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Our alarming plastic diet

Study: M'sians unknowingly eat 500mg of microplastics daily

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PETALING JAYA: Malaysia ranks the highest among 109 countries in consuming microplastics, which are plastic particles smaller than 5mm, a recent study found.

The study, published in the Environmental Science and Technology journal, found that Malaysians eat an average of 502.3mg of microplastics daily per capita.

The report noted that more than 50% of Malaysia's microplastic consumption was from fish consumption.

Malaysia was also recorded in the top 10 countries that inhaled the most microplastic particles, at an estimated 494,000 microplastic particles a day (per capita), according to the study.

"Our study found that rapidly industrialising countries such as Indonesia, Malaysia, the Philippines and Vietnam topped the microplastic uptake globally, originating from high seafood consumption," the report said.

Author Xiang Zhao, a professor from the National University of Defence Technology, China, and co-author Fengqi You, Professor in Energy Systems Engineering at Cornell University, said microplastics are commonly found in freshwater and marine environments.

The authors said they are then ingested by organisms, and consumed by humans.

They noted that industrial development had driven such an environmental burden due to

increasing plastic pollution levels.

"Dietary microplastics involve those accumulated in foodstuffs and the material losses from plastic use in food and drink production, processing, and final product packaging.

"Meanwhile, airborne microplastics mainly originate from the abrasion of plastic materials, such as those in tyres and blow-ups from aquatic plastic particulates," they said.

The authors said one major source of aquatic microplastic is mismanaged plastic waste run-offs from landfills or open dumping, which enter surface water and generate macroplastics and microplastics via natural degradation.

"These plastic particulates can contaminate water systems and microplastics in freshwater and saltwater environments, are then dispersed via water currents or air transmission and penetrate into the food chain.

"In Asian, African, and American countries, including China and the United States, airborne and dietary microplastic uptake increased over six-fold from 1990 to 2018."

The authors said that by eradicating 90% of global aquatic plastic debris, microplastic uptake can be decreased by more than 48% in South-East Asian countries, where most of the microplastic uptake is recorded.

"To reduce microplastic uptake and potential public health risks, governments in developing and industrialised countries in Asia,

Top 10 countries with the most microplastic consumption



Top 10 countries inhaling the most microplastic particles



Source: Microplastic human dietary uptake from 1990 to 2018 grew across 109 major developing and industrialised countries but can be halved by plastic debris removal, Xiang Zhao and Fengqi You

TheStar graphics

Europe, Africa, and North and South America should incentivise the removal of free plastic debris from freshwater and saltwater

environments through advanced water treatment and effective solid waste management practices," they added.

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