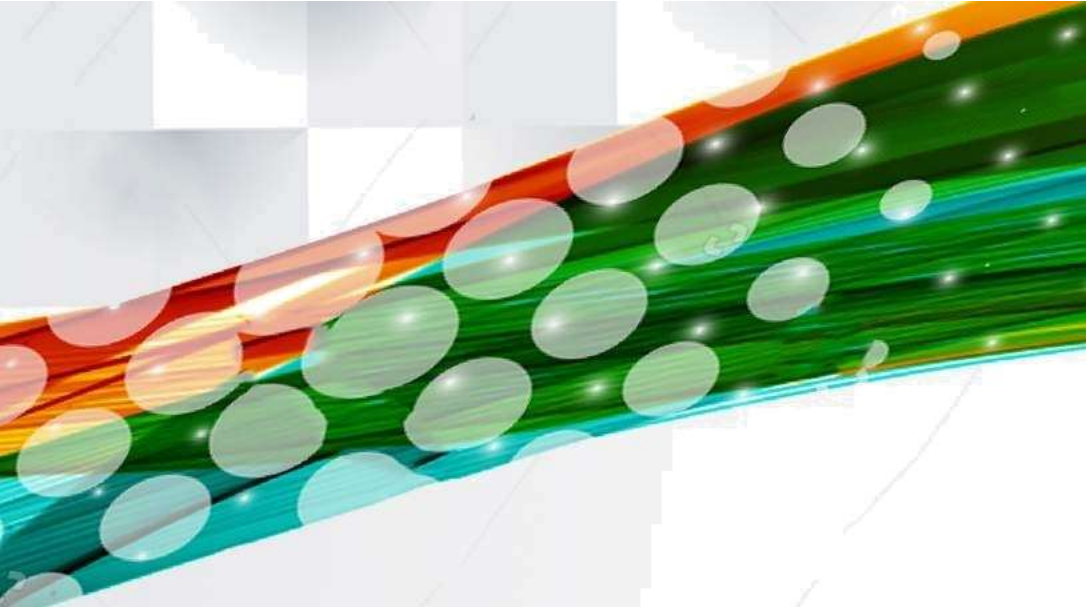


BOOK OF ABSTRACTS

The 2nd International Conference on Industrial Technology for Sustainable Development



PTi
8 A G U L T B

22-23 August 2019
Makassar-Indonesia

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PROGRAM SCHEDULE

Day 1st: Thursday, August 22nd 2019				
07.00 - 08.00	Registration			
08.00 - 09.45	<p>Opening Ceremony</p> <ol style="list-style-type: none"> 1. Opening by MC 2. Al-Qur'an Recitation 3. The National Anthem of Indonesia 4. Opening Prayer of International Conference 4. Opening Remarks: <ul style="list-style-type: none"> - Chairperson of International Conference - Dr. Ir. Lamatinulu, ST., MT., IPM., AER - Officially open the International Conference - Rector of Universitas Muslim Indonesia 6. Keynote Speech <ul style="list-style-type: none"> - University Savoie Mont Blanc, France - Prof. Herve Boileau - Kyushu University, Japan - Assoc. Prof. Gerard B. Remijn - Universiti Sains Malaysia - Major Ts. Dr. Mohd Hazizan Bin Mohd Hashim - Chiang Mai Rajabhat University, Thailand - Dr. WorajitSettaphun - Universitas Muslim Indonesia - Ir. Hj. Setyawati Yani, ST., MT., Ph.D., IPM., AER 			
09.45 - 10.30	Coffee Break			
10.30-11.00	Preparation for Parallel Session Presentation			
1st Session Parallel Presentation				
<i>Room</i>	Jasper	Sapphire	Emerald	Topaz
<i>Session Chair</i>	Dr.Eng. Irma Nur Afiah	Dr. Wiratni Budhijanto	Dr. Muthia Elma	Prof. Syahrudin Nawi
<i>PIC</i>	M. Ikhwan Nur Safutra	Muh. Arman	Rafdi Abd. Majid	M. Hardin Wakila
11.00-11.07	Analysis of The Effect of Work Activities and Lift Loads on Musculoskeletal Weakness in Factory Workers (Study Case, CV. Harapan Makmur)	Potential of Alkaloids Compound of Mangrove Perepat (Sonneratia Alba) Root Ethanol Fraction as A Natural Antibiotics Source	ZSM-5 zeolite from siliceous palm oil baltom ash under hydrothermal condition with varing aging time	Analysis of the Treatment of Leaf Extract of Crown Flower Plant (Calotropis gigantea) on the Mortality of Aedes aegypti Larvae
	(Sri Rahayu, Muhammad Dahlan, Ahmad Padhil)	(Madyawati Latief, Muhaimin, Hilda Amanda, Indra Lasmana Tarigan)	(Lenny Marlinda, Hari Wiki Utama, Wahyudi Za ar, Edwin Permana, Rahmi, Nur Wahyu Wulandari)	(A. Rizki Amelia A, Haeruddin, Rizky Ramadhanty)



1st Session Parallel Presentation

11.07-11.14	Strategy for Development of Banana Chips in Bungku Utara District	Effect of Backwashing on Performance of Interlayer-free Silica Pectin Membrane for Wetland Saline Water	Copyrolysis of Rice Husk and Plastic Bags Waste from Low Density Polyethylene (LDPE) for Improving Pyrolysis Liquid Product	Impact of Health Education Media in Era Industrialization of Care for Eat Patterns of Pregnant Women High Risk
	<i>(Chaerul Fahmi Yusuf, Nur Mawati Mambuhu)</i>	<i>(Muthia Elma, Aulia Rahma, Sintong Leonardo Situngkir, Muh. Farid Hidayat)</i>	<i>(Hesti Wijayanti, Chairul Irawan, Yuli Ristianingsih)</i>	<i>(Tutik Agustini, Yusriani)</i>
11.14-11.21	Study Illuminaton Levels In Public Transportation of City Makassar Value of Ergonomic	Kinetics Study of Glycerol Degradation Reaction From Biodiesel Waste Using Sonication Method	Response Surface Methodology for Optimization Produ tion Biodiesel from Coc nut Oil by Microwave-Assisted Transesterificationusing a low concentration NaOH Catalyst	The Role ofHealth Workers in Implementing of Childbirth Planning and Complication Prevention Program
	<i>(Ahmad Hanafie, Andi Haslindah, Hammada Abbas, Suradi)</i>	<i>(Isran Asnawi, Rismawati Rasyid, Dirgahayu Lantara, Ruslan Kalla)</i>	<i>(Mahfud Mahfud, Lailatul Qadriyah, Zakir Sab ra, Andi Suryanto)</i>	<i>(Muhammad Khidri Alwi, Yusriani)</i>
11.21-11.28	Tracking Masela Block: The Perspective and Roles of Local IE and Government could Play With	The Use of Papaya Seeds as a Natural Coagulant in Water Treatment fromTello River	Antibacterial Activity of Honey and Lime Fruit (Citrus aurantifolia (Christm.) Swingle) Peeling Waste Extract Against Escherichia coli and Staphylococcus aureus.	Impact of Using Gadgets on Subjective Complaints onEye Health Disorders in Adolescents
	<i>(Simah Aisyah Marasabessy)</i>	<i>(Setyo Erna Widiyanti, Eko Wardana Saputra, Nur Insani, Pabbenteng)</i>	<i>(La Ode Sumarlin, Febri Laili Sa'adah, Nani Radiastuti)</i>	<i>(Yusriani)</i>
11.28-11.35	Optimization Of Strong Variation As A Increasing Attraction Power Of Combination Of Welding Materials Welding Model	Thermal cracking of Polyethylene terephthalate and Low-Density Polyethylene plastic waste mixtures at low temperature	Potential Tracking of Cytotoxic Activities of Mangrove Perepa e (Sonneratia alba) Root Extract As An Anticancer Candidate	Identification and Risk Assessment of Environmental Sanitation in Lae-Lae Island, City of Makassar
	<i>(Saripuddin M, Ahmad Hanafie, Hammad Abbas)</i>	<i>(Lenny Marlinda, Heriyanti, Sutrisno, Rahmi, Rahman Yuzhar)</i>	<i>(Madyawati Latief, Nelson, Hilda Amanda, Indra Lasmana Tarigan, Siti Aisyah)</i>	<i>(Alfina Baharuddin, Nurbaeti, Nurfardiansyah Bur, Syahab Salamun)</i>



1st Session Parallel Presentation

11.35-11.42	Optimum Staying-Time in Wastewater Treatment System With Combination of Eichornia Crassipes, Zeolite and Betel Leaf Extract	Comparing Silica and Zeolite Sand as Filter Media by Neutralization, Coagulation and Vertical Sand Filtration for Treating of Wetland Saline Water	Enhancement Performances of Ultrafiltration Polysulfon Membrane (Uf-Psf) for Organic Matter Removal by Coagulation-Adsorption in Peat Water	Factors Related to Human Reliability Case Study: Workers in Units BTG Boiler, Turbin, Generator) PT. Semen Tonasa Biringkassi Port Pangkep District 2019
	(Andi Haslinah, Andrie)	(Muthia Elma, Muh. Zainuddin, Eris Munandar, Sintong Leonardo Situngkir, Muh. Farid Hidayat, Dhiyaur Rahmah, Nur Baity)	(Amalia Enggar Pratiwi, Muthia Elma, Aulia Rahma, Erdina L.A. Rampun, Mahmud, Chairul Abdi, Raisa Rosadi)	(Nurbaeti, Yuliati, Alfina Baharuddin, Putri Indah M)
11.42-11.49	Design of Driving Precautions Information Tool Using Ultrasonic Sensors	Catalytic Cracking Crude Biodiesel from Used Cooking Oil with Catalyst Cr ₂ O ₃ /Zeolite	Synthesize Fe ₃ O ₄ -TiO ₂ composite for methyl orange photocatalytic degradation	Analysis of Mycoplastic Contamination on Green Shellfish (Perna Viridis) on the Tallo River in Makassar City in 2019
	(I Saraswati, R Wiryadinata, A Setyana)	(Isalmi Aziz, Nanda Saridewi, Fitri Febriyani, Lisa Adhani)	(Indar Kustiningsih, Fajariswan Nurrahman, Desi Permatasari, Denni Kartika Sari, Jayanuddin)	(Nurfardiansyah Bur, Abdul Gafur, Alfina Baharuddin)
11.49-11.56	Product Development Analysis Of Dragon Fruit Praline Chocolate By Using Quality Function Deployment (QFD) Method	Characterization of Zeolites from Tasikmalaya and Its Application for Ammonium removal	Esterification of glycerol with acetic acid into bioadditive triacetin with Fe ₂ O ₃ /activated carbon catalyst	Perceived External Prestige: Meta-perception of Nurses and Customers's Opinion in Hospital, Makassar City
	(Andi Halindah, Andi Haslinah, Alfira Mutmainnah, Ilfa Zahrani Jail)	(Teguh Kurniawan, Nuryoto)	(Zahrul Mufrodi, Shinta Amelia)	(Nurmiati Muchlis, Fendy Suhariadi, Nyoman Anita Damayanti, Ah. Yusuf, A. Rizki Amelia)
11.56-12.03	Analysis of the Effect of OSHMS Implementation on Employee Productivity with Partial Least Squares (PLS) Method at PT Pelindo IV Makassar Container Terminal	Noodle Wastewater Treatment Using Simple Liming, Coagulation and Filtration Processes	The Acacia bark extract as a corrosion green inhibitor for the prevention of dry corrosion in steel	Social Harmonization and Law Awareness of Society to Overcome Intergroup Conflict in Makassar City



1st Session Parallel Presentation

	<i>(Irma Nur Afiah, Taufik Nur, Ririn Ayu Lestari)</i>	<i>(Anna Sumardi, Muthia Elma, Aulia Rahma, Sintong Leonardo Situngkir, Muh. Farid Hidayat, Muh. Zainuddin, Eris Munandar)</i>	<i>(Diah Riski Gusti, Intan Lestari, Faizar Farid)</i>	<i>(Syahrudin Nawi, Muhammad Syarif Nuh, Hasan Kadir, Azwad Rachmat H)</i>
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12.03 - 13.30

Lunch Break

2nd Session Parallel Presentation

<i>Room</i>	Jasper	Sapphire	Emerald	Topaz
<i>Session Chair</i>	Dr. Lamatinulu	Dr. Lenny Marlinda	Dr. Anwaruddin Hisyam	Dr. Hasriwiani H. Abbas
<i>PIC</i>	M. Ikhwan Nur Safutra	Muh. Arman	Rafdi Abd. Majid	M. Hardin Wakila
13.30-13.37	Analysis of The Cause of Production Process Failure in Dg. Sija Coffee Processing Industry Using FMEA and FTA Methods	Comparison Between Strong and Weak Acid As An Acid Catalyst in Fabricating Silica Membranes for Water Desalination	Paving Block from LDPE Plastic and Pyrolysis Residue	Importance-Performance Analysis of Academic Services for Public Health Students
	<i>(Putri Adytia Cahyani, Abdul Mail, Nurhayati Rauf, Ahmad Padhil)</i>	<i>(Sazila Karina Rahman, Anna Sumardi, Adhe Paramita, Erdina Lulu Atika Rampun, Aulia Rahma, Muthia Elma)</i>	<i>(Heriyanti, Lenny Marlinda, Sutrisno, Malhatul Ulfa)</i>	<i>(Mansur Sididi, Nurmiati Muchlis, A. Surahman Batara)</i>
13.37-13.44	Analysis of Working Posture Using Manual Task Risk Assesment (Mantra) Method in Tofu Production Process in Baji	Interlayer-free Glucose Carbonised Template Silica Membranes Fabricated at Low Calcination Temperature via Rapid Thermal Processing (RTP) Technique	Development of a Diffusion-based Mathematical Model for the Prediction of Gold Electrowinning Performance	Comparasion Analysis of Organic Rice Farming and Conventional Rice Farming
	<i>(Muhammad Dahlan, Andi Pawennari, Irma Nur Afiah, Agfina Wardhani)</i>	<i>(Maimunawaro, Muthia Elma, Sazila Karina Rahman, Aulia Rahma, Erdina Lulu Atika Rampun, Mufidah Nur Amalia)</i>	<i>(Mustaf Mohamed, Sh kerri Ismail, Imam Santosa, Anwaruddin Hisyam)</i>	<i>(Nuraeni, Muhammad Salim, Farizaah Dahifina Amran, Irfan)</i>



2nd Session Parallel Presentation

13.44-13.51	Analysis of Manual Material Handling Using Niosh Lifting Equation Method in Indonesia Bureau of Logistics (BULOG) Warehouse Makassar	Effectiveness of Nano-chitosan Dispersion in Ice Blocks for Fresh Fish Preservation	Determination Percentage Of Inhibition Chitin Deasetylase Enzyme In Optical Biosensor Using Chitosan Membrane Modification	Analysis of The Eye Fatigue Subjective Complaints on Airnav Air Traffic Controller Workers Branch Perum LPPNPI Makassar
	<i>(Rahmaniah Malik, Nurhayati Rauf, Irma Nur Afiah, Indriyati)</i>	<i>(Wiratni Budhijanto, Yohannes Susanto, Prihati Sih Nugraheni)</i>	<i>(Hamsina, Andi Abriana)</i>	<i>(Suharni A. Fachrin, Alfina Baharuddin, Rahmaniati)</i>
13.51-13.58	Analysis of Lightweight Bata Production Capacity Using Simulation Method of System Dynamics in Maccon Company Makassar	Effect of n-Hexane as Co-solvent on In situ Transesterification from Spirulina platensis using Microwave	Upgrading of Tantalum and Niobium Oxides from Bangka Tin Slag with Sodium Hydroxide Followed by Nitrate and Phosphate Acid	Evaluation of Soil Characteristics on Coffee Land in Sinjai Regency, South Sulawesi
	<i>(Riska Iva Riana, Abdul Mail, Muhammad Nusran)</i>	<i>(Ummu Kalsum, Mahmuddin Mahmuddin, Ahmad Roesyadi, Mahfud Mahfud)</i>	<i>(Rafdi Abdul Majid, S. Permana, Debby Rachel, Wahyu Kartika, Darnengsih, Munira Munira, Mustafiah Mustafiah)</i>	<i>(Asma Assa, Jamilah, Arni Pratama, Rahmad Wahyudi, Mamang)</i>
13.58-14.05	Analysis of Production Capacity Planning to Meet The Consumer Request Using The Rough Cut Capacity Planning (RCCP) in PT. Maccon Generasi Mandiri Makassar	The effect of catalyst concentration and reaction time on biodiesel production from palm oil using a catalyst $Mg(OH)_2 / \gamma-AI_2O_3$	The Application of Liquid Pyrolysis of Coconut Shells on the Preservation of Mackerel Fish	Design of Juleha Knife Product and Models of System Dynamics Halal Chicken Product in Makassar City
	<i>(Suraidah, Lamatinulu, Muhammad Yakub, Ahmad Padhil)</i>	<i>(Winda Novia, Ikkal Jafar, Rahmaniah Malik, Anshariah, Rismawati Rasyid)</i>	<i>(Andi Aladin, Setyawati Yani, Takdir Syarif, Basri Modding, Lastri Wiyani)</i>	<i>(Muhammad Nusran)</i>



2nd Session Parallel Presentation

14.05-14.12	Production Scheduling with Comparison Application of The Methods of Campbell Dudek Smith, Heuristic Pour and Palmer to Minimize Makespan Time (Case Study PT. JAPFA COM Feed Indonesia Tbk Unit Makassar)	Review on Solvent Extraction Of Bitumen From Asbuton As Raw Material for Non-Conventional Oil	Making Solid Fertilizer by Aerobic Process	Study of Campus-Based Trip Generation Model (Case Study: Muhammadiyah University of Makassar)
	<i>(Siti Ruqaiyah, Takdir Alisyahbana, Ahmad Padhil, Lamatinulu)</i>	<i>(Hermin Hardyanti Umar, Syahnur Said, Zakir Sabara, Setyawati Yani)</i>	<i>(N Nurjanah, La Ifa, Lukmanul Afdatullah, Dwi Nurhudaeni Abdullah)</i>	<i>(Lambang Basri Said, Hamdan Kadir)</i>
14.12-14.19	The Effect of Grain Size on The Compressive Strength of Canary Shell Bio-Briquette	Box-Behnken Design for Optimization of Microwave-Assisted Transesterification in the Production of Methyl Ester from Coconut Oil using CaO heterogeneous catalyst	Analysis of Liquid Smoke from Biomass Waste of Palm Kernels and Coconut Shell Using GC-MS	Mercury Pollution in The Aquatic System Near of Urban Artisanal Gold Mining (UAGM) Activity in Makassar, South Sulawesi, Indonesia
	<i>(Nur Asmiani, Sri Widodo, Bayu Sanjaya, Alfian Nawir, Nurliah Jafar, Alam Budiman Thamsi)</i>	<i>(Andi Suryanto, Ardiansyah, Surapto Suprpto, Mahfud Mahfud)</i>	<i>(Mustafiah Mustafiah, Rafdi Abdul Majid, Darnengsih, Munira Munira)</i>	<i>(Hasriwiani Habo Abbas, Masyuki Sakakibara, Lukmanul Hakim Arma, Suharni Andi Fachrin, Abdul Gafur)</i>
14.19-14.26	Determination of Nickel (Ni) Content Based on Thermal Analysis	Utilization of Microwave in Atsiri Oil Extraction from The Cananga Flower	Distribution of Arsen (As) as Soil Pollutant Around Antang Landfills Makassar City, South Sulawesi Province, Indonesia	MSVR (Mining Simulator Virtual Reality) Mining Activity Simulation Application Using Virtual Reality Technology
	<i>(Zulkifli Rumba A. Singku, Emi Prasetyawati Umar, Tri Andrayani HS. Kandora, Uswatul Khaerah, Jamaluddin, Habibie Anwar, Nurliah Jafar, Firman Nullah Yusuf)</i>	<i>(Zakir Sabara, Muh. Azis Albar J, Andi Syarifuddin, Andi Pawennari, Andi Suryanto)</i>	<i>(Andi Artiningsih, Sri Widodo, Alfian Nawir, Nurliah Jafar, Harwan)</i>	<i>(Giswa Ade Nugraha K, Emi Prasetyawati Umar, Anshariah, Zakir Sabara)</i>



2nd Session Parallel Presentation

14.26-14.33	Organic Geochemistry of Outcrop Samples and Doda Oil Seep Collected from Lariang and Karama areas, West Sulawesi, Indonesia	Characteristics of Virgin Coconut Oil Emulsion at Room Temperature Storage	Optimization of Microwave Assisted Transesterification Insitu for Biodiesel Production from Microalgae using Box-Behnken Desig	Map of Landslide Disaster Area As A Disaster Management Effort In Masamba Sub-District, Indonesia
	<i>(Rakhmat Fakhruddin, Taufik Ramli, Dzul Fadli, Agus Ardianto Budiman)</i>	<i>(Lastri Wiyani, Andi Aladin, Setyawati Yani, Rahmawati, Mustafiah Mustafiah)</i>	<i>(Ummu Kalsum, Viqhie Aswi, Lailatul Qadriyah, Mahfud Mahfud)</i>	<i>(Alam Budiman Thamsi, Arif Nurwaskito, Nur Asmiani, Alfian Nawir)</i>
14.33-14.40	X			Effects of Multimedia Video Learning (MVL) on Male Sex Male (MSM) knowledge on Sexually Transmitted Infections (SMTs) in Bulukumba Regency <i>(Sukirawati, Sri Salmawati, Intan Deasy Aghmaitry, Andi Asrina, Fairus Prihatin Idris)</i>
14.40-14.47				The effect of video toward Gay, Shemale, and Man who have sex with men (MSM) knowledge in effort to prevent sexually transmitted infections in Makassar <i>(Mirna, Sri Nurjian, Andi Asrina, Arman)</i>
14.47-16.00				Networking & Coffee Break
16.00-19.00	Free Time			
19.00-22.00	Gala Dinner @ 2nd Floor MYKO Poolside			
Day 2nd: Friday, August 23rd 2019				
07.30 - 12.00	City Tour			



PREFACE

Assalaamu 'alaikum Wr. Wb.

The 2nd International Conference on Industrial Technology for Sustainable Development (2nd ICon-ITSD) is the second conference series hosted by the Faculty of Industrial Technology Universitas Muslim Indonesia (FTI-UMI) and is held in Myko Hotel and Convention Center, Makassar Indonesia on August 22-23, 2019.

The 2nd ICon-ITSD is the place for academia, industries, and government representative to share and discuss various issues in the sustainable development of industrial technology, including engineering, environmental, socio-cultural, economic growth, policies, and related topics. This conference involves 5 keynote speakers from France, Japan, Thailand, Malaysia, and Indonesia. The participants are from researchers, practitioners, government officers, and students from some countries.

FTI-UMI and 2nd ICon-ITSD 2019 committee are thanking prominent keynote speakers, namely; Professor Herve Boileau (Universite Savoie Mont Blanc, France), A/Prof. Gerard B

Remijn (Kyushu University, Japan), Dr. Worajit Setthapun (Chiang Mai Rajabhat University, Thailand), Major Ts. Dr. Mohd Hazizan bin Mohf Hashim (Universiti Sains Malaysia, Malaysia) and Dr. Setyawati Yani (Universitas Muslim Indonesia, Indonesia) for their participants in the conference to deliver keynote speeches which covers topics of sustainable industrial practice, technology, management, and policy.

Special thank you goes to Badan Kejuruan Teknik Industri Persatuan Insinyur Indonesia (BKTI PII), Badan Kejuruan Kimia Persatuan Insinyur Indonesia (BKK PII), Badan Kejuruan Teknik Pertambangan Persatuan Insinyur Indonesia (BKTP PII), Postgraduate Program Universitas Sultan Ageng Tirtayasa, Universitas Ahmad Dahlan, Politeknik Negeri Kupang, and Indo-Franco Consortium for Sustainable Tourism for co-hosting the conference.

I am very grateful to the 2nd ICon-ITSD committee, session chairs, and student volunteers who selflessly contribute to the success of this conference. Also, we are thankful to all the authors who submitted papers, because of which the conference became a story of success. This book of abstract presents all abstract accepted for oral presentation in this conference. I hope this book could gain useful information for their research study.

I wish you all have a productive meeting.

Thank you,

*Wallahu Walliyut Taufiq Walhidayah,
Wassalamu Alaikum Wr. Wb*

Dean of Faculty of Industrial Technology,

Dr. Ir. H. Zakir Sabara HW, ST., MT., IPM., ASEAN Eng.



ABSTRACTS OF KEYNOTE SPEAKER

1. **Prof. Herve Boileau** - University Savoie Mont Blanc, France
2. **Assoc. Prof. Gerard B. Remijn** - Kyushu University, Japan
3. **Major Ts. Dr. Mohd Hazizan Bin Mohd Hashim** - Universiti Sains Malaysia
4. **Dr. Worajit Settaphun** - Chiang Mai Rajabhat University, Thailand
5. **Ir. Hj. Setyawati Yani, ST., MT., Ph.D., IPM., AER** - Universitas Muslim Indonesia



IDENTIFICATION AND RISK ASSESSMENT OF ENVIRONMENTAL SANITATION IN LAE-LAE ISLAND, CITY OF MAKASSAR

Alfina Baharuddin*, Nurbaety, Nurfardiansyah Bur, Syahab Salamun

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ABSTRACT. Based on data from the Department of Marine, Fisheries, and Agriculture of Makassar City about Data on Islands in the City of Makassar, mentioning that the main environmental-based diseases that have also been found as endemic diseases in islands include malaria and leptospirosis. However, basically the health problems faced by island dwellers are still dominated by environmental health issues and unhealthy behavior. The aim of this research was to identify and assess the risk of environmental sanitation on the island of Makassar in Makassar. And get an overview of environmental health hazards on the island of Lae-lae and the chance of exposure to environmental health hazards in the form of risky behavior of households on the Lae-lae island of Makassar. Based on the results of research on environmental risk assessment on the island of Lae-lae it can be concluded that. Environmental health hazards, including the use of flavored water sources, the absence of sewerage (SPAL) and household waste are flowed to the yard and the dangers associated with the absence of household waste bins. Opportunities for exposure to environmental health hazards in the form of risk behaviors (unhealthy behavior) include: open defecation behavior (BABS), not processing and not processing household waste and behavior that does not process/cook water before drinking. The environmental risk assessment on the island of Laee found that RW001/RT02 was in the very high risk category (4), RW001/RT001 with less high risk categories (3), RW001/RT04 and RW003 / RT01 in the medium risk category. Meanwhile the remaining 6 other RTs spread over 3 RWs have less risk categories (1). To the government, especially the health office of the city of Makassar, needs to strengthen the system specifically in

remote areas such as small islands, including meeting the need for clean water through clean water supply from the city of Makassar or through a program to manage seawater into fresh water.

Keywords: risk assessment, sanitation, Lae, Lae Island, environmental health