

PLASTIC WASTE TRADE: SHIFTS, IMPACTS AND SOLUTIONS

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WHY IS IT IMPORTANT?

In most of the world, plastic waste tends to be burnt, stocked in landfills until saturation or left by roads and/or rivers. This has negative environmental effects - indeed plastic can take up to hundreds of years to break down.

Plastic (macro, micro or nano) frequently ends up in oceans and seas worldwide, and affects biodiversity and ecosystems services. Plastic waste can entangle fish and birds, while micro and nano plastic waste can be ingested by marine animals, and absorbed by human beings afterwards. Indeed, human health can also be impacted by plastic pollution. Climate change is equally at stake. If plastic production produces GHG emissions, plastic waste management also does. Incineration and plastic waste energy recovery result in a direct release of GHG emissions and of toxic substances like dioxin, furan or mercury (disturbing ecosystems and affecting human health). In her work for the French newspaper *Le Monde Diplomatique* (2021), Aude Vidal reports that in Malaysia, people could be affected by skin and lungs diseases due to plastic waste treatment.

Plastic waste, when mismanaged - left uncontrolled, or openly dumped - affects ecosystems and potentially human wellbeing.

“Plastic has become a serious challenge for the natural world” [1]

KEY FACTS:

"Annual global plastic production has increased from 2 to 380 million tons (T) since 1950 and is projected to double by 2035 and almost quadruple by 2050" (European Environment Agency, EEA).

Since 1950, 6.3 billion of plastic waste has been produced, 9% have been recycled, 12% burnt, the rest has been accumulated in landfills and/or in the wild (GEYER Roland, JAMBRECK Jenna, LAVENDER LAW Kara (2017), Production, use and fate of all plastics ever made, Sciences Advances, Vol 3, Issue 7, quoted by *Le Monde Diplomatique*).

"At the global level, less than 10 % of about 6 300 million tons (T) of plastic waste generated between 1950 and 2015 has been recycled. Over 60 % of the plastic ever made (since 1950) is ending in landfills or in nature (including in the oceans). The rest has been incinerated or has not been accounted for" (European Environment Agency, EEA)



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CONTEXTUAL ELEMENTS

The countries in South East Asia are struggling with plastic waste since China stopped its recycling activities on the 1st of January 2018.

Indeed, at the beginning of 2010's China cumulated more than $\frac{3}{4}$ of waste imports, but there were a lot of controversies around China's recycling activities. The Chinese population had been increasingly concerned about environmental health as China was producing and consuming more plastic waste as a country, it could not continue importing plastic from other countries. China announced a ban on plastic waste's imports on the 1st of January 2018 "to protect China's environmental interests and people's health" [2]. Specifically, since the end of 2017, China has been forbidding the import of "4 classes, 24 kinds of solid wastes, including plastics waste from living sources, vanadium slag, unsorted waste paper and waste textile materials" [3]. China had to cut imports to shift its plastic waste management from "many small, unregistered facilities with no standard operating procedures, no quality standards and no inspections to investments in large manufacturing plants, which are subject to increasing quality and environmental controls" [4]. If this decision has confirmed the harmful effects of plastic waste exports, it has also shifted waste exports to other countries and increased the pressure on countries like Malaysia, Indonesia, Thailand, or Vietnam.

More recently, it is likely that the increased use of single use plastic induced by the COVID 19 pandemic creates an additional pressure on plastic waste management mechanisms in South East Asian countries.

PLASTIC WASTE IN SOUTH EAST ASIA

According to "DISCARDED. Communities on the frontlines of the global plastic crisis" (April 2019) report of the Global Alliance for Incinerators Alternatives (GAIA), more than 900 000 tons (T) of plastic waste have been imported to Malaysia in 2018, more than 400 000 tons (T) in Thailand or Vietnam. They were mostly from the United States, Japan and Europe (Germany, the UK and Belgium predominantly).

According to the European Environment Agency (EEA), the European Union is exporting plastic waste because of limited plastic recycling capacities in the EU in a context of growing production of plastic and plastic waste. While the need of an efficient circular economy is acknowledged, the exports of plastic waste to South East Asia still continues. According to Sahabat Alam Malaysia (SAM), an independent non-profit national organisation working on sustainable development and the management of natural resources, South East Asia has indeed less efficient plastic recycling facilities than OECD countries.

"Early 2019, the EU still exported around 150 000 tons (T) of plastic waste per month. In 2015 and 2016, when exports were primarily shipped to China and Hong Kong, this figure was up to 300.000 tons (T) monthly, about twice as high" [5]

Regulations exist in the EU regarding the type and destination of exported plastic waste. But it appears unrealistic to keep on exporting plastic waste to third countries. Indeed plastic waste management onsite is not reliable and legal operators are lacking. False declarations and traffic are also hindering the possibility of control.

THE STRUGGLE OF LOCAL ACTORS

In her investigation for the French newspaper *Le Monde Diplomatique*, Aude Vidal studied a biologists led organization called Ecoton, based in the Java East region in Indonesia. Ecoton controls water quality and fish health since their teams and observers noticed that fish species suffer mutations affecting their ability to reproduce. Ecoton is warning about pollution and is looking for solutions with public authorities and local businesses. In 2016 the organization has mobilized local actors about waste in the Brantas river, notably from a paper waste treatment factory. Their joint work improved the treatment methods which decreased the river's pollution. But in 2018, these efforts have been annihilated by the disorganization of the international waste traffic. Sahabat Alam Malaysia (SAM), established on Penang Island, explains that in 2014 the local government has forbidden the use of polystyrenes in food packages (still used in Europe in 2021). In 2015, the Penang State had a rate of almost 40% recycled waste. Exporting countries tend to stamp out the efforts implemented by local actors by largely increasing the pressure on local waste treatment facilities.

As a response, in 2019, Malaysia and Indonesia shipped back unregistered or badly registered containers of various types of waste. On the 15th of May 2019, the Philippines president gave an ultimatum to Canada, called back his diplomats and sent back 69 containers of dumped waste back to Canada. In April-May 2019, at the Basel Convention, South East Asian NGOs, supported by Norway, advocated for the cessation of plastic waste traffic through the "Stop dumping plastic in paradise!" petition. There was a strong opposition from the United States but the proposition has been adopted. Since then, non-recyclables plastics (polyethylene terephthalate, polyethylene and polypropylene) cannot be exported anymore without an agreement of the receiving country. The regulation is effective since the 1st of January 2021. Early 2020 Malaysia already sent back 4000 tons (T) of illegal plastic waste to 20 countries including to France, but also to the UK that sent 33 000 tons (T) of waste during the 7 first months of 2020, 81% more than usual.





RESOURCES:

- Climate Resilient and Inclusive Cities (CRIC) project, url: <https://resilient-cities.com/en/>
- European Environment Agency, 2019, modified in 2021, "The plastic waste trade in the circular economy"
- The Association of Cities and Regions for sustainable Resource Management (ACR+), url: <https://acrplus.org/en/>
- VIDAL Aude, May 2021, "Des exportations occidentales qui ruinent les efforts des écologistes locaux, déferlement de déchets plastiques en Asie du Sud-Est ", Le Monde Diplomatique



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Sahabat Alam Malaysia (SAM) recommends transparency on plastic waste circulation, country of origin and destination but also on the type of plastic and on its potential planned treatment. SAM also advocates for a plain and simple cessation of exports of plastic waste, even if recyclable. If that is not possible on the short term, SAM advocates for a better conception of plastic products.

If recycling process has a more positive impact on environment and human health than incineration or landfills, **it is still a complex process** – the term "plastic" actually refers to 7 different materials sometimes recyclable once or not recyclable at all and through different methods. Another identified challenge is that sorting waste is a complicated process, if it is to be performed correctly - technology, staff and capacity building are costly.

WHAT CAN BE DONE?

At the local level the actions of organizations like Ecoton or Sahabat Alam Malaysia (SAM) are essential and should continue despite the pressure they are going through. International cooperation can also be an interesting solution - for example, the Association of Cities and Regions for sustainable Resource management (ACR+), created in 1994, is a network of cities and regions cooperating and exchanging knowledge, methods and expertise to promote circular economy, waste prevention and waste management. ACR+, as Pilot4DEV, but also UCLG ASPAC, ECOLISE, AILSG and the Gustave Eiffel University (Paris, France) are partners on the Climate Resilient and Inclusive Cities (CRIC) project in 10 pilot cities in Indonesia. A branch of the project is dedicated to waste management as these Indonesian municipalities have decided to reduce plastic waste and invest in waste management. The international cooperation will bring various expertise together to develop efficient waste management tools - management considerations, recycling methods improvements, regulations modifications, work on awareness, among others.

These local, transnational and international efforts need to be supported by a global reduction of plastic waste and the development of efficient on-site recycling facilities and circular economy mechanisms. Indeed, plastic waste should be recycled in its country of consumption to release the pressure on importing countries and tackle emissions issues related to the treatment (or non-treatment) of plastic as well as its shipping. Those are the best climate compatible options.

[1]. European Environment Agency, 2019, modified in 2021, "The plastic waste trade in the circular economy"

[2]. World Trade Organization, Technical barriers to trade, Information Management System, Regular notification, G/TBT/CHN/1211, 18th of July 2017.

[3]. Ibid.

[4]. European Environment Agency, 2019, modified in 2021, "The plastic waste trade in the circular economy"

[5]. Ibid.