

Nitrogen-based pollutants affecting health of M'sians

Studies in Klang Valley show higher rates of asthma, poor lung function and genetic damage among children who attend schools near busy roads

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PETALING JAYA: Nitrogen-based pollutants in the city air are silently damaging the health of Malaysians, especially the lungs of children and even altering their DNA.

The harm goes far deeper than a cough or wheeze, said Universiti Putra Malaysia environmental health expert Professor Dr Juliana Jalaludin.

"Studies in the Klang Valley show higher rates of asthma, poor lung function and genetic damage among children who attend schools near busy roads," she told *theSun*.

A 2024 study in Kuala Lumpur found that fine dust particles are a major threat to children's lung health.

Other research in Kajang and across the Klang Valley links nitrogen dioxide, coarse dust, carbon monoxide and toxic fumes from household and industrial products to asthma, reduced lung capacity and cellular-level harm.

"The damage starts early and can last a lifetime. It's not just about breathing problems. This is about long-term health and development," said Juliana.

Across Malaysia's major cities Kuala Lumpur, Petaling Jaya, Johor Bahru and Penang, residents are exposed daily to nitrogen oxide from traffic and industrial activity.

"These gases make up a large part of urban air pollution," said Malaysian Association of Environmental Health honorary secretary

Rudiaswady Abdul Rahim.

"Nitrogen dioxide levels spike during traffic jams and along major roads, worsening air quality and making it harder for people to breathe."

He said the country's air quality monitoring still has major blind spots.

"Many smaller towns and rural areas are not properly covered, and we are not tracking other harmful nitrogen compounds such as ammonia. Pollution peaks during rush hour could be slipping under the radar."

He called for better tools, including satellite data and advanced modelling, to track nitrogen pollution more accurately.

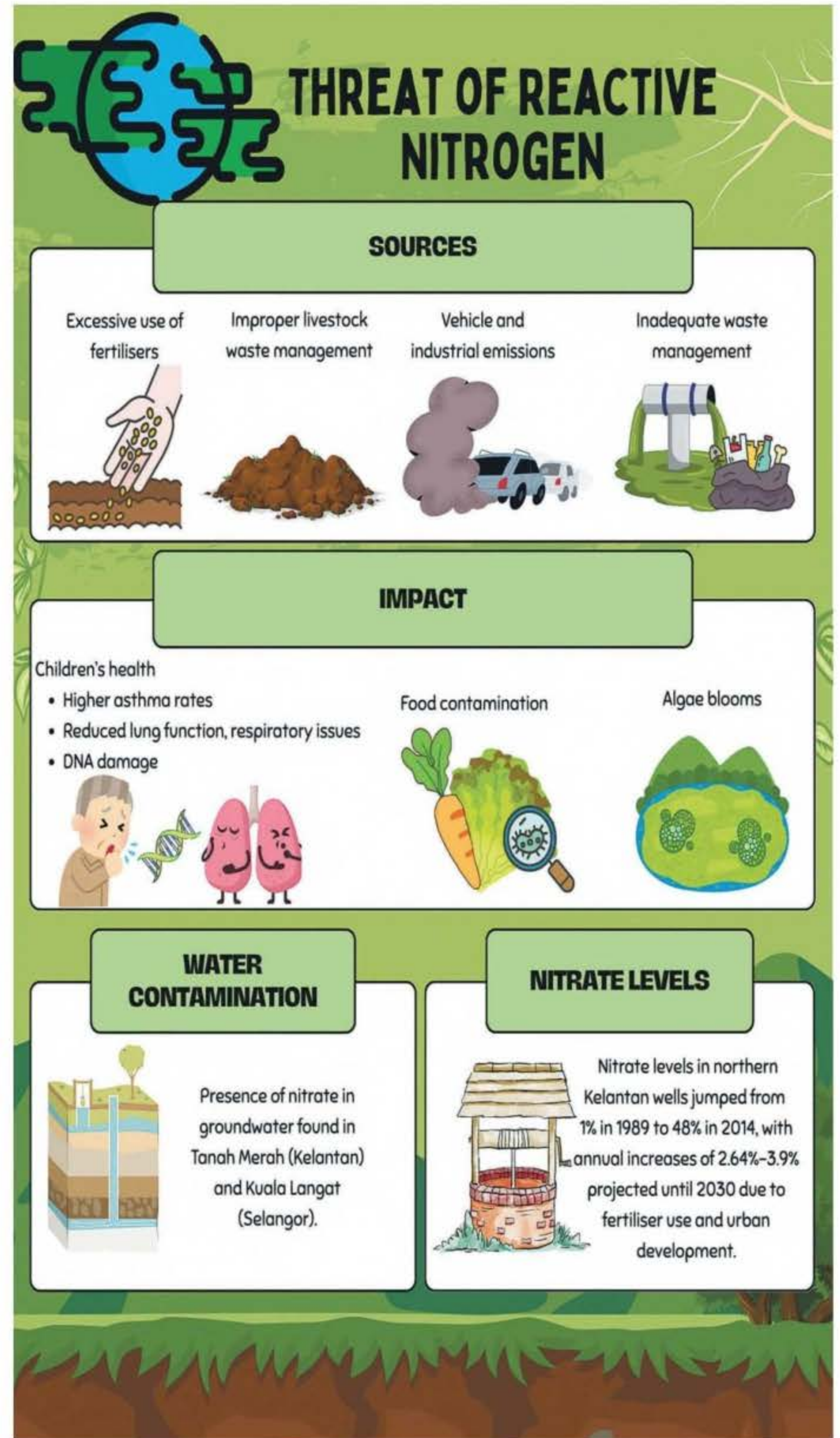
"We need to monitor all nitrogen-based gases, not just a few, and this data should be made public."

Malaysia currently tracks air quality through 65 monitoring stations nationwide, feeding data into the Air Pollutant Index and to global bodies such as the World Meteorological Organisation.

Both experts agree that monitoring alone is not enough.

"We must link this data to real health policies. That means banning engine idling near schools and expanding green spaces in our cities," said Juliana.

Rudiaswady recommends introducing air pollution education in schools, launching community-based projects and using mobile apps to show how emissions from vehicles, farms and waste systems affect air,



water and food.

Juliana added that nitrogen pollution is more than an environmental issue.

"It's in the air we breathe,

the food we eat and the water we drink. It harms our health and contributes to climate change through nitrous oxide, a powerful greenhouse gas."