EFFECTIVE FARMER COMMUNICATION:
A critical component of achieving IPM

Part 2: Communicating to farmers: different channels and modes of communication



27 July 2021

GrowAsia

ASEAN FAW ACTION PLAN
Supporting IPM Across Southeast Asia

Time	Agenda Item
10:00	Introduction
10:05	**Ariel BenYishay /Ahmed Mushfiq Mubarak**, Professor, Yale University **Communicating with Farmers through Social Networks**
10:20	Q & A Session
10:30	**Gelsey Bennett**, Digital Green **Connecting with farmers through the use of video and multimedia**
10:40	Q & A Session
10:50	**Siddharth Surana**, AgriCentral, Olam **Digital Applications: The AgriCentral Experience**
11:05	Q & A Session
11:15	**Rogelio P. Matalang,** Philippine Federation of Rural Broadcasters **Connecting with farmers through radio**
11:25	Q & A Session
11:35	**Dannie Romney**, CABI **Hybrid approaches to farmer communication**
11:45	Q & A Session
11:55	**Summary**
12:00	Close

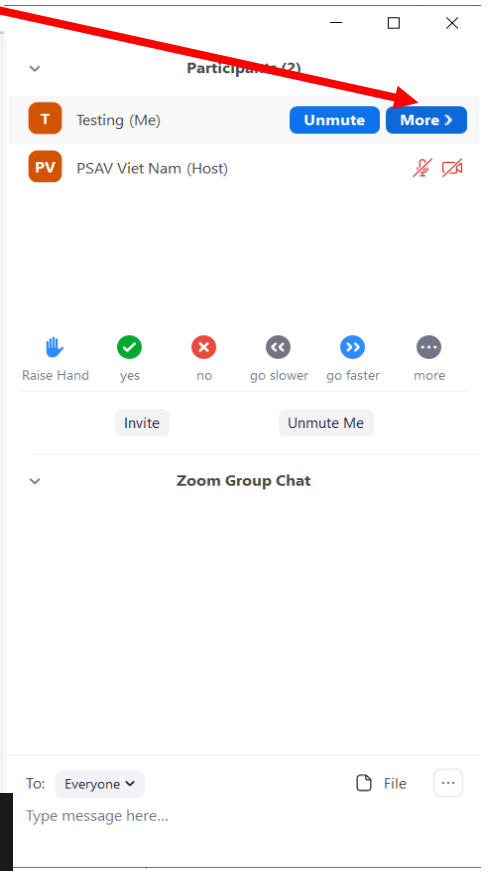
Photo by G. Goergen, IITA.

A recording of the webinar will be made and be distributed 1 week after this session

1. Technical issues:

- Try logging off and on
- Send a message to “Grow Asia” in the Chat

3. Rename yourself under “More” using the format “Name (Organization)”



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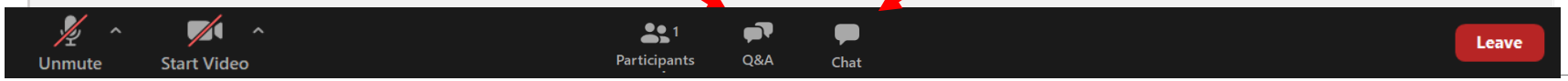


ASEAN Action Plan on FAW Farmer Communication Workshop Series

A four-part series to catalyse action on the development and design of more effective farmer communications on IPM and FAW control

- **Session 1:** Behaviour
- **Session 2:** Communication Channels
- **Session 3:** Pesticide Use & Behaviour
- **Session 4:** Best Practice

Register at: https://www.aseanfawaction.org/events

Case-Studies: We want your case-studies and examples – contact us at faw@growasia.org

Interactive

Give us your feedback and questions in the farmer communication forum at:

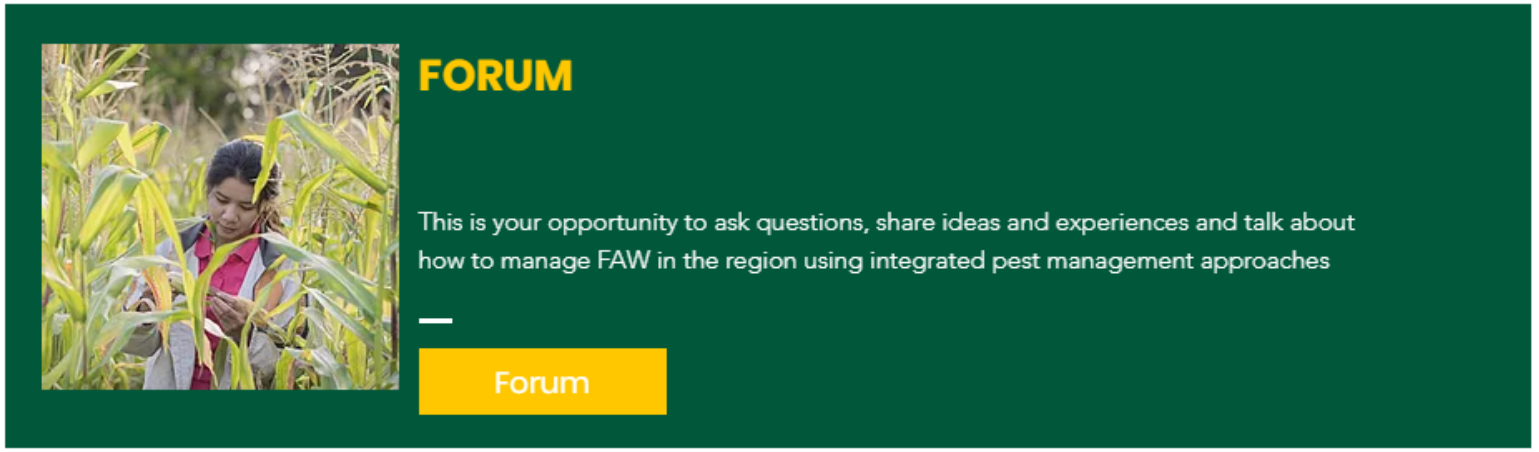
https://www.aseanfawaction.org/forum/farmer-communication

(if you wish to have a certificate of participation you must subscribe to the farmer communication forum and either ask a question, share something interesting about farmer communication like an example of something you noticed that worked well, or note something you found useful in the workshop)

1. www.aseanfawaction.org

2.

3.



Any problems email: faw@growasia.org

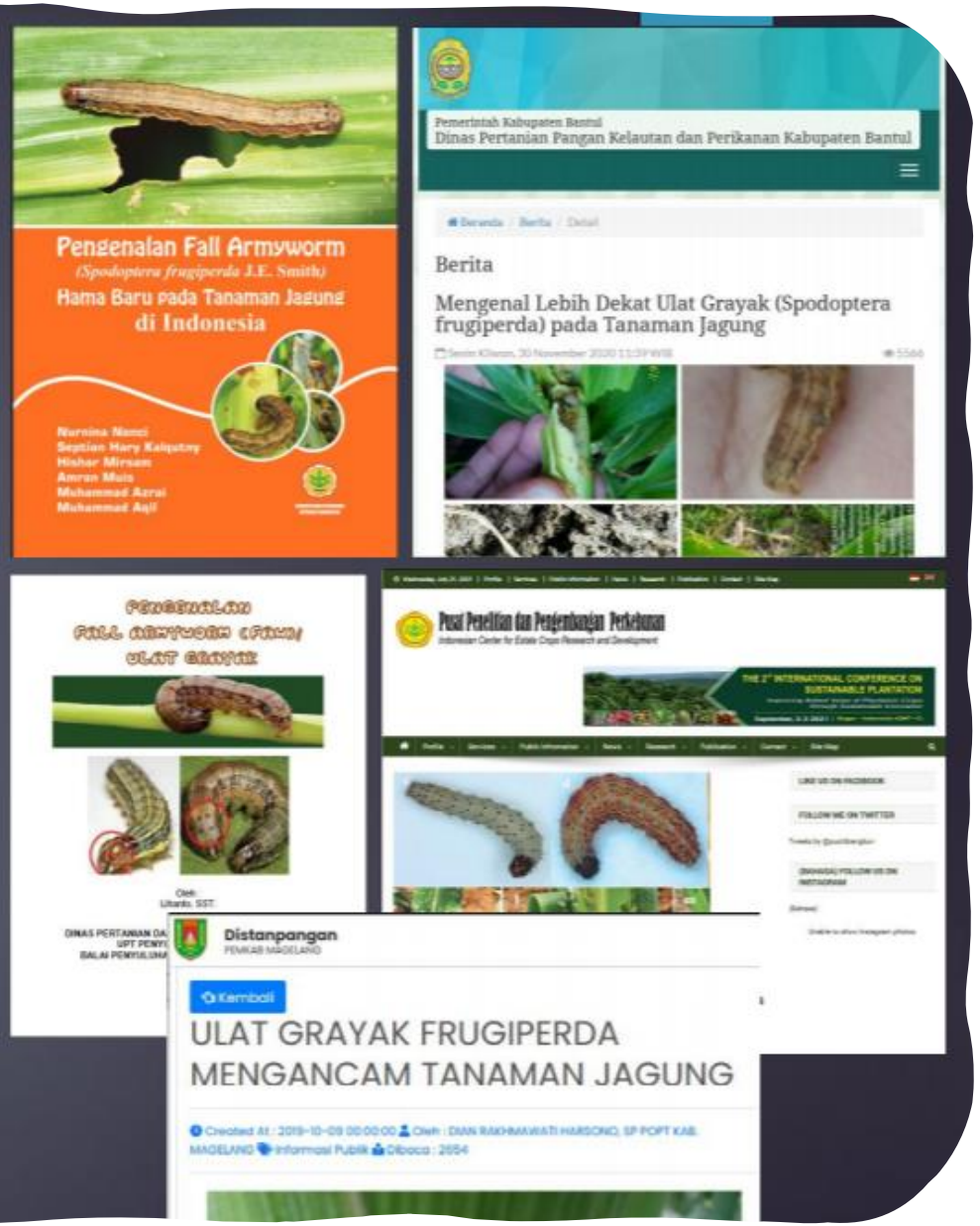
Once you have completed this step please email faw@growasia.org to request participation certificate and please say which sessions you need a certificate for.

Examples of communication: TV series and poster campaigns

Examples of communication: FFS, school education campaigns

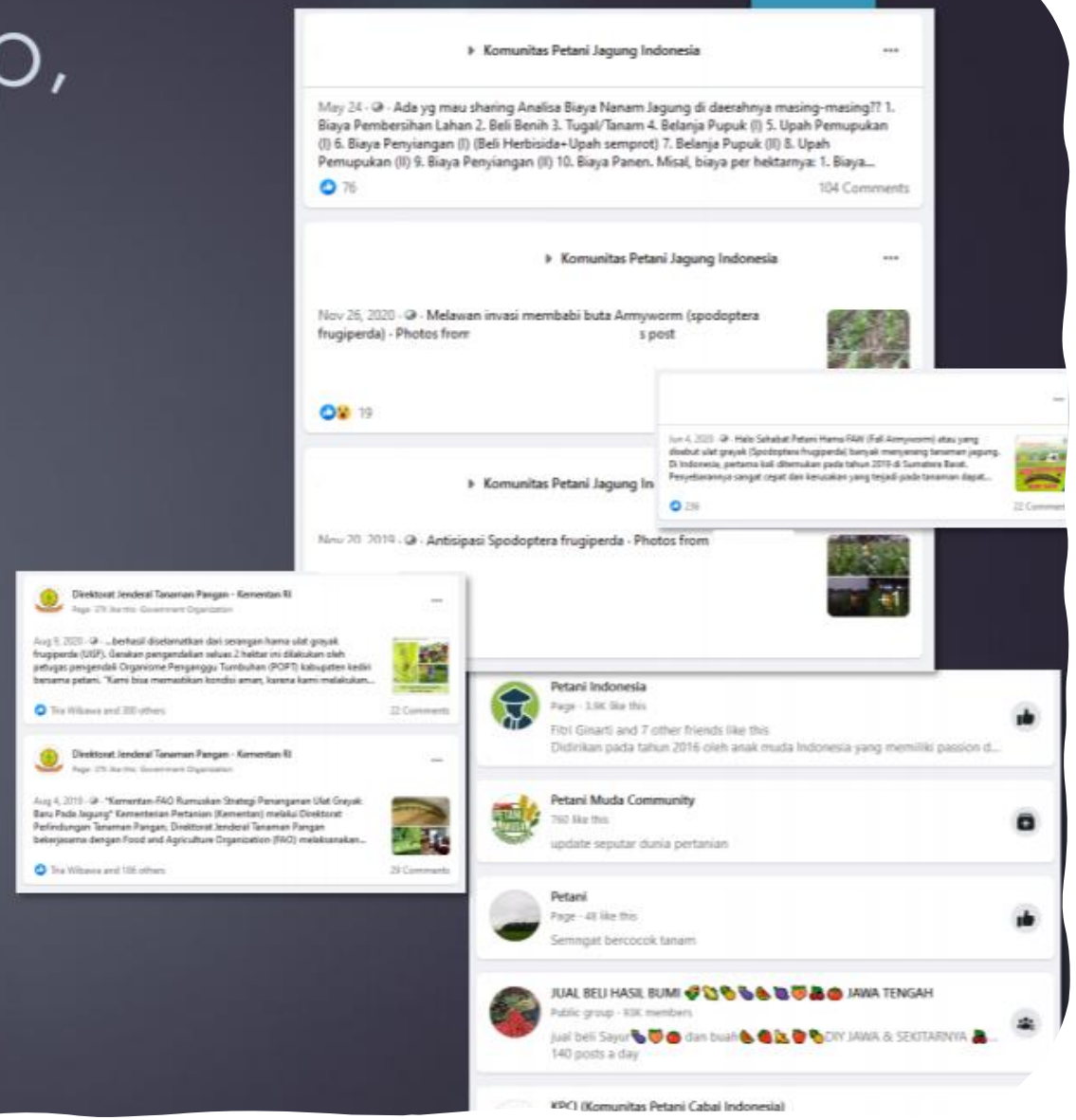
Government

- Several Institution have released fact sheets (pdf or website articles)
- Information are relatively similar, including:
  - Origin
  - Identification
  - Host range
  - Damage symptoms
  - Prevention (monitoring, mechanical and culture practice, crop rotation)
  - Information on natural enemies



Facebook, Whatsapp, Telegram

- Government institution have official accounts
- Many groups based on region, farmer groups, or purpose (trading)
- Groups may contain various stakeholders: **farmers, seed or pesticide representates, and middle mans**
- **Whatsapp** and **Facebook** are the most used media
- **Telegram** are sometime used. Less groups founds



Youtube

- Videos are a popular way to share information
- There are various information presented: **origins, biology, symptoms, management**
- Some videos are created by employees of the Indonesian Ministry of Agriculture
- There is also videos from the **Indonesia Entomology Society** (*Perhimpunan Entomologi Indonesia* - PEI)

Social Learning as a Policy Tool:

Lessons for Agricultural Extension

Ariel BenYishay, William & Mary \ AidData

Social learning is quite common

- Pineapple growers in Ghana, maize farmers in Malawi, Mozambique and Uganda, rice farmers in Bangladesh and India, corn farmers in US Midwest (Conley and Udry 2001, 2010, Bandeira and Rasul 2006, Foster and Rosenzweig 1995, etc.)
- Also in many other non-agriculture settings:
  - Employment referrals (Beaman and Magruder 2012)
  - Health insurance and service utilization (Berg et al 2012; Goldberg et al 2019)
  - Nutrition (DeLorme et al 2018)
  - Microfinance (Banerjee et al 2013)

Learning about what?

- Benefits of the techniques
- Methods for implementing them
- Costs / risks

All of these are partly observable by others, and partly not

- … so extent of mimicry vs. deeper understanding varies
- … and effort to *communicate* by the initially trained may also be important

Learning about what?

Those who are disseminating the technologies also sometimes must learn

- Learning-by-doing: complementarity between own adoption and success teaching others
- When the returns are variable across people, disseminators must identify who is likely to benefit

Puzzle:

If social learning is so widespread, why don't more technologies/behaviors promoted by extension officers catch on quickly?

Enlisting volunteers?

- Voluntary effort to communicate *can* work when
  - Volunteers intrinsically motivated (really believe in spreading the word)
  - Benefit greatly (really believe in the tech)
- Otherwise, need to consider the incentives for dissemination

Enlisting volunteers?

- Performance-based, in-kind rewards based on
  - Info spread (how much do others learn)
  - Take-up and long-term adoption (do they try it? do they stick with it?)
  - Outcomes (better yields, nutrition, etc.)
- Which of these to incentivize really depends on (a) variability in the tech's benefits, and (b) length of time
- In one successful case in Malawi, we incentivized based on info spread after one season and adoption in second season (BenYishay and Mobarak 2019 *REStud*)

To maximize social learning, should we target extension differently?

- Most extension is based on a mix of agent- and farmer-based selection
- “Lead” farmers, who may be more willing to experiment, better educated, etc.
- But these farmers may not be most relevant to others’ learning
- If skill, assets, labor access, or other complementarities, then the returns to the tech will vary across population
- >People will learn more from others who are similar to them
- >>Those who are similar to largest number (who are most “representative”) might be best trainees

To maximize social learning, should we target extension differently?

But getting those who are similar to take training, experiment, and communicate may be harder
(remember, these are not the folks who show up as typical "lead farmers")

So role of incentives may be even stronger
(Detailed in BenYishay and Mobarak 2019)

To maximize social learning, should we target extension differently?

Targeting at different levels:

1. Individuals
2. Clusters within villages
3. Villages

This really depends on how much complementarity there is among initial trainees

→How important is it to hear about tech from multiple sources?

→How much do trainees work together?

Simple or Complex Learning? (Beaman et al 2019)

→ Target training at clusters (where this kind of reinforcement is more likely)

→ (Possible) Trade-offs between individual centrality and clustering

→ We measured social networks carefully in 200 villages in Malawi

→ We then optimized two initial trainees for new planting tech based on either simple (1contact) or complex (2 contacts) learning simulations

→ Selecting based on complex slightly outperforms other methods (including extension agent selection)

→ In reality, mix of learning types across population (not far from 50/50)

Gender dynamics

Gender differences in:

- On-farm / in-home roles
- Opportunity costs for teaching
- Complementary inputs, education, etc.
- Social perceptions/attitudes
- + more...

We experimented with varying the gender of initial trainees (BenYishay et al 2019 JDE)

Women trainees learned at least as well as men

… but were perceived to be less knowledgeable

Therefore had to exert more effort to overcome this perception achieve similar adoption throughout their village

This extra effort comes at real cost

Open questions

- Tech or behaviors that themselves have external benefits / spillovers → Selecting trainees based on mix of learning and tech externalities
- Simple proxies for social network positions? (village “gossip”, geographically central, etc.)
- Differences in tech/behaviors along key dimensions:
  - Observability of adoption, methods, and returns
  - Heterogeneity in returns
  - These have implications for the role of initial trainees in communicating and identifying potential learners

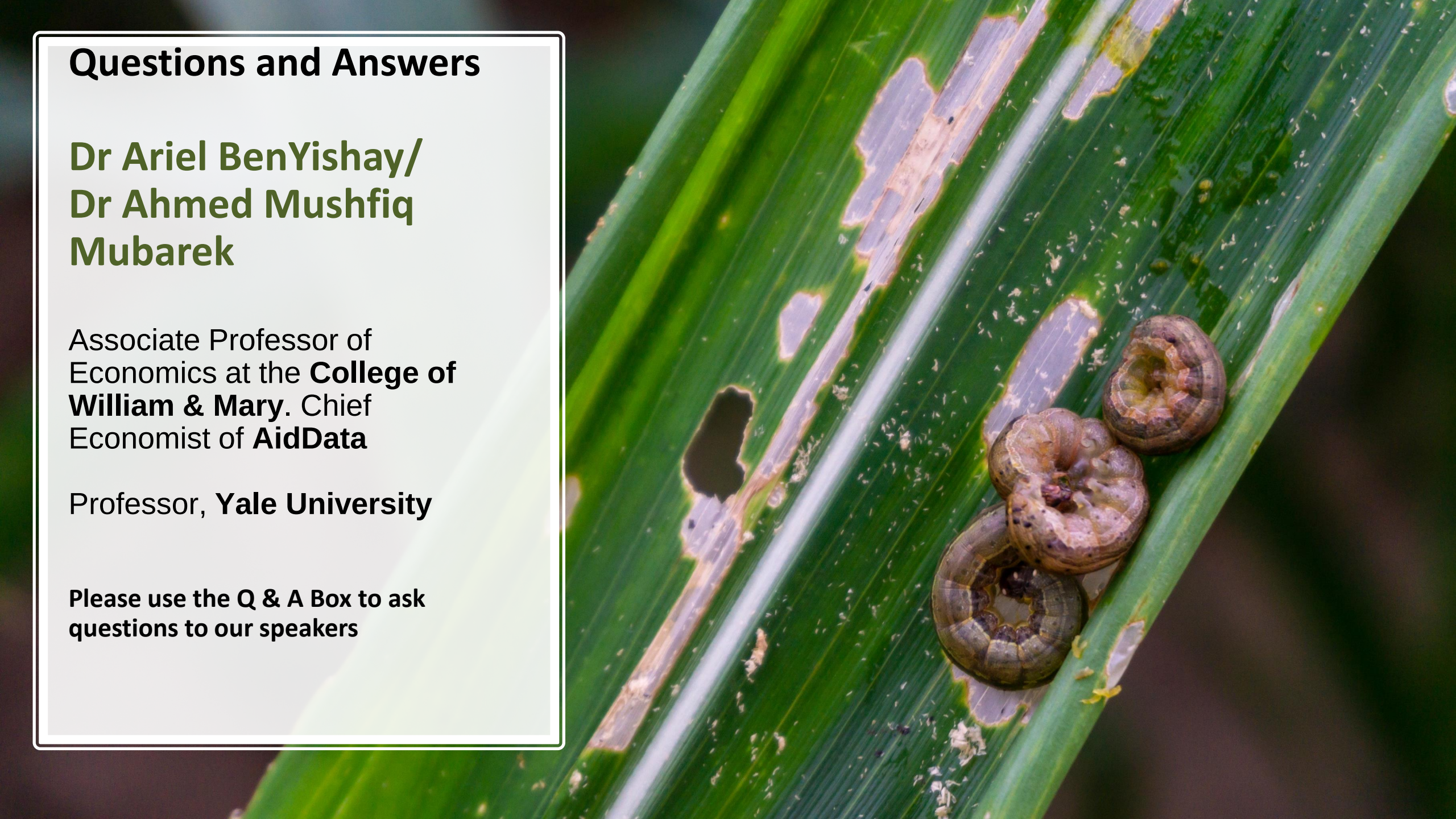
Questions and Answers

Dr Ariel BenYishay/ Dr Ahmed Mushfiq Mubarek

Associate Professor of Economics at the **College of William & Mary**. Chief Economist of **AidData**

Professor, **Yale University**

Please use the Q & A Box to ask questions to our speakers



Digital Green

Empowering farmers to lift themselves out of poverty

Gelsey Bennett
Gelsey@digitalgreen.org

Increasing farmer incomes & driving government efficiency

Through farmer-to-farmer extension videos,

we've reached 2.3 million farmers, 73% of whom are women,

in collaboration with 46,000 government extension workers.

- ✓ **Increased uptake of practices by 50%**
- ✓ **Increase in yield up to 46%**
- ✓ **Increase in incomes by up to 17%**
- ✓ **7.6x cost effectiveness**

Partnerships & social networks

Facilitation, peer-to-peer learning and local context

Including women can enable:

- ✓ Knowledge increase
- ✓ Participation in decision making
- ✓ Adoption & productivity increase

Ethiopia Fall Armyworm pilot:

Video + IVR + survey + pheromone trap data = integrating data is tough!

Integrating channels can amplify impact

WhatsApp-facilitated online communities & chatbots

Covid-19 crisis paused offline (in-person) disseminations

+

Possibility of automating video calendar

+

High WhatsApp popularity among both women & men farmers

IVR / 8028

Mobile Apps

Voice / SMS

Video

IN-PERSON MEETINGS

INTEGRATED CHANNELS

Takeaways for effective communication to farmers to drive behavior change

- Farmer-first
- Technology isn’t a silver bullet
- Human element is important - i.e. partners, peer-to-peer learning, social networks, and local contextualization
- Data is a great amplifier
- Integration of channels can increase reach and impact

Digital Green

THANK YOU

shreya@digitalgreen.org

Questions and Answers

Gelsey Bennett

Senior Program Manager, **Digital Green**

Please use the Q & A Box to ask questions to our speakers

Use of information and communication technologies by Vietnamese smallholders: Implications for extension strategies

BY HUNG GIA HOANG

HUE UNIVERSITY, VIETNAM

Key findings

- The smallholders used mobile phones, TV and radio networks/broadcasts as the common ICT tools, and these were also effective ICT tools for accessing agricultural information.
- Lack of knowledge and skills for using applications on mobile phones were the main challenge to the smallholders' use of ICT.
- A statistically significant relationship, existing between the extent of mobile phone use and the smallholders' age, gender, and the type of households was found.
- There was a statistically significant relationship existing between the extent of radio network/broadcast use and the smallholders' and gender.

Agri Central
Smart Farming For All

Communicating with Farmers: The AgriCentral Experience

-Siddharth Surana

The Mission

To help farmers make better decisions using technology driven information and advisory delivered via digitally.
Thereby empowering them to increase their profitability in a sustainable manner.

Information and Decision Support in Five Indian Languages

Pest & Disease Management

Crop Care

- 33 Crops
- 1200 Pest and Diseases
- Daily ~10,000 solutions given

Good Farming Practices

Crop Plan

- 39 Crops
- ~800 Chemicals
- 4000 Brands
-

Market Prices

Market View

- 114 Crops
- 1668 Markets
- 15K+ Price Points

Agri/Rural News

Bulletin

- 70 News Articles/week
- 238 Govt. Schemes
- 95 Agri Events

Community

Farm Voice

- ~2000 Posts and comments daily

Weather

Weather

- 15 Days Forecast
- 3 hourly updates

Growth of AgriCentral Community

- Launched in January, 2019
- Free for Farmers
- 4.63 Mn downloads
- Users in >30 states of India
- Featured as one of the best ‘Made in India’ applications

The Communication Challenge!

Nagabhushan is a small holder from Ananthapur, a drought-prone district in Andhra Pradesh. He cultivates maize on three acres and is not happy with the low yields and high cost of cultivation. He's always in doubt if he is getting a fair price of his produce.

He will surely benefit by using AgriCentral.

But…

- How does he discover AgriCentral (How do we reach him?)
- How will he know that AgriCentral can help solve his problems?
- How do we remain engaged with him?

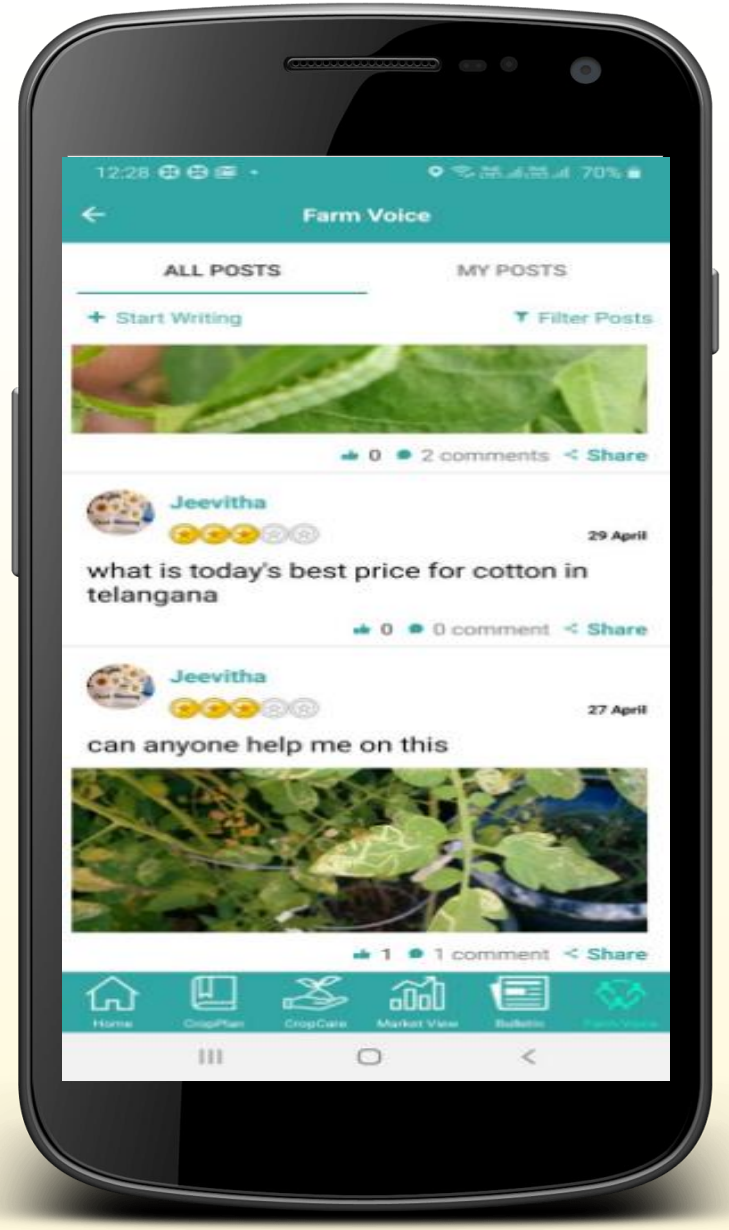
The Tough Questions

- Is Nagabhushan educated enough to use AgriCentral?
- Does Nagabhushan have a smartphone with internet?
- Do we have AgriCentral in Naga’s language?
- Do we cover maize as a crop?
- Where can we meet him?
- Will Nagabhushan trust us?

How Are We Trying to Solve These Questions?

- **How do we reach Nagabhushan?**
  - Meet him where he's likely to be
    - YouTube, Facebook
  - Introduce AgriCentral to him in a language he understands, and
  - Through an engaging story that he can relate with
- **How do we tell him that AgriCentral can help solve his problems?**
  - Give specific Examples AgriCentral can help solve relatable problems
  - Take Help of trusted influencers
- **How do we remain engaged with him?**
  - Farm Voice
  - Notifications
  - Call AgC Expert
  - Facebook

Thank You



Agri Central
Smart Farming For All

Questions and Answers

Siddharth Surana

Founder-Agri-Central
Head Digital Business - Olam

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Effective Farmers Communication

July 27, 2021

10AM Singapore

Rogelio P. Matalang, Ph.D.

President/National Chairperson

Philippine Federation of Rural Broadcasters

Effective Farmers Communication

1. Radio-based distance learning on Climate Smart Agriculture
   - School –on-the-Air (Kaalamang Pagsasaka sa Himpapawid)
   - Cagayan Valley(Cagayan, Isabela, Nueva Vizcaya & Quirino)

2. Partner Implementing Agencies
   - DA RFO2, ATI, IRRI, CCAFS SEA, PFRB, PAJ
   - Gov't. Stations, Private & Community Radios

Effective Farmers Communication

3. Objective of SOA-SRA
   - Facilitate the massive and sustained education of smallholder farmers on climate smart agriculture in Cagayan Valley thru radio.
   - Heighten awareness and mobilize strong support & involvement of the rural populace in agriculture programs.
   - Engage gov't. agencies, local gov't. units, state universities and colleges, civil society organizations and the private sector in regional agriculture programs.
   - Serves as quick feedback mechanism among agriculture & fisheries stakeholders in Cagayan Valley.

Effective Farmers Communication

4. Why Radio?

- Research has proven radio as an effective medium in information dissemination especially in rural areas.
- Most cost-effective and most persuasive medium reaching the remote areas of the country.
- Only radio can reach the unreached where there is no electricity in rural areas where rice farmers are located.

Effective Farmers Communication

5. Advantages of Radio

- Transistor radios operate with dry cell batteries or solar equipped.
- Very handy and cheap
- The only source of information and entertainment in the countryside.
- Community radio stations are tapped to air gov't. programs in agriculture, fisheries and other fields.

Effective Farmers Communication

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Effective Farmers Communication

7. SOA-SRA
   - RSBSA list of rice farmers where 10,000 enrollees were registered with LGU assistance.
   - Walk-in participants who are non-enrollees were accommodated.
8. Reinforcement were employed thru:
   - Field Days
   - Techno Demo
   - Trainings
   - IEC Print Materials
   - AVP on Livelihood
   - Live Broadcast Thru Social Media
   - Manual of Operations (SOA on SRA)

Effective Farmers Communication

9. Feedback Mechanism Thru:
   - Distribution of interventions (seeds, fertilizer, pesticides for crops); dispersal of poultry/livestock to farmers affected by calamities, i.e., ASF, FAW, BPH/Bird Flu.
   - Comments, suggestions among listeners & viewers are addressed by focal persons & subject matter specialist on different commodities.

Effective Farmers Communication

"Ipeksak ti panagyaman dagiti kalugarak agraman daytoy numo iti daytoy napateg la unay nga impaay ti DA.

Saan a masnop ti panagyamanmi. Sidadaankami a mangsuporta kadagiti programa ti gobierno."

ARTEMIO ARCHIBIDO

Brgy. Capt., Malalinta, Tuao, Cagayan

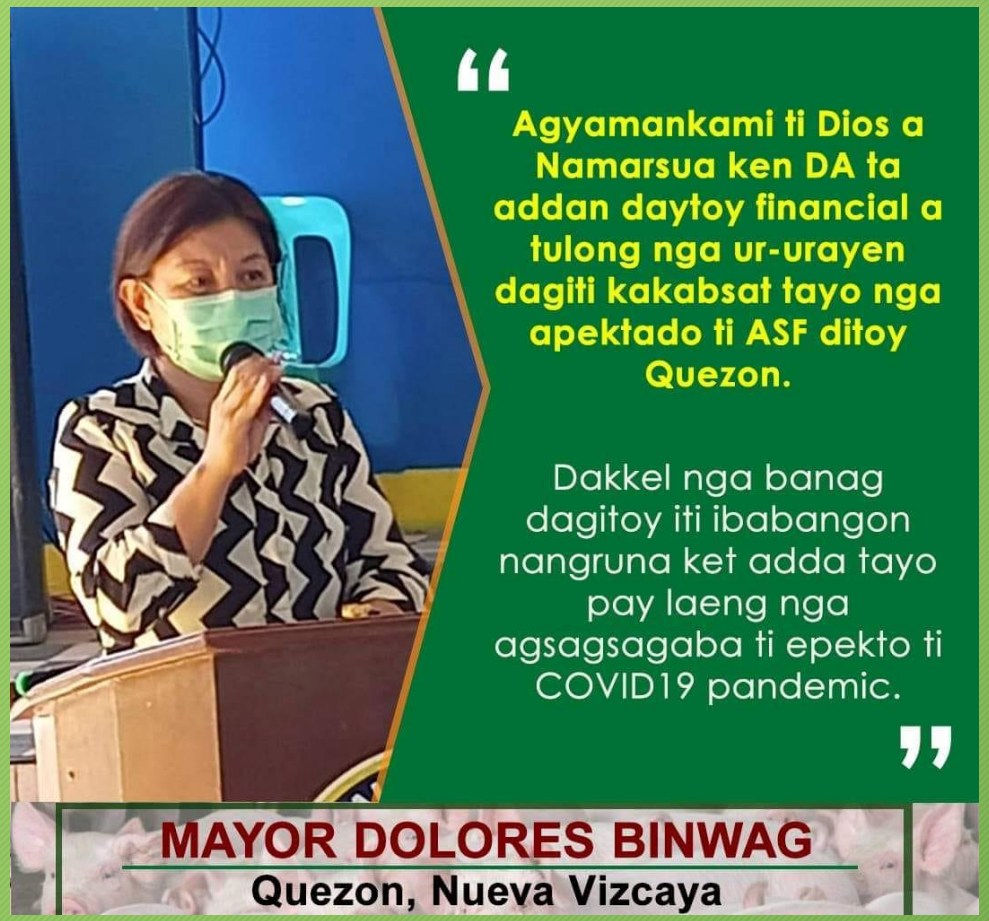
"Napalaus a panagyamanmi kadaytoy inted ti DA ngamin idi nalmes dagiti tarakenmi a dinguen, guddua iti pagsapulanmi iti napukaw. Panagmula ken panagtaraken ti adda a pagbibiaganmi.

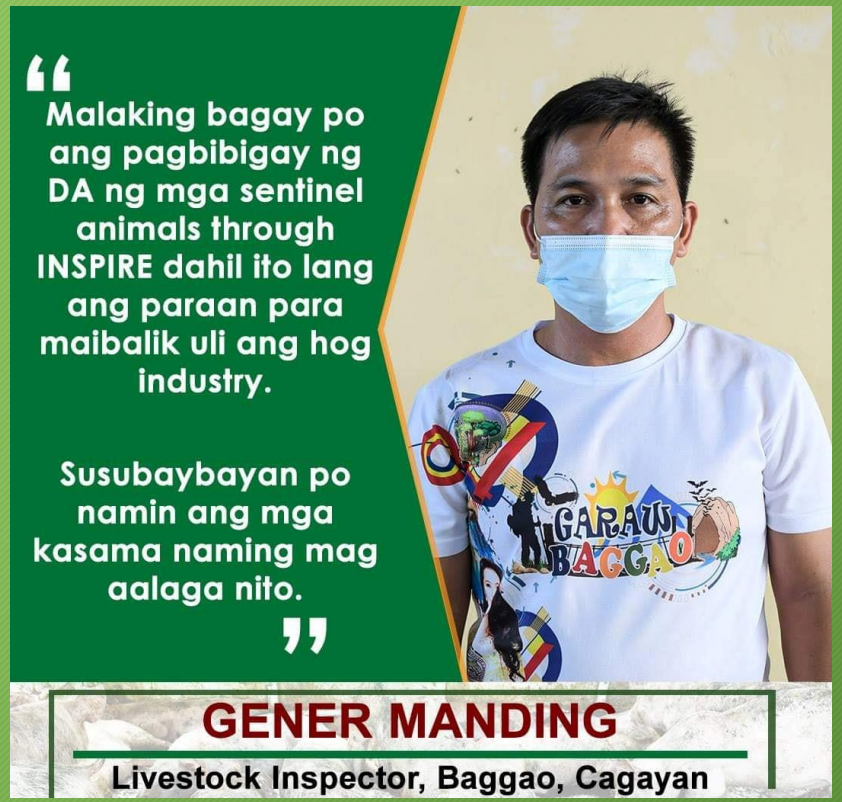
Maibagak a taraknenmi a nasayaat dagitoy inted ti DA, aglalo dagitoy burias tapno umadu manen ti taraknen."

DIGNA ANTONIO

Hog Raiser, Amulung, Cagayan

Effective Farmers Communication





Thank you

Effective Farmers Communication

Rogelio P. Matalang, Ph.D.

President/National Chairperson

Philippine Federation of Rural Broadcasters

Questions and Answers

Dr Rogelio P. Matalang

President/National Chairperson
Philippine Federation of Rural Broadcasters

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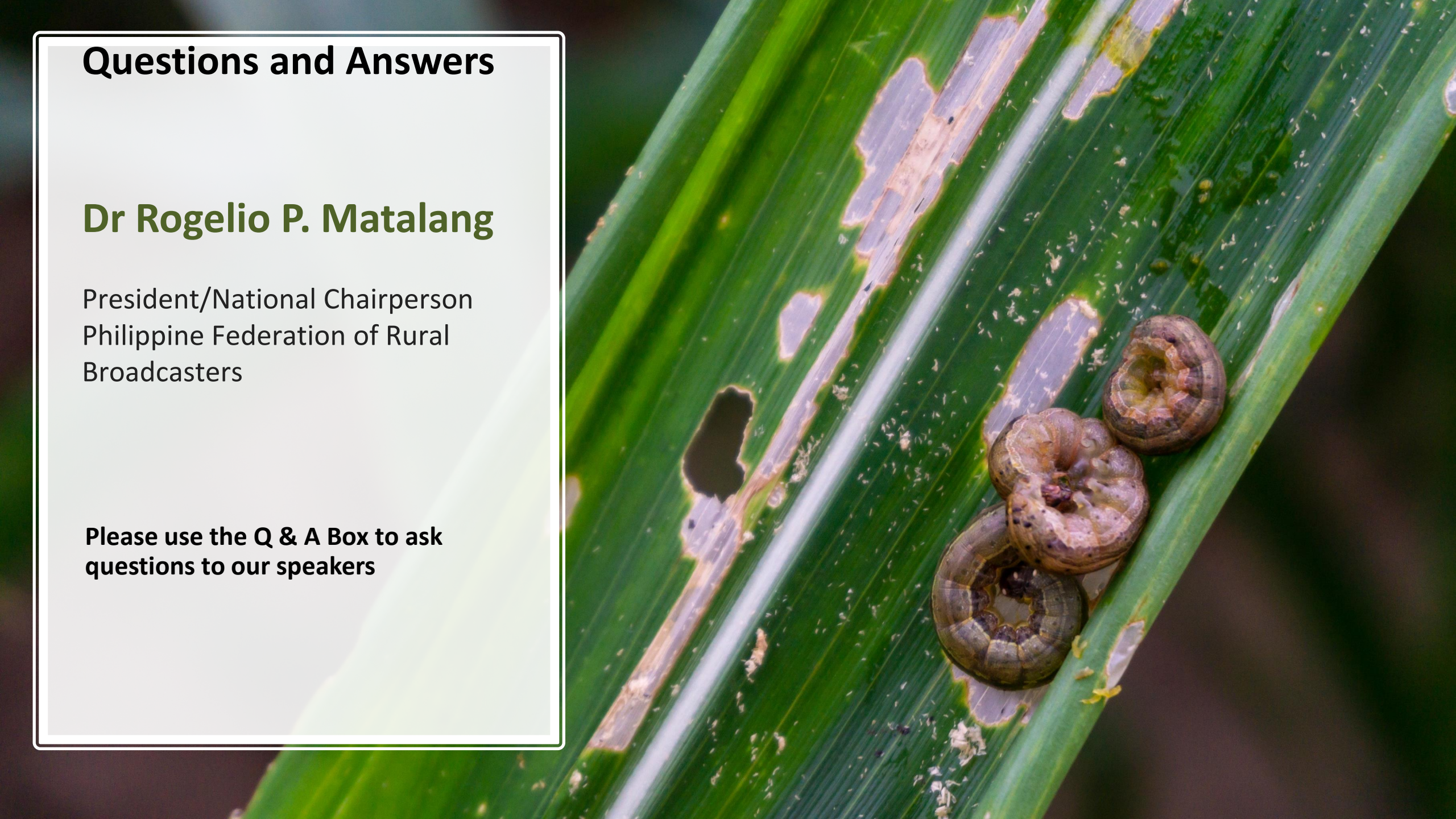


From Pests to Participation

Dannie Romney, Global Director, Development, Communication and Extension

22nd July, 2021

1) Appraise environments

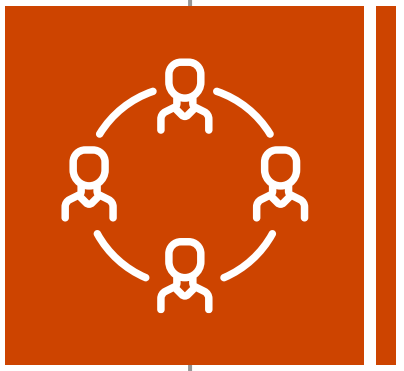
Situation analysis:

- **Incentives for adoption** output markets, risk
- **Availability of inputs** – affordability, accessibility
- **Policy environment** analysis of barriers
- Communication channels – preferred sources, partners

2) Convene campaign partners

Every campaign has four types of partner

- Delivery partners
- Knowledge partners
- Input partners
- Research partners



3) Develop content - from technology brief to materials

4) Disaggregate audiences

In practice

- Young people read comics and learn from curriculum materials supplied to schools
- Farmer-friendly and family-friendly information-sharing
- In Tanzania, for example, one young woman changed maize farming in her family after reading a comic

5) Deploying hybrid communication

In practice

Early warning campaign

Example
Identification, prevention and management of Fall armyworm

New technology campaign

Example
Promotion of crop protection product

Good Agricultural Practices

Example
Good Agronomic Practices – including use of IPM across a season, good management of pesticides etc.

Multiple channels/formats to balance reach and likelihood of sustained change

6) Linking learning and planning

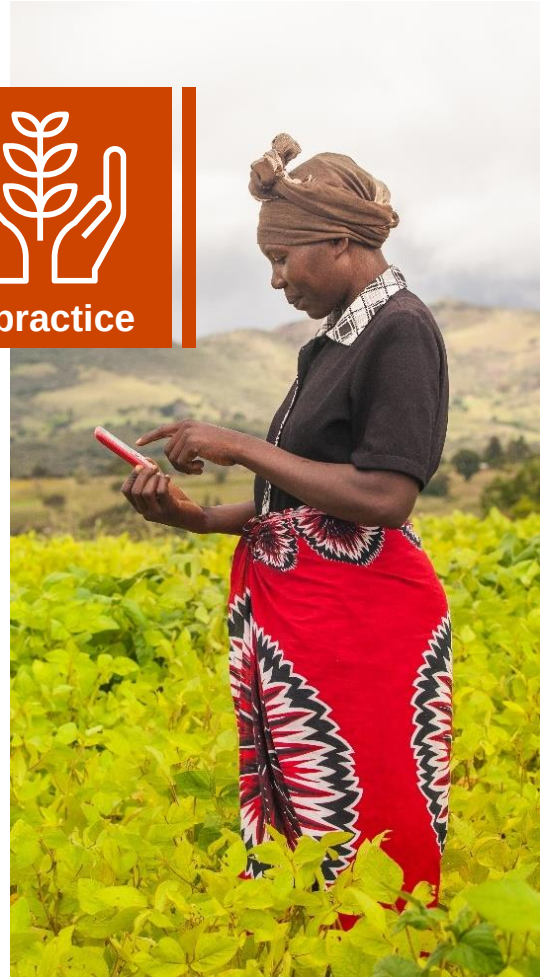
On-going learning

- Improve iteratively
- Expands the evidence base
- Contributes to efficient use of resources

Learning used for

- Planning campaigns
- Informing local agendas
- Strengthening development communication practice

Digital solutions the new normal?



Opportunities

Radio: Wide reach, simple messages

SMS: Sharing information received

Apps: Rapidly increasing numbers

Facebook: Increasing number of farmer groups e.g. in Kenya

Chat groups: Useful for intermediaries requires active moderation

Challenges

Regulation: Regulations to protect privacy

Churn rate: High for mobile lines, apps etc.

Digital divide: Rural/urban; men/women; wealthy/poor; young/old

Digital literacy: Remains limited in rural areas

Access: Infrastructure, cost of devices, cost of data

Cost of digital – *Alliance for Affordable Internet 2019*

Smartphone cost (Affordability = % monthly GNI)

Income group	Price ($)	Affordability %
Low income	42	81.2
Lower-middle income	58.1	43.0
Upper-middle income	55.7	10.1

Data cost

Across Africa, average cost of 1GB data = 7.1%
Equivalent to US earner paying $373

Advisory – Plantwise and plant clinics in Kenya

In practice

Institutional coordination improved – AAK, PCPB, KALRO part of Steering Committee

Increased Knowledge scores from Plant doctor training

For farmers in within 1.5km radius of clinics

Reduced pesticide use:

- **8pp less likely to use pesticide**
- **7pp more likely to avoid chemical drift**
- **more likely to use PPE and wash**

Higher production – 13% increase in value/acre

Higher net incomes

Advisory – Plant clinics in Rwanda/Zambia
Effect on pesticide and PPE use for farmers with FAW

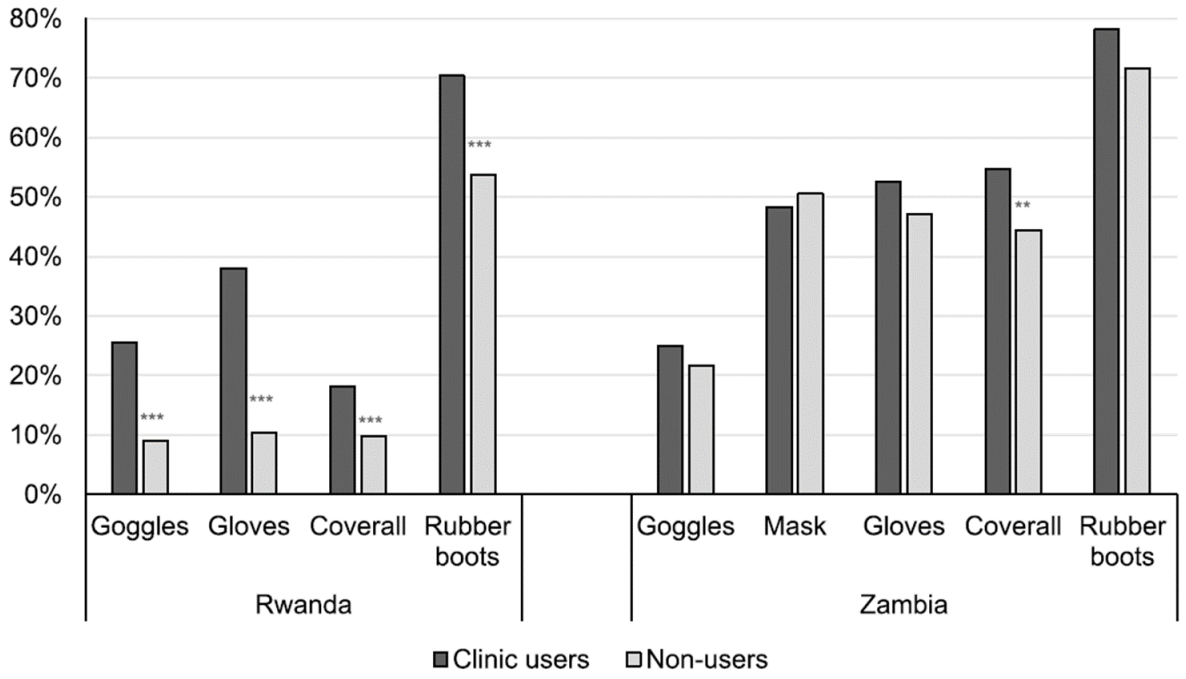
In practice

In Rwanda/Zambia

***14/66%** more likely to use pesticide*

Cost/ha and no. sprays similar

***51/14%** more PPE used*



Emergency - support response to FAW in Uganda – radio, video screenings, SMS

In practice

Delivery partners: Farm Radio International, TRAC-FM, Hamwe, Peripheral Vision International
Knowledge partner: MAAIF

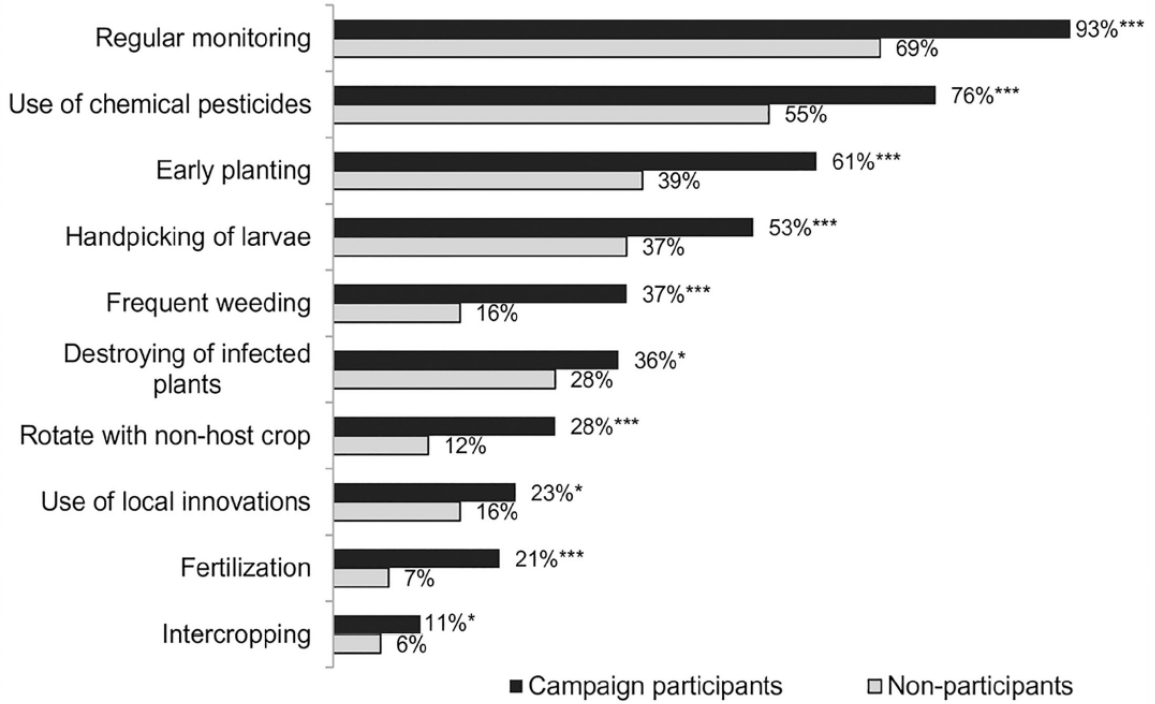
40,600 watched videos

10,000 received SMS

320,010 heard radio shows

20% improvement in knowledge

54% increase in nos. of practices
Additive effect of different channels –



New technology and GAP - New seed varieties in Tanzania

In practice

Upscaling Technologies in Agriculture through Knowledge Extension (UPTAKE)

Input partners: seed companies;

Knowledge partners: national research stations; AGRA

Delivery partners Esoko, Farm Radio International and radio stations.

Esoko sent SMS to **> 40,000** farmers; Radio stations reached **> 180,000**

Seed companies attributed **increased sales** to SMS; farmers used **productivity enhancing practices**

New technology and GAP soybean production in Ghana
Video screenings, Video on facebook, radio talk shows

In practice

Gender and the Legume Alliance (GALA)

Input partner Green-Ef (wholesaler); Knowledge partners SARI, SIL,IITA:; Delivery partners; Countrywise communications; Green-Ef; govt. extension

70,000 attended screenings

40,000 viewed video on Facebook

Radio talk shows

75% of agrodealers reported increased interest in inoculum

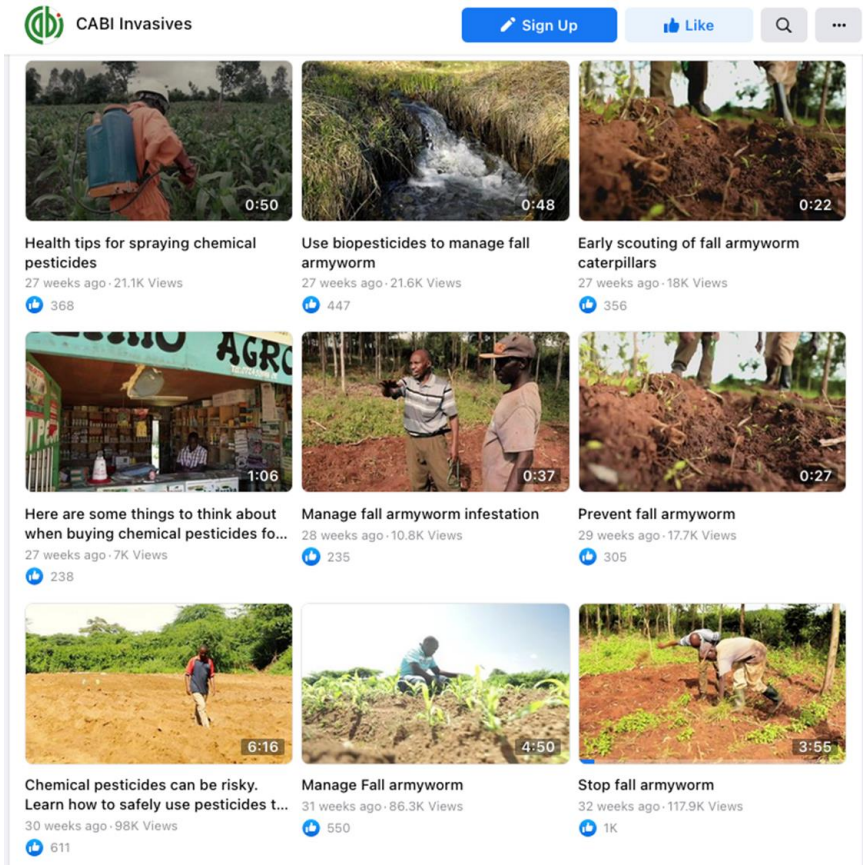
GAP - FAW and pesticide use in Kenya
Videos–Whatsapp-face to face

In practice

117,000 Facebook (32% women, most 24-35 yrs)

14,355 Knowledge sessions with CGA lead farmers receiving video by whatsapp

CGA = Cereal Growers Association



Source material

- Tambo et al. The impact of ICT-enabled extension campaign on farmers' knowledge and management of fall armyworm in Uganda https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0220844#:~:text=Our%20findings%20imply%20that%20complementary,invasive%20pest%2C%20such%20as%20FAW.
- Gakuo and Karanja – working with maize seed companies http://www.fao.org/3/i9191en/I9191EN.pdf
- Kenya Advisory, RCT https://site.plantwise.org/wp-content/uploads/sites/4/2019/03/Pw-Impact-Brief.pdf
- CABI FAW and pesticide use Blog: https://blog.invasive-species.org/2021/04/28/development-communication-campaign-promotes-sustainable-management-of-fall-armyworm-in-kenya/
- Videos: https://www.facebook.com/pg/CABI.Invasives/videos/
- Tambo et al. 2021 Can plant clinics enhance judicious use of pesticides? Evidence from Rwanda and Zambia https://www.sciencedirect.com/science/article/pii/S030619221000506
- CASA program https://www.casaprogramme.com/about/

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Confederaziun svizra

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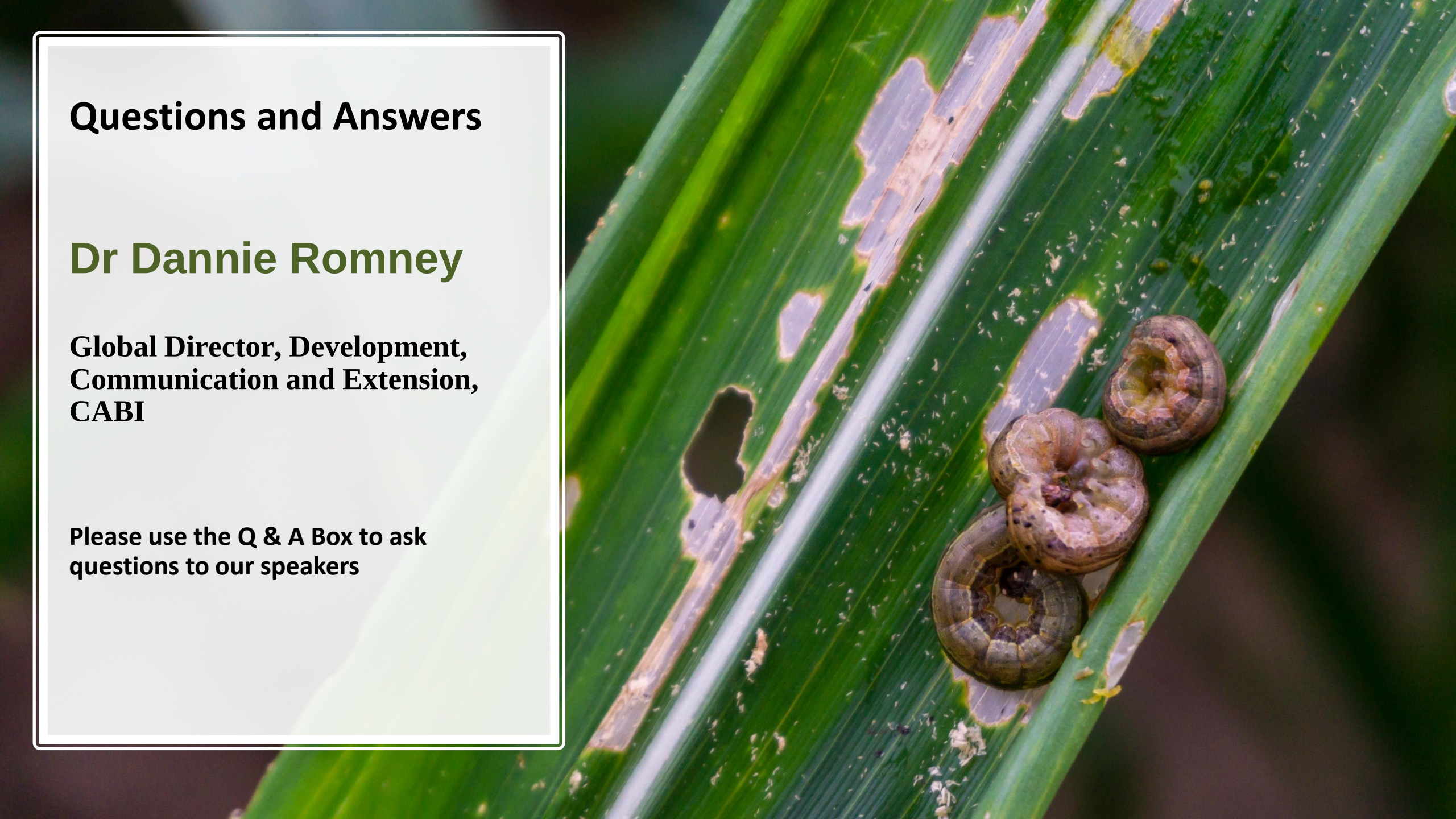
Questions and Answers

Dr Dannie Romney

Global Director, Development, Communication and Extension, CABI

Please use the Q & A Box to ask questions to our speakers



Summary:

Social networks can be powerful ways of communicating information and changing behaviour

People will learn more from others who are similar to them

Communicators/disseminators need to understand and model behaviour change in the community they are working in

Gender-responsive approaches need to be considered

Language, gender, age, educational levels, household type all need to be considered when designing communications – understand your context when designing communications

Think of incentives to build into your communications to encourage farmer interest – but make them incentives of interest!

Hybrid communication approaches can reach out to different learning styles and farmers at the same time and/or reinforce messages

Consider reinforcing messages at points in the future

ASEAN Action Plan on FAW Farmer Communication Workshop Series

A four-part series to catalyse action on the development and design of more effective farmer communications on IPM and FAW control.

Session 1: Behaviour

Completed

Session 2: Case studies of Farmer Communication

Completed

Session 3: The Behaviour of Pesticide Purchasing and Use

Tuesday 7 September 2021

Session 4: Guidance for Communication – Top Tips for Effective Farmer Outreach

Tuesday 23 November

Register at: https://www.aseanfawaction.org/events

Case-Studies: We want your case-studies and examples – contact us at faw@growasia.org

CLOSE

EFFECTIVE FARMER COMMUNICATION:
A critical component of achieving IPM

Part 1: Communication Channels



27 July 2021

GrowAsia

ASEAN FAW ACTION PLAN
Supporting IPM Across Southeast Asia