

CASE STUDY

TAKING ACTION TO TACKLE PLASTIC POLLUTION IN THE OCEANS

The issue

The environmental hazards created by worldwide use of throwaway plastic are enormous, as Unit 6.2 (page 97) explains. Plastic pollution is an archetypal wicked problem insofar as it appears to be an insurmountable challenge: the issue seems too big in scale for any single action or organization to make a difference.

How awareness was raised

Nevertheless, various CSOs have attempted to raise awareness of the issue:

- Campaign group Adventure Ecology built a boat called 'Plastiki' made from 12,500 plastic bottles. They sailed it across the Pacific Ocean and through the garbage patch. This caught the eye of the media, raising awareness of the pollution problem. During their voyage in 2010, the expedition crew released videos of the plastic garbage patch onto the internet.
- Many more CSOs – including Greenpeace, The Ocean Cleanup and the Marine Conservation Society – have campaigned on the issue; important foci include the dangers posed by plastic bags, bottle tops and microbeads.
- *Plastic Bag* is a short propaganda film created in 2010 by an international team including American director Ramin Bahrani, Germany's Werner Herzog and members of the Icelandic rock band Sigur Rós.
- There are numerous CSOs dedicated to banning the sale of bottled water in countries where clean tap water is available.

Arriving at a solution

We are a long way from arriving at a solution to this wicked problem. However, the raising of awareness by CSOs has resulted in a number of actions being taken which represent a first step.

- The plastic industry itself is starting to take action by developing new materials such as biodegradable or even edible plastic. Research has shown that a milk protein called casein could be used to develop an edible, biodegradable packaging film.
- Various governments have taken action to ban plastic bags or microbeads. Government restrictions on throwaway plastic bags exist in China and Bangladesh, where the use of thin (<0.025 millimetre thickness) plastic bags has been prohibited (these small bags also block watercourses and sewers during the monsoon season). By law, plastic bags cannot be given away freely in the UK any more in larger shops.
- The USA has banned microbeads from 2017; many global retailers are already removing them voluntarily from their own products.
- The Ocean Cleanup CSO has raised money from its global network of supporters – using an online **crowdfunding** platform – to build a €1.5 million prototype floating barrier made of rubber and polyester, which can catch and concentrate debris. Nicknamed 'Boomy McBoomface', it was launched off the coast near The Hague in 2016 (Figure 6.28). The aim is to upscale the model to produce 100-kilometre V-shaped barriers positioned in the Pacific gyre.
- While no country has considered seriously a ban on bottled water, growing numbers of people worldwide now eschew its use.

Evaluating the action

The size and scale of this problem makes it an enormous global challenge. However, it also means that there are an enormous number of global stakeholders who want to fix the problem. Several key unanswered questions make this an enduring wicked problem, however:

- Will the plastics industry reform itself voluntarily or is global regulation needed?
- Even if new flows of plastic are reduced, what can be done about the enormous existing stores of plastic that have collected already in the gyres? Even if the 'Boomy McBoomface' solution works, what will be done with all of the plastic once it is collected? Can all this be done without harming marine wildlife?
- Plastic use is projected to quadruple by 2050: will any actions we take be 'too little, too late'?



Figure 6.28 A prototype floating barrier designed to capture plastic waste

Keyword definition

Crowdfunding Raising sums of money for a good cause or innovation by asking a large number of people to donate a small amount each using an online platform.