Research

UMPSA researcher Dr. Noridayu helps evacuate flood victims

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PEKAN, 4 December 2023 – Looking at the various problems that arise every time floods hit, a researcher and lecturer of the Faculty of Industrial Management (FPI), Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA), Dr. Noridayu Mah Hashim, 37, assisted and improved the process of evacuating flood victims through the evacuee model.

This research has been collaborated by several lecturers of the College of Computing, Informatics and Mathematics, Universiti Teknologi Mara (UiTM), Associate Professor Dr. Sarifah Radiah Syariff, Dr. Sayang Mohd Deni and Dr. Siti Nur Zahrah Amin Burhanuddin.

According to Dr. Noridayu, the idea began through problems that arise every time floods occur such as crowded evacuation centres, flooded evacuation centres, flood victims had to find alternative evacuation places when evacuation centres could not accommodate the capacity of flood victims.

“Issues like this are often reported in the press, which sparked an idea to help the community every time floods hit.

“This model will analyse flood evacuation centres (the amount of rainfall, distance and height from the river), the capacity of evacuation centres (the capacity of evacuation centres whether appropriate or not with the number of flood victims who will be evacuated) and flood areas.

“From this model, the flooded areas will be divided into three areas, namely rivers, inland and coastal,” she said.

She explained that these flood areas will be categorised into three variables, namely the amount of rainfall, distance and height from the river.

“The results show that flood victims in areas near the river need to be evacuated first to evacuation centres, followed by inland and coastal areas.

“Through this model, flood victims in each area know the flood evacuation centre to go to in the event of a flood because this model has taken into account the analysis of the flood evacuation centre capacity.

“Hence, the evacuation centre problem will not happen again,” she said.

She added that this model has also taken into account the closest distance the victim can move to the evacuation centre.

“Therefore, the problem of flood evacuation centres being flooded will no longer occur because this study has taken into account the strategic position of evacuation centres in terms of the three variables.

“This research also received collaboration from the Social Welfare Department (JMK) and the Department of Irrigation and Drainage (JPS).

“Data related to evacuation centres can be obtained from the Social Welfare Department (JKM),” she said.

According to her, only evacuation centres that meet the criteria will operate during floods in the area and the list can be obtained from the Social Welfare Department (JKM).

“All this data has been analysed and there will be no more problems with the evacuation centre being flooded.

“This model is expected to solve problems that often arise during floods such as the problem of evacuation centres being flooded and overcrowded.

“Other than that, the flood victims themselves have also taken notice of the location and routes that need to be traversed to the evacuation centre,” she said.

She hoped to produce an evacuation model in the form of a smartphone app so that the community could access it and more related agencies could be involved in improving this model.

Previously, this model received the Best Presenter Award in the 2021 International Joint Conference at Kasetsart University, Thailand, the Best Presenter Award in the 2022 Global Conference on Business and Social Science in Kuala Lumpur, a silver medal in the 2023 Penang International Invention, Innovation and Design (PIID) at the UiTM Penang Branch, a bronze medal in the 2023 Management Science/Operations Research Society of Malaysia (MSORSM) Awards, and a silver medal in the 2023 International Invention, Innovation and Technology Exhibition (ITEX) at the Kuala Lumpur Convention Centre (KLCC).

In the 2023 Creation, Innovation, Technology & Research Exposition (CITREX) held at UMPSA Gambang Campus on 12 to 14 March 2023, this product received a Management Award, Most Commercial IT and Data Science Innovation Award and a gold medal.

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