



## Plastic Bag Ban in Nepal: Enforcement and Effectiveness

To make a significant impact on the amount of plastic waste produced in Nepal, national and local government institutions should implement a complete ban of single-use plastic bags. The effectiveness of such an approach is shown in municipalities that have enforced complete ban in place. In these areas plastic bag use is significantly lower than it is in municipalities that have partial bans or no bans. Calculations show that introducing a complete plastic bag ban across Nepal could stop some 1,250 million single-use plastic bags from entering the country's environment every year. Given the negative impact that plastic bags have on the environment, a complete ban should become a key part of government environmental policy.

### Background

Single-use plastic bags are a major source of non-degradable solid waste across South Asia. In Nepal, the use of plastic bags has been increasing since the early 1990s and this has led to a variety of waste management and environmental pollution problems. At least ten have implemented a complete ban on single-use plastic bags, while more than six have implemented a partial ban (based on bag color and thickness). The effectiveness of these bans varies significantly across the country.

### Approach

To help policy makers respond more effectively to the challenge posed by plastic bags, Bishal Bharadwaj, from the Ministry of Federal Affairs and Local Development in Kathmandu, investigated how different types of plastic bag bans affect the use of plastic bags and reusable bags. In particular, he assessed the impact of people's expectations of receiving a fine on the behavior of both retailers and consumers.

For the study, four municipalities were randomly selected from those that have either introduced a 'partial' ban on plastic bags or do not have a ban in place. Six municipalities were selected from those that have a 'complete' ban in place. Over 3,000 retailers and consumers from the selected areas were interviewed. Retailers and consumers were asked about their use of bags. Information was also collected on the bans and the related fines that municipalities have put in place.

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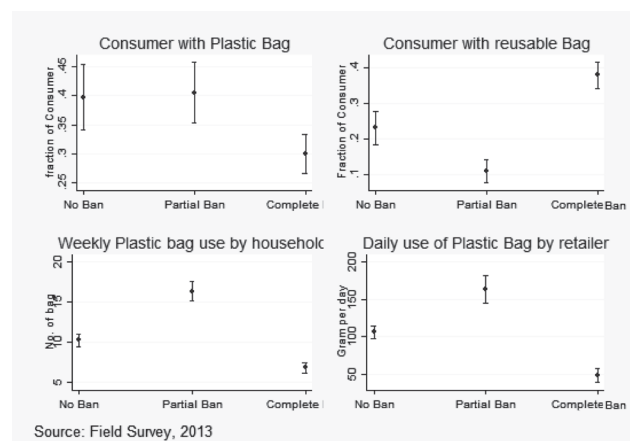
## Results

Even though 90% of respondents were aware of the harm that plastic bags can do, and despite the fact that around 84% of them were in favor of a plastic bag ban, only 14% of consumers were observed using reusable bags.

The average fine that consumers expected to receive under a partial ban was NRs. 7.4, which was less than a quarter of the expected fine under a complete ban. Consumers also perceived the probability of being caught under a partial ban as being 0.10. Under a complete ban the perceived probability was 0.30.

In 'complete ban' municipalities, the daily use of plastic bags by retailers is significantly lower (at about 12 grams per day per shop) than in any of the other ban scenarios, while the use of reusable bags by retailers is significantly higher (at about 76 grams per day per shop).

These findings indicate that a strictly enforced complete ban on plastic bag use will reduce the number of plastic bags used by consumers by around 95% and the weight of plastic bags used by retailers by almost 100%, as compared to a poorly enforced complete ban, a partial ban or no ban.



Source: Field Survey, 2013  
Figure 2: Bag Use Behavior for consumer and retailer

**Table 1: Summary statistics of subjective expectation of fine**

Variable	Partial <sup>1</sup> Ban		Complete Ban		Mean Difference
	mean	SD	mean	SD	
Consumer					
Subjective probability of being caught using plastic bag (NRs)	0.10	21.8	.31	0.312	-0.201***
Fine decided by municipality (NRs)	120	116.9	92.4	59.7	27.631***
Subjective expectation of fine (NRs) <sup>1</sup>	7.386	21.7	30.6	37	-2.346***
sample size	355		713		
retailer					
Subjective probability of being caught for using plastic bag	0.58	0.39	0.41	0.41	.18***
Fine decided by municipality	170	129	366	149	-196.017***
Individual subjective expectation of fine	121	120	149.5	160	-28.44***
sample size	288		564		

1. Partial ban covers ban on plastic bag less than 20 micron thick.

2. This is a measure for ban enforcement and is product of probability of being caught and fine.

## Recommendations

Partial bans do not make economic sense since they are ineffective at reducing the use of plastic bags. In comparison, complete bans curb plastic bag use effectively. As the costs associated with having a ban in place is around a million Nepalese Rupees for a medium city, a complete ban makes much better economic sense.

As the Nepal Plastic Bag Reduction and Regulation Directive recommends a partial ban, there is a need for the directive to be revised so that it advocates a complete ban of single use plastic bags. In addition, municipalities should use the study results to design plastic bag bans and to calculate effective fine levels.

Overall, implementing a well-run complete ban on single-use plastic bags in the 191 municipalities of Nepal will stop some 1,250 million bags from entering the country's environment every year. This strategy should therefore be pursued at both the national and local level.

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