The basis of a policy for minimizing and recycling food waste

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Abstract

The life cycle of basic food items was studied in order to discover the reasons for low landfill diversion rates of this material. Management failures at key points of the cycle were identified. Subjects of study were commercialization procedures of fruit and vegetables before consumption, consumption proper and after-consumption disposal procedures for food scraps in the Brazilian context. Before consumption, the rate of lost fruit and vegetables stood at 16 wt.% of the total quantity commercialized. During consumption by residents, the waste rate of food amounted to 9 wt.% of all collected household garbage. In the after-consumption sector of the cycle, biodegradables represented 72 wt.% of all household garbage collected by official means in a typical Brazilian town. The numbers produced clearly identified landfill diversion of biodegradables as a management problem. The authors experimented with original proactive administrative procedures designed to set landfill diversion targets. The occurrence of wasted fruit and vegetables at the wholesaler and retailer levels was identified. Remedies were proposed and tested to reduce this waste by at least 50%. In the after-consumption sector, the notion of divided garbage collection was developed and applied to test communities. It was shown that biodegradables may be collected separately from the rest of household waste. This resulted in a diversion potential of 100% for biodegradables alone and 77 wt.% for all collected household waste. The study produced a formal policy proposal to municipal administrations to avoid the need for tipping of biodegradable material.