
Behavioral barrier-based framework for selecting intervention measures toward sustainable plastic use and disposal

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Abstract

There is an urgent need to implement sustainable plastic use and disposal to prevent further negative consequences. As they involve human behavior, intervention measures for inducing individual human behavioral changes toward this implementation are essential. While studies and good practices are rapidly increasing in this regard, it is not sufficient for policymakers. There is no guarantee that good practice in one place will be equally good in another context. Therefore, policymakers require appropriate guidance to choose suitable intervention measures for their context. This study proposes a behavioral barrier-based framework (BBBF) to aid policymakers in selecting context-appropriate intervention measures. The BBBF is built on the assumption that certain barriers can prevent people from making desirable behavioral changes. The BBBF helps policymakers choose suitable intervention measures for lowering the barriers that inhibit desirable sustainable plastic use and disposal-related behaviors. The framework includes a generic list of barriers derived from possible intervention measures that integrate market-based, regulatory, and behavioral approaches to expedite the identification of critical barriers and corresponding intervention measures. Local stakeholders are involved in the whole process to reflect contextuality and to elicit context-specific intervention measures, desirable behavioral measures, and their barriers. The BBBF was developed and tested through its application in Kyoto City, Japan. This BBBF application included 1000 citizens, two focus groups, 14 businesses, and three city officials connected to the issue, and identified fifteen intervention measures and three barrier types to induce 16 desirable behavioral changes for achieving Kyoto City's four established policy targets.

Keywords: behavioral change, context, intervention measures, plastic use and waste, policy Delphi.

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