ADJUSTING MATERIAL AND STRUCTURE:

BUILDING'S RENOVATION AT CONSERVATION AREA

CASE STUDY: HOUSE IN TEUKU UMAR STREET 51, MENTENG JAKARTA.

DAVIS SYARIEF
DEPARTMENT OF ARCHITECTURE
INSTITUT TEKNOLOGI NASIONAL – BANDUNG
INDONESIA

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Davis Syarief
Department Of Architecture, Institut Teknologi Nasional, Bandung
Email : davissyarief@yahoo.com

Abstract:

This paper presents the renovation of a conservation building which located in conservation area in Jakarta called Menteng. Menteng area was built in 1911 indicated by constructing the Bouwploeg building in 1910 as the office of construction and management for the development. Studies have proven that renovating a conservation building located at a conservation area is not easy. Besides the building permit rules issued by the government, there is also rules issued by the Conservation Associate in this case the Jakarta Heritage. This study case tries to prove that modern material and technique applied to renovation on a conservation building in conservation area can revitalize that building. Development on a conservation area will not always give negative results like demolish and drastic changes to old buildings, in fact it could keep the original character of the building as the old atmosphere

Key words: renovation, conservation building, conservation area.

1. PREFACE

Jakarta is the capital city of the Republic of Indonesia located in Java Island, the 3rd biggest island of Indonesian archipelagos. After colonized for around 350 years the Dutch have left behind in Indonesia a vast legacy of archives, monuments, buildings and city planning. A legacy that dates from the VOC (Dutch trade company) period until the thirties and forties of the last century, a period in which a number of internationally acclaimed landmarks have been realized by Dutch architects in Indonesia

One of the areas in Jakarta which design by Dutch architects is Menteng area. Menteng was planned by PA J Moojen, and then in 1918 the planning was further developed by Ir F Kubatz by whom the design was finalized for construction in 1923 and built the part of Jakarta as today. The area was designed and built as the first Indonesian garden city and because of the specific planning this district was called as 'a garden city with Dutch villas in the tropical region' (Een Tuinstad met Hollandsche Villas in de Tropen) or as 'the green Dutch residential estate' (Welgesteld Nederlandsche Woonwijk).

The main purpose of the development was for Europeans and middle up class Indonesian society, the urban design was particularly exclusive that it did not mingle with the Indonesian residential villages. After Independence Day, August the 17 1945 some of those buildings were taken over by Indonesian government, use as offices and some still belong to Indonesian society. At present time Menteng still as an exclusive area for former Presidents, Vice President, some ministry's and ambassador's residential. Most of the buildings still exist until nowadays and many of them are specified as conservation building.

2. HISTORICAL BACKGROUND

Jakarta has many historical site of the developing city and had been handled by many politicians, governments and the community comes from many nations, like Chinese, Arabic, Dutch, Porto and European. The government of Jakarta wants to view the past condition, but also needs to develop the tomorrow in order to compile the urban life. Since year 1970 the government has provided some the Governor Regulations about The Conservation of Building and Environment.

The GBHN (Direction of the Nation Policy) 1993-1998 mentioned that the planning in the all level must concern the Building Conservation and Historical Artifacts. The Master Planning of Jakarta 2005 mentioned about the Conservation and Preservation Development should be described on the RBWK (the Planning of the District of a part the City).

There are 9 (nine) areas which already specified as a conservation area, such as the old harbor Sunda Kelapa, some islands in North part of Jakarta which called Kepulauan Seribu (Thousand Islands), Jakarta City Centre, Monument National area, Marunda, Menteng, Kebayoran Baru, the indigenous village of Batavia people Condet and Situ Babakan area.

3. DISCUSSION

3.1 Conservation Area.

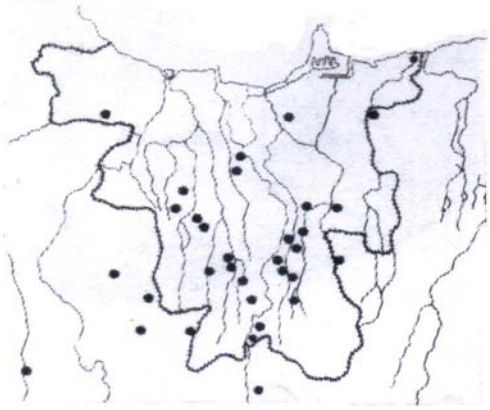
Jakarta, the capital city that will celebrate its 479th anniversary this year, is certainly a city with lots of history. Jakarta city centre was the centre of old city whose development is crucial to the nation. The area was a heritage of urban architecture back in Dutch colony since 17th to the mid 20th century. The area is very unique due to the existence of old historical buildings aged even to hundreds of years all over the place.

The collection of streets and buildings establishes the atmosphere of a place as well as its spatial three-dimensional presence. The access roads preserve and indicate the size of the structure and emphasize their importance. The basic web was created because of the various access roads. The importance of

emphasizing the detailed study of this characteristic will be subsequently clarified. These geometrical definitions are what conservation aims to preserve.

Defining the Jakarta City, a capital of the Republic of Indonesia, is as a tourism object and describing the Governor Regulations about the Conservation of Building and Environment is as the artifact of culture pledge. So that the target of conservation are to return the view of conservation objects, to use it to support the urban life, to guide the Jakarta development as well as the past planning and to perform the growth of Jakarta historical city on the three dimensions.

To do the program of conservation and preservation the government have decide 9 (nine) conservation area in Jakarta city which selected because of some conservation criteria such as: esthetic, plural, seldom, historical object, enhancing the district and surrounding and specifically area.



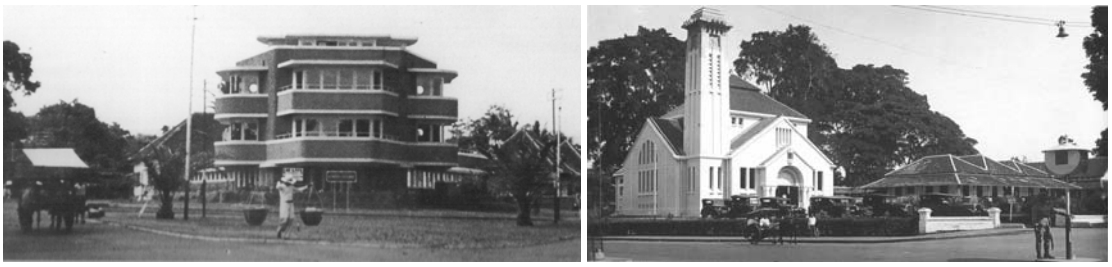
Picture 1: Heritage Location in Jakarta.

3.2 Renovation Techniques.

The increasing years of age, change of ownership and tenants, and dilapidation are inevitable factors of historical buildings to go through changes. In cases of change of ownership and tenants, old buildings are most likely renovated and added with new elements without considering proper conservation aspects. Usually those repair and addition are practically purposeful to accommodate new functions. Walls were damaged for additional rooms and air condition (AC) replaced by new materials due to its dullness, re-painted with new colors, so on and so forth under the consideration that all those treatment are necessary to fulfill the present needs. Actually those changes are inevitable and have to be done just if they are conducted and handled in a proper manner.

Recognizing the elements that give an area its special character depends on careful, sensitive observation. Some places are harmonious in their uniformity, other dramatic in their contrasts. In areas or places that have been inhabited for centuries, there is a pervasive sense of local or vernacular building tradition that has developed slowly over time. The dominance of a particular indigenous

building material is immediately apparent. Roof silhouettes, gabled, mansard or flat reflect local climate conditions as well as stylistic preferences.



Picture 2: 'Three Colors Villa' and 'Bethel church' with specific character and location.

One of the first things to investigate is how the structure originally functioned and whether this usage is still viable. If you come to the conclusion that restoring the original function is not feasible, you must realistically analyze how the old structure relates to today's needs and possibly to the future of its community. Most old buildings are functionally obsolete long before they are physically and structurally worn out. New technique could be used to sustain the old structure which not strong any more or to support the old structure so that the old structure could be defended.

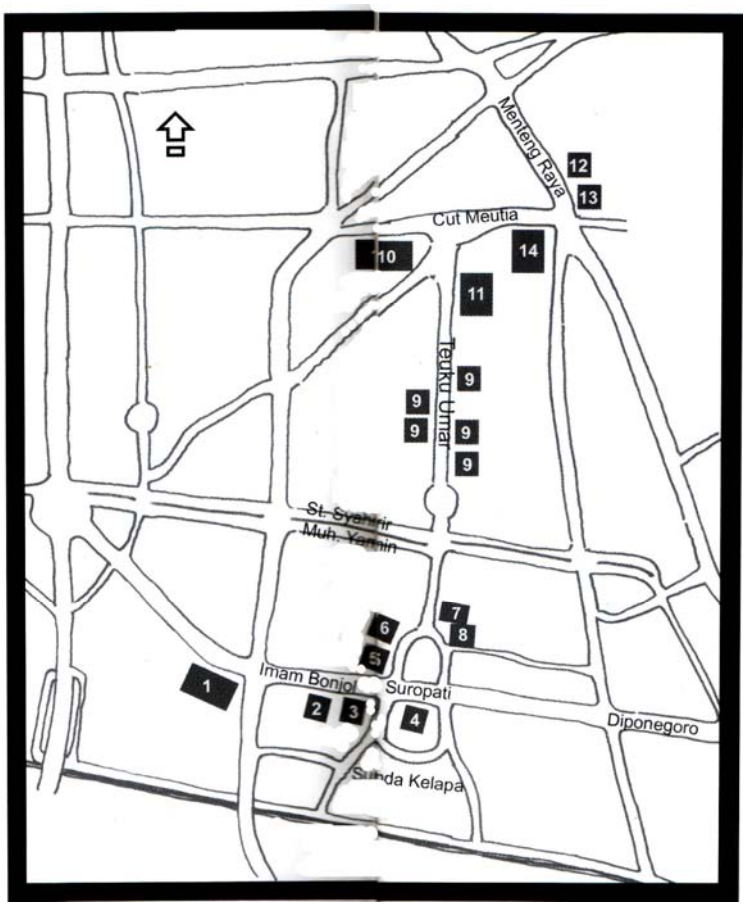
The addition of new material and equipment should be selected and not cause of building damage. Some of the old material is difficult to find at present time so that the use of new material can not be avoid. Effective and efficient are the main purpose of building development. Conservative or old technique and old material some time cost more than new material and new technique so that it has to consider eminently. Comfortable becomes the main purpose, therefore air condition becomes a basic need in building especially in hot climate area such as Jakarta.

4. RENOVATION PROCESS.

4.1 Menteng as a Conservation Area.

Menteng is one of the conservation areas in Jakarta. This area located in city centre of Jakarta. Menteng was an area for a city sprawl in Indonesia that was conducted through a comprehensive planning for the first time. And later, the area became the example of good practice guide for the development of residential zones in other cities in Java such as Semarang and Surabaya.

The earliest area be developed was the present Gondangdia area and the area around Taman Cut Meutia. Because of this area was designed and built as the first Indonesian garden city, so then it become a conservation area. There are 14 (fourteenth) typical buildings in this area which have classified as conservation buildings. 7 (seven) of them are function as government office buildings, one church, St Paulus, one mosque, Cut Meutia and the rest are residential building. Until present time Menteng area still an exclusive area which most of the buildings are Government property or upper class Indonesian societies.



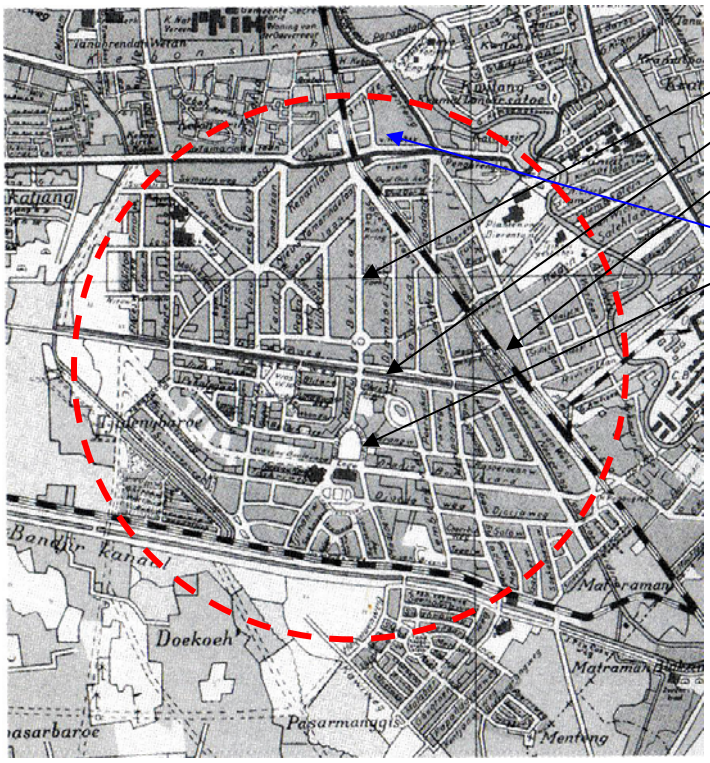
Picture 3: Location of Conservation Building at Menteng Area.

Legend:

1. Election Building, 1955 Imam Bonjol Street.
2. Proclamation Museum, 1920s Imam Bonjol Street.
3. Paulus Church, 1936. Imam Bonjol Street/ Taman Sunda Kalapa Street.
4. The National Development Agency Building, Suropati Park.
5. The Official Residence of The United State's Ambassador, 1926, Imam Bonjol Street.
6. The Residence of the United State's Vice Ambassador,Taman Suropati Street.
7. The Residence of Indian Embassy, 1937, Suropati Park.
8. The Official Residence of Jakarta's Governor, Taman Suropati Street.
9. Some houses at Teuku Umar Street.
10. Cut Meutia Mosque, 1910, Cut Meutia Park.
11. Immigration Building, 1913, Teuku Umar Street
12. Joang'45 Building, Menteng Raya Street.
13. IWKI Office Building, 18th century, Menteng Raya Street.
14. Gouverment Bank's Building, 1952, RP Soeroso Street.

Picture 4: Some of Conservation Buildings at Menteng Area.

Menteng area covering some street which named by our heroes name, such as Cut Meutia, Teuku Umar, Imam Bonjol etc. This area limited by Kebon Sirih Street in north side, Latuharhari Street in south side, MH Thamrin Street in west side, the Ciliwung river in east side. There is a canal cross the area and become one of the site's potency.



Legend:

1. Teuku Umar Street.
2. The canal.
3. Rail Road
4. Cut Meutia Park.
5. Suropati Park.

Picture 5: Menteng Area.

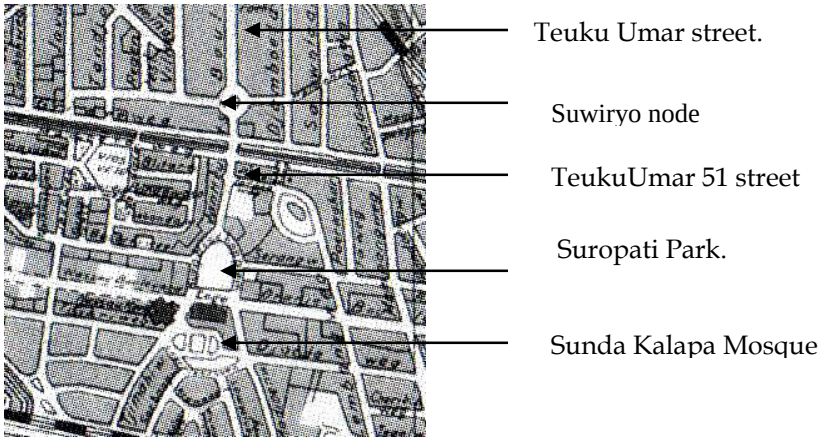
As the first garden city, Menteng area has a specific design such as boulevard, rotunda in Teuku Umar Street and the lot's division. There are 2 (two) parks, Cut Meutia park in north part and Suropati park in south part which are connected by Teuku Umar Street. Teuku Umar street as a main street and centre of this area divide this area into 2 (two) parts in symmetrically shape, at west and east side. The canal divide's into north and south part.

Picture 6: Condition at Menteng area.

4.2 House in Teuku Umar Street as a Case Study

This building has established as class B conservation building, which means building can not collapsing with deliberate and if condition of building is worse collapse, fire or not collapse, can do construction for build same as original building. Maintenance and rehabilitation building must do without change pattern of façade, top floor and important ornament building.

This building is located at the corner of the Teuku Umar street and Prof Moch Yamin street with the entrance face to 2 (two) sites. The Prof Moch Yamin street is a one way which parallel with the canal and a very busy street.



Picture 7: The location of Teuku Umar Street 51.

The owner of this house is an old wealthy family, the wife bought this house in year 1994 which at that time was used as an office and it is not their first house. The potency of location as an elite area and located in the city center caused the owner wants to put the function back as a residence as it first functions and decided to stay there. They have 2 (two) children which both of them were already married and live separate. So they are only an old couple with several assistant, such as drivers, securities and servants.

The size of site is 27, 20 to 40, 15 Meter with the long side face to Teuku Umar Street. There are 2 (two) entrance gates with 3 (three) meter wide iron door for

human and vehicle. The fence is about 1, 8 (one points eight) meter high which is normal for this area to keep the privacy and protect the house.

Picture 8: The house in Teuku Umar Street 51.

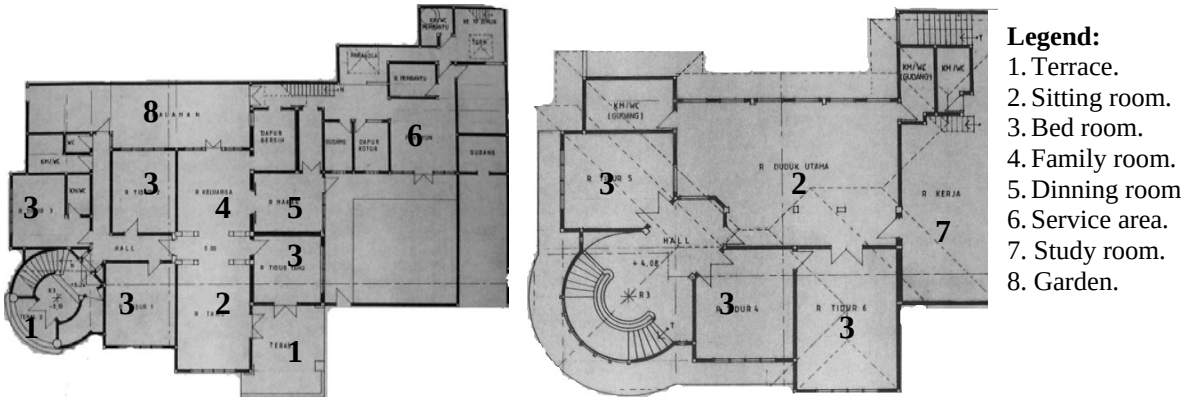
4.3 Building's Condition Before Renovation.

4.3.1 Function and Use

Building represents as a house for middle up class Indonesian society. A first function was a residence and then has been used as an insurance office. In year 1994 the new owner wanted to use this house as a residence, so that this house should be renovated and put it to first function, a residence.

The house has 2 (two) level, the upper level use for family such as sitting, study room with 3 (three) bed rooms. The lower level use as public and private area such as guest, sitting, dinning room, 4 (four) bed rooms at the left side enhance at the right use as service area garage for 2 (two) cars, servant's bed room, kitchen, storage and other service rooms at the back side.

4.3.2 Original Plan



Legend:
1. Terrace.
2. Sitting room.
3. Bed room.
4. Family room.
5. Dinning room
6. Service area.
7. Study room.
8. Garden.

Picture 9: Original Plan first and second floor.

4.3.3 Physical Condition

Generally the condition of building is still good. Bearing wall structure used as a main structure still could sustain the load of structure. The problem is the material, it was not enough good anymore because of age and less maintenance.

Mostly the building which has been used as an office had not well enough maintenance, especially if they rent it.

Shingled wooden tile used as a roof cover material is not in good condition any more. This is because of the climate, tropical country with heavy rain. This material made of wood sheet and not easy to maintenance. At previous time this material was a symbol of status because expensive material. Basically wood roof is not strong enough to bear the heavy rain, it will easy damp and damage.

Picture 10: Bearing wall structure, roof material and the damage of ceiling caused of leakage.

Floor tile was used the good quality and style but because of age, it became outworn and it was not good looking any more. Too many parts should be repaired and the owner decided to change with the new model and material.

Electrical and mechanical equipment are not in good condition any more. The addition of electric power caused the changes of the wire's material and electrical system. Sanitary is too old and should be changed with new material. Roof gutter is not worth any more to accommodate heavy rain and should be changed.

4.3.4 Architectural Style.

The most attractive and interest from this building is the round shape entrance at the corner. Beside main entrance this room functions also as connector to up level with stair on it. The circle stair connects the ground floor to upper floor.

Picture 11: The specific design: round main entrance and multi layer roof style.

Other specification is the roof style with singled material which was popular at previous time. Shingled represented the exclusive house because of the most expensive roof material. Multi layers roof system with some ventilation on it was used to avoid the hot climate. This style is an old style and not popular anymore.

4.4 Renovation Process.

4.4.1. Roof Construction And Tile.

The old roof construction was in a fair condition, most of the wooden beam's were in good shape and could still hold the roof, only a few of its should be changed due to rotten and decayed condition. The wooden tile's, roof cover material (shingled roof) also was out worn and should be replaced.

The conservation regulation does not allow changing the original roof shape but the construction and roof cover material could be changed. Wooden roof tile's were removed and then some wooden beam support's, whilst the still in good condition beam's were maintained.

All wooden roof beams (old and new) should be treated with anti termite control liquid, so all wood beams were sprayed before the assembly of the roof construction. The old beams were sprayed on location, whilst the new ones were sprayed before they were pulled up to the roof position. Some temporary beams were positioned near where the replacement beams should be located. Some of the temporary beams were taken from parts of the roof that will be changed in shape or construction and after that were reused on other locations.

After the roof support construction was ready, and then multiplex wooden sheet were laid over it, as a base for the roof tiles. The fiber-concrete roof tiles were nailed to the multiplex layer. Under the multiplex sheets sound proof wool and heat resistance aluminum sheets were installed, this is to prevent heat from the direct sun and also to minimize the rain falling on the roof sound.

Picture 12: Roof construction process and the horizontal rain gutters.

Horizontal rain gutters was installed to prevent the rain water free fall from about 6.75 m high, with the vertical in hidden positions to minimize elevation distortion.

Picture 13: The old and new roof cover material, shingled roof removed to fiber-concrete.

4.4.2. Floor Construction.

The old original floor tiles were made of cement, had beautiful pattern's and dimension 20 x 20 cm and 30 x 30cm, but were out worn and broken in many parts from the heavy furniture and equipments used before. Only a small part of the floor tiles could be used and it was very difficult to make them shiny as new, polishing would only nibble away the shiny surface, leaving the cement layer on the top. The whole old floor tiles were removed, including the terrace, the service area and also the car port and drive way because the owner wanted to change with the new material.

For replacement on the 1st floor, 60 x 120 cm size cut Italian marble tiles was put on. But before that to ensure the stability of the floor tiles a 10 cm thick sand layer and an 8 cm layer of concrete reinforced with a single layer steel carcass was put on the ground. On the 2nd floor wooden parquet tiles was used, to ensure that the base to glue the tiles was flat a 5 cm layer of cement was leveled over the concrete slab.

For the parking area, car port and drive way, layer combination of boulder's, sandstone, sand and 15 cm thick reinforced concrete slab was made, after that the surface was covered with small 10 x 10 cm cut pebbles. There was drainage ditch under car park which should be done before the floor construction.

Picture 14: Floor construction and drainage ditch under car park.

4.4.3. Window and Door Frames.

The old door and window frames were made of teak wood, still in good condition but out of date in model, more likely it was not matching with the architectural design view.

To minimize the budget of this project, the old frames was removed and reshaped, it cut the frame budget to ¾'s, new design did not change much of the frame shape, it affected more to the door and window style it self.

Picture 15: The old and new window style.

The main entrance door, located on the round hall or stair area had a unique shape, but because it flat shape, a new door was made, with the round shape like the walls surrounding it.

Picture 16: The old and new main entrance door and the art glass on window.

The window glass was replaced, from 5 mm thick plain glass to art shaped with led glass (art glass). It gave a different effect especially inside the building with different colors.

4.4.4. Electrical and Mechanical Equipment

The re use and the changes made to the building as a house demand's changing in the electrical and mechanical system. Different function and position of the electrical outlet's such as lamp, home appliances and also new type of air conditioners, refrigerators, water pump's etc causes need for rearranging of the whole system. That's why the whole electrical system was extracted and installed a new wiring system.

The old window unit air conditioner was removed and the new split system was installed. The split units are more quiet and easy to install, also the power needed was less. They were more "good locking" and could be placed anywhere in the room. Only for the outdoor unit need special place to put, sometimes, when not well placed it is annoying to the elevation.

Picture 17: The old water tower at front side and the hidden equipment at back side.

The plumbing system was also renewed. A tall water reservoir in front of the building (about 8 m high) does not help the appearance to the better one. As known in Jakarta, the city clean water supply has a limited debit so water storage (reservoir) is inevitable. But it should be positioned someplace that it is not bothering the building appearance or it could be an interesting decoration of the

building. All clean water was moved to the back part of the building, and a new deep well (over 100 m) was drilled for back up water supply.

5. BUILDING CONDITION AT PRESENT TIME

5.1. The Changes and Material Addition

5.1.1. New Material

a. Roof tile

The new roof material should be strong, durable and 'good looking', able to absorb hard rain noise and also easy to maintain, easy to find and after a long time still available in market. The choice was on a fiber concrete tile from Japan; it was an asbestos free, hard surface material, used on many houses in Jakarta and had the thin tile shape, easy to apply on multi layer and different angle roof (adjustable). The problems are expensive, need special skill to install and need extra material (multiplex wood as a base construction) to be attached to.

Picture 18: The old and new roof material.

b. Floor tile

The floor tile criteria was beauty, lofty, minimal maintenance, durable and long lasting obsolesce. For the 1st floor, especially for the main rooms marble was chosen, the cool character and prominent image of this material was the reason. This was important for the owners because the lower part was for guests and relatives.

Picture 19: New floor tile: marble, parquet and ceramic

The service area, use ceramic tiles, easy maintenance and not too expensive to replace if broken was the reason.

The 2nd floor uses wooden parquet tiles, to arouse cozy and intimate atmosphere. This area is for family and close relatives.

c. Window and door frames

The door and window frames are made of teak wood. Some of the frames are using the old frames, reshaped to the new design. The finishing of the frames is polish with wooden color.

Windows are filled with new glasses using art glass (with tin lines) with various colors. Panel doors are made of teak wood and are polished like the frames.

The main door in the round shaped entrance was replaced with two round doors bended like the shape of the room.

5.1.2. Some Additional

a. Air condition.

The old air conditioners were not only heavy electricity consuming window units, but also makes lot of noise. Changing to the split system, where the indoor blower unit is separated to the compressor outdoor unit, makes it easier to place the indoor blower. It could be placed over a door or window, across the room or on the ceiling (cassette system) to adjust with the interior design, furniture arrangement or as wished by the owner.

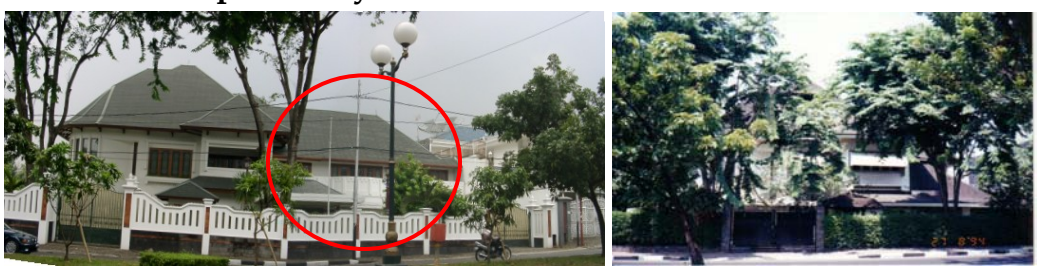
The outdoor units are positioned and poled in the back part of the house, easy to maintenance but hidden to others

b. Car port

A canopy is built at the outside of the guest room to accommodate the receiving of guests and relatives as well as the owner themselves. This is useful to avoid rain or direct hot sunlight during arrival by vehicles. This car port is made of reinforced concrete and has a stretch of about 5 meters and the top is concrete slab.

Picture 20: The outdoor units of air condition and the new car port.

5.1.3. New Shape and Style



Picture 21: The building shape.

The basic shape is still the same but on the right part there is an additional building stretching out from the main part. This additional caused of the new owner's demand.

The additional have been done also in the main entrance by adding car port.

The balcony at front side second floor is new addition. Previous was part of bed room.

The fence is also renewed from filament covered by plants to brick wall to accommodate the house new style.

Picture 22: The new balcony and fence.

5.2. Changes of Function

5.2.1. Potency of location

The location is very strategic, in the middle part of Menteng area, the city centre of Jakarta. It is not far from the office area (Sudirman and Thamrin street), shopping area (Menteng shopping and Cikini market), schools etc. As an exclusive area this location has a potency which could increase not only the land price and land value but also the prestige of the resident.

5.2.2. New function

The building was build as a residence for the Dutch trade company men stationed in Jakarta at the early 20th century. After the independence the building was controlled by an Indonesian. It was owned by an insurance company and used as an office until the company was bankrupt and auctioned in 1993. During this time the third floor under the roof was build. The new owner begun the renovation year 1994 and wanted the building to function as a 2 storey residence.

5.2.3. Re Use of Rooms

The rooms of the old building were designed to function as residence, but by the time it was used as an office. The rooms functioned as individual working rooms, and the larger rooms like the living room, dining room and guest room were function as working space for several people.

The new owner wanted the rooms to be larger and needed more space but less number of rooms, so some walls were torn down. Additional rooms such as bath room, pantry, garage and gallery have been done.

6. Conclusion.

Renovation on the house in Teuku Umar 51 Street has changed some part of the building's interior which is allow by conservation regulation as according to the needs of new owner. Adjusting material and structure have done well, accommodated by the old building which still keeps its original shape but look modern and comfort to live in.

Renovation at a conservation building which located in conservation area needs special skill because of the conservation's and government's rule. There are some regulation which should be applied depend on the typology of the conservation building. In this study case, the building represents the class B conservation building, which could not change the structure, pattern, façade, top color and important ornament building.

Studies shows that after being renovated and put some new materials an old building still looks good, have a specific character which could not be possessed by new buildings. Mostly the old building has good composition in wide and height which already estimated to avoid hot climate. High ceiling and good angle's roof used to create cross ventilation so that comfortably could be reached.

But because of the dense of metropolitan city weather became hotter and air pollution, air condition become the basic needs in leaving. The problem is how to put it because need special structure and placed to put it which could not annoying the building's elevation.

Menteng area, one of the conservation area in Jakarta represents the good and success conservation area. Some of the class A conservation buildings still exist and the other building surround which class B type kept their old style and shape building with new materials. New material could adjust well and make the new character of building which could revitalize the surrounding area. This area still being an exclusive area such its first character, which was design for middle to up class Indonesian citizen and Dutch peoples.

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