Negotiating Knowledge and Policy *in Ghana's Agricultural Research*

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Fall Armyworm (FAW)- A Policy Crisis Unfolds

- Detected in Ghana (2016) → rapid crop devastation.
- Estimated US$177M maize losses.
- Threatened national food security and Planting for Food & Jobs (PFJ) initiative.
- Urgency ‘opened up’ policy space for institutional action.

👉 This wasn’t just a pest crisis—it became a national political issue.

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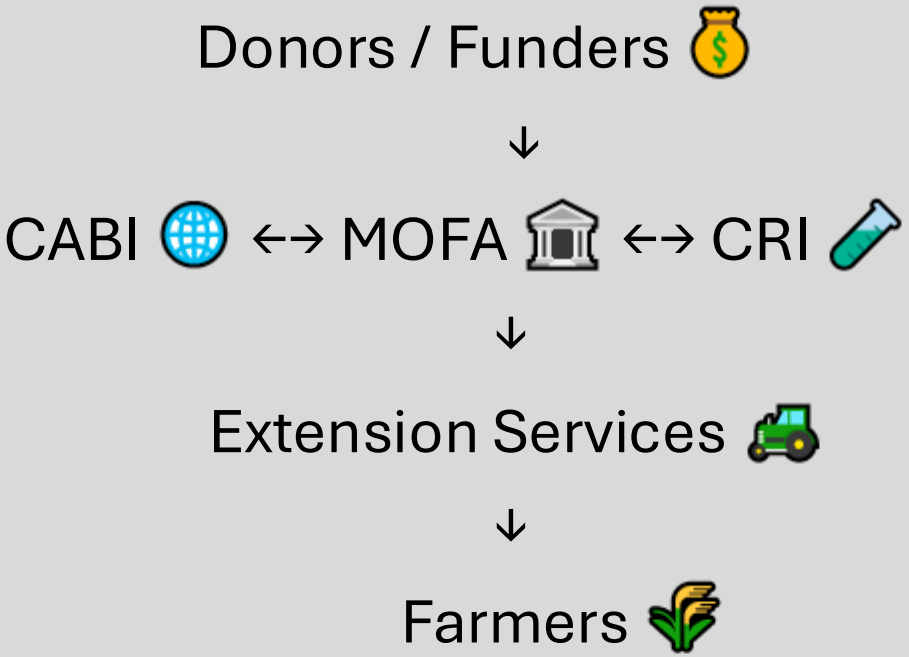
(CABI Study Brief; Goergen *et al.*, 2016; Rwomushana et al., 2018)

The Actors – And Why They Matter



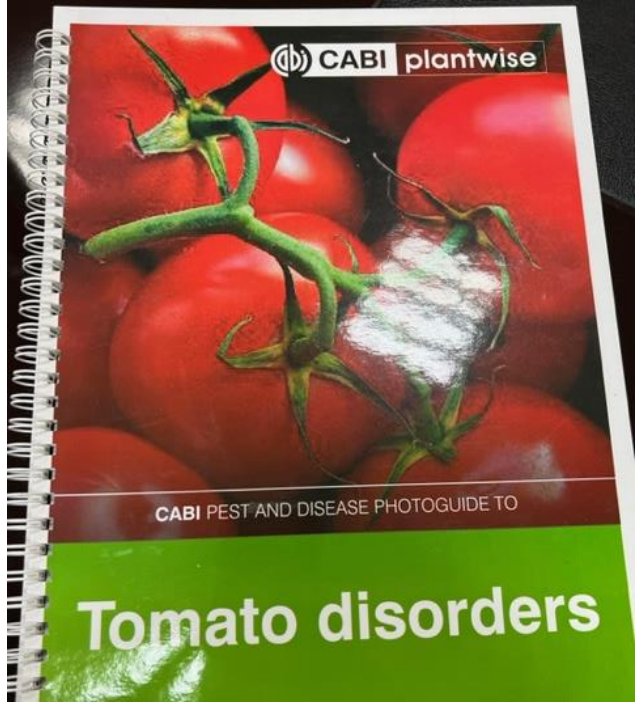
- Each actor brought different resources, legitimacy, and timelines.
- Influence wasn't only about expertise—it was about who could enrol others.
- Policy outcomes were shaped by who could align knowledge, tools, and urgency — a key insight that will unfold.

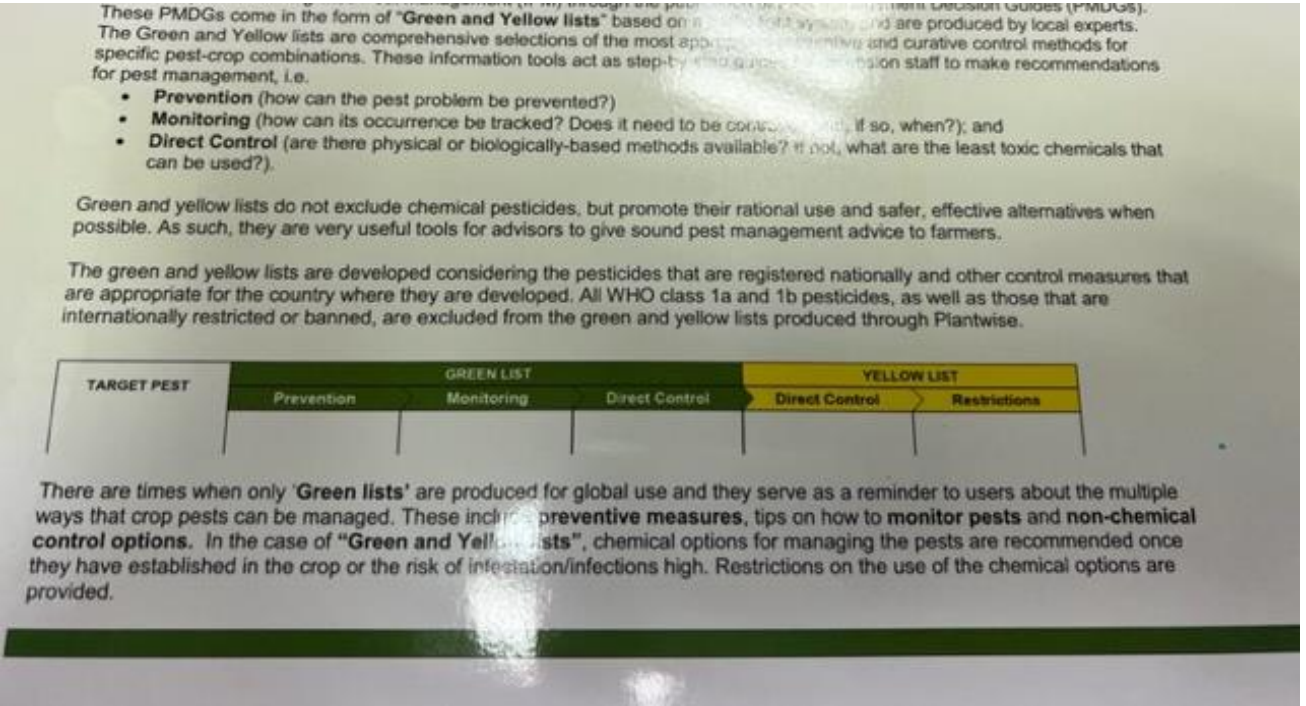
Scientific Knowledge Institution

The Crops Research Institute (CRI)

- Operates within a national mandate (under CSIR) to inform food security and innovation policy.
- Long-term focus on crop breeding and agronomic practices.
- Collaborates with farmers via PVS and field trials.
- Provides validated input to policy, but often lacks control over agenda—Relies on partnerships with MOFA for visibility in agricultural policy discourse.

Photo credit: Joyce (fieldwork)




These PMDGs come in the form of "**Green and Yellow lists**" based on
The Green and Yellow lists are comprehensive selections of the most app
specific pest-crop combinations. These information tools act as step-by
for pest management, i.e.

- **Prevention** (how can the pest problem be prevented?)
- **Monitoring** (how can its occurrence be tracked? Does it need to be con
- **Direct Control** (are there physical or biologically-based methods available?

Green and yellow lists do not exclude chemical pesticides, but promote their rational use and safer, effective alternatives when possible. As such, they are very useful tools for advisors to give sound pest management advice to farmers.

The green and yellow lists are developed considering the pesticides that are registered nationally and other control measures that are appropriate for the country where they are developed. All WHO class 1a and 1b pesticides, as well as those that are internationally restricted or banned, are excluded from the green and yellow lists produced through Plantwise.

TARGET PEST	GREEN LIST			YELLOW LIST	
	Prevention	Monitoring	Direct Control	Direct Control	Restrictions

There are times when only '**Green lists**' are produced for global use and they serve as a reminder to users about the multiple ways that crop pests can be managed. These incl preventive measures, tips on how to **monitor pests** and **non-chemical control options.** In the case of "**Green and Yel sts**", chemical options for managing the pests are recommended once they have established in the crop or the risk of infestation/infections high. Restrictions on the use of the chemical options are provided.

Knowledge Broker

CABI – Centre for Agriculture and Biosciences International-West Africa.

- International intergovernmental organisation—works across ministries, research, donors, and regional platforms.
- Synthesises science into tools (e.g., PMDG, Plantwise) for advisory services.
- High legitimacy through alignment with global expectations—mobilises donor funding quickly.

(Scoones & Thompson, 2011; Adenle et al., 2019).

Photo credit: Sabina Leonelli

What Should’ve Happened (institutional mandates)

	CRI-Scientific Crop Innovation	CABI-Pest Management Strategy
Framing	FAW as a biological challenge in crop systems	FAW as an invasive species threat
Primary Goal	Develop pest-resistant maize varieties for resilience	Control & eradication through immediate action
Main Tools	Field trial, varietal screening, participatory varietal selection (PVS), etc	Policy briefs, trainings, pest risk analysis tools, IPM, etc
Engagement Style	Scientific research, collaboration with farmers, extension officers, PPRSD.	Knowledge brokering & coordination with farmers, extension, researchers, donors, policymakers.
Temporal Horizon	Medium to long-term breeding solutions	Short to medium-term intervention
Policy Influence	Provide validated input to shape policy content.	High visibility, aligns with donor priorities

👉 ***Yet institutional influence didn’t follow this script.***

When Mandate Meets Power & Alignment

The response converged toward donor-aligned strategies.

- CABI led framing—established taskforce (2017) →IPM rollout (2018)→ National Invasive Species Strategy Action Plan (NISSAP-2020)—due to donor alignment & urgency framing.
- CRI expertise redirected—insecticide screening → farmer/extension training →IPM strategy.

 "Thank god we have some donors helping, but they are supporting aspects that are of interest to them. It's good business for people along the chain, but it's good we develop technologies we can own and be able to commercialise."

"Research into breeding maize plants which are resistant to pests will be a lasting solution". — *Former Director of CRI*.

 Reflects an inversion of influence: institutional reach + donor logic > local scientific mandate.

(CABI Study Brief ; Scoones & Thompson, 2011; Kumela et al., 2018; Adenle et al., 2019)

Networks, Institutions & Life of Knowledge

Knowledge gains power not just through merit—but by moving through networks (people, docs, formats), aligning interests & stabilising meaning.

- The "right" response to FAW didn't emerge simply from scientific consensus, but from who could assemble the right actors, artefacts & funding.
- CABI's strength lay in assembling persuasive configurations that travelled easily into policy spaces.

Legitimacy and influence stem from alignment with dominant institutional logics.

- CRI had the science but lacked the speed and policy language—legitimacy isn't just about expertise, but also about alignment.
- CABI could speak the language of urgency & present solutions in familiar formats, creating a smoother pathway into the policy arena.

👉 **Influence emerged not from who knew the most—but from who could gather the most aligned actors, formats, and momentum.**

(Latour, 2005; DiMaggio & Powell,1991)

Implications –Ghana & Beyond

Across Africa—Ethiopia, Kenya & Zambia—similar dynamics played out in response to FAW.

- Donor or international organisations shaped the storyline—local expertise was bypassed when it didn't align with pre-existing global templates or funding frameworks.
- Local research institutions supplied the data—but not the agenda.
- Moments of crisis become windows of influence, but the framing of the situation and the solution was set externally.

👉 The FAW case in Ghana shows how institutional legitimacy and donor alignment can override scientific leadership. But it also mirrors broader challenges: the need to reclaim epistemic agency, not just funding.

(Bateman et al., 2018; Kumela et al., 2018; Rwomushana et al. 2018)

Questions for Further Discussion

- How might national institutions like CRI gain not only the capacity to generate evidence but also the power to influence the direction of responses?
- What would it mean to centre epistemic justice in designing policy interventions?
- In what ways can donor relationships be restructured to support institutional autonomy rather than reinforce dependency?
- What kinds of infrastructures are necessary to sustain scientific influence in policy spaces, especially in the Global South?
- Do we need alternative metrics of research legitimacy—ones that value long-term, context-specific contributions over short-term alignment with global agendas?

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Thank You