# COVID-19 and household food waste in Colombia: the effects of the strict lockdown in 2020

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## Abstract

Household food waste represents one of the main challenges for sustainable development as it directly affects the economy of food consumers, the loss of natural resources, and generates additional greenhouse gas emissions. The COVID-19 pandemic caused one of the most serious economic crises in recent decades and could become the worst economic crisis that Latin America has had in its history. The objective of this study is to analyse changes in food waste behaviour during the COVID-19 lockdown in Colombia, applying the Theory of Planned Behaviour (TPB). For this purpose, we conducted a virtual survey with 581 Colombian food consumers from the four major cities (Bogotá, Medellín, Cali, and Barranquilla), which examined the influence of intentions to not waste food, subjective norms, some situational predictors, questions related to the COVID-19 pandemic, and the control of perceived behaviour on food waste. The results suggest that the TPB can predict the intention to not waste food and, through it, the actual household food waste behaviour, considering the lockdown in Colombia as an external shock. We observe that regarding the intention to not waste food, the most relevant variables are attitudes, subjective norms, control of the perceived behaviour, and concerns regarding the COVID-19 pandemic. These variables increase the probability on average by a 0.8 Odds Ratio that the intention not to waste food increases, too. Regarding food waste behaviour, whether it is considered ordinal or nominal, we see that the most relevant variables are intention, financial attitudes, and control of perceived behaviour, doubling the probability that food waste behaviour will improve. Although these personal considerations about household food waste are relevant predictors, the differential factor between the willingness to not to waste food and effectively not doing it lies in the economic conditions of the households, highlighting the need for strategies aimed at reducing household food waste that consider the different existing income and food expenditure levels, and, above all, reductions caused by the pandemic. Additionally, fear and concern about COVID-19 are also significant predictors, highlighting the need of accurate communication strategies regarding the pandemic and its impacts on society.

**Keywords:** Consumer behaviour, COVID-19, food waste, logistic regression, pandemic, random forest

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