Graduation Plan / AE Studio 2016

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Studio / Architectural Engineering
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Argumentations of the choice of studio: There is no doubt that technology will lead some new trends in the field of architecture design and production, however, it is always an issue that where should architects position themselves in the overall process. Thus, from a perspective of architecture student, it is important and necessary to already start thinking about the position and connection between technology and design. The structure of ae studio provides us the opportunity to do technology research and apply it to architectural design, which also inspires a new perspective at the beginning of design process. I believe that design is mainly about an overall control and balance of site, space, circulation, function, structure, material, human activity and etc. While, if technology plays a leading role, what will bring to the whole design, how to balance or make the extreme, these are my fascinations in the studio.

Title
INCREMENTALITY - Potential of Incremental Constructions in Kampungs
Graduation Project

Problem Statement

Indonesia, with a population of over 250 million, has been experiencing rapid urbanization in the last few decades. This rapid urbanization has caused many problems in Indonesian cities, urgent one of which is to provide adequate and affordable housing for millions of the urban poor. It is predicted that every year more than one million housing units should be built to meet Indonesia’s housing demand (Herlianto, 1993). However, the issue of housing provision is much more complicated. On one hand, there are many supply problems in the formal housing sector, on the other hand, a majority of the urban poor cannot afford to buy housing provided by either the public or the private sectors due to their low and unstable income. This condition forces them to various individual solutions including self-built inappropriate houses and squatting in slums and squatter settlements (Sudarmo, 1997; Tunas and Peresthu, 2010).

It is true that many kampungs face pervasive problems of high density, poor living conditions, and poor infrastructure and public facilities. However, in general, kampong have met the basic needs of millions of urban dwellers with the flexibility and the variety of housing arrangements, furthermore, the social environment of the kampung has also enabled new incoming migrants to adapt incrementally to urban lifestyles (Setiawan, 1998). In order to solve the housing problems in Indonesia, besides providing more newly-built affordable housing, interventions and upgrades of existing kampungs will surely play important roles in Indonesian cities.

Objectivity

Interventions in informal settlements are a subject of debate throughout the world seeking how to integrate these areas in the cities that surround them. The interventions arise from many types of possible approaches, identifying two distinct groups by their initial nature. One based on total demolition and complete replacement of the area and the other in the transformation and requalification of these clusters through qualification strategies of the pre-existing. Following this last strategy emerges the Incremental Housing as a solution to a flexible intervention to the real needs of these areas. (Neves and Amado, 2014)
Research Questions

Overall design questions:
How to develop incremental strategies for kampong dwellings but also set rules to promote a well-organized community in the future?
Sub-questions:
- How to accommodate mixed and changing functions into new constructions based on the existing kampong fabric?
- What is the ideal scale and degree of new kampong constructions?

Thematic Questions:
How to build incremental constructions based on existing Kampung context?
Sub-questions:
- What is the current situation of incremental constructions on site?
- What kind of materials and structures are often used for local houses’ extension?
- What is the future potential of incremental constructions based on existing structure?
- What is the most important requirement for new constructions above existing houses?
- How to make light wood constructions in terms of foundation, wall, floor and roof?
- How to innovate in light wood constructions fitting into kampong context?

Methodologies

Case Study
Before going to the site, case studies of incremental housing projects are collected. Three aspects of the incremental constructions are studied: Social-economical aspect, about why people extend their houses; Spatial-typological aspect, about what function are extended for; Material-technical aspect, about what kinds of building materials and constructions are used.

Field Research
Going to the site through observation and experience, it can test if the results that generated from a broader context will fit into specific circumstance. Also it is easy and direct to feel local material and building technics then to tell the stability, texture and etc. Besides, questionnaires are prepared for interviews with local people.

Literature study
This method mainly focuses on reproducing the detail drawings to gain a basic understanding of certain existing structure system. After this, innovations and improvements of the existing structure system will be developed and tested in further design solutions.
Planning

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Wiring

Graduation Plan
Research

Case Studies
Field Trip

Program
Concept

Project
Preliminary Design

Presentation
Preparation

Drafting

Relevance

How to apply new technologies to help solve the problem of kampungs is not always about technical innovation. In comparatively poor conditions, how to make improvements through design and transformation from what is already there or what has been already tested is a simple but practical approach. The aim is to start from the existing situation and upgrade gradually from small to large scale, while keep the kampung characteristics but also offer possibilities for future densification and development.

Literature

Neves, S. O., & Amado, M. Incremental Housing as a method to the Sustainable Habitat.


