by the local government in 2011 needs to be appreciated as an effort to preserve the existence of historical buildings that had stalled several years earlier. Revitalization is carried out by turning the object into a tourist area as well as becoming an icon for the city of Ungaran. In addition to carrying out physical repairs, the designation of the building which now belongs to the Indonesian National Police has also been revamped from a police dormitory to a public building (see Figure 1).


Figure 1. Existing Condition of Willem II Oenarang Fort (Doc. Author, 2020

The building, which changed ownership to the property of the police, was used as a police dormitory, until finally revitalization was carried out by the local government in collaboration with the police to make Fort Willem II Oenarang a tourist icon for the city of Ungaran in 2011.

The local government of Semarang Regency has designated Fort Willem II Oenarang as a Cultural Heritage Building through Semarang Regency Regional Regulation Number 6 of 2011 concerning Semarang Regency Spatial Planning 2011-2031, article 27 paragraph 5, as a cultural heritage area for the environment buildings and their yard.

The condition of Fort Willem II Oenarang was very poor before its revitalization was carried out in 2011. The impression as a haunted building, unkempt, collapsing and uninhabited, arises because visually many parts of this building are missing, porous and covered by wild plants.

The condition of Fort Willem II Oenarang has become clean and attractive after the revitalization was carried out in 2011. However, in plain view, there are several changes, both major and minor, which need to be assessed whether these changes are in accordance with the applicable conservation guideline policies. The function timeline of Fort Willem II Oenarang can be seen in Figure 2 below.

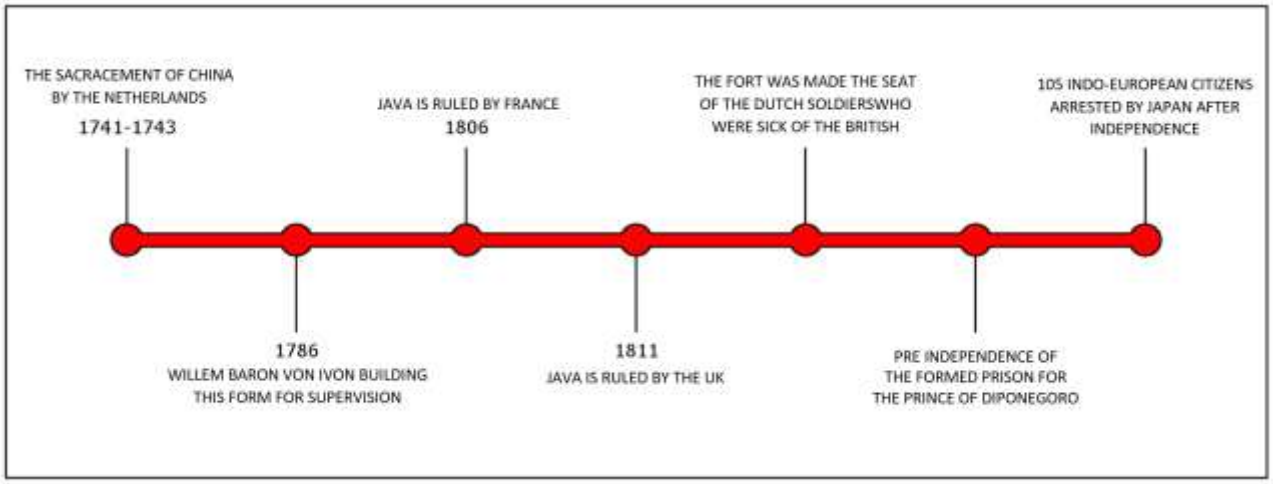



Figure 2. The Function Timeline of Fort Willem II Oenarang (Doc. Author, 2020)

In accordance with Article 27 paragraph 5, until now, Willem II fort is still registered as a cultural heritage area for the environmental category of buildings and its yards, with a regional inventory number 01-01/Ung/TB/1 (Semarang Regency Government, 2011).

As for the international level, there has been no effort from related parties to make this Willem II Oenarang fort into a world heritage. Although based on 10 assessment criteria (World Heritage Center, 2012) this Willem II Oenarang fort fulfills at least 3 categories, namely:

1. Is a creative human work.
2. Shows the change of noble human values, at a certain period, in the fields of architecture, urban design or parks and monumental art.
3. Becoming a model building model, technological or architectural arrangement, or gardening that portrays an important period in human life.

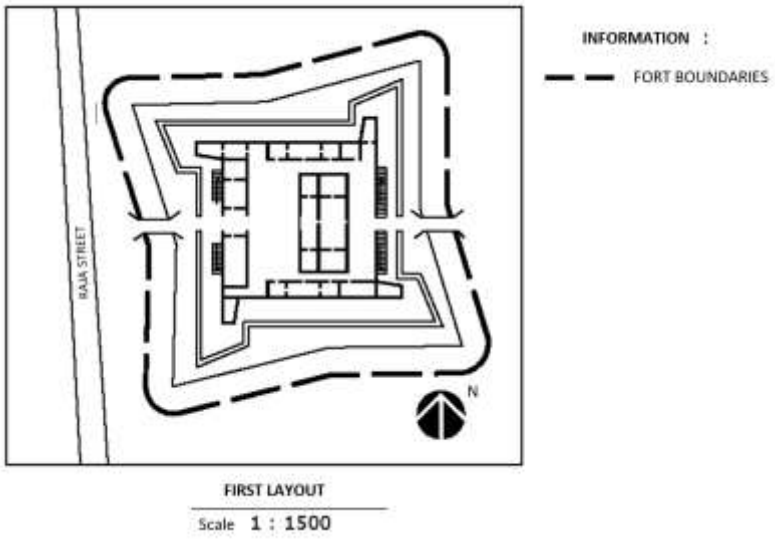
Several steps to make Fort Willem II Oenarang a world heritage have not been exceeded, including being included in the tentative list of inventory of cultural and natural sites, obtaining a nomination file, evaluation stages (ICOMOS, IUCN, ICCROM), inscription and periodic reporting. So that this revitalization effort is a first step that is still quite far from placing the Willem II Oenarang Fortress as a World Heritage.

**Discussion**

*a. Physical Changes of Buildings*

The Fort Willem II Oenarang building is a colonial-style building with a centrally symmetrical shape with round and high columns in the main building. Symmetry is obtained not only on the building facade, but on the plan, also using a cylindrical symmetrical shape, adjusted to the function of the previous building, namely as a fortress surrounding the main building in the middle.

The building plan has hardly changed. Only the right wing has changed, from the old closed building (see Figure 3) to semi-open buildings, and the addition of new buildings on the left wing as shown in Figure 1 above.




(a)


(b)

Figure 3. Past (a) and Present (b) Plan of Willem II Fortress in Oenarang (Doc. Author, 2020)

Apart from building plans, another thing that has changed in the revitalization of Fort Willem II Oenarang is the building facade. From the front view, there is a clear change in the shape of the tile slope as shown in Figure 4. The original building (left), the horses that stand out in the middle are covered with tiles, while after revitalization (right) the center of the roof has horses. -a horse with an upright direction, which is left open from the front with the addition of several ornaments, including the addition of the identity of the Indonesian Republic Police as a symbol of building ownership. In addition to the front roof, the rear roof of the building has also experienced a quite dominant change, namely changing the shape of the roof from a pyramid pattern to a straight pattern.

Figure 4. Roof Changes on Building Facades (Doc. Author, 2020)

Changes in the shape of windows are also found in several places as seen in the main part of the central building, where in plain view the shape of the window which was originally a 'blind' window that was symmetrical right and left, one of which became a wooden window with the addition of glass in the middle (see Figure 5).

Figure 5. Changes in Window Forms on Building Facades (Doc. Author, 2020)

The addition of ornaments to provide additional value for the new function of the building, namely the fort as an icon of the city of Ungaran, can be seen on the outside of the building in the form of additional signage in the form of a signboard and the addition of a statue of a Dutch warrior on the left in front of the main gate (see Figure 6).

Figure 6. Addition of Statues and Signage to the Fortress Building (Doc. Author, 2020)

The column shape as the main structure of the building has also undergone changes, due to its long age and severe damage. Unfortunately, the repairs were not in accordance with the original condition of the building. So that the shape of the column is not the same between the right column and the left column and does not match its originality. The original column is cylindrical while the new column has a box section (see Figure 7).

Figure 7. Changes to the Structure of the Fortress (Doc. Author, 2020)

Another physical form that has clearly changed is the loss of the perimeter ditch that was used as a safety measure, in accordance with the function of the building as a fort as shown in Figure 8. This occurred as a result of the revitalization of the Willem II Fortress building as a tourist area which of course requires open land for parking. and garden.


Figure 8. Changes to the Environment Outside the Fort Building (Doc. Author, 2020)

*b. Changes in Building Materials*

Changes in building materials occur in almost all parts of the building. This is due to the fact that many buildings have decayed with age, which requires replacing building components with identical materials, both in terms of type and shape. Below is a list of the components of the Fort Willem II Oenarang building that have undergone changes from the start.

Table 2. Material Changes in Fortress Buildings (Doc. Author, 2020)

| **Item** | **Early** | **End** |
|---|---|---|
| Wall | Old Material Acian | New Material Acian |
| Floor | Plaster | Ceramics |
| Roof | Manual Print Tile | Roof Tile Press |
| Door hinges | Iron | Brass |
| Door Handle and Lock | Syndic | Padlock and Lever Handle |
| Weapons | 8 4 Pound Cannons | Replicas |
| Ceiling | Nothing | Plywood |
| Rampart Alas | Plaster | Paving Block |
| Column | Fit the Bricks | Concrete |
| Window | Jalusi Teak Model | Replicas |
| Door | Teak wood | Replicas |
| Beam | Wood | Wooden painted concrete |
| Ornaments | Acian, Nothing | PC Cement, Copper Sculpture |

Changes in wall material, both in the form of new masonry and new plaster, were carried out considering the amount of damage that occurred to the walls due to age, as well as an effort to reduce mold and mildew that grew on building walls (see Figure 9). Meanwhile, for materials that have been lost or badly damaged which are difficult to reproduce, replicas are made in accordance with the original goods but with new materials. The replicas of objects encountered include replicas of cannons, replicas of doors, windows and wooden steps. The addition of ornaments with new copper materials that are still in accordance with the Dutch East Indies concept can be found on the signage above the gate and roman letters indicating the year the fort was built.

New materials are also used in building components, both main and complementary components, such as replacing floor materials with ceramics with classic motifs to create an ancient impression. In addition, hardware on doors, window frames such as locks, locks and hinges, which are modern in shape and are manufactured products, are also used in this building, although visually it does not support the concept of the Fort Willem II Oenarang building. Another thing in the use of new materials is in the finishing sector, namely finshing the walls with paint and on doors, windows and frames that use transparent finishing.

To provide beauty and maintain cleanliness, the roof is added to the ceiling made of plywood with a final finishing that matches the wood color.

The addition of new buildings was also found during the revitalization process. in the form of a small building to the north of the building with a joglo limasan motif, as a guardian for Fort Willem II Oenarang.

*c. Change in Building Function*

If one examines the purpose of building revitalization so that the building can provide benefits both from an economic and social perspective, it is clear that the Willem II Fort building has changed the function of each room as shown in Figure 9 below.

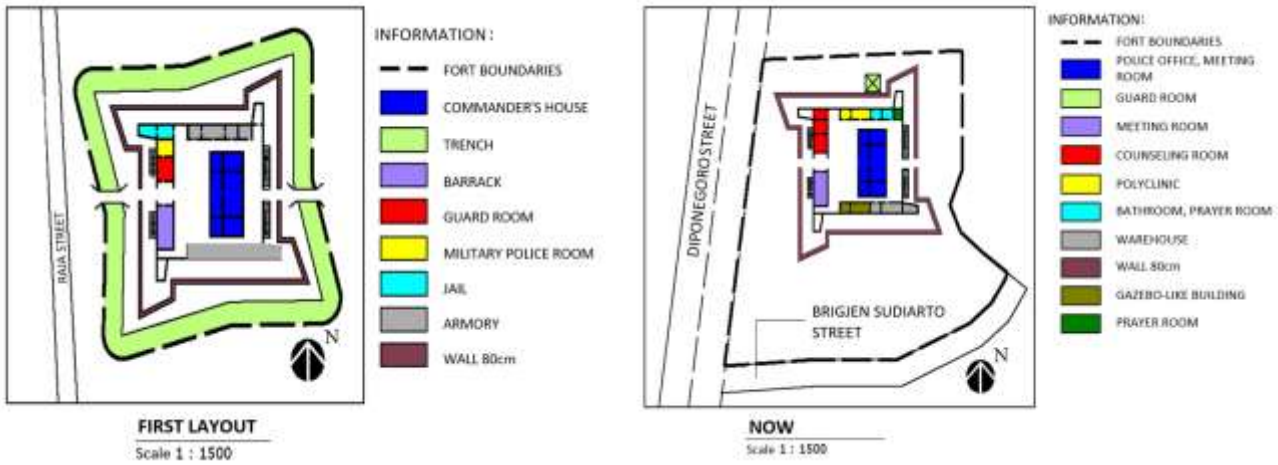



Figure 9. Functions of Early and Current Rooms of Fort Willem II Oenarang (Doc. Author, 2020)

In accordance with the function and ownership of the building, which belongs to the Indonesian National Police, this building is used as a meeting place and a health polyclinic for Polri members and the surrounding community.

*d. Change in Building Utilities*

Changes and additions to utilities were carried out to support the new function of Fort Willem II Oenarang building as a building with a tourism function and a polyclinic function. The modernity of utilities used in the Willem II Oenarang Fortress Building, to some extent, destroys the value of this ancient building. Below are some changes in utilities that are adjusted to the type of energy, clean water sources and vertical transportation today. Among them is the use of PLN electricity sources. The use of clean sirens from artesian wells, adjustments to modern sanitary elements in bathrooms and toilets, use of gutters for rainwater disposal systems, use of air conditioning in certain rooms as artificial ventilation systems, and maintain vertical transportation in the form of wooden ladders, even though the material is no longer material original again.

*e. Change in Building Content*

As a result of the ownership of the Fort Willem II Oenarang building which has been taken over by the police, it is the right of the police to determine who will inhabit this building. Before the revitalization was carried out, this building was used as a police hostel (Wijanarko, Astuti, & Widyanti, 2014). However, after the meeting between the residents and the police, it was

agreed upon a number of compensation received by the residents in an effort to relocate the residents to revitalize the Fort Willem II Oenarang building. Revitalization began in 2006.

In 2018, Willem II Oenarang Fortress is only inhabited by the police guarding the Cultural Heritage Building, which occupies the middle space on the right side only. However, during the day, the activity is quite busy, because apart from being used as a health polyclinic for POLRI members and the surrounding community, it is also used as a meeting area for the Ungaran City Police Corps.

**Apenetalysis of data**

From the results of observations in the field, we obtained tabulation/recapitulation of comparative data on the results of changes to the preservation theory (see Table 3).

Table 3. Data Recapitulation of Field Observation Results on Preservation Theory (Doc. Author, 2020)

| Item | Description | Building Reality | | | Revitalization Rules | | |
|---|---|---|---|---|---|---|---|
| | | Addition and Insertion of New Elements | New Element Disassembly and Replacement | Change | Addition and Insertion of New Elements | New Element Disassembly and Replacement | Change |
| **Location** | | | | x | | | x |
| **Physical Building** | Roof Shape | | ü | ü | ü | ü | x |
| | Window Shapes | | ü | ü | ü | ü | x |
| | Ornaments | ü | | ü | ü | ü | x |
| | New Building | ü | | ü | | | x |
| **Structure** | Column Form | | ü | ü | ü | ü | x |
| **Environment** | Trench | | | ü | ü | ü | x |
| **Material** | Floor | | ü | ü | ü | ü | x |
| | Wall | | ü | ü | ü | ü | x |
| | Beam | | ü | ü | ü | ü | x |
| | Column | | ü | ü | ü | ü | x |
| | Ceiling | ü | | ü | ü | ü | x |
| | Roof | ü | | ü | ü | ü | x |
| | Door | | ü | ü | ü | ü | x |
| | Window | | ü | ü | ü | ü | x |
| | Rampart | | ü | ü | ü | ü | x |
| | Ornaments | ü | | ü | ü | ü | x |
| | Hinge | | ü | ü | ü | ü | x |
| | Key Handle | | ü | ü | ü | ü | x |
| | Weapons | ü | | ü | ü | ü | x |
| **Function** | | | | ü | | | ü |
| **Utility** | Clean water | ü | | ü | ü | ü | ü |
| | Source of Illumination | ü | | ü | ü | ü | ü |
| | Bathroom | ü | | ü | ü | ü | ü |
| | Stairs | | ü | ü | ü | ü | ü |
| **Content Building** | | | | ü | | | ü |

Notation: ✓ occur; x: not occur

The analysis table above shows that most of all building components at Fort Willem II Oenarang have changed as a result of the revitalization decisions made by the local government. The only components that have not changed are the location of the fort and the orientation of the building. On the other hand, as many as 5 (five) items from 8 (eight) items experienced the addition and insertion of new elements in; (a) ornament on the physical building; (b) new buildings; (c) ceiling; (d) roof; and (e) ornamental materials; (f) weapon material, besides that there is a dismantling and replacement of new elements in; (a) roof shape; (b) window shape, (c) column shape; (d) floor; (e) walls, (f) structural beams, (g) columns, (h) door materials; (i) window material; (j) rampart material; (k) hinge material; (l) lock handle. This means that the addition and insertion of new elements or demolition along with the replacement of new elements is categorized as a change from its original condition, if you look at the existing rules, there is absolutely no change in it. The existence of a revitalization determination has an impact on the changes in the elements forming the inner and outer space.

The principle of revitalizing cultural heritage buildings is a change in the "inside" while maintaining the "outside". The outside of the building is considered to be public property which is limited by historical rules and values, while the inside is a private and free part designed according to the needs of building users (Putra & Wibowo, 2017).

## 4. Conclusion

As a result of the current renovation and function of Fort Willem II Oenarang, it has lost its value, because too many changes have been made, both in physical changes, functions, materials, utilities and building content. This condition can be felt when entering the fort which has high historical value, its value cannot be felt again, it feels more like the nuances of tourism like other new tourism places.

Revitalization brings both positive and negative influences. In this case, the impact on the existence and sustainability of conservation buildings must be taken into account, especially for future interests. Especially with regard to efforts to make Cultural Heritage buildings a World Heritage, so that they can be accepted and do not deviate from existing provisions.


## Acknowledgements

Our gratitude goes to the manager of Fort Willem II Oenarang who took the time to explain in detail and provide the data needed to complete this research. Our thanks also go to all those who have helped us in the research and process of writing articles that we cannot mention one by one.


## References


1. Arahman, A., Afifuddin, M., & Yusuf, S. (2018). Studi konservasi bangunan cagar budaya di dalam kawasan rencana pengembangan pelabuhan bebas Sabang. *Jurnal Arsip Rekayasa Sipil dan Perencanaan, 1*(1), 43-52.
2. Harastoeti, D. (2011). *100 Bangunan Cagar Budaya di Bandung*. Bandung: CSS Publishing.
3. International Council of Monuments and Sites. (1999). *The Burra Charter*. Burwood: Australia ICOMOS Incorporated.
4. Marihandono, D. (2008). Perubahan Peran dan Fungsi Benteng dalam Tata Ruang Kota. *Wacana, 10*(1), 144–160.
5. Moleong, L. J. (1994). *Metode Penelitian Kualitatif*. Bandung: Remaja Rosdakarya.
6. Semarang Regency Government. (2011). *Rencana Tata Ruang Wilayah Kabupaten Semarang Tahun 2011-2031*.
7. Putra, A. M., & Wibowo, A. P. (2017). Perkuatan Struktur pada Revitalisasi Bangunan Cagar Budaya Kasus Studi: Toko Dynasti, Jalan AM Sangaji Yogyakarta. *Heritage IPLBI*, 463–468.
8. Setyowati, E., & Setioko, B. (2013). *Buku Ajar Metodologi Riset dan Statistik, Metodologi Penelitian Kualitatif dan Kuantitatif*. Semarang: UPT Universitas Diponegoro Press.
9. Svetlana, G., & Murgul, V. (2015). Revitalization of Historic Buildings as an Approach to Preserve Cultural and Historical Heritage. *Procedia Engineering, 117*, 883–890.
10. Wijanarko, Astuti, P., & Widyanti, W. (2014). Evaluasi Kebijakan Revitalisasi Bangunan Cagar Budaya Benteng Willem II Ungaran, Kabupaten Semarang. *Jurnal Ilmu Pemerintahan, 3*(4), 296–310.
11. World Heritage Center. (2012). *Operational Guidelines for the Implementation of the World Heritage Convention*. UNESCO World Heritage Centre