

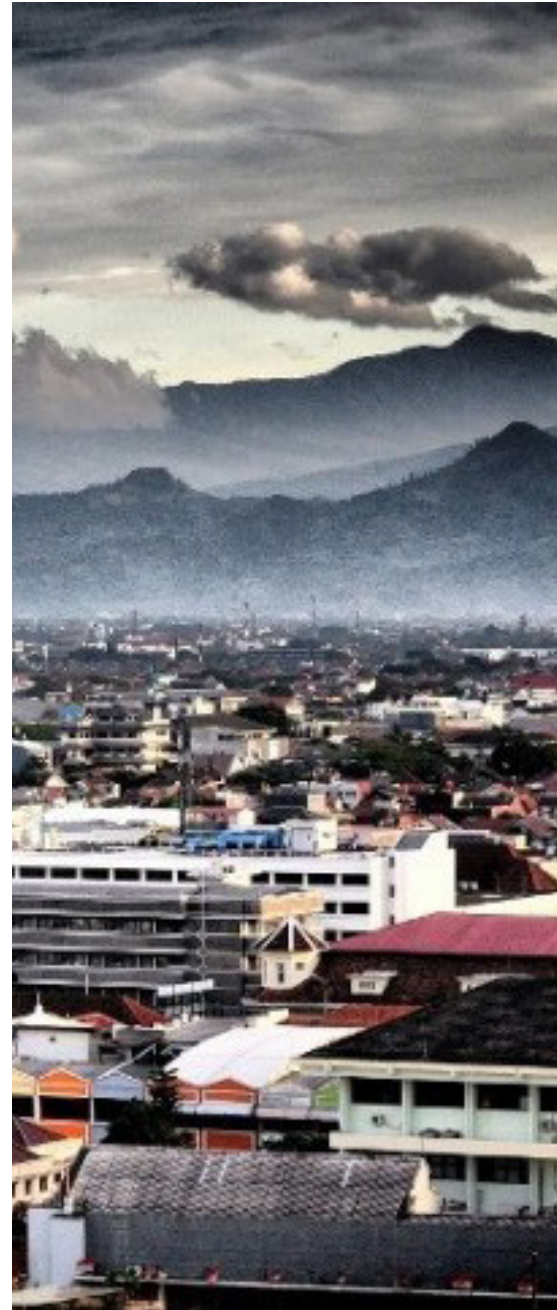
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# REFLECTION PAPER

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## *Self-Craft Community - Bandung*

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*Symbiotic of local craft techniques and construction knowledge for  
Kampung regeneration by retrofitting an existing structure in the  
city centre of Bandung.*

Celine Mugica  
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## 00 AMBITION

The ambition of the graduation project is to improve the existing way of building in the city centre of Bandung. By using the local vernacular and craftsmanship knowledge and available resources, the already present self-build tradition can be enhanced while reducing building waste and its environmental impact. By showcasing existing craft knowledge, the project allows for local skilled and unskilled workers to create safe and durable buildings which reflect the regional character. The resulting vocational school induces an educational environment where the craft knowledge can be taught, tested and applied, incrementally improving the conditions of the urban kampung in a sustainable and creative manner.





# 01

## WHAT IS THE RELATIONSHIP BETWEEN RESEARCH AND DESIGN ?

My thematic research started with the knowledge that only 2% of all buildings in the world are designed by architects.<sup>1</sup> This small number really challenged my take on the role of the architect and on the importance of self-built practices in the world and especially in Indonesia where it is a dominant method of construction. Therefore, my research initially had a strong focus on vernacular and traditional construction principles which was something I could study to quite some depth beforehand (through literature) without being physically present in Indonesia.

However, the excursion to Bandung had a strong influence on the direction of my research and altered my understanding of the previously studied vernacular principles. By observing and analysing contemporary ways of living and building I could understand some of the out-dated aspects of the Javanese traditional vernacular principles (which I had most likely over-romanticise). Instead of purely having a desk study of this traditional construction knowledge I could also apply to them, modern ways of living and building. After having observed the habits and strong desire to create and make which the individuals of the kampungs expressed, my project took a different and more local-founded turn.

The choice, as program, of a building and crafting education environment is a direct consequence of this adjustment. This vocational school is an intensification of the creative atmosphere my research had taken from the context. Additionally, the construction elements located in the building (such as the various crafted panels and joinery pieces) take direct design cues from the vernacular construction approaches presented through the research. The strong link between the materialisation and construction of the project and the study of traditional and self-built traditional Javanese principles is also present because of the largely design-orientated focus of the research.

To conclude, not only did the research alter the initial intentions of the graduation project but also had an important and direct impact on the concept and spatial conditions of the design.

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<sup>1</sup> *Habitat for Humanity, 2012*



## 02

# WHAT IS THE RELATIONSHIP BETWEEN THE THEME OF THE GRADUATION LAB AND THE SUBJECT CHOSEN BY THE STUDENT ?

In terms of being part of the Architectural Engineering Graduation Studio, there is a strong separation between the 'Make' and 'Flow' themes addressed by the lab. However, I believe my project deals with both.

With regards to 'Make', the project addresses traditional and modern self-built ways of construction in Java. It attempts to tackle the role of design in creating elements which can be easily assembled and disassembled while producing a minimal amount of waste as possible while leaving space for creativity and identity. By using locally manufactured materials and regional craft knowledge, the project promotes a bottom-up approach for a safer and more sustainable kampung.

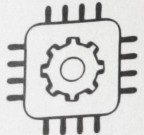
With regards to 'Flow', the projects deals with the displacement of materials and circularity in its program. By being aware of and combining the different processes operating within each of the crafts, the loop can be closed regarding the programmatic needs in terms of energy, water and waste. By promoting the use of locally manufactured materials, the project can stimulate the local economy and reduce emissions and waste on a larger country wide scale.

However, more importantly, in terms of the main theme of 'Shared Heritage' of the graduation lab, the subject can play a larger role. By both studying and highlighting the local craftsmanship knowledge of the context, the project promotes local construction heritage; something which in itself embodies multiple cultures and heritages. Additionally, with this intangible (in its transfer) and tangible (in its creation and manipulation) heritage being a product of many styles and approaches to making, the project can embody this shared knowledge to create a new form of shared heritage.

**"THE FORMAL OR AESTHETIC ASPECTS OF DESIGN ARE ONLY PART OF WHAT CREATES CONNECTION BETWEEN PEOPLE AND THEIR PHYSICAL SETTINGS. MEMORIES, SOCIAL INTERACTIONS, THE ABILITY TO MODIFY SURROUNDINGS, AND A SENSE OF SECURITY ARE ALL SIGNIFICANT CONTRIBUTORS TO ATTACHMENT. THESE QUALITATIVE AND AFFECTIVE ASPECTS OF THE RELATION PEOPLE HAVE TO THEIR ENVIRONMENT CONTRIBUTE TO WHAT MAKES A SPACE A PLACE."**

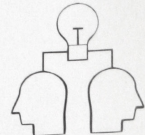
**(MANGOLD, THE PEOPLE, PLACE, AND SPACE  
READER 2014, P.XXVI)**

**NEW TECHNOLOGIES**




- social media/internet as source of info
- Bandung as smart city
- New ways of learning/working

**LEARNING ENVIRONMENT**



- promote existing informal learning
- promote interdisciplinary interaction
- space for learning

**CREATIVITY**



- creativity as expression of local character
- transfer of local values & traditions
- intensify existing tinkering approach

**LOCAL MATERIALS**



- provided from Ganteng Sasak Warehouse
- existing knowledge of materials exploiting unused local materials (eg. bamboo)

**NEW BUSINESS**



- provide business opportunities
- stimulate Kampung growth in urban context
- diversification of job types

**SELF-BUILD**



- process of making as important as product
- intensify existing self-build approach
- accessible to everyone

**FIRE SAFETY**



- layout/design implications
- use of materials
- education on fire prevention/extinction

**FLOOD-PROOF**



- construction considerations
- help evacuation quickly
- improve drainage & sewage system

CONVERSION TABLE

|    |           |
|----|-----------|
| 1  | = 25.400  |
| 2  | = 50.800  |
| 3  | = 76.200  |
| 4  | = 101.600 |
| 5  | = 127.000 |
| 6  | = 152.400 |
| 7  | = 177.800 |
| 8  | = 203.200 |
| 9  | = 228.600 |
| 10 | = 254.000 |
| 11 | = 279.400 |
| 12 | = 304.800 |

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## 03

# WHAT IS THE RELATIONSHIP BETWEEN THE METHODOLOGICAL LINE OF APPROACH OF THE GRADUATION LAB AND THE METHOD CHOSEN BY THE STUDENT ?

Since much of the literature study and mapping exercises occurred before my trip to Bandung in Indonesia, it was important for me to understand the position I was in before immersing myself into the vibrant context. Choosing the right methodology which could help answer my research question was crucial in order not to be overwhelmed by the exciting and confusing quantity of information which the site had to offer. Trying to understand the way people live and build was the most crucial part of the trip and helped determine the overarching research approach.

Being a part of the Architectural Engineering chair, the investigative nature of the studio is centred around one question: "If technology is the answer, then what is the question?". Instead of applying an already developed and technical solution to a differently shaped puzzle hole, I decided to tackle the context using a bottom-up approach.

By immersing myself in the site while employing a clear methodological plan which I had developed beforehand, I could develop the correct thematic research which could contribute to the environment of that specific context. Not only was the research paper content greatly affected by the methodology I brought to the excursion but so was the project. At first, the amount of information which the context provided was overwhelming and the answers provided from interviews conflicting. By making mapping exercises and creating a travel report and resulting "card game" deducted from the main themes of the site analysis I was able to provide myself with a scenario testing tool. This approach led to a strong research by design methodology which helped define the theme, program and materialisation of the project.

## 04

# WHAT ARE THE ISSUES & DILEMMAS THAT MAY HAVE BEEN ENCOUNTERED WHILE DOING THE RESEARCH & ELABORATING THE DESIGN ?

One of the main dilemmas which was encountered during the project is an ethical one. Because the project not only deals with a context which expresses a very different cultures and traditions from my one but has also a heavily political past by being an old Dutch colony, the role of the project is constantly put into question. It is important to understand the context's historical and political past to create sensitive and thriving architecture which could not be interpreted in a negative manner. The project was a fascinating lesson in understanding my position not only in the wider global political spectrum but also as a designer and the impact which my projects could have on a culture and its built environment. As an architect, the product of your work is most often a concrete and constructed artefact and it was necessary for me to understand that sometimes having less of a direct impact is overall better for a feeling of appropriation to be created within the community the project is for. How can an architect create poetic buildings which are sensitive to their environment and inspire the sustainable preservation of the planet? Throughout the project, I constantly questioned my position and role in order to fully understand the reasoning behind my design decisions in an attempt to not apply readily learned approaches to the Indonesian context but rather let the existing culture transpire through the elaboration of the proposal.

Other issues stem from the project being located in a context which is far away from my own and in a language different from my own. This spatial and linguistic separation means that certain pieces of information might have been misinterpreted or not heard altogether. Even if a strong attempt has been made through design decisions to produce a project which could realistically be built in Bandung using the already existing tools and knowledge present in the city, a disconnect could still have been made through the misinterpretation of given information or simply the lack of political and economical backing.

***“DESPITE CULTURAL TRAINING, PREVIOUS EXPERIENCES, AND FEELINGS OF CULTURAL KNOWING AND UNDERSTANDING, BEING IMMERSSED IN ANOTHER CULTURE INEVITABLY SURFACES POTENTIAL FEELINGS OF EMBARRASSMENT, ANXIETY, AND UNCERTAINTY WITH NOT UNDERSTANDING”***

***(RUSSELL, EXPATRIATE MANAGERS' IMMERSION IN CULTURE: A PHENOMENOLOGICAL STUDY OF LIVED EXPERIENCES, 2006, P.259)***

## 05

# WHAT IS THE RELATIONSHIP BETWEEN THE PROJECT AND THE WIDER SOCIAL CONTEXT ?

Unsafe informal structures are a global and imminent problem. With the population increasing had an intense rate every year, the pressures on the existing infrastructures and built environment is augmenting every day. For instance, 20 % of the global population still doesn't have adequate housing<sup>2</sup>. By promoting a safer and easy self-built approach to construction, the graduation project attempts to address this ever-increasing problem. At the moment, governments are tackling this issue by building hostile and sterile concrete blocks which lack to reflect the local character and identity and soon become dilapidated because of the lack of appropriation from its residents. If people care for the buildings they work and live in, these edifices have a better chance of lasting. Since these repetitive new structures are built with little knowledge of the local environmental conditions and needs of its inhabitants, they quickly become obsolete and need to be torn down, creating a large negative impact on the environment.

This global approach to the lack of housing (which can be especially seen in Asia) has contributed to concrete being the second most consumed resource in the world.<sup>3</sup> By promoting the use of both local and natural materials, the project can provide alternatives to concrete that can have a beneficial impact on the indoor quality of buildings and therefore increase the health of its inhabitants.

The livelihoods of people from informal settlements are also very important since they have a direct impact on the economical and social situation of the city and its country. By promoting the creative and construction industry through its programme, the project can provide a larger amount of opportunities for people from the kampung looking for economic and social empowerment.

To conclude, the project addresses important societal issues while being representative of its local conditions and environments. It promotes an integrated and creative approach to these problems which could be applied with different outcomes to different environments.

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<sup>2</sup> *UN Environment, 2017*

<sup>3</sup> *Chemistry World, 2008*

# 06 METHODOLOGY

How can vernacular and self-built principles found in Java be applied to the urban kampung of Bandung in order to produce creative, safe and durable constructions ?

