UMP RESEARCH EXPLOITED WASTE SLUDGE TO MAKE 'S-BRICK'

The research carried out involved using the egg shells which were added to the waste sludge mixture to make bricks, he added.

A team of Universiti Malaysia Pahang (UMP) researchers had successfully produced bricks that were made of waste sludge and egg shells named S-Brick.

The team's lead researcher Dr. Doh Shu Ing, who is also a lecturer at the Faculty of Civil Engineering & Earth Resources (FKASA), said the research work to make the brick was carried out together with two university students, Muhammad Aizat Azed and Lwee Kui Choo.

Muhammad Aizat and Lwee are Civil Engineering (Construction Material) undergraduates.

"The idea came after seeing dumps of grimy waste sludge which I thought could be something that could be converted into useful materials to make bricks.

"A friend of mine who is involved in a cake business, at one time, had complained of having had to throw almost one tonne of egg shells daily to a point of having had to pay for disposing them.

"Since then, I have tried adding egg shells in the mixture to make bricks," he said.

The research carried out involved using the egg shells which were added to the waste sludge mixture to make bricks, he added.

Dr. Doh, who is also Deputy Dean of FKASA's Research and Innovation, said the waste which was sourced from Indah Water Konsortium Sdn. Bhd. could be used as the substitute for cement as the nature of the waste composition was similar to cement.

The egg shells were used as additional material in the mixture to reinforce the brick because of the calcium carbonate matter in the shell. The composition would be further enhanced if the product were heated in the right temperature in a furnace or microwave oven.

The project started in October last year and completed in March this year with the cost estimated at 21 sen each which made S-Brick cheaper as compared to the normal bricks.

The product is not only environment-friendly but also stronger than the commercial bricks available now.

"I hope that S-Brick can be marketed and used extensively in the country's construction industry. It can help reduce cement production as the process releases a lot of carbon dioxide.

"By using the waste sludge as substitute to cement, it can help reduce pollution," Dr. Doh said.

To date, they had received cooperation from Indah Water Konsortium Sdn. Bhd. and Egg Tech Production Sdn. Bhd., which had helped in providing the materials to make S-Brick.

The product had also received several awards – the Special Award of UMP Holding Invention Award at CITREX 2016, a gold medal at ITEX 2015, a bronze medal at Seoul International Invention Fair and a first place at MUCET 2015.