



Eco-inefficiency as an indicator of food wastage cost

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Abstract

In food services, several types of losses can occur related to the manipulation of ingredients, dishes preparation, among others. This food waste can impact the population in several aspects, mainly the environmental, social, and economic ones. In this sense, this study aimed to propose a procedure to assess the cost of the economic, environmental, and social impact of waste, with the creation of the eco-inefficiency term (EI_y) applicable to food services. There were three stages in this research: (i) definition of aspects involved in food waste on food services; (ii) elaboration of the formula to calculate eco-inefficiency; (iii) Pilot study to validate the eco-inefficiency formula. The application of those indicators was tested in a pilot study. We considered some measures to understand the environmental impact: water footprint (L/Kg); food production waste (%Kg); the amount of rest-intake (%Kg); the amount of distribution leftover (%Kg). For economic impact measure, we used: gas consumption (m³); cleaning material; the cost of raw material in food waste (%); energy consumption (kWh/day); and, the salary of food handlers. Finally, the social impact was measured from the energy density of rest-intake (kcal/g) and energy density leftover (kcal/g). The performance of EI_y provided the chance to assess the main aspects of waste originated from meal production, showing to the foodservice how it can address efforts to solve the cause and mitigate the consequences. The use of EI_y will allow the elaboration of a performance ranking that will allow the development of actions to improve processes.



Biography:

Renata Puppín Zandonadi is graduated from the University of Brasília (2003), master's degree in Human Nutrition from the University of Brasília (2006) and a Ph.D. in Health Sciences from the University of Brasília (2009). I am currently an associate professor at the University of Brasília, with experience in the area of Nutrition/Dietitian, acting mainly on

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Speaker Publications:

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2. Matos, Raquel & Akutsu, Rita & Zandonadi, Renata & Rocha, Ada & Botelho, Raquel. (2020). Wellbeing at Work before and during the SARS-COV-2 Pandemic: A Brazilian Nationwide Study among Dietitians. *International Journal of Environmental Research and Public Health*. 17. 5541. 10.3390/ijerph17155541.
3. Mendes, Guilherme & Reis, Caio & Nakano, Eduardo & Costa, Teresa & Saunders, Bryan & Zandonadi, Renata. (2020). Translation and Validation of the Caffeine Expectancy Questionnaire in Brazil (CaffEQ-BR). *Nutrients*. 12. 2248. 10.3390/nu12082248.
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