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Peat debate peters out

Consultant geologist Dr S. Paramananthan busts myths about oil palm plantations.

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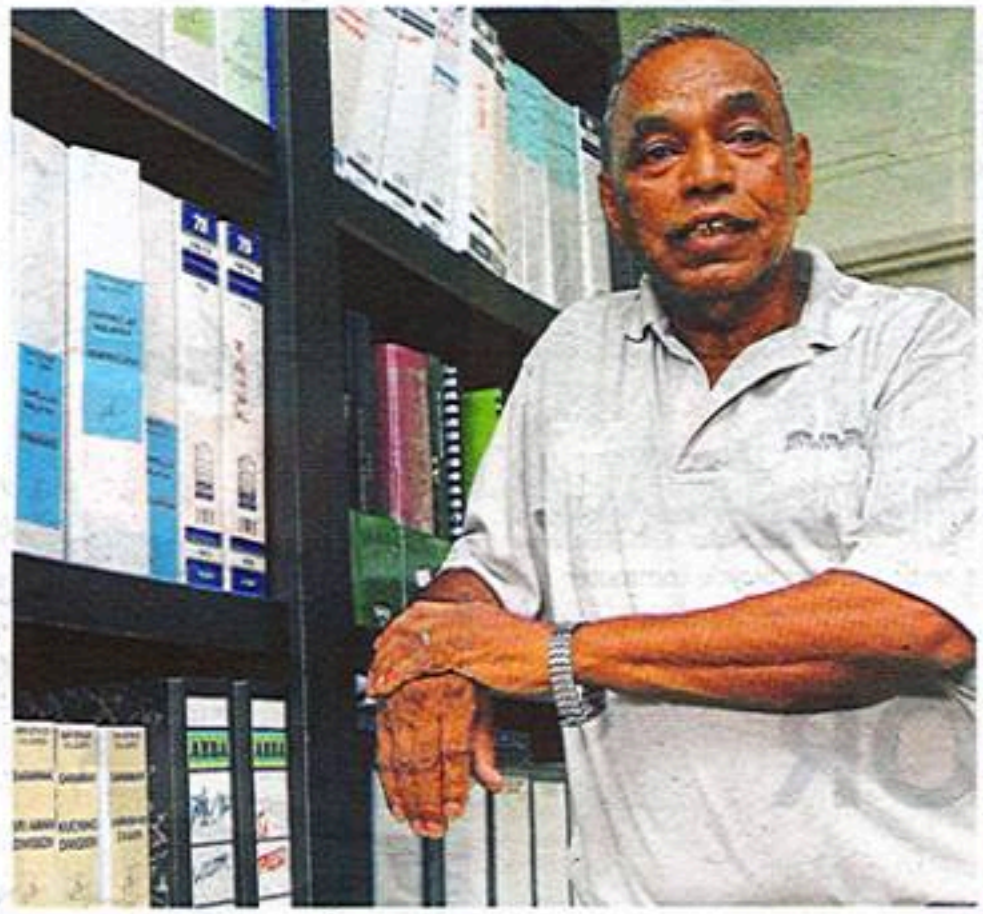

Dr Paramananthan fell in love with geology because he found the relationship between minerals, rocks and soils fascinating. — RICKY LAI / The Star

TYPICAL of Indian families, at least here in Malaysia, a son's vocation should fall within the scope of lawyer, doctor or engineer. So, Dr Paramananthan Selliah clearly broke the mould by going against the grain and becoming a geologist.

He received his early education at the renowned Pasar Road English School and later, at Victoria Institution, in Kuala Lumpur. But his interest in soils only surfaced when, while studying in Universiti Malaya in the early 1960s, he was forced to delve into physics, in particular, the principles of electricity. "It turned me off, so I had to find alternatives and found Geology, a new subject," revealed the 76-year-old. Paramanathan found the understanding of crystals, rocks and landforms much more interesting than Faraday and volts.

Once he had graduated with a Bachelor of Science (Hons) degree in Geology in 1965 from Universiti Malaya, he secured a position with the Soil Survey Division, Research Branch, Department of Agriculture. "The Soil Survey Division, Department of Agriculture, at that time only took in Geology (Hons) graduates. I picked this department instead of Geological Survey. I found the relationship between minerals, rocks and soils fascinating," he explained.

His career trajectory has seen him remaining very close to the ground, obtaining a variety of education accolades in his field of study from Australia, Belgium and the United States. He opted for early retirement from his position as Associate Professor (Soil Genesis and Classification) at the former Universiti Pertanian Malaysia (now Universiti Putra Malaysia) in 1990, and then started his own consultancy, Param Agricultural Soil Surveys (M) Sdn Bhd, where he has remained its managing director.

His years of toil with soil has taught him the importance and maintenance of its health. "Soil is like the human body, you have to replace the nutrients you have used up or lost. A balanced diet keeps us healthy and a balance of nutrients can keep the soil and plants healthy. Too much fertiliser also kills off the microbes in our soils; and just like our body, too many antibodies or medicines can kill the good hormones in our system. Likewise, just as exercise and a balanced diet are able to keep our body healthy, good aeration and balanced nutrients keep the soil and plants healthy. When the soil is healthy, it will support your crops and maintain its productivity."

He weighed in on a hugely contested debate – are oil palm plantations on peat lands ruining our ecosystem? According to Paramananthan, tropical peats differ from temperate organic soils, as the former is composed of greater wood content.

"NGOs, and even local scientists, seem to think all peat soils are the same. I beg to differ. It is the same with mineral soils: temperate mineral soils are distinctly – both chemically, physically and mineralogically – different from tropical mineral soils. The same applies to organic soils," shared the author of *Organic Soils Of Malaysia*.

He believes there is a general misconception that organic soils in the tropics are permanently underwater (water-logged) and hence, draining them results in the breakdown of organic matter, thereby releasing carbon dioxide and resulting in global warming.

Paramananthan argues that this happens in both temperate and tropical peat lands. However, due to the inherently higher temperatures in our region, tropical peats will release more carbon dioxide compared to temperate peats, but he reckons that we can offset that by replacing the plants (and thereby, carbon dioxide) quicker than temperate areas.

He suggests that tropical peats give out carbon dioxide in the dry season and methane (which is distinctly more detrimental) during the wet season. "Let's get our facts correct – we need to strike a balance. In Europe, they burn their peats to generate electricity. Does this not result in global warming?" The Republic of Ireland burns peat, which, given the soil's makeup of decayed vegetation and organic matter, generates twice as much carbon dioxide compared to natural gas.

Repurposing peat lands for agriculture is obviously a matter of economics and development, and Paramananthan sees the poor communities who live in these areas as benefactors. "Do not get me wrong ... I am not suggesting we clear all our peat lands and plant oil palm. Some tropical peats, especially those with little or no wood, can give good economic yields and profit. But some tropical peats with 'hardwood' logs in them, should not be cleared for cultivation. The only way to differentiate these varying types of peat lands is through soil mapping. Unfortunately, this is costly and often not done before the land is alienated for agricultural and other development," he said.

In a nutshell, he sees little detriment to peat lands being used for agriculture, as long as the soil's needs are observed and managed accordingly. "When oil palm is planted on tropical peat lands, there is good biodiversity, which is distinctly more than temperate areas with mono crops such as soya and rapeseed. Being problematic soils (given its physical condition of containing excessive water), they need very good management practices, which currently, our smallholders are not capable of yet."

Paramananthan walks the talk. He believes that the conservation of resources should start from the concept "waste not, want not". He insists all buildings should have rainwater harvesting in place. "I have installed rainwater harvesting and separation of waste products – paper, plastic, glass etc. – in my block of flats." He knows that these aren't concepts for a rainy day, but for the here and now.