Citizen Observation of Plastic Pollution in African Coastal Ecosystems to Address Data Gaps in Marine Litter Distribution

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The accumulation of plastic litter in coastal environments has become an issue of high priority for policymakers around the globe, due to the potential hazardous effects to biota and human health, and the impact on ecosystem services and local economies. To develop effective mitigation measures, it is critical to acquire knowledge on the distribution and levels of plastic litter. However, in many regions, such as West Africa, the exact quantity of plastics reaching coastal areas is still poorly known. To address the data gaps in marine plastic litter distribution worldwide, citizen science programs are instrumental in complementing shoreline assessments, and are effective in increasing public awareness of plastic pollution. The Citizen Observation of Local Litter in coastal ECosysTems (COLLECT) project is a citizen science initiative which aims to acquire distribution and abundance data of coastal plastic debris in seven countries, in Africa (Benin, Cabo Verde, Côte d'Ivoire, Ghana, Morocco, Nigeria) and Asia (Malaysia). The project consists of training local students (15-18 years old) from secondary cycle institutions on sampling and analysing macro, meso and microplastic in beach sediments, using scientific procedures. The project also measured the impact of the citizen science intervention by assessing shifts in ocean literacy and pro-environmental behaviour, while simultaneously considering gender differences. The COLLECT project contributes to the United Nations' Sustainable Development Goals by focusing on #11 the sustainability of communities and #14 the sustainable use of the ocean. Besides, the project relates to #3 the impact on good health and wellbeing and #5 gender equality, while #12 promoting a responsible disposal of consumer goods. COLLECT also reaches to the UN Ocean Decade challenges #1 understanding and beating marine pollution, #9 skills, knowledge and technology for all, and #10 change humanity's relationship with the ocean. The results from COLLECT contribute to establishing baseline information on coastal plastic debris, with citizen science being an enabler of open science, allowing data to be freely available to the public, academics and policymakers. Results will further contribute to the identification of hotspots of plastic coastal litter, and bring awareness to local communities on the potential consequences of plastic pollution.