

PhD Topic 4:

Environmental, socio-economic and agronomic traits of cassava-based farming systems in Kivu (eastern DR Congo)

In the framework of CIALCA and the Sustainable Development Goals it seeks to contribute to, a critical question for agricultural investments and development initiatives is: 'How to optimize for multiple objectives i.e. productivity, income, resilience, nutrition, and ecosystem services in agri-food systems?'

The successful PhD candidate will first carry out a diagnostic survey to identify and hierarchize the limiting factors to cassava productivity in the Kivu area (Eastern DRC). This region is characterized by contrasting soil and climate conditions as well as different cropping systems, and distinct socioeconomic traits. Secondly, he will focus on the main limiting factors., investigate the soil constraints, and explore (1) different types of stakeholder groups and their objectives (e.g. farmers, private sector, policymakers), (2) different types of livelihood objectives (e.g. optimizing economic, environmental and social objectives), (3) different levels (e.g. farm, community, landscape levels), and (4) different timelines (e.g. short-, medium-, long-term impacts). Merging theory and practice, the PhD will have a strong stakeholder- and field-based focus, and conduct his study in the context of agri-food systems that are becoming more commercially oriented.

Starting research questions include:

- Which are the limiting factors in the studied area and how do they hierarchize?
- Which trade-offs between economic, environmental and social objectives are observed for different types of farmers in cassava-based systems?
- How can improved agronomic and farm management practices minimize trade-offs, and optimize synergies across different (i) groups of farmers, (ii) livelihood objectives, (iii) levels, and (iv) timelines?
- How does land tenure affect long- and short-term land management (e.g. how much are farmers willing to invest if they do not own land)?

Institutional context and supervision

- The PhD student will be enrolled in the PhD program of the Université catholique de Louvain (UCL) in Belgium on a sandwich PhD scholarship. The total duration of the PhD is 4 years, of which 18 to 24 months in total will be spent in Belgium;
- CIALCA provides so-called 'sandwich' PhD scholarship. The 'sandwich' modality implies that PhD candidates receive a stipend when in Belgium, and that their Congolese academic or research institute provides salary when the PhD candidate is conducting fieldwork in their respective country. The PhD scholarship covers all operational costs related to the implementation of the research.
- Professor Bruno Delvaux from UCL and Professor Thomas Dogot (ULiège) will serve as promoter and co-promoter;

- The project is part of the CIALCA consortium and network and will co-supervised by researchers from the CGIAR centres IITA and Bioversity International, as well as with national research and development partners.

Who is our ideal candidate?

Required for this position:

- Enthusiasm for research in general and for agriculture and environment in particular;
- A MSc Degree or equivalent in agriculture, environmental sciences, agricultural engineering, or related;
- Research and analytical skills that provide a starting point for completing the above-described PhD project;
- Having previously completed at least one individual research project (e.g. a MSc thesis);
- Proficiency in English and good understanding and communication in French;
- Good verbal and written communication and collaborative skills;
- Good skills on scientific paper writing;
- Be employed by national agricultural research institution or local universities in DR Congo;
- Have Congolese nationality.

Desirable for this position:

- Experience with public or private sector development initiatives.

Application procedure:

- Applicants are to submit a concise letter of motivation, a detailed CV, the names of at least 3 relevant referees, and copies of BSc and MSc diplomas and transcripts indicating all courses and obtained degrees;
- Applications are to be submitted to Prof Bruno Delvaux (bruno.delvaux@uclouvain.be) and Dr Bernard Vanlauwe (b.vanlauwe@cgiar.org) before 15 August 2018, midnight (Brussels time);
- Only short-listed candidates will be notified;
- Short-listed candidates are subject to an interview and written assessment.