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

Judul karya ilmiah (paper) : The Effectiveness of Strategy Adaptations on Tidal Flood in the Coastal Areas of Sayung, Demak, Central Java, Indonesia
Jumlah Penulis : 4 orang
Status Pengusul : **I Rudiarto**, H Rengganis, A Sarasadi, E Caesar

Identitas prosiding :
- a. Judul Prosiding : IOP Conference Series:Earth and Environmental Science
- b. ISBN/ISSN : 1755-1315
- c. Tahun Terbit/tempat pelaksanaan : 2020
- d. Penerbit/organiser : IOP Publishing
- e. Alamat repository PT/web : https://iopscience.iop.org/article/10.1088/1755-1315/448/1/012090
- f. Terindeks di (jika ada) : SJR 0,175 (2019) dan SNIP 0,514 (2019)

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

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal *Prosiding*		Nilai Akhir Yang Diperoleh
	Internasional [30]	Nasional [ ]	
a. Kelengkapan unsur isi paper (10%)	3		2,0
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		5,0
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9		7,0
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	9		7,5
Total = (100%)	**30**		21,5
Nilai = (60% x 21,5)			12,9

Catatan Penilaian paper oleh *Reviewer*:

a. Unsur isi cukup dan penulisan sudah mengacu kepada petunjuk penulisan yang tersedia online. Benang merah judul dan IMRaD terletak pada pembahasan strategi adaptasi dari adanya banjir pasang.

b. Paper membahas tentang tingkat efektifitas strategi adaptasi yang dilakukan masyarakat sebagai tindakan preventif dalam mengatasi bencana banjir pasang di wilayah pedesaan pesisir. Paper sesuai dengan bidang ilmu penulis untuk perencanaan wilayah pesisir pedesaan. Pembahasan hasil didukung oleh 3 sumber pustaka (37,5%) dari total 8 pustaka yang digunakan.

c. Makalah didukung oleh 8 pustaka dimana 7 di antaranya dari artikel jurnal dan terbitan dibawah 10 tahun terakhir. Data dan metode cukup mutakhir dengan menggunakan teknik skoring untuk menilai tingkat efektivitas.

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

Semarang, 20-07-2020

Reviewer 1,

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

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

Judul karya ilmiah (paper) : The Effectiveness of Strategy Adaptations on Tidal Flood in the Coastal Areas of Sayung, Demak, Central Java, Indonesia
Jumlah Penulis : 4 orang
Status Pengusul : **I Rudiarto**, H Rengganis, A Sarasadi, E Caesar

Identitas prosiding :
a. Judul Prosiding : IOP Conference Series:Earth and Environmental Science
b. ISBN/ISSN : 1755-1315
c. Tahun Terbit/tempat pelaksanaan : 2020
d. Penerbit/organiser : IOP Publishing
e. Alamat repository PT/web : https://iopscience.iop.org/article/10.1088/1755-1315/448/1/012090
f. Terindeks di (jika ada) : SJR 0,175 (2019) dan SNIP 0,514 (2019)

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

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Maksimal *Prosiding*		Nilai Akhir Yang Diperoleh
	Internasional [30]	Nasional [ ]	
a. Kelengkapan unsur isi paper (10%)	3		2,5
b. Ruang lingkup dan kedalaman pembahasan (30%)	9		7
c. Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	9		7
d. Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	9		6,5
Total = (100%)	**30**		23,0
Nilai = (60% x 23)			13,8

Catatan Penilaian paper oleh *Reviewer*:

a. Artikel cukup lengkap dan sudah mengacu pada petunjuk penulisan prosiding. Pembahasan dalam IMRaD dan judul berkaitan dalam hal penilaian tingkat efektivitas dari upaya adaptasi yang dilakukan.

b. Artikel berkaitan dengan *Strategy Adaptation* kurang dibahas dengan interpretasi cukup dari aspek yang lebih beragam. Makalah sesuai dengan bidang ilmu penulis terutama perencanaan wilayah pesisir. Pembahasan hasil menggunakan sekitar 37,5% dari total daftar pustaka yang ada.

c. Nilai kemutakhiran kurang dimana hanya didukung oleh 8 referensi saja dimana 88% terbitan 10 tahun terakhir. Metode yang digunakan cukup dengan menggunakan metode skoring dalam penilaian tikat efektivitas.

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, 29-07-2020

Reviewer 2,

Prof. Dr. Ir. Nany Yuliastuti, MSP
NIP. 195407171982032001
Departemen PWK, FT. Undip

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

Judul karya ilmiah (paper) : The Effectiveness of Strategy Adaptations on Tidal Flood in the Coastal Areas of Sayung, Demak, Central Java, Indonesia
Jumlah Penulis : 4 orang
Status Pengusul : **I Rudiarto**, H Rengganis, A Sarasadi, E Caesar

Identitas prosiding :
- a. Judul Prosiding : IOP Conference Series:Earth and Environmental Science
- b. ISBN/ISSN : 1755-1315
- c. Tahun Terbit/tempat pelaksanaan : 2020
- d. Penerbit/organiser : IOP Publishing
- e. Alamat repository PT/web : https://iopscience.iop.org/article/10.1088/1755-1315/448/1/012090
- f. Terindeks di (jika ada) : SJR 0,175 (2019) dan SNIP 0,514 (2019)

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

Hasil Penilaian *Peer Review* :

Komponen Yang Dinilai	Nilai Reviewer		Nilai Rata-rata
	Reviewer I	Reviewer II	
a.Kelengkapan unsur isi paper (10%)	2,0	2,5	2,25
b.Ruang lingkup dan kedalaman pembahasan (30%)	5,0	7,0	6,0
c.Kecukupan dan kemutahiran data/informasi dan metodologi (30%)	7,0	7,0	7,0
d.Kelengkapan unsur dan kualitas terbitan/prosiding (30%)	7,5	6,5	7,0
Total = (100%)	21,5	23,0	22,25
Nilai = (60% x 22,25)			13,35

Semarang, 30-07-2020

Reviewer 1,

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

Reviewer 2,

Prof. Dr. Ir. Nany Yuliastuti, MSP
NIP. 195407171982032001
Departemen PWK FT.Undip

CERTIFICATE
OF APPRECIATION

The 1st International Conference on Environment, Sustainability Issues, and Community Development (INCRID)

THIS IS TO CERTIFY THAT

Iwan Rudiarto

HAS PARTICIPATED AS

PRESENTER

" Discovering Innovations and Opportunities for Sustainable Living Environment "

October 23rd - 24th , 2019

Dean

Prof. Ir. M. Agung Wibowo, M.M., M.Sc., PhD

NIP. 196702081994031005

Chair of Organizing Committee

M. Arief Budihardjo, S.T., M.Eng.Sc., PhD

NIP. 197409302001121002

Source details

Feedback > Compare sources >

IOP Conference Series: Earth and Environmental Science

Scopus coverage years: from 2010 to Present

ISSN: 1755-1307 E-ISSN: 1755-1315

Subject area: Environmental Science: General Environmental Science | Earth and Planetary Sciences: General Earth and Planetary Sciences

View all documents > | Set document alert | Save to source list | Journal Homepage

CiteScore 2019
0.4

SJR 2019
0.175

SNIP 2019
0.514

CiteScore | CiteScore rank & trend | Scopus content coverage

Improved CiteScore methodology

CiteScore 2019 counts the citations received in 2016-2019 to articles, reviews, conference papers, book chapters and data papers published in 2016-2019, and divides this by the number of publications published in 2016-2019. Learn more >

CiteScore 2019

$0.4 = \frac{11{,}544 \text{ Citations } 2016 - 2019}{32{,}872 \text{ Documents } 2016 - 2019}$

Calculated on 06 May, 2020

CiteScoreTracker 2020

$0.4 = \frac{16{,}473 \text{ Citations to date}}{41{,}805 \text{ Documents to date}}$

Last updated on 09 August, 2020 • Updated monthly

Document details

< Back to results | 1 of 21 Next >

Export | Download | Print | E-mail | Save to PDF | Add to List | More... >

View at Publisher

IOP Conference Series: Earth and Environmental Science
Volume 448, Issue 1, 3 April 2020, Article number 012090
1st International Conference on Environment, Sustainability Issues and Community Development, INCRID 2019; Santika Premiere HotelSemarang, Central Java Province; Indonesia; 23 October 2019 through 24 October 2019; Code 159006

The Effectiveness of Strategy Adaptations on Tidal Flood in the Coastal Areas of Sayung, Demak, Central Java, Indonesia

(Conference Paper) (Open Access)

Rudiarto, I., Rengganis, H., Sarasadi, A., Caesar, E.

Department of Urban and Regional Planning, Diponegoro University, Indonesia

Abstract

View references (8)

Sayung is one of sub-district of Demak Regency which located in the northside of the coastal area. For the last few decades, the coastal area has become a tidal flood cause of climate change, and human activities that have had an impact on social, economic and environmental aspects. The various adaptation efforts had been done to confronting the tidal flood phenomena. The purpose of this study to identify the effectivity of adaptation's strategy which related to the tidal flood phenomena. The required data includes the adaptation's activities, the financial adaptation's activities, the socio-cultural adaptation's activities that have obtained more than 100 household samples. Those samples have distributed in the four villages namely as Sriwulan, Bedono, Timbulsloko and Surodadi villages in the northside of Sayung sub-district coastal area. The data are obtained by scoring method through the questionnaires. This study can be provided as the effectivity level description of the completed adaptation efforts to decreasing the tidal flood risks or impacts. So that, the results of the efforts were landfill, floor elevations, household-furniture raising, highly effective. But, Sriwulan local people argued that the household-furniture raising was ineffectively being the solution, if it cannot be balanced with the others adaptations for solving the tidal flood phenomena.

SciVal Topic Prominence

Topic: Human Enhancement | Defibrillators | Cyborgs

Prominence percentile: 19.992

Metrics

View all metrics >

1 Citation in Scopus
78th percentile

22.95 Field-Weighted Citation Impact

PlumX Metrics
Usage, Captures, Mentions, Social Media and Citations beyond Scopus.

Cited by 1 document

Spatial exposure and livelihood vulnerability to climate-related disasters in the North Coast of Tegal City, Indonesia

Rudiarto, I. , Pamungkas, D.
(2020) International Review for Spatial Planning and Sustainable Development

View details of this citation

Inform me when this document is cited in Scopus:

Set citation alert > | Set citation feed >

Preface

PREFACE

The International Conference on Environment, Sustainability Issues, and Community Development 2019 (INCRID 2019) is the first international conference hosted by the Department of Environmental Engineering, Diponegoro University. INCRID 2019 was held at Santika Premiere Hotel, Semarang, Indonesia, from 23rd-24th October 2019. The program provides a unique platform for professionals, researchers, and academicians to share their experiences and explore the possible influence of sustainable living environment in the future. With the theme of "Discovering Innovations and Opportunities for Sustainable Living Environment", this forum will promote the close relationship between environment, sustainable development, and community development in order to achieve the desired goals to build the living environment.

Published papers in this proceeding has themed with various topics including Environment, Health, & Safety, Environmental Technology, Green Infrastructure, Energy Conservation and Efficiency, Urban Development and Resilient Community, and Sustainable Development. All of participants in this conference were come from various parts of the country, with background of either academia or industry.

The organizing committee is gratefully acknowledging for the support from various parties who contributed in successfulness of this event. We hope that INCRID 2019 will become a means of discussion that to improve and develop by promoting new ideas and strengthening networks among researchers. We believe that proceedings will serve the role of scientific reference and advancing knowledge in the future.

M. Arief Budihardjo, S.T., M.Eng.Sc., PhD.

Chief Organizer of INCRID 2019

Commitees

Steering Commitee

1. Prof. Dr. rer. nat. Heru Susanto, M.M., M.T. (Universitas Diponegoro, Indonesia)
2. Prof. Ir. Syafrudin, CES., M.T. (Universitas Diponegoro, Indonesia)
3. Dr. Badrus Zaman, S.T., M.T. (Universitas Diponegoro, Indonesia)

Scientific Commitee

1. Prof. Lam Khee Poh, (National University Singapore, Singapore)
2. Prof. Toru Matsumoto, (Kitakyushu University, Japan)
3. Prof. Mohd. Hamdan Ahmad, (Universiti Teknologi Malaysia, Malaysia)
4. Prof. Yee-Lin Wu, (National Cheng Kung University, Taiwan)
5. Prof. Hamid Nikraz (Curtin University, Australia)
6. Prof. Eddy Saputra (Universitas Riau, Indonesia)
7. Dr. Ing. Sudarno, S.T., M.Si. (Universitas Diponegoro, Indonesia)
8. Dr. Budi Prasetyo Samadikun, S.T., M.Si. (Universitas Diponegoro, Indonesia)
9. Dr. Ir. Anik Sarminingsih, M.T. (Universitas Diponegoro, Indonesia)
10. Pertiwi Andarani, S.T., M.T., M.Eng. (Universitas Diponegoro, Indonesia)

Organizing Commitee

1. M. Arief Budihardjo, S.T., M.Eng.Sc., PhD. (Chairman)
2. Bimastyaji Surya Ramadan, S.T., M.T. (Vice Chairman)
3. Dr. Sri Sumiyati, S.T., M.Si. (Member)'
4. Haryono S. Huboyo, S.T., M.T., Ph.D. (Member)
5. Fadel Iqbal Muhammad, S.T. (Member)
6. Alfian Rizky Rizaldianto, S.T. (Member)
7. Aulia Riswalida, S.T. (Member)
8. Ajeng Yasinta R, S.T. (Member)
9. Arina Zanjabila, S.T. (Member)
10. Desy Arinasandi, S.T. (Member)
11. Ria Kurniasari, S.T. (Member)
12. Akbar Nugroho Confera (Member)
13. Arlita Salsabila (Member)
14. Jane Ivana (Member)

Table of contents

Volume 448

2020

Previous issue Next issue

The 1st International Conference on Environment, Sustainability Issues and Community Development 23 - 24 October 2019, Central Java Province, Indonesia

Accepted papers received: 29 January 2020
Published online: 03 April 2020

View all abstracts

Preface

Energy Conservation and Efficiency

Analysis of Electricity Generation from Landfill Gas (Case Study: Manggar Landfill, Balikpapan)

C K Banaget, B Frick and M N I L Saud

+ View abstract View article PDF

OPEN ACCESS 012004

CFD Simulation on the Natural Ventilation and Building Thermal Performance

R Widiastuti, M I Hasan, C N Bramiana and P U Pramesti

+ View abstract View article PDF

OPEN ACCESS 012005

Lighting System Energy Conservation Simulation at Faculty of Engineering Diponegoro University Library Using Ecotect

R W Wijayanti, E Prianto and J Windarta

+ View abstract View article PDF

OPEN ACCESS 012006

Taperless Type Blade Design with Naca 5513 Airfoil for Wind Turbine 500 TSD

E Yohana, N Sinaga, I Haryanto, V R I Taufik and E Dharmawan

+ View abstract View article PDF

OPEN ACCESS 012007

The Effectiveness of Biogas Method from Rice Husks Waste: Liquid Anaerobic Digestion and Solid-State Anaerobic Digestion

S Syafrudin, W D Nugraha, H H A Matin, E S Saputri and B Budiyono

+ View abstract View article PDF

OPEN ACCESS 012008

Carbon Footprint of Academic Activities: A Case Study in Diponegoro University

S Syafrudin, B Zaman, M A Budihardjo, S Yumaroh, D I Gita and D S Lantip

+ View abstract View article PDF

OPEN ACCESS 012009

Performance Evaluation of Jatibarang Reservoir Due to Land Use Changing

A Sarminingsih and G Samudro

+ View abstract View article PDF

OPEN ACCESS 012010

Plasma Technology in Cold Storage for Shelf Life Extension of Fresh Fish

Y Hartadi, M Nur and B Fajar

+ View abstract View article PDF

Application of Hydrogeological Mapping and Geospatial Analysis to Determine Recharge and Discharge Areas in Sumowono Groundwater Basin 012024

T T Putranto, N Susanto, DR Pangestuti and K Alexander

+ View abstract View article PDF

OPEN ACCESS 012025

Evaluation of PM_{10} Concentrations in West Sumatra during Rainy Season

F Goembira, Adinda, Z Farnas, T Ihsan and D Djafri

+ View abstract View article PDF

OPEN ACCESS 012026

Analysis of Total Mangrove Carbon Stock Degradation in Kendari Bay

Iswandi, M Helmi and Hadiyanto

+ View abstract View article PDF

OPEN ACCESS 012027

The Effect of Giving Avocados (*Persea americana* Mill) and Guava (*Psidium guajava* Linn) on Hemoglobin Levels in Traditional Rice Farmers

R Utari, Y Setyaningsih and A Suwondo

+ View abstract View article PDF

OPEN ACCESS 012028

Exposure of Dust Inhaled with Lung Vital Capacity in Traffic Police Polres Ambon Moluccas

E C Fika, A Suwondo and Nurjazuli

+ View abstract View article PDF

OPEN ACCESS 012029

Comparison of Suspended Particulate Matter Prediction Based on Linear and Non-Linear Models

S Sumiyati and B Warsito

+ View abstract View article PDF

OPEN ACCESS 012030

Greenhouse Gas Estimation of Plastic Waste Reverse Logistic Networks System in Semarang City

B P Samadikun, B S Ramadan, A Rezagama, P Andarani and C T Dewi

+ View abstract View article PDF

Environmental Technology

OPEN ACCESS 012031

OPEN ACCESS 012039

Crackers from Fresh Water Snail (*Pila ampullacea)* Waste as Alternative Nutritious Food

R T D W Broto, F Arifan, W A Setyati, K Eldiarosa and A R Zein

+ View abstract View article PDF

OPEN ACCESS 012040

The influence of Keruing Sawdust on the geotechnical properties of expansive Soils

J B Niyomukiza, S P R Wardani and B H Setiadji

+ View abstract View article PDF

OPEN ACCESS 012041

Decreasing Iron (Fe) Contaminant from Ground Water for Water Treatment Processed by Dielectric Barrier Discharge Ozone Generator

R A Putri, W Oktiawan and A Syakur

+ View abstract View article PDF

OPEN ACCESS 012042

Strengthening Water Irrigation Management to Increase Water Usage Efficiency

Hanipah, H S Hasibuan and R P Tambunan

+ View abstract View article PDF

OPEN ACCESS 012043

Improving Overhaul Process on Steam Power Plants using Lean Thinking and LCA

O Devi and D K Putu

+ View abstract View article PDF

OPEN ACCESS 012044

The Effect of Concentration of Personal Care Pollutant in Domestic Wastewater on the Efficiency Removal of COD and Ammonium in Batch Reactor

N Hardyanti, S Sudarno and A E Jayanti

+ View abstract View article PDF

OPEN ACCESS 012045

Aluminium Recovery from Water Treatment Sludge as Coagulant by Acidification

D P Ruziqna, N Suwartha, S S Moersidik and S Adityosulindro

+ View abstract View article PDF

OPEN ACCESS 012046

Assessment of the efficiency of the wastewater treatment plant: a case of Gacuriro Vision City

M J Nikuze, J B Niyomukiza, A Nshimiyimana and J P Kwizera

+ View abstract View article PDF

OPEN ACCESS 012047

Removal of Physical Contaminants from Potable Water Distribution

A P Wicaksono, B Zaman and M A Budihardjo

+ View abstract View article PDF

OPEN ACCESS 012048

Cerucuk Filter Modified (CFM) Design as Sediment Traps to Reduce Total Suspended Solids (TSS) Concentration in the Drainage Mine Reclamation Area: An Field Experiment

H U Surapati and A Mizwar

+ View abstract View article PDF

OPEN ACCESS 012049

Potential Risk Analysis of Water Loss in Water Distribution Networks

K H Sambodja, B P Samadikun and S Syafrudin

+ View abstract View article PDF

OPEN ACCESS 012050

Influence of Pharmaceutical Residue in Domestic Wastewater on the Removal Efficiency of COD and Ammonium in an Anaerobic Batch Reactor

S Sudarno, N Hardyanti and F A A Pradhita

+ View abstract View article PDF

OPEN ACCESS 012051

Addition of Solid Recovered Fuel (SRF) to the Bio-drying Process and the Effects of Variation in Air Discharge on Temperature Parameters and Urban Waste Water Content

C Soriano, D I Gita, D Pertiwi, A R Rizaldianto and A D Farhah

+ View abstract View article PDF

OPEN ACCESS 012052

Value of the Ash Opacity on the Performance of Incinerator as a Result of System Variations

F I Muhammad, D I Gita, D Pertiwi, A D Farhah and F R Aulia

+ View abstract View article PDF

OPEN ACCESS 012053

Effects of Biofilms on Ammonium Removal Efficiency in Fish Pond Effluents

T Istirokhatun, S N Aufar, Munasik and Sudarno

+ View abstract View article PDF

OPEN ACCESS 012054

IDF Curve Patterns for Flood Control of Air Lakitan river of Musi Rawas Regency

OPEN ACCESS 012087

Empowering the Community of Dimembe Village Through the Application of Cultivation and Diversification Technology of Papaya Fruit Plants

A A Maramis, A Yalindua, R A Mege and H V Opit

+ View abstract View article PDF

OPEN ACCESS 012081

Community Empowerment for Environmentally Sustainable Tourism based on Local Perspectives (Case Study of Anakoli Village, Nagekeo)

H L T Meo and R D Panda

+ View abstract View article PDF

OPEN ACCESS 012088

The Application of Drying Technology Utilizes Integrated Energy Sources to Process Various Agricultural Products for the People of the Border Area in Talaud Islands Regency

J Mantiri, A A Maramis, R A Mege and J D Ticoh

+ View abstract View article PDF

OPEN ACCESS 012089

Application of reproduction and production technology of goat livestock to improve living standards of the people of Dayow Village, Pinolosian Timur Subdistrict, Bolaang Mongondow Selatan Regency

R A Mege, A A Maramis, J Paus and J Mantiri

+ View abstract View article PDF

OPEN ACCESS 012090

The Effectiveness of Strategy Adaptations on Tidal Flood in The Coastal Areas of Sayung, Demak, Central Java, Indonesia

I Rudiarto, H Rengganis, A Sarasadi and E Caesar

+ View abstract View article PDF

OPEN ACCESS 012091

Integrated Biomaterials Engineering of Oil Palm Fibres and Microalgae for Bioenergy, Environmental Remediation, and Conversion into Value-Added-Products

M A Abdullah, A A A Bahamid, O M S Alshajrawi, M S Nazir and Z Tahir

+ View abstract View article PDF

OPEN ACCESS 012092

Measuring Community Resilience to the Tsunami Disaster (Study of Sukarame Village, Carita District, Pandeglang Regency)

D A P Sari and T E B Soesilo

+ View abstract View article PDF

+ View abstract View article PDF

OPEN ACCESS 012127

Impact of Leachate Recirculation on Stabilization of Solid Wastes Leachate in Simulated Anaerobic Bioreactors

I B Priyambada and W Oktiawan

+ View abstract View article PDF

OPEN ACCESS 012128

Vulnerability of the East Coast of Balikpapan City in East Kalimantan (Lamaru Beach - Klandasan Beach)

T R Camila and R Saraswati

+ View abstract View article PDF

OPEN ACCESS 012129

Multi Effect of Rain Harvesting in the Floating Village of Malahing on the Coast Bontang Developed by the CSR of PKT

S D Ekowati and S P Hadi

+ View abstract View article PDF

OPEN ACCESS 012130

Aqueous Synthetic Polymer Spraying Application for Mulching of Surface Soil for Revegetation of Critically Degraded Ex-Borrow Pit Area

H Agusta, G C Handoyo, E Sari and H Aulia

+ View abstract View article PDF

OPEN ACCESS 012131

Biogas Generation during Anaerobic Composting of Organic Waste

S Syafrudin, B P Samadikun, I W Wardhana and A R Rizaldianto

+ View abstract View article PDF

JOURNAL LINKS

Journal home

Information for organizers

Information for authors

Search for published proceedings

Contact us

Reprint services from Curran Associates

Comparison of Biogas Productivity in Thermophilic and Mesophilic Anaerobic Digestion of Bioethanol Liquid Waste

N A Wardani[1], N Afiqah[2], M M Azis[1] and W Budhijanto[1]

[1] Chemical Engineering Department, Universitas Gadjah Mada, Jalan Grafika 2, Sleman 55281, Daerah Istimewa Yogyakarta, Indonesia
[2] Chemical Engineering Department, University Technology Petronas Persiaran UTP, 32610 Seri Iskandar, Perak, Malaysia

wiratni@ugm.ac.id

Abstract. Most of the anaerobic digesters in Indonesia are run under mesophilic conditions because the Indonesian climate is sufficiently pleasant to maintain mesophilic conditions easily. On the other hand, thermophilic anaerobic digestion offers an advantage of a much higher biogas production rate, although it needs more tedious control and energy supply to achieve the thermophilic temperature of 50-60°C. We run laboratory-scale experiments to compare the process performance of anaerobic digestion of bioethanol liquid waste (vinasse) at mesophilic and thermophilic conditions. Inoculum on this test using digested cow manure. Start-up was conducted with only the inoculum inside the reactors. After the reactor passed through the starvation period, the vinasse feeding was started. The hydraulic retention time (HRT) was gradually decreasing from 60, 42, until 30 days. Each step of HRT took 7 up to 14 days for stabilization. At the same HRT, thermophilic reactors produced biogas at the rate of four times faster than the mesophilic reactors. The methane concentration in the biogas for the thermophilic process was relatively the same as the mesophilic one. With such a higher rate of biogas production, the energy cost for thermophilic can be possibly better compensated.

1. Introduction

Anaerobic digestion for waste processing has been applied worldwide for quite a long time. The process has been proven to exhibit several functions for reducing pollution from air, soil, and water, and more importantly, it produced biogas as a renewable energy source while converting the pollutants [1]. Anaerobic digestion uses anaerobic microorganisms that will consume the organic pollutants such as carbohydrate, fat, and protein [2]. For the sake of process design and optimization, the complicated process of anaerobic digestion is generally simplified into four steps. Those are hydrolysis, acidogenesis, acetogenesis, and methanogenesis, as illustrated in figure 1 [3].

Analysis of Electricity Generation from Landfill Gas (Case Study: Manggar Landfill, Balikpapan)

C K Banaget[1], B Frick[2] and M N I L Saud[1]

[1]Environmental Engineering Study Program, Institut Teknologi Kalimantan, Balikpapan 76127, Indonesia
[2]Energy Engineering Department, Polytech Annecy-Chambery, Universite Savoie Mont Blanc, Annecy 74940, France

keumala@lecturer.itk.ac.id

Abstract. Despite of adverse impacts on the environment, landfill has big potency as renewable energy sources since it generates biogas from organic waste degradation process which can be used for power plant purposes. In 2017, the volume of waste disposed to Manggar Landfill was 128,000 tons, which mostly are organic waste (59.4%). Therefore, this study aims to estimate the amount of energy that can be generated from landfill as methane, by calculating biogas production in landfill based on waste generation, as well as composition using LandGem and Afvalzorg model. In 2017, Manggar landfill produced about 4×10^3Mg CH_4/year or about 5.31 to 6.44×10^6 m^3/year. The estimated methane then converted to electricity using gas engine and trigeneration methods. Using gas engine, methane from Manggar Landfill is predicted to produce electricity about 787 MWh/month. On the other hand, if trigeneration method applied (by keeping the same gas engine as before), it produces 41.8% of heat which convert to 29.3 kWh of cold. In conclusion, it will be beneficial if Manggar Landfill capture and treat methane for generating electricity since Manggar Landfill produces about 6.44×10^6 m^3/year which can be used for electricity purposes of around 10,000 people using gas engine.

1. Introduction

Landfilling is the most preferable method applied in developing countries, particularly in Indonesia, in handling its municipal solid waste. It is considered as cheap and convenient method since it is not restricted to advanced technology for treating and managing waste. Despite of its economics advantages, landfilling gives many adverse impacts on environment. The failure of landfilling methods may lead to many environmental contaminants due to leachate and which are soil pollution, ground water contamination and air pollution due to emission of greenhouse gases [1]. Therefore, waste management hierarchy put landfilling method as last option preferable due to its adverse effect to environment.

In Balikpapan, landfilling has been practiced many years ago, but proper landfilling area named Manggar landfill was opened in 2002. When opened in 2002, the volume of waste disposed to Manggar landfill was 69,000 tons and in 2017 it reached 128,000 tons. In a period of 15 years, the volume of waste has doubled. Urban waste that is directly piled up still contains a lot of organic waste at 59.4%. Followed by plastic waste, paper, and others, which have a composition respectively: 13.51%, 12.26%, and 10.62%. This high percentage of organic waste gives adverse impact from landfill gas produced by

Assessment of the efficiency of the wastewater treatment plant: a case of Gacuriro Vision City

M J Nikuze[1], J B Niyomukiza[2], A Nshimiyimana[3] and J P Kwizera[3]

[1,3] Civil, Environmental, and Geomatics Engineering Department, Kigali, Rwanda
[2] Civil Engineering Department, Diponegoro University, Semarang, Central Java, Indonesia

nikuzemariejoselyne@yahoo.fr

Abstract. Wastewater is the liquid waste generated after being used for different purposes. It has a great impact on the environment when discharged untreated or partially treated. The poor management of wastewater at Gacuriro wastewater plant leads to the discharge of subsequently untreated and partially treated wastes. Therefore, the research focused on the assessment of the efficiency of Gacuriro wastewater treatment plant. Samples of wastewater were collected at the inlet and outlet of the treatment plant for laboratory analysis. Parameters tested include pH, Temperature, Total Suspended Solids (TSS), Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Coliform (TC), Oil and Grease, and Total Phosphorus (TP). Inlet and outlet results are 112.5-364.5 mg/l, 60-190.2 mg/l for BOD; 447-820 mg/l, 46.6-300 mg/l for COD, 19-24 mg/l, 12-18 mg/l for TSS; 6.8-9.05 mg/l, 6.4-5.75 mg/l for TP, 2419.6-50000 counts/100 ml, 1730-30000 counts/100 ml for TC, and 1.012-1.079 mg/l ,0.75-0.923 mg/l for Oil and Grease. Their percentage reduction of efficiency were in the range of TSS (62.50-75%), COD (63.05-78.74%), BOD5 (69.97-83.70%), Oil and Grease (48.67-62.19%), TP (49.26-60.82%), TC (57.14-64.00%) while average inflow and outflow discharge are 2.5 l/s and 1.5 l/s, respectively. The effluent from the treatment plant needs improvement in disinfection systems to remove bacteria out of discharged effluent.

1. Introduction

Water is a valuable commodity, yet scarce in most countries and one of the challenges to engineers, hydrologists, technologists, and scientists is protecting the water resources [1]. World Health Organization (WHO) reported that 80% of illnesses and infections in the world are due to inadequate treatment of sewage, and more than 3.4 million people die annually because of pathogens living in the aquatic environment [2]. Wastewater is essentially the liquid waste conveyed after a variety of uses has fouled it. The water supplied to a given region or apartment has several chemical substances and microbial bacteria during its application such that the wastewater needs a polluting potential and becomes a health and environmental hazard. Communicable diseases of the intestinal tract such as cholera, typhoid, dysentery and water-borne diseases like infectious hepatitis are spread from uncontrolled disposal of wastewater, and therefore prevention of communicable diseases and protecting public health attracts the primary objective of sanitary wastewater disposal [2]. However, management and handling of wastewater have been one of the main challenges facing developing

Addition of Solid Recovered Fuel (SRF) to the Bio-drying Process and the Effects of Variation in Air Discharge on Temperature Parameters and Urban Waste Water Content

C Soriano[1], D I Gita[2], D Pertiwi[2], A R Rizaldianto[2] and A D Farhah[2]

[1] USDA Forest Service, Washington, D.C., United States of America
[1] Department of Environmental Engineering, Diponegoro University, Semarang-Indonesia

dayoeimaniargita@students.undip.ac.id

Abstract. Bio-drying is a technology used to reduce water content in waste using microorganisms that naturally increase the temperature in the decomposition process. With this process, the water content can drop more within a month. Bio-drying produces a product in the form of Solid Recovered Fuel (SRF) which is produced from partially degraded waste. To obtain a waste that is not fully stabilized and maintains a high biomass content, degradation of organic compounds is carried out partially. During the bio drying process, temperature affects the degradation process. Temperature affects the bio drying, which will also affect the bio drying product that is indicated by the value of water content. Therefore, in this study, the change of process parameters will be explained, which is in the form of temperature and water content, that is caused by the difference in the air discharge entering the reactor (0, 2, 4, and 6 l/m) with the initial water content of 60%-65%. After 30 days, the optimum airflow is 4 l/m with a decrease in water content of 58.29%; on the last day of the bio drying process (30th day).

1. Introduction

Waste production in Indonesia has increased every year [1]. From the data of the Ministry of Environment and Forestry, it is noted that the total waste in 2017 was 65.8 million tons, and the total waste in 2018 was 65.752 million tons. This number is estimated to increase by an average of one ton per year. However, proper management efforts cannot yet be made because of the high investment required.

One alternative to reduce waste volume is by waste to energy (WTE) technology with an effectiveness of 90% [2]. Waste that can be converted into energy depends on the density, composition, and relative percentage of water content [3]. However, most of the waste in Indonesia is a wet waste with a lower calorific value, which makes it difficult to be burned [4]. Utilization of waste by increasing the calorific value of waste in the bio drying process is one of the excellent and effective solutions for reducing the level of municipal solid waste (MSW) in these conditions [5].

Bio-drying is the decomposition of partial organic substances by utilizing the heat generated by microorganisms that are helped by aeration [6]. The bio drying process only partially stabilizes waste.