



Jannie (second left) and volunteers completed the six-tier eco-gabion after five hours of gotong-royong at Kampung Nosoob Baru.-Photo courtesy of Jannie Lasimbang.

Recycled tyres answer to landslides in Sabah

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KOTA KINABALU: A method using recycled tyres is being proposed as an eco-friendly, low-cost, and durable solution for slope protection in vulnerable communities.

Sabah geologist Professor Felix Tongkul, who is also a Principal Research Fellow at the Natural Disaster Research Centre (NDRC) of Universiti Malaysia Sabah (UMS), explained the technique.

"For slope protection, tyres are laid in layers and

filled with compacted soil or gravel to form a heavy, stable barrier. To prevent them from being dislodged, the tyres are anchored to the ground and wired together," he said.

He emphasised that the method is highly cost-effective as used tyres are often free, and rubber is extremely durable and resistant to degradation. When the tyre structure is filled with soil and planted with vegetation, it can eventually blend into the natural landscape.

"The only expenses involve transporting the tyres, buying wires to tie them together, metal stakes for anchoring, and labour," Felix said. "The cost should be less than RM1,000. In our recent project at Kampung Nosoob Baru, it took us just half a day to build an eco-gabion through 'gotong-royong' (communal effort). The actual cost was even lower, at under RM500."

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Dr Felix, volunteers build six eco-friendly tiers in Kpg Nosoob Baru to curb erosion

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He noted that this method is most effective for slopes that are not too steep or high — specifically, those less than 45 degrees and under 20 meters in height, which are prone to shallow surface landslides.

Dr Felix guided volunteers in Penampang to construct six tiers of eco-friendly gabions at Kg Nosoob Baru to combat soil erosion and landslides.

They were joined by Kapayan assemblyman Datuk Jannie Lasimbang who echoed the urgency.

The five-hour initiative involved stacking used tyres, filling them with soil, and planting lemongrass to stabilise the slope. "Built with natural materials, local expertise and collective effort, the eco-gabion is an affordable and eco-friendly measure to stabilise slopes and reduce the risk of future disasters," said Lasimbang.

She praised the project, stating it shows how community strength and local knowledge can turn a crisis into an opportunity for safer, more sustainable living.

"With climate change intensifying rainfall, we must seek solutions that are

sustainable and cost-effective," she added, emphasising the need for preparation before disaster strikes.

The need for such solutions is critical. The Works Ministry has classified over 1,000 slopes nationwide as high-risk, with the vast majority (1,066) located in Peninsular Malaysia, 13 in Labuan, seven in Sabah, and one in Sarawak.

In a related development, Kapayan launched Skuad Sungai (River Squad), a volunteer movement to safeguard rivers, coinciding with World Rivers Day.

As a mark of respect for lives lost in a recent landslide tragedy, the Pesta Sungai Kapayan festival has been cancelled.

"These efforts remind us that solutions do not always need to come from outside," Lasimbang said.

"They can begin here with our own hands, our rivers, and our shared determination to protect the places we call home."

The recent landslides and floods in Penampang and Papar resulted in 14 deaths and displaced thousands statewide, prompting aid from various local leaders, companies, and organisations.