

An Evidence-Based Guide for Managing Plastic Pollution: A Resource for Communities in Southeast Asia and Beyond

Meredith Fritz, Tanya Maslak, Jessica Ortiz, and Sarah Kaukeinen (Battelle)

There are numerous connections between the lifecycle of plastics and climate change. Extraction of fossil fuels is required for virgin plastic production and incineration of plastics contributes to global greenhouse gas emissions. Additionally, increasing frequency and severity of extreme weather events can exacerbate leakage of plastic into the marine environment. Plastic disposed of on land often makes its way to the marine environment with an estimated 80% of ocean plastic pollution stemming from land-based sources, largely due to a lack of or insufficient solid waste management (SWM) infrastructure (e.g., informal dumpsites), policies, capacity, and awareness of the impacts of improper SWM.

In light of the many challenges to addressing plastic pollution, we sought to document best practices for mitigating plastic pollution by conducting key informant interviews (KIIs) with 11 organizations working to prevent plastic pollution in southeast Asia. Key informants noted that holistic solutions are needed to recirculate plastic into the value stream. The result of our interviews is the *Proven Practice Guide to Improve Waste Management and Address Plastic Pollution in Southeast Asia*. This interactive guide walks readers through six modules of evidence-based practices to address plastic pollution and highlights case studies that describe best practices in action. Modules were derived and organized based on data gleaned from the KIIs, and include stakeholder engagement, capacity building, social and behavior change, implementation, data and measurement, and financing.

The consolidation and dissemination of these practices will facilitate knowledge sharing beyond southeast Asia to assist communities in strengthening infrastructure and capacity in solid waste management and waste diversion, thereby reducing plastic pollution worldwide and promoting a circular economy.