Engagement vs Collaboration: A Sociological Distinction

Joyce Koranteng-Acquah

PHIL_OS Conference

April 28 2025, Munich

Fieldwork Timeline and Location

The Crops Research Institute (CRI)

Activity: 24 Interviews, participant observations & farm/field visits

Period: September 1,- December 15, 2023.

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The Food Research Institute (FRI)

Activity: 16 interviews, participant observation and stakeholder engagements

Period: January 9, - February 16, 2024

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The Science and Technology Policy Research Institute (STEPRI)

Activity: 6 interviews

Period: February 26,- March 7, 2024

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The Centre for Agriculture and Biosciences International (CABI)

Activity: 7 interviews

Period: March 12, 2024 & May 7, 2024.

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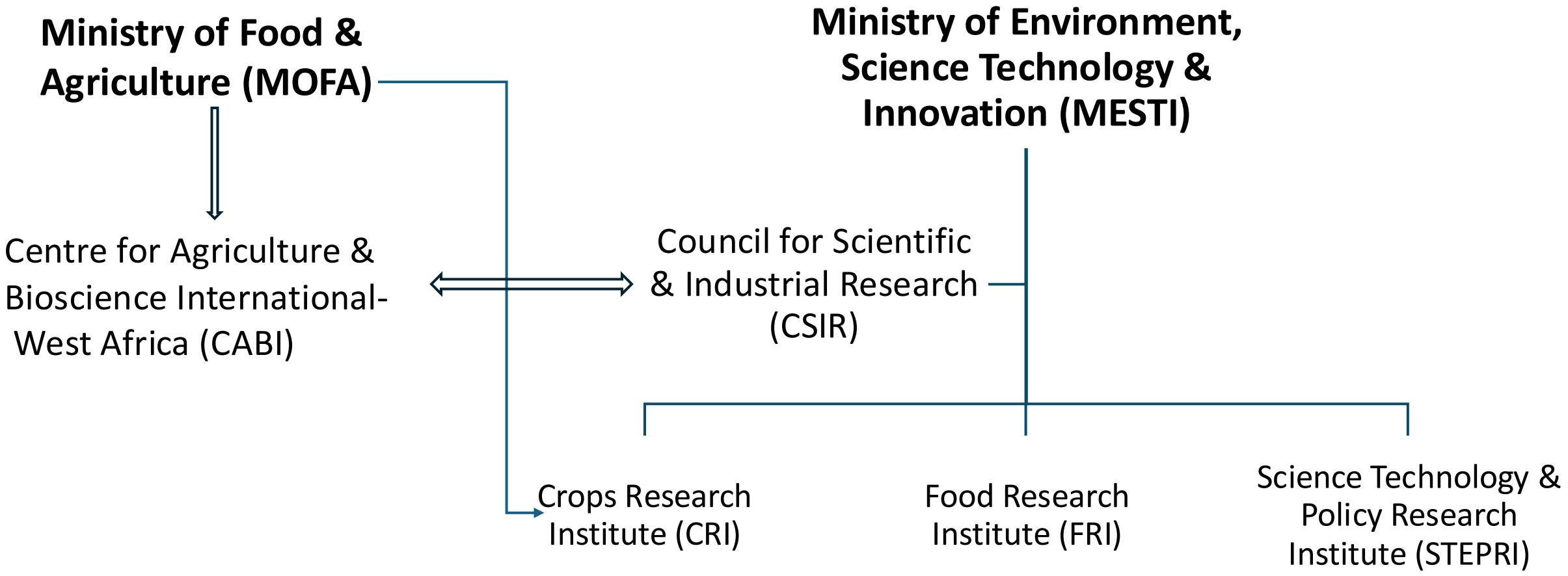
Institutional Landscape



Objectives

Reflect on key **sociological concepts** emerging from fieldwork.

Situate findings within broader PhD thesis discourse on science-policy dynamics.

Fieldwork To Theory: Boundary Work & Knowledge Co-Production

Institutions as Boundary Actors

- CRI, FRI, STEPRI, CABI mediate between science, policy, and practice (*Gieryn, 1983*).

Strategic Collaboration

- CRI collaborates with FRI to align breeding with processing for value chain integration; STEPRI lends policy credibility; donors influence project framing.

Ecologies of Participation

- Farmers, extension officers, and NGOS contribute, but **influence is uneven**.

Epistemic Hierarchies and Knowledge Flows

- Scientific and technical knowledge **dominates** policy translation; experiential knowledge is often instrumentalised or sidelined (*Jasanoff, 2004; Leach et al., 2005*).

Donor-Driven Metrics

- Global frameworks shape what counts as valuable.

THE CABI EXPERIENCE 1: Engagement with the Private Sector

"Strengthening the horticulture sector in Ghana to enhance exports to the EU" Project (2015 – 2021)

Co-funded by the Netherlands Facility for Sustainable Entrepreneurship and Food Security (FDOV)

Netherlands Enterprise Agency

Field trials – solution to pest management practices

Developed training materials and Scientific publications

Efficacy of promising insecticides and lures for the management of insect pests of quarantine importance on ridged gourd (*Luffa acutangula* L.)

K. Amouzou[1], K.O. Fening[1, 2*], W. Hevi[3], E. E. Forchibe[1] and M.K. Billah[4]

[1] *ARPPIS Sub-regional Centre for West Africa, University of Ghana, Legon, Accra, Ghana.*

[2] *Soil and Irrigation Research Centre, SIREC, University of Ghana.*

[3] *CABI West Africa Centre, 6 Agostino Neto Road, CSIR Campus, Accra, Ghana.*

[4] *Department of Animal Biology and Conservation Science, University of Ghana, Legon, Accra, Ghana*

*Corresponding Author: *kfening@ug.edu.gh*

Abstract

Insecticides play an important role in the management of insect pests on ridged gourd (*Luffa acutangula* L.) or turia. The sweet potato whitefly, *Bemisia tabaci* Gennadius (Hemiptera: Aleyrodidae), thrips, *Thrips* spp. Karny (Thysanoptera:Thripidae), and fruit flies, *Zeugodacus cucurbitae* (Coquillett) and *Bactrocera dorsalis* (Hendel) (Diptera:Tephritidae) are the commonly found insect pests on turia in Ghana. These insect pests have been intercepted in some vegetables including turia exported into the European Union. The current study evaluated the efficacy of promising insecticides and lures for the management of these pests of quarantine importance on turia. The study was undertaken at a vegetable production site at Torgorme in the Volta region of Ghana during the dry and rainy seasons of 2017 and 2018, respectively. The experiment was laid out in a Randomized Complete Block Design with five treatments replicated four times. The treatments included use of Eradicoat T GH® (Maltodextrin 282g/L) at 150 ml per 15L of water, Ecopel® (*Bacillus thuringiensis* 32000 IU/mg at 25g/15L of water, Aqueous Neem Kernel Extract (ANKE) (Azadirachtin) at 50g/L of water, and Viper® (Acetamiprid 16g/l + Indoxacarb 30g/l) at 40ml /15L of water, and untreated control plot. Fruit fly traps with different pheromones or lures (i.e., Methyl Eugenol, Cuelure, Terpinyl Acetate and Trimedlure) were set at the four corners of the field to monitor the different species of fruit flies. Yellow sticky traps were also set within treatment plots to monitor pest populations. Whitefly population was significantly different among the treatments for both cropping seasons, while fruit fly population was not significant for both seasons. There was a significant difference in thrips population for the rainy season, however, it was not significant in the dry season. In a descending order, Acetamiprid 16g/l + Indoxacarb 30g/l and Azadirachtin were the most effective insecticides in controlling these pests on turia. There is, therefore, the need to alternate these two insecticides for effective management of pests on turia.

Key words: Ridged gourd, turia, whiteflies, thrips , fruit flies, biopesticides, insect traps.

Introduction

Luffa acutangula L., generally known as ridged gourd or turia is a vegetable consumed widely in Asian countries. It belongs to the family Cucurbitaceae and has varied names depending on the community (Rathore et al., 2017) . In the tropics, vegetable production is severely constrained by many insect and mite pests. The sweet potato whitefly, *Bemisia tabaci* Gennadius, (Hemiptera: Aleyrodidae), the melon thrips, *Thrips palmi* Karny (Thysanoptera:Thripidae) and fruit flies (belonging to the genera *Zeugodacus*, *Dacus*, *Ceratitis*, and *Bactrocera*) are among the major insect pests of vegetables which are of quarantine importance (Fening et al., 2017). Growers rely heavily on synthetic insecticides to protect their vegetable crops . However, the misuse of these pesticides has adverse effect on the environment and human health (Srinivasan, 2009; Fening et al., 2013, 2014, 2017; Amoabeng et al., 2017; Forchibe et al., 2017). Farmers mostly use these synthetic pesticides in anticipation for higher gains (Gerken et al., 2001), but pests quickly develop resistance, rendering them ineffective. Ghana was struck by a ban on some vegetable crops (chillies, gourds and eggplants) in October 2015 because of the detection of high incidence of harmful organisms, mainly insect

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THE CABI EXPERIENCE 2:Engagement with the Public Sector

The Plantwise Program

Objective

- Help farmers lose less of what they grow to pest and diseases.

Implementation

- CABI does not run a parallel system
- Partner with institutions with the mandates for specific areas and subject matters
- Train frontline extension staff to diagnose and manage pests and diseases
- Develop and share decision support tools eg PMDGs Factsheets etc. with local experts and institutions
- Leverage digital tools and social media
- Mass extension approaches eg, Plant Health rallies, radio
- Lab based Diagnostic Support with national reference labs
- Development of Plantwise Online Management System (POMS)

Challenges with Partnerships/Collaboration

- Lack of resources limiting sustainability
- Priorities not aligning (Private extension and NGOs that vanish along the way)
- Need for champions to push your agenda or help advocate

Successes

- Capacity building of frontline extension. Ability of those trained to support farmers with up-to-date information
- Ability of trained staff to know where to got to look for information that supports their work
- Realtime diagnostic support
- National Database of Pest and Diseases jointly managed with partners

Conclusion

Engagement and collaboration aren’t just operational terms — they are **social practices**, shaped by how institutions **assert their identities**, **protect their mandates**, and **negotiate their authority** in a complex ecosystem.

Boundary work, while necessary to maintain clarity and credibility, often **reproduces hierarchies** and limits how flexible or adaptive institutions can be. Collaboration then becomes a strategic tool — a way to signal legitimacy and relevance, especially in environments where resources are scarce or trust is fragmented.

Co-production offer real potential to democratise — or rather, make more equitable — the way research agendas are shaped. But this requires confronting the **epistemic asymmetries** that often underpin institutional relationships. If participatory research can move beyond tokenism, then we must recognise whose voices are amplified, whose are diminished, and how knowledge systems interact.

References

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