The 3rd International Conference of **Transdisciplinary Research on Environmental Problems** in Southeast Asia (TREPSEA2018) August 11 - 12, 2018 in Gorontalo, Sulawesi, Indonesia.

Conference Book

Disaster Mitigation Sustainable Development and Environmental Volcanic Eruption Flood Preservation Earthquake **Heavy Metal Problem** Tsunami Conversion of Waste to Energy Landslide **Renewable Energy** Groundwater **TREPSEA** 2018 INTERNATIONAL CONFERENCE **Measure and** Improvement to Urban trepsea.org **Environmental** Food and Problem **Human Security Urban Management and Community Development** Food **Urban Transportation Planning Security Problems Traffic Control and** Surveillance System Garbage Problem Waste Water Problem



Research Institute for **Humanity and Nature** (RIHN)

State University of Gorontalo (UNG)



Bandung Institute Ehime University of Technology

(ITB)



Muhammadiyah University of Gorontalo (UMGo)

Organized by



Designed by: Hotel TC Damhil UNG Selvia Novianti, S.T JI Ir. H Joesoef Dalie, Dulalowo Timur Central Kota, Kota Gorontalo, Gorontalo 96128 Phone: (0435) 825 025 Fax: (0435) 825 065 Dr. Idham Andri Kurniawan, S.T Firman Sauqi N S, S.T Selvia Novianti, S.T trepsea2018@gmail.com trepsea.org

> Printed: Bandung 2018

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ABOUT TREPSEA

The International conference of the Transdisciplinary Research on Environmental Problems in Southeast Asia (TREPSEA) aim to conduct integrative research of interactions between natural environment and human-social systems in Southeast Asia to solve the environmental problems in Southeast Asia. Its scope thus includes topics of geoscience, environmental science, engineering, medicine, economy, culture, education, and administration.

Transdisciplinary Research (TDR) is defined as research efforts conducted by investigators from different disciplines and nonacaemic participants working jointly to create new conceptual, theoretical, methodological, and translational innovations. Related stakeholders include sponsoring institions, governments, development organizations, business and industries, civil society (inhabitant, NGO's etc), and the media.

We are expanding the area to environmental problems and current contributions to have more growth for international conference on the matter of environmental problems. We believe that you definitely have interesting for joining it. The International conference of the Transdisciplinary Research on Environmental Problems in Southeast Asia (TREPSEA) aim to conduct integrative research of interactions between natural environment and human-social systems in Southeast Asia to solve the environmental problems in Southeast Asia. Its scope thus includes topics of geoscience, environmental science, engineering, medicine, economy, culture, education, and administration.



TREPSEA 2014

1st International Conference of Transdisciplinary Research on Environmental Problem in Southeast Asia 2014 (TREPSEA 2014), was held on 4 th and 5th September 2014 at Swiss Belinn Hotel, Makassar, Indonesia, which was organized by Ehime University, Bandung Institute of Technology and Hasanuddin University. The conference featured both oral and poster presentations and workshop. Conference participants presented, shared and discussed the ways to solving the problems in Southeast Asia with stakeholders based on their experiences on topics related to disaster mitigation, measure and improvement to urban environmental problems, sustainable development and environmental preservations, and



2 n d I n t e r n a ti o n a l Conference of Transdisciplinary Research on Environmental Problem in Southeast Asia 2014 (TREPSEA 2014), was held on September 20th – 22nd, 2016 in Bandung, West Java, Indonesia, which was organized by Ehime University, Bandung Institute of Technology and State University of Gorontalo. The conference featured both oral and poster presentations and workshop.

TREPSEA 2016

Conference participants presented and shared their experiences on topics related to disaster mitigation, measure and improvement to urban environmental problems, sustainable development and environmental preservations, and security of food from their studied regions.

The 3rd international conference of the Transdisciplinary Research on Environmental Problems in Southeast Asia (TREPSEA 2018) will be held on August 11 – 12, 2018 in Gorontalo, Sulawesi, Indonesia

WELCOME MESSAGE —

Our Earth, which is the most beautiful planet in our solar system with uncountable natural resources and artistic appeal of natural beauties and it can only support living organisms according to our acquired knowledge from the science. But our ideal idea for modern living style, industrialization, technology revolution, and improper usage and exploiting of natural resources have made our planet earth suffered from natural disasters: ozone layer depletion, global warming, sea level rising, etc. as well as man-made environmental problems: air pollution, water pollution, industrial waste water contamination of the rivers, mercury pollution, excessive amount of chemicals and heavy metals in foods, etc. and these further lead to the health and social problems. Countries have been suffering from these issues nowadays but developing countries may suffer much higher due to the issue of poverty as the underlying background.

In order to solve this, the integrative approach with research on environmental problems and humanity is necessary. The transdisciplinary research is defined as research efforts conducted by researchers from different disciplines and non-academic stakeholders working cooperatively to create new conceptual, theoretical, methodological, and translational innovations in order to create ideal solution for nature and humanity. The stakeholders are funders, governments, development organizations, business companies, industries, and civil societies (inhabitants, NGO/NPO, etc.) and media for completing of the problems in the environment.

The International conference of the Transdisciplinary Research on Environmental Problems in Southeast Asia (TREPSEA) aim to conduct integrative research of interactions between natural environment and human-social systems in Southeast Asia to solve the environmental problems in Southeast Asia. Its scope thus includes topics of geoscience, environmental science, engineering, medicine, economy, culture, education, administration, etc. The participants of this integrative research are having discussions every two year in regularly held international conference where they create translational innovations to solve the environmental and social problems.

It had been the third time for this international conference under the name of TREPSEA, the Transdisciplinary Research on Environmental Problems in Southeast Asia and this year TREPSEA2018 was held on August 11 – 12, 2018 in Gorontalo City, Sulawesi, Indonesia.

As a chairperson of committee, I would like to express my deep appreciation to the Research Institute for Humanity and Nature (RIHN), State University of Gorontalo (UNG), Ehime University, Bandung Institute of Technology (ITB) and Muhammadiyah University of Gorontalo (UMGo) for their sponsorship and organized cooperatively for this conference. I would like to thank our special guests: Prof. Dr. Emil Salim, an economist and known for the first state minister of environment, Republic of Indonesia, and Prof. Dr. Syamsu Qamar Badu, Rector of State University of Gorontalo and our invited speakers: Prof. Dr. Ir. Nelson Pomalingo, M.Pd, the Regent of Gorontalo Regency, H. Hamim Pou, S.Kom, MM, the Regent of Bone Bolango Regency, Prof. Dr. Ir. Mahludin H. Baruwadi, M.P, Vice Rector for Academic Affairs, State University of Gorontalo (UNG), and Ms. Kana Furusawa, Vice Secretary General, the Japanese Geoparks Network for their enormous supports and their excellent keynotes for this conference.

Also, I would like to thanks to committee member: Prof. Dr. Fenty Usman Puluhulawa, M.Hum, State University of Gorontalo, and general committee members: Prof. Dr. Dwia Aries Tina Pulubuhu, Hasanuddin University, Prof. Dr. Emmy Suparka, Bandung Institute of Technology, Prof. Dr. Syamsu Qamar Badu, M.Pd. Rector of State University of Gorontalo, and Dr. Arif Satria, SP, M.Si, Bogor Agricultural University, and Prof. Dr. H. Gufran Darma Dirawan, M. EMD., State University of Makassar, Scientific Committee (SC) members and Local Organizing Committee (LOC) members for their selfless and great efforts for all essential works of this conference. On the behalf of all committee members, I would like to thank the researchers and scientists, paper and poster presenters, students, stakeholders, and funders for their participation, sharing their concerns, their highlight topics, discussing their experience, expertise, and solving these environmental problem issues and all would be remained as priceless contributions for our new generations.

Chairman

Prof. Masayuki Sakakibara Ehime University

COMMITTEE MEMBERS OF TREPSEA 2018

CHAIRMAN

General Chairman	: Prof. Masayuki Sakakibara, Ph.D	EU
Vice Chairman	: Prof. Dr. Fenty Usman Puluhulawa, M.Hum	UNG

GENERAL COMMITTEE

General Committee	: Prof. Dr. Emmy Suparka	ITB
	Prof. Dr. Dwia Aries Tina Pulubuhu, M.A.	Unhas
	Prof. Dr. Syamsu Qamar Badu, M.Pd	UNG
	Dr. Arif Satria, SP, M.Si	IPB
	Prof. Dr. H. Gufran Darma Dirawan, M. EMD.	UNM

SCIENTIFIC COMMITTEE

Scientific Committee	: Ir. Benjamin Sapiie, Ph.D Prof. Budu Dr. Hayati Sari Hasibuan Dr. Heriansyah Putra Prof. Hiroki Kasamatsu Dr. Eng. Imam Achmad Sadisun Prof. Katsuya Tanaka Prof. Katsuya Tanaka Prof. Mai Trong Nhuan Dr. Lukman AR Laliyo Dr. rer. nat. Mohamad Jahja Prof. Dr. Muh. Nadjib Bustan (MD) Dr. Zaenal Abidin	ITB Unhas UI IPB EU ITB RCSE VNUH UNG UNG UNM IPB
Head Secretary Committee SECRETARIAT	 Dr. Sc.Yayu Indriati Arifin Deasy Natalia Botutihe, M.Si Lanto Ningrayati Amali, Ph.D Novriyanto Napu, Ph.D Dr. Lilan Dama Dr. Sunarty Eraku Raflin Hinelo, M.Si Intan Novianti Manyoe, MT Dr. Idham Andri Kurniawan, S.T 	UNG UNG UNG UNG UNG UNG ITB
	Kyoko Jomae	EU

TECHNICAL COMMITTEE

Head	: Dr. Eng. Mirzam Abdurrachman, S.T, M.T	ITB
Creative	: Selvia Novianty, S.T	ITB
Presentation	: Firman Sauqi Nursabila, S.T	ITB
Logistic	: M. Imron Hasani, S.T	ITB
Geotourism	: Alfend Rudyawan, S.T, M.T, Ph.D	ITB
	Nabila Novasari Soviana	ITB

EVENT SCHEDULE OF TREPSEA 2018

DAY0 - August, 10th2018

18.45 – 21.00 Ice Breaking and Introduction

Ballroom

D A Y 1 - August, 11th20<u>18</u>

07.30 - 08.00	Registration	Ballroom
08.00 - 09.00	Opening	Ballroom
09.00 - 09.15	Photo Session	Ballroom
09.15 - 09.30	Coffee Break	Ballroom
09.30 - 10.00	Keynote Speaker 1 A	Ballroom
10.00 - 10.10	Preparation for Invited Speaker 1 A	Ballroom
10.10 - 10.40	Invited Speaker 1 A	Ballroom
10.40 - 10.50	Preparation for Invited Speaker 2 A	Ballroom
10.50 - 11.20	Invited Speaker 2 A	Ballroom
11.20 - 12.30	Lunch Break	Ballroom
12.30 - 14.20	Oral Session 1 (Topic 1, 2, 3, 4)	Selected Room
14.20 - 14.35	Coffee Break	Selected Room
14.25 - 16.45	Oral Session 1 (cont' Topic 1, 2 and Topic 3,4)	Selected Room
16.45 - 18.00	Preparation for Gala Dinner	
18.00 - 20.00	Gala Dinner	Ballroom

DAY2 - August, 12th2018

08.00 - 08.30	Keynote Speaker 1 B	
08.30 - 08.40	Preparation for Invited Speaker 1 B	Ballroom
08.40 - 09.10	Invited Speaker 1 B	Ballroom
09.10 - 09.20	Preparation for Invited Speaker 2 B	Ballroom
09.20 - 09.50	Invited Speaker 2 B	Ballroom
09.50 - 10.00	Coffee Break & Preparation for Poster Session	Ballroom
10.00 - 10.30	Poster Session	Ballroom
10.30 - 13.00	Oral Session 2 (Topic 1, 2, 3, 4)	Ballroom
13.00 - 14.30	Lunch Break	Selected Room
14.30 - 16.30	Workshop	Ballroom
16.30 - 17.00	Coffee Break	Selected Room
17.00 - 18.00	Preparation for Closing Ceremony	
18.00 - 19.00	Closing Ceremony	Ballroom
17.00 - 18.00	Preparation for Closing Ceremony	



ORAL AND POSTER PRESENTATION

DAY1 - August, 11th2018

ORAL PRESENTATION

Session 1: 12.30 - 14.20Session 1 (continued): 14.25 - 16.45

DAY2 - August, 12th2018

ORAL PRESENTATION

Session 2 : 10.30 - 13.00 POSTER PRESENTATION

Session : 10.00 - 10.30



TREPSEA2018 CONFERENCE SUBMITTED ABSTRACTS IN RELATED CATEGORIES

	01 - Disaster Mitigation						
	Oral Presentation						
		Day 1, August 1	.1				
No	Authors	Title	Number	Time			
1	Boby Bagja Pratama	Addressing the Environmental Risk from the Mud Flow Disaster in Sidoarjo	TRP-2	1	12.30-12.45		
2	Ade Panca Z., H. Sari Hasibuan, Raldi Koestoer	Disaster Mitigation of Climate Change Effects on Small Islands (Case of Harapan Island)	TRP-3	1	12.45-13.00		
3	Heriansyah Putra, Hideaki Yasuhara, Naoki Kinoshita, and Erizal	Application of Enzyme- Mediated Calcite Precipitation for Liquefaction Mitigation	TRP-6	1	13.00-13.15		
4	Mohamad Dio Pangulu, Yayu Indriati Arifin, Yemima Otoluwa, Yasin Septian	Identification of Landslide-Prone Area in the Region of Dunggilata Mines Folk as an Effort to Increase Safety of Traditional Miners	TRP-11	1	13.15-13.30		
5	Supartoyo and Nia Kurnia Praja	The Napu - Poso Earthquake on May 29th, 2017	TRP-123	1	13.30-13.45		
6	Purwanto, Djamaluddin, Sabrianto Aswad, Dedi Eka Wahyuwibowo, Hideaki Yasuhara,	Study on Influence of Joint Orientation on Rock Engineering Properties for Mining and Infrastructure Design	TRP-23	1	13.45-14.00		



				I K	ESENIATION
7	Intan Noviantari Manyoe, Ulva Ria Irfan, Dadang Ahmad Suriamiharja, Sunarty S. Eraku, Dewi Darmayanti Tolodo, Siti Suhartini S. Napu	Geology and 2D Modelling of Magnetic Data to Evaluate Surface and Subsurface Setting in Bongongoayu Geothermal Area, Gorontalo	TRP-25	1	14.15-14.30
				COFF	E BREAK 15'
8	Anggun Farwati M. Abdullah, Widya Annisa, Dewi Darmayanti Tolodo, Komang Sugianti, Mohamad Noorhidayat Baruadi.	Measurement of the Distribution of Sedimentary Material on Bolango Watershed for Utilization as a Building Material and Preventing a Flood Based on Spericity and Seive Analysis	TRP-26	1	14.45-15.00
9	Siti Suhartini S. Napu, Tedy Harianto Salama, Fauzul Chaidir A. Usman, Indra Samir	Sediment Material Potential of Bone River as a Prevention of Silting and Flood of Bone River Estuary, Gorontalo	TRP-27	1	15.00-15.15
10	Herawanti Kumalasari, Raldi Hendro Koestoer, Hayati Sari Hasibuan	Disaster Risk Mitigation of Landslide for Sustainability of Geothermal Production in West Java Province, Indonesia	TRP-32	1	15.15-15.30
11	Benyamin Sapiie, Meli Hadiana, Terry Alfa Furqon	Strain Analysis of Sub- Seismic Scale Fault Using Sandbox Modeling: Implications of Slip Rate Determination	TRP-38	1	15.30-15.45



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12	Purnama Sendjaja, Emmy Suparka, Chalid I. Abdullah, and IGB Eddy Sucipta	Characteristic of The Mount Colo Volcano, Una-Una Island, Central Sulawesi Province: Tectonic Evolution and Disaster Mitigation	TRP-53	1	15.45-16.00
13	Indrawan, Daud Yusuf	Flood Points Distribution Mapping for the Determination of Evacuation Route and Disaster Post in Gorontalo City	TRP-61	1	16.00-16.15
14	Arif Susanto, Suryantini, Imam A. Sadisun, Asep Saepuloh, Joshua Satriana	Effects of Hydrothermal Alteration on Petrophysical Properties of Rocks in the Cibolang Area, Bandung	TRP-64	1	16.15-16.30
15	Niniek Rina Herdianita	Way Ratai Geothermal System at Lampung: Surface Manifestations and Geochemistry Study	TRP-73	1	16.30-16.45
		Day 2, August 1	2		
16	Niniek Rina Herdianita, Johnnedy Situmorang and Irfan Hamzah	Mt. Kembar Geothermal System in Aceh, Indonesia: Preliminary Survey, Prospect and Development Problems	TRP-74	1	10.30-10.45
17	Firman Sauqi Nur Sabila, Mirzam Abdurrachman	Characterization of Silica Saturation in Magmatic Evolution of Raung Volcano and its Implications for Volcanism History	TRP-76	1	10.45-11.00
18	Emmy Suparka, Agus H. Harsolumakso, Johannes Hutabarat, Irev Jundulloh	New Data of the Ophiolite Complexes in Pagedongan, Banjarnegara, Central Java	TRP-89	1	11.00-11.15



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19	Priadi B., Basuki N.I., Abidin H., and Permana H.	Submarine Volcanism along Sangihe-Talaud Waters, Indonesia	TRP-94	1	11.15-11.30
20	Priadi B. and Saputro S.P.	High Potassic Magmatism in Tana- Toraja, Sulawesi- Indonesia	TRP-95	1	11.30-11.45
21	Pamela, Yukni Arifianti, Fitriani Agustin	Comparative Study Between Bivariate Statistical Models in Landslide Susceptibility Map	TRP-99	1	11.45-12.00
22	Kazunari Kimura, Tomohiro Nagata, Shuya Kan	Landslide disaster and its prevention works in Shikoku region of Japan	TRP- 100	1	12.00 - 12.15
23	Yudhicara, D.H. Natawidjaja, Dicky Muslim, A. Sudradjat	Paleoseismology Study of Kumering Fault Segment, Sumatra Fault	TRP-92	1	12.15-12.30
24	Imam A. Sadisun, Rivai Sargawi, Julian Situmorang, Indra A. Dinata, Urwatul Wusqa	Towards Development of a Slope Management System along the Tawaeli-Toboli National Road Segment, Central Sulawesi	TRP-112	1	12.30-12.45
25	I G.B. Eddy Sucipta, Bambang Priadi, Bayu Himawan	Petrology and Geochemistry of Three Periode Eruption Products In The Kelud Volcano	TRP-118	1	12.45-13.00
		01 - Disaster Mitig	ation		
		Poster Presentat	ion		
		Day 2, August 1	2		
No	Authors	Title		Numbe	r Room
1	l G.B. Eddy Sucipta, Adzkia Noerma Arifa,	Magmatic Conditions as Ir by Petrological and Miner Aspects in the 2016 Sinab	alogical	TRP-44	Ballroom



O R A L A N D POSTER PRESENTATION

	Fachri Muhammad, Oktory Prambada	Eruption		
2	Dina Anggreni Sarsito, Susilo, Alfend Rudyawan, Heri Andreas dan Dhota Pradipta	Studying Gorontalo Fault Kinematic Using Geometric Geodetic GNSS GPS Monitoring	TRP-71	
3	Taufik Ismail, Mirzam Abdurrachman,Ya n Rizal and Rahmawati Arbie	The Influence of Rock Resistance For Geomorphology of Krakatoa Islands, South Lampung District, Lampung Province	TRP-80	
4	Taufik Ismail and Mirzam Abdurrachman	Volcanostratigraphy of Krakatau Islands, South Lampung District, Lampung Province	TRP-81	
5	Helmy Hizkya, Mirzam Abdurachman, Muhammad Hafidh and Divi Ramdan	Geochemical Exploration of geothermal manifestations : Study case of Bajawa Volcanic Complex, Flores Island, East Nusa Tenggara Province.	TRP-84	Ballroom
6	Firman Habib, Mirzam Abdurrachman, Iwan Setiawan	Vulcanostratigraphy and Petrogenesis of Sundoro Volcano, Central Java	TRP-85	
7	Rolis Junwandi, Mirzam Abdurrachman, Mochamad Nugraha	Petrogenesis Of Guntur Complex, Garut District, West Java Province	TRP-90	
8	Rolis Junwandi, Mirzam Abdurrachman, Mochamad Nugraha	Volcanostratigraphy Of Guntur Complex, Garut District, West Java Province	TRP- 107	
9	Selvia Novianti, Mirzam Abdurrachman	Volcanic Hazard Potentials and Source Mechanisms of Volcanic Earthquakes in Gede Volcano: How	TRP-24	



O R A L A N D POSTER PRESENTATION

		to Deal With The Risk and When it Erupted		
10	Yuniarni, Rum and Priadi, Bambang	Magma Mixing Along the Petrogenesis of Dore Volcanic Rocks Sorong, West Papua	TRP-115	
11	Robby Ginanjar, Imam A Sadisun	Rock mass quality of cross cut XC 662 and XC 6-1a in Ciurug Underground Mining Level 600, Pongkor, Bogor Regency, West Java	TRP-119	
12	Abd Kadir Mubarak A Amin, Masayuki Sakakibara, Yayu Indriati Arifin	Facies Study of Lake Deposits Formation (Qpl) to Determine Deposition Environment of Ancient Limboto Lake: a Preliminary Result	TRP-13	
13	Fauzul Chaidir A. Usman, Intan Noviantari Manyoe, Reskiyanto Fauzi Duwingik, Della Nawarita Putri Kasim	Geophysical Survey of Landslide Movement and Mechanism in Gorontalo Outer Ring Road, Gorontalo	TRP- 124	



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	02 - Sustai	nable Development a Preservation	nd Envii	ronme	ntal
		Oral Presentation	on		
	1	Day 1, August 1			
No	Authors	Title	Number	Room	Time
1	Basri, and Masayuki Sakakibara	Health Impact Assessment of Artisanal and Small-scale Gold Mining in Bombana, Southeast Sulawesi, Indonesia	TRP-15	2	12.30-12.45
2	Hendra Prasetia, Masayuki Sakakibara and Koichiro Sera	Atmospheric Mercury Contamination Assessment Using Various Tree Bark in an ASGM Area in North Gorontalo Regency, Indonesia	TRP-16	2	12.45-13.00
3	Jarnuzi Gunlazuardi, Hedi Surahman, Yuni Krisyuningsih Krisnandi, Ivandini Tribidasari Anggraningrum, and Hisao Yoshida	Newly Developed Artificial Photosynthesis Device for Renewable Fuel and Fine Chemical	TRP-34	2	13.00-13.15
4	Nguyen Thi Hoang Ha, Nguyen Quoc Bien, Cao The Ha, Mai Trong Nhuan, Nguyen Thi An Hang, Tran Dang Quy	Removal of heavy metals from mining wastewater using adsorption combined with constructed wetland: a pilot scale	TRP-36	2	13.15-13.30



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5	Yayu Indriati Arifin, Masayuki Sakakibara, Koichiro Sera.	Assessing impact of artisanal and small scale gold mining activities on inhabitants and miners: a case study in Bolaang Mongondow, North Sulawesi Province, Indonesia	TRP-37	2	13.30-13.45
6	Tetsu Sato	Visualizing challenges and opportunities for sustainable development: A transdisciplinary approach	TRP-40	2	13.45-14.00
7	Nguyen Ngoc Ha, Nguyen Nhu Tri, Nguyen Van Dong and Nguyen Phuc Cam Tu	Distribution of heavy metals in sediment along the Southern coast of Vietnam	TRP-42	2	14.15-14.30
				COF	FE BREAK 15'
15'	Hasriwiani Habo Abbas, Masayuki Sakakibara, Koichio Sera, Mansur Sididi	The Social Economic and Mercury Exposure of Goldsmith in Manggala Subdistrict of Urban Artisanal Gold Mining (UAGM) Area in Makassar, South Sulawesi, Indonesia	TRP-45	2	14.45-15.00
9	Fitryane Lihawa, Marike Machmud and Yayu Indriati Arifin	Mercury Pollution in the river water of Bumela of Gorontalo regency due to traditional gold mining activities	TRP-49	2	15.00-15.15
10	Muhammad Isman Jusuf	Correlation Between Heavy Metal Pollution and Cerebrocardiovascular Disease (Systematic Review)	TRP-50	2	15.15-15.30



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11	Satoru Komatsu, Katsuya Tanaka,	Household Attributes and Dependency on Artisanal and Small-scale Gold Mining of Villagers in Rural Gorontalo	TRP-51	2	15.30-15.45
12	Purnama Sendjaja and Ary Kusniadi	Regional Geochemical Map of West Java, Indonesia: Evaluation for Environmental and Mineral Resources	TRP-52	2	15.45-16.00
13	Minson Simatupang	Liquefaction Resistance of Calcite Treated Sand based on Laboratory Investigation	TRP-56	2	16.00-16.15
14	Khalema, Hareteke Ishmael	Environment and socio- economic impacts of artisanal and small scale mining(ASGM) in the Republic of South Africa	TRP-57	2	16.15-16.30
15	Astin Lukum, Yoseph Paramata, Deasy N Botutihe, Ervina Yusuf, Kostiawan Sukamto, Arfiani Rizki Paramata	Development of Bioadsorbent Chitosan from Shrimp Shell Waste to Mercury Absorption Efficiency	TRP-65	2	16.30-16.45
		Day 2, August 1	.2		
16	Dorothea Agnes Rampisela	Transdisciplinary approach in managing smallholdings cacao plantation for poverty alleviation and sustainable development	TRP-75	2	10.30-10.45
17	Hiroki Kasamatsu, Motoko Shimagami, Masayuki	The Researchers Role and Future View of TDCOPs from Case Study of Dihime Limboto-ko, Gorontalo District	TRP-82	2	10.45-11.00



	Sakakibara				
18	Hisanari Sugawara	The geopark governance with the case study of the Shimonita Geopark in Japan	TRP-83	2	11.00-11.15
19	Alfend Rudyawan	Gorontalo As A Global Geopark; A Young People Perspectives	TRP-91	2	11.15-11.30
20	Andi Arumansawang, Masayuki Sakakibara, and Sakae Sano	Heavy Metal Potential at Settling Pond of Coal Mining, East Kalimantan, Indonesia	TRP- 101	2	11.30-11.45
21	Nurfitri Abdul Gafur, Masayuki Sakakibara, Sakae Sano, and Koichiro Sera	Heavy Metal Pollution of Bone River Water and Sediment in Gorontalo Province, Indonesia.	TRP- 102	2	11.45-12.00
22	Sri Manovita Pateda, Masayuki Sakakibara and Koichiro Sera	Early Detection of Mercury-induced Health Disorders in Artisanal and Small-scale Gold Mining Area in Gorontalo Province, Indonesia	TRP- 103	2	12.00 - 12.15
23	Kenji Okazaki, Toshiyuki Kurahashi, Shusaku Yamazaki and Masayuki Sakakibara	Temperature dependence for purification of leachate containing heavy metals by phytoremediation using the artificial channel	TRP- 104	2	12.15-12.30
24	Masayuki Sakakibara, Katsuya Tanaka, Hiroki Kasamatsu, and Motoko	Co-creation of Sustainable Regional Innovation for Reducing Risk of High-impact Environmental Pollution	TRP- 105	2	12.30-12.45



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	Shimagami				
25	Myo Han Htun and Masayuki Sakakibara	Assessment of the Effectiveness of the Knowledge and Practice Based Mercury (Hg) Free Society Networks for the Reduction of Mercury Pollution Problems in ASEAN Countries	TRP- 106	2	12.45-13.00
	02 - Sustai	nable Development a Preservation	nd Envii	ronme	ntal
		Poster Presentati	on		
		Day 2, August 1	2		
No	Authors	Title	Nu	ımber	Room
1	Widya Annisa, Intan Noviantari Manyoe, Abd. Kadir Mubarak, Siti Suhartini S. Napu, and I Gede Sindu Pratama	Chemical Content Analysis Coral Limestone as Prospect of Extractive Development Gorontalo City	ting	RP-9	
2	Idham Andri Kurniawan, Heriyadi Rachmat, Emmy Suparka, I Gusti Bagus Eddy Sucipta, Mirzam Abdurrachman, Irev Junduloh	Crystal size distribution of pillow lava and dyke in Sian Beach, Belitung, Indonesia: Promote special geosite in Belitung Geopark		RP-54	Ballroom
3	Selvia Novianti , Mirzam Abdurrachman	Environmental Risk and Hea Hazardous Substances in Artisanal Small-Scaled Gold		RP-60	



O R A L A N D P O S T E R P R E S E N T A T I O N

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		Mining in Sekotong, West Nusa Tenggara, Indonesia	
4	Mirzam Abdurrachman, Idham Andri Kurniawan, Heriyadi Rachmat, Emmy Suparka, I Gusti Bagus Eddy Sucipta, Friman Sauqi Nur Sabila	The origin of pillow lava and dyke in Siantu Beach, Belitung, Indonesia	TRP-66
5	Purnama Sendjaja, Emmy Suparka and Muslimin U. Botjing	Geodiversity of The Togean Islands National Park, Central Sulawesi Province for Geopark Assessment	TRP-70
6	Nabila Novasari Soviana, Budi Brahmantyo, Mirzam Abdurrachman, Firman Sauqi Nur Sabila	"Gunung Api Purba Nglanggeran" welcomes UNESCO Global Geopark Reassessment in 2019	TRP-79
7	Sufriadin, Sri Widodo, Meinarni Thamrin, Adi Maulana, Akane Ito, Tsubasa Otake	The Nature of Ultramafic Rocks from Sulawesi and Their Suitability for CO2 Sequestration	TRP-12



	03 - Measure and Improvement to Urban Environmental Problem										
	Oral Presentation										
	Day 1, August 11										
No	Authors	Title	Number	Room	Time						
1	Heri Andreas, Hasanuddin Z Abidin, Dina A Sarsito, Dhota Pradipta	Insight into Jakarta and World Coastal Cities Experiencing Anthropogenic Land Subsidence	TRP-18	3	12.30-12.45						
2	Mohomad Jahja, Yayu Indraiti Arifin, Rifadli Bahsuan and Lukman AR Laliyo	Problems of Sustainable Development in Isolated Areas in Bone Bolango Regency	TRP-19	3	12.45-13.00						
3	Anton Kaharu, Mohamad Faisal Dunggio	Monitoring and Evaluation of City Transport Preservation in the Province (AKDP) Systematically	TRP-20	3	13.00-13.15						
4	Fenty Puluhulawa, Yayu Indriyati Arifin, Amanda Adelina Harun	Challenges Implementing Minamata Convention on Mercury in Artisanal Small Scale Gold Mining in Gorontalo	TRP-21	3	13.15-13.30						
5	Syahroni Al Khadzir, and Roby Wahyu Tamami	Eco-Biger (Ecopreneur Biodigester) is Right Digester Innovation for Houshold to Increase People's Welfare in Indonesia	TRP-28	3	13.30-13.45						
6	Syahroni Al Khadzir	Development of Sustainable Transportation of	TRP-30	3	13.45-14.00						



		Gorontalo City			
7	Citra Anggita, Tsuyoshi Hatori	Customary Practices of Musyawarah Mufakat: An Indonesian Style Of Consensus Building COFFE BREAK	TRP-33	3	14.15-14.30
8	Nursida Arif, Risman Jaya, Alfiatun Nur Khasanah	Analysis of Urban Household Energy Consumption Based on Geographic and Social Factors in Kota Tengah of Gorontalo City	TRP-41	3	14.45-15.00
9	Fory Armin Naway	Novel waste management policy in Gorontalo regency: the women participation approach.	TRP-87	3	15.00-15.15
10	Prihantini [,] Glagah Eskacakra Setyowisnu	Mathematics Model Construction of the Law of Mass to Reduce Traffic Levels in Indonesia	TRP-93	3	15.15-15.30
11	Amo, Farisa	The Need of Manado- Bitung Railway	TRP- 108	3	15.30-15.45
12	Sani Kamil Baldan, Aditiya, Vera Febriana Umiati, Tinon Yudhiana, Diana Nur Hafifah, Rysca Indreswari	Vertigo (Vertical Garden Thousands) The Effort of the Utilization of Waste Plastic Bottles for the Empowerment of the Community-Based Argo-Tourism in the Pojok Village Sukoharjo City	TRP- 111	3	15.45-16.00
13	Sunarty Eraku, Rifadli Bahsoan, Ningrayati Amali, Ishak Isa	A Study on Biogeophysical Condition of Limboto Lake, Gorontalo Province	TRP-17	3	16.00-16.15



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14	Nelson Pomalingo, Yayu Indriati Arifin, Iswan Dunggio and Zainal Abidin Umar.	Regional government policy in management and use of the Limboto river catchment area	TRP-77	3	16.15-16.30
15	Sarson W.Dj Pomalato, Novianita Achmad, Sri Lestari Mahmud	Mathematical Modeling in Preventing Siltation of Limboto Lake by Using SOCS Method (Solution, Observe, Control, Solicitation)	TRP-78	3	16.30-16.45
		Day 2, August	12		
16	Ibrahim and Mustamin	The Role of Village Business Agencies in Improving Community Economy in The Remaining of Gold Mining Areas in Regency of West Sumbawa	TRP-63	3	10.30-10.45
17	Sri Maryati, Sunarty Eraku, Muh Kasim	Study the Influence of Land Cover on Water Quality in Bone River, Province of Gorontalo, Indonesia	TRP-88	3	10.45-11.00
18	Motoko Shimagami, Hiroki Kasamatsu, Masayuki Sakakibara	Kikigaki Program as a Transformative Boundary Object for Stimulating Sustainable Regional Innovation through Cross- generational Urban- Rural Interaction: Case studies from Japan and Indonesia	TRP-96	3	11.00-11.15
19	A.S. Yuwono, Y. Wardiatno, R. Widyastuti, D. Wulandari, A.V.	Integration of Selected Environmental Aspects to Develop a Novel Ecosystem Health Index	TRP-97	3	11.15-11.30



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	Driantika, K.S.K. Rusly	in Indonesia			
20	Lilan Dama, Nurrijal	Adaptation of Lesson Study Learning Community in Development Literacy Culture Based on Local Wisdom for Improving Student Thinking Creativity	TRP-55	3	11.30-11.45
21	Perry Zakaria, Lailany Yahya, Emli Rahmi	An Emergency Response of Gorontalonese Language: The Effectiveness Investigation of Conservation and Revitalization for The Regional Language From A Mathematical Point of View	TRP-86	3	11.45-12.00
22	Novri Youla Kandowangko, Margaretha Solang, Djuna Lamondo	Assistance to the community in Monggolito village at Gorontalo regency to maintain their agricultural land	TRP-114	3	12.00 - 12.15
23	Arif Susanto, Suryantini, Joshua Satriana, Munib Ikhwatun Iman	Contamination of Thermal Water to Groundwater in Kertasari Area, Bandung	TRP-117	3	12.15-12.30
24	Bustanul Arifin, Katsuya Tanaka, Ryohei Kada, Hanung Ismono, Slamet Budiyuwono,	Sustainability of Rice Farming Practices in Lower Sekampung Watershed, Indonesia	TRP-122	3	12.30-12.45



	and Fitri Mesystisari				
25	Sunarty Eraku, Rifadli Bahsoan, Ningrayati Amali, Ishak Isa, Rakhmat J. Lahay, Karin Maulana	Examining the Spatial Distribution of Areas Vulnerable to Land Movements by Using Storie Method in Watershed Area of Limboto Lake, Gorontalo Province	TRP-125	3	12-45 -13.00



O R A L A N D POSTER PRESENTATION

04 - Food and Human Security										
	Oral Presentation Day 1, August 11									
No.	Authors	Title	Number	Room	Time					
1	Pupung Puspa Ardini	The Development of Earthquake Risk Reduction Curriculum for Children Age Between 4- 6 Years Old in Gorontalo	TRP-1	4	12.30-12.45					
2	Vita F. Ridwan, Nobuhiko Matsumura	Measuring the Relationship Between the Sense of Acceptance from Foreigners and the Sense of Multicultural	TRP-4	4	12.45-13.00					
3	Masmuni Wahda Aisya, Efri Leni Rauf, Julima Ahaya	Boiled Egg Whites Benefits in Healing Perineal Wounds of Mothers in Postpartum Period at Community Health Center of Pulubala Regency of Gorontalo	TRP-5	4	13.00-13.15					
4	Dewi Purnama Windasari, Muhammad Sahlan Zamaa, Esse Puji Pawenrusi	Analysis of Lead and Cadmium Levels on Fried Snacks at Karuwisi Primary School, Makassar, Indonesia	TRP-7	4	13.15-13.30					
5	Evi Hulukati, Salma Rivani Luawo, Hasan S. Panigoro	A Mathematical Model for HIV/AIDS Transmission among Men who have Sex with Men (MSM) with Counseling: Analysis, Simulation, and Interpretation	TRP-8	4	13.30-13.45					
6	Reskiyanto Fauzi Duwingik, Yayu Indriati Arifin, Della	Media <i>Pipi Dan Kening</i> as a Growing Effort Awareness of Students Against Earthquake Disaster	TRP-10	4	13.45-14.00					



Nawarita P. Kasim, Fahmi Idris Muarif, Revaldi Helamsyah P. Hamim, and Rachmat Ramadhan Nur SyamsuriImage: Space of the systemImage: Space of the system7Masri Kudrat Umar, Sukarman KamuliEnvironmental Mitigation: Encouraging Household Involvement through Workshops on MulticulturalTRP-22414.15-14.306Environmental Mitigation: Encouraging Household Involvement through Workshops on MulticulturalTRP-29414.45-15.007Rain Music Encouraging Household Involvement through Workshops on MulticulturalTRP-29414.45-15.008Faiza A. Dali, Rahim HusainMonitoring and Evaluation of Fish Quality Standard ComplianceTRP-29414.45-15.009Rieny Sulistijowati, Rita Marsuci Harmain, Hadri DjonChemical Content (Dasyatis sp.) by Immersion of Cucumber Tree Fruit (Averrhoa blimbiTRP-31415.00-15.15
Jumar, Sukarman KamuliEncouraging Household Involvement through Workshops on MulticulturalInvolvement through Sukarman MulticulturalCOFFE BREAK 15'8Faiza A. Dali, Rahim HusainMonitoring and Evaluation of Fish Quality Standard ComplianceTRP-29414.45-15.009Rieny Sulistijowati, Rita Marsuci DjonChemical Content (Dasyatis sp.) by Immersion of Cucumber Tree Fruit (Averrhoa blimbiTRP-31415.00-15.15
8Faiza A. Dali, Rahim HusainMonitoring and Evaluation of Fish Quality Standard ComplianceTRP-29414.45-15.009Rieny Sulistijowati, Rita Marsuci Harmain, Hadri DjonChemical Content (Dasyatis sp.) by Immersion of Cucumber Tree Fruit (Averrhoa blimbiTRP-31415.00-15.15
Rahim HusainEvaluation of Fish Quality Standard ComplianceImage: Compliance9Rieny Sulistijowati, Rita Marsuci DjonChemical Content Changes of Dried Stingray Immersion of Cucumber Tree Fruit (Averrhoa blimbiTRP-31415.00-15.15
Sulistijowati,Changes of Dried StingrayRita Marsuci(Dasyatis sp.) byHarmain, HadriImmersion of CucumberDjonTree Fruit (Averrhoa blimbi
L.) Extract
10Muhammad Arfan, Wahyu Supartono, Henry YuliandoAnalysis on quality improvement of used cooking oil with young pineapple (Ananas comosus) using Taguchi MethodTRP-35415.15-15.30
11Siti Aisa Liputo, Marleni Limonu, Rahmiyati KasimThe Effect of Temperature and Roasting Time to the Preference Level and Nutrition Value of Snack Food Bars Using Goroho Banana Flour and Less of Tofu FlourTRP-39415.30-15.45
12Dewa OkaTransformation of BeroTRP-43415.45-16.00



					EJENTATION
	Suparwata and Moh. Muchlis Djibran	Ground Become Potential for Agribusiness of Dragon Fruit			
13	Nurhayati Bialangi, Mohamad Adam Mustapa , Yuszda Salimi	Phytochemical Screening and Thin Layer Chromatography of Peperomia pellucida L. Kunth	TRP-46	4	16.00-16.15
14	Wiwin Rewini Kunusa, Nurain Thomas, Muhammad Taupik	Concentration of Pb, Sn and Fe Metals on Milk Products and Canned Fish in Gorontalo City	TRP-47	4	16.15-16.30
15	Mutia Cherawaty Thalib and Nirwan Junusa	Developing Protection Law based on Gorontalo local culture for domestic workers at Gorontalo city	TRP-48	4	16.30-16.45
		Day 2, August 1	.2		
16	Netty Ino Ischak, and Deasy N. Botutihe	Evaluation Of Antidiabetic Activity Of Bay Leaves (<i>Eugenia</i> <i>Polyantha</i>) and Sambiloto Leaves (<i>Andrographis</i> <i>Paniculata</i>) On Type 2 Diabetes Mellitus Cases	TRP-58	4	09.30-09.45
17	Irvin Novita Arifin	The Influence Of Guided Inquiry Learning Model On Student Creative Thinking Ability In Science Subject In Grade Iv Elementary School 15 Telaga Biru Gorontalo Regency	TRP-59	4	09.45-10.00
18	Lukman A.R.Laliyo, and Eka Donna Fauziah	Identify teacher problems in implementing problem- based learning strategies	TRP-62	4	10.00-10.15
19	Moh. Karmin Baruadi, Fory	Cultural Tourism Potential as a Learning	TRP-68	4	10.15-10.30



		1			EJENTATION
	Armin Naway, Novriyanto	Support of Local Content Subject in Gorontalo			
20	Napu, Ishak Isa, Eka Setiawati, Erni Mohammad, Wiwin Rewini Kunusa	Regency Utilization of Cellulose Isolate Corn Corn (Zea mays) As Adsorbent Heavy Metal Copper (Cu) and Cadmium (Cd)	TRP-69	4	10.30-10.45
21	Djuna Lamondo, Margaretha Solang, Anita Amir	Analysis the Contents of Plumbum (Pb) within Fish Awaous melanocephalus the Given the Citrus aurantifolia Extract	TRP-72	4	10.45-11.00
22	Lukas K. Mangalla, Agustinus Lolok	Effect of Microwave Energy Application on Heating Rate of Rice Drying	TRP-98	4	11.00-11.15
23	Leonora F Waromi, Hayati Sari Hasibuan , Suyud Warno Utomo	Sustainable Food Security Strategy: Study of Land Suitability of Rice and Sago Commodity in Kampong Wapeko, Merauke District, Papua Province, Indonesia	TRP- 109	4	11.15-11.30
24	Opir Rumape, Netty Ino Ischak, and Akram La Kilo	Application of KJS Extract for Soybean Insect Control	TRP- 110	4	11.30-11.45
25	Katsuya Tanaka, Bustanul Arifin , Hanung Ismono, Ryohei Kada	Analysis of Farmers' Adoption Decisions of Sustainable Rice Production Using the Best-worst Scaling	TRP- 113	4	11.45-12.00
	0	4 - Food and Human	Security	7	
		Poster Presentat	-		
		Day 2, August 1	2		
No.	Authors	Title		nber	Room
1	Lisna Ahmad	Physicochemical Properties	of TRF	P-14	



		Instant Corn Porridge with Antioxidant Fortified by Cherry Leaf Extract (<i>Mutingia Calabura</i>)		
2	Zainal Abidin Umar	The Role of Market Orientation as a Mediation of Effect of Entrepreneurs Orientation to Business Performance (Study on Micro Small Food Industry Company in Gorontalo Province)	TRP-67	Ballroom
3	Mursalin	Minimizing Misconceptions on the Topic of Elasticity and Hooke's Law by Relating- Experiencing-Applying- Cooperating-Transferring Learning	TRP-116	
4	Margaretha Solang, Djuna Lamondo, Syam Kumaji, Novri Y Kandowangk o	Provision of Chitosan of Ark Clams Shell in Blood Cockles Meatball: Its Effect On The Decreased Level of Plumbum, Mercury, and Bacteria	TRP-120	
5	Chairunnisah Lamangantjo, Jusna Ahmad, Mohamad Lihawa	The Arthropod Community Structure on Corn Plants (Zea mays) that Treatment with Green Fertilizer and Bokashi from Siam Weed (Chromolaena odorata)	TRP-121	

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TRP-48 Developing Protection Law Based on Gorontalo Local Culture for Domestic Workers at Gorontalo City

Mutia Cherawaty Thalib¹ and Nirwan Junusa¹

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* Corresponding Author: mutiachthalib@gmail.com (Mutia Cherwaty Thalib)

Abstract: This research explores the issue regarding the response of several stakeholders towards the establishment of domestic worker's protection law. These stakeholders involve some communities (referring to people who hire domestic workers, domestic workers agency (including the domestic workers itself), government, and Family Welfare Movement (Pemberdayaan dan Kesejahteraan Keluarga or PKK) of Gorontato City. The protection law is established based on the Academic Draft and Policy Briefs. Furthermore, these drafts are the results of the previous Applied Product Research. This empirical legal research is aimed at identifying and examining the participation of the abovementioned stakeholders in developing the domestic worker's law based on Gorontalo local culture. This research was conducted by identifying, systemizing, and synchronizing norms and the law of society and related policies regarding the protection of domestic workers which have been established in Academic Draft and Policy Briefs. The data were collected by gathering the responses from all stakeholders, particularly the Family Welfare Movement of Gorontalo City as the partner of the research. These responses were from the survey, interview, and focus group discussion. The results reveal that the implementation of Ministry of Manpower No. 2 of 2015 considering Protection of Domestic Workers is prevention and repressive programs. The prevention consists of developing a partnership with Family Welfare Movement of Gorontalo City as the mediator between the family as the one who hires domestic workers and the agency. Other programs included are counselling, empowerment, and workshops. It is expected that the repressive programs will be implemented immediately after the prevention; government and nongovernment organizations are responsible for the conduct of the programs. The programs include the establishment of working groups on women and children's protection and other domestic workers communities. This is because women, children, and domestic workers dominate the number of the casualties of violation, discrimination, and exploitation.

Keywords: Protection Law; Domestic Workers; Local Culture.

Developing Protection Law Based on Gorontalo Local Culture for Domestic Workers at Gorontalo City

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Keywords: Protection Law; Domestic Workers; Local Culture.

1. Introduction

Indonesia as one of the most populous countries in the world and this should make the population as one of the most potential human resources in terms of development, including the economic growth of the country. Macroeconomic growth in Indonesia has increased in recent years. Slowly, macroeconomic growth has been able to reduce unemployment in Indonesia. However, with the number of annual workforces (approximately 2 million people)¹, it becomes a challenge for the Indonesian government. Although as a country with large populations, economic development problems are often faced with high unemployment at productive ages. Besides causing economic problems, this issue also affects other problems, such as socio-cultural, political and security complications. Unemployment in Indonesia is <u>unbalanced</u>. Women, in general, work in the informal sector and is often referred to as unemployment. On the other hand, there are many

¹ GunawanSumodiningratdan Ari Wulandari, 2016,

[&]quot;Membangun Indonesia dari Desa", Media Pressindo, Yogyakarta, hal. 56

women who opt not to work in the formal field because the formal job is more likely to accept male workers. Other than that of formal employment, women are demanded to leave home and children because they have to go to the office or where they work.

It is different from the conditions of employment in Gorontalo City. The potential of human resources as a public worker in this city has increased in line with the development of all life sectors, affecting the lives of households, especially small families that are still productive. In performing activities, as out-of-home workers, civil servants, public and private employees, entrepreneurs, etc., are also getting higher. Whereas with the productive age, they have child or toddler even aging and ill parents. This state of need involves the help of others for household chores, called domestic workers.

In general, the existence of domestic workers is still a polemic because there is no clear and concrete arrangement of domestic workers as other occupation. Labor' regulation has already been stipulated through Act No. 13 of 2003 on Labor. However, as a precautionary measure, the Minister of Manpower of the Republic of Indonesia has issued Decree of the Minister of Manpower of the Republic of Indonesia No. 2 of 2015 on the Protection of Domestic Workers. The Bill on the Protection of Labor is discussed and passed by the House of Representatives into Law.

Based on the findings of previous research, it can be argued that, customarily, the fulfillment of the rights of domestic workers, in reality, has not been met well, and even causes many problems. Similarly, the fulfillment of the obligations of domestic workers, caused by the quality of domestic workers individually and the ability to process and the results of work is still minimal, also resulted in many problems. ²In particular, the existence of domestic workers in the local work market, there appears a downward trend in the last 3-6 years which means unbalanced by the need for higher domestic workers services, whereas the local domestic worker's employment or labor agencies that are officially operated in Gorontalo City has not provided yet. The Regional Regulations have not regulated rights and oversight protection for domestic workers because the law on domestic workers is yet to be stipulated. Nevertheless, the Minister of Manpower Regulation No. 2 of 2015 concerning the Protection of Domestic Workers as a Guideline for the Protection of Minimum for Domestic Workers, which among others regulates the working relationship between individual Service Users and Domestic Workers as Providers through Work Agreement both in verbal and writing by involving local government such as the Chairman of the Rukun Tetangga (Neighborhood Association) in the area of service user's residence. Another reason that causes the non-fulfillment of rights and obligations in the domestic work relationship is the Domestic Workers' low quality becoming one of the aspects of the work ethos³.

The solution offered through previous research is applied product research which is the embody of minimal protection to the Domestic Worker in Gorontalo City, with Domestic Worker service agencies, starting from Gorontalo culture-based learning partnered with Gorontalo Family Welfare Counseling (PKK) institute.

A. Problem Statement

What is the development of a protection model for domestic workers based on local culture in Gorontalo City?

- B. Theoretical and Empirical Studies of the Model
- 1. Theoretical Studies

a. The scope of Domestic Workers (PRT) and its Arrangement

Domestic Workers are the persons who work for an individual in a household to carry out domestic work by receiving wages and / or other forms of remuneration including those who stay or do not stay overnight.

The scope of domestic work includes work inside and outside the home as referred to in article 1 covering:

- a) domestic worker;
- b) housekeeper;
- c) caretaker;
- d) babysitter;
- e) nanny;
- f) governess;
- g) caregiver.

² Mutia Cherawaty Thalib dan Saiful Ibrahim, 2012, Penelitian Fundamental,

[&]quot;PerlindunganHakPekerjaRumahTanggadalamPemenuha nHakdanKewajibanBekerja", Lemlit UNG

³ Mutia Cherawaty Thalib dan Nirwan Junus, 2015,

[&]quot;Kajian Sosio Yuridis Terhadap Eksistensi PRT di Kota Gorontalo", Lembaga Penelitian, UNG

The work outside the household as referred to in paragraph (1) includes the gardener, personal driver, private security guard, and private teacher (teacher of the lesson). Meanwhile, according to the Regulation of The Minister of Manpower No. 2 of 2015: Domestic Worker is a person who works for an individual in the household to carry out housekeeping work by receiving wages and/or other forms of remuneration. Meanwhile, the specific arrangements regulate the existence of domestic workers; so far not exist because the work of domestic workers has its own characteristics. which have not been accommodated in Law no. 13 of 2003 on employment. During this practice that occurs in big cities, the arrangement in the form of Work Agreement / Contract Work, and even then only be done between Users Service PRT with PRT Distributor Institution. The draft Law on the Protection of Domestic Workers is included in the 2015 National Legislative Programs plan. Therefore, to fill the existing legal gap, the Minister of Manpower has issued Regulation No. 2 of 2015 on the Protection of Domestic Workers as a minimum protection guideline for domestic workers. In the event of cases related to Domestic Workers within the scope of their work, they are settled under the Domestic Violence Ordinance, the criminal law, or the Civil Code of Agreement.

b. Local Culture and Value Transformation of Law Development in Domestic Employment

Culture has values that are always inherited, interpreted, and implemented in line with the process of social change. The nation of Indonesia owns the existence and diversity of noble values of culture as a means of building the character of the nation, both related to the personal and public character.

It is a system that has a relationship between one with another. Symbolic form of language, things, music, beliefs and community activities that contain the meaning of togetherness is a cultural coverage. Kluchohn and Kelly argue that culture is a pattern for life created in the explicit, implicit, rational, irrational and non-rational history that is present at all times as a potential guide to human behavior. This concept shows that the importance of culture and values conceived as the foundation for the character formation of the nation. In the current era of globalization, all aspects of life are uncontrolled and lack of filtering and the condition of the people who are not ready to engage Indonesian society is brought to a more oriented stream of individualism and asterism and began to abandon the community's mutual cooperation activities, such as in Gorontalo known as $Huyula^4$.

Table. Data Number of Population Aged 15 Years andOver by the Type of Activities and Sex during the

Past Week in Gorontalo City, 2015

		Sex	
Core Activities	Male	Female	Total
(1)	(2)	(3)	(4)
Workforce	56 551	41 644	98 195
Working	52 656	39 508	92 164
Open Unemployment	3 895	2 136	6 031
Non-workforce	16 560	36 701	53 261
Studying	8 552	12 274	20 826
Taking Care of Household	4 540	23 589	28 129
Others	3 468	838	4 306
Total	73 111	78 345	151 456
Participation Rate of Workforce	77,35	53,15	64,83
Unemployment Rate	6.89	5,13	6,14

Source: Central Bureau of Statistics of Gorontalo City⁵

Empirically, the higher the level of family needs for a career outside the home for the services of domestic workers, rather the interest of workers working in the service sectors as Domestic Workers, declining and even its existence tends to disappear from the labor market. The cause factor is the nonfulfillment of the rights of domestic workers, among others, in the case of wages is still below the standard minimum wage Gorontalo Province Rp. 2.030.000, unlike the wages of workers in companies, some of which have already applied the Provincial Minimum Wage. The other reason is the uncertain work time accompanied by a workload that is less balanced with the wages earned.

This shows that there is a development in our society understands the application of rights and obligations in life. There is time to earn a living, and there is time to be set aside for his family. In other cases, health and safety insurance in work has not been met as workers in the company. Sick domestic workers are given medical expenses, but if it is a serious illness, they will be discharged until cured,

⁴ RasidYunus, 2014, "Nilai-NilaiKearifanLokal (*Local Genius*) sebagaiPenguatKarakterBangsa, StudiEmpiristentang*Huyula*", Deepublish, Yogyakarta

⁵ BadanPusatStatistik Kota Gorontalo, 2016, "Kota GorontalodalamAngka", Gorontalo

although there is no guarantee to get back to work. The majority of service users fulfills the right of domestic workers in the form of holiday allowance however it is still adjusted to the ability of Service User. Commonly, the fulfillment of rights and obligations between Service Users and Domestic Workers stated in Regulation of the Minister of Manpower No. 2 of 2015 on protection for Domestic Workers has not been fulfilled. The work agreement intended in that case can only be done through an employment contract between the Service User and the Domestic Worker through the mediation of the organizations / agencies of the Domestic Worker Distributors. Unfortunately, in Gorontalo City, there is still no local Employment Agency because the domestic worker is not in service employment market yet.

Some interesting indicators to explore are those related to work culture, which cannot be viewed from only one aspect but must be viewed systematically with other elements. Such as Service User Behavior, recruitment, the influence of cultural background and influenced internal culture, understanding, and meaning of work, knowledge, and skills, as well as work motivation.

In the domestic employment relation in the city of Gorontalo illustrates the mutual influence of congenital culture with the external culture that affects the low quality of domestic work. Whereas, discussing the work culture is the way of living and how one works, based on the values that apply in the society, which has been the nature, habits and the driving force that delivers a positive impact on individuals to always be responsible toward the job. The Work culture is also the embodiment of the value of each individual who needs to constantly work, be successful and be commendable. Psychologically, the application of a good work ethic, can improve cooperation, togetherness, be open to each other, increase the kinship, can build good communication, increase work productivity, responsive to the development of the world, and be able to create a comfortable atmosphere, cohesiveness in work⁶.

1) Philosophical Ground, Juridical and Sociological Existence Protection of domestic workers

1. Philosophical Ground

Every aspect and sector of life requires moral studies in the form of philosophy, ethics and/or local wisdom. The diverse moral studies are actually owned by the society, either through sources of cultural traditions and religions. Recent economic, political, religious and cultural crises increasingly become multi-dimensional as a result of the neglect of some of the basic moral principles.

The basic concept of Indonesian philosophy, including reflection in all aspects of family life, community, nation, and state. Moreover, it is a part of the life of each individual in building a connection with one another. The employment relationship between domestic workers and employers can be observed from aspects of ethical philosophy and local wisdom as it concerns the cultural factors of work and views on the position of domestic workers in general as is on the research conducted before⁷.

1) Defining Ethical Philosophy

Philosophy is derived from the Greek *Philo* (*Philein*) means love, and *Sophia* means wisdom. Thus, *Philo Sophia* means love of wisdom. If one loves wisdom, then all thoughts, words, and deeds will always be oriented to the wisdom of truth and justice.⁸

Philosophy is to think deeply about the nature of something. Hence, Philosophy means an activity of thinking and feeling. Thinking is a logical activity, and a feeling is a part of the moral philosophy of aesthetics and ethics.

 Ethical Philosophy perspective of the Fulfillment of Rights and Obligations of Domestic Workers

Based on the results of the study (Thalib, Ibrahim 2012: 67), the fulfillment of the rights and obligations of Domestic Workers does not work as desired, one of the factors causing it is a poor work culture, caused by undisciplined domestic workers in fulfilling the agreement, as there is a habit of domestic workers visiting their hometown on some occasions such as both family and village gathering and celebrations.

According to K Bertens⁹ it is concluded that Ethic has 3 positions, they are: (1) the value system is

⁶ Tubagus Achmad Darodjat, 2015, "Pentingnya Budaya Kerja Tinggi danKuat", PT.Refika Aditama, Bandung.

⁷ Op.Cit.

⁸ Rato, Domikus, 2011, "Filsafat Hukum, Mencari, Menemukan, dan Memahami Hukum", LaksBang Justitia Surabaya

⁹ <u>www.globethics.net</u>, accessed on 6th of April, 2017

values and norms that become the guidelines for a person or a group in managing his/her behavior, (2) code of ethics is a set of principles or moral values, and (3) moral philosophy, knowledge about good or bad. At this point, there will be a connection between ethics as a system of philosophy as well as cultural articulation.

Generally, ethics originally derived from philosophy related to the ideal situation/conditions that must be possessed and achieve by human beings. Hence, the control of human life can be collectively owned without having to interfere with each other individual. In addition, there are ethical theory perspective or point of view about how the people should behave. Although it will ultimately refer to a single

point of happiness, prosperity, and harmonization regardless of which point of view will perceive, both from goal /, teleological, or liability (*deontological*).

2. Sociological Basis

Sociological Basis (*sociologiche gelding*) can be interpreted as a reflection of people who live in the community, with the hope that the regulations will be issued by the general public spontaneously. Equitable accepted legislation will be effective and not necessarily require institutional deployment to implement it.

The problem of domestic workers is one of the complex problems, seeing the position of domestic workers not only as an informal profession but also a job that plays an important role to maintain the continuity of function in the family. The existence of domestic workers is socially influenced by the development of globalization. Indonesia, which the majority of the still population is from economically disadvantaged family, demands them to work in the informal sector, one of them is as domestic workers. Besides, the demands of economic needs for the domestic worker and the demands of the quality of work and hedonization of the employer is a direct interest that can create a benefit to each other. The demand for benefit can be stated as a consumption-oriented relationship. This is because the domestic work is an employment product which the existence is not the subsystems of the market economy like other professions such as office worker and others. Most of the distribution of domestic workers involve third parties such as foundations or specialized agencies of domestic workers. However, most of the agencies are still owned by private businesses or corporations without supervision from the government or the ministry of manpower. In addition to paternalistic employment factors, other factors such the increasing of community consumption, lack of knowledge and education regarding employment, and insufficient supervision from the government to domestic workers demand the government, especially local governments, to be able to draft new regulations to discipline the distribution of domestic workers and avoid discrimination or violation of fundamental rights by employers and labor suppliers. The sociological basis demonstrates their contribution or impact of protection against domestic workers to be held in an orderly manner and done according to its function. Thus, it is needed not only from the governments but also the role of the community.

Unlike some other big cities, the existence of domestic workers in Gorontalo is not high, as some factors influence it, they are:

- Social change; Gorontalo city is one of the developing regions of many regions in Indonesia; its development is quite massive transitioned the life of its society from the traditional society to hedonism society;
- Still influenced by local culture; since before Gorontalo developed as it is today, society has negative views on the profession of domestic workers. The people of Gorontalo still think that domestic work is a job that can reduce one's dignity. That kind of a principle is called the *dila biasa* principle, *Moomu* (reluctant), *Moolito / Moqolito* (shame/embarrassment), meaning the society is reluctant to work as a domestic worker as they consider it as a shameful job.
- The lack of understanding of the society regarding the dissimilarity scope of the work (formal and informal) specifically the understanding of domestic worker; it is important for the society to understand as many of them still think that the domestic worker is a voluntary work or enslavement.
- Lack of socialization regarding the formal mechanism in the recruitment of domestic workers. In Gorontalo, if a person wants to be a domestic worker, it can be done informally by simply stating it to the employer or

through an intermediary. Usually, there is no formal agreement between the domestic worker and employee as well as official job of the domestic worker. The employer will simply say when it is the time to work; then the domestic worker starts to work.

This is caused by the habit of Gorontalo concerning the employment relationship between the employee and the domestic worker which is often done without an official contract or labor agreement but only through a statement orally. Many cases happen in households associated with domestic workers as domestic workers usually terminate the work agreement unilaterally or they work unprofessionally, there are even domestic workers who take action against the law.

- The absence of special supervision from the local government relating to domestic workers; Local governments still consider the issue of domestic workers as a private or familial issue, since the type of paternalistic employment places the issue of domestic workers after public issues;
- There is no institution or foundation for labor suppliers in Gorontalo.

The above factors play an important role in the formation of protection models for domestic workers to be pursued by researcher and local governments. The scope of the overall factor regarding the local culture is still very strong, thus affecting the point of view of both society and government about the existence of domestic workers which is not so important.

3. Juridical Ground

Employment is a basic need of citizens as mandated in Article 27 (2) of the 1945 Constitution which states that: "Every citizen has the right to work and to live in human dignity."

This implicates the state's obligation to regulate issues of employment and labor requirements that need to be planned well, especially labor issues which are broad and very complex. Either it is viewed from the aspect of economic, social welfare, social politics and legal issues, which have not been specifically regulated in positive law. Therefore, a problem between Domestic workers and employers often emerges. Hierarchically, the position of the Regulation of the Minister of Manpower of the Republic of Indonesia No. 2, 2015 is infirm. However, if it is analyzed in the Article 10 section (1) point e of Act Number 12 the Year 2011 on the Establishment of Laws and Regulations, in the explanation states that:"The content material that must be regulated by law contains: (e) the fulfillment of legal needs in the community. "

Examined from the aspect of human rights, domestic workers, are part of the workforce. Labor is a legal subject whose rights, and responsibilities must be protected. The legal aspects of employment should be aligned with the current rapid development of employment, thus the substance of labor laws not only covers the employment relationship but also shifted into legal relations during- employment and after postemployment.

One area of work that has been ratified as the type of work to be protected is domestic work. It is based on the agreement of the delegates at the International Labor Conference 99th which the protection of domestic workers should be appreciated. All this time, domestic workers who do almost all household work still has not got proper protection which is in contrast with high demands of the society for domestic workers.

3. Result and Discussion

Development of Domestic Workers Protection Model Through Integration of Community Empowerment Program Based on Local Culture

Within the National scope, at this time, the starting point for the Indonesian government on the protection of domestic workers is the establishment of an inter-ministerial task force for the protection of domestic workers, comprising representatives from the Coordinating Minister for People Welfare, Manpower and Transmigration, Ministry of Women Empowerment, Law and Human Rights, Ministry of National Education, National Development Agency, Ministry of Social Affairs, and other relevant agencies. The task force should have built close relations with the representatives of Commission III of House of Representative (Law and Human Rights), Commission VIII (Women, Child, and Social) and Commission IX (Population, Health, and Labor). It is essential that government action encompasses the civil society. As is seen in some other countries such as North Africa and the Philippines, the construction

relationship between the government and civil society could be directed at advancing the protection of domestic workers. The Government of Indonesia, both national and local, can support the civil society by conducting public consultations and taking technical Bill conscientiously, Regional on the input Regulations, and other regulatory forms¹⁰. Another important area for involving government and civil society is the provision of legal information. The government agencies could collaborate with nongovernmental organizations (NGOs), broad-based civil society organizations and some other elements of society to establish a legal hotline in order to disseminate information regarding the rights and obligations of the domestic workers and the employers as well as to prepare National Action Plans in which domestic workers can develop skills and competence acknowledgment. The mapping pattern of the recruitment aims to minimize inappropriate treatment that usually experienced by the domestic workers and to run a public awareness campaign on the value of domestic work. Constituting regulation in Gorontalo City is without question time consuming since the society are involved in such a process. The regulation serves as the public policy in which its conceptualization requires sustainable process starting from the public agenda-this agenda originates from the government where an immediate follow-up is required.

The proposed policy concerning the protection of domestic workers is designed to protect all natural rights of the workers-it refers to protecting the workers from issues that impact their sustainability. In other words, the designed policy follows a *downtop* model. This protection law is also designed based on the local wisdom in Gorontalo City by implementing social engineering to the society in terms of the existence of domestic workers. This can be done through two methods as explained as follows:

a) Preventive protection, this refers to social control serving as prevention which is implemented before a phenomenon occurs. Furthermore, this method involves empowerment starting from the sub-district units. It targets the society as the user of

domestic workers as well as the workers themselves, seminars regarding the law, and workshop on improving domestic workers' skills.

b) Repressive protection, this refers to social control implemented after a violation. Methods involved in this protection are establishing non-government organization for workers from informal sectors and legal counseling for domestic workers by legal aid services. Furthermore, persuasive supervision for informal workers (including domestic workers) by the government is crucial to regulating the society according to the norms and values.

The above protection law models consider the domestic workers as informal sector workers, yet some of their responsibilities are somewhat those of formal workers. In addition, these models are able to produce quality workers with an adequate understanding of the law. However, cooperation between all stakeholders is required in implementing the law.

Roles and Classification of Protection Law of Domestic Workers in Gorontalo City contribute significantly to the society especially a family since domestic workers usually responsible for assisting household duties, such as babysitting. This is because the parents, or those who hire domestic workers, have many responsibilities dealing with family economics. Hiring domestic workers allow the family to deal with their business effectively. Some responsibilities of domestic workers are as follows:

- Domestic workers help the family who works in a public sector dealing with household chores;
- Domestic workers sometimes play the same role as a housewife;
- Domestic workers contribute to the economics of a country; for example, migrant domestic workers help the country's foreign exchange while those who work in a local sector support the country's income;
- Domestic workers ensure the safety of children-they can prevent child abuse which sometimes occurs in daycare center or other places, such as school while no one monitors the children;

¹⁰ Kantor Perburuhan Internasional – Organisasi Perburuhan Indonesia atau ILO (*International Labour Organization*), 2006, "Peraturan tentang Pekerja Rumah Tangga di Indonesia", <u>www.ilo.org/</u>, accessed tanggal 29 September 2017.

- Domestic workers increase the economics of middle-to-lower society;
- Domestic workers as *social engineering* of the society help the parents socialize with the neighbor. In addition to taking care of their children, domestic workers also enable the family to communicate their problems with the workers.

The user of domestic workers must provide and ensure the safety and the rights of the workers considering the contribution of such workers for family, society, and government. The following is the classification of protection law based on Gorontalo local culture for domestic workers at Gorontalo City.

- a) Preventive model classification:
- Counseling;
- Workshop;
- Empowerment; involving the domestic workers, specifically women, in workshops or other programs by the local government;
- Establishing "Sahabat Pramuwisma," a community for domestic workers by cooperating with local official and government.
- Constituting government regulation concerning the establishment of domestic worker providers;
- Assigning professionals as a supervisor who monitors the provider, the user of domestic workers intensively, this include the workers as well;
- Formulating draft or design of local regulation concerning the recruitment of domestic workers and problem-solving procedures for the workers;
- b) Repressive model:
- Establishing advocacy institutions for informal sector workers;
- Establishing non-governmental organizations that deal with social and legal issues for domestic workers;
- Organizing seminar or legal counseling on violations of rights (both direct and structural violence) and its reporting mechanisms.

The basic principle of the protection law of domestic workers in Indonesia does not cover all of the rights of the workers generally. In fact, many provinces in Indonesia, such as Jakarta and Yogyakarta, has its own regulation concerning the problem of domestic workers. These two provinces constitute the protection law of domestic workers in which its regulation is not contained in the Regulation of Ministry of Manpower No. 2 of 2015. On top of that, these provinces strengthen the protection law for domestic workers by cooperating with several nongovernment organizations and advocacy institutes dealing with the issues of such workers. On the contrary, Gorontalo government has yet to constitute the regulation concerning the protection of domestic workers. The regulation is influenced by the local culture in Gorontalo that embraces the paternalistic system of domestic workers. In other words, the arrangement is more familial by which it does not involve the public interest. This issue serves as the rationale of the necessity of constituting policy which considers the public interest. Therefore, this research proposes the policy regarding the protection of domestic workers in Gorontalo City.

1: Maximizing Working Contract

The purpose of this policy is to prevent any violation of the rights by the user and the domestic worker agencies. This is done by organizing recruitment procedures by the agencies prior to placement of the workers to the service users. The organizing procedures refer to the working contract and agreement between the domestic workers, their agencies, and the users. Such contract or agreement shall not be impartial to one party and shall not prejudice domestic workers in the future as informal workers.

Maximizing contracts or work contracts of domestic workers with channeling agencies and users involves the authorities, such as the head of neighborhood association. For example, the head of neighborhood association is involved during the process of signing contract between the workers and the users. The involvement of such a stakeholder emphasize the reliability of the contract and confirm that the workers are under the legal protection.

Other advantages of the involvement of local stakeholders are listed as follows:

- The employment agreement is recorded by the village;
- Allowing the local official to organize empowerment program in terms of developing knowledge, skills, and behavior;

• Enables effective monitoring and supervision of the domestic workers.



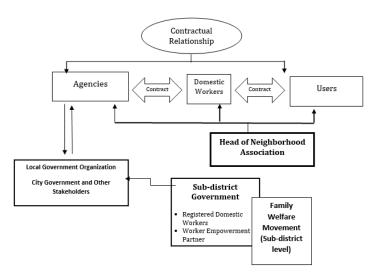


Figure 1. Contractual Relationship within the Scope of Domestic Workers

(Before Employment, Coaching, Supervision)

3: Establishing "Sahabat Pramuwisma"

Housekeeper (one of the responsibilities of domestic worker) is defined as a person who is responsible for handling household chores. "Sahabat Pramuwisma" is an organization where the domestic workers can share their experience, knowledge, and solutions regarding their work. The organization also functions as a partner for the government, police officers, and the society in monitoring the domestic workers.

The city government cooperates with regional work unit in the establishment of "Sahabat Pramuwisma." Prior to cooperating with the government, the regional work unit establishes working groups of the domestic workers. If collaborating with the government is not possible, "Sahabat Pramuwisma" can function with the aid of other non-government organizations; government supervision is still required nonetheless.

The establishment of "Sahabat Pramuwisma" is regarded as a preventive model of law protection of domestic workers. The procedures are explained as follows:

• "Sahabat Pramuwisma" implement *Plaint Mobile* by collaborating with sub-district government, regional work units, and Family Welfare Movement. *Plaint Mobile* refers to complaint services related to problems of domestic workers. This program also covers empowerment and counseling at a particular area in a certain period;

- "Sahabat Pramuwisma" collaborate with the users and agencies of domestic workers in organizing local wisdom-based training for the workers as a part of professional development by referring to the culture and traditions of Gorontalo.
- Referring to the culture of Gorontalo broaden the insight of domestic workers by which the workers can refer to the more flexible concept during their work;
- "Sahabat Pramuwisma" allows all domestic workers to socialize with each other and develop their capacity, networking, and kinship;

Information obtained from the networking of "Sahabat Pramuwisma" allows the government to record the number of informal workers in developing the growth of the economic sector and the well-being of the society.

4. Conclusions

The study on the existence of domestic workers and its protection law in Gorontalo City is aimed at providing a strong grounding for designing local culture-based protection law. It is also necessary for the city government to construct a policy in addressing such an issue. A particular policy is expected to organize and manage the recruitment of domestic workers by which it emphasizes the existence of law protection for domestic workers and other related stakeholders.

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