## SEMINAR MANAJEMEN BENCANA PSB 2020 (SMBPSB 2020)

#### Universitas Sebelas Maret, Surakarta, Indonesia 30 July 2020

#### PREFACE

During the last two decades, the occurrence of disasters in the world, including Indonesia, has tended to increase in both the number and intensity of events. Indonesia with a geological location that is located in the ring of fire, geographic location between two oceans and two continents and demographic conditions with a large population and relatively low quality, makes Indonesia as a very high disaster prones area. For this reason, a vehicle for the dissemination of disaster information is needed as well as ideas and ideas for disaster risk reduction.

The Disaster Management Seminar which organized by the Disaster Studies Center, The Research Institute and Community Service, Sebelas Maret University, aims to disseminate the research results, findings, and ideas, especially those related to disaster management. From the various research results, it is hoped that the existing findings and ideas can also be utilized by policy makers for disaster risk reduction in Indonesia. In addition, this seminar activity can also be used by participants to exchange information and establish cooperation in the field of research and community service

For the 2020 Disaster Management Seminar of Disaster Study Center we would like to thank:

- 1. Rector of Sebelas Maret University, Mr. Prof. Dr. Jamal Wiwoho, SH., M.Hum, who gave permission and facilities and was pleased to open the Seminar
- 2. Chair of the Research and Community Service Institute, Sebelas Maret University, Prof. Dr. Okid Parama Astirin, MS who has given permission and facilities for this seminar
- 3. The Keynnote Speakers, there are Prof. Dr. Ir. Khrisna S Pribadi and Mr. Dr. Agung Harijoko, S.T., M.Eng, who was willing to share his knowledge
- 4. Speakers who are willing to share knowledge
- 5. All committees who have worked hard in the success of the seminar

We apologize if the 2020 PSB Disaster Management Seminar is still lacking. Hopefully the holding of seminars in the coming years can be even better

Surakarta, October 1, 2020 Head of the Disaster Studies Center Research and Community Service Institute Sebelas Maret University

Prof. Dr. Chatarina Muryani, MSi



Editor Proceeding SMBPSB 2020, Prof. Dr. Chatarina Muryani, M.Si Dr. Yasin Yusup, S.Si., M.Si Sorja Koesuma, S.Si., M.Si

# LIST OF COMMITTEE

#### Steering Commitee

Chairperson: Prof. Dr. Chatarina Muryani, M.Si

Advisory Boards and Scientific Committee:

- 1. Dr. Yasin Yusup, S.Si., M.Si
- 2. Dr. Rita Noviani, M.Sc
- 3. Dr. Pipit Wijayanti, M.Sc
- 4. Sorja Koesuma, S.Si., M.Si
- 5. Seno Budhi Ajar, S.Pd., M.Si
- 6. Lintang Ronggowulan, S.Pd., M.Pd

### **Organizing Commitee**

Chairperson: Prof. Dr. Chatarina Muryani, M.Si

Secretarial staffs:

- 1. Anton Subarno, S.Pd., M.Pd., Ph.D
- 2. Farida Hidayati, S.Psi., M.Si

Accomodation and Ceremony:

- 1. Dr. Munawar Kholil, S.H., M.Hum
- 2. Drs. Sutarno, M.Si

Papers and Publication:

1. Ahmad Marzuki, S.Si., Ph.D

Website Development:

- 1. Mursidi, A.Md
- 2. Hikari Dwi Saputro, S.Pd

Logistic and Supporting Team:

- 1. Drs. Sarjoko Lelono, M.Kes
- 2. Ir. Agus Prijadi Saido, M.Sc

# SEMINAR PHOTOGRAPH



# PENDAHULUAN

**1** ~

- Bencana adalah peristiwa atau rangkaian peristiwa disebabkan faktor alam yang mengancam dan mengganggu kehidupan dan penghidupan masyarakat yang menyebabkan timbulnya korban jiwa, kerusakan lingkungan, kerugian ekonomi, dan/atau dampak psikologis serta menimbulkan gangguan terhadap tata kehidupan dan penghidupan masyarakat
- Bencana menimbulkan kerugian materil maupun non-materil di tengah masyarakat. Untuk mencegah timbulnya kerugian yang massive, maka berbagai upaya dilakukan adalah membangun ketangguhan masyarakat terhadap bencana.
- Tujuan penelitian ini adalah untuk menyusun konsep ketangguhan dalam perspektif psikologi, sebagai bahan untuk menyusun instrumen untuk mengukur ketangguhan masyarakat terhadap bencana

•

**33** ^

-

**^** 



# PEER REVIEW STATEMENT

All papers published in this volume of Social, Humanities, and Educational Studies (SHEs): Conference Series have been peer reviewed through processes administered by the proceedings Editors. Reviews were conducted by expert referees to the professional and scientific standards expected of a proceedings journal published by Universitas Sebelas Maret.

# TABLE OF CONTENTS

PREFACE	i
LIST OF COMMITTEE	ii
SEMINAR PHOTOGRAPH	iii
PEER REVIEW STATEMENT	v
TABLE OF CONTENTS	vi
MAIN PAPER	1
Technology-Based Disaster Management Professor Dr. Krishna Suryadi Pribadi	2
Ecological and Financial Based Disaster Management Dr. Agung Harijoko M. Eng	26
Community Based Disaster Management in Indonesia Professor Dr. Chatarina Muryani, M.Si	37
COMPANION PAPER	45
THEME I. DISASTER RISK REDUCTION	46
The Role of Social Media as a Measures of Information Delivery to Reduce The Risk of Flood Disasters in Kecamatan Pasar Kliwon, Surakarta City In 2020	47
Mikael Dafit Adi Prasetyo, Chatarina Muryani, Gentur Adi Tjahjono	
<b>Disaster Risk Mitigation for Forest and Land Fire Prevention in Sumatera</b> Tukiyat, F. Heru Widodo, R. Djoko Goenawan	54
Anion-based Weather Modification Technology to Reduce Food and Forest Fire Risks (Karhutla) during Covid-19 Pandemic R. Djoko Goenawan, Tukiyat, F. Heru Widodo	61
Drought Risk Reduction Efforts in The Village of Krendowahono Gondangrejo Karanganyar Using Geolistric Surveys Sorja Koesuma, Budi Legowo, Darsono, Iwan Yahya, Harjana	69
PERUT SINCAN (Snakes and Ladders Game of Disaster Mitigation) as a Disaster Education Learning Medium Siska Dwi Utami, Hapsari'ati Mustari	76
The Role of Tagana in Disaster Education for Public Elementary School 2 Wates, Ponorogo Risma Dwi Arisona, Rohana Sufia	83

Shoreline Changes due to Abrasion in Pekalongan Utara Sub District Year 2003-2018 Ndaru Diatama, Chatarina Muryani, Rahning Utomowati	91
Nuaru Diatama, Chatama Muryam, Kaming Otomowati	
Building density derived from aerial photo mapping for physical vulnerability reduction in earthquake hazard zone of Sengon village, Central Java Djati Mardiatno, Denni Susanto, Tiara Handayani, Lies Rahayu W. Faida, Bevaola Kusumasari	101
Preparedness of Coastal Community Purworejo Against Megatrhtust Threat Abdul Latif Rifa' F., Chatarina Muryani, Yasin Yusup	107
Active Role of Women in Disaster Prone Ratnanik, Yulinda Erma Suryani	116
THEME II. DISASTER MANAGEMENT	123
Disaster Management Of Forest And Peatland Fire Through The Berdikari Gambut Village Program In Pakning River, Bengkalis District Wahyu Purwanto, Rahmad Hidayat, Anugraheni Utami	124
Study Of Abration Management In Pangkalan Jambi Village, Bengkalis District	133
Wahyu Purwanto, David M Haryanto, Rizal Indra Priambada	
Disaster Management Problems in Indonesia: Urgency of "Migrant Worker" Data Collection, Learning from Conditions During the Covid-19 Pandemic Muhammad Arif Fahrudin Alfana, Agus Joko Pitoyo, Hidayati Nur Rohmah, Rizky Laudiansyah	140
Management of Atmosphere Resources in Hydrometeorological Disaster Mitigation F. Heru Widodo, Tukiyat, R. Djoko Goenawan	148
Effectiveness of Geography Teaching Materials Based on Disaster Literacy to Improve Disaster Preparadness Ulfah Khairani Ramadhan, Sarwono, Chatarina Muryani	157
Policy Analysis of Budget Allocation for Disasters in Indonesia Hari Apryana, Karina Rahma Nugraheni, Fatimah Wardhana	164
Community Response to Settlement Relocation After Liquefaction in Petobo Village Elly Kustiana, Iwan Alim Saputra, Amalia Novarita	170
Settlement Arrangement based on Landslide Risk Analysis in Girirejo, Bantul, Yogyakarta Sri Aminatun, Yunalia Muntafi	177
The Natural Hand Sanitizer Stamping Dispenser KKN Covid 19 UNS Bumirejo Village, Kecamatan Kebumen, Kabupaten Kebumen Budi Legowo	186

Why are Allogenic Watersheds not Protected (Again)? Ahmad Cahyadi, Eko Haryono, Tjahyo Nugroho Adji, M. Widyastuti	193
Impact of Coastal Erosion in the Coastal Area of Rembang, Central Java Lintang Ronggowulan, Sarwono, Chatarina Muryani, Yunus Aris Wibowo	201
An Interactive Web-Gis Development for Risk Tsunami Hazard Potential Information In Pangandaran Village West Java Juan Andrian, Arif Ismail, Iwan Setiawan, Shafira Himayah	211
Analysis of Landslide Vulnerability in Agribusiness Development Efforts Environmental Insight in Ngargoyoso District Setya Nugraha, Gentur Adi Tjahjono	227
THEME III. DISASTER RESILIENCE	230
Community Resilience of Sidanegara Village in Facing Covid-19 Pandemic In 2020 Nur Fajriyah, Rita Noviani, Yasin Yusup	231
Community Resilience of Jeruksawit Village in Facing Covid-19 Pandemic In 2020 (Case Study in Jeruksawit Village, Gondangrejo Subdistrict, Karanganyar Regency) Rita Mawanti Kusuma Nurbersari, Yasin Yusup, Rita Noviani	238
<b>Community Empowerment in Facing Covid-19 Disaster by KKN Students Of</b> <b>Universitas Sebelas Maret in Wonosobo District</b> Chatarina Muryani, Fransisca Trisnani Ardikha Putri, Puji Lestari, Rahendhiki Ratik Galindra, Ainaya Nurrachma Hakim, Almara Yoyok Arighynata, Danang Mika Daya, Dika Ulfatus Sa'adah, Rima Reniesa Pelita Rianti, Dwitama Alphin Usdianto, Lulu Febriana Damayanti	245
Lombok Living Strategy After The Lombok Earthquake Hemi Wulan Martatiwi, Nurhadi, Chatarina Muryani	253
Increasing The Community Capacity for Facing of Disaster Multi-Risk (Case Study in Dayu Village, Gondangrejo District, Karanganyar Regency) Rita Noviani, Pipit Wijayanti, Chatarina Muryani, Ahmad, Sarwono, Sugiyanto, Singgih Prihadi	261
Family Strategy To Fulfill The Needs When Covid-19 Pandemic Disasters Occurred Norma Yuni Kartika, Ellyn Normelani, Muhammad Efendi, Sopyan	270
Measuring the Resilience of Indonesian Communities to Disaster Yulinda Erma Suryani, Dwi Wahyuni Uningowati	277
Disaster Threats in the Gunungsewu Karst Area and Mitigation Efforts in the Framework of Disaster Risk Reduction, Review of the Hydrological and Geomorphological Aspects Pipit Wijayanti, Rita Noviani	285

Analysis Resilient Village of Merapi Volcano Eruption in Pusung Village, 292 Boyolali Subdistrict, Boyolali District

Mochamad Dendy Arianto

#### Formation and Assistance of Disaster Resilient Village 299 In Ngargoyoso Village, Ngargoyoso District, Karanganyar Regency, Central Java

Pipit Wijayanti, Rita Noviani, Anton Subarno, Aldi Cahyo Saputro, Anastasia Kintan Nimasari, Aufi Nurma Millati, Febi Monica Karina, Hidayat Fauzi, Muchammad Iqbal Dwidya Muzadi, Muhammad Zaki Zamani, Ryan Erry Atmaji, Sheva Adella Novita, Verido Dwiki Herdhianto, Pipit Wijayanti

# Strategy for Mitigating Landslide Disaster Risk through Improving the Status 307 of Disaster Resilient Villages (DESTANA) Case Study in Kemuning Village, Ngargoyoso District, Karanganyar Regency

Pipit Wijayanti, Rita Noviani, Anton Subarno, Fajar Dwi Prasetya, Hafidz Habibulloh, Muhammad Ikyu Arqie Ramadhan, Nur Fadillah, Panca Rizky Ayu Ramadhany, Pundung Setia Lesana, Putri Mariamulia Utami, Riksa Histhika, Rochadi Setyo Wibowo, Siti Setiyowati

THEME IV. PANDEMI COVID-19	314
Community Dedication by KKN UNS Volunteer in Prevention of Covid-19 in Banyumas Regency Sorja Koesuma	315
Adaptive Cycle of the Wotsogo Village Community in Facing Covid-19 Pandemic In 2020 Diah Ainurrohmah, Rita Noviani, Yasin Yusup	322
Village Community Resilience In Facing Pandemic Covid-19 Year 2020 (Case Study In Nayu RT 04 RW 05 Joglo Banjarsari) Ika Agustina Yaniastiwi	332
KKN Covid-19 UNS: Collaboration to Increase Digital Literation for Covid-19 Spreading Awareness Khresna Bayu Sangka	339
Public Perception About Pandemic Risk Baiq Liana Widiyanti	345
Community Capacity Strengthening for Covid-19 Disaster Prevention through the Independent Quarantine Installation Eko Teguh Paripurno, Elmi Wibowo, Panji Dwi Ashrianto, Gandar Mahojwala	353
Utilization of Social Media as a Means of Socialization to Prevent the Spread Of Covid-19 in the Youth Community In The Kudus District Munawar Kholil	360
Adolescent Perceptions of Large-Scale Social Distancing Policies Seno Budhi Ajar	367
Adaptive Management Process of Miri District to Face Covid-19 of 2020 Veni Tusiana, Rita Noviani, Yasin Yusup	373

Utilization of Bar Soap (Sabbath) Becomes Liquid Hand Soap to Prevent the Spread of Covid-19 (Community Service in Singocandi Village, City District, Kudus Regency) Munawar Kholil	382
Elementary School Curriculum Management In Improving Disaster Preparedness In Areas With Potential Disasters In Ngepanrejo Public Elementary School Arie Supriyatno, Tawil, Holy Nikmah Imaniar	387
Healthy Education in The Middle of Pandemi Covid-19 Through The Use of Social Media Fitri Fatonah, Sugiyanto	394
The Assistance To Develop Creativity In Early Childhood (Tk) Using Plasticine Amid The Covid-19 Pandemic Az Zahro Miftakhuljanah, Sugiyanto	403