

ALCHEMY OF CONTAMINATION: TRANSFORMATIONS OF MICROPLASTICS THROUGH TOXIC METAL ADSORPTION

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SCAN ME



- The United Nations described Climate Change, Pollution and Biodiversity Loss as the “Triple Planetary Crisis”.
- We have described the abiotic and biotic factors that potentially lead to the microplastic formation earlier.
- With climate change mediated release of toxic elements into the marine ecosystem from natural reservoirs like permafrost melting, it is important to study the combined impact of toxic element adsorption on microplastics together with microbial biofilm.
- With sea food being promoted as one of the best protein source across the globe, we need to further the trio combination – microplastics, toxic metals and microbial biofilm.

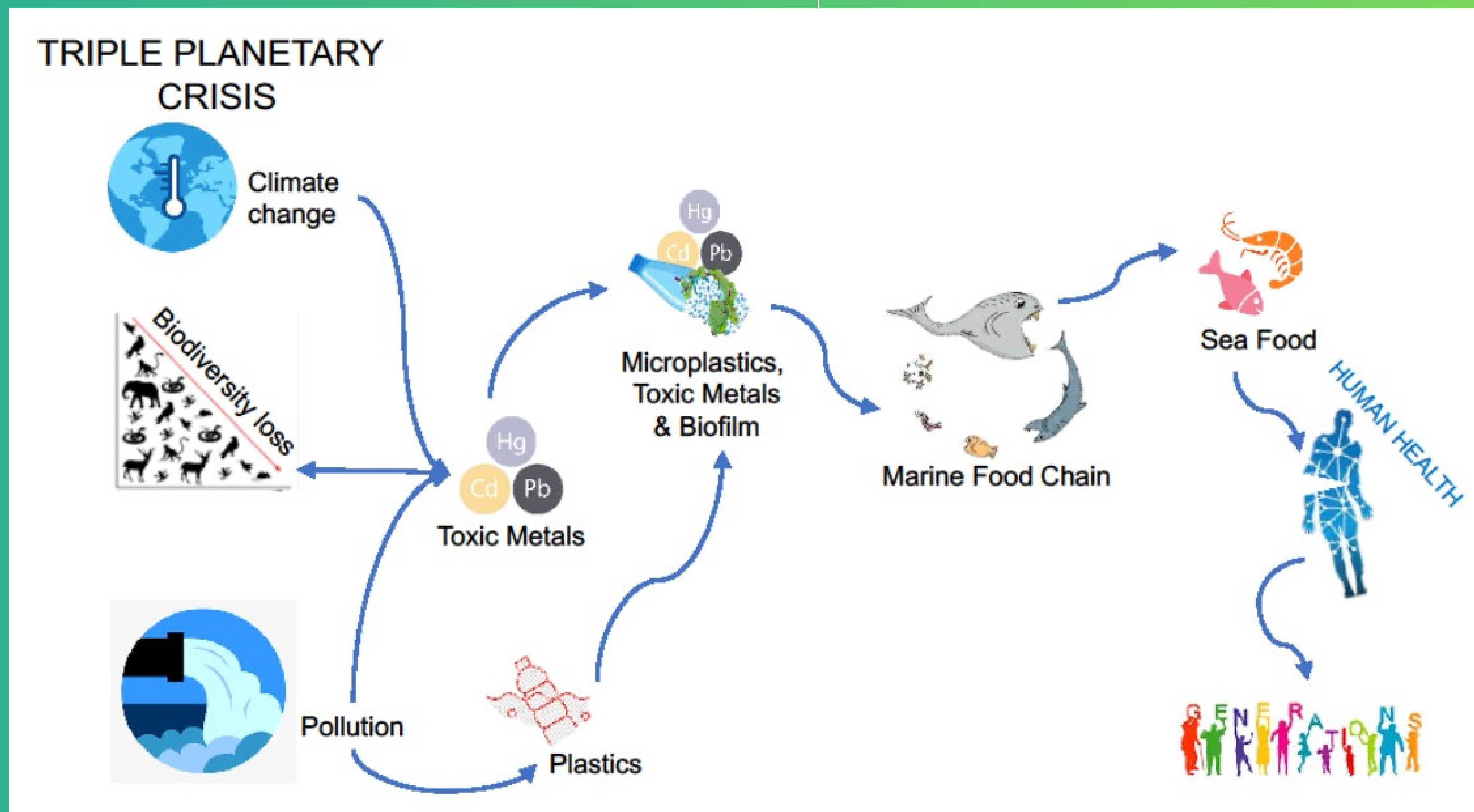


Figure 1. Plastics as vectors of toxic metals into human beings.

- In order to tackle this complex problem there is a need for synergy and co-operation between global and local initiatives.
- Different action plans between various stakeholders at Level 1 needs to constantly interact with the Level 2 policy and decision makers so as to create a conducive niche for working together aiming at the UN SDGs.
- We cannot ignore one SDG and focus on the other but they all need to be considered in totality as one, because without allevating poverty, hunger and well beings of individuals it may not be easy to mobilise masses for climate actions.

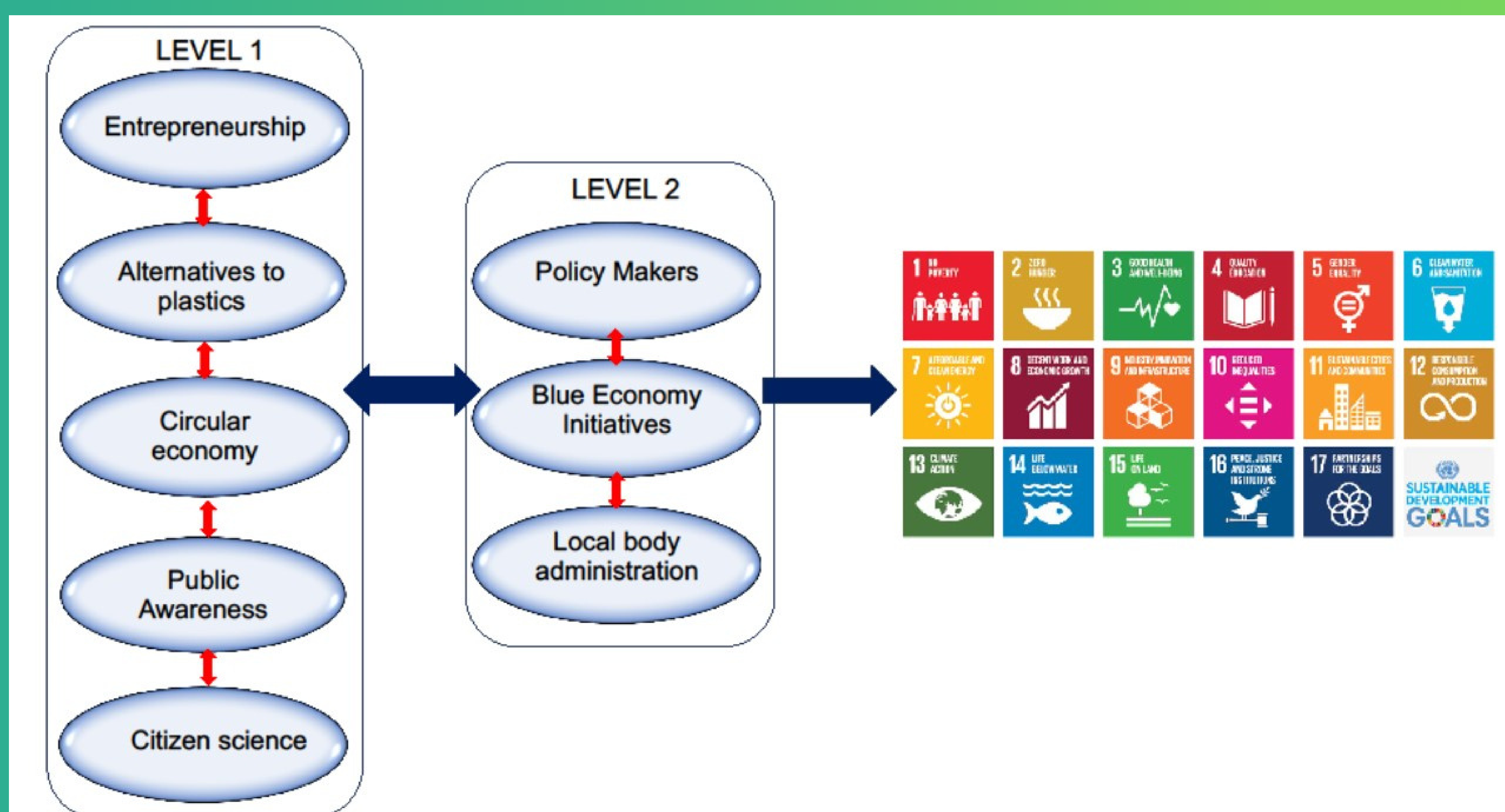


Figure 2. An action plan model to tackle plastic pollution interlinking global and local initiatives for UN SDGs.

Experimental Methodology

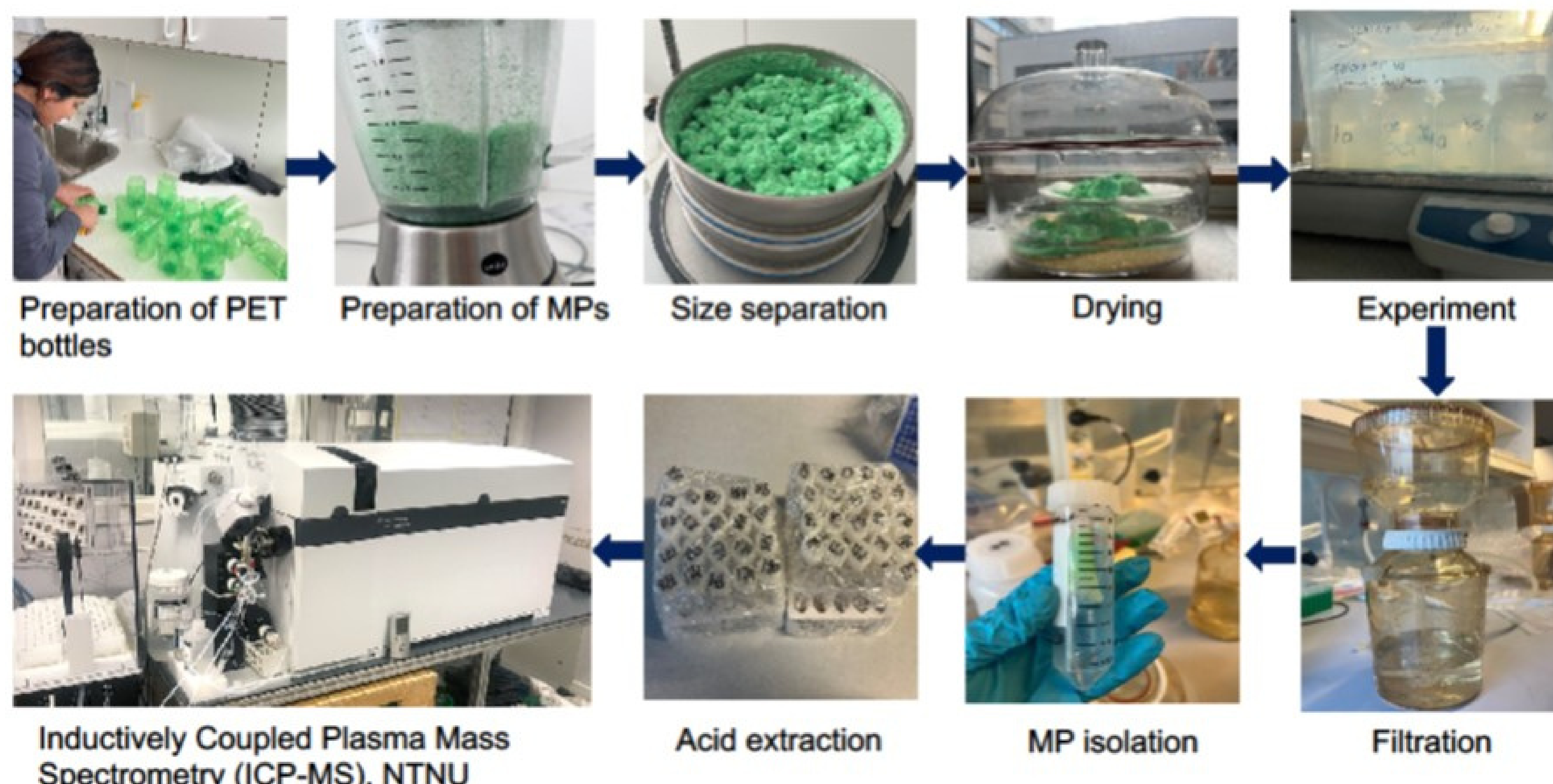


Figure 3. Experimental desing for MP and toxic metal study.