Mapping The Global Plastic Pellet Supply Chain

Africa and Middle East

Production, Transport & Recycling Activity

Activity	Observations
Plastic Production	 Africa and Middle East accounted for 16% of world trade exports of plastic in primary forms in 2021 Saudi Arabia is the world's second largest exporter of plastics in primary forms in 2021 The region was responsible for 8% of world plastic productions in 2021 Egypt is the largest exporter of plastic in primary forms in 2021 in Africa
Plastic Manufacturing	 Africa and Middle East accounted for 7% of world trade imports of plastic in primary forms in 2021 Nigeria is the largest importer of plastics in primary forms in Africa
Maritime Freight Transport	 Africa and Middle East has 6 of the world's top 50 ship container ports by cargo volume There are 21 large ports as defined by World Ports Index
Rail Freight Transport	 Freight movements in Africa reached over 170.6 billion ton-km in 2020 Africa has at least 8 large inland ports and container depots
Road Freight Transport	 African cross-border freight transport market is expected to exhibit a compound annual growth rate of 4.5% showing its increased use in the region
Plastic Recycling	 Over 112 plastic recycling plants (4% of global share based on industry database) South Africa has the largest number of plastic recycling plants within Africa The United Arab Emirates (UAE) has 12 recycling plants

Environmental Incidents

It is estimated between 4,990 – 49,468 tonnes of plastic pellets are lost annually in Africa and Middle East. In addition to widespread pellet pollution identified via citizen science three major acute pellet spills have been reported in this region between 2017 and 2023 with all incidents involving the loss of shipping containers being lost overboard. In 2017 near the Port of Durban, South Africa two shipping containers of plastic pellets were lost overboard during a storm and contained an estimated 49 tonnes of material. The incident is estimated to have impacted 2,000 km of coastline with only 23% of the spilled pellets having been recovered. Plastic pellets were also identified on South Africa beaches in the proximity of Plettenberg Bay in 2020 with a loss at sea thought to have occurred in October 2020. Plastic pellets, including sacks filled with pellets, began washing up on beaches close to Dubai, UAE in February 2023. The cause of the pollution is unknown but it is suspected it occurred as a result of a loss overboard from a vessel.

With increased regulation and transparency of all the sectors within the plastic industry across the region, there would be an increase in the amount of reported chronic and acute pollution within many more countries in the region which would highlight the true extent of the issue.



Environmental Sensitivity

Africa has over 178,000 km² of coastal protected areas with a large region of the south coast of South Africa designated as a UNESCO Biosphere Reserve. Africa is home to 20% of the world's mangroves, occurring in 34 countries across the continent¹ which are complex and fragile ecosystems. Pellet clean-p in mangroves would be extremely challenging and likely damaging. Inland protected areas are highly variable in Africa and consist of deserts, rainforest and the African Great Lakes. Nigeria is identified as the largest importer of plastics in primary forms in Africa and is already subject to extensive contamination in the Niger Delta from decades of exploration and exploitation by the oil and gas industries. Releases of pellets in this area, and others in Africa already polluted by other industry, will only serve to exacerbate the existing impacts.

Coastal protected areas are located on both the east and west coasts on Saudi Arabia, UAE, Qatar and Oman in close proximity to identified plastics industry and ports. The protected regions include UNESCO Biosphere Reserves, National Parks and Nature Reserves.

Socio-Economic Sensitivity

Within the UAE in 2019, tourism accounted for 11.6% of its GDP and the sector employed over half a million people in 2021. It is reported that the UAE tourism sector is due to recover to near 2019 levels in 2023 with the contribution to GDP from tourism at 9% in 2022².

Acute pellet loss incidents, such as that which impacted Dubai beaches in February 2023, have the potential to harm this recovery as they are a highly visible pollutant with the potential to be remobilised and continue to re-emerge long after a spill incident has occurred.

Across Africa, Egypt received 13 million arrivals in 2019 being the most popular destination in Africa due to its beaches and rich coral reefs for scuba diving. South Africa received 10.2 million arrivals in the same year and tourism accounted for 4.7% of total employment. It is reported that tourism will be a major driver for post-Covid economic recovery in South Africa over the next decade with an estimated 800,000 jobs created in this time³. Acute pellet loss incidents such as those seen in 2017 and 2020 have the potential to stunt this recovery particularly given the increasing press coverage future incidents are likely to receive as awareness of plastic pellets and their impacts on the environment grows.

¹ Naidoo, G. (2023). The mangroves of Africa: A review. Marine Pollution Bulletin, 190, 114859. https://doi.org/10.1016/j.marpolbul.2023.114859

World Travel & Tourism Council. (2023). UAE Travel & Tourism sector set to recover this year, says WTTC. Available at: https://wttc.org/news-article/uae-travel-and-tourism-sector-set-to-recover-this-year-says-wttc [Accessed on 28/07/23]

³ World Travel & Tourism Council. (2022). South Africa's Travel & Tourism's growth to outpace the national economy for the next 10 years. Available at: https://wttc.org/news-article/south-africas-travel-and-tourisms-growth-to-outpace-the-national-economy-for-the-next-10-years [Accessed on 28/07/23]