

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

Judul karya ilmiah (paper) : Land Resource Availability and Climate Change Disasters in The Rural Coastal of Central Java-Indonesia

Jumlah Penulis : 4 orang

Status Pengusul : I Rudiarto, **W Handayani**, H B Wijaya, T D Insani

Identitas prosiding :

- a. Judul Prosiding : IOP Conference Series:Earth and Environmental Science
- b. ISBN/ISSN : 1755-1315
- c. Tahun Terbit/tempat pelaksanaan : 2018
- d. Penerbit/organiser : IOP Publishing
- e. Alamat repository PT/web : <http://iopscience.iop.org/article/10.1088/1755-1315/2021/012029>
- f. Terindeks di (jika ada) : SJR 0,175 (2019) dan SNIP 0,514 (2019)

Kategori Publikasi Makalah : *Prosiding* Forum Ilmiah Internasional
(beri ✓ pada kategori yang tepat) *Prosiding* Forum Ilmiah Nasional

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	Internasional 30	Nasional <input type="text"/>	
a. Kelengkapan unsur isi paper (10%)	3		2,5
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		7,5
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	9		7,5
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	9		8
Total = (100%)	30		25,5
Nilai = (40% x 25,5 : 3)			3,4

Catatan Penilaian paper oleh Reviewer :

- a. Unsur isi paper cukup dan sudah merujuk kepada petunjuk penulisan paper dari IOP Science dan ada *acknowledgement*. Judul dan isi paper sudah sesuai yang membahas tentang perubahan sumber daya lahan.
- b. Pembahasan cukup mendalam tentang perubahan guna lahan dan kaitannya dengan tingkat kerentanan. Artikel sesuai dengan bidang ilmu penulis terutama dalam konteks perencanaan wilayah pesisir pedesaan. Pembahasan hasil didukung oleh 6 sumber pustaka (37,5%) dari total 16 pustaka yang berupa artikel jurnal.
- c. Paper didukung oleh 16 pustaka dimana 15 di antaranya merupakan pustaka terbitan 10 tahun terakhir. Alat analisis cukup mutakhir dengan menggunakan analisis overlay dalam GIS dari data sekunder.

d. Prosiding terindeks *Scopus* (IOP Series) dengan SJR 0,175 tersedia *online* dan *open access*. Prosiding dilengkapi dengan ISBN, DOI, dan terkategori internasional.

Semarang, 12-04-2020

Reviewer 1,



Prof. Dr.rer.nat. Imam Buchori, ST

NIP. 197011231995121001

Departemen PWK, FT. Undip

LEMBAR
HASIL PENILAIAN SEJAWAT SEBIDANG ATAU *PEER REVIEW*
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	Internasional 30	Nasional <input type="text"/>	
a. Kelengkapan unsur isi paper (10%)	3		2
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		7
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9		6
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	9		7
Total = (100%)	30		22
Nilai = (40% x 22 : 3)			2,9

Catatan Penilaian paper oleh Reviewer :

- a. Isi tulisan cukup lengkap dan merujuk pada *author guidelines* yang disediakan secara online. Benang merah judul dan IMRaD pada pembahasan perubahan sumber daya lahan.
- b. Substansi sesuai ruang lingkup seminar terkait *Climate Change* dan sesuai dengan bidang ilmu penulis terutama untuk perencanaan kawasan pesisir. Pembahasan hasil dalam paper menggunakan sekitar 37,5% pustaka yang merupakan artikel jurnal.
- c. Artikel memiliki nilai kebaruan cukup dimana 90% di antaranya merupakan terbitan ≤ 10 tahun terakhir dari total 16 sumber pustaka yang digunakan. Metode terlalu singkat dan bisa dijabarkan lebih rinci lagi mengenai interpretasi citra satelit supaya dapat diketahui bagaimana klasifikasi guna lahan dilakukan.

d. Prosiding diterbitkan oleh IOP Publishing dan terindeks scopus dengan SJR 0,17 dan ber-ISBN. Prosiding internasional dan tersedia *online* dengan system *open access* yang dilengkapi dengan tautan DOI.

Semarang, 09-07-2020

Reviewer 2,



Prof. Dr. Ir. Nany Yulastuti, MSP

NIP. 195407171982032001

Departemen PWK, FT. Undip

LEMBAR
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Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a. Kelengkapan unsur isi paper (10%)	2,5	2	2,25
b. Ruang lingkup dan kedalaman pembahasan (30%)	7,5	7	7,25
c. Kecukupan dan kemutakhiran data/informasi dan metodologi (30%)	7,5	6	6,75
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	8	7	7,5
Total = (100%)	25,5	22	23,75
Nilai = (40% x 23,75 : 3)			3,2

Reviewer 1,



Prof. Dr. rer. nat. Imam Buchori, ST
NIP. 197011231995121001
Departemen PWK FT.Undip

Semarang, 17-07-2020

Reviewer 2,



Prof. Dr. Ir. Nany Yuliasuti, MSP
NIP. 195407171982032001
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Volume 202, Issue 1, 27 November 2018, Article number 012029
2017 CITIES International Conference: Multi Perspectives on Peri-Urban Dynamics Towards Sustainable Development; Surabaya; Indonesia; 18 October 2017 through ; Code 142713

Land resource availability and climate change disasters in the rural coastal of Central Java - Indonesia (Conference Paper) [\(Open Access\)](#)

Rudiarto, I.^{a,b} ✉, **Handayani, W.**^{a,b}, Wijaya, H.B.^{a,b}, Insani, T.D.^{a,b}

^aDepartment of Urban and Regional Planning, Indonesia

^bUniversitas Diponegoro, Semarang, Indonesia

Abstract

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This paper describes the land resource availability and climate change disaster events in three rural coastal area of the Central Java Province, Indonesia, i.e.; Wonokerto sub district - Pemalang Regency, Sayung sub district - Demak Regency, and Lasem sub district - Rembang Regency. Land resource availability was assessed into land use cover change from the Landsat Image from three periods (1990, 2000, and 2015). Those images data then were combined with the climate change disasters that mostly occurs in the coastal area as the impact of the sea level rise. The results show that most of the land use in the coastal area was converted to fishpond from agricultural land and it happens periodically since 1990 as the disasters frequently found which also transform the occupation of community living in the area. From the assessment, it is also shown that the increasing of water body in specific period has a direct impact to the decreasing of rice field. This indicated that tidal flood as an impact of climate change has contributed in changing the availability of land resource in the study area. © Published under licence by IOP Publishing Ltd.

SciVal Topic Prominence ⓘ

Topic: Subsidence | Insar | Java

Prominence percentile: 75.416 ⓘ

Author keywords

climate change disaster land resource land use cover

Indexed keywords

Engineering controlled terms:

Coastal zones Disasters Land use Planning Rural areas Sea level Sustainable development Tidal power

Engineering uncontrolled terms

Agricultural land Central Java Province Coastal area Direct impact Land resources Land use cover changes Landsat images Sea level rise

Engineering main heading:

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**Multi Perspectives on Peri-Urban Dynamics
Towards Sustainable Development**

October 18th, 2017

Department of Urban and Regional Planning
Institut Teknologi Sepuluh Nopember
Surabaya, INDONESIA



Adjie Pamungkas, ST, M.Dev.Plg., Ph.D
Head of Urban and Regional Planning Department
Institut Teknologi Sepuluh Nopember



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Chair of CITIES 2017
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To cite this article: 2018 *IOP Conf. Ser.: Earth Environ. Sci.* **202** 011001

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CITIES 2017 International Conference

PREFACE

CITIES conference is an annual conference event held by the Departement of Urban and Regional Planning. CITIES conference has a scale from national to international conference. CITIES conference had been held 7 (seven) times nationally and 3 (three) times Internationally in 2013, 2015 and 2017. The purpose of this conference is to provide publications of all of the science and technology result based on research and planning practices. The past themes of the CITIES serial are:

- Innovations In Spatial Planning Practices for Development and Decentralization (2005);
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- Facing the Future: Innovation In Planning Research and Practices (2010);
- Spatial Planning Research Agenda for Sustainable and Just Urban and Regional Development (2011);
- Facing Global Challenges In The Future Urban Sphere (2012);
- Resilient Cities: Beyond mitigation, preparedness, response, dan recovery (2013);
- Eco City, Utopia or Reality (2014);
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- Coastal Planning for Sustainable Maritime Development (2016);

This **2017** CITIES INTERNATIONAL CONFERENCE is featuring topic in: ***Multi Persepectives on Peri-Urban Dynamics Towards Sustainable Developments***. Focusing on the urban and peri-urban connections, issues, challenges and dynamics development of peri urban, this conference aim to provide the insights in many aspects of the developments towards the future which not only considering urban area but also focusing in the peri-urban.

Some results that can be concluded in this proceedings are: 1). Better predictions on the urban and sub urban development is equal with better planning, there are many new modelling approaches that presented in this conferences from land use, transportation to smart applications, 2). The emerging development of peri urban often facing the infrastructure and land use issues and 3). The urban that recently need to be revitalized not only on the sense of economic and land use but also gaining social and humanistic approaches to be creative space and igniting the place attachment in the city.



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October 2017, Surabaya, Indonesia**

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The institutionalisation process of Transit Oriented Development practices for peri-urban development in Indonesia: Actor network perspective

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Abstract. Transit Oriented Development (TOD) has increasingly become a popular concept for peri-urban developments in Indonesia. It offers regeneration approaches to create compact, mixed-use, and walking-distance public transit areas that promote more effective land-use growth and efficient public transport uses towards sustainable environment in urban peripheries. This paper focuses on the institutionalisation of TOD peri-urban through analysis of stakeholder interactions in TOD peri urban. Interpretations of stakeholder interactions are observed from a case study of the establishment of TOD planning standard from two TOD peri-urban plans, Gedebage (Greater Bandung) and Purabaya (Greater Surabaya). Applying the logic of Actor Network Theory (ANT), this paper discusses emerging networks, key actors, intermediaries, and their interaction process. Data and information are produced from triangulation of semi-structured interviews and documentary reviews. The conclusion provides dynamic stakeholder interaction maps for TOD peri-urban institutions, which identify strong engagements of cross-boundary transportation agencies, planning agencies, public transport operators, the state government, and property developers.

1. Introduction

Rapid urbanisation in Indonesian metropolitan cities has been growing uncontrolled and leading to massive increases of land conversion, car-dependent commuters, and environmental issues in peri-urban areas. In Jabodetabek metropolitan area, for instance, in last 40 years, there have been going intensive land conversions in about 32,000 hectares of agriculture and green spaces in peri-urban areas into housing and urban settlement functions [1]. There are also around 1,105,000 daily commuters travel to the centre of Jakarta from its peripheries, which contribute to traffic congestion, air pollution, and inefficient energy consumption issues [1]. In facts, urbanisation process in many Indonesian cities is still depending on core cities as their peri-urban areas are still poorly organised, especially in terms of the provisions of workplace, commercial, and public facilities for local residents [2, 3].

The so-called Transit Oriented Development (TOD) recently came into account as one of the strategies to encourage more effective, productive, and sustainable development in peri-urban areas in



Exploring distance decay pattern of public transport-induced agglomeration and its impacts on train ridership attraction

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Abstract. Public transport infrastructure creates the effect of agglomeration through transportation externalities. Effective density is an accessibility based agglomeration that was raised as a positive externality from public transportation investments. The aim of this paper is to understand whether public transport facility would induce agglomeration around stations and furthermore induce train ridership. A methodology was developed to reveal the causality of effective density on ridership and reduce the confounding effects from land use-related determinant factor. This was shown by the propensity score matching that tested if effect of a station being in the treatment group (high effective density stations) on train ridership was influenced by land use characteristics of catchment stations. The causality of effective density on ridership was compared between station groups. Findings showed the effect of treatment group was higher in the matched sample compare to the unmatched sample. This difference may be assigned as the true effect of public transport induced agglomeration which was higher after controlling the land use characteristics of stations. Thus, the inclusion of land use variables in the model prediction may has the effect of rendering the influence of effective density variable lower in the model. These findings could guide station catchment area planning to maximise effective density benefits on train ridership.

Keywords: *effective density, propensity score matching, agglomeration, public transport infrastructure, train ridership.*

1. Introduction

The impacts of transportation systems in terms of transportation infrastructure need to be evaluated not only on their aspect of land use but also travel behavior [1]. Further, other factors such as the spatial economic dimension may come into play when transportation system-impacted land use and travel behavior to be examined in a holistic manner.

The extension of the new Perth – Mandurah railway line in the Perth Metropolitan Region (PMR) has been assumed to have made a direct influence on land use and property development, or on economic development. The question of the contribution of stations along the new line to increased train ridership has been considered for more than ten years. Public transport infrastructure creates the effect of agglomeration through transportation externalities. Public transport-induced agglomeration



Modelling toll traffic pattern: the Jagorawi toll case study

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Abstract. The aim of this study is to investigate the impacts of, such as conventional, automatic toll gate with e-toll card (GTO) and On-Board Unit with Multi Lane Free Flow (MLFF) payment system on the level of queuing, such as the number of cars in queue, the amount of queue time, and the congestion costs due to queue. The queuing theory was used to compare the performance of different payment system on Jagorawi toll roads as a case study. A model was developed to understand the pattern of queue and the relationship between queuing pattern, the toll's gate volume, and the number of booth. This study found that congestion occurred in the majority of the toll gate, which heavily due to unreliability of the booth services. Rather than increasing the number of booth, simulation of queuing models showed that optimization of toll gate could be achieved with GTO systems. The findings showed that the total number of cars and time in queue at cash payment system is almost 540% higher and annual congestion cost is almost 284% higher than GTO.

1. Introduction

Toll road serves the purpose of high mobility and accessibility. Currently, there is 34 toll roads in Indonesia with total length 987 km, serve 3.7 million vehicles daily on average. The National Development Mid-term Plan (2015 – 2019) has targeted toll road development for 1,807 km in 2019 [1].

While new toll road construction is progressively developing, current issues are related with the establishment of new payment system with electronic toll card (ETC), which targeted all toll booths to be cashless by 100% in the end of 2017 and the shift of the payment system into the multilane free flow by 100% in the end of 2018.

The Ministry of Public Works Regulation in [2] has assigned the minimum service standards on toll accessibility for Indonesia's toll. In relate with the toll payment system, the minimum service standard sets the average transaction speed of maximum 6 second per vehicle on an open transaction, while the close transaction should serve at maximum 5 second per vehicle on the entrance and maximum 9 second per vehicle on the exit. It is believed the implementation of ETC and high speed tolling by Jasa Marga and Indonesian Toll Road Authority or BPJT is a direct strategy to achieve these standards. The ETC system is expected to increase the transaction speed by reducing the transaction period, at the service



Exploring farming strategies in a metropolitan area: case study of inland aquaculture in Bogor Regency

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Abstract. Farming practices in a metropolitan area are often under pressure of forces and processes associated with urbanization. In those circumstances, “reconnection” between agriculture and the urban environment is required to preserve farming activities. This partnership is secured by strategies of sustainable intensification, sustainable valorization and sustainable diversification. Studies concerning farmer strategies have been done in the Netherlands, India and China, but are lacking in many other countries such as Indonesia. The objective of this study was to explore which strategies are being adopted by farmers in Indonesia to adapt to and benefit from the process of urbanization. The research included a case study of inland aquaculture, a dominant agricultural activity in Bogor Regency, Jakarta Metropolitan Area (JMA). Document study and in-depth interviews with farmers, government officers and a consumer organization were conducted. Pattern matching was chosen as technique for analyzing the collected data. The results show that intensification is the dominant farming strategy implemented by farmers of inland aquaculture in JMA. Farmers concentrate on intensive methods in order to reduce production costs and subsequently obtain enough revenues from their farming activities. However, the research also shows that fish farming in JMA is not sustainable, given concerns about animal welfare and financial robustness. Furthermore, the discharge of wastewater from fish ponds to the surface water is a potential issue of environmental concern. Local training programs also seem to be too generic in order to be effective to address these issues and making inland aquaculture more sustainable.

Keywords: *Metropolitan agriculture; inland aquaculture; farming strategies; socio-cultural boundaries; spatial planning*

1. Introduction

Farming practices situated in a metropolitan area offer many benefits besides supplying food for urban dwellers. The presence of agricultural activities in a metropolitan area can stimulate economic growth by intertwining diverse economic activities [1]. Moreover, it can reduce the geographical distance between food producers and consumers. Shorter links and direct contacts between farmers and consumers may increase trust concerning, for instance, food quality [1]. In addition, farming activities contribute to shaping a regional identity for metropolitan areas and being embedded in culture-historical, socio-cultural or landscape features [1].

However, farming practices situated in metropolitan areas typically suffer from economic problems because they cannot compete with other urban activities [2]. Furthermore, farming in metropolitan areas often meets distrust from society, typically rooted in poor performance of traditional agricultural practices concerning environmental issues and animal welfare [3,4]. In those circumstances, a

