



# **PROCEEDING BOOK**

# The International Conference on Climate Change and Local Wisdom

The Social Construction of Disaster Mitigation Design: The Community,Locality, and Environment Response

Swiss-Belinn, Makassar, 28th-29th August, 2019



Architecture Department Science and Technology Faculty Alauddin Islamic State University of Makassar 2019





# **PROCEEDING BOOK**

# The International Conference on Climate Change and Local Wisdom

The Social Construction of Disaster Mitigation Design: The Community,Locality, and Environment Response



Supported by:



# PROCEEDING BOOK The International Conference on Climate Change and Local Wisdom

### The Social Construction of Disaster Mitigation Design: The Community, Locality, and Environment Response

### **Organizing committee**

Chairperson	: Dr. Eng. Ratriana Said, M.T
Deputy chairperson	: St Aisyah Rahman. S.T., M.T
Secretary	: A. Eka Oktawati, S.T., M.Ars
Treasurer	: A. Hildayanti, S.T., M.T
IT and Website	: Sudarman, S.T., M.T Rasdyana, S.T., M.Ars
Publication	: Safruddin Juddah, S.T.,M.T Muhammad Attar, S.T.,M.T
Sponsorship	: Mayyadah Syuaib, S.T.,M.T Muhammad Ajwad Muzdar, S.T.,M.T
Secretariat division	: Nuryuningsih, S.T.,M.T Ahmad Ibrahim Rahmani, S.T.,M.Sc Lydia Megawati, S.Hum.,M.Hum

# **Steering Committee**

Marwati, S.T., M.T Irma Rahayu, S.T., M.T Burhanuddin, S.T., M.T Sriany Ersina, S.T., M.T Zulkarnain. AS, S.T., M.T Sutriani, S.T.,M.T

### **Reviewers**

Dr. Ir. Ria Wikantari, M.Arch Dr. Wasilah S.T.,M.T Fahmyddin A. Tauhid, S.T., M.Arch.,Ph.D Dr. Eng. Ratriana Said., M.T

# **Editorial Board**

Prof. Florence Rudolf, Ph.D (INSA Strasbourg University, French)
Prof. Andrew Charleson, M.E (Victoria University Wellington, New Zealand)
Prof. Dr. Nangkula Utaberta, M.Arch., IAI (Institute Universiti Putra Malaysia)
Prof. Ts. Dr. Zainal Abidin Akasah (Universiti Tun Hussein Onn Malaysia)
Prof. Yandi Andri Yatmo, M.Arch., Ph.D, IAI (University of Indonesia)
Prof. Dr. Ir. Josef Prijotomo, M.Arch (Sepuluh November Institute of Technology Surabaya)

# **Editor in Chief**

Moh. Sutrisno. S.T., M.Sc

### **Editors**

Rahmiani Rahim, S.T., M.T Mukhlisah Sam, S.T., M.T Annisa Gilang Yudhitya, S.T., M.Ds Suci Qadriana Ramadhani, S.T., M.Sc Muhammad Chaidar Febriansyah, S.T., M.T

# Language Advisor

Andi Tenrisanna Syam, S.Pd., M.Pd

# Setting/Layout

Sumarni Herman, S.Ars

# Publisher

Architecture Department Science and Technology Faculty Alauddin State Islamic University of Makassar

ISBN: 978-623-91651-0-9

# **Editorial Staff**

Jl. Yasin Limpo No. 36, Samata – Gowa Telp: 0411-2093873, Fax 0411-841879, http://gloci.uin-alauddin.ac.id/ e-mail: <u>geniusloci2@uin-alauddin.ac.id</u>

1<sup>st</sup> Publication on February 2013 © 2013. All rights reserved.

### PREFACE

The effect of many disasters in Indonesia and all over the world recently caused enormous casualties with massive losses. Consequently, it becomes an urgent matter to be concerned about a whole part of the community regarding the disaster mitigation especially in the prone areas since it will affect our Community, the Locality, and the Environment where human should exist. The legacy from our Ancestors as the result of their trial and error in the past in the form of Genius Loci in the abundant form that even shaped the values in our nation, hence it should be explored to anticipate the threat of the disaster around us.

This proceeding contains scientific studies related to disaster mitigation from various parties, especially scholars of architecture that comes from a lot of campuses in Indonesia. Diverse concentrations produce many approaches to contribute indirect thoughts and direct design recommendations. This conference conduct with examines several issues as the subtopics of the discussion of local wisdom and technology, mitigation culture, and education, communities live, policies, and Islamic values.

Going after the success of the International Conference of Genius Loci Chapter One that held in 2013, this year the Department of Architecture of UIN Alauddin Makassar consider supporting the disaster mitigation especially from the subject of indigenous wisdom. This Department proudly presents the International Conference of Genius Loci Chapter Two 2019 with academic collaboration in the theme of "Social Construction of Disaster Mitigation Design: The Community, Locality, and Environment Responses."

Makassar, Oktober 2019

**St Aisyah Rahman, S.T., M.T** Head of Architecture Department Science and technology Faculty Alauddin State Islamic University of Makassar

# **LIST OF CONTENT**

P	a	g	e	S
-	~	ъ	-	-

Preface List of Content	iii vi
SUBTOPIC I LOCAL WISDOM AND TECHNOLOGY	3
DISASTER MITIGATION: IN NUSANTARA AND FOR NUSANTARA Josef Prijotomo	1
THE USE OF HYDRAULIC STAGE HOUSE AT TIDAL FLOOD AREA. CASE STUDY OF KEMIJEN SEMARANG	9
THE VALUES AND SPIRITS IN GREEN BUILDING ARCHITECTURE AS THE NEW INDONESIAN LOCAL WISDOM Yasmin Suriansyah, Anastasia Caroline Sutandi, Y. Karyadi Kusliansjah	15
COLLABORATION ON <i>ASSITINAJANG NA GETTENG</i> PHILOSOPHY IN MITIGATION CULTURE ACCOUNTING PRACTICE FOR MSMES Jamaluddin M, Marwah Gama, Memen Suwandi, Alfian Fani	24
SUBTOPIC II MITIGATION CULTURE AND EDUCATION	. 33
INDIGENOUS KNOWLEDGE FOR EARTHQUAKE RISK REDUCTION IN DUKUH KAMPUNG, WEST JAVA, INDONESIA Andi Harapan	35
INTERACTIVE "PALU EARTHQUAKE AND TSUNAMI MUSEUM" AS ARCHITECTURAL MITIGATION MEDIA. CHRISTINE WONOSEPUTRO, CLARISSA HANDOYO ANGGRESTA	47
OBSERVATION OF USER BEHAVIOR IN THE PUBLIC SPACE OF THE MANGGAR WATERFRONT SETTLEMENT Nadia Almira Jordan, Mega Ulimaz	55

LOCAL CULTURE-BASED FIRE SAFETY MANAGEMENT IN HERITAGE VILLAGE: LITERATURE STUDIES	62
Meta Vaniessa Tampubolon, Lily Tambunan, Fauzan Alfi Agirachman	
DISASTER MITIGATION BASED ON LOCAL WISDOM VALUES OF ARCHITECTURAL HERITAGE AND HISTORIC CITIES IN PALOPO Moh. Sutrisno, Sudaryono, Ahmad Sarwadi	70
SUBTOPIC III	
COMMUNITIES LIFE	79
ACCESSIBILITY OF DIFFABLES AS A MEANS OF EVACUATION IN THE BUILDINGS OF LARGE MOSQUES IN THE CITY OF SAMARINDA	81
Hatta Musthafa Adham Putra, Nur Husniah Thamrin	
DISASTER VULNERABILITY MAPPING IN COASTAL AREAS OF WEST KALIMANTAN DUE TO RISING SEA LEVELS	88
Nunik Hasriyanti, Andi Zulestari, Lestari Agustruhardaning, Ismail Ruslan	
THE CHARACTERISTICS OF STRUCTURE AND CONSTRUCTION OF BARNS	95
Zulkarnain AS, Baharuddin Hamzah, Ria Wikantari, Moh. Mochsen Sir, Afifah Harisah, Abdul Mufti Radja.	) )
STRUCTURAL MITIGATION OF COMMUNITY HOUSING IN THE POST-FLOOD DISASTER AREAS	103
Andi Hildayanti	
EVALUATION OF SHAPE OF BALCONIES IN FLATS OBSERVED FROM ASPECTS OF BEAUTY AND SAFETY	109
Dyan Agustin, Erwin Djuni, Gayuh Budi Utomo, Niniek Anggriani	
SUBTOPIC IV	
POLICIES AND OTHER STUDIES FOR LIVE QUALITY IMPROVEMENT	117
OBSERVATIONAL LEARNING WITH AUDIO VISUAL MEDIA BASED	
ON ANIMATION FOR PHYSICS LEARNING SLOW LEARNER.	119
Nurbaeti, Ulfiani Rahman, Suhardiman	
THERMAL ANALYSIS OF THE INCREASE IN AMBIENT TEMPERATURE DUE TO MOTOR VEHICLE ACTIVITIES	126
Monammad Imran, Sangkertadi, Cynthia E. V. Wuisang	

STUDY OF THE BUGIS ARCHITECTURE ON SUMATERA COAST BASED ON	
COMMUNITY SOCIAL LIFE IN CUNGKENG VILLAGE BANDAR LAMPUNG	132
A. Dwi Eva Lestari, Stirena Rossy Tamariska	
CORRELATION OF OUTDOOR CLASS AND STUDENT BEHAVIOR PATTERNS IN	
NATURE SCHOOL	140
Rasdyana, Afifah Harisah,  Ria Wikantari	

Nasrullah, Ramli Rahim, Baharuddin Hamzah, Rosady Mulyadi	
BUILDINGS CASE STUDY: ARYADUTA MAKASSAR HOTEL	154
EVALUATION OF BEDROOM TEMPERATURE AND AIR HUMIDITY IN THE HOTEL	



The International Conference on Climate Change and Local Wisdom SOCIAL CONSTRUCTION OF DISASTER MITIGATION DESIGN: THE COMMUNITY, LOCALITY AND ENVIRONMENT RESPONSES

# The Use Of Hydraulic Stage House at Tidal Flood Area

# Case Study of Kemijen Semarang

B.Tyas Susanti<sup>1</sup>, Etty E.Listiati<sup>1</sup>, IM.Tri Hesti Mulyani<sup>1</sup>, Widija Suseno<sup>2</sup>

1 Department of Architecture 2Department of Civil Engineering Soegijapranata Catholic University, Semarang, Indonesia Santi@unika.ac.id

**ABSTRACT.** Kemijen is a region in the eastern Semarang that experiences tidal flooding for years. Although the government has tried to address to the environmental problem, the danger of tidal flooding is still a threatening issue. One way to make people live comfortably and adjust with this condition is to build a hydraulic stage house. The hydraulic stage house is a stilt house that can be both raised and lowered according to the level of water. In addition, this kind of house is made by low cost material, which is bamboo. One hydraulic stage house has been built for one of the residents living in the most severely affected area in the Kemijen region. This stilt house affects their mobility of the people in the house, and the use of this stage house is in accordance with the initial purpose of developing hydraulic houses.

This study uses qualitative methods through an in-depth interview and observation approach. The results of this study are that hydraulic stage houses help residents to be free from water when the tidal flood comes. However, when the soil is dry, the owner of the building can use the space according to their needs such as for communal space or playing ground. It can be said that the hydraulic stage house is a safe place to go when tidal flood comes

© 2019. All rights reserved.

Keywords: Households, Stage House, Tidal Flood, Qualitative method

### Background

Kemijen is one of the areas in Semarang which is an area affected by tide. The tidal problem is a problem found in many regions in Indonesia, particularly in coastal areas. The tidal problem, which is not easily overtaken, is overcome as one of the threats for residents and the residents carry out various strategies to overcome it. Some measures performed well by the community had succeeded in reducing the impact of tide, such as, by removing the water that inundates the area using pumps managed by the residents. However, there are still areas that experience tide and flooding in Kemijen area, namely RW 4. The problem found in RW 4 is related to flooding and tide triggered also by the presence of substandard drainage channels so that, when tide and accompanied by heavy rain, the RW 4 area is still flooded.

One solution that has been made by the community in Kemijen area to survive against flooding and tide is by elevating their homes. This will be a problem because of the substantial costs required. In other hand, it can be said that house elevation has been carried out for almost 5 years. For people with disadvantaged economic conditions, raising homes is a problem. To overcome this problem, an innovation has been carried out by making a hydraulic stage house..



The International Conference on Climate Change and Local Wisdom SOCIAL CONSTRUCTION OF DISASTER MITIGATION DESIGN: THE COMMUNITY, LOCALITY AND ENVIRONMENT RESPONSES

Hydraulic stage house is a stilt house with a floor height that can be adjusted manually. The height of the stage house that has been made is 1.5 meters above the road level. The figure of 1.5 meter is obtained from water level data at the time of tide and flooding which ranges from 30 cm to 1 meter (Listiati, Etty E, et al, 2017).

### **Literature Review**

Stage house is one of the solutions to solving environmental/ tidal problems in Kemijen region affected by tide. Regarding the environmental conditions in Kemijen, several studies revealed that the Kemijen community did not want to leave the environment even though they realized that the occupied environment was not healthy. Some factors causing this decision included the ease of access to the workplace, the presence of family relations and the relationships which had been comfortable with their surrounding neighbours (Andi Suriadi, et al., 2018 and Ananto Bangkit Pradana and Mussadun, 2014).

The research on the shape of the houses desired by Kemijen people was conducted by Pribadi SB et al (Modul vol 11, no. 2, August 2011) with the highest percentage of people wanting a stage house (42.75%) followed by a floating house (20.75%) and burial house (36.50%). In a subsequent study by Etty et al (2018) stage house is the most feasible considering that the people in Kemijen were in middle to lower class with limited economic capacity, so the possibility to have a burial house was not an option due to expensive cost.

The most feasible solution was by making a stage house. The advantage of stage house is that it can be used to improve air refreshment naturally. The opening of the wall was held over the surface of the floor, the middle of the room, and under the roof. Because the wind also moves under the floor, all the surfaces of the houses get fresh air (Frick & Mulyani, 2006, 70)



Figure 1. A Stage House with good cross ventilation Source: Frick & Mulyani, 2006, 70

### Methodology

This research was a follow-up study from the making of hydraulic stage house design made to overcome tidal problems in Kemijen area. After one stage house had been built at the location of one of the residents of RW IV who was still affected by the tide, an evaluation was carried out on whether the house could be utilized by the owner. The evaluation phase was carried out by conducting approaches, such as conducting interviews with residents and their family members to see how they used the building. These interviews were conducted officially to be able to help all relevant parties related to the use of the buildings. The interviews were conducted in depth to explore all issues and the future expectations related to the use of the buildings.



The International Conference on Climate Change and Local Wisdom SOCIAL CONSTRUCTION OF DISASTER MITIGATION DESIGN: THE COMMUNITY, LOCALITY AND ENVIRONMENT RESPONSES

In addition to the interviews with the owners or residents, Focus Group Discussions were also held. The FGD was prepared by inviting several parties, including: Chairperson of RW IV where the location of the stage houses were built, the Head of Kemijen Village, the Chief of the BPBD (Regional Disaster Management Agency), local residents in RW 4, and the research team. The purpose of the FGD was to get inputs on the uses of the stage houses after they are inhabited and to ask for all shortcomings that still need to be corrected in the future. Some of the expectations of the residents and the community regarding the stage houses will also complement the perfection of the hydraulic stage houses. Photos and documentations also complemented the qualitative data in this study.

### **Results and Discussions**

A hydraulic stage house had been built in the yard of Mr. Heri's house in 2018. The house was built in the side yard of the main house that was not utilized. The yard was originally the home of his parents which was finally "drowned" because of land subsidence in the area. Then, Mr. Heri's house, at the time of tide accompanied by heavy rain, was always inundated, particularly in the living room. This condition made the walls and floors be moist, and it was very unhealthy for the residents of the house.



Figure 2 (a and b): the initial condition of Mr. Heri's house before the construction of hydraulic stage house Source: Research documentation





Figure 3 (a and b): Hydraulic Stage House Source: Research documentation



The International Conference on Climate Change and Local Wisdom SOCIAL CONSTRUCTION OF DISASTER MITIGATION DESIGN: THE COMMUNITY, LOCALITY AND ENVIRONMENT RESPONSES

The stage house (figure 3) was built with a height of 1.5 meters to avoid being flooded. At present, Mr. Heri's family has used the house, especially when it rains by utilizing the existing space of  $3 \times 3$  square meters. By utilizing the upper bedroom, there is no more concern for Mr. Heri's family with the water that will enter and disturb their sleep. If a big flood comes, they will not only be able to save themselves but also be able to save valuable items.

The function of the 3 x 3 square meter space on this stage house was not only used as a bedroom where Mr. Heri's family took refuge when it rains, but it is also used as a living room when the friends of Mr. Heri's family visit them. The space can accommodate around 10 people and has been used for the neighborhood meeting.

In addition, the space upstair has been fully utilized, while the lower space is still not fully utilized. The lower part is still a pit/ empty space with a tie beam (sloof) that functions as a reinforcement beam. Under the stage house, it can be used as a public or private space because its size is quite wide (3 x 3 m). The pit can be utilized by providing floor coverings using the existing tie beam (sloof) with bamboo beams as reinforcement.



Figure 4 (a and b): the Basement used for drying cloths Source: Research documentation

The pit/basement has a height of 1.5 meters, and currently its use is only used for drying clothes. There is no floor covering so that it cannot be used to accommodate family activities. However, the lower area / pit can be used for other activities with a little adjustment. From the results of the interviews with the homeowners, there were a number of ideas stated:

### 1. Becoming a living room:

The pit of the stage house can be used as a space to receive guests. Currently, the room at the top is used for two functions; the main function is as a bedroom, and the other one is as a living room. The room was once used as a meeting place for the residents with 10 people. The capacity of the space is indeed not large, and, with the consideration of the strength of the supporting column, the room cannot accommodate many people. With the use of the lower space as a living room or public space, the upper room can be fully used as a sleeping area so that it does not interfere with the activity of Mr. Heri's family members.

With the condition of the pit which is still in the form of empty space, it is necessary to make a base or cover by using Sloof (tie beam) as a reinforcement beam on the floor cover. Associated with the height of the house pit of 1.5 meters only, comfort will be reduced because the activities and movements of residents will be limited. The movements that can be carried out will only range from sitting position, lying down, or, when standing, it can only be done in a half-standing position. This height can be increased by raising the floor hydraulically to a height of 1 meter so that with a pit height of 2.5 meter it will make the activity in the lower room comfortable.

Regarding the arrangement in the living room, it is proposed to use the "*lesehan*" model. This is also to minimize the furnitures placed in the room given the limited strength of the support beam.



The International Conference on Climate Change and Local Wisdom SOCIAL CONSTRUCTION OF DISASTER MITIGATION DESIGN: THE COMMUNITY, LOCALITY AND ENVIRONMENT RESPONSES



Figure 5: Proposed living room of the house Source: Research Team

### 2. Utilization for Economic Activities

Beside the stage house built, there is still a bare land in the form of a pond. At present, the land has not been used. It is still flooded with water and the surrounding land turns into slum because the pool is also a waste dump, especially for the children of the homeowners. This condition does not only cause slums, but it is also a cause of dengue fever due to many mosquito larvae in the pond.

The homeowner and some local residents had an idea to use the inundation area for economic activities. The idea that came from the homeowner and some members of the surrounding community was to use the land to be used as a fish pond because the land has already been a pool so that it can be cultivated better to be a fishing pond. The space under the stage house can be used as a place for anglers to sit.

The making of the fishing ponds can be managed by the residents so that the benefits will not only be enjoyed by home of land owners but also for the people who manage them.

In addition to financial benefits, the other advantage obtained is the availability of entertainment arena for the community that may not only be from RW IV but also in other RWs



The International Conference on Climate Change and Local Wisdom SOCIAL CONSTRUCTION OF DISASTER MITIGATION DESIGN: THE COMMUNITY, LOCALITY AND ENVIRONMENT RESPONSES



Figure 6: Proposed Fishing Pond Source: Research Team

Regarding the potential use of ponds as a living room or communal space for fishing, the strength of the reinforced concrete beam size of 15/25 with a span of only 3 (three) meters and no wall load on it is really able to receive the loads of bamboo flooring and living loads on it. Then, the special consideration for determining the capacity of its utilization is the foundation support on the tidal land which is always inundated. With the carrying capacity power of four foundations (8000 kg). the space of the pit can only be used for a maximum of 10 people

In accordance with the calculation of the load above, the burden borne by the foundation for the stage house is still below 4600 kg, excluding human burden, because the basement is originally not intended for the activities that will burden the foundation. Therefore, it is necessary to consider the burden allowed on the stage house and the pit as follows:

1. The remaining bearing capacity of the foundation is 8000 - 4600 = 3400 kg, and it can be used for bamboo load and mats for basement bases of approximately 20 bamboo sticks @ 12 kg = 240 kg

2. The human life burden is 20 people (10 people in the upper room and 10 people in the lower room),

each of whom is considered to weigh 100 kg / person 3. Then, the rest, 3400 - 240 - 2000 = 1160 kg, can be used for infrastructure facilities on the upstairs such as wardrobe (+/- 50 kg), spring bed (+/- 25 kg), TV 20 "(+/- 15 kg), fan (+/- 10 kg), 4. The rest of 1160 - 100 = 1060 kg can be used for fishing facilities downstairs

### Conclusion

The hydraulic stage house built in the vard of one of the residents of RW IV had been used well. The upper room has now been utilized to the maximum for the bedroom and also the reception room. However, this utilization has not been maximized because there is still empty space on the lower floor that is still unused. There are two uses that can be used, such as the use as a living room so that the upper room can



The International Conference on Climate Change and Local Wisdom SOCIAL CONSTRUCTION OF DISASTER MITIGATION DESIGN: THE COMMUNITY, LOCALITY AND ENVIRONMENT RESPONSES

be maximized as a bedroom. The other potential is for economic use in which the pool of water ponds can be used as fishing ponds, and the lower space is used as the seats for anglers.

For the utilizations, one thing that must be taken into account is the strength of the buffer column so that the utilization needs to minimize the existing burden

### Acknowledgement

Our gratitude goes to the Ministry of Research, Technology and Higher Education for funding the Higher Education Applied Research in 2017, 2018 and 2019 for PTUPT Scheme

We also thank to Mr Heri's family and the Head of Village, staffs, and residents of Kemijen Village who were very helpful to the research team in searching the data as well as applying the design.

### References

Artiningsih. NKA. 2012. Pemanfaatan Bambu pada Konstruksi Bangunan - e Journal Undip.ac.id.

Bappeda. (2011). Rencana Tata Ruang WIlayah Kota Semarang Tahun 2011-2031. Semarang: Bappeda Kota Semarang

Frick, Heinz, 2004. Ilmu Konstruksi Bambu- Pengantar Konstruksi Bambu. Penerbit Kanisius. Yogyakarta.

Kumalasari, N. R., & Yuliastuti, N. (2013). Bentuk Adaptasi Masyarakat Terhadap Banjir Di Kampung Purwodinatan dan Jurnatan, Kota Semarang. Universitas Diponegoro, Semarang.

Listiati, Etty E., et al (2017), Adaptive House Design Model for Tide in Kemijen Village Semarang (Year I). Higher Education Research, the Ministry of Research, Technology and Higher Education

Listiati, Etty E., et al (2018), Adaptive House Design Model for Tide in Kemijen Village Semarang (Year II). Higher Education Research, the Ministry of Research, Technology and Higher Education

Oktaviani, Dina Wahyu. (2007). "Motivasi Masyarakat Bertempat Tinggal di Kawasan Rawan banjir dan Rob Perumahan tanah Mas Kota Semarang" (Tugas Akhir). Jurusan Perencanaan Wilayah dan Kota. Fakultas Teknik Universitas diponegoro

Setionurjaya, Aditio, Diana Kristina dkk (2016). *Vulnerability and Resilience in Kemijen*, Master of Regional and Ueban Development, Diponegoro University, Semarang

Zakaria (2011) Konsep Tentang Partisipasi. [Internet] Available from <a href="http://cvrahmat.blogspot.com/2011/04/konsep-tentang-partisipasi.html">http://cvrahmat.blogspot.com/2011/04/konsep-tentang-partisipasi.html</a>> (Accesed 28 May 2017)

FAKULTAS ARSITEKTUR DAN DESAIN Jl. Pawiyatan Luhur IV/1 Bendan Duwur Semarang 50234 Telp. (024) 8441555,8505003 (hunting) Fax.(024) 8415429 - 8445265 e-mail:unika@unika.ac.id http://www.unika.ac.id



No.: 0450/K.6/FAD///III/2019

Wakil Dekan I Fakultas Arsitektur dan Desain Universitas Katolik Soegijapranata Semarang, memberikan tugas kepada :

Nama	:	Dra.	Β.	Tyas Susanti,	MA., PhD.
------	---	------	----	---------------	-----------

Status : Dosen Fakultas Arsitektur dan Desain Unika Soegijapranata

Tugas : Pemakalah The Internasional Conference "The Social Construction of Disaster Mitigation Design Community, Locality And Environment Response"

Penyelenggara : Prodi Arsitektur, UIN Alauddin Makasar

Tempat : Prodi Arsitektur, UIN Alauddin Makasar JI. H.M Yasin Limpo No. 36, Samata - Gowa

Waktu

28 - 29 Agustus 2019

Lain-lain Harap melaksanakan tugas dengan penuh rasa tanggung jawab dan memberikan laporan setelah tugas selesai

Demikian Surat Tugas ini untuk dapat dipergunakan sebagaimana mestinya, dan setelah selesai melaksanakan tugas tersebut, mohon memberikan laporan.

Pejabat: Wakil Dekan Bidang Kemahasiswaan Fakultas Sains dan Teknologi UN Alauddin Makassar Nama : Dr. Wasilah, ST., MT Nip : 19720603 200312 2 002

Semarang, 26 Agustus 2019 Wakil Dekan I

Tri Hesti Mulyani, MT

Telah melaksanakan tugas,



Swiss-Belinn Makassar, August 28<sup>th</sup> - 29<sup>th</sup> 2019

F. HERDONLPJK South Sulawesi Region Allaria de la Prof.Dr.Muh. Halifah Mustami,M.Pd Dean of Science and Technology Faculty UIN Alauddin Makassar

Ę

KUM LPJK = 5 KUM IAI = 13.5

The Social Construction of Disaster Mitigation Design; Community, Locality and Environment Response For the contribution as a <AUTHORS> in The International Conference on Climate Change and Local Wisdom:

# **B. TYAS SUSANTI**

The certificate is awarded to

of Appreciation

CERTIFICATE





of Alauddin Islamic State University

The Architecture Department

