

Major Constraints to Adoption of Improved Post-harvest Technologies among Smallholder Farmers in Developing Countries

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Introduction

Reducing post-harvest losses could be a sustainable solution to enhance food and income security of smallholder farmers in developing countries. While various research institutions have come up with quite a number of innovative post-harvest technologies for reducing post-harvest losses; the majority of them have not been extensively adopted by smallholder farmers. Despite this gap, the synthesized information about the major constraints of post-harvest technology is scarce. A systematic review has been conducted to fill this gap and show the implications of the findings for future post-harvest research. The developed search strategy retrieved 2201 studies, however after excluding duplicates, title, abstract and full article screening, a total of 41 documents were selected for this review. Most of the studies focused on post-harvest storage technologies (47%) followed by overall post-harvest management practices (25%), processing technologies (19%) and packaging technologies (3%). Much of the information was found on Cereals (58%), especially maize (44%). Geographically, Sub-Saharan Africa accounted for 79% of the reviewed interventions, while South Asia occupied only 21%. This review indicates the need for holistic assessment of adoption barriers and a wide range of improved post-harvest technologies beyond hermetic storage systems. More information about the operational efficiency and financial benefits of implemented technologies is also needed to drive widespread adoption. The findings of this review are intended to guide various post-harvest technologists and decision-makers for addressing the challenge of huge post-harvest losses*.

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