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COMBINING MATHEMATICS, ECONOMICS AND ECOLOGY TO STRENGTHEN CONSERVATION EFFORTS

PENANG, February 2016 – The combined expertise in mathematics, economics and ecology would optimise the success and achievements in the conservation process of each country's rich biodiversity.

As a professor in the fields of Mathematics and Ecology from University of Queensland, Australia, Professor Hugh Possingham said that, the combined knowledge in that particular field could result in a more efficient conservation process, beneficial to the economic development of such areas.

He said that, the knowledge in mathematics would assist in looking at suitable development processes of each site, including on how to determine which area would be suitable as a national park, a forest reserve or even an area that is suitable for development.

"This method which includes the three different branches of knowledge would bring about more effective results in ensuring that the nation's biodiversity would be maintained and at the same time, has the capacity to become food sources which could generate economic returns.

"In other words, the conservation process is an initiative that is multi-disciplinary in nature. It reflects an efficient process of biodiversity conservation, taking into consideration the arrangement that would cater to the needs of all," he said.

He stated this when interviewed, in conjunction with his lecture entitled 'Formulating and Solving Biodiversity and Ecosystem Services Conservation Problems within Economic and Food Production Constraints' here recently.

He added that, Malaysia has an amazing richness in biodiversity which demands a thorough protection, and which could even be an example to neighbouring countries in matters concerning preservation.

Hugh also said that, conservation done in the past was more within the context of ensuring an area is not explored, however nowadays the conditions have changed, and it requires looking into within a wider context.

"Maintaining or 'reserving' an area would at times obstruct the potential and opportunities of others, for example in activities such as fishing, logging, and oil palm planting among others."

"This is where the expertise in each discipline is needed to optimise the development of an area that would benefit those involved, directly or indirectly," he said.

He further said that, Malaysia needs to have more specified initiatives to maintain its rich natural resources, including in the protection of animal species which are facing extinction and in the setting up of a national park in each state.

"Conservation of the biodiversity is not merely preserving the richness but also offering attractions to tourists and enriching the marine resources of the country," he said.

USM has numerous involvements in efforts to conserve and preserve the country's natural heritage, including those at the Mangrove Forest in Merbok, Kedah, Temenggor Lake in Perak, the Orang Utan Protection Programme in Sarawak, and research on jellyfish at Penang National Park among others.

Therefore, this seminar which details the experiences and intellectual exploration of the aforementioned academia is hoped to benefit the USM researchers, in trying to achieve the aspiration of the country with the efforts to care for the environment and its biodiversity and maintain them as the pride of the nation.

This well-renowned academia through his own laboratory, The Possingham Lab has developed a software on conservation planning, Marxan (www.ecology.uq.edu.au/marxan.htm (http://www.ecology.uq.edu.au/marxan.htm)) which has been referred to by many other countries, from the United Kingdom, the United States, Brazil up until Madagascar.

He has previously worked with the Sabah State Government and WWF Malaysia in using his software to develop Sabah Park, the largest marine park in Malaysia, which is expected to be launched in the near future.

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