

Impacts of Plastics on Coasts and Fisheries in Viet Nam



Plastic waste accumulates on beaches

For coastal communities, beaches support aquaculture and seafood sales and serve as important social spaces, but plastic pollution is transforming them. They often become polluted by plastic waste that comes from both the land and the sea. Plastics are carried downstream through rivers and canals, while ocean currents and wind bring more waste from the sea. In Nam Dinh, most plastics found on the beaches are from everyday activities, plus a little from fishing. Over time, layers upon layers of plastic waste accumulate along the coasts.

Plastics flow from rivers and impact aquaculture

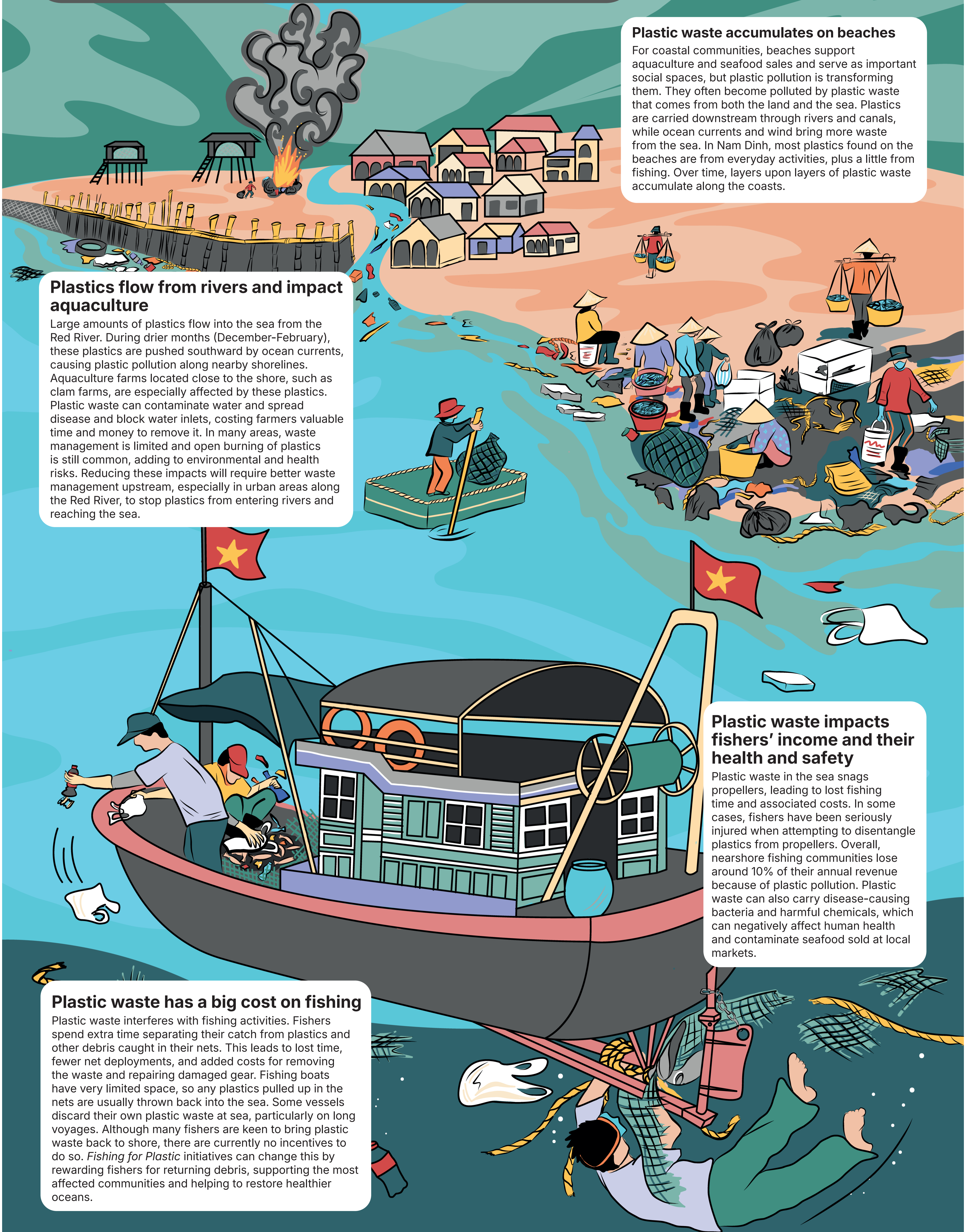
Large amounts of plastics flow into the sea from the Red River. During drier months (December-February), these plastics are pushed southward by ocean currents, causing plastic pollution along nearby shorelines. Aquaculture farms located close to the shore, such as clam farms, are especially affected by these plastics. Plastic waste can contaminate water and spread disease and block water inlets, costing farmers valuable time and money to remove it. In many areas, waste management is limited and open burning of plastics is still common, adding to environmental and health risks. Reducing these impacts will require better waste management upstream, especially in urban areas along the Red River, to stop plastics from entering rivers and reaching the sea.

Plastic waste impacts fishers' income and their health and safety

Plastic waste in the sea snags propellers, leading to lost fishing time and associated costs. In some cases, fishers have been seriously injured when attempting to disentangle plastics from propellers. Overall, nearshore fishing communities lose around 10% of their annual revenue because of plastic pollution. Plastic waste can also carry disease-causing bacteria and harmful chemicals, which can negatively affect human health and contaminate seafood sold at local markets.

Plastic waste has a big cost on fishing

Plastic waste interferes with fishing activities. Fishers spend extra time separating their catch from plastics and other debris caught in their nets. This leads to lost time, fewer net deployments, and added costs for removing the waste and repairing damaged gear. Fishing boats have very limited space, so any plastics pulled up in the nets are usually thrown back into the sea. Some vessels discard their own plastic waste at sea, particularly on long voyages. Although many fishers are keen to bring plastic waste back to shore, there are currently no incentives to do so. *Fishing for Plastic* initiatives can change this by rewarding fishers for returning debris, supporting the most affected communities and helping to restore healthier oceans.



Impacts of Plastics on Aquaculture and Environment in Viet Nam



Local and volunteer action to fight plastic pollution

Clean beaches and beautiful scenery are key reasons why tourists visit these destinations. Plastic pollution is damaging this image and impacts visitors' willingness to return or to recommend these places. In Cat Ba, the loss of attractiveness particularly affects boat tours and beachfront hotels. Municipal efforts to reduce plastic pollution include installing more plastic collection bins and employing waste collectors in the bay area. Additionally, volunteers, youth groups, and small tourism businesses regularly organise clean-up activities. But their efforts need to be supported by clear communication of the impacts of plastics and incentives to bring waste back to shore.

Microplastics can cause harm to aquaculture

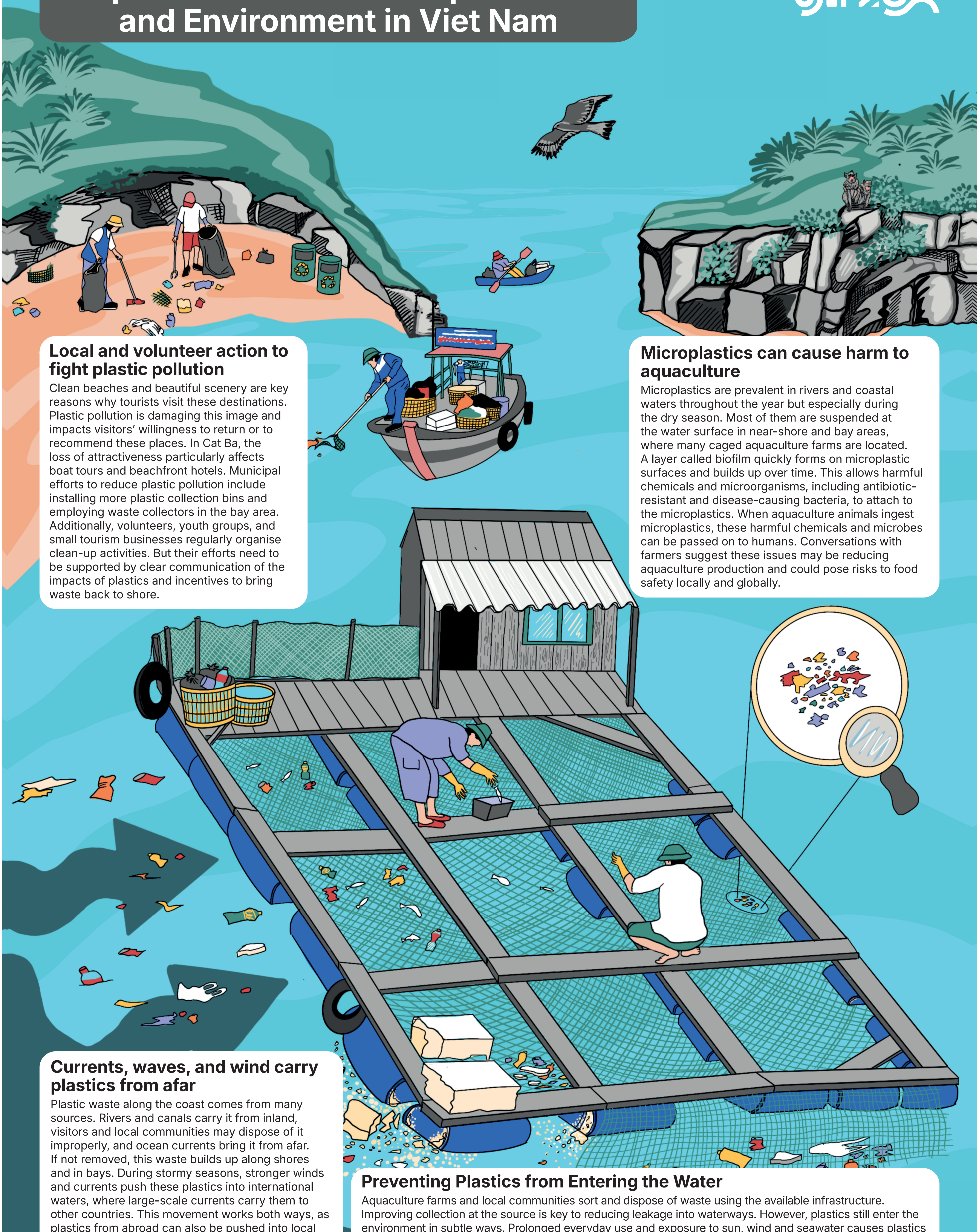
Microplastics are prevalent in rivers and coastal waters throughout the year but especially during the dry season. Most of them are suspended at the water surface in near-shore and bay areas, where many caged aquaculture farms are located. A layer called biofilm quickly forms on microplastic surfaces and builds up over time. This allows harmful chemicals and microorganisms, including antibiotic-resistant and disease-causing bacteria, to attach to the microplastics. When aquaculture animals ingest microplastics, these harmful chemicals and microbes can be passed on to humans. Conversations with farmers suggest these issues may be reducing aquaculture production and could pose risks to food safety locally and globally.

Currents, waves, and wind carry plastics from afar

Plastic waste along the coast comes from many sources. Rivers and canals carry it from inland, visitors and local communities may dispose of it improperly, and ocean currents bring it from afar. If not removed, this waste builds up along shores and in bays. During stormy seasons, stronger winds and currents push these plastics into international waters, where large-scale currents carry them to other countries. This movement works both ways, as plastics from abroad can also be pushed into local bays, showing that plastic pollution is a global, cross-border problem.

Preventing Plastics from Entering the Water

Aquaculture farms and local communities sort and dispose of waste using the available infrastructure. Improving collection at the source is key to reducing leakage into waterways. However, plastics still enter the environment in subtle ways. Prolonged everyday use and exposure to sun, wind and seawater causes plastics to wear down into small pieces called microplastics. Severe weather, like typhoons, can also tear apart and spread plastic debris. Regular maintenance of farms and equipment is vital to minimise this problem.



Impacts of Plastics on Local Communities and Tourism in Viet Nam



Waste Problem in Remote Areas

With growing tourism local communities in remote areas often experience a growing plastics problem. As more tourists visit, demand increases for store-bought foods and drinks, which often come in plastic packaging. Local residents also enjoy these products and say tourism has increased their access to them. However, many of these tourism destinations are remote and difficult to access, making the transportation of waste both limited and expensive. As a result, plastic waste must be managed locally, leading to growing landfills, open burning, and plastics leaking into the environment and waterways during storms and floods.

Perceptions about plastic waste in the environment

Residents try to keep their environment clean, but plastic waste is still common in the sea and along shores. Numerous waste and recycling bins can be found in residential areas around ports, yet many plastics are still discarded directly into the environment. Adding more bins does not solve the problem if waste is not properly managed. Local residents suspect that visitors who litter have little awareness about the impacts of plastics waste. They also report seeing workers on tourism boats throwing waste overboard, suggesting that these are often seasonal workers that come from elsewhere, and may feel less connected to the local community, the environment, and the long-term impacts on tourism.

Plastics are part of the touristic experience

Clean drinking water is one of the main needs of visitors. In some areas, bottled water may be the only available option. Local businesses say that most visitors prefer small 500ml bottles because they are easier to carry than larger bottles. Although some visitors say they would rather refill reusable bottles, many do not trust local tap water or water filtration machines. During the high season for tourism, especially in warmer weather, visitors purchase more bottled drinks and beverages sold in single-use plastic cups, such as fresh juices or boba tea. To create the desired touristic experience, businesses also sell fresh coconut water served directly from the coconut with a plastic straw. Most of these plastics ends up in the landfill or in the environment.

Tackling plastic pollution together

On Cat Ba Island, international tourists tend to perceive the island as more polluted by plastic waste than domestic visitors, and both groups say they are less likely to return to or recommend a destination that appears polluted. Both tourism businesses and tourists want to see changes that make it easier to reduce single-use plastics, including better information and awareness campaigns, stronger penalties for littering, and improved waste collection infrastructure. While plastic waste may appear as a local problem, once it enters the environment it can travel far and affect other areas. Its economic impacts on tourism, aquaculture, and fisheries in one place can add up over time, affecting the wider national economy as well as food safety and public health in other regions.

