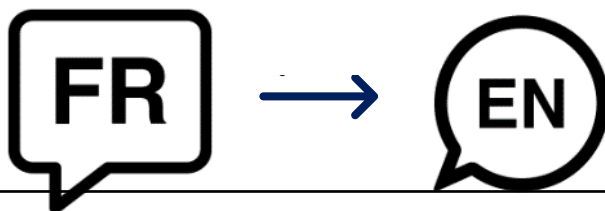


## Pan African Expert talk No. 8 / 8

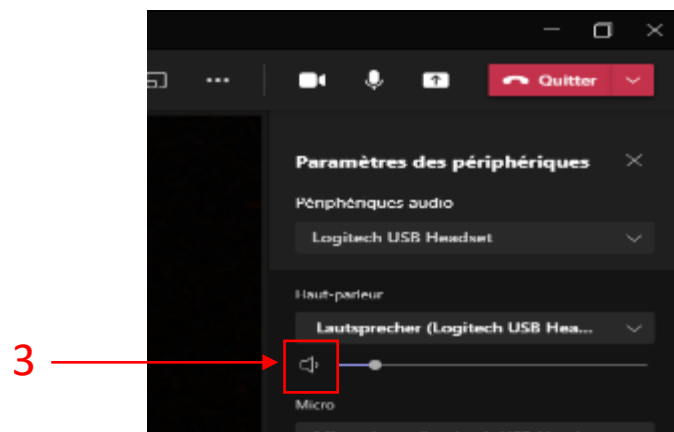
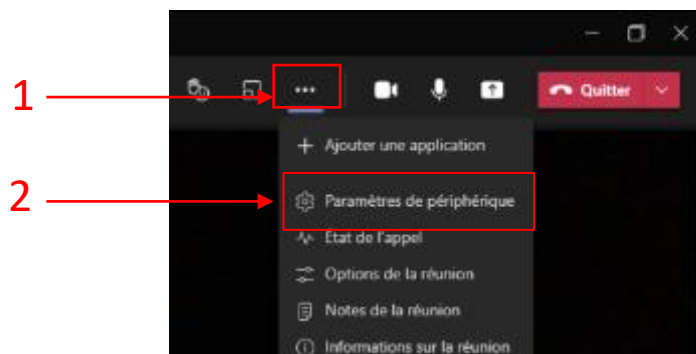
Yes, return on your investments in agricultural extension can be determined!





# Translation

## Step 1 : Mute MS Teams



## Step 2 : Open Interactio

1. Click on the link in the chat
2. [ROI in Agric Extension=ABF2022](#)

2. Click on the  button and select the language → **English**

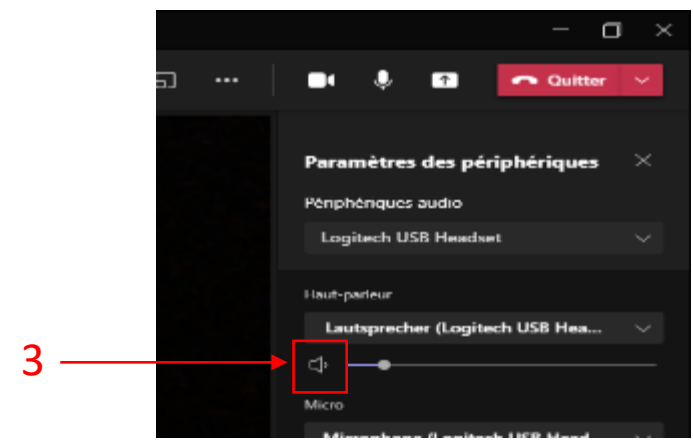
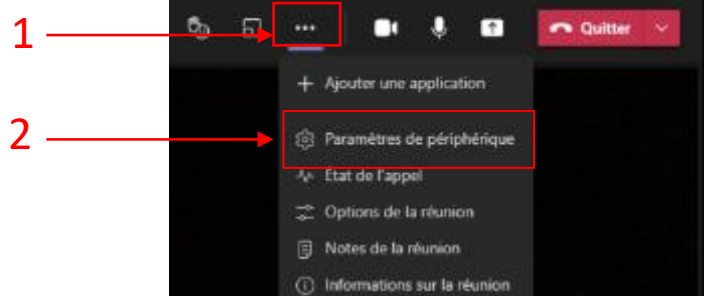
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# Traduction

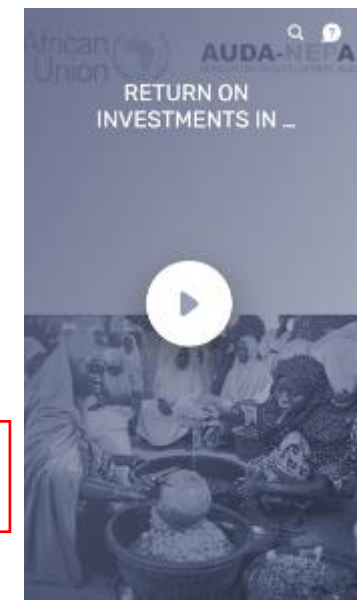
## Étape 1 : Mettre MS Teams sur silencieux



## Étape 2 : Ouvrir interactio

1. Cliquez sur le lien dans le chat
2. [ROI in Agric Extension=ABF2022](#)

2. Cliquez sur le bouton  et sélectionnez la langue → **French**



# Agenda

Welcome, Agenda & objective

Experts talk

- 1** Are your investments in agricultural extension paying off? Why proven ROI is key to success: a “simple” methodology.
- 2** Why is investment in agricultural extension still a challenge? Understanding the context. What are the benefits from organised and non-organized extension systems?
- 3** Who will produce the food and stuff for industry in the future? What is the relevance of investment in agricultural extension for free trade, regional value chains, their transformation in the era of climate change, migration, and demographic growth?.

Discussion

Outlook & Closing

Mots de bienvenue, Agenda & objectif

Exposés d'experts

- 1** Vos investissements dans la vulgarisation agricole sont-ils payants ? Pourquoi un ROI éprouvé est la clé du succès : une “méthodologie simple”.
- 2** Pourquoi l'investissement dans la vulgarisation agricole reste-t-il un défi? Comprendre le contexte.
- 3** Qui produira la nourriture et les produits pour l'industrie à l'avenir ? Quelle est la pertinence de l'investissement dans la vulgarisation agricole pour le libre-échange, les chaînes de valeur régionales, leur transformation à l'ère du changement climatique, de la migration et de la croissance démographique?.

Discussion

Perspectives et clôture

# Objective

**The role of extension as investment, the requirements, analytical tools and the implication for management and financing.**

# Speaker

1

**Yasmin Kumi**

Chief Executive Officer, Africa Foresight Group



- An entrepreneur who founded [AFG](#) in 2016 to follow her passion of fostering economic value creation in Africa by creating the leading platform for freelance consulting services on the continent. Over the past 3.5 years, AFG has evolved into a fully female-led business that runs a network of more than 100 consultants and has completed more than 150 engagements across Africa.
- She is convinced that the future of African businesses and people is global when it comes to expansion and work opportunities, respectively. AFG is backed by investors from the UK, Silicon Valley, Ghana and Nigeria who hold the same belief.
- Comes from Germany and Ghana & has worked at the Berlin office of McKinsey & Company for 5 years prior to founding AFG.
- Holds an MBA degree and an MSc in African Studies from the University of Oxford. During her graduate studies, she was elected the President of the more than 50-year old Oxford University Africa Society that unites African students across the entire campus and counts several former African state leaders as its former Presidents
- A member of the [Harambe Entrepreneur Alliance](#) ('16), the leading network for young talented entrepreneurs from Africa. Yasmin was listed as one of [Future of Ghana's](#) 30 Under 30 Pioneers in 2017. AFG was awarded the African Diaspora Impact & Innovation Award in 2018 by the [African Diaspora Network \(ADN\)](#).



# Organising and managing cost-effective agric. extension



## Why this matters

**2019 Budget: 16 years  
after, Nigeria fails to  
implement Maputo  
Declaration on Agric, food  
security**

Featured News

News

**Olugbenga ADANIKIN**

December 28, 2018



*File photo: President Buhari also did not know that the former IG disobeyed his order to relocate to Benue State*

**We aim to understand the return on investment to decide better how to allocate resources  
in the most impactful way when it comes to increasing farmer income.**



# In 2018, we looked at 3 extension approaches in Plateau State, Nigeria, to analyze their Rol

## 3 Approaches

### ASTC

- **Paid lecture** with up to 50 farmers in one session

### FADAMA

- Class-room sessions
- Demonstration and field advisory services
- **Input provision**

### GIZ

- Classroom sessions
- Group discussions
- Role-playing
- Field practicals

## Plateau State, Nigeria



## Potato value chain



2 weeks of field work and 6 weeks of data collection/analysis to find out which approach has the best Rol.

## What is cost-effective agric. extension

- Extension has an **objective** and has a **cost**.
- Cost effectiveness shows us at which **cost** which **impact** (= targeted benefit = objective) has been achieved.

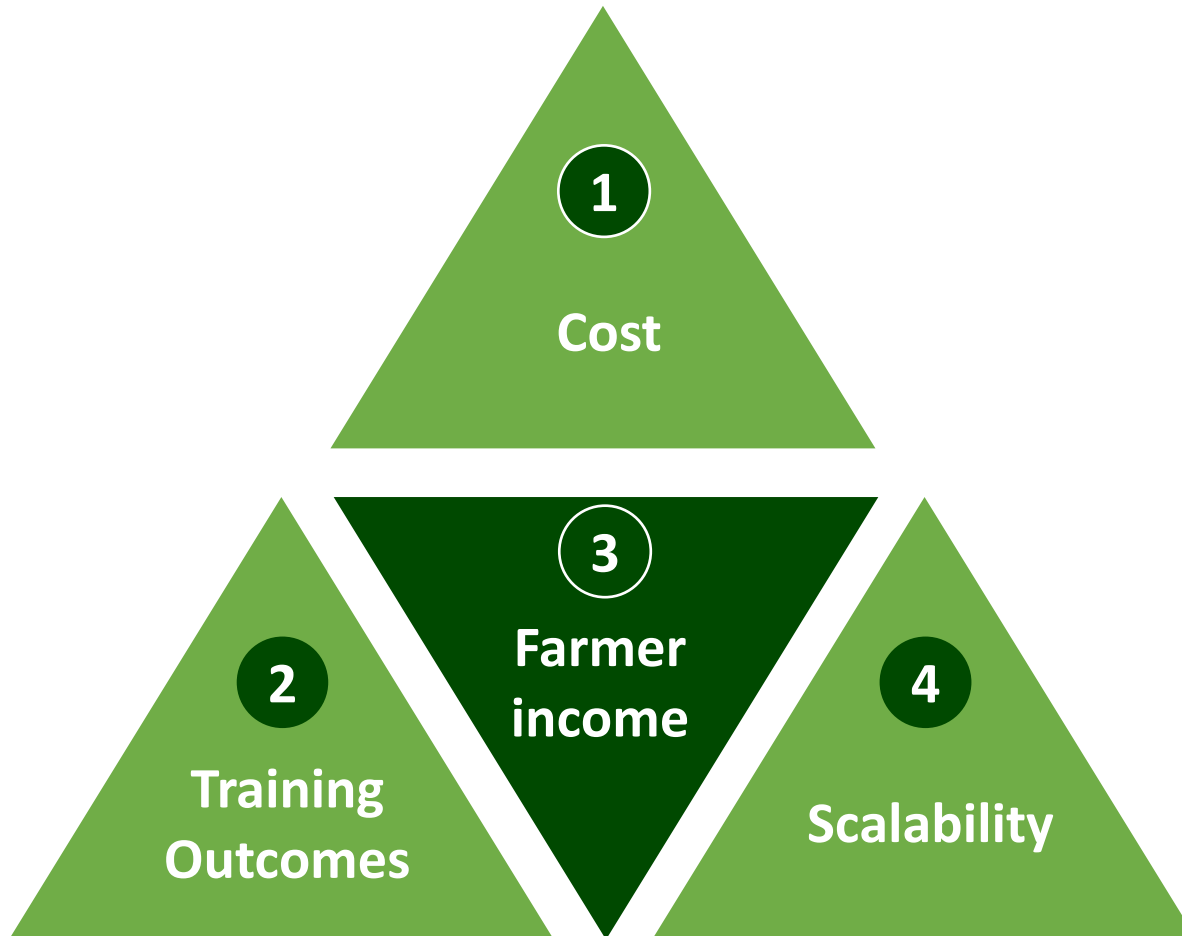
## Why consider cost-effectiveness for agric. extension?

- Extension is an **investment** and there must be a **return to investment**
- The return to this investment is **economic growth, more income, more food ....**
- Benefit-Cost Ratio to decide **how to allocate resources to extension in the most impactful way** when it comes to increasing farmer income.

# Why consider cost effectiveness?

**We aim to understand the return on investment to decide better how to allocate resources in the most impactful way when it comes to increasing farmer income.**

# Extension approach assessment framework



- 1
  - Extension cost
  - Adoption cost of technologies taught
- 2
  - Measurement of outcomes of programme for farmers against cost
- 3
  - Measurement impact on farmer income against programme cost
- 4
  - Replicability
  - Potential for institutional and financial sustainability
  - Potential for scaling

# Information and data for assessment

## Baseline

(yields, techniques, incomes, markets, prices ...)

## Content and impact benchmarks

- ➔ Evidence-based, clearly defined technology packages (inputs, services, timing, yield potential, labor needs ... ) that are profitable and sustainable
- ➔ Forecast of cost and impact (yield, gross revenue, profit)

**Modes of delivery for extension** clearly defined (content, time, method, cost)

Planning meetings  
and documents

Farmer visits

M&E Data basis  
and reports



# 1 Cost assessment

## Cost of extension

- Training material (prints, posters, stationery, fertilizer, tools ...)
- Advertising material
- Remuneration of trainers
- Training of trainers (cost per head)
- Venue
- Refreshment/food → participants
- Transport cost for trainers & participants

## Adoption cost for producers

- Variable input cost of new technology to farmer (per ha)
- Variable labour cost of applying new technology to farmer (per ha)
- Fixed acquisition cost for new technology (one-off)

## 2 Assessing extension outcomes

Agencies will be requested to share past reports composed about the outcome of their training

All indicators will be collected freshly in the field during the farmer visits to compare results

### Awareness

How many farmers trained are aware of the technology?

### Testing

How many farmers have tried out the new technology on their field?

### Adoption

How many farmers have fully adopted the new technology?

### Yield effect

How many farmers report a positive impact from the use of the new technology?

### 3 Impact on producer income levels

**Increase in producer income**  
*Net marginal profit*

**Gross revenue increase**  
*Marginal revenue (+/-)*

1. Better price per ton due to new technology (better quality)
2. Higher yield per ha due to new technology

**Cost impact**  
*Marginal cost (+/-)*

1. Intensification of farming
2. Efficiency savings

## 4 Scalability of each approach

### Qualitative

- How is implementation of the approach organised structurally?
- What are the implications for sustainability and institutionalisation of the approach?
- Replicability?

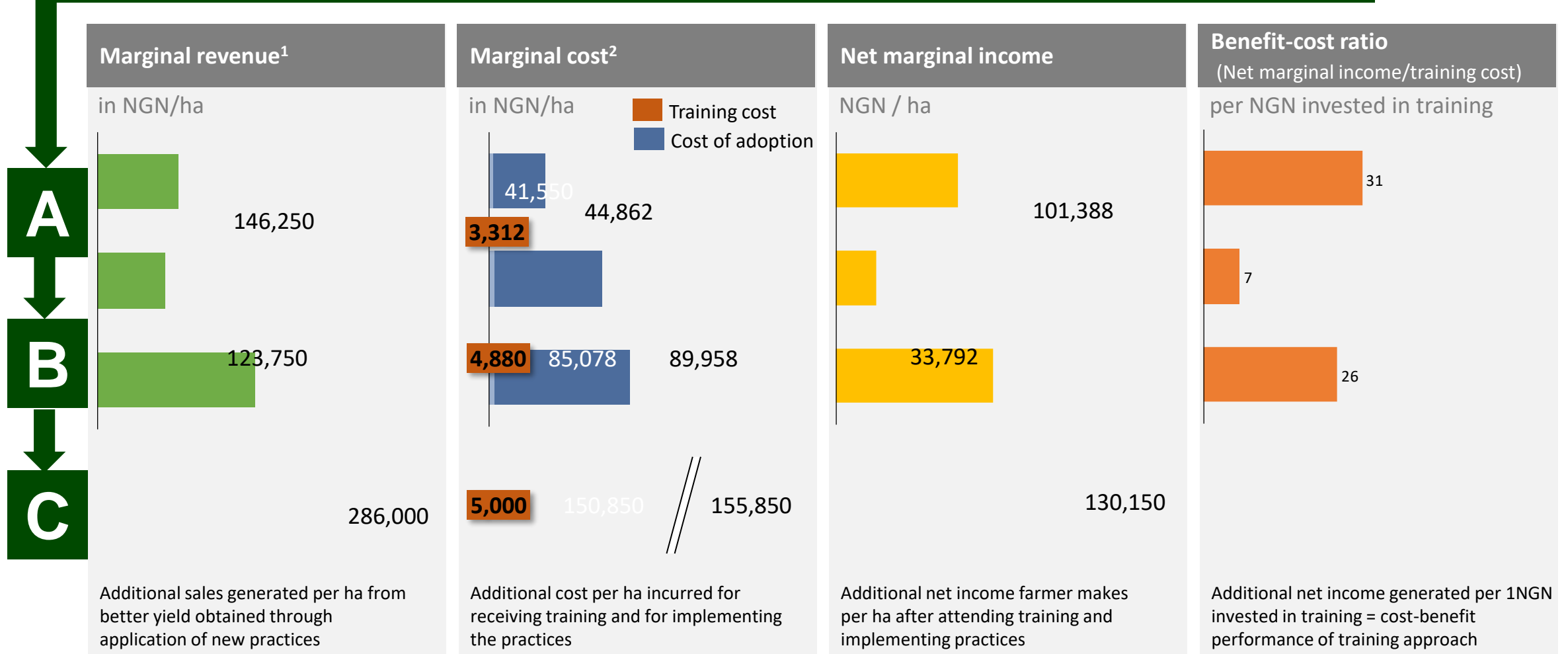
### Quantitative

- What does cumulative investment requirements and income impacts look like if the approach is scaled (scenarios e.g. 5,000 , 15,000 ou 150,000 producteurs)?

# Some results



## Extension approaches, technologies or farm enterprises compared



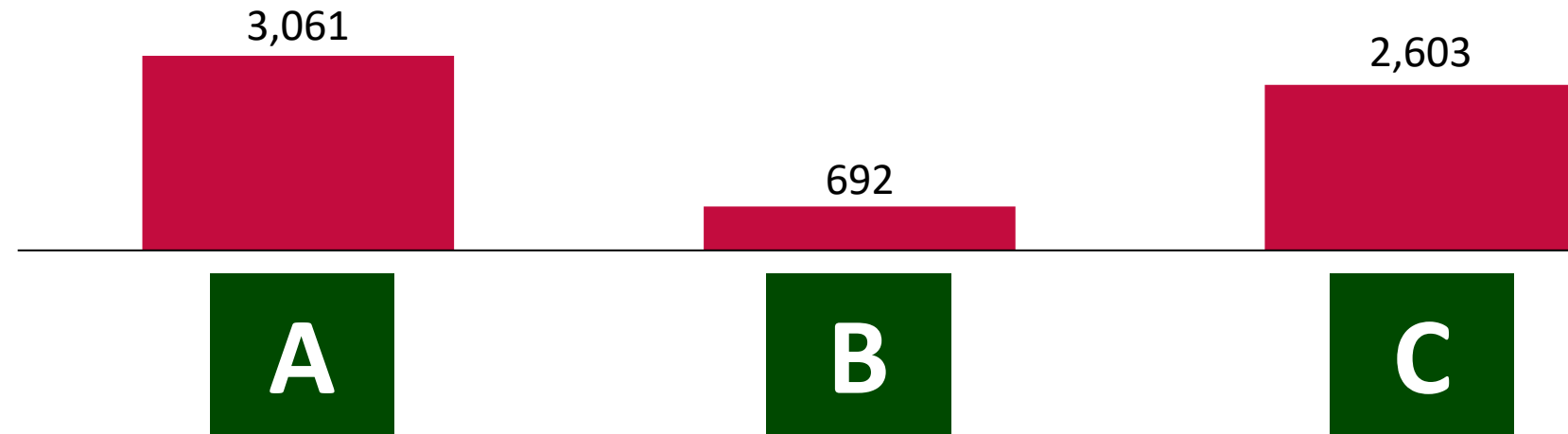
## Scalability analysis

Million NGN

If 5,000 farmers were to  
be trained with this  
approach, the **Cost**  
would amount to...



If 100million NGN were  
invested in this  
approach, the total  
**Benefit**  
would amount to...



# Workshop examples (1/2)

## Cassava case

### 1. EXTENSION COST

Training Cost / farmer: 15,000 NGN  
Farmers cultivate 2,5 ha in average  
Training Cost / ha: 6,000 NGN / ha  
Adoption Cost / ha: 90,000 NGN / ha

#### Extension Cost

= Training Cost + Adoption cost  
= 6,000 + 90,000  
= **96,000 NGN/ha**

### 2. IMPACT

Additional Yield 20bags / ha  
Price per bag 10,000 NGN / bag  
Gross Marginal  
Revenue of farmers 200,000 NGN / ha

#### Net Marginal Revenue of farmers

= Gross Marginal Revenue – Extension Cost  
= 200,000 – 96,000  
= **104,000 NGN/ha**

### 3. BENEFIT/COST RATIO OF INVESTMENT (full adoptions\*)

BCR = Net Marginal Revenue / Training Cost  
= 104,000 NGN / ha / 6,000 NGN / ha  
= **17,33**

#### This BCR means:

##### If technology fully adopted\*

**1 NGN invested in Training generates  
17,33 NGN net marginal revenue**  
(or in simple words 14 NGN more profit)

\*) Full adoption: complete extension recommendation applied to the area with target crop

### 4. SCALING EXTENSION and TOTAL RETURN TO INVESTMENT

Training Cost / farmer: 15,000 NGN  
Farmers cultivate 2,5 ha in average  
Target outreach 5,000 farmers  
Training Budget  
needed and invested 75,000,000 NGN

#### Total return on investment

= # farmers x net marginal revenue x adoption area  
5,000 farmers served adopt technology for 1ha  
= 5,000 x 104,000 NGN x 1  
= **520,000,000 NGN**  
5,000 farmers served adopt technology for 2.5ha  
= 5,000 x 104,000 NGN x 1,5  
= **1,300,000,000 NGN**

# Workshop examples (2/2)

## Cassava case

### 1. EXTENSION COST

Training Cost / farmer: 9,000 NGN  
Farmers cultivate 1,5 ha in average  
Training Cost / ha: 6,000 NGN / ha  
Adoption Cost / ha: 70,000 NGN / ha

#### Extension Cost

= Training Cost + Adoption cost  
= 6,000 + 70,000  
= **76,000 NGN/ha**

### 3. BENEFIT/COST RATIO OF INVESTMENT (full adoptions\*)

BCR = Net Marginal Revenue / Training Cost  
= 84,000 NGN / ha / 6,000 NGN / ha  
= **14**

This BCR means:

If technology fully adopted\*

**1 NGN invested in Training generates**

**14 NGN net marginal revenue**

(or in simple words 14 NGN more profit)

\*) Full adoption: complete extension recommendation applied to the area with target crop

### 2. IMPACT

Additional Yield 16bags / ha  
Price per bag 10,000 NGN / bag  
Gross Marginal  
Revenue of farmers 160,000 NGN / ha

#### Net Marginal Revenue of farmers

= Gross Marginal Revenue – Extension Cost  
= 160,000 – 76,000  
= **84,000 NGN/ha**

### 4. SCALING EXTENSION and TOTAL RETURN TO INVESTMENT

Training Cost / farmer: 9,000 NGN  
Farmers cultivate 1,5 ha in average  
Tacet outreach 5,000 farmers  
Training Budget  
needed and invested 45,000,000 NGN

#### Total return on investment

= # farmers x net marginal revenue x adoption area

5,000 farmers served adopt technology for 1ha

= 5,000 x 84,000 NGN

= **420,000,000 NGN**

5,000 farmers served adopt technology for 1.5ha

= 5,000 x 84,000 NGN x 1,5

= **650,000,000 NGN**

## Q&A

Thank you



## Relevant links:

[www.africaforesight.com](http://www.africaforesight.com) ; [LinkedIn profile](#); [Daily Maverick article on Talent Networks](#); [Rhodes Must Fall, Oxford debate](#) (2016); [Forbes March 20 Feature](#); [TedX Talk at Africa Dialogues](#) “Dream to develop” (2017);



- Ugandan and currently working as Partnerships, Planning and Learning Specialist; at AFAAS Secretariat, Kampala & Eastern Africa Field Schools Hub Coordinator.
- Director, programmes, AAFAS -Responsible for coordination and management of EA Field School Support Hub (FS-Hub) hosted by AFAAS.
- He has passion for Agricultural Extension and Rural Development, with experience in participatory processes from the initial “farmer first” concepts. Has good appreciation and experience of participatory methodologies and tools, innovative approaches in agricultural development, including establishing and strengthening multi-stakeholder partnerships and collaborations and Master Trainer in Extension approaches.
- Has experience in the Comprehensive Africa Agriculture Development Programme (CAADP) processes and frameworks that are pro-poor based on African agricultural transformation for development.
- A member of CAADP Technical Network on Research and Extension and currently, he is the AFAAS-CAADP focal person.
- Has great appreciation of working with rural communities in Uganda gained while working with different organisations most notably: Africa 2000 Network, CIP (Farmer Field Schools) and Lutheran World Federation (community empowerment and transformation with the gender lens).
- Holds Masters Degree in Rural Development & BSc Hons Degree in Agriculture from Makerere University, Uganda. First Class Diploma in Agriculture; Post Graduate Diploma in Project Planning and Management, and a Candidate for Masters of Management Studies (Uganda Management Institute. Also holds a number of Certificates, most notably, a certificate in Farmer Managed Advisory Services from Nordic Agricultural Academy, Tietgen International – Denmark, and Master Trainer in Extension approaches. Currently PhD Student in the University of Free State University, South Africa .

# AFAAS Strategic Orientation

## GOAL

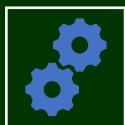
Enhanced utilization of improved knowledge and innovations by agricultural value chain actors for improving productivity oriented towards their individual and national development objectives.



STRATEGIC  
PILLARS



**Strengthening and expanding network and knowledge management capacities;**



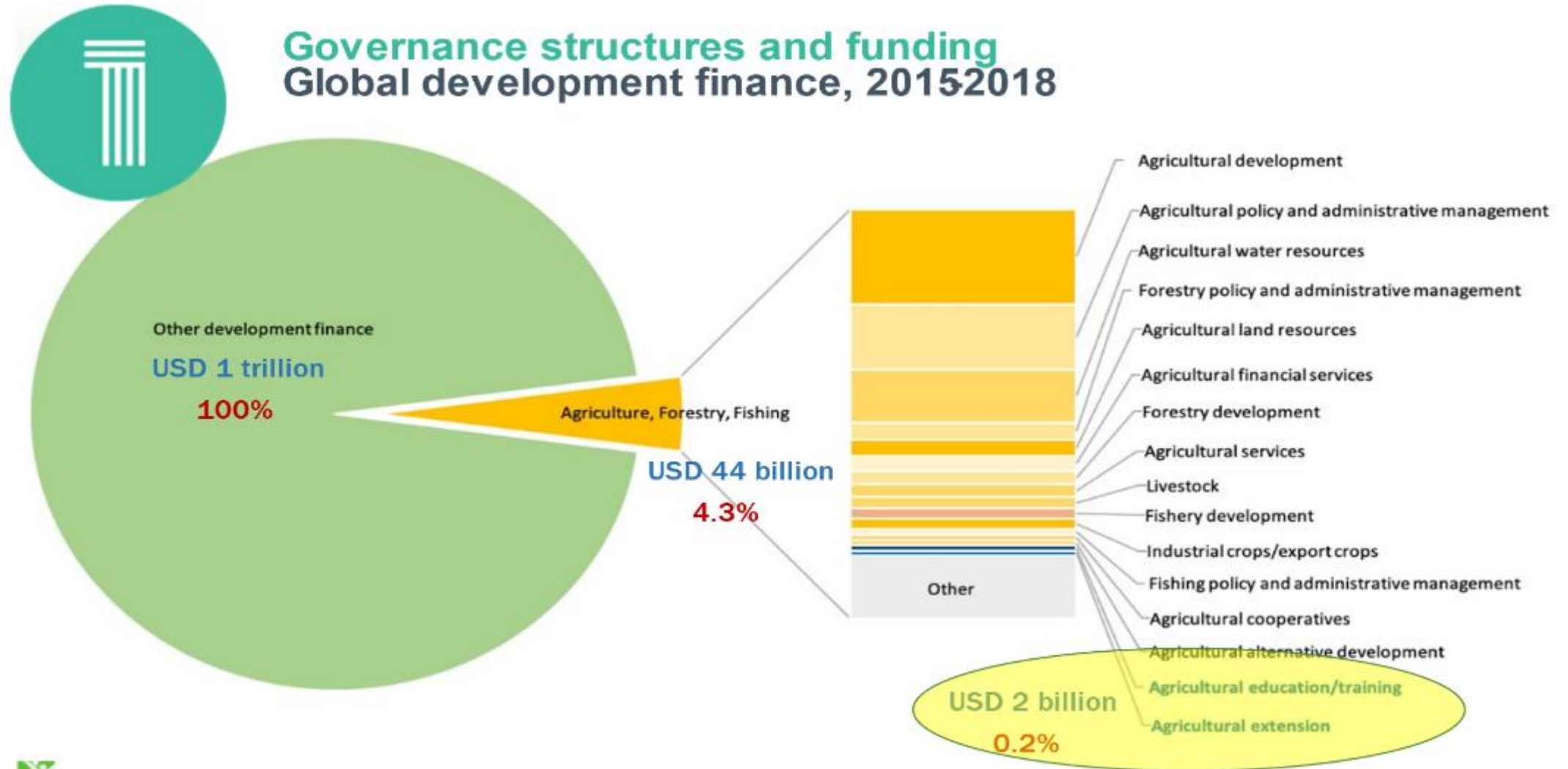
**Developing capacities for scaling out technologies and Innovations;**



**Facilitating advancement of AEAS.**



# Investment in Agricultural Extension Still a challenge



# Extension Benefit & Value

- Generally accepted (assumed) that extension is needed
    - beneficial & viable investment
    - important to improve and maintain productivity
    - Does increase profits along the whole value chain.
  - Extension is perceived as viable investment, but exact data and ways to measure return don't exist.
  - Sustained and increasing investments for extension, will –should- depend on its viability (\$ return on investment)
  - Important data is **not** captured, e.g;
    - Monetary input and return
    - Extension uptake and impact of different messages
    - Streamlining and focusing of extension (productive farmers, those adopting the messages)
    - Extension contribution to increased viability and revenue
- Little to no empirical studies/data of the economic (monetary) benefits of agricultural extension

# ROI in Extension Services..

Returns to agricultural human capital depend not only on the quality of agricultural human capital, but also on

- the availability of complementary inputs (credit, market linkages, roads, communications, agricultural inputs, infrastructure such as irrigation, and others)
- broader enabling environment.



# Levels of capacity assessment in AEAS

## 1. Enabling Environment

- Nutrition context
- Policy context
- Stakeholder mapping

## 2. Organisational Capacities

- Mandate
- Human and financial resources
- Capacity development initiatives
- Programs promoting nutrition-sensitive agriculture/nutrition
- Partnerships
- Use of ICE materials
- Challenges

## 3. Individual Capacities

- Technical capacities
- Functional capacities



# Call for Action from AEW2021

- Enabling policies and strategies
- Structural arrangement – Extension systems
- Pluralism in Extension Delivery
- Use of blended approaches in training and extension for quick response
- Governments, development partners, civil society and private sector actors to build capacity for AEAS actors and farmers as well as providing the necessary infrastructure for operating under pandemics and emergencies.
- Women and youth : promotion of holistic approaches

# Key Messages

- **Championing Pluralistic** Extension with mixed approaches and tools
- **Promoting Capacity and policy;** which are key for Agricultural transformation;
- **Improve results** by learning more quickly and making iterative, timely course corrections
- **Reinforce the strategic direction** of investments by including learning in all policy-making, agricultural planning (e.g., NAIPs) and implementation
- **Identification and focusing on priorities** to strengthen strategic direction in AEAS
- **Accommodate short and longer-term priorities** and intentionally build evidence over time towards strategic objectives
- **Strengthen particular components of an AAS system** to improve overall performance
- **Contribute to the global good** of understanding what works in AEAS
- **Guide studies/evaluations** on specific topics in extension

**Thank you**

## Speaker **3**

### Mr. Neil Cole

Executive Secretary; Collaborative Africa Budget Reform Initiative (CABRI).



- Has more than 20 years professional experience in the field of Public Financial Management and international financial relations.
- Worked for the National Treasury of South Africa for 12 years in senior management positions in the Budget Office and in the International Economic Policy divisions. Role: Policy advice and implementation of budget reforms; expenditure planning of national government; co-ordination of the national budget process; policy advice on South Africa's engagement with the rest of Africa; and served as a representative to several bilateral forums and multilateral development banks.
- Has worked for UCT in the Student Advice Office.
- Has participated in many global forums on development effectiveness and represented South Africa on the committees that drafted the Accra Agenda for Action and the Busan Partnership agreement.
- Currently is the Executive Secretary of the CABRI; an inter-governmental organisation that provides a platform for peer-learning and exchange for approximately 30 African ministries of finance and planning. CABRI's work covers: fiscal and budget policy; budget transparency and accountability; and public debt management.

CABRI's website [www.cabri-sbo.org](http://www.cabri-sbo.org)

The relevance of investment in  
agricultural extension for trade,  
value chains and Employment.  
*Producing Food for the Future.*



# Overview

- Growing importance of agriculture value chains
- Typical value chain map
- Links to employment (youth and women), trade, regional integration and climate change
- Case study on the rice and cassava value chain in Nigeria

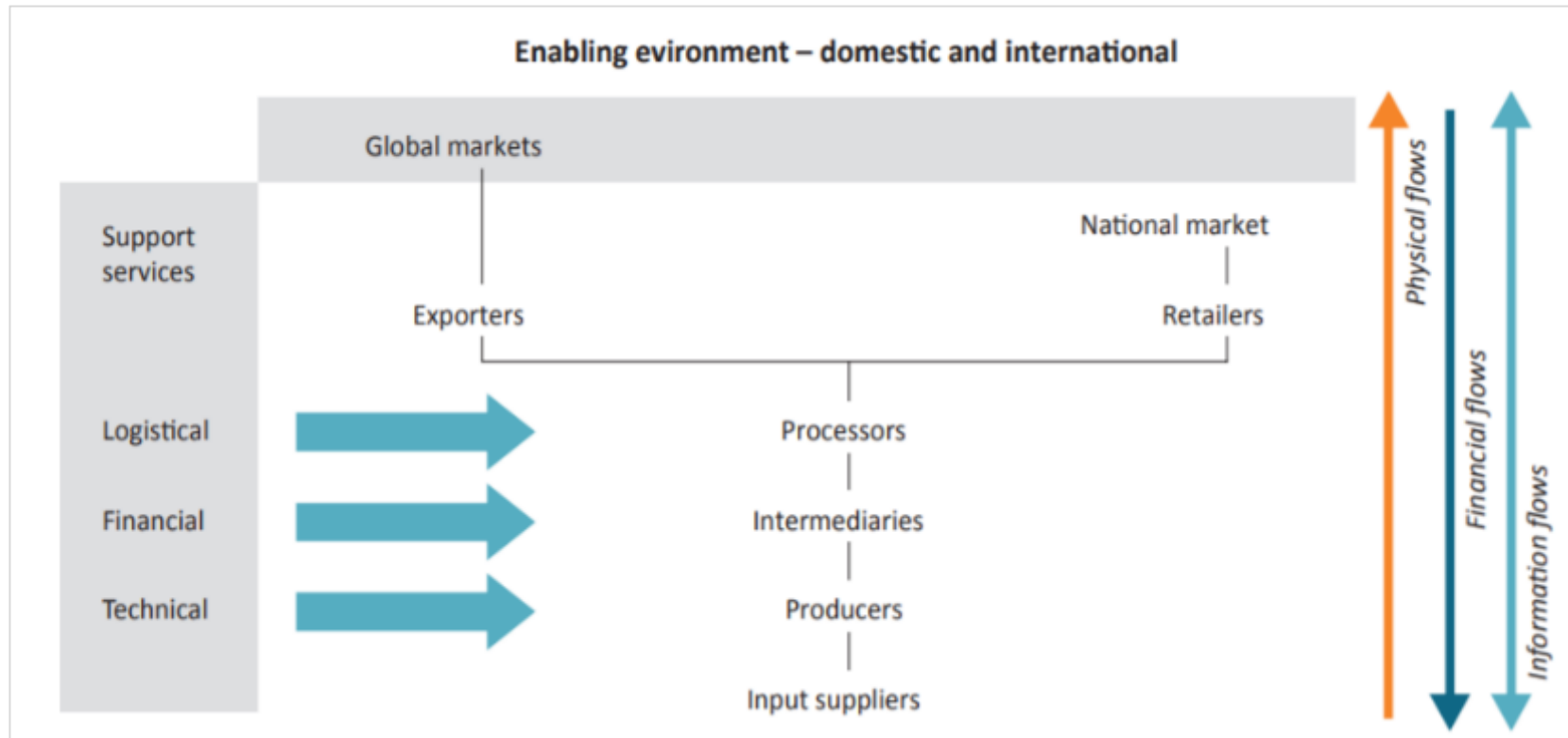


# Agriculture Value Chains

- Agriculture is and will continue to be important, with food value chains estimated to generate USD 1 trillion by 2030, a 219% increase from its 2010 value (World Bank, 2013).
- Africa is net food importer with a food import bill of about US\$30 billion a year (World Bank, 2020).
- Much of this could be produced locally, through regional food markets or imported from other African countries.
- Provides opportunities for sustainable employment, especially for youth and women.
- The contribution to employment and output is larger when an agriculture value chain approach is applied, which includes off-farm production such as processing, logistics and marketing.

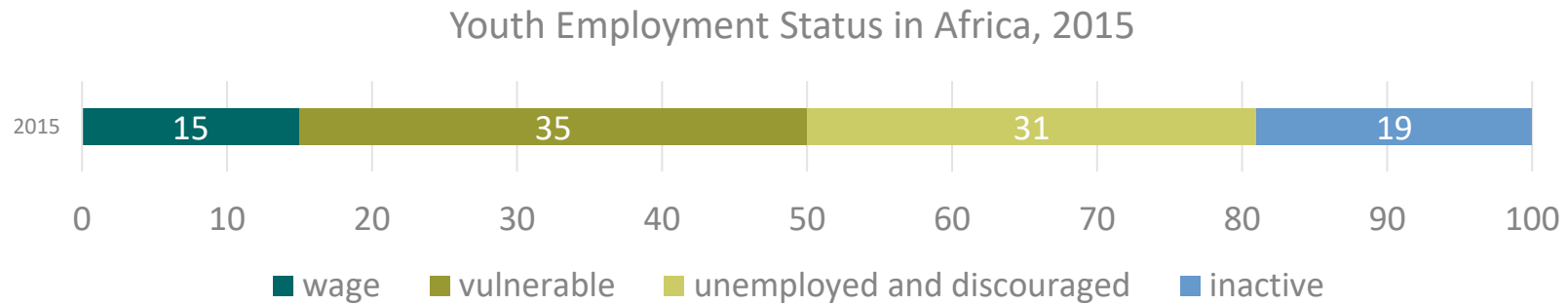
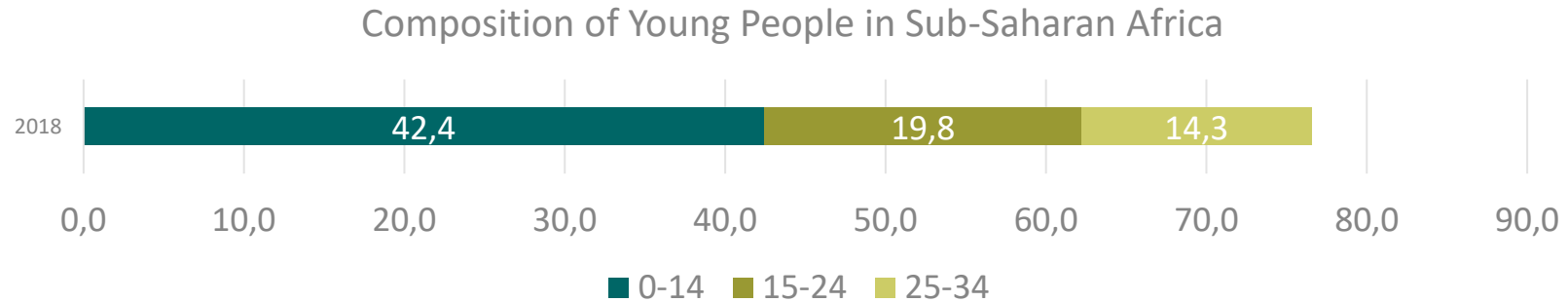


# Typical Value Chain Map



A value chain approach that addresses the whole chain and recognises that development cannot proceed faster than the progress in the slowest link in the value chain

# Youth Employment in Agriculture



A condition for social tension



# Youth Employment in Agriculture

- Every year, 10 to 12 million youth in Africa enter the job market, however only 3 million formal jobs are created (World Economic Forum, 2017).
- The vast majority are absorbed into the agriculture sector, which remains most prominent, employing on average 70% of the labour force in low income African countries and more than 50% in respective lower middle-income economies(World Bank, 2014).
- Growing recognition in African countries of the need for policies that support youth employment.
  - Specific: Vocational training and enterprise start-up,
  - Broader: Household and social policy, including migration, household welfare and community engagement.
- The role of the government in African agriculture is complex. Research, extension, information services, quality control, public infrastructure and trade policy are managed mostly by the government.



# Trade, Regional Integration & Climate Change

- The Africa Continental Free Trade Area offers an opportunity to boost trade and integration
  - Extension services will be key – ensuring that farmers are producing the right products for the African market, including for food processors (this is particularly important given the seasonality of agriculture in Africa)
  - Questions remain about how to regionalise public finance
- Extension services also central to climate change adaptation. Sustainable farming practices and access to alternative technologies that will increase resilience of farming communities.
  - Mauritius currently has a program which provides extension services to farmers for sustainable and climate smart agriculture. Part of the package is a network of extension officers, model farms/demonstration centres, training schools for farmers, pest and disease diagnosis/early warning, agro-processing resource centre (for capacity building and mentoring of new agro entrepreneurs), dedicated women and youth unit.



# Rice and Cassava Value Chains: Nigeria

- Case study was part of CABRI's work in 2019 on, 'the role of African governments in developing agriculture value chains'.
- Rice and cassava are priority crops for the government of Nigeria, recognised in the two main strategy documents: Economic Recovery and Growth Plan and the Agriculture Promotion Policy 2016–2020
- Rice and cassava are key crops for routine research and extension. Support for research and extension is also central for each of the four major projects reviewed in the case study:
  - Agricultural Transformation Agenda Support Programme – Phase 1
  - Economic Recovery and Growth Programme and Anchor Borrowers' Programme
  - Value Chain Development Programme
  - Agro-Processing, Productivity Enhancement and Livelihood Improvement Support Project



# Rice and Cassava Value Chains: Nigeria

## Key learnings:

- Extension services can be effective in increasing productivity, reducing farm losses and better connecting farmers to markets
- However, this is only part of the picture. A value chain approach can help identify other blockages that may limit growth.
- Most assessments of constraints to farmers reported that poor rural transport is a major impediment for farmers looking to market crop surplus.

There has been remarkable increase in the production of cassava in Nigeria. However, once harvested, it starts to decompose after 24 hours, which means that transport constraints are critical. The latter is further exasperated as the crop is mainly harvested during the wet season, when the roads are frequently impassable.



<https://www.cabri-sbo.org/en/publications?sub=281>

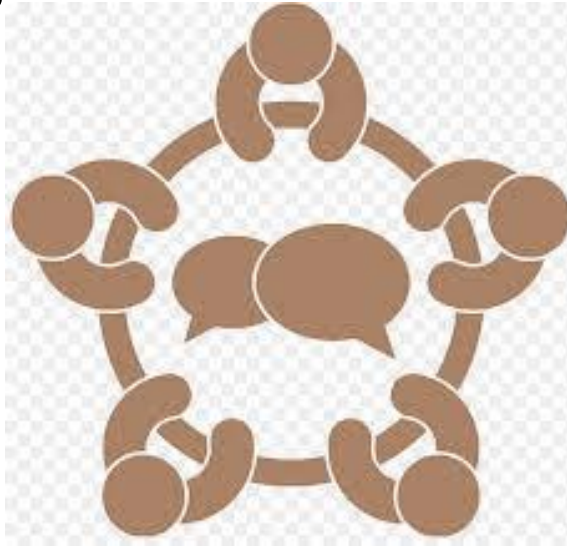
**For information on CABRI's work visit our website [www.cabri-sbo.org](http://www.cabri-sbo.org)**

Thank you



## Discussion

- What was new?
- What can you confirm with own experience?
- What was useful?
- How to replicate



- Quoi de neuf ?
- Que pouvez-vous confirmer avec votre propre expérience?
- Qu'est-ce qui était utile ?
- Comment répliquer ?