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EARTH HERO



Water Pollution: The Sources and How to Prevent It

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In our previous article, we explored why conserving water is essential—not just to save on bills, but to protect one of the most precious resources on Earth. But conservation is only one part of the equation. To truly safeguard our water, we must also prevent it from becoming polluted.

Water pollution is a growing problem in Malaysia. Rivers that once supported rich ecosystems and supplied clean water to communities are now choked with waste, chemicals, and sewage. According to the Department of Environment (DOE), over 40% of Malaysian rivers are classified as polluted or slightly polluted. This affects not just the environment, but also public health, food safety, and economic development.



In this article, we explore the major sources of water pollution and what we as individuals and communities can do to help prevent it.

Understanding the Sources of Water Pollution

Water pollution occurs when harmful substances contaminate rivers, lakes, underground water sources, or oceans. In Malaysia, these are the most common culprits:

1. Domestic wastewater

Domestic wastewater comes in two forms: blackwater (from toilets) and greywater (from kitchens, bathrooms, and laundry). In Malaysia, most urban households are connected to sewage treatment plants managed by Indah Water Konsortium (IWK), which treats blackwater before it is released back into the environment. However, greywater is often less controlled and can flow directly into drains and rivers. This greywater carries detergents, soap, food scraps, grease, and oils, all of which contribute significantly to water pollution when untreated.

A common issue is the improper disposal of cooking oil. Many households and eateries pour used oil down the sink, which not only clogs pipes but also creates a serious pollution problem. To put it into perspective, just one litre of used oil can contaminate up to 1,000 litres of water, making it undrinkable and harmful to aquatic life. By managing greywater more responsibly, such as avoiding pouring oil into drains and using grease traps, households can play a vital role in reducing water pollution.



2. Industrial and Factory Waste

Factories, especially in sectors like textiles, food processing, and palm oil, are major contributors to water pollution when untreated or poorly treated effluents are released into rivers.

These wastes often contain chemicals, dyes, heavy metals, and toxins that can poison aquatic ecosystems and pose health risks to people living downstream. For example, several incidents in Selangor have forced widespread water supply disruptions after illegal industrial discharges contaminated rivers, leaving millions without clean tap water for days. Beyond affecting households, polluted rivers also harm local fisheries, agriculture, and tourism, creating long-term economic and social costs. Strict enforcement and regular monitoring of industrial waste management are essential to prevent such crises from recurring.

3. Agricultural Runoff

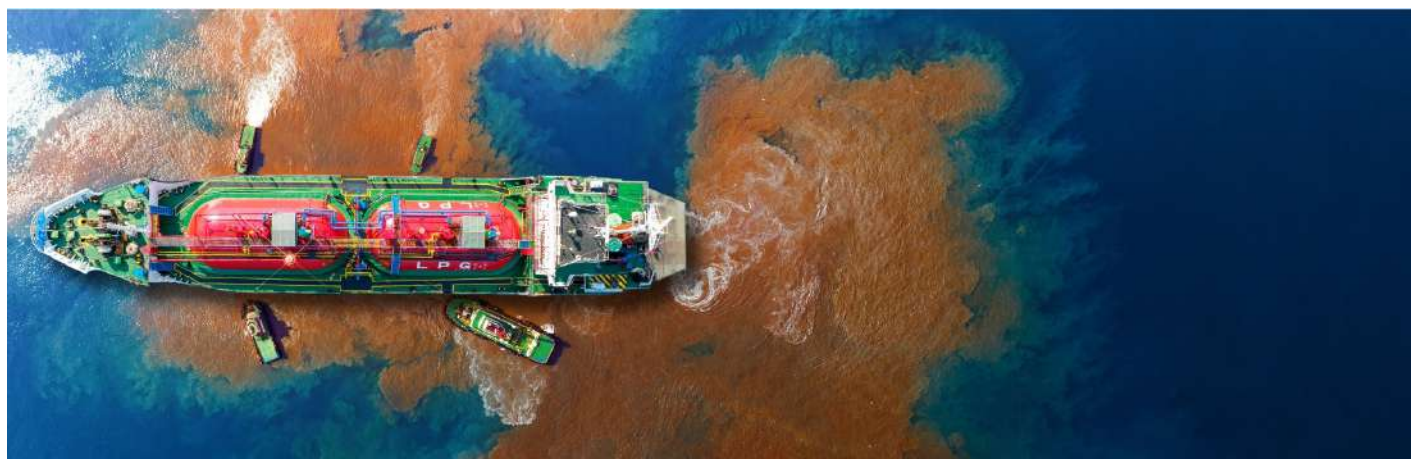
Agriculture plays a vital role in Malaysia's economy, but it also contributes to water pollution. Fertilisers and pesticides used in paddy fields, vegetable farms, and oil palm plantations often wash into nearby rivers during heavy rain. These chemicals can cause eutrophication, a process where excess nutrients fuel the overgrowth of algae. When the algae die and decompose, oxygen levels in the water drop, suffocating fish and other aquatic life. In addition, pesticide residues can contaminate drinking water sources, posing health risks to communities. Without proper land management practices such as buffer zones, sustainable fertiliser use, and controlled pesticide application, the environmental cost of agriculture will continue to rise.

4. Plastic and Solid Waste

Plastic waste is one of the most visible forms of pollution in Malaysian rivers and coastal areas. Discarded bottles, food packaging, and single-use plastics often end up clogging drains and eventually flowing into waterways. Once in rivers or the ocean, plastics break down into microplastics, which are ingested by fish and shellfish and eventually enter our food chain. Illegal dumping and weak enforcement of waste disposal laws make the problem worse, especially in urban areas. According to a World Bank study, Malaysia is among the world's top contributors to mismanaged plastic waste, highlighting the urgency of reducing reliance on single-use plastics and improving recycling systems.

5. Oil Spills and Marine Pollution

Shipping, offshore drilling, and coastal industries can lead to oil spills, which coat the surface of water bodies and block oxygen exchange. Even small-scale spills from fishing boats or improper disposal of engine oil can damage marine ecosystems and coastal livelihoods. In Malaysia, fishermen in states like Terengganu and Johor have reported reduced catches after oil contamination incidents, which directly affect their income and food supply. Oil pollution also impacts tourism, as polluted beaches and murky waters discourage visitors. Preventing marine oil pollution requires stricter monitoring of vessels, better enforcement of maritime laws, and greater awareness among small-scale operators.



How You Can Help Prevent Water Pollution

Preventing water pollution is not just the job of the government or industry, it begins with each of us. Here are practical steps that households, communities, and individuals in Malaysia can take to protect our water sources:

1. Dispose of Waste Responsibly

- Never pour oil, grease, or food waste down the sink. Instead, collect used cooking oil in a container and dispose of it at recycling centres or designated drop-off points.
- Separate your waste. Recycle plastic, metal, and paper, and dispose of hazardous materials (like batteries and paint) at proper facilities.
- Participate in clean-ups. Join river clean-up events or organise one in your local

community. Many NGOs like Trash Hero Malaysia and River of Life Public Outreach Programme welcome volunteers.

2. Avoid Using Harmful Chemicals at Home

- Choose eco-friendly cleaning products that are biodegradable.
- Limit the use of chemical-based pesticides or fertilisers in your garden.
- Use natural alternatives like vinegar or baking soda for household cleaning.

3. Install Grease Traps and Filters

- For homes and food businesses, install a grease trap to capture oils and solids before they enter the sewage system.
- Use sink strainers to catch food scraps and prevent them from entering the drain.

4. Support and Comply with Local Wastewater Treatment Systems

- If you're in a residential area that uses septic tanks, maintain them regularly to prevent leaks.
- Advocate for better sewage treatment infrastructure in your area, especially if you're in a rapidly urbanising township.

5. Educate and Advocate for Change

- Talk to family and friends about water pollution and how to prevent it.
- Support policies that promote river protection, stricter industrial discharge regulations, and plastic reduction.
- Raise awareness in schools and communities. Young people are powerful agents of change.

Local Actions Making a Difference

Across Malaysia, individuals and organisations are stepping up:

- Friends of Sungai Klang (FOSK) partners with DBKL and NGOs to rehabilitate the Klang River.

- Sungai Watch, originally founded in Indonesia, has begun installing river barriers and collecting waste from polluted rivers in Malaysia.
- River of Life (ROL), a project under the Ministry of Natural Resources, Environment and Climate Change, is transforming rivers in KL into clean, vibrant spaces.



Your actions, however small, contribute to these larger efforts.

Clean Water Begins with Us

Our rivers and water bodies are the lifeblood of our communities, ecosystems, and economy. Polluted water affects everything from the fish we eat and the air we breathe, to the cleanliness of our homes and the health of our families.

By understanding the sources of water pollution and taking proactive steps to prevent it, we're not just protecting the environment, we're ensuring a safer, healthier, and more sustainable future for all Malaysians.

Just as every drop of water matters, so does every choice we make. Let's work together to keep our rivers clean and our water safe.

