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From knowledge to action: Quantifying the knowledge–action gap in smallholder extension systems in Malawi

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Abstract

Agricultural extension systems (AES) are conventionally evaluated on the basis of knowledge dissemination, implicitly assuming that information leads to adoption. However, persistent discrepancies between awareness and sustained practice suggest a more fundamental problem: knowledge often fails to translate into action. This study advances a data-driven reconceptualisation of extension effectiveness by operationalising the Knowledge–Action Gap (KAG) as a measurable construct within smallholder farming systems in Malawi.

Building on the integration of the Knowledge–Action Gap framework with the Sustainable Livelihood Framework (SLF), the research conceptualises extension systems as knowledge translation systems, in which information is filtered through asset constraints, institutional arrangements, and socio-economic condition. A mixed-methods design is employed, beginning with a pilot study (n=20) in Ntchisi District using a digitally administered instrument (KoboToolbox). The tool generates two composite indices: a Knowledge Score (K-Score) and an Actionability Score (A-Score), enabling quantitative assessment of the transition from knowledge acquisition to sustained practice.

Study findings reveal a systematic divergence between knowledge and action. While farmers demonstrate relatively high knowledge levels (0.74), actionability remains lower (0.66), with feasibility emerging as the dominant constraint (0.39). This indicates the presence of a ‘feasibility trap,’ where knowledge is available but not implementable under prevailing resource conditions. Further disaggregation shows that cooperative membership enhances perceived credibility and trust, yet does not eliminate structural barriers. Female-headed households exhibit significantly lower actionability despite comparable knowledge levels, reflecting gendered inequalities in access to productive assets.

These findings challenge linear models of extension and demonstrate that knowledge alone is insufficient to drive behavioural change. The study contributes methodologically by introducing a scalable diagnostic tool for evaluating knowledge systems and identifying translation bottlenecks. It argues for a shift from information delivery to data-informed, asset-sensitive extension design, with implications for improving resilience and inclusivity in line with Sustainable Development Goals (SDGs) 1, 2, and 13.

Keywords: A-Score: Actionability score, K-Score (Knowledge Score), kAG: Knowledge Action Gap, SLF: Sustainable Livelihood Framework