

# PLASTIC-FREE RIVERS

Strategies to tackle litter and microplastics in Amersfoort's canals and the Eem River, the Netherlands

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## The challenge: plastic pollution

Plastic pollution is everywhere, in all **aquatic habitats and even in the human body** (1, 2), impacting ecosystems, human health, and infrastructure (3). 80% of this waste **originates on land**. From human activities, plastics enter the local stream, are **transported by rivers**, accumulate in the ocean and degrade into microplastics, particles smaller than 5 mm. The plastic problem is a local-global 21st-century challenge with **microplastics as an invisible pollutant**.

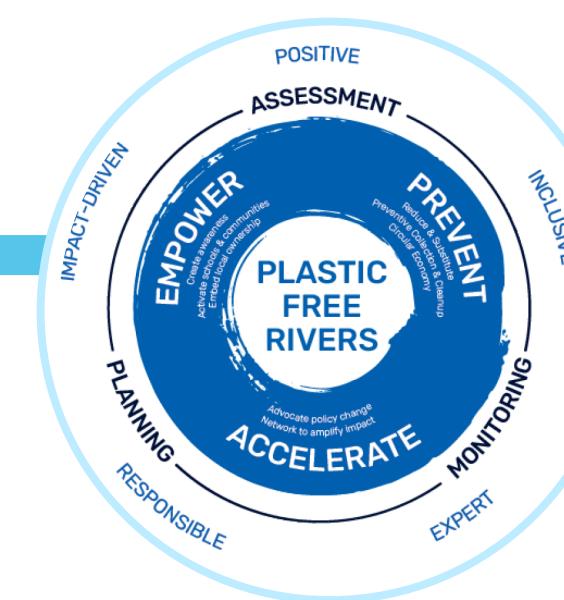


In collaboration with the Municipality of Amersfoort and the Water Board, this research aimed to determine **pathways to reduce plastic pollution in Amersfoort's urban canals and the Eem River**.

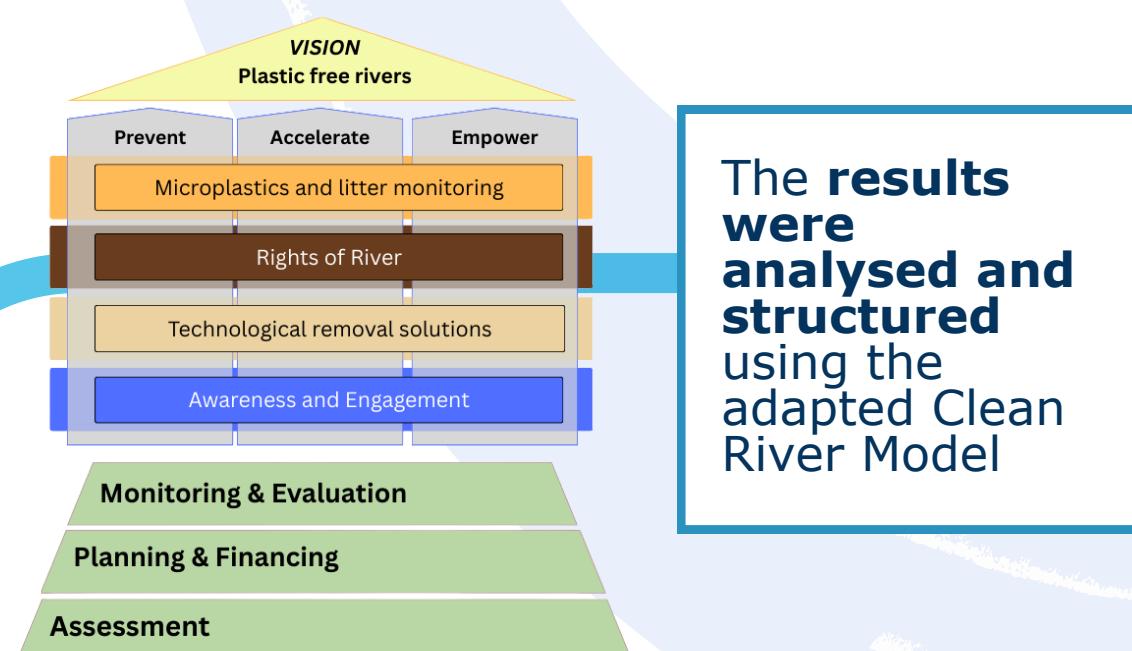


SCAN ME

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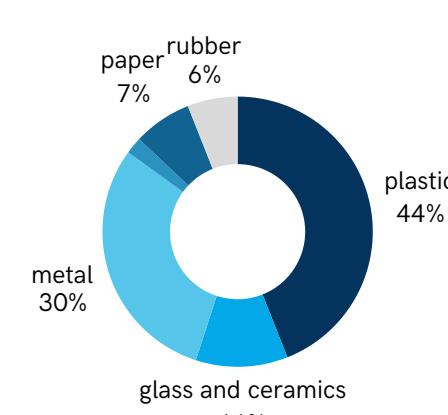
The Clean River Model was adapted to form the base framework for this research (4)



## Transdisciplinary methodology

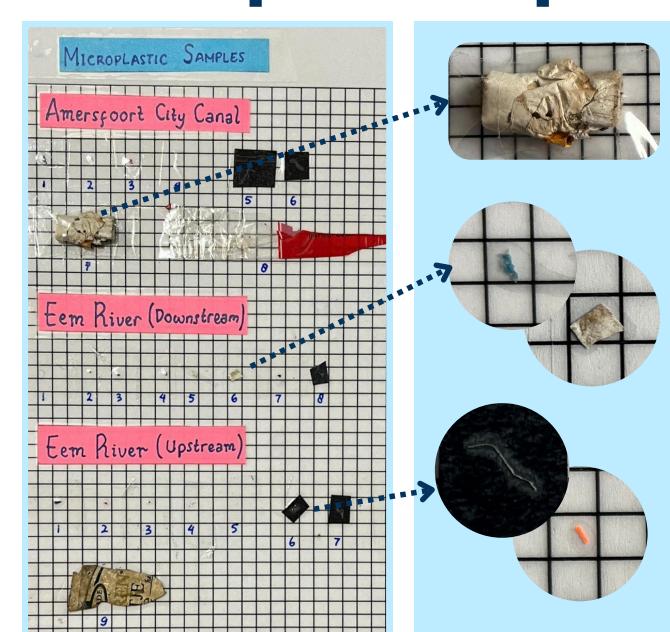


## Floating litter pollution



Litter mapping in Amersfoort revealed the **Eemhaven and inner centre to be the most polluted**. The dominant pollution comes from **single-use food and drink packaging**.

## Microplastic pollution



±6,493 microplastic particles per km<sup>2</sup> is found in the city canals of Amersfoort

±23,589 microplastic particles per km<sup>2</sup> is found in the Eem river

Fibres and fragments are the most microplastic type found

## How to tackle this pollution?

- Continued data collection on the pollution to understand and prove the problem
- Implementation of technological solutions for **plastics removal**
- Implement the Rights of Rivers at municipal scale to **accelerate systemic change**
- Foster pro-environmental behaviour for **upstream plastic prevention** through resident empowerment

## From research to impact!

During a stakeholder workshop, a roadmap towards a plastic-free future was created.



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