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Architecture metabolism approach which integrates the concept Magersari in supporting balanced development with green agricultural land in suburbs

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Abstract

Architecture metabolism based on the linearity of time and growth. The growth of the city, are required to combine city life with innovative green spaces, which are vertical, multilevel and roof garden. This approach has not been sufficient and still expensive. As a result, the city peripheral area vulnerable to loss of green land agriculture. The impact on the ecology, food security, and the work of farmers. The Javanese culture *Magersari* concept potential to form simbosis mutualism between farm-building, also economic ties of old and new landowners. Research includes two stages. First, about study of the factors and principles which affect the metabolism of architectural form with theory of architecture flexibility approach. Second, about study the factors and principles which affect the embodiment of the concept of *Magersari* with theory of mixed use approach. The results showed that the smart city not merely about technology, but must be supported by local wisdom.

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Keywords: Magersari; Architecture metabolism; green land agriculture.

1. Introduction

Today or in the future, the city played an important role with the increasing number of people live in cities. In

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many cities of the world, a large number of green spaces disappear rapidly, causing today's modern city, experiencing environmental degradation. In the purpose of keeping the balance of urban ecosystems globally, cities must find a way to combine the best life of the city and the best natural conditions. Modern cities today, are required to be able to answer the challenge as an ecological city (*eco-city*), means that the city is able to provide more green open spaces in urban land that is increasingly limited and expensive, as well as responsive to the ecosystem and biodiversity, including urban farming in order to answer problems of global warming, as well as food security, including to Indonesia in order to return self-sufficient in food. The directives contained in the road map strategy Indonesia's agricultural sector, which are intended to be replaced conversion of productive agricultural land. In the 1999-2013 period the conversion of productive agricultural land reached 424,000 Ha (106,000 Ha /year) (Ministry of Agriculture, 2011). Innovations to the needs of agricultural green space has led efforts in the agricultural city buildings in the form of a vertical, multilevel or roof garden. This approach has not been sufficient. As a result, the city peripheral area vulnerable to loss of green land agriculture. The impact on the ecology, food security, and the work of farmers. Architecture metabolism as part of modern architecture, based on the linearity of time and growth, humanity through technology; has the potential to support the development of the balance of the farm-building with a green area in the suburbs, in the form of a hybrid structure. In this case, it is very necessary understanding of the current development of town planning, architecture metabolic demands in today's modern era, as well as an understanding of local wisdom (Lang, 1994). *Magersari* as the concept of local wisdom of Javanese culture, potentially integrated with the architecture of metabolism, in the form symbiosis mutualism between farm-building, also the economic ties of old and new Landowners. Therefore, in this study will discuss the factors that influence the manifestation of the architecture metabolism approach, which integrates the concept magersari, in supporting balanced development with green agricultural land in suburbs.

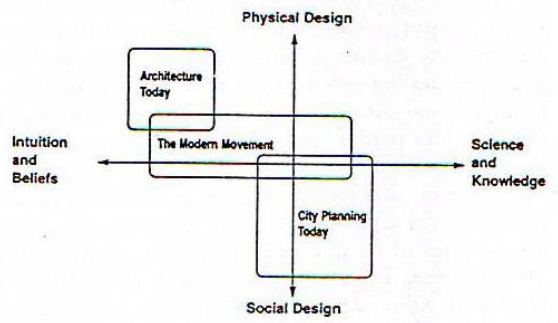

Fig. 1. Schematic of understanding between the city of architectural development, the modern movement, and urban planning today.
Source : Lang (1994)

1.1 Overview of the Development of Urban Planning Today: About the City Spatial Sustainability

Sustainable city spatial form, including in the form of green open spaces attention to agriculture, not in spite of the polarization model of modern urban development in the form of centralization (monocentric), against decentralized (polycentric), as well as differences in thinking space. According Okabe (2005), that the spatial development of a sustainable city is a city of integrating excellence monosentric and polysentric form, in the form of a city-region. It is based on the premise that global city core is formed by a single-core, and the interplay with the surroundings. This means that the potential of global cities are basically rated by the distribution of the population and the efficiency of economic activity, including the agricultural economy, in addition to achieving a balance food security as well as to maintain the quality of the environment. This reasoning also answers the debate of sustainable urban form is confined to the area of the city alone to the exclusion of the role of the village. However, the reality of locating urban residential areas has already extended well beyond the city limits. This was confirmed by research Ascher, the French urban specialists, who theorized that urban functions should be diffused over the entire region but with the physical distinction of urban and rural areas, which is named as *Metapolis*. Differences review related to sustainable urban space, seen also on the polarization between the buildings and green open spaces. Hybridization agricultural or green open space, through the development of separately between the building and the outer space, appearing as a form view of the theory of absolute space. According Madanipour (1996) concept of absolute space by Issac Newton who see space who see space as a separation between the mass of the building as a container (*solid*) and