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The effect of land use zonings on housing development: the introduction of cdl approach in the border area of Surabaya and Sidoarjo Regency, Indonesia

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Abstract

The Land use zoning (LUZ) is necessary to control the urban land use. Due to the housing development, the urban sprawl took place in fringe areas of Surabaya in which the real sector has rapidly increased in the rural-urban fringe between Sidoarjo and Surabaya. It leads the problems of despairing rural housing and decreased production of natural resources due to social inequality in the rapid development process. In achieving a sustainable urban form in urban fringe, this project is conducted with zoning review in the border area of Sidoarjo and Surabaya. The existing zoning does not distinguish between project-based housing development and home owner-based housing development. Co-existing Dividing Line (CDL) as a clear line between different types of residential use is suggested in order to provide a basis for planners and developers in the construction of project-based housing without disturbing the home owner-based housing for a sustainable urban form.

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1. Introduction

Every city in Indonesia has a Land Use Zoning (LUZ) plan for its residential. Unfortunately, until now, there is no clear boundary zone of land earmarked for different types of residential buildings, such as a group of similarly designed houses or apartment buildings. The housing development supports the needs of the community as a manifestation of the city's economic progress, while the existing housing also needs to be maintained in order to preserve the characteristics of rural and agricultural lands as a natural resource. Beside, in achieving the co-existing of any development, which is in accordance with their respective development patterns, they should consider about a clear drawing line. It is necessary to control land use using LUZ. In the regulation of LUZ in the suburbs, a lot of rules on parcels are an important part as a tool for local planners to restrict land use in high density or to control growth and preserve open space and farmland. As a result, the home owner-based housing and natural resources are not optimally preserved. In order to achieve that, it requires a study about a clear boundary about the allocation of land for a residential zone.

The land use plan is a tool of urban planning to control the provision of land and buildings (Mark and Goldberg (1986)) and also land use is the key for human activity that drives socio-economic development in rural regions (Borges, Fragoso, et al. (2010)). The Government of Indonesia establishes LUZ in less detail on each zone, so that planners can plan what kind and type of building should be constructed. The effect of LUZs often occurs in the border area between the cities, such as the case in Surabaya and Sidoarjo. The conditions in the field show that the home owner-based housing displaced by the project-based housing development. If this condition continues then the whole residential area will disappear and the natural aspect will be lost as well.

Another discussion is about confliction between economic and existing conventional life; Local Government is the decision maker to determine a local land use policy on housing provision. Assche and Djanibekov (2012) said that land use policy issues continue to integrate economic and environmental land use development, arguing that land use planning is used as a tool to find a good integration. On the contrary, the establishment of a special land use zoning for the residential were not differentiated for housing development, this resulted in the expansion of project-based housing development in the home owner-based housing area. In the home owner-based housing has a lot bigger land, because it still need a large yard, and most in the urban fringe area still have large amounts of land for agriculture (Haregeweyn, Fikadu, et al. (2012); Amsalu, Stroonijder, et al. (2007)). In the case in Sidoarjo city, most of them have a vast land, and they have paddy field and ponds. Price of paddy land and ponds is relatively cheap. The relative phenomenon also has been discussed in other studies as follows: land use transformation tend to take profits, the developer buys their land for new residential development to increase of private land for new comers (Tse (2001); Weaver and Lawton (2001); Shahraki, Sauri, et al., (2011)). The developers improve public infrastructure and social services, however, without available land use control.

From the view of social equality between developer and local residents, we suggest that land use zoning is a possible tool to keep co-existing of project-based housing development and home owner-based housing in the urban fringe area in order to achieve the traditional residential area as a sustainable form in the urban fringe area. In Indonesia, competition for land in the region has increased significantly in the 1990s. Land is much cheaper than land in the city center, and many industries are built in the suburbs.

There are many new developments in Northern Sidoarjo because Surabaya's sprawl. Some discussions about urban sprawl; if it continues, then the most of the natural environment will be destroyed. Based on some study of land use zoning in urban fringe areas, there are some issues that arise in the environment on urban fringe areas, such as land degradation, ecological issues, and financing (Tai-Yang, Xian-Jin, et al, (2011); Saint-Macarya, Keil, et al, (2010); Zhao (2010); Lestrelin (2010); Aguilar and Santos (2011)). In this area, the pattern of mixed use urban development makes the existing planning should be adjusted to the facilities already built before, so that mixed use city are expected to be achieved. Housing developments in this area give effect to the existing housing and environment. The sustainable urban form is not achieved because the traditional residential environment is occupied by housing development gradually. The sustainable development for traditional housing should be interrelated between economy, society and ecology in order to keep developments going well.

This paper discusses the LUZ, which will be helpful to support project-based housing development, home owner-based housing, and explain the impacts of LUZ in the urban fringe area. It's compiled in three sections. First section, it presents the facts on housing and its development in Sidoarjo, which have significant implications for the provision of housing development. In the second section, it examines urban growth in the border area between the

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