PhD position in Social Science and Impact Assessment Unit

A three-year PhD position on ‘Assessment of livelihood, environmental and gender impacts of Fall Armyworm along the maize value chain in Eastern Africa’ is available in icipe’s Social Science and Impact Assessment Unit.

Background:
Maize cultivation regions in eastern Africa are extensively affected by Fall Armyworm (FAW) incidence. A large proportion of maize growers are women who account for more than 50% of the agricultural workforce in eastern Africa who are particularly vulnerable to biotic stresses such as FAW. Following the detection and widespread of FAW in Africa, it is estimated that more than 316,262 ha of maize across the target countries was completely ruined by FAW infestation in 2017 (FAO GIEWS, 2017). This has necessitated collaboration among governments, maize growers, the private sector, regional and international organizations and other stakeholders in eastern Africa to develop a sustainable strategy for management of the FAW, as it threatens food security in the region. The immediate action plan to the FAW menace is the use of synthetic pesticides, which are not only expensive to most of resource-constrained rural smallholders, but also pose enduring negative health and environmental impacts. Heavy application of chemicals may consequently lead to resistance development, causing farmers to apply increasing doses of the hazardous chemicals, with high-level pesticide residues and contaminants, that negatively impact the quality and safety of maize and maize products threatening food safety and security among the cereal-dependence population in eastern Africa. Besides, broad-scale application of synthetic chemicals to control FAW may contaminate waterways and land, hence impacting negatively on the ecosystems and ecosystem services. Hence, IPM strategies for FAW for effective and sustainable control, with minimal dependence on synthetic chemicals need to be developed to reduce maize losses and reduce human health and environmental risks. Through the R4D efforts, icipe aims at overcoming these constraints by developing eco-friendly management of the threat posed by FAW to ensure food and nutritional security.

The PhD project will assess the economic impacts of FAW damage in the target countries for the different social groups (men and women) for timely and informed policy and mitigation actions. The project will also assess the economic, environmental, nutrition, and human health impacts of pesticides various FAW management approaches. Extensive community and household-level surveys will be conducted in the target study areas. Two-wave data will be collected i.e. before and after and with and without IPM intervention (analogously referred to treatment and control groups). The household-level data will be collected using a pre-tested semi-structured questionnaire, while checklists will be used to collect information through focus group discussions (FDGs). Information on farmers’ socio-economic characteristics, and demographic attributes, size of maize plots, type and severity of pests, type and use of pesticides, and other conventional practices used by farmers, yield per unit area, value of maize produced, consumed and sold, quantity maize damaged by FAW, labour, dietary diversity focusing on women, and income, as well as other contextual data, will be collected. An initial (baseline) survey will be undertaken on both study sites comprising the treatment and control areas to collect baseline information on the 2000 households on maize production. Upon completion of the baseline survey, farmers in both sites will be trained on how used the IPM management practices for FAW on their maize farms and provided with the various components of the technology. A follow-up survey targeting the same households will be done, in the last year of the project, to capture information on use and demand for the IPM-FAM technology. Qualitative (e.g. case study) and quantitative approaches to analyze the data. The baseline survey data will be utilized to address the first three objectives of this study. The panel structure of the data will be used to estimate the effect of the IPM-FAW on outcome variables of interest such productivity, farm productivity, household income, health and environment, and food security and nutrition.
Qualifications and skills

The ideal candidate will have

- Master of Science in Agricultural Economics Developmental economics, economics or related discipline.
- A national of Ethiopia or Uganda
- Demonstrated knowledge on impact and M&E of development interventions
- Strong experience in designing and programming survey instrument using electronic data collection system
- Experience working on development projects
- Experience with electronic data collection software such as CSPRO, survey-B and others
- Strong experience in implementing household survey and focus group discussions
- Knowledge in Econometrics related to adoption and impact analysis
- Strong knowledge in analytical softwares (STATA, SPSS and R)
- Published papers or paper presented at conferences

Further information

Applications will be received until Friday 25th April 2019.