

UMS deal on palm oil research

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KOTA KINABALU: University Malaysia Sabah (UMS) and Tumau Gayo Sdn Bhd a Malaysian-US joint venture company signed a Memorandum of Understanding (MoU) to do research into improving energy efficiency and recovery for palm oil mills at 1Borneo.

The agreement was signed between UMS Chancellor Prof. Datuk Dr Kamaruzaman Ampon and Datuk Henrynus Amin for Tumau Gayo.

According to UMS Chancellor Prof. Datuk Dr Kamaruzaman Ampon, the main objective of the MoU is to pool both parties' expertise and resources to do research and development into improving the energy efficiency for palm oil mills using advanced patented waste heat recovery technology.

'In view of the escalating challenges posed by other palm oil producing countries, Malaysia has to change its objective of just being a world producer of palm oil to among others, a leader in converting biomass waste into value added products,' he said.

Dr Kamaruzaman said this sentiment was earlier echoed to Prime Minister, Datuk Seri Najib Tun Razak by the New York Academy of Sciences at a round-table discussion in May 2010.

Dr Kamaruzaman said in

Sabah there are about 464,000 hectares of oil palm and government owned plantations accounted for about one quarter of this. With this size of oil palm plantations, Sabah is positioned as among the largest palm oil producer states in Malaysia.

'The oil extracted from the palm consists only 10pc of the total biomass produced in the plantation.

'The balance 90pc consists huge amounts of lignocellulosic materials such as oil palm fronds, trunks and empty fruit bunch (EFB) which were often treated as wastes.

He said according to the Malaysian Palm oil Board, annually there are seven million tonnes of oil palm trunks, 26.2 million tonnes of oil palm fronds and 15 million tonnes of EFB.

'While the trunks and fronds are often left in plantations to replenish the organic content of the soil, the EFB are concentrated in the palm oil mills and they presented a major cost for disposal.

Dr Kamaruzaman said research in universities and research institutions have highlighted the great potential of transforming these palm oil by products into value added products of economic value from the low compost products to higher composite materials products.



Dr Kamaruzaman (second left) and Henrynus (third right) at the signing of the MoU.

Researchers at UMS been conducting research into the use of EFB and technologies are available to convert EFB fibre into paper composite wood and biodegradable packaging material.

However, the major challenge in translating all these technologies into commercial success lies in the processing of the EFB into fibre and power is the limiting factor that prohibits the processing of EFB at the mills.

Dr Kamaruzaman said he was pleased with the collaboration between Tumau Gayo and UMS where the latter has in its posses-

sion a patented inorganic aqueous solution heat pipe technology which has a conductivity level that is 30,000 times faster than conventional copper.

'This technology has the potential to be adapted in palm oil mills to improve its furnace efficiency and thus reducing the energy consumption and also the carbon footprint of the palm oil mills. The minimum gain in the efficiency of the furnace is estimated to be 10 percent.'

Dr Kamaruzaman said with the increase in furnace efficiency and the availability of biomass fuel for

power generation, mills can invest in additional power production capacity to process EFB on site before transport the raw material for subsequent product transformation elsewhere.

He added with the collaboration, UMS engineers will be working closely with Tumau Gayo to design the heat exchanger and stimulate its performance in a palm oil mill belonging to Sawit Kinabalu.

Also present was Inanam Assemblyman and Deputy Chairman of Borneo Samudera Sdn Bhd Datuk Johnny Goh