

Breakout Session 1:
Consumer behavior/ Social Interventions

Panelists

- Josh Abbott, Professor, Global Institute of Sustainability and Innovation, Arizona State University (online)
- David McLaughlin, Environmental Sustainability Policy, RI Department of Environmental Management
- Lisa Erdle, Director of Science & Innovation, 5 Gyres Institute
- Sarah Davis, PhD student, Biological and Environmental Sciences, University of Rhode Island & founder of Mapping Microplastics
- Emi Uchida, Professor, Environmental and Natural Resource Economics, University of Rhode Island

Randomized evaluations for evidence-based decision making

Testing the impact of nudges on plastic bag reduction:
A pilot study in Dhaka, Bangladesh

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Impact evaluations are a part of evidence-based policymaking

Enhances accountability, refine scarce budget allocations, learning, guide program design and policy decisions

Reshaping public policy: A global shift in focus from inputs to outcomes and results

More impact evaluations needed for water policies and programs in general.

They are useful when:

- there are **alternative/competing solutions** and decision makers want to know which ones are more **cost effective** (or other criteria)
- the solutions are not guaranteed to work and decision makers want to know **whether or not they work, if not why, and which ones are more cost effective**

5 components of program evaluation

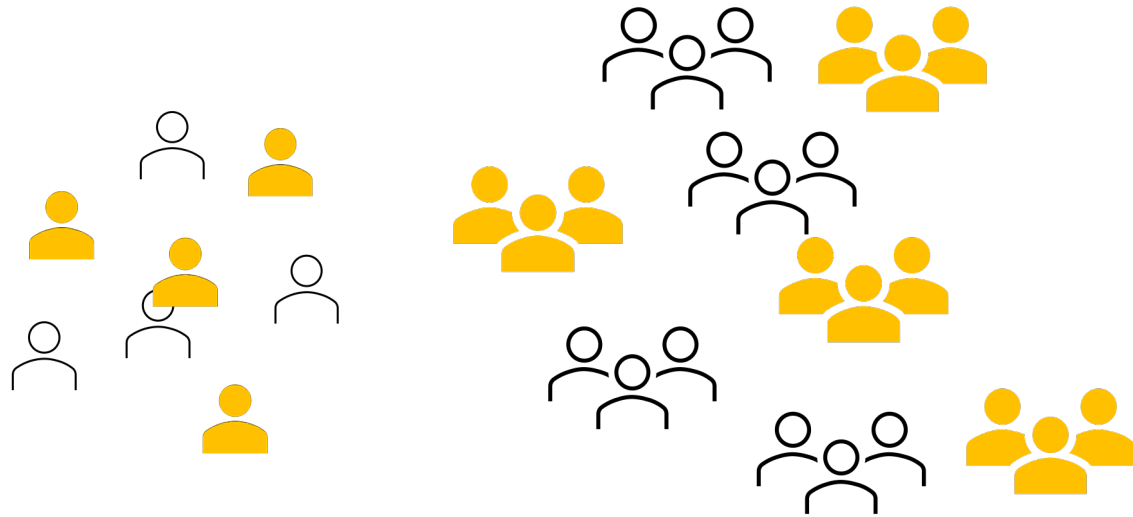


To provide reliable evidence, projects need to be **designed with impact evaluation in mind**

Programs often focus on reporting the inputs and immediate outputs:

- how much money is spent
- How many observation points are monitored
- how many people participated in workshops/training

Randomized evaluation is a gold standard in applied economics



Randomly assign the interventions to create a comparison group that mimics the **counterfactual** (what would have happened to that person/group if there were no intervention).

- Because members of the groups (treatment and control) do not differ systematically at the outset of the experiment,
- Any difference that subsequently arises between them can be attributed to the intervention rather than to other factors
- If properly designed and conducted, randomized experiments provide the most credible method to estimate the impact of a program.

Can a simple reminder reduce plastic bag use? A pilot field experiment in Bangladesh

with Md Tahsin Hasan, PhD Candidate
Environmental and Natural Resource Economics
University of Rhode Island

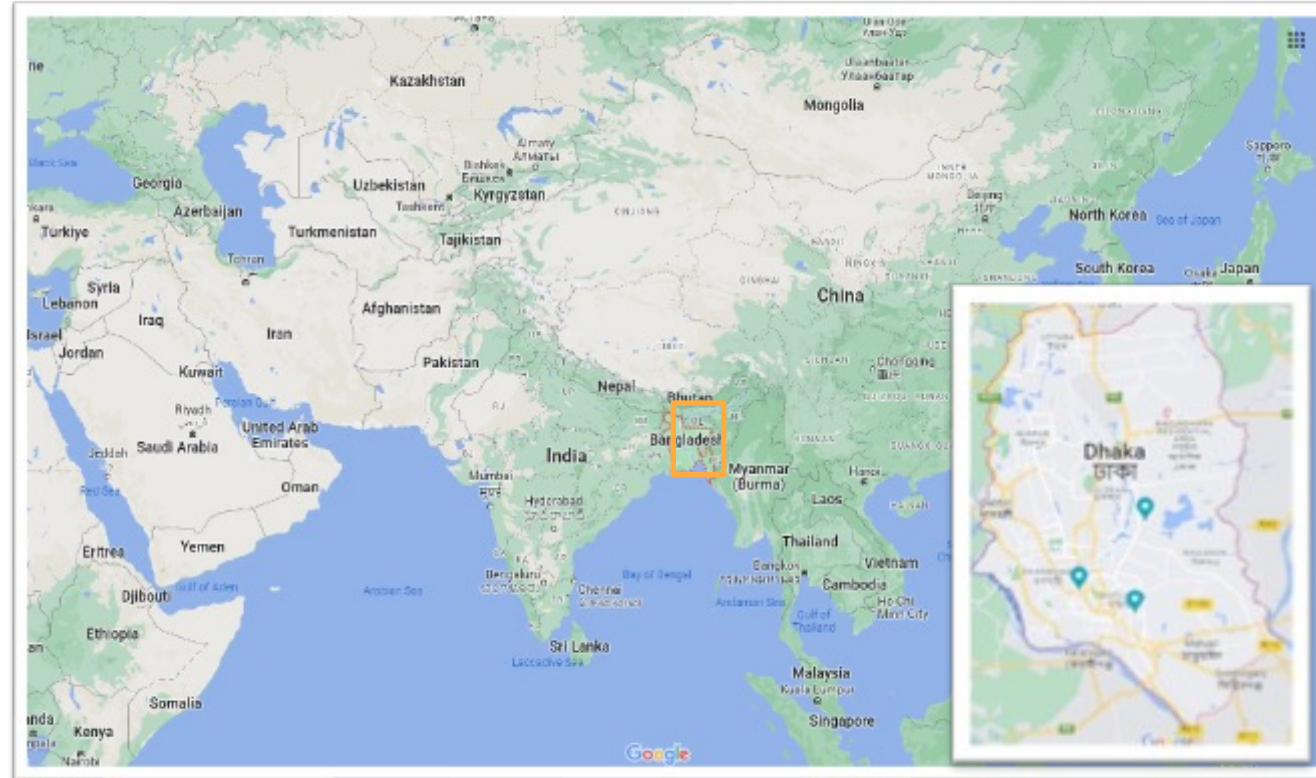


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Behavioral nudges as a complement to regulatory or pricing approaches to reduce plastic bag consumption

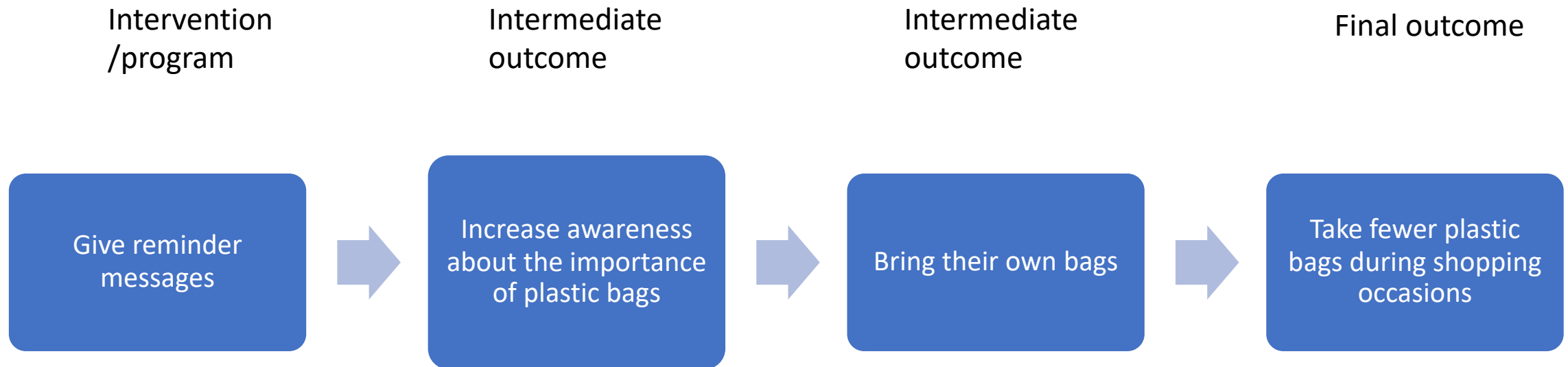
- Retail customers use 1-5 trillion plastic shopping bags per year worldwide (Excell et al. 2018).
- Regulations banning plastic bags or imposing fees have limited effectiveness in developing countries like Bangladesh due to inadequate monitoring and enforcement, a thriving black market, and pressures from the plastic industry (Muposhi et al., 2021).
- **This study examines the effectiveness of behavioral nudge (recurrent reminder message) through a randomized field experiment in Bangladesh.**



Bangladesh, a south Asian country with a population of 170 million and one of the first countries to implement single-use plastic bag ban. In set, pinned locations are three study areas in the capital, Dhaka.

74% go for grocery shopping three times or more weekly
47% said they throw away plastic bags without further use
51% never use reusable bags for grocery shopping and 32% rarely use reusable bags
(source: original survey in July/August 2022)

Theory of Change: an application to reminder messages



Results

Average Treatment Effect

- On average, customers in either treatment group used 33% less plastic bags than the control group
- Reminder-only group used 28% less plastic bags compared to the control group
- Reminder + reusable bag group used 36% less plastic bags compared to the control group

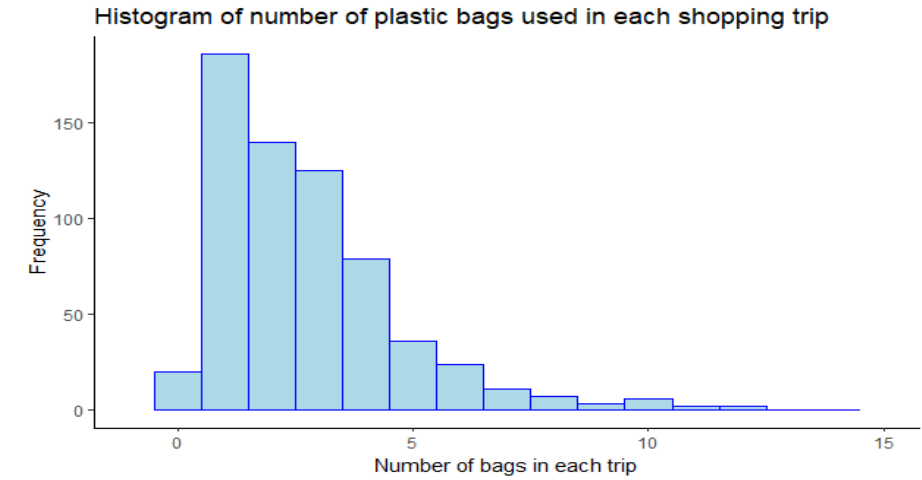


Figure 1. Distribution of plastic bag use among participants irrespective of treatment. Most of the participants used 1-5 bags per shopping trip.

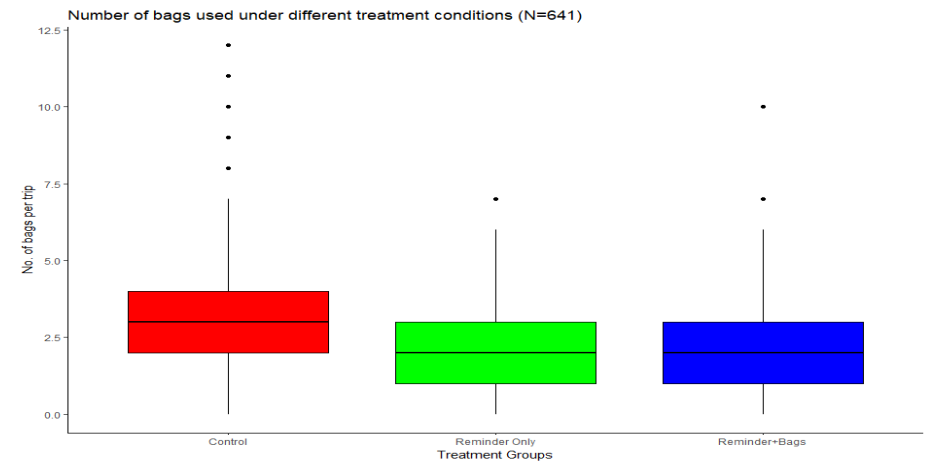


Figure 2. Distribution of plastic bag use among participants. The control group has the median of 3 bags per shopping trip while the treatments have 2 bags per trip. On average, participants in the control arm used 3.48 bags per trip while treatment one used 2.49 bags and treatment two used 2.21 bags per trip.

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