

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

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Abstract : Reducing post-harvest losses could be a sustainable solution to enhance the food and income security of smallholder farmers in developing countries. While various research institutions have come up with a number of innovative post-harvest technologies for reducing post-harvest losses, most 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. This study 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 identified. The major findings are: (i) there is an outstanding deficiency of systematic evidence of the effect of climate change, off-farm income and sources of post-harvest information on the adoption of improved post-harvest technologies; (ii) there is very limited information on adoption constraints pertaining to matters of policy, rules and regulations; (iii) there is very thin literature on behavioral constraints associated with limited adoption of improved post-harvest technologies; (iv) 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%); (v) geographically, Sub-Saharan Africa accounted for 79% of the reviewed interventions, while South Asia occupied only 21%. The findings of this review are intended to guide various post-harvest technologists and decision-makers in addressing the challenge of huge post-harvest losses.

Keywords : constraints, post-harvest loss, post-harvest technology , smallholder farmer

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