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| **Activity 1** | **Partnership for scaling postharvest technologies**  |
| **Lead Researcher** | Christopher Mutungi / |
| **Host farmer** | Mr. Bakari Khamis (hosting post-harvest demonstrations)/ |
| **Stakeholder attendance (category and anticipated number)** | Farmers (30), local extension staff (4); development partner staff (3); local administration (2); project researchers (2; IITA, WorldVeg) |
| **Activity Summary with references to documents** | Africa RISING partnership with Iles de Paix (IDP) seeks to deliver to farmers postharvest technology packages that improve the productivity social, human, and economic conditions of smallholder farmers in Karatu District (See partnership model). The overall goal is to contribute to sustainable family farming and responsible food systems. The partnership involves a research in development model for innovation delivery and scaling. This comprises two components: (i) introduction of the technologies in IDP’s action villages using a mother-baby demonstration approach whereby learners (farmers) train their peers in a cascading model backstopped by Africa RISING; and (ii) joint research activities by Africa RISING and IDP to (a) address specific technology challenges and (b) build the capacity of partner staff. At postharvest level, the objective is to contribute to food and nutrition security through improved practices for the handling, processing, and storage of the harvested produce. The aim is to transfer to farmers, processors, and other stakeholders validated technologies for improved postharvest management to reduce food losses, increase food safety, enhance nutrition, and raise produce quality by demonstrating improved harvesting, handling, processing, and storage techniques for maize and legumes.This activity is informed by research findings from Africa RISING action sites (see references), but continues to generate more data to refine the technologies further, within the scaling space. Use of Grainpro™ collapsible dryer envelopes by farmers cut down the drying period for grain by 28%; reduced losses by about 32 kg/ton and reduced quantity of impurities and moldy grain by 30% and 42%, respectively. Hermetic storage using PICs bags reduced grain loss by more than 85%. Motorised threshers improved labour efficiency by 88% and reduced cost of labour by 77%. To date, improved postharvest technologies have been demonstrated to 1400 farmers (in Karatu district) and further scaling is being achieved under the stewardship of village-based postharvest committees and service providers. **References****Peer reviewed publications**1. Abass, A. B., Ndunguru, G., Mamiro, P., Alenkhe, B., Mlingi, N., Bekunda, M., 2014. Post-harvest food losses in a maize-based farming system of semi-arid savannah area of Tanzania. J. Stored Prod. Res. 57, 49-57. <https://doi.org/10.1016/j.jspr.2013.12.004>
2. Abass, A. B., Fischler, M., Schneider, K, Daudi, S., Gaspar, A., Rüst, J, Kabula, E., Ndunguru, G., Madulu, D, Msola, D., 2018. On-farm comparison of different postharvest storage technologies in a maize farming system of Tanzania Central Corridor. J. Stored Prod. Res. 77, 55-65. <https://doi.org/10.1016/j.jspr.2018.03.002>
3. Kotu, B.H., Abass, A.B., Hoeschle-Zeledon,I., Mbwambo, H. and Bekunda, M. 2019. Exploring the profitability of improved storage technologies and their potential impacts on food security and income of smallholder farm households in Tanzania. Journal of Stored Products Research 82, 98-109. <https://doi.org/10.1016/j.jspr.2019.04.003>
4. Mutungi C., Muthoni F., Bekunda M., Gaspar A., Kabula E., Abass A. (2019) Physical quality of maize grain harvested and stored by smallholder farmers in the Northern highlands of Tanzania: Effects of harvesting and pre-storage handling practices in two marginally contrasting agro-locations. Journal of Stored Products Research 84:101517.DOI:<https://doi.org/10.1016/j.jspr.2019.101517.>

**For wider audience**1. Kotu, B., Abass, A., Gaspar, A., Fischer, G., Mutungi, C., Hoeschle-Zeledon, I. and Bekunda, M. 2019. Calling for mechanization: Farmers’ willingness to pay for small-scale maize shelling machines in Tanzania. <https://cgspace.cgiar.org/handle/10568/105610>
2. Mutungi, C., Kotu, B. and Abass, A. 2018. Improved technologies for mitigating post-harvest food loss. <https://cgspace.cgiar.org/handle/10568/100111>
3. Kizito, F., Kiao, P., Sabula, L., Sseguya, H., Baijukya, F., Mutungi, C. and Masigo, J. 2019. ICT messaging as a promising technology delivery mechanism for smallholder resilience. <https://cgspace.cgiar.org/handle/10568/105527>
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5. Kotu, B., Fischer, G., Muthoni, F., Abass, A., Hoeschle-Zeledon, I. and Bekunda, M. 2018. Exploring farmers’ willingness to pay for small scale maize shelling machines in Tanzania. <https://cgspace.cgiar.org/handle/10568/99536>
6. Mutungi, C., Gasper, A., Bekunda, M. and Abass, A. 2019. Implementing community-based nutrition intervention through farmer-to-farmer technology delivery. Poster prepared for the IITA Board of Trustees Annual Spring Meeting, Arusha, Tanzania, 6-10 May 2019. Ibadan, Nigeria: IITA. <https://cgspace.cgiar.org/handle/10568/105831>

**Partnership model** Taking technologies to scale: Africa RISING’s unique partnership with Iles de Paix, Tanzania **Extension Bulletins**1. Improved storage in hermetic bags
2. Improved storage in metal silo
3. Good postharvest practices
4. Postharvest Aflatoxin management

**Partnership reports**1. <https://cgspace.cgiar.org/handle/10568/105667>
2. <https://cgspace.cgiar.org/handle/10568/105671>
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