



## Editorial

### Fostering Rural Transformation in Africa through research generated solutions

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#### ABSTRACT

Research is fundamental for generating technical innovations, practices and information to guide planning and for lesson learning. This Issue of the African Journal of Rural Development, Volume 10 (2), presents nine research papers covering aspects on multistakeholder engagement for technology uptake, use of AI generated solutions for plant disease management, status of post-harvest handling in rural areas of Uganda, enhancing agricultural productivity through greenhouse farming, promoting growing of underutilized legumes for enhancing food and nutrition security and management of urban waste. The papers cover important issues that need attention for improving agricultural productivity and wellbeing amongst rural and urban dwellers and of the need to develop circular economies. AFJRD calls for increased investment to support building Africa's science capacity to generate solutions for improving productivity and sustainable agricultural practices for strengthening agrifood systems. In these endeavors, attention need to be placed on multi-actor partnerships in addressing research issues and emerging opportunities.

**Keywords:** Africa, Aflatoxins, AI solutions, groundnut rosette disease, multi-actor partnerships, research for development, underutilized legumes

#### RESUME

La recherche est fondamentale a la generation d'innovations technologique, de pratiques et d'informations qui oriente la planification et nourrissent la capitalisation des enseignements. Ce numéro de l'African Journal of Rural Development (AFJRD), volume 10 (2), présente neuf articles de recherche portant sur l'engagement multipartite en vue de l'adoption des technologies ; l'utilisation de solutions générées par l'IA pour la gestion des maladies des plantes ; l'état de la gestion post-récolte dans les zones rurales de l'Ouganda ; l'amélioration de la productivité agricole grâce à la culture sous serre ; la promotion de la culture de légumineuses sous-utilisées pour renforcer la sécurité alimentaire et nutritionnelle ; et la gestion des déchets urbains. Ces articles abordent des questions déterminantes pour l'amélioration de la productivité agricole et du bien-être des populations rurales et urbaines, tout en soulignant la nécessité de développer des économies circulaires. L'AFJRD appelle à un accroissement des investissements afin de renforcer les capacités scientifiques de l'Afrique à générer des solutions améliorant la productivité et la durabilité des pratiques agricoles en vue de consolider les systèmes agroalimentaires. Dans ces efforts, une attention particulière doit être portée aux partenariats multi-acteurs dans le traitement des questions de recherche et des opportunités émergentes.

**Mots clés :** Afrique, aflatoxins, solutions IA, rosette de l'arachide, partenariats multi-acteurs , recherche pour le développement , légumineuses sous-utilisées.

#### INTRODUCTION

Research as a fulcrum for innovation and development has been key in transforming societies in terms of livelihood improvements and

technology advancement, Building science capacity for tackling development issues has for example been key in fostering the Green revolution in India, Mexico, Latin America and globally. However, experience has shown that

engaging diverse actors in such processes hasten uptake of improved practices. In this Issue of AFRD Vol 10 (2) we present three papers that highlights roles of multi-actor platforms in technology uptake. [Kpoviessi et al. \(2025\)](#) describes various approaches of multi-actor platforms that have been employed in Africa to test and promote uptake of agricultural technologies with remarkable success such as in the case of strengthening baobab value chains in Benin, and cassava value chains in Uganda. Currently the use of multi-actor platforms is being used to strengthen agricultural value chains in Rwanda ([Kpoviessi et al. , 2025](#)), to improve uptake of improved maize technologies in DR Congo ([Bacigale et al., 2025](#)) and for strengthening pineapple value chains in Uganda ([Magala et al., 2025](#)). Related efforts are documented elsewhere, for example by [Mapiye and Dzama \(2024\)](#).

Two papers highlight potential of use of using AI technologies for disease management in groundnuts ([Ssenkooto et al., 2026](#)) and for detection of aflatoxin contamination also in groundnuts ([Tamale et al., 2025](#)). There are today several AI led research efforts and practical application and some of these have been documented by [Balaji et al. \(2023\)](#) and [Pai et al. \(2024\)](#). Two pares discuss issue of improving and diversification of crops through greenhouse farming ([Rahiel et al., 2025a](#)) and growing indigenous legume crops ([Rahiel et al., 2025b](#)). These are important practices for enhancing food and nutrition security of households in both urban and rural areas and research and policy support is needed to expand both practices.

The last two papers in this Issue address the key challenge related to post-harvest handing ([Apil et al., 2025](#)) and management of municipal food waste on food security ([Iriso et al., 2025](#)). Indeed as elucidated by [Apil et al. \(2025\)](#) and [Abelti and Teka \(2024\)](#) Postharvest losses remain a key challenge across Africa reducing available food and causing immense financial losses. This is a key area for research and policy intervention. At the same time there is very high food waste in

urban areas that could be turned into useful by-products such as through processing into useful products under the so-called circular economies. This issue is also highlighted by [Antonine et al. \(2024\)](#) and requires urgent policy intervention.

African Journal of Rural Development (AFJRD) invites for other papers on the above and other research areas.

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