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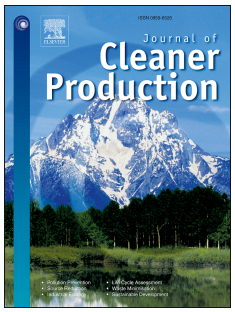

Measuring food waste in a dairy supply chain in Pakistan

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Note from the field paper for the Journal of Cleaner Production

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Abstract

A significant share of food grown is not ultimately eaten. According to the FAO, roughly one-third (by weight) of global food production is lost or wasted every year. Such level of inefficiency has serious sustainability implications. Yet today, organisations trying to quantify food waste meet several challenges, including varying definitions and quantification approaches creating lack of comparability. In this context, the United Nations Environment Programme and the World Resources Institute launched the Global Food Loss & Waste (FLW) Protocol in October 2013 in 2013 with the objective to develop a "FLW Standard" for accounting and reporting amounts of food waste across the food chain. Nestlé actively contributes to the development of the FLW Standard and conducted in 2014 a pilot project on food waste using its Pakistani dairy value chain as a case study. This case study is a first attempt to test, in a real-life setting, the main methodological principles of the FLW Protocol with a view to fuel ongoing discussions on the harmonization of food waste quantification and to contribute, with practice-based evidence, to scientific knowledge in this area. First, a literature review and interviews with experts of the Pakistani dairy sector were conducted. In addition, a one-week field trip took place in December 2014, in order to make first-hand observations throughout the supply chain. Data from Nestlé, farms, village milk centres and chilling centres, distributors, and retailers were collected. Although the overall amount of waste in a strict sense throughout the case study's supply chain is relatively limited (being ca. 1.4%)[1], it appeared that the "unmet production potential" due to the gap between a low production and what could reasonably be attained is of significant magnitude and actually much bigger than the waste in a strict sense. Therefore, the quantification exercise demonstrated the vital importance of a thorough description and analysis of the supply chain in all its dimensions. Indeed, it allowed to identify issues (i.e. "unmet production potential") that do not fall under the scope of food waste quantification in the sense of the FLW Protocol but that maybe of crucial importance at systemic level.

[1] It represents ca. 7,100 tonnes on the estimated amount of ca. 490,000 tonnes of milk produced at the beginning of the chain per year