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KOPER (PORTABLE SURGERY CLINIC)

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ABSTRACT

Indonesia is one of the countries that has high intensity and potential for natural disasters such as earthquakes and tsunamis moreover Indonesia is surrounded by the Ring of Fire. These natural disasters often result in damage to buildings and health facilities. Meanwhile health facilities are urgently needed when a disaster occurs. The difficulty in mobility from the evacuation area to health facility is also an obstacle. In addition, natural disasters results in many victims experiencing fractures and bleeding. The existing facility has constraints in dimensions, materials, inefficient fabrication time and a difficulty in distributing the facility to the disaster area in a limited time. By using the Glass Box design method and approaches to the easy-mobility, sterilisation and standard health facility thereby KOPER is created. The purpose of this facility is to create a post-disaster health facility that has standard surgery health function to accommodate disaster emergency in particular bleeding and fractures cases and easy mobility from and to the disaster evacuation area. Therby there is the design of KOPER or Portable Surgery Clinic that carries effectiveness, efficiency and compactness and is equipped with lightweight materials, folding techniques, standard surgery equipment with sterilization space facility inside the Portable Clinic design.

Keywords: disasterfacility, clinic, portable, mobility

1. INTRODUCTION

Indonesia is one of the countries that has high intensity and potential for natural disasters such as earthquakes and tsunamis moreover Indonesia is surrounded by the Ring of Fire. These natural disasters often result in damage to buildings and health facilities. According to BNPB data for the last 10 years (2010 - 2019), 665 health facilities were damaged by the earthquake and seven health facilities damaged by tsunami. Meanwhile health facilities are urgently needed when a disaster occurs. The difficulty in mobility from the evacuation area to health facility is also an obstacle. In addition, natural disasters results in many victims experiencing fractures and bleeding. The existing facility has constraints in dimensions, materials, inefficient fabrication time and a difficulty in distributing the facility to the disaster area in a limited time. Therefore, the purpose of this facility is to create a post-disaster health facility that has standard surgery health function to accommodate disaster emergency in particular bleeding and fractures cases and easy mobility from and to the disaster evacuation area. This paper aims to design a clinic which a health service facility provides basic and/ or specialist medical services that one of which is a surgery service (Kemenkes RI, 2014). Thereby there is the design of KOPER or Portable Surgery Clinic that carries effectiveness, efficiency and compactness and is equipped with lightweight materials, folding techniques, standard surgery equipment with sterilization space facility inside the Portable Clinic design.

2. MATERIAL AND METHOD

The materials consist Waterproof Parachute Cloth (Outer Layer), Ashari Cloth (Additional Layer), Aluminum Bubble Foil (Inner Layer), 2 - 3 inches Aluminum Hollow & Flat Stainless Steel, Connector & Fasteners Bolts and Steel Hinges. This Portable Surgery Clinic uses Glass Box design method which begins with obtaining the design brief and developing same into useful design information (Oladipo, 2014). In addition, the Portable Surgery Clinic also uses the folding technique method where a technology that allows something to open and fold again easily. By its standar, the area required to perform general surgery in the clinic is at least 36 m² with a size of 6 x 6 x 3 meters. The walls, ceilings and floors of the surgery room should be bright, easy to clean, weather-resistant, chemical-resistant, mold-free and anti-bacterial. The surgery room must provide at least an operating table, an anesthetic device, a scrub station/hand basin and medical storage cabinet (Kemenkes RI, 2012). By using the Glass Box design method and approaches to the easy-mobility, sterilisation and standard health facility thereby KOPER is created.

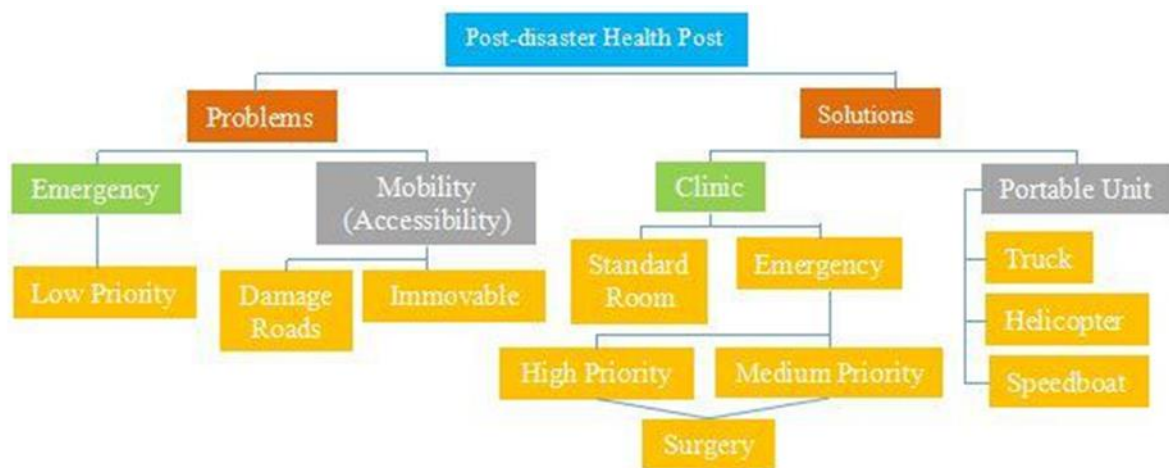


Figure 1. Scheme of Problems and Post-Disaster Health Post Solutions

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

Sekian, terima kasih.

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