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HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*  
KARYA ILMIAH : PROSIDING**

Judul Karya Ilmiah : Expansive Clay Soil Stabilization Using White Soil Material and Sulfuric Acid Solution (H<sub>2</sub>SO<sub>4</sub>) For Subgrade in Godong Area - Grobogan District

Jumlah Penulis : 3 orang (I K Suwantara, S P R Wardani\*, dan Y A Priastiwi)

Status Pengusul : Penulis ke-3

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NIP. 195303091981031005  
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Volume 328, Issue 1, 24 October 2019, Article number 012022  
4th International Conference in Planning in the 2019 Era of Uncertainty, ICPEU 2019; Universitas BrawijayaMalang City; Indonesia; 12 March 2019 through 13 March 2019; Code 153114

## Expansive Clay Soil Stabilization Using White Soil Material and Sulfuric Acid Solution ( $H_2SO_4$ ) for Subgrade in Godong Area - Grobogan District (Conference Paper) (Open Access)

Suwantara, I.K., Wardani, S.P.R. ✉️, Priastiw, Y.A. 👤

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Universitas Diponegoro, Indonesia

### Abstract

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Expansive clay is classified as an unstable soil. Soil stabilization of expansive clay can be achieved by means of replacement, chemical, and physical methods. This research studies the stabilization of expansive clay using chemical methods, by combining white soil from NTT with  $H_2SO_4$ . This study was conducted to determine the effect of adding white soil and  $H_2SO_4$  to soil physical and mechanical properties and to improve expansive clay. The method used physical and mechanical testing, namely: property test, CBR, UCS, and Oedometer with variations in composition with an addition of 3%, 4%, and 5% white soil from the weight of expansive clay and 5%  $H_2SO_4$  from OMC water content at 0, 7, 14, and 28 days of aging, then compared to untreated expansive clay. The results showed that physically stabilized clay became inactive, although its plasticity and expansion rate decreased. Mechanically, there was an increase in the compressive and shear strength of 43.82%, and unsoaked CBR density of 83.25% and soaked CBR of 7.4%, which is directly proportional to the aged soil. Swell potential and swell pressure decreased by 90.71% and 65.71% respectively. The optimum composition is the composition with an addition of 3% white soil and 5%  $H_2SO_4$  at 28 days of aging. © 2019 IOP Publishing Ltd. All rights reserved.

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# Bauhäusle as a Cohousing Project

M Nasution<sup>1</sup> and B K Napitupulu<sup>1</sup>

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## Abstract

In recent years, housing prices in many countries constantly increased followed by limited availability of land. How to meet the demand for development with increasing number of population and city growth, particularly rapid development in cities, become one of main issues of housing supply. The effects lead to several problems, one of which is adequate housing with a strong social interaction. To fulfil the demand and improve social well-being in the neighbourhood can be achieved by applying cohousing concept in the neighbourhood. This study aims to analyse whether cohousing can be such a coherent solution in tackling issue of housing problems, furthermore, it is also a way to promote social inclusion. Bauhäusle is located on campus in Vaihingen, Stuttgart. It is designed with ecological

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# Impacts of Urban Consolidation Centres for Sustainable City Logistics Using Adaptive Dynamic Programming Based Multi-Agent Simulation

N Firdausiyah<sup>1</sup>, E Taniguchi<sup>2</sup> and A G Qureshi<sup>3</sup>

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## Abstract

This paper aims at evaluating the impacts of Urban Consolidation Centers (UCC) for sustainable city logistics using Adaptive Dynamic Programming (ADP) based multi-agent simulation (MAS-ADP). Economic efficiency and environment friendliness criteria were used to evaluate the sustainability of UCC. The results proved that the implementation of UCC as a sustainable city logistics scheme is

# A Comparative Study on Resident Satisfaction of Formal Housing and Self-help Housing in Cemorokandang Urban Village, Malang

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**Abstract.** Existing housing in Cemorokandang Urban Village can be classified into 2: formal housing built by developers and self-help housing built by the community's own initiative. There were 4,802 houses that have been built and there are 884 houses uninhabited in Cemorokandang Urban Village. The majority of uninhabitable houses were in housing built by the developer (the formal housing) while only 8% of which were self-help housing. There are significant differences in the number of empty houses in formal and self-help housing in Cemorokandang Urban Village. The research was conducted to find out whether there are differences related to the satisfaction of the residents in the formal housing and self-help housing in Cemorokandang Urban Village. There are some factors that influence the satisfaction of residents, where in this study factors influencing satisfaction focused on the variables of accessibility, physical attributes and the quality of the environment. The results of the comparison of the formal and self-help housing that variables of accessibility and environmental quality are higher in self-help housing, while the variable of physical attributes is higher in formal housing.

Keywords: Housing satisfaction, accessibility, physical attributes, environment quality

## 1. Introduction

The development of city can be seen from the physical characteristics such as population growth, increased building area, and the availability of city facilities that support social and economic activities of the city. Along with the increase in the number of inhabitants in a city it will bring effect to the increasing needs of a home as one of the basic human needs as part of the quality of life and well-being of the people. 1 Execution of development in fact experiences a variety of limitations of the level of social development, organization of housing development, the area of settlements and the provision of land and infrastructure of public facilities, and it is often found that the settlement conditions are not qualified. 2 Regional regulation number 4 year 2011 about the Spatial Plan of the city of Malang year 2010-2030 states that the territory of Kedungkandang includes as a region of high complexity. The region of Kedungkandang has one of the primary functions as housing. 3 According to BPS data from the twelve existing wards in Kedungkandang district, in 2014-2015 Cemorokandang Village has the highest growth rate i.e. 2.64. 4

