

# Yuke-2013-Triadic Colomn & Pivot Hinges\_QiR2013

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# The Triadic Column and Pivot Hinge: To Realize the 'Beautiful House' to 'Wong Cilik' As the Architecture Innovation to Low Cost Housing

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## ABSTRACT

The national problem in settlements in Indonesia is found reduction costs to provide housing for “the lower class” people. On the other hand, the professional architect role their social responsibilities to find the national problems. Through social media, they can socialize their ideas to the lower class in suitable architectural design of their condition. After investigation the problem settlement, formulated a concept house for “Wong Cilik” as “the lower class” people to improve their dignity as the based philosophy.

Refers to Grounded Theory, formulated a beautiful house for “Wong Cilik” among others: a) the minimal dimensions, b) the design innovations aimed at reducing costs, c) the efficiency of design, and d) enhance the facade as well as the art expression, and vertical garden. The cost reduction changes to the original design of practical column rectangle into a triangle, and reduce the door frame element, and replace it with a swivel-pivot hinge. Create the ‘open space’ design with the service zone at the side of the house to maximize the function. To raise the ‘Wong Cilik’ dignity, create in vertical of façade as the surface of the aesthetical work and vertical garden.

## Keywords

*low cost housing; the triadic column practice; the pivot hinge; vertical façade*

## 1. INTRODUCTION

The term of “Wong Cilik” is Javanese language is a concept used in my paper to discuss the need of lower class people for architectural design that meets their condition. ‘Wong Cilik’ is the low-income peoples is a part of the national problem in Indonesia. The low cost housing is the important discourse related to provide their settlement to the low-income people. Between in the 1970s and 1990s, noted the participation of the people in housing and human settlement became the central issue by the government and the non-government organizations. They found the solution by develop of housing and human settlements from “top-down” to the “bottom-up” approach. The stake holders, among other: the universities, academia, the professional, and developer were involved to finding the various solution related to the preparing low-income urban housing and settlements.

Unfortunately, the low-cost house design majority preparing by not seriously as the housing developer because they only find the minimal margin versus to prepare the exclusive housing. The low-cost house always under grades of housing standard, always show the bad performance in all aspect. The visual ugly and the under grade material

accelerate the nation generation degradation. The child is not has a challenge to learn the aesthetical aspect as the basic of all of the etic code. They ever seen the order of thing as the basic philosophy to preparing the order of the mentally of their mind set.

On the other hand, in the IAI – *Ikatan Arsitek Indonesia* chapter, the professional architect is also role their social responsibilities to find the national problems. Through social media, they can socialize their ideas to the lower class in suitable architectural design of their condition. Architects can socialize their ideas easily to find the partner to collaboration to provide the low-cost settlements. In the information era, especially the social media impacts, the media used to covering their ideas of low-cost housing design.

## 2. RESEARCH METHOD

### 2.1 Grounded Theory to Finding the Characteristic of ‘Wong Cilik’

The research study is a part of architecture investigation to express the low-cost house architectural design refers the Qualitative Research as a part of the seven ideas of Groat’s architecture research method (Groat, 2002: 173). The study in the qualitative refers to Grounded Theory Research to reveal the characterized of low-income people - ‘Wong Cilik’ activities. After data collected, the categories named in to the coding data analysis. And finally the research concluded into the memoing – to build a new theory (Glaser, 1967). To ensure the data accuracy of research based on phenomenological investigation at several *kampoeng* in Central Java. The one of is *Kampung Mlaten* in Semarang is the first *kampoeng* of rental housing in Indonesia during the Colonial. The *kampoeng* is still exist until today . They devided into several type start from 15 m2 of housing dimension (Ardhiati, 2013). Post investigation on the Thomas Karsten work in *Kampung Mlaten* in Semarang, inspired the basic design of criteria of housing dimension within open plan multiuse housing.

### 2.2 The Research Finding

The research objectives to find the housing design include to increase the ‘Wong Cilik’ dignity. The research finding the formulate of the concept house for “Wong Cilik” as “the lower class” people to improve their dignity based on their activities job. The philosophy of their house role is, the content to stay and activities job, so they need the optimalizing their own houses.

The formulated of a beautiful house for “Wong Cilik” among others: a) the minimal dimensions, b) the design innovations aimed at reducing costs, c) the efficiency of design, and d) enhance the facade as well as the art expression, and vertical garden. The cost reduction changes to the original design of practical column rectangle into a triangle, and reduce the door frame element, and replace it with a swivel-pivot hinge. The ‘open space’ design with the service zone at the side of the house is the best solution to maximize the function.

A house like a poetic space refers to Bachelard, is also the dreams of the low-cost income people. By intensive research of the several low-cost settlements, found the criteria of the house contextual of their conditions by the innovation design in: a) the minimal dimension refers to Housing and Developers Association of Indonesia (APERSI) based on post the Constitutional Court determined the number 1 of the Law 2011 on Housing and Resettlement Zone. Yet, the minimal housing dimension in 36m<sup>2</sup> is contrary to the 1945 Constitution.

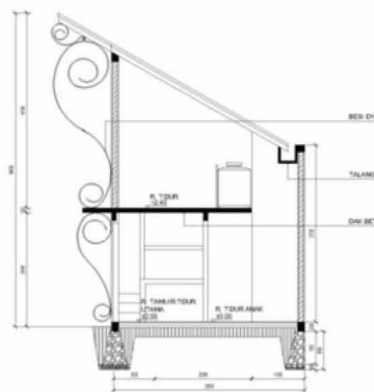
Post research investigation in several low-cost house settlements formulated their hidden need. They need to explore their dignity as a human by own their house. The result investigation is reveal the main criteria of beautiful house for “Wong Cilik” among others: a) the minimal dimensions, b) the design innovations aimed at reducing costs, c) the efficiency of design, and d) enhance the facade as well as the art expression, and vertical garden. And, the best solution of ‘Wong Cilik’ dignity, create by the vertical of façade as the surface of the aesthetical work and vertical garden.

### 3. RESULT

#### 3.1 The ‘Beautiful House’ to ‘Wong Cilik’

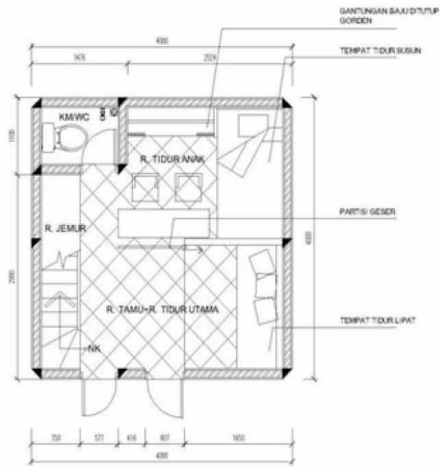
The low-cost house is shift the new paradigm. The house is not role as the residence only, but also to expression their dignity, because its content of their dreams, the preferences, responses, and perceptions towards their house and environment.

The design by research to low-cost income offer among other ; a) the minimal dimensions is around 22m<sup>2</sup>, b) the design innovations aimed at reducing costs, with the reduction cost through change the practice column. Yet, the rectangular shape changes into the triadic. The usually need the door frame is reducing by used the pivot hinge. To efficiency of space is created the open plan concept without the wall partition especially the bath room. And, finally to express their dignity is enhance the facade vertically as well as the surface to art expression, and create the vertical garden.

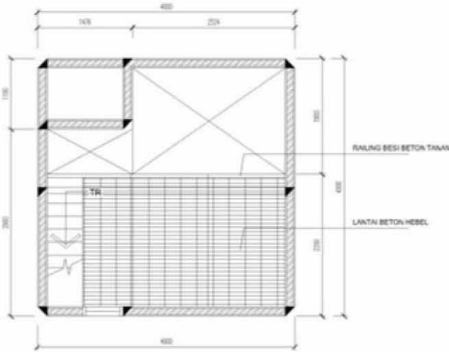


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Figure 1: Greening And Beautifying The Housing Façade



DENAH LT. 1  
SKALA 1:100



DENAH LT. 2  
SKALA 1:100

Figure 2: The Low-Cost House Plan

### 3.2 Triadic Column Practice to Reduce the Building Material

The housing cost reduction's conventionally by reduce architectural building structures. The normally form of the column as usually in square form change into the triadic form by reduce the amount of the building structure material.



Figure 3: The Triadic Colomn to Reduce the Building Structure Material

### 3.3 Pivot Hinge of Door to Reduce the Architectural's Element

<sup>1</sup> The one of building house will low-cost by reduction cost for the structure material items. The expensive architectural part is the frame door and hinges. The reduction of hinge solution is reduce the frame's door and put the pivot hinges.



Figure 4: The Pivot Hinge to Reducing the Door Frame

## 4. DISCUSSION

### 4.1 The House as the Dignity Expression

The low-cost house is the way to express the people dignity. Its the challenge to vis a vis the low-cost house as usual. The facade vertically is of the best thing to increase the house performing. The vertically surface is have the opportunity of the house<sup>1</sup> to expressing their hidden need as well as to express the art and aesthetic sense. The normally low-cost building façade as horizontally change into the vertically façade to be a pride suggestion like the body upright and gallant. The vertically façade is approach by two stories design to get the visual effect of elegance of the design house. By design the facade vertically, we have the opportunity<sup>1</sup> to create the house greeny by vertical garden and the house beautifying the surface to create something creative like; greening by plants, decorated by mural, mosaic, painting by color, or filled the surface by natural ornamentation as the low-cost people doing their creative process in them life.

## 5. CONCLUSION

The architectural design of low-cost house with innovation design is need to share to 'Wong Cilik' to find the right developer in order to inspire them to provide the house settlements. The social media is the right medium to socialize the design solution. In other side of the architectural idea is include the intellectual of property right. The architect or researcher have obligation to improve the 'Wong Cilik' dignity by create the innovative design, and the government protect them by the intellectual of property right as PATEN or HKI. By using the social media, the architectural research finding will be published as the academia contribution.

The issue published of 'the Beautiful House' to 'Wong Cilik' is the first step to declare the architecture design finding, is a part of the engineering field protect by intellectual of property right of the Architect as Industry Intellectual Property Right – HKI and the innovative design as PATEN. The social media publication is the medium to declare the state of the art of the architect researcher.

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