

From trash to trouble: Aqaba's hidden air pollution challenge

Macro-area: Environment

This piece explores the overlooked connection between poor waste management and deteriorating air quality in Aqaba, Jordan's only coastal city. It highlights how open waste burning, inadequate collection, and landfill mismanagement lead to unequal health burdens on vulnerable communities and threaten both public health and coastal ecosystems. The article links local practices to broader sustainability concerns and advocates for smart waste systems, regulatory enforcement, and community involvement as pathways toward a cleaner, fairer urban environment. It invites reflection on how sustainability efforts must bridge visible cleanliness and invisible air pollution, especially in cities aspiring to green and smart transformation

Aqaba, Jordan's only coastal city, faces a growing environmental challenge. Behind its tourist appeal lies a struggle with poor waste management that is subtly impacting on the city air quality. Although Aqaba skies often appear clear, the smoke from burning trash and piles of uncollected waste presents hidden health and environmental risks. Addressing this issue offers not only cleaner streets but also an opportunity to improve the very air residents and visitors breathe.

When trash pollutes the air

In parts of Aqaba, garbage is still dumped in empty lots or burned in the open. These fires release harmful smoke that makes breathing difficult, particularly for children, the elderly, and people with asthma. On windy days or during dust storms, the situation becomes worse. Hospitals in Aqaba often report an increase in respiratory complaints during such conditions.

Doctors warn that even limited exposure to smoke or particulates can trigger health issues. Long term exposure to polluted air raises the risk of chronic respiratory illnesses. While Aqaba coastal setting should be an asset, burning waste undermines its natural advantage.

Aqaba produces around 150 tons of garbage each day, coming from households, hotels, restaurants, and port operations. Nearly half of it is organic material, while the rest includes plastic, paper, and other recyclables. Despite efforts by private contractors under ASEZA oversight, not all waste is properly collected or managed. Some are dumped, some are burned, and some end up in the sea, threatening coral reefs and tourism.

Environmental justice: Who bears the weight of pollution?

Waste mismanagement affects everyone, but not equally. In Aqaba, poorer communities located near informal dump sites face the harshest conditions. They breathe polluted air, live among uncollected waste, and lack protection from harmful environmental exposures. Children in these areas grow up with health risks that wealthier neighborhoods largely avoid. This turns pollution into a matter not only of the environment, but of fairness and justice.

Tourism is also vulnerable. No visitor wishes to swim near floating plastic or sunbathe beside a smoking trash site. As coral reefs struggle with warming waters, added waste and chemical runoff intensify the damage. Pollution, therefore, does not stop at neighborhood borders, it affects the city's image, economy, and ecological balance.

When waste becomes air pollution

Aqaba air quality is generally acceptable, with recent levels of PM10 (fine dust particles small enough to penetrate deep into the lungs and cause respiratory problems) averaging around 30 micrograms per cubic meter of air — a common measure of air pollution — which falls within international standards. However, during regional dust storms, levels have spiked to as high as 1,600, posing a severe health risk. While dust is a natural occurrence, the open burning of waste contributes additional pollutants that worsen air quality, especially in vulnerable neighborhoods.

This is where smart waste management becomes an air quality solution, not just sanitation improvement.

Aqaba has begun to take positive steps. Fire detection systems at landfills, smart waste bins, and upgraded collection tools show a growing awareness of the problem. Yet these efforts remain limited in scope. The challenge now is to build on them extending smart waste strategies in a way that reaches all communities and supports long term environmental goals.

What has been done?

Jordan new waste law is a major step forward. It requires businesses to take more responsibility for their packaging and encourages recycling and composting. Aqaba has the opportunity to lead by example in putting these reforms into practice.

Hotels and restaurants can contribute by sorting waste and cutting food loss. Many already donate leftovers or compost organic material, practices that could be scaled up. Community involvement is equally important. Residents can report illegal dumping, schools can organize clean up events, and awareness campaigns can foster a sense of environmental stewardship.

Partnerships with other cities and global donors can help accelerate progress, from building recycling facilities to creating job opportunities in the green sector. Aqaba does not need to start from scratch. It just needs to adapt smart, proven solutions to its unique setting.

To summarize, five main pillars can be identified as key contributors to solving the waste and air pollution challenge in Aqaba. These pillars are technology and innovation, policy enforcement, private sector engagement, community participation, and partnership, as illustrated in the figure below. Each of these pillars represents a necessary area of action that, together, can support a cleaner and more sustainable urban environment.

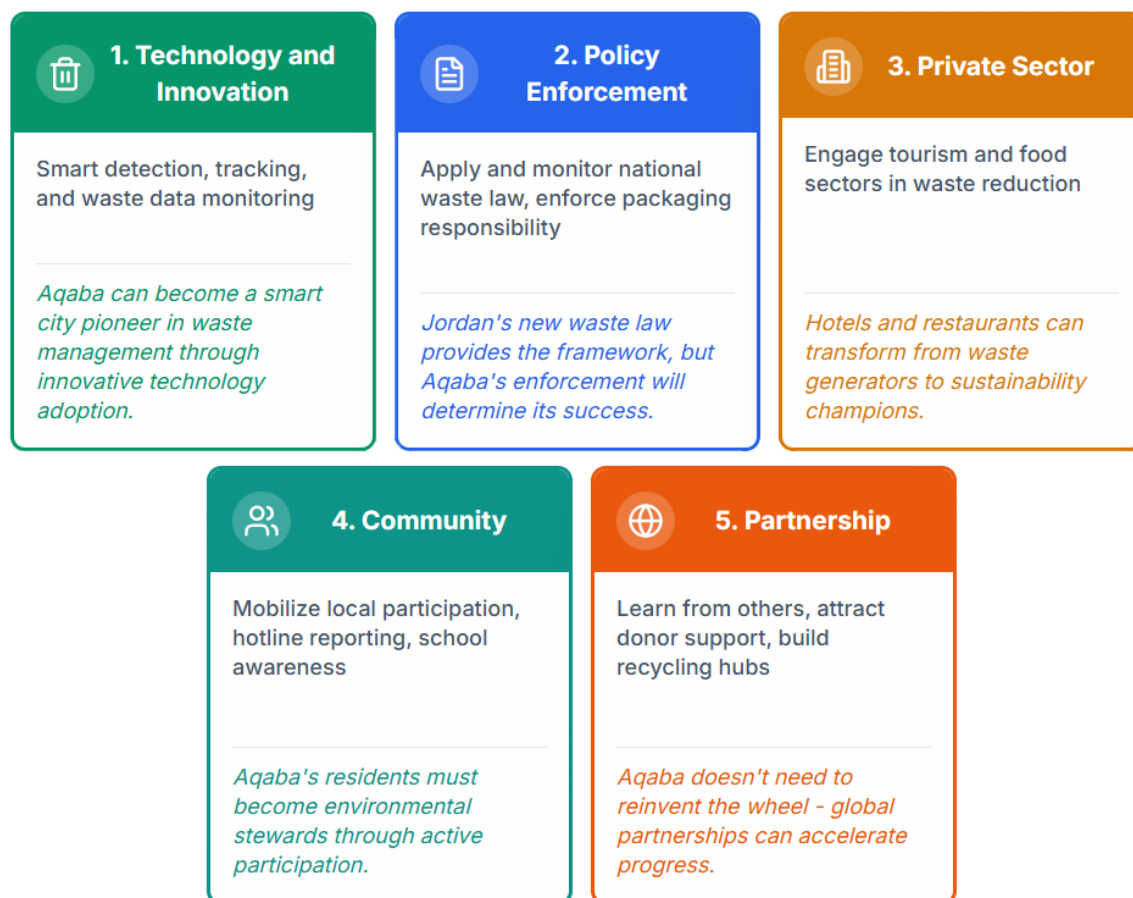


Figure 1: Key areas of action for tackling waste related air pollution in Aqaba: technology and innovation, policy enforcement, private sector engagement, community participation, and partnership.

Clean streets, clear skies

Aqaba is a city with natural beauty, strong institutions, and the potential to become a regional leader in sustainability. Waste management may not seem directly tied to air quality at first glance, but it is. Fewer trash fires, less landfill overflow, and better sorting mean cleaner air, healthier lungs, and a more appealing destination for tourists.

Waste is not just a matter of what we throw away. It is about the air we breathe, and the future we want to protect.

Will Aqaba invest in that future? The time to act is now.

Further Reading

United Nations Environment Programme. (2019). Turning waste into an asset in Aqaba, Jordan.

<https://www.unep.org/news-and-stories/story/turning-waste-asset-aqaba-jordan>