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African conversations on gene drives for malaria control & elimination

17th Annual Meeting Vector Control Working Group

May 4th, 2022

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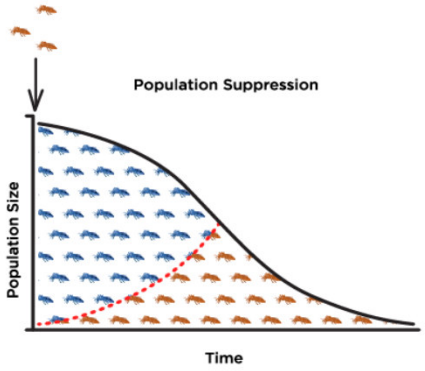
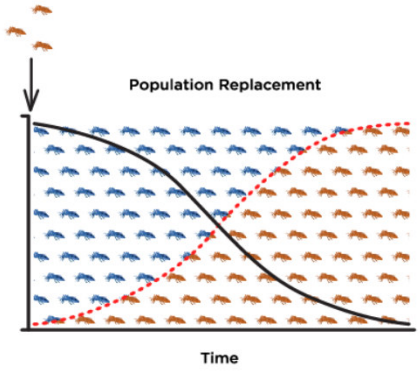
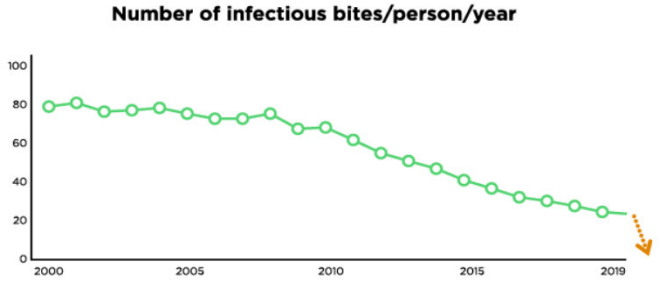
Gene drive technologies



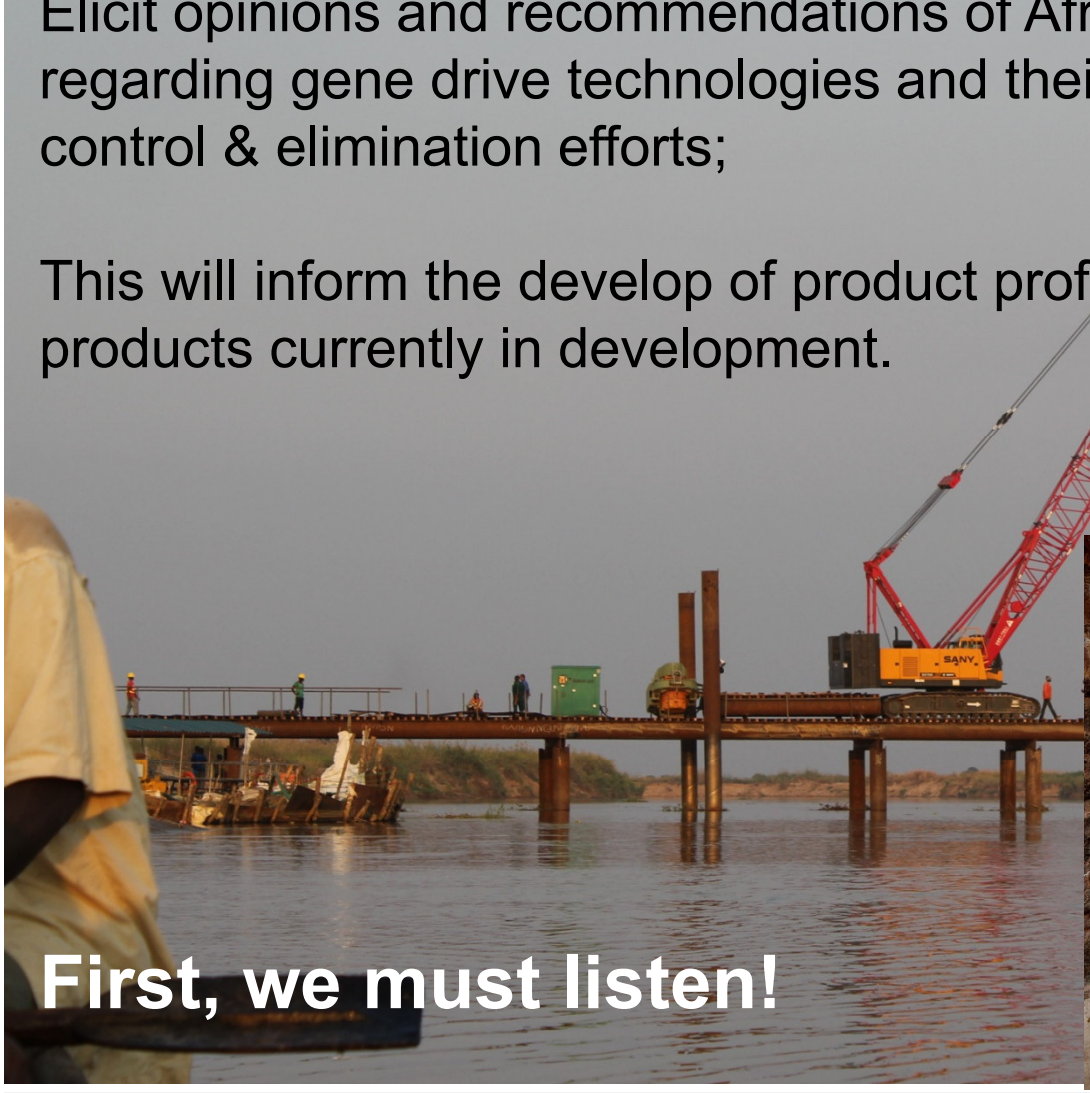




Primary objective

Elicit opinions and recommendations of African key stakeholders regarding gene drive technologies and their application to malaria control & elimination efforts;

This will inform the develop of product profiles of gene drive-mosquito products currently in development.



First, we must listen!

Key stakeholders

Step 1: Selection of countries and participants

Representation of malaria-situation in Africa

Step 2: Mixed methods approach:

Questionnaire & in-depth conversations to investigate baseline awareness and perceptions

Step 3: Bridge the knowledge gap

Culturally relevant instructive animations

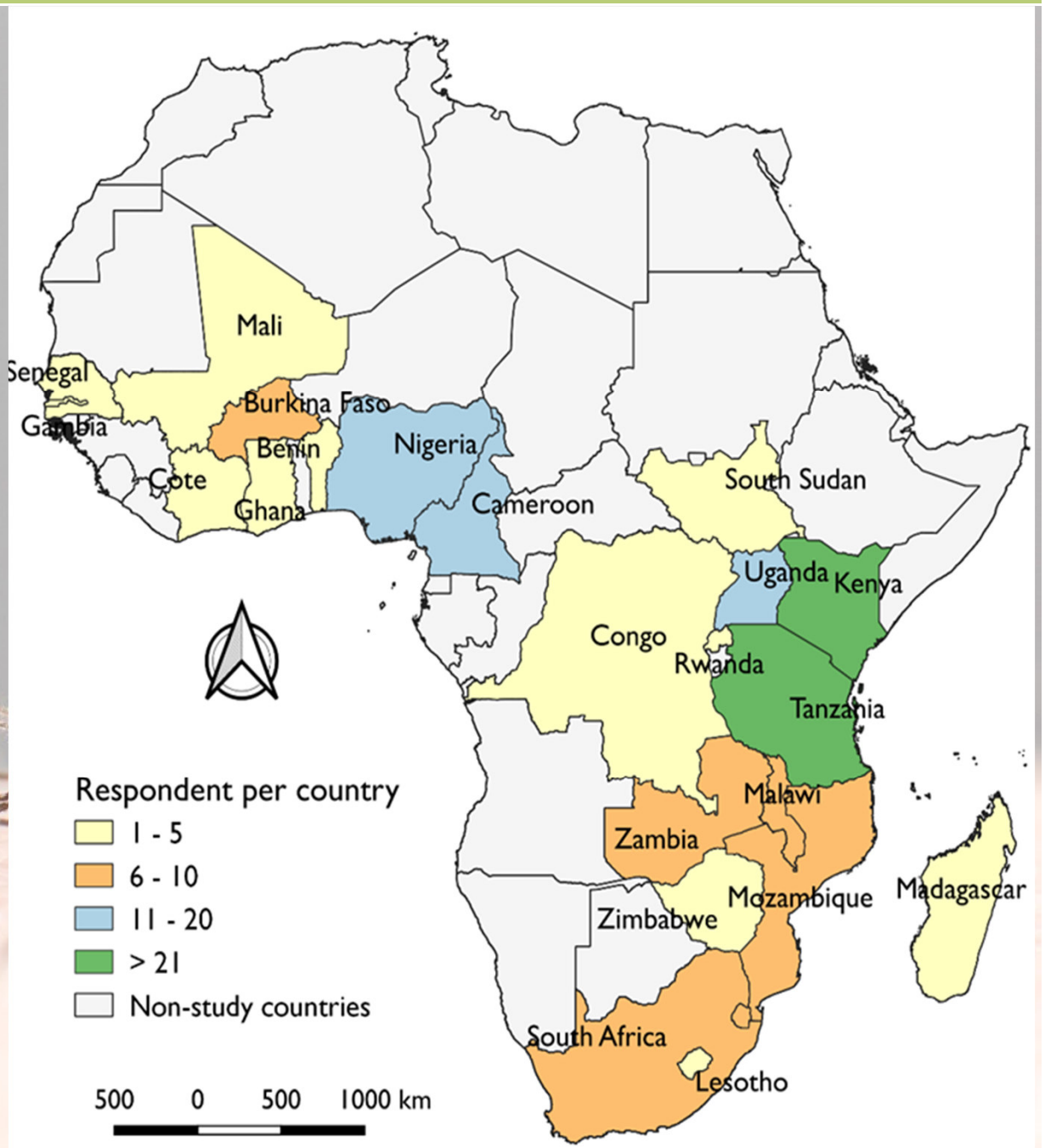
Step 4: Dissemination & monitoring of the educational materials

25 countries represented

367 people contacted

192 survey respondents

18 in-depth discussion sessions



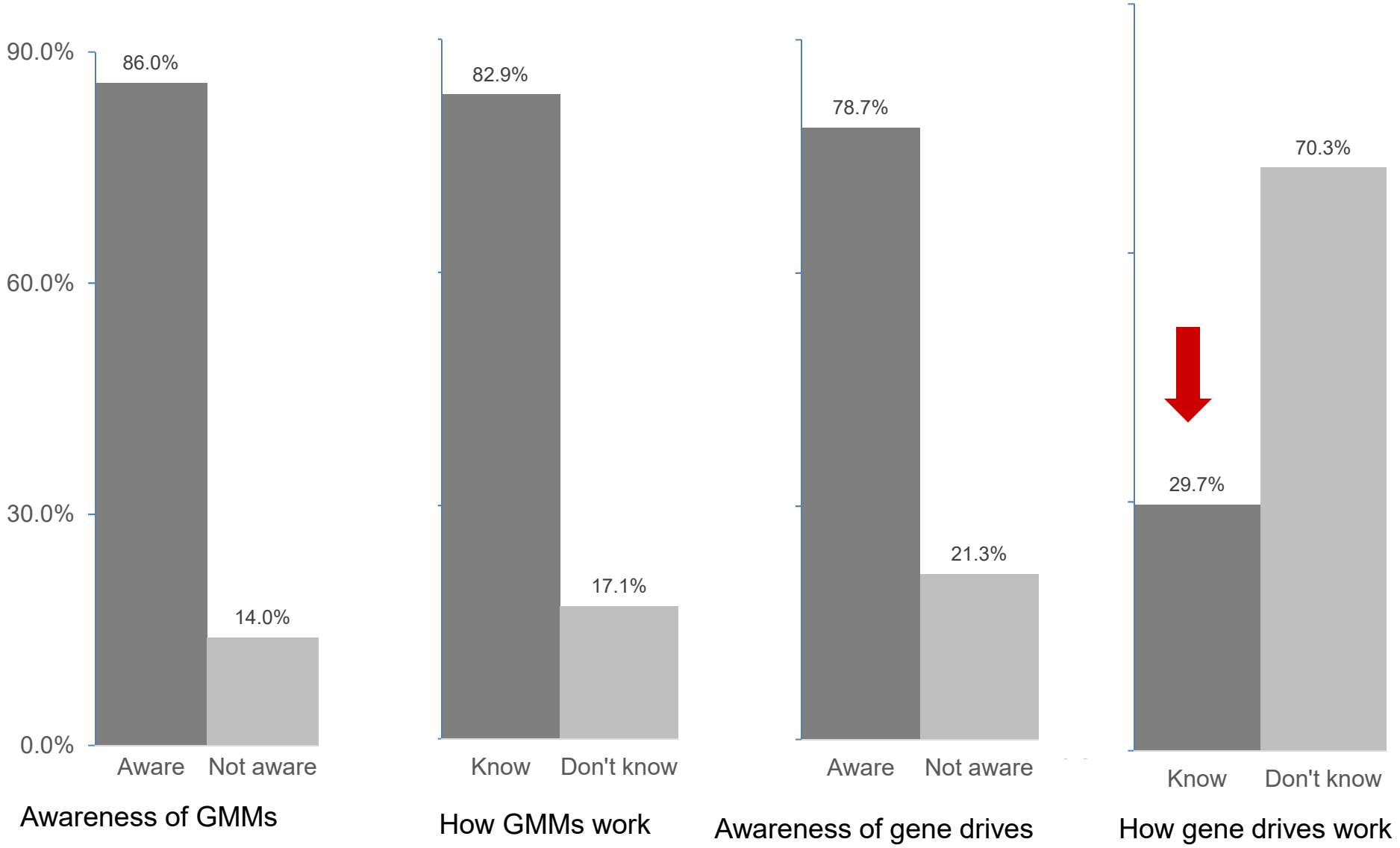
Stakeholder statistics

Stakeholder group	Academic institutions	Research institutions	Regulatory agencies	Government	Media groups
# Survey respondents	38	85	14	34	21
# discussion sessions	4	5	4	2	3

Stakeholder characteristics

Category	Variable	Proportion (%)
Sex	Male	113 (64.0%)
	Female	72 (36.0%)
Stakeholder group	Research institution	85 (44.3%)
	Academic institutions	38 (19,8%)
	Government	34 (17.7%)
	Media/advocacy	21 (10.9%)
	Regulatory agencies	14 (7.3%)
Age group	25 – 35	53 (27.6%)
	36 – 45	87 (45.3%)
	46 – 55	40 (20.8%)
	>56	12 (6.3%)
Education	PhD	102 (53.2%)
	Msc/MPH/MBA	57 (29.7%)
	BSc/BA	30 (15.6%)
	Diploma/certificate	2 (1.0%)
Field of work	Research	121 (63.0%)
	Health care	28 (14.6%)
	Education	25 (13.0%)
	Communication	16 (8.3%)
	Others	8 (4.2%)

Reported knowledge & awareness of gene drives (n = 192)



75.6% of the respondents deemed gene drives beneficial (n = 152)

Effective in malaria control

58.8%

Sustainable in the long run

35.5%

Affordable overall

35.5%

Safer for humans and environment

30.0%

65.3% of the respondents had concerns over gene drives (n = 152)

Inadequate local technical expertise

54.3%

Not affordable

35.5%

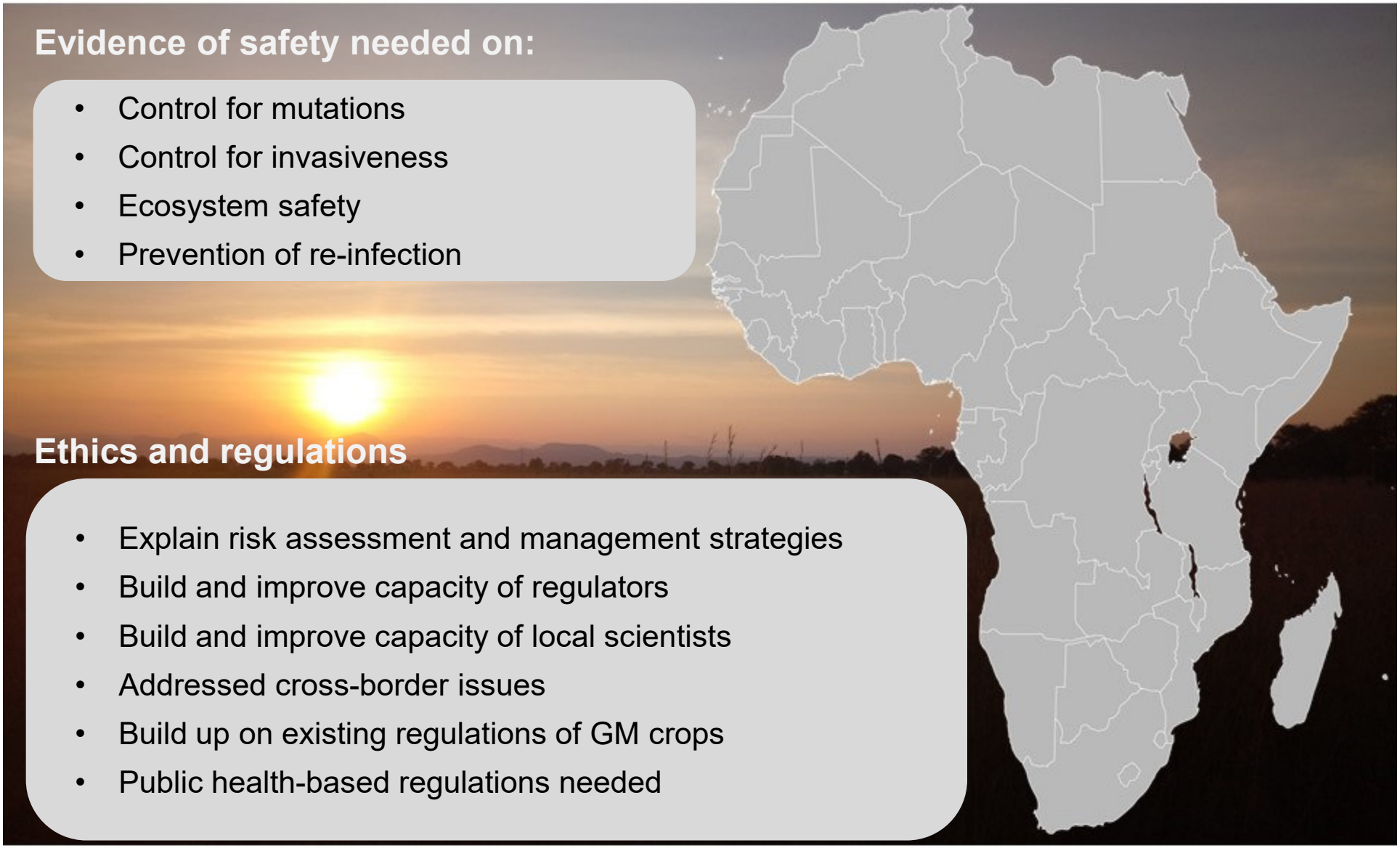
Safety

32.5%

Not accepted by communities

28.7%

Recommendations from stakeholders



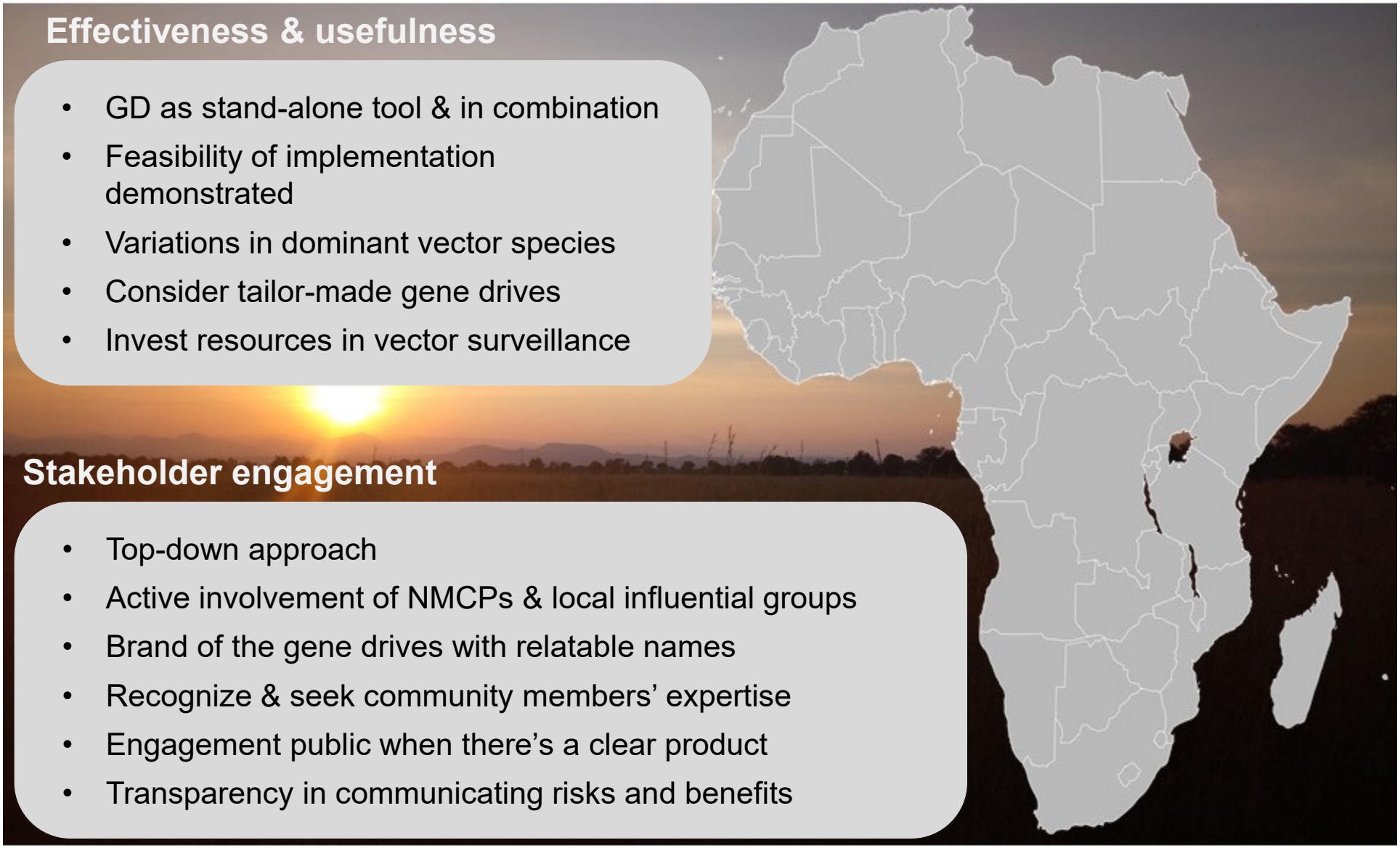
Evidence of safety needed on:

- Control for mutations
- Control for invasiveness
- Ecosystem safety
- Prevention of re-infection

Ethics and regulations

- Explain risk assessment and management strategies
- Build and improve capacity of regulators
- Build and improve capacity of local scientists
- Addressed cross-border issues
- Build up on existing regulations of GM crops
- Public health-based regulations needed

Recommendations from stakeholders



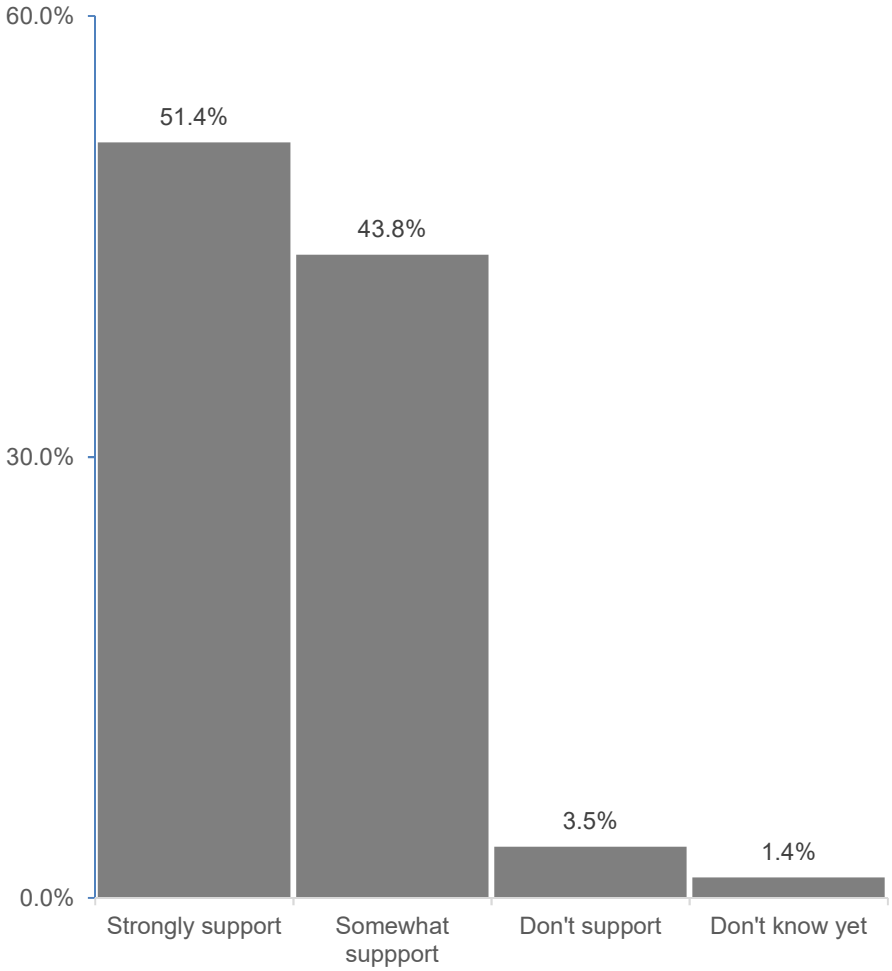
Effectiveness & usefulness

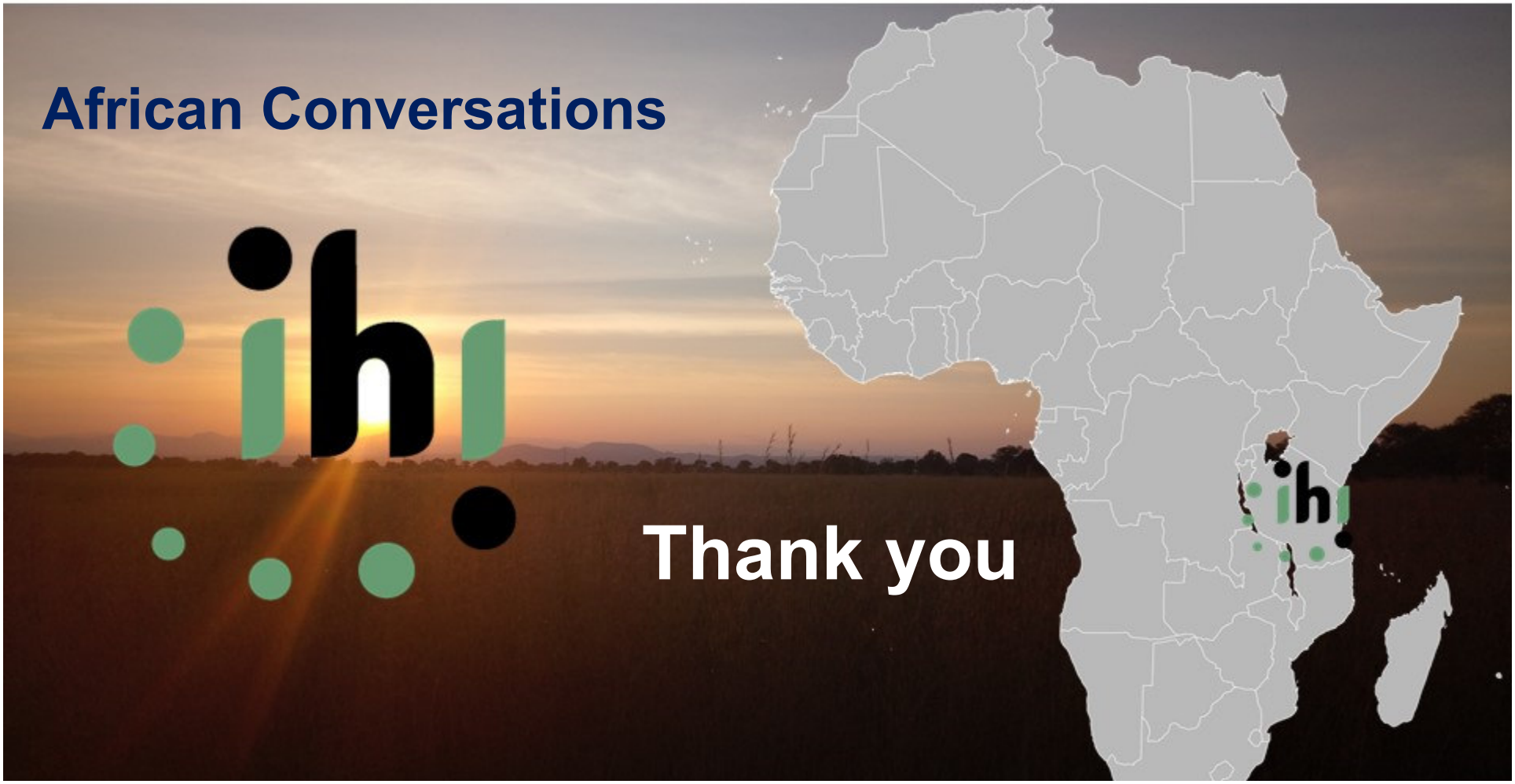
- GD as stand-alone tool & in combination
- Feasibility of implementation demonstrated
- Variations in dominant vector species
- Consider tailor-made gene drives
- Invest resources in vector surveillance

Stakeholder engagement

- Top-down approach
- Active involvement of NMCPs & local influential groups
- Brand of the gene drives with relatable names
- Recognize & seek community members' expertise
- Engagement public when there's a clear product
- Transparency in communicating risks and benefits

95.5% of the respondents support adaptation or scaling up of gene drive technologies in their settings (n=152)





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