



**9th INDES 2020**  
**LIMITLESS MIND:**  
EMPOWERING INNOVATION THROUGH VISUALIZATION



الجامعة  
UNIVERSITI  
TEKNOLOGI  
MARA

Cawangan Perak

PROGRAM  
PROCEEDINGS  
ABSTRACTS BOOK

The 9th International Innovation, Invention  
& Design Competition  
INDES2020

17th May – 10th October 2020

# PORTABLE SHELTER AS COVID-19 FIRST AID IN PUBLIC SPACES

Yazinta Pangestu Wulandari, Tri Wulan Anggraeni, Mutmainah, Angga Palaguna Rusmawardi and Irfan Rizqi Falah

*Study Program of Architecture, University of 'Aisyah Yogyakarta, INDONESIA*

*E-mail: yazintapangestu27@gmail.com*

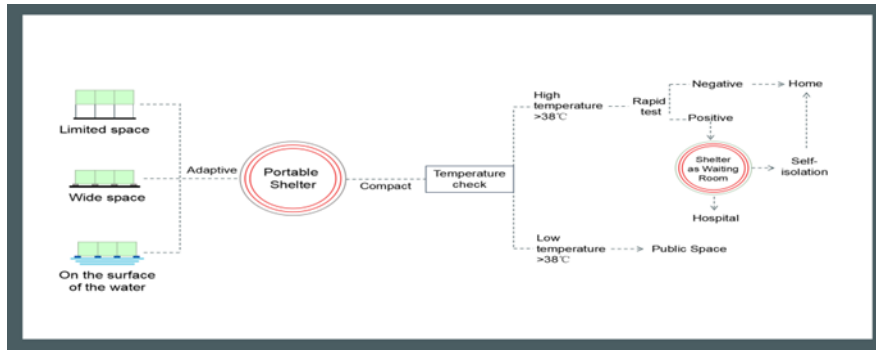
## ABSTRACT

Prevention efforts are continuously being optimized to fight Covid-19, such as implementing Large-Scale Social Restrictions (PSBB). The spread of Covid-19 in Indonesia is increasingly widespread and its handling is not evenly distributed, making a number of regions have to implement the PSBB, but it cannot be continued because economic activity must continue so as not to cause an economic crisis. The opening of various economic facilities and public facilities has further increased the number of sufferers of Covid-19. In the new normal era body temperature checks are always carried out in public places. However, when someone is indicated that Covid-19 has such a high temperature, they are generally asked to go home and isolate themselves. However, not everyone who is indicated has this awareness, thus increasing the potential for the spread of Covid-19. This paper was created with the aim of designing a portable shelter using the design behavioral setting method, healthy buildings, sites and approaches to Covid-19, as a means of first aid for people with indications of Covid-19 symptoms in public places. The result found is a portable shelter with a compact and adaptive concept where the shelter is integrated with rapid tests, mobility to health facilities and is able to adapt to conditions in limited public spaces, above water and in open spaces. In addition, the shelters are designed to be assembled, sterile and to support increased immunity for sufferers.

**Keywords:** covid-19, portable shelter, adaptive building

## 1. INTRODUCTION

Various handling and prevention efforts continue to be carried out such as, always washing hands, avoiding crowds, maintaining distance, always using masks, large-scale social restrictions (PSBB) and so on. On the other hand, economic activities must continue to run so as not to cause an economic crisis, therefore the PSBB cannot be continued. So that in many countries, including Indonesia, they began to implement a new normal policy, but still pay attention to health protocols. In Indonesia, the new normal policy did not decrease the spread of the virus, but increased sharply. According to data from Ternate.Tribunnews.com, the total number of corona virus cases in Indonesia reached 324,658 people, Friday (9/10/2020). In general, in public places, if someone has a high body temperature, then they will be asked to go home and isolate themselves. However, if it turns out that they have been exposed to Covid-19, then the person will continue their activities. If not handled further, it can increase the activity of infection. In this case, we propose the design of a Covid-19 symptom response health post designed as a portable shelter.

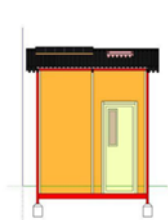


**Figure 1.** Skema Pendekatan Desain Shelter Portable

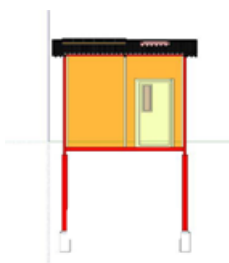
The concept is compact and adaptive with the form of a prototype size of 2.4 m x 2.4 m, compact where the shelter is integrated with rapid tests for people who have high temperatures then, based on test results integrated with different transportation to public health facilities or mobilization back home. As well as adaptive, where the shelter is able to adapt to the conditions of limited public space, on water and in open spaces. In addition, the shelters are designed to be assembled, sterile, and support for increased immunity for sufferers.

## 2. MATERIALS AND METHODS

By using the design behavioral setting method, healthy buildings, sites and approaches to Covid-19, as a means of first aid for people with indications of Covid-19 symptoms in public places. The result found is a portable shelter. Designed with the selection of Kalsiboard material which has a slippery surface so it is easy to clean and a weather-resistant lightweight steel structure. According to IDN TIMES (2020), the corona virus can only survive in iron or steel for 2-3 days, which is quite a fast time compared to other materials.



**Figure 2.** Open field



**Figure 3** Narrow field



**Figure 4.** On the water

## REFERENCES

1. ID Times Banten.2020. "Berapa Lama Sih Virus Corona Bertahan di 10 Benda Berbeda Ini?" <https://banten.idntimes.com/health/medical/alfonsus-adi-putra-alfonsus/infografis-ketahanan-virus-corona-di-benda-berbeda-regional-banten>. Diakses tanggal 18 September 2020.
2. Tribun Ternate.com.2020. " UPDATE Sebaran Kasus Corona Indonesia Jumat (9/10/2020): DKI Catat 943 Kasus Baru & 850 Sembuh " <https://ternate.tribunnews.com/2020/10/09/update-sebaran-kasus-corona-indonesia-jumat-9102020-dki-catat-943-kasus-baru-850-semuh>. Di akses tanggal 9 Oktober 2020.



Surat kami : 700-KPK (PRP.UP.1/20/1)  
Tarikh : 30 Ogos 2022

YBhg. Profesor Ts Sr Dr Md Yusof Hamid, PMP, AMP  
Rektor  
Universiti Teknologi MARA  
Cawangan Perak



YBhg. Profesor

**PERMOHONAN KELULUSAN MEMUAT NAIK PENERBITAN UiTM CAWANGAN PERAK  
MELALUI REPOSITORY INSTITUSI UiTM (IR)**

Perkara di atas adalah dirujuk.

2. Pihak Perpustakaan ingin memohon kelulusan YBhg. Profesor untuk membuat imbasan (*digitize*) dan memuat naik semua jenis penerbitan di bawah UiTM Cawangan Perak melalui Repositori Institusi UiTM, PTAR.
3. Tujuan permohonan ini adalah bagi membolehkan akses yang lebih meluas oleh pengguna Perpustakaan terhadap semua bahan penerbitan UiTM melalui laman Web PTAR UiTM Cawangan Perak.

Kelulusan daripada pihak YBhg. Profesor dalam perkara ini amat dihargai.

Sekian, terima kasih.

**“WAWASAN KEMAKMURAN BERSAMA 2030”**

**“BERKHIDMAT UNTUK NEGARA”**

Yang benar