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Center for
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FARA

How to boost African food production to increase resilience in times of pandemics: Innovation, investment and policy priorities

Side session at Cultivate Africa, 18 November 2020

Session overview

Chair: Dr. Felister Makini, Kenya Agriculture and Livestock Research Organisation

Impacts of Covid-19 on the African food and beverage manufacturing industries: Insights from Kenya, Nigeria and South Africa - *Dr. Heike Baumüller, ZEF*

Targeting and scaling innovations to raise productivity in smallholder farming systems - *Dr. Oluwole Fatunbi, FARA*

Prioritizing investments in mechanization along the value chain to increase productivity, efficiencies and resilience - *Dr. Oliver Kirui, ZEF*

Building inclusive markets for income generation, resilience and food security - *Dr. Getaw Tadesse, Akademiya2063*

Impacts of Covid-19 on the African food and beverage manufacturing industries: Insights from Kenya, Nigeria and South Africa

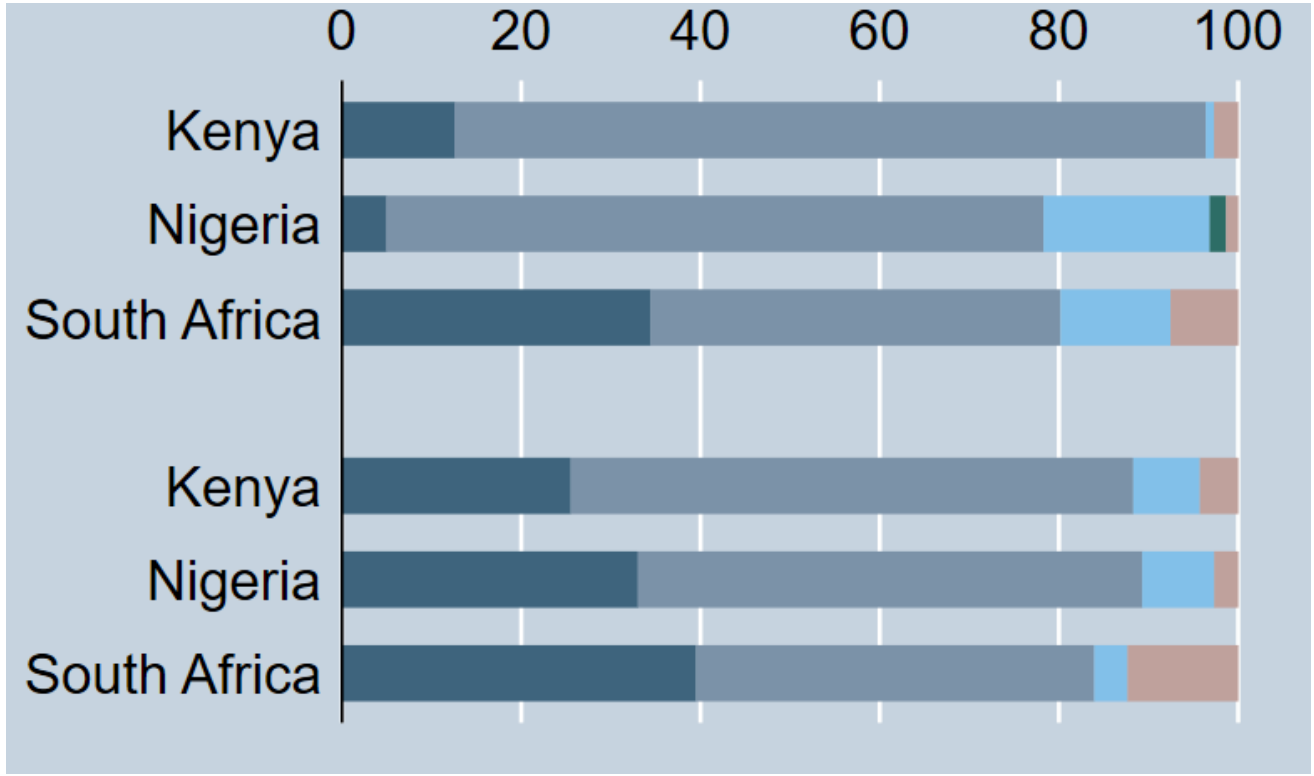
Dr. Heike Baumüller, Center for Development Research (ZEF), University of Bonn

Research approach

- **Research question:** How are (domestic and foreign) Covid-19 related containment measures impacting African food and beverage manufacturers and their staff?
- **Focus countries:** (Ethiopia), Kenya, Nigeria and South Africa
- **Data collection:** 2 rounds of phone surveys (May and Sept./Oct. 2020)
- **Impacts assessed:** status of operation, production patterns, input costs, employment, cross-border transactions
- **Findings of Rd 1:** bit.ly/C-19andAfrica

Status of operation by country

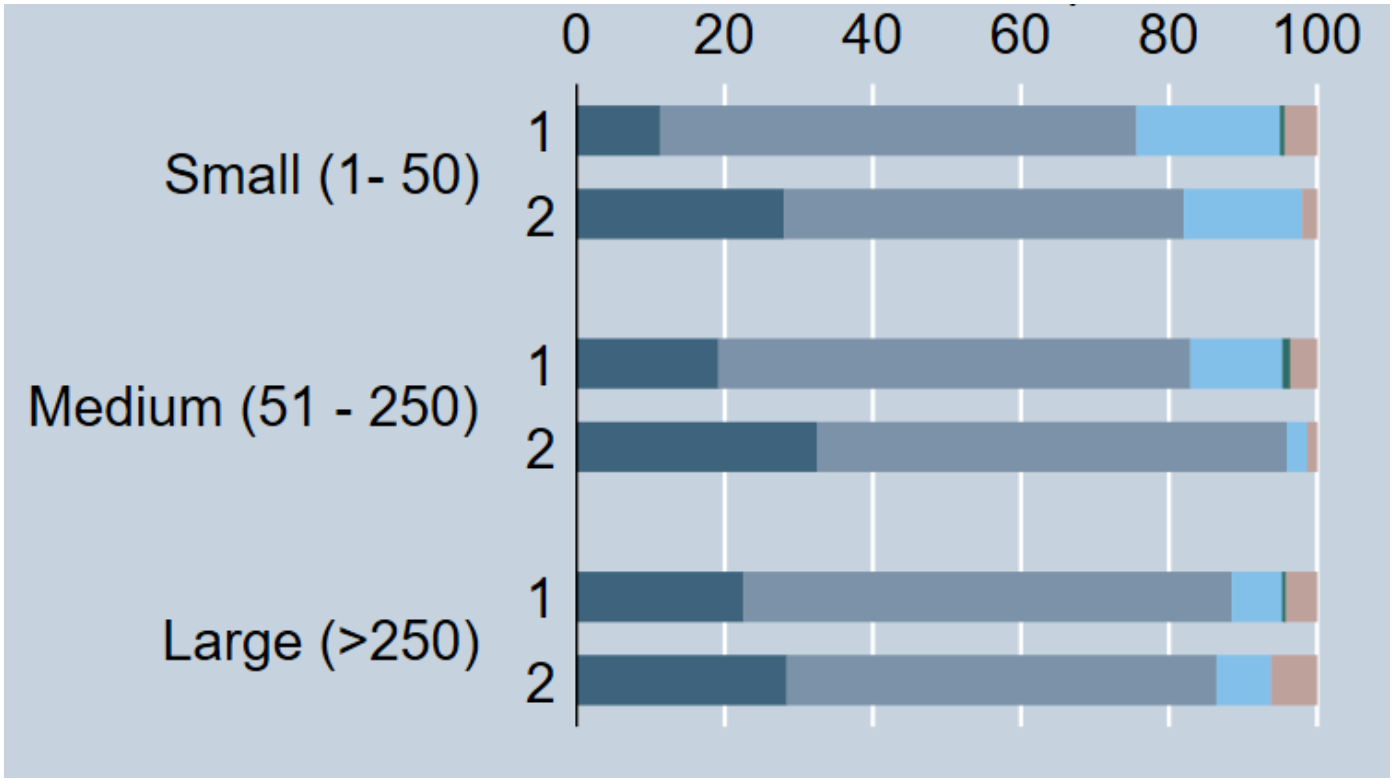
As a result of the corona pandemic, which of the following four options best describes your current state of operation?



Source: Baumüller et al. (forthcoming)

Status of operation by company size

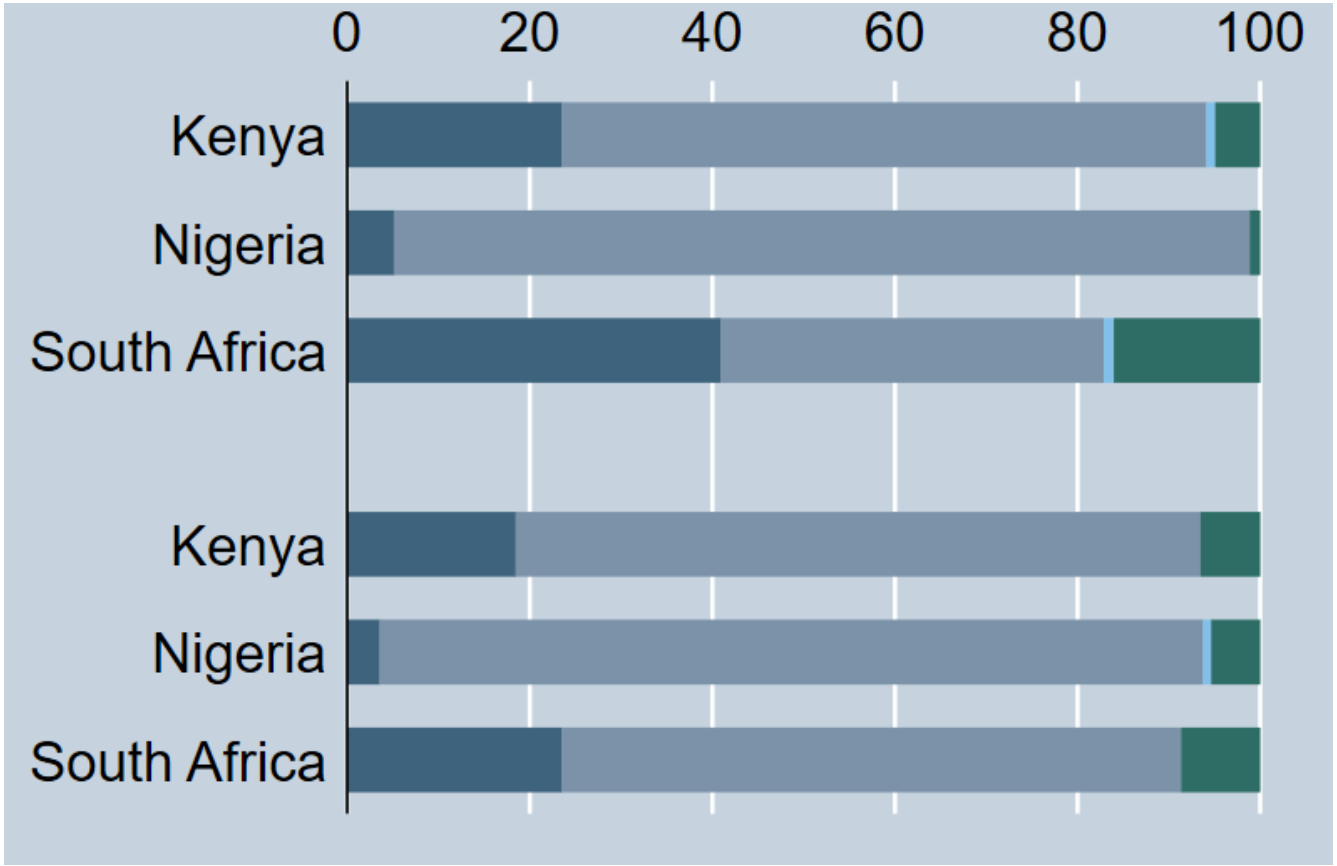
As a result of the corona pandemic, which of the following four options best describes your current state of operation?



Source: Baumüller et al. (forthcoming)

Price of inputs

Because of the situation, which of the following have you experienced with regards to raw materials?



Source: Baumüller et al. (forthcoming)

Other findings

- Companies mostly held on to their **employees**, but at times had to reduce salaries.
- Many companies were impacted by **delays and additional requirements at the border**.
- Many Kenyan companies saw their **exports** fall while South African and Nigerian companies saw drops in **imports**.
- Companies most frequently called for **practical and business-survival interventions** rather than fundamental changes e.g.
  - re-opening of the economy
  - financial support
  - tax relief
  - assistance in the area of health & safety.

Source: Baumüller et al. (forthcoming)

Targeting and scaling innovations to raise productivity in smallholder farming systems

Oluwole Fatunbi, Forum for Agricultural Research in Africa

Background

The Hypothesis
Technologies and brilliant approaches remains in pilot until complementary processes that enable scale is in place.

Scaling

- **Reaching more people**
- **Greater efficiency per person reached**
- **System change and sustainability**

Scaling out

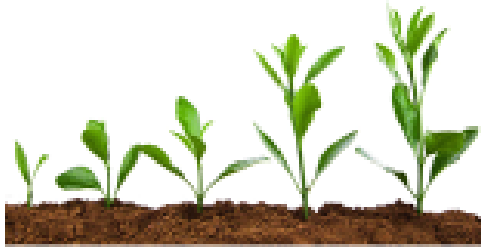
Providing **access to** and facilitating **effective use** of specific or group of technologies for benefits.

Scaling Up

Provision of appropriate **institutional support** to aid the adoption, use and successful benefit from specific technologies

Mediators of Scaling Technological Innovation

Planned scaling of Technology



Technologies developed with benefit pathway in view

Technology packaging

-Cost effective / Socially acceptable

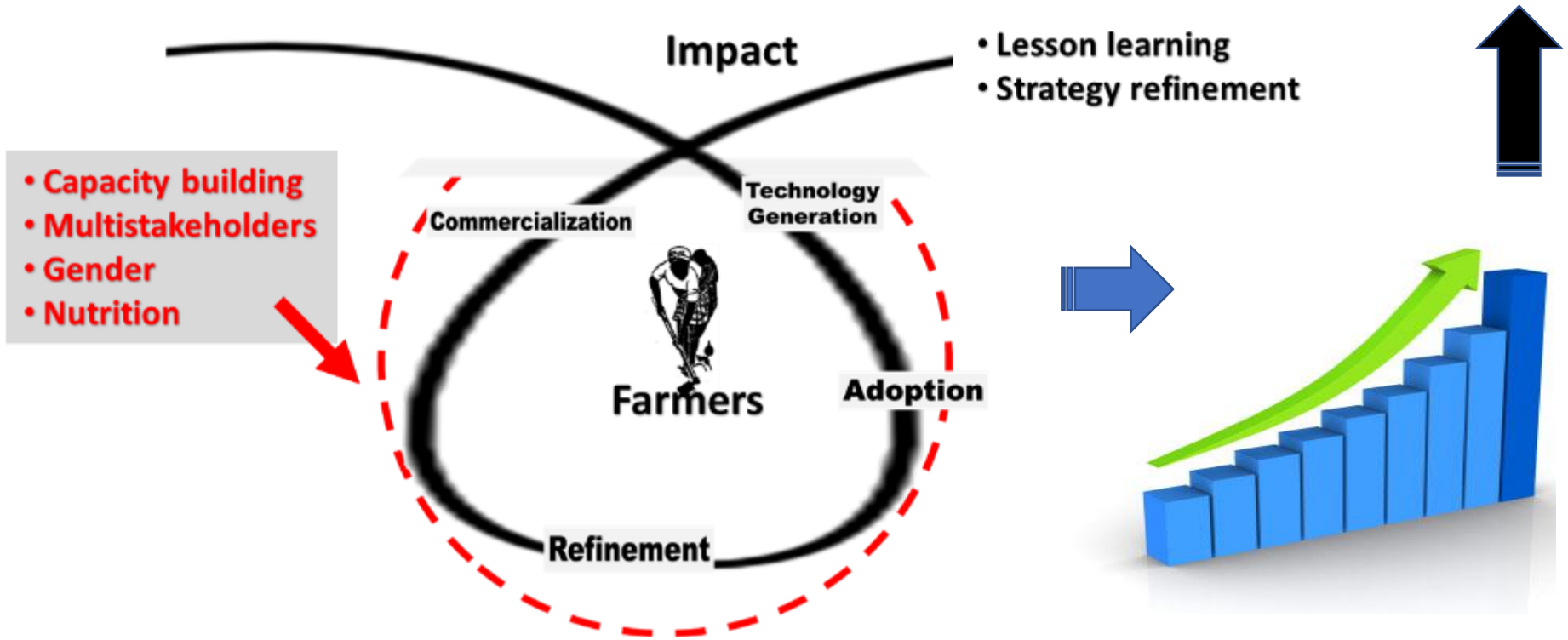
-Less drudgery (time; rigor; complication)

Market stimulation

- Commodity competitiveness (price/quality)
- Development of new product
- Market science and packaging

A Iterative loop scaling strategy

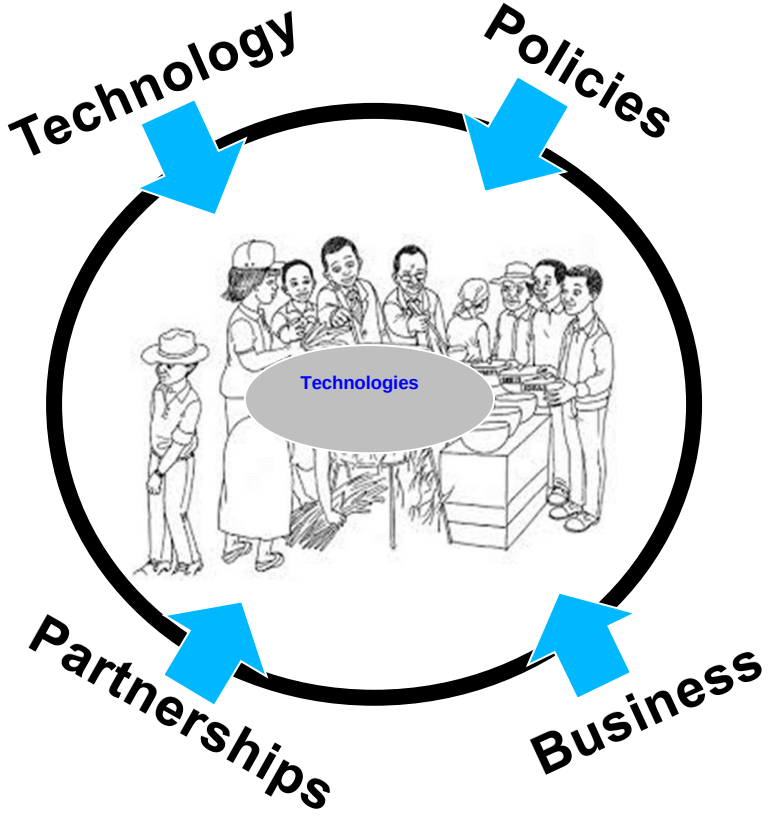
Scale-up
Scale-out



B Invest in the enablers factors to bring technologies to scale

Technologies rides on
benefits to come to scale

BInvest in the enablers factors to bring technologies to scale



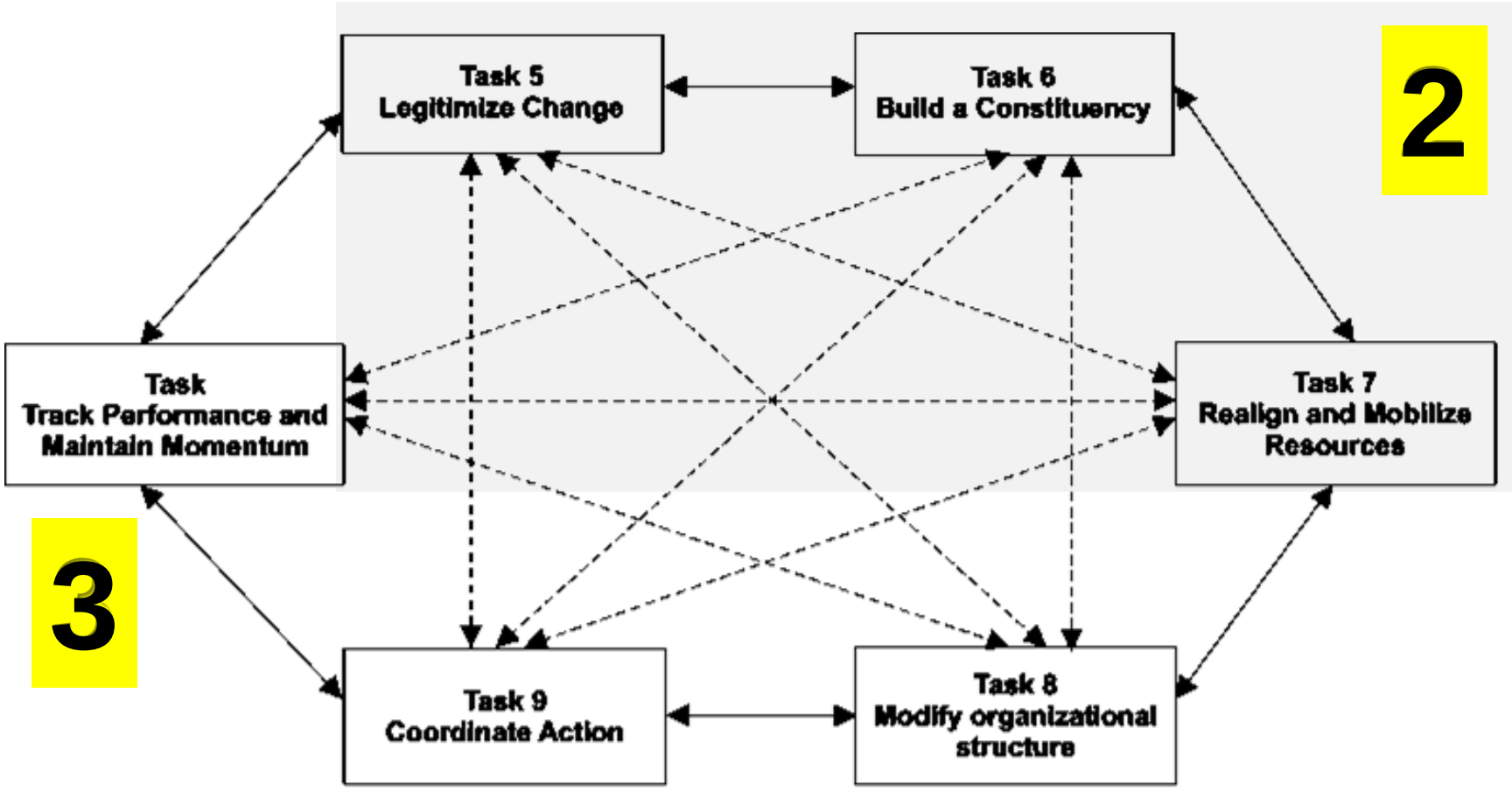
Innovation

- Technological
- Institutional
- organizational

Suitable Model for Scaling-up Innovative Approaches

1

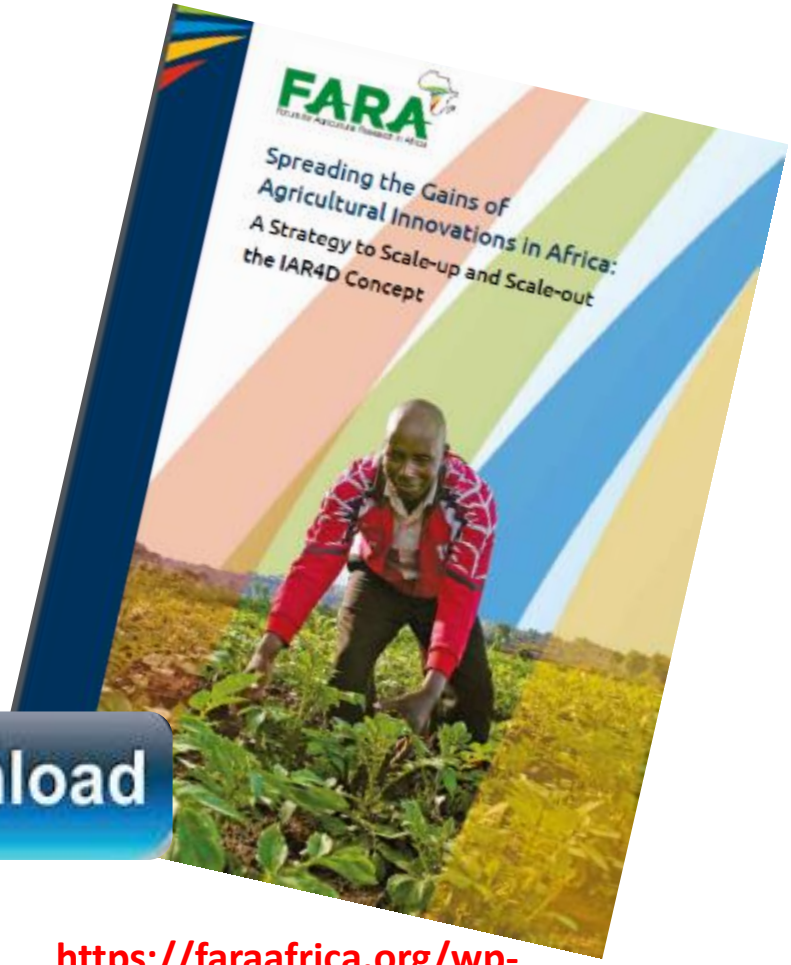
Develop the scaling plan



Way Forward

1. Scaling technologies and approaches out and up requires strategic actions.
2. Successful scaling of approaches requires the specific enables which should function to drive the approach.
3. Scaling technologies as well as approached requires effective market end action.
4. Active policy and institutional order is still largely required to ensure coherence in action and profitability of the various enterprise.
5. Investment in the research system is vital for continuous growth and attendance to emerging trends and adverse occurrences.

FARA recently published two books on scaling technologies and innovative approaches



https://faraafrica.org/wp-content/uploads/2018/02/STRATEGIES-FOR-SCALING-AGRICULTURAL-TECHNOLOGIES-IN-AFRICA.pdf

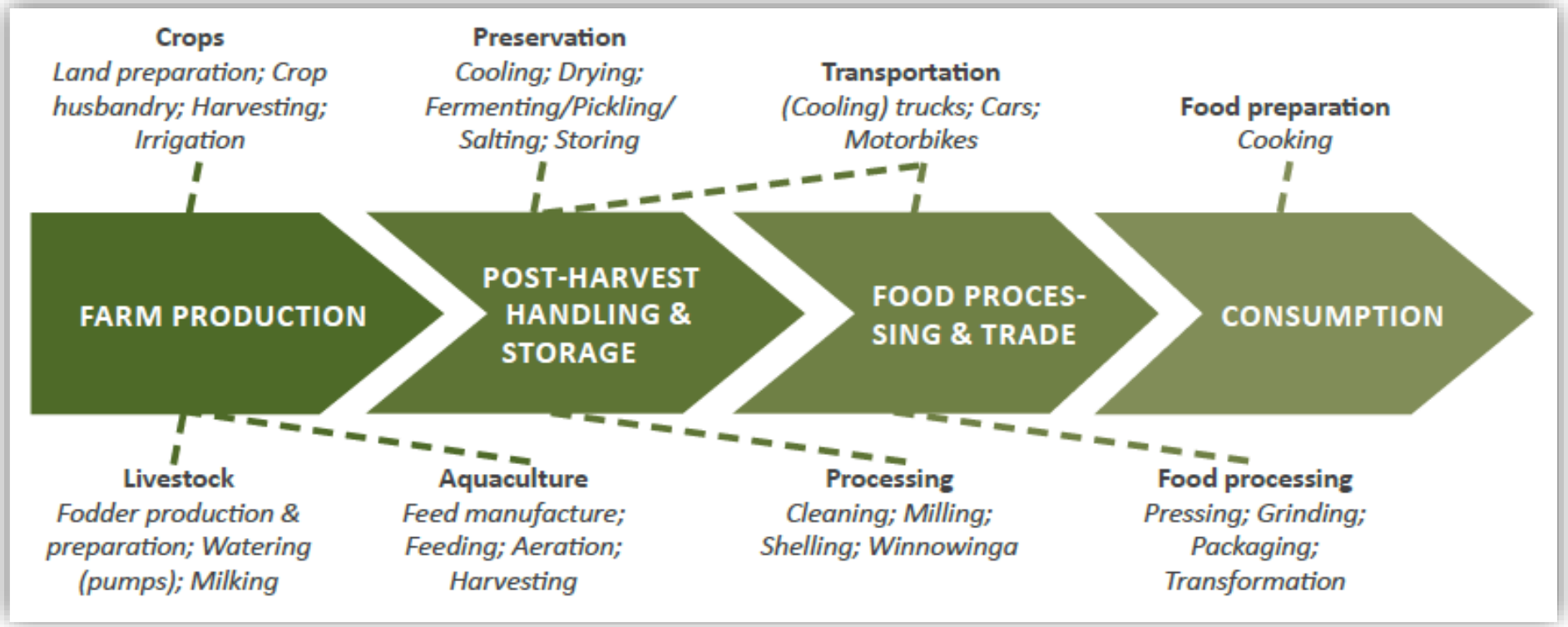
https://faraafrica.org/wp-content/uploads/2015/07/Spreading_the_gains_of_agr_innovations.pdf

Prioritizing investments in mechanization along the value chain to increase productivity, efficiencies and resilience

Dr. Oliver Kirui, Center for Development Research (ZEF), University of Bonn

Entry points for mechanization along agrifood VCs

Agricultural mechanization: use of animal or mechanical power along agrifood VCs



Baumüller et al., 2020

Challenges and reality of mechanization in African

- Africa is the least mechanized region in the world
  - Land preparation for cereal production: <10% of farmers use tractors, 15% use animals
  - Mechanization levels down the value equally very low
- Several Implications:
  - Main constraint to increasing domestic food supplies and productivity
  - Solution to labor shortages but also raises the demand for labor because yields increase
  - Increase the amount of cultivated land and reduce loss during harvesting.
- Beyond farm: lack of processing, preservation, transportation & storage technologies:
  - Reduce the amount of already produced food, thus, affecting food supply by
  - Considerable losses during postharvest handling
  - Storage losses and contamination (e.g. with aflatoxins)
  - Increased food losses especially for highly perishable commodities (fish, fruits, vegetables)

Why promote mechanization?

- Reducing drudgery of labor has significant benefits (nutrition, health, wellbeing)
- Poverty reduction is not possible without increasing the productivity of labour
- If land expansion is possible, mechanization can increase employment
- Smallholder farmers can benefit, if appropriate business models (e.g., service providers; cooperatives) are developed

- Drivers for mechanization:
  - Rise of medium-scale farmers – can buy machinery and often serve smallholder farmers
  - "Uber"-type digital services – reduce transaction costs
  - Falling machinery prices due to increased price competition (manufacturers from India & China)

Opportunities for change?

- Neglected field from the 1990s onwards due to lack of success of state-driven mechanization projects of the 1970s/1980s
- Renewed interest in recent years:
  1. Strong interest by policy makers in Africa: overcoming the "hoe and cutlass" culture to make agriculture attractive for the youth
  2. Interest by private sector (and manufacturers of machinery): Africa identified as a major future market
  3. New technological options: smallholder farming in digital age – e.g. Uber tractor

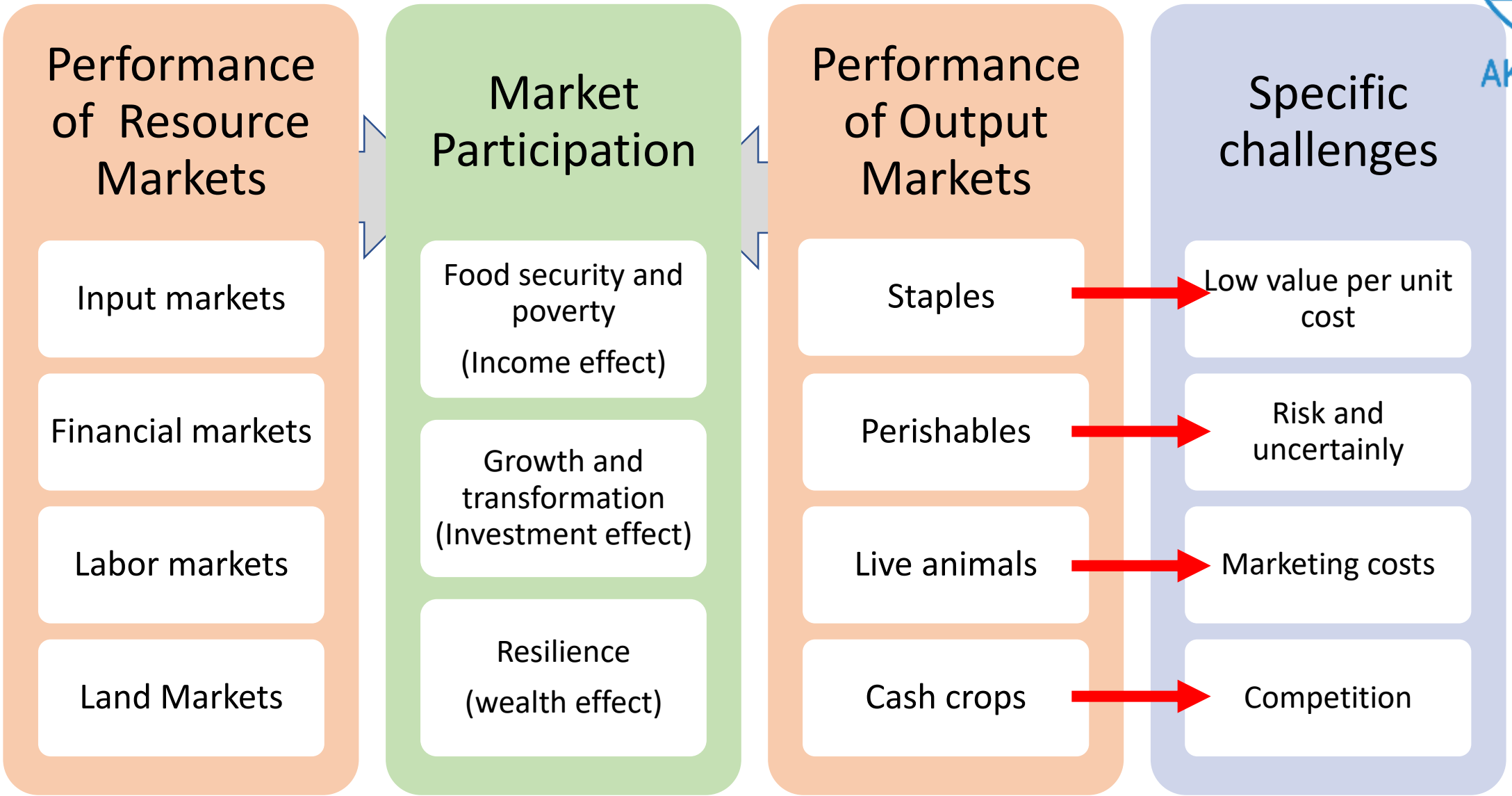
Conclusions and policy priorities

- Public action should focus on the entire agrifood VC: from land preparation to postharvest handling and food processing.
  - Strengthen knowledge and skills – capacities for the development and production of machines, and use and repair of machinery.
  - Improve financing and risk management of agricultural machinery – Policies to create a conducive environment for private providers of credit & insurance.
  - Promote public research to support an environmentally, socially and economically sustainable expansion of mechanization.
  - Create a favorable business climate for local suppliers of machinery, e.g. through fiscal and trade policy measures and investments in infrastructure.

Building inclusive markets for income generation, resilience and food security

Dr. Getaw Tadesse, Akademiya2063

The roles and challenges of market participation

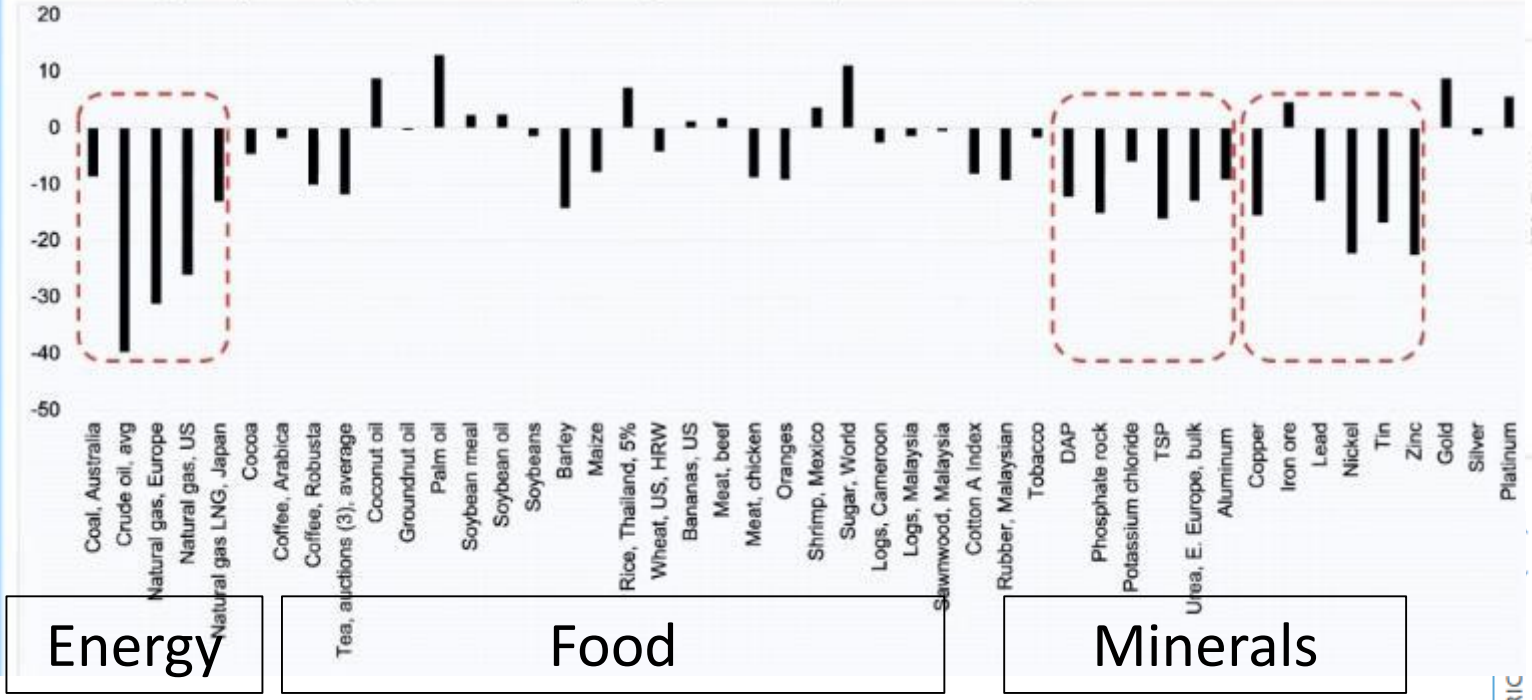


The effect of COVID-19 on markets performance

AKADEMIYA

The COVID-19 pandemic has driven most primary commodity prices down in 2020

Changes in predicted prices in 2020 for primary commodities prices between April 2020 and October 2019 forecast

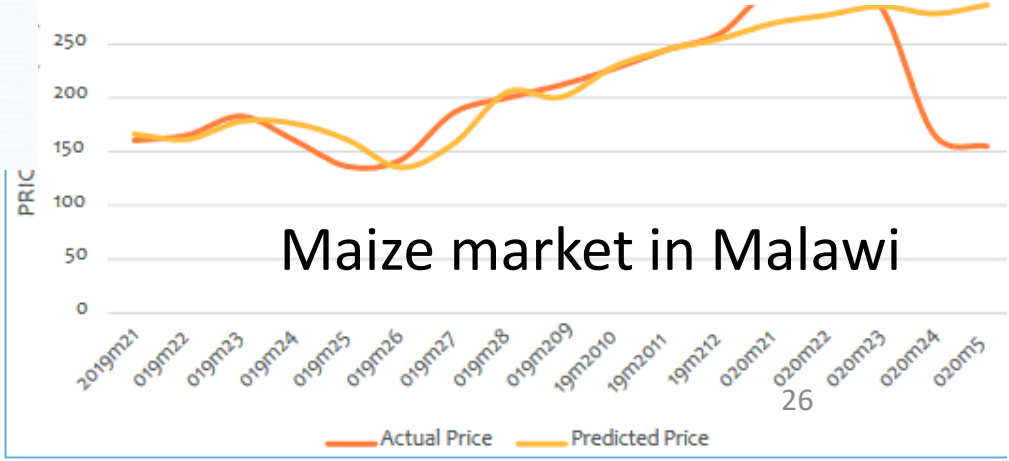


Energy | Food | Minerals

Global Markets

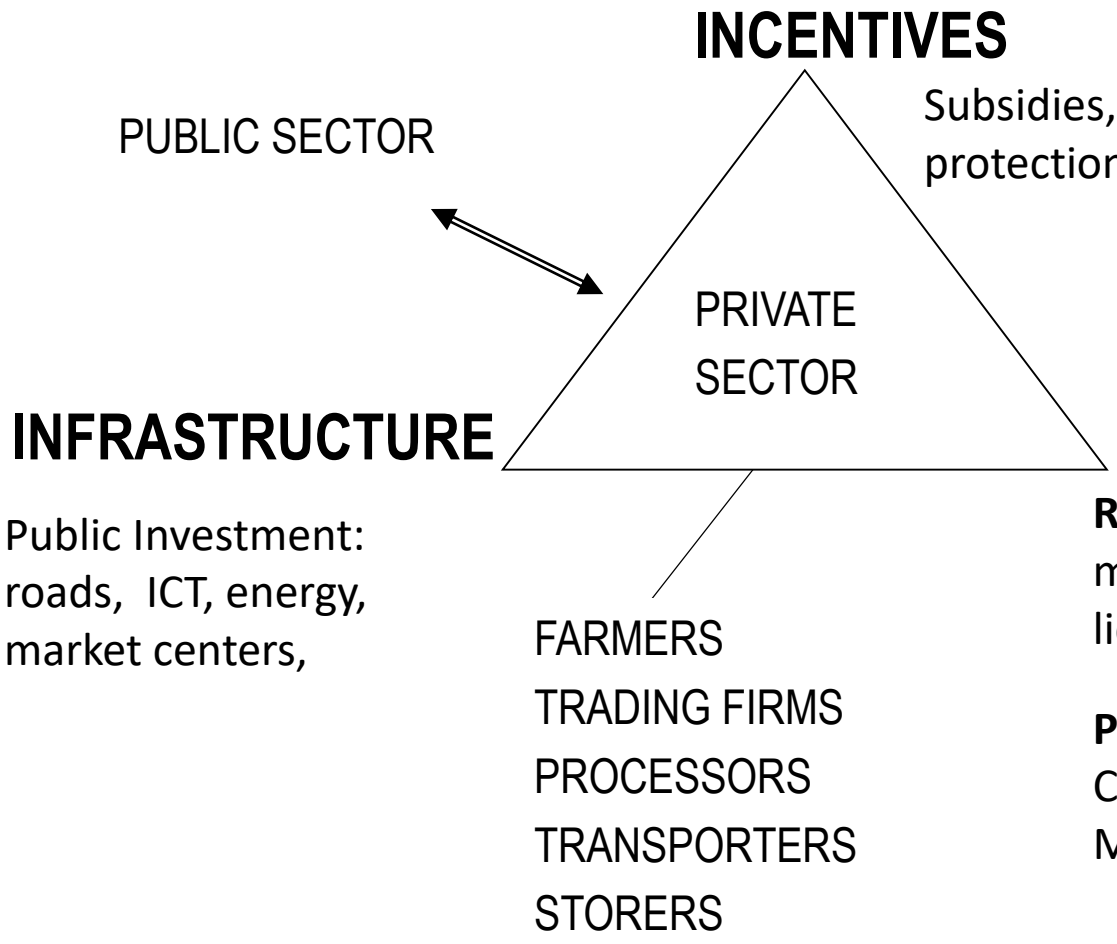
Millet market in Senegal

Maize market in Malawi



Source: https://akademiya2063.org/covid-19.php

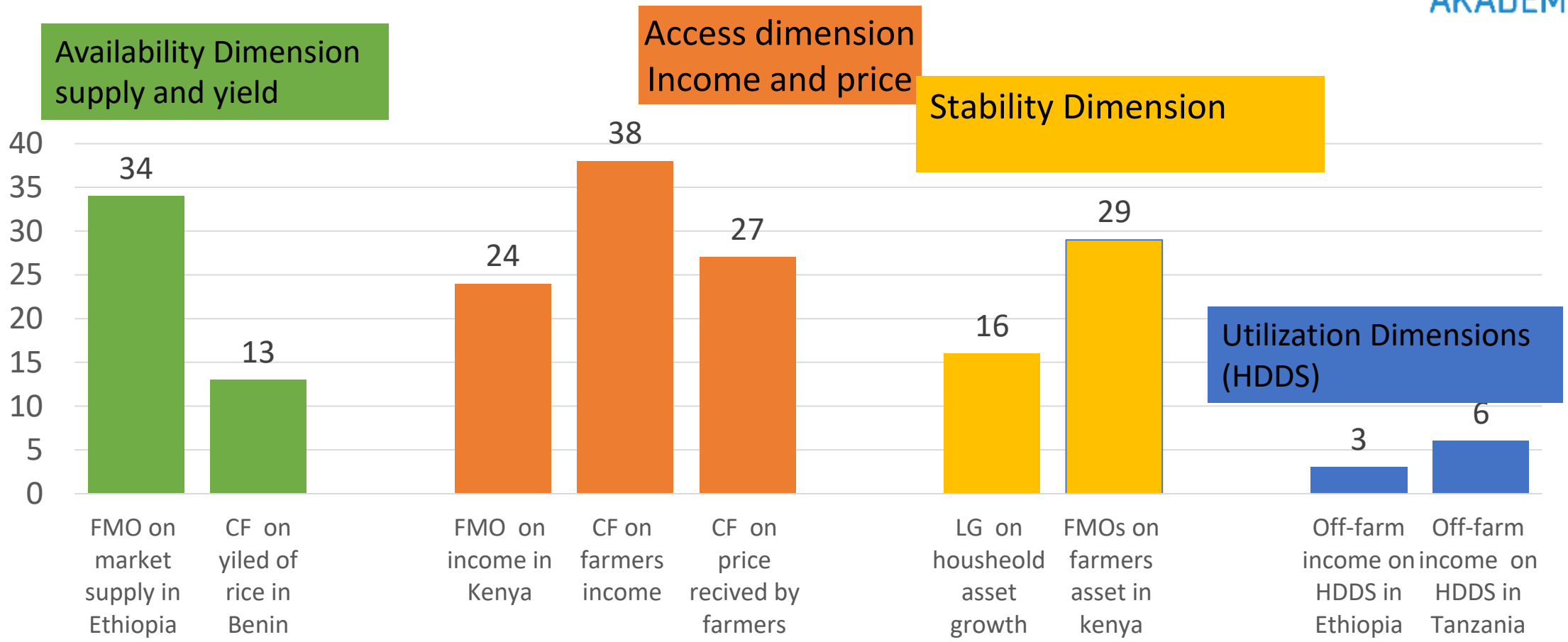
Building competitive and resilient markets



Markets for smallholders

- **Structural**
  - Rural income diversification
  - Promoting value addition
  - Land consolidation
- **Functional**
  - Developing local markets
  - Promoting FMOs
  - Promoting contract Farming

Impacts of market access interventions on food security



The need for building inclusive market access

- Poor farmers and rural households are marginalized
  - Participate less in income diversification programs
  - Participate less in FMOs and CFs
  - Impact of FMOs/CFs on income is higher than on poverty and food security

- Best practices
  - Livelihood grant over credit for the poor
  - Specialized and targeted FMOs than multi-purposes
  - Expansion of CF for food products
  - Priority investment in rural producers markets

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