

E-VOIDS: a bottom-up micro-intervention for better lighting and ventilation in high density slums, Jakarta (Indonesia)

Akiko Okabe^{1*}

Introduction

Sustainable development goal (SDG) 11, states: “make cities inclusive and sustainable”. This objective has been addressed in the RHIN² project on “megacities and global environment”. SDG 11 requires us to address both poverty and climate change integrally in cities. The urban slums centrally located in growing megacities could be a strategic spot for it. Our project field kampung Cikini of Jakarta is one of those cases. It has density of 1000people/ha and the living condition is threatened. High density slum-kampungs in the center have many problems to be solved urgently. However, we found there also potentials.

E-VOIDS: learning from local knowledge

Our strategy is to open very small modest voids “E-VOIDS or Environmental Voids” in order to improve lighting and ventilation. On the other hand, our proposal doesn't impose alteration to the existent alleys and buildings unless the continuity of living will be threatened.

We designed and built with the local people a small facility building “Rumah Pintar” for the community. It has been

intended to be a model of house with E-VOIDs. We proposed to insert very narrow voids, or slits with less than 60cm width between buildings and behind buildings.



Fig1 Painting with children the E-VOIDs in white

The idea of the E-VOID has been inspired by cool and comfortable narrow alleys of kampung Cikini. We learned from local knowledge that cantilevered second floors hanging over the alley narrow down the sunlight and produce the route of air flow. The neighbors are gathering sitting and chatting as if a common shared living room in semi-open space. Shared spaces are indispensable to survive under high density.

However, when we discussed about the idea with the community, they did not like

¹Project team: Akiko Okabe, Ellisa Evawani, Tomohiko Amemiya, Universitas Indonesia and Chiba University

²Research Institute of Humanity and Nature, Kyoto, Japan.

*The views and opinions expressed are those of the authors' and do not necessarily represent those of the Secretariat of the United Nations. Online publication or dissemination does not imply endorsement by the United Nations.

the idea of E-VOIDs which reduces floor space. They could not imagine the effect of the voids. We tried to convince them by doing some experiments on site to feel the different effects by the dimension of voids. Furthermore, the void between buildings serves as a staircase and there is a possibility to share it with their neighbours.

When “Rumah Pintar” was erected, everyone could realize more luminous, as well as cooler and comfortable inner space, and even the sensation of more spacious rooms. Some local people are now interested in introducing in the system in their houses. If the idea of E-VOIDs spread into kampung Cikini, it could develop towards infrastructure to improve living conditions of the area starting by a single building. It is the most realistic way to upgrade informal settlements.

Why the continuity of living?

Why the spatial continuity of living is so important? Firstly, it is because we observed that they have the lifestyle with low environmental impact. Our challenge is to overcome the poverty without shifting towards lifestyle with more environmental impact which causes climate change (SDG13: Climate Action). Secondly, this neighborhood of Cikini provides living space with good accessibility for the poor. Poor people who live here have the benefit of being located in the area of Jakarta. They are supported by a well-organized community. The area is under high pressure of redevelopment and our field is separated by the wall with new development area including a luxurious hotel. Meanwhile, the existent kampung area has less and less space. The less space in the center is left for the poor with the possibility to challenge, the more difficult becomes to mitigate the economic disparity (SDG10: reduced inequalities).



Fig 2 Unchangeable skeleton plus E-VOIDs and changeable skin

Sharing for better life

They share wells, kitchens toilets and baths for necessity caused by densification. The knowledge of sharing cultivated in kampung tradition has been consolidated in

the existing urban tissue. The physical environment ensures sharing culture. Sharing is a crucial key for the lifestyle with

low environmental impact and well organized community. However, local needs are against this direction. The cruel urban divide is clearly shown here. In this side of the wall the river with gray-black water runs and a swimming pool of the hotel is found in the other side. It is quite natural that the people of kampung Cikini have a desire for better life, with more privacy less sharing and more environmental impact, which they can find easily in the other side of the wall.

Conclusions

People in developed countries must feel responsible for this image of better living with high environmental impact.

SDGs message of “making fundamental changes in the way that our societies produce and consume goods and services (SDG12)” suggests “people in developed countries must reconsider their lifestyles”. Our project is not only the contribution for slum alleviation (SDG1: no poverty) by the developed countries. **It let us change our mind of what is quality of living, from modern sense of individualizing spaces to sharing spaces.**

We can hardly find integrated solutions for both climate change and poverty and achieve the SDG11 “sustainable cities and communities” if we rely on only cutting-edge technology. Our project encourages that we might find them in overcrowded slum-kampungs. Historically the innovations have always emerged from necessity, from forced necessity of human being.



Fig3 “Rumah Pintar” Skeleton ensures E-VOIDs

References:

- Amemiya, T., Okabe, A., Evawani, E. et al. (2014), Holcim Awards 2014 Asia Pacific Acknowledgement Prize: Megacity Skeleton, Stakeholder participation for urban up-grading <http://www.lafargeholcim-foundation.org/Projects/megacity-skeleton>
- Adianto, J., Okabe, A. and Evawani, E. (2014) The Informal Area Management in Slum Settlement: Case Study in Cikini Kramat Area, Jakarta, Indonesia, *ISCP2014* (International Symposium on City Planning 2014).
- Okabe, A., Amemiya, T., Evawani, E. et al., (2012) Sensible High DenCity, Megacity Design Studio Indonesia-Japan 2011, *JAU/Journal of Asian Urbanism*, No.7, pp.66-75.
- Pitria, M., Yoshikata, Y. and Okabe, A.

(2015) Involution: A Strategy of Kinship based Living Spaces to Deal with High Density Population Urban Kampung, A Case Study in Kampung Cikini, Jakarta,

Indonesia, *The 5th International Conference of JABODETABEK Study Forum 2015*, IICC: Bogor.