CGIAR

Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Science, Innovation and Policy Symposium

IFPRI HQ, Washington D.C., 10-11 December 2024

Welcome to Day 2

ROB VOS, Initiative Lead

CGIAR | Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Dec. 11

AGENDA

Rethinking Food Markets and Value Chains for Inclusion and Sustainability

PLENARY SESSION D			
9.15 – 9.30am	Welcome to Day Two	Rob Vos, IFPRI and initiative lead and Christine Chege, Alliance Bioversity & CIAT	Conference Room 12A
9.30 – 11.00am	**Policy Seminar**	Moderator: Christine Chege, ABC	Conference Room 12A
11.00 –11.30am	Refreshments/networking		12th Floor
PLENARY SESSION E			
11.30am-12.30pm	What do we know about the degree of inclusiveness and employment generation potential of agrifood value chains?	Moderator: Ruth Hill, IFPRI	Conference Room 12A
12.30 – 1.30 pm	Lunch and networking		12th floor
PLENARY SESSION F			
1.30 – 2.45 pm	Feasibility of scaled agrifood value chain innovations, trade-offs and policy reform scenarios	Moderator: Rob Vos, IFPRI	Conference Room 12A
2.45 – 3.15 pm	KISM & guidance documents for innovation adoption and support policies	Kristin Komives and Karin Kreider/Naomi Black, ISEAL	Conference Room 12A
3.15 – 3.45 pm	Refreshments and networking		12th floor

⏭ Continued...

PLENARY SESSION G			
3.45 – 4.45 pm	From pilot to scaling. How to determine scaling preparedness and scaling feasibility? Experience from Ethiopia, Honduras, Nigeria and Uganda	Moderator: Rajalakshmi Nirmal, IFPRI	Conference Room 12A
4.45 – 5.30 pm	Closing Panel Discussion	Moderators: Rob Vos, IFPRI and Christine Chege, Alliance Bioversity & CIAT	Conference Room 12A
5.30 – 6.30 pm	Cocktail reception and networking		12th Floor

Housekeeping

Rethinking Food Markets and Value Chains for Inclusion and Sustainability

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TIME LIMIT

Each speaker will have 15 minutes time for presentation;
Discussants will have five minutes each

RECORDING

We would like to record the sessions on both days and then share it on KISM – the initiative's knowledge platform. So, request you to sign the consent form, if you have not done already.

HOW CAN I ASK A QUESTION/COMMENT?

We will have a Q&A section at the end of each session
Virtual audience can pop the question in the **chat box /Q&A section**

FIND PRESENTATIONS HERE: https://drive.google.com/drive/folders/1iMtKCydLq4-j1J2yMs9qVarGti2IcEdQ?usp=sharing

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Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Plenary Session D: Policy Seminar

Conventional wisdoms about food system innovations and policies: myths and realities

Moderator: Christine Chege, ABC

Introductory Remarks: Johan Swinnen, IFPRI Director-General

Presentation:

Thomas Reardon, MSU & IFPRI

Discussants:

Bart Minten, *IFPRI (Online);* **Saweda Liverpool-Tassie**, *MSU (Online);* **William Buyungo Luyinda**, *Cofounder & CEO, EzyAgric (Online) ;* **Samson Akankiza Mpiira**, *Executive Director, DDA, Uganda;* **Wonekha Deogracious**, *Senior Dairy Development Officer MAIF, Uganda (Online)*

Conventional wisdoms (myths) versus realities about food systems: implications for re-alignment of policies

Thomas Reardon, MSU & IFPRI

Plenary talk at Rethinking Markets Workshop

December 11, 2024

1. Sequence of research to better align policy with food system realities

1.1. Government/donors have CW (conventional wisdom, premises, assumptions about what situation is, what works best)

1.2. CW then influences government/donor actions (policies, investments, programs, external or exogenous innovations)

1.3. Research on what is the food system reality

a) **patterns in structure, conduct, performance;**
b) **transformations in those three;**
c) **focus on endogenous innovations by system actors to address constraints**

1.4. Assessment of whether/how CW matches (or contradicts) reality

1.5. If there is gap or contradiction, identify two things:

1.5.1. What kind of problem/error generated by the gap between CW and reality:

(a) led to lack of needed action (neglect);

(b) led to wrong action (mistake);

(c) led to action redundant with "endogenous innovations" that real world actors already doing (not needed)

1.5.2. What would be better action to take that would be better aligned with discovered food system realities and endogenous innovations - and improve situation

2. CW (MYTHS) ABOUT THE FOOD SYSTEM (AVCs)

2.1. Overall AVCs: stagnant, broken

2.2. Midstream of output AVCs: “missing middle” (missing, malfunctioning)

… Where midstream functions it is exploitative or at least does not help farmers

2.3. Farm segment of AVCs: unresponsive, stagnant

2.4. Upstream of AVCs: missing agro-dealers and other ag services

3. MYTH OF BROKEN FOOD SYSTEMS – REALITY OF DYNAMIC "SPONTANEOUS CLUSTERS"

3.1. Because governments believe AVCs are "broken", governments focus on direct interventions to "get the food system moving"

… as opposed to leveraging ongoing development

a) e.g., they set up SEZs and "agro-parks" to "create clusters"

b) e.g., they set up "hubs" to link farmers to markets

3.2. Research finding of very dynamic AVCs e.g., in FV & AP, contradicting CW

a) Macro findings (AEPP article) of VERY rapid output growth in FV and AP (faster than Asia)

… ignored in debate because of focus on consumption being still lower than requirements and still costly

b) Meso findings of dynamic “spontaneous clusters” of MSMEs

… large agglomerations of farms, agro-dealers, outsource services, wholesalers, logistics MSMEs

… often growing 3-6x in 10 years, for example

… and forming main supply source for cities (e.g., Addis)

b.1) Examples

b.1.1.) Ethiopia, Nigeria, Tanzania, Zambia vegetable clusters (… e.g., Zambia, 200,000 small farmers starting commercial ag in 10 years near Lusaka)

b.1.2) Bangladesh & Nigeria fish clusters

b.1.3) Ethiopian teff cluster

b.1.4) Indian potato/cold storages clusters in Bihar & Uttar Pradesh

b.2) Meso findings of rapid rise of medium-long AVCs stretching from boom areas/spontaneous clusters to cities and rural areas all around country

… examples of tomato clusters to all around Nigeria, Tanzania

… noted in RM Nigeria study as well

b.3) Meso findings: when "demand motor" + "bones & blood" conditions present, rapid spontaneous self-scaling

b.3.1) roads

b.3.2) wholesale markets

b.3.3) electricity

b.3.4) water

b.3.5) governance (e.g., reduction of violence, conflict)

3.3. Error type & implication for re-alignment of policy approach

a) Foregoing leveraging of and support of existing dynamism & self-scaling

b) Implication is identification of emerging/ongoing clusters & “JUJITSU” (leveraging)

4.MYTH OF MISSING MIDDLE – vs DYNAMIC "HIDDEN MIDDLE"

4.1. Because governments/donors believe there is a "missing middle" - they ignore or sidestep the huge existing sectors of traders & logistics firms

a) They focus on direct action with farmers or coops (e.g., Honduras coffee)

b) They focus on direct links with AVC companies like big food companies or cold storage companies (e.g. Nigeria initial AVC strategy)

c) They neglect to “partner” with traders and logistics MSMEs to help small farmers (for quality, for climate-smart)

d) They even constrain the midstream (e.g., declaring logistics “non-essentials” and stopping them during COVID in Nigeria (Liverpool-Tasie et al. 2021)

4.2. Research findings of dynamic “Hidden Middle” – contradicting CW

a) Instead of “missing middle” there is dynamic growth in midstream – Hidden Middle (Reardon 2015)

b) Found rapid spread & development of wholesale markets (WMs), spreading within and across cities and towns very quickly

c) Found rapid proliferation of wholesalers in rural areas & city

e.g., tripling in 1 decade in Ethiopia, Tanzania, Bangladesh, etc.

d) Found extreme importance for national food security of WMs and traders: “center of huge hourglass” (maize, Liverpool-Tasie et al. 2017)

… and in RM cases such as big role of traders in coffee & beans in Central America and vegetables in Nigeria) (even though government initially ignoring

e) Found importance for small farmers of traders and other MSMEs in midstream in “relational contracts” helping small farmers upgrade to consistent volumes & save resources (Liverpool-Tasie et al. 2020; Macchiavello, Reardon, Richards 2022; Swinnen, Ronchi, Reardon 2024)

f) Found huge importance of logistics 3PLS – e.g., Nigeria, 4% of maize traders own trucks, rest is 3PLS (Liverpool-Tasie et al. 2021)

… Important case of COST of error of ignoring this, during COVID in Nigeria (Liverpool-Tasie et al. 2021)

g) Found emerging and rapid development of agricultural outsource services (such as rice combines in Myanmar, Belton et al.)

f) Found rapid proliferation of modern MSME cold storages (e.g., potatoes, Bihar & Uttar Pradesh, Minten et al.)

… Planning Commission of India very surprised by the finding, “a huge boom a few hours from Delhi” – Abhijit Sen’s point that this finding is crucial to “re-align” how government approaches food system development

4.3. Error types & implications for re-alignment of policy approach

a) Error: Neglecting huge potential partner or at least central players in food system

b) Error: Neglecting investment in Blood & Bones essential to the midstream

c) Error: Creating regulations that can impede growth of the Hidden Middle

d) Implication: reverse these errors!

BREAK

11.00 → 11.30

CGIAR | Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Plenary Session E

What do we know about the degree of inclusiveness and employment generation potential of agrifood value chains?

Moderator: Ruth Hill, IFPRI

Presentations:

- **Carolina Trivelli**, *Instituto de Estudios Peruanos (Online)*
- **Jeff Bloem** and **Jasmine Jiang**, *IFPRI*
- **Erwin Corong**, *Purdue Univ.*, **Madhur Gautam**, **Will Martin**, and **Rob Vos**, *IFPRI*

Discussants:

- **Kristin Komives**, *ISEAL*
- **Hope Michelson**, *Univ. of Illinois at Urbana-Champaign*

Agrifood systems innovations and employment creation

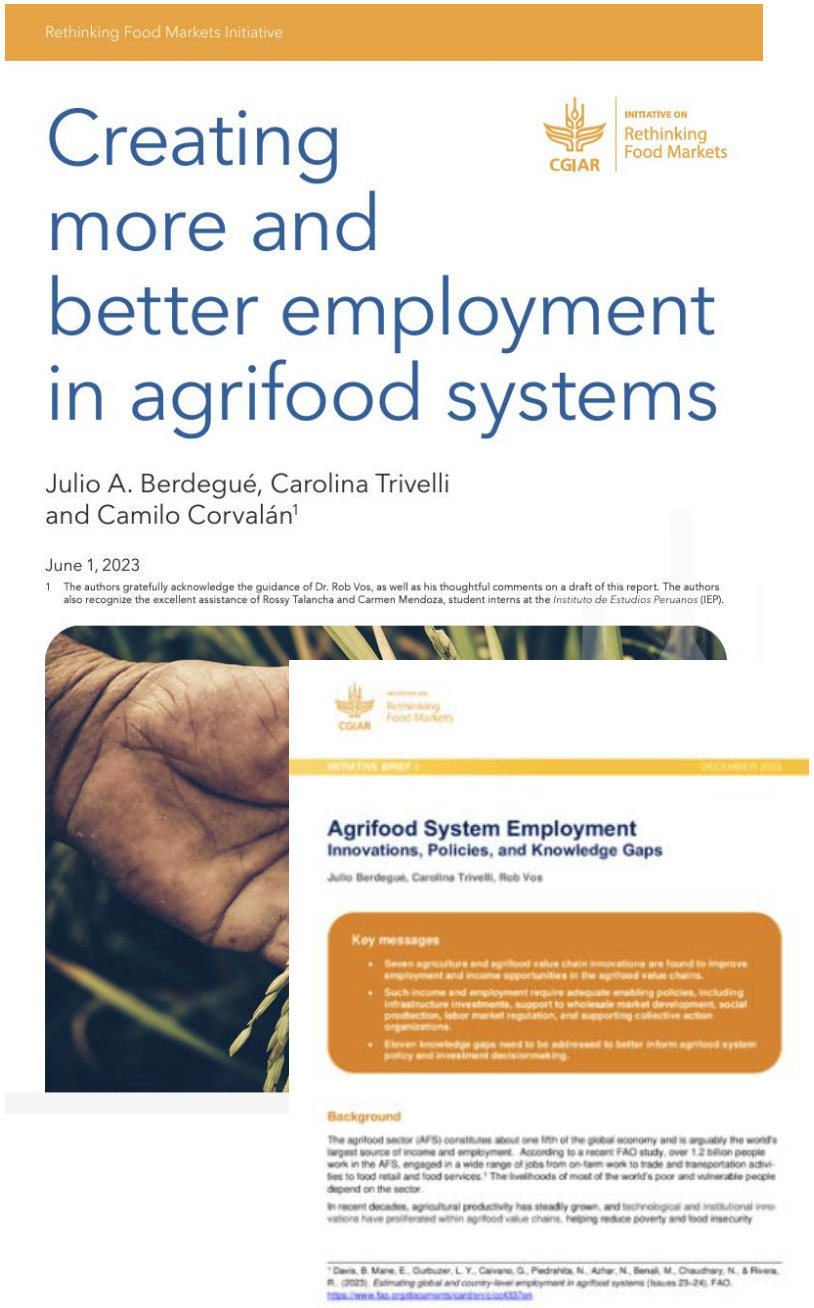
Julio Berdegué
Carolina Trivelli

December 2024

Innovations in AFS and employment

In 2022-2023, we reviewed 290 documents after a two-step search:

- A Search of conference journal articles, working papers, reviews, reports, and book chapters from 2000-23, was conducted using the keywords (“value chains” OR “agriculture” OR “farm” OR “non-farm” OR “food systems” OR “rural”) AND (“labor” OR “labour” OR “work” OR “job” OR “occupation” OR “employment” OR “working conditions” OR “social protection”).
- This search listed 167,182 documents as of March 31, 2023.
- The most cited documents from that list (300 entries) were identified and then reviewed for their relevance to our study. **139** texts were selected.
- Of these 139 papers, 21 were read but not used as they were not relevant to this review, and 118 were included in this review.
- An additional **151** documents were added as the analysis progressed, based on references in one or more of the texts in the original list, as were some articles recommended by experts with whom the team interacted.



Employment in AFS throuout the reviewed literature

The structural transformation revisited	Employment in agrifood systems	Rural employment diversification
The “hidden middle”	Intensification, automation, and digitalization	Contract farming
Working conditions and social protection	Female employment, gender and AVC	Youth

Reviewed publications

Color	Number of papers
	0 to 9
	10 to 19
	20 to 29
	30+

Drivers/Effects	Quantity of jobs	Labor productivity	Income and/or wages	Diversification	Social protection	Working conditions	Others effects	Gender effects	Youth effects	Total by driver
Legal and regulatory changes	14	3	8	0	3	7	3	1	4	30
Technological innovations in primary production	23	30	27	2	1	2	6	5	11	60
Organizational changes in primary production	18	9	16	2	0	3	4	2	10	36
Technological innovations upstream or downstream	9	6	4	0	0	1	2	3	9	20
Private institutional changes	12	4	21	2	6	17	7	16	6	46
Changes in the structure and organization of the value chain	40	17	43	28	4	11	3	23	14	89
Changes in rural-urban linkages	9	6	6	3	0	0	2	4	10	25
Investments in public goods and services	3	7	4	0	0	0	2	1	8	28
Other changes in governance	5	6	4	2	2	8	3	4	4	22
Others drivers	16	13	13	13	10	4	4	25	14	73
Total by effect	109	72	122	47	21	43	32	71	33	

Innovations, policies and investments

Innovations	Employment effects	Inclusion effect
Mechanization	Mostly ✚ (scale effect >? substitution effect)	
Digital innovations (on and off farm)	Mostly ✚	Mostly ✚ (depending on connectivity and digital capability gaps)
Food standards that include labor provisions	Mixed results	Mixed results
Modern contract farming and VC contracting	Mostly ✚	Mixed results
Small-scale irrigation	Mostly ✚	Mostly ✚
Agroecology	Mostly ✚	Mostly ✚
Flexible labor contracts	Mostly ✚	Mixed results

Innovations, policies and investments

Policies and investments	Employment effects	Inclusion effect
Investments in infrastructure that "pull" rural employment and facilitate income diversification (public and private)	Mostly ✚	Mostly ✚
Modernization of wholesale markets	Mostly ✚	
Social protection linked with agricultural development interventions	Mostly ✚	Mostly ✚
Expanded social protection (with economic inclusion)	Mostly ✚	Mostly ✚
Labor market regulation	Mostly ✚	Mostly ✚ (restricted to formal workers)
Collective action organizations	Mostly ✚	Mostly ✚ (youth tends to be excluded)

Measuring Employment and Job Quality in Agrifood Systems: A Comprehensive Approach

Erwin Corong, Madhur Gautam, Will Martin & Rob Vos

Rethinking Food Markets for Inclusion and Sustainability
Science, Innovation and Policy Symposium
December 11, 2023

Outline

- Why measure agrifood sector?
- Approaches to Measurement
- Results

Why measure the Agrifood sector?

- In poorest economies, agrifood production & employment primarily on farm
  - Agriculture an enormous source of jobs, generally viewed as low-quality
- With structural transformation, primary agriculture declines as a share of GDP, but other components of agrifood become more important
  - Purchases of farm inputs rise
  - Food processing & food service sectors expand
  - Farm output processed into non-food products
    - Biofuels; cotton-yarn-textile-clothing; leather goods; wood products...
- Standard statistics suggest employment in agriculture falls to very low levels
  - What about jobs in the broader agrifood system beyond farmgate?
  - What are the job quality and employment dimensions?
  - How do the gender composition of jobs and wage-gap change?

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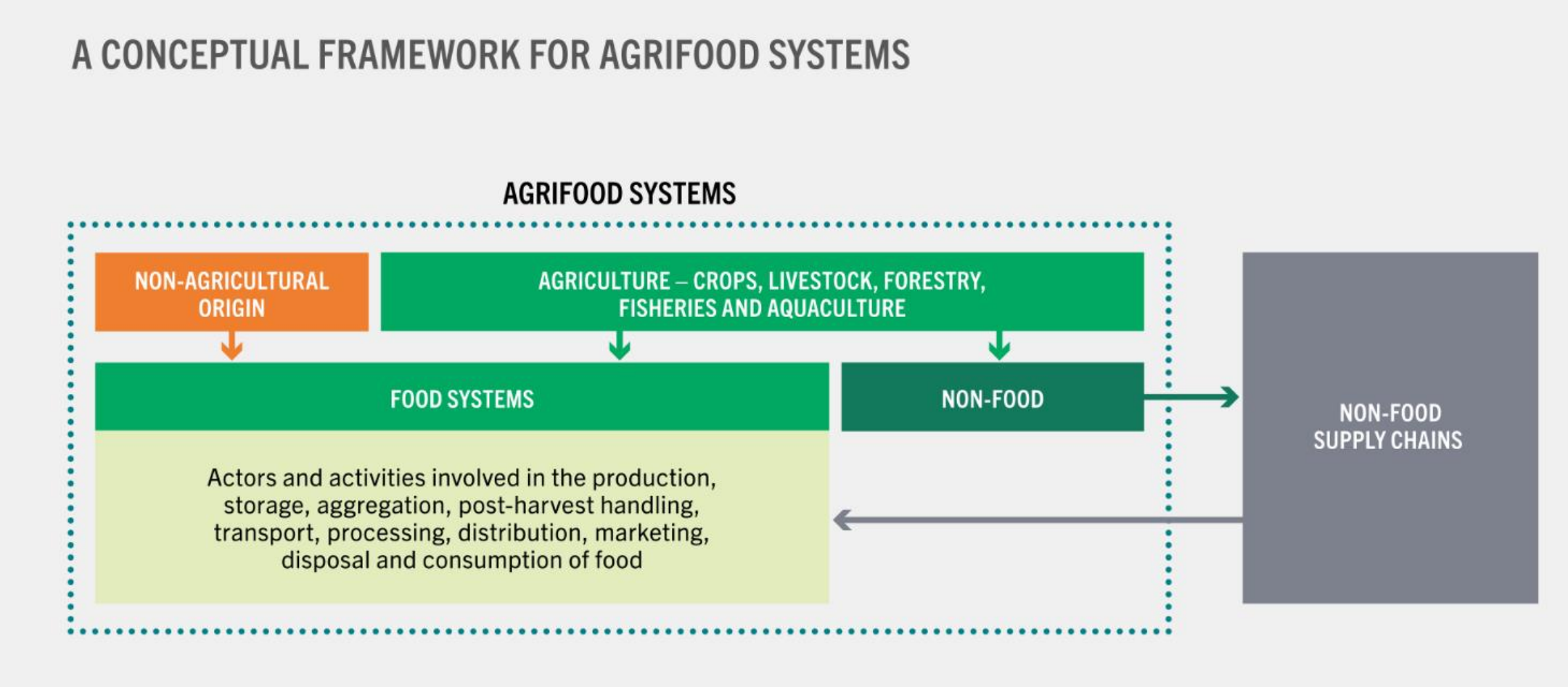
Approaches to measurement: Dimensions of the Agrifood sector



FAO State of Food & Agriculture, 2021

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Broad approaches to Measurement

- Activity approach
  - Value added in gross output of agriculture, food processing, food services
    - Part of VA in input-supplying sectors & output-using sectors
- Input-Output approach
  - For food products
    - Start with final demand for both domestic & export uses
      - Capture backward linkages using Leontief approach
        - Account for direct & indirect use of all factors
  - For non-food products
    - Capture forward linkages using Ghosh IO techniques
      - measure factor inputs that convert agricultural inputs into non-food products like biofuels; cotton clothing

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Activity approach: What factors are employed in readily identifiable agrifood activities?

- Consider factor use in production of food products
  - Agricultural inputs
  - Food processing
  - Food services
  - Trade and transport – from farm to table
- Typically, only consider direct factor use in production of inputs
  - For example, factor use in producing fertilizer
    - Why not indirect factor use, e.g., natural gas for fertilizer?
- Processing of agricultural products for industrial goods?
  - Quite challenging since IO tables don't identify sectors using ag products
    - Biofuels, cotton textiles & clothing

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IO approach – Step 1: VA and factor use for food final demand

- Start from final demands for Agrifood products
  - Considers direct and indirect factor use throughout the economy
- Fundamental matrix equations for the economy:

$$\boldsymbol{X} = \boldsymbol{A^D X} + \boldsymbol{f^D}$$

$$\boldsymbol{m} = \boldsymbol{A^M X} + \boldsymbol{f^M}$$

where $\boldsymbol{X}$ *is gross outputs*; $\boldsymbol{A^D}$ matrix of domestic intermediate use*;* $\boldsymbol{f^D}$ vector of final demands for domestic output, incl exports*;* $\boldsymbol{m}$ a vector of imports; $\boldsymbol{A^M}$ matrix of imported intermediate use; & $\boldsymbol{f^M}$ vector of final demands for imports

- Use Leontief Inverse to get gross output needed to produce vector of final demand:

$$\boldsymbol{X} = (\mathbf{I} - \boldsymbol{A^D})^{-1} \boldsymbol{f^D}$$

- Define a set of domestic agrifood final demands, $\boldsymbol{f^{Da}}$, then

$$\boldsymbol{V^{Da}} = \boldsymbol{V}(\mathbf{I} - \boldsymbol{A^D})^{-1} \text{diag}(\boldsymbol{f^{Da}})$$

- $\boldsymbol{V}$ the matrix of factor shares in gross output and $\boldsymbol{V^{Da}}$ is the matrix of factors needed to produce final demands for agrifood products

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IO approach – Step 2: estimating VA and factor use for non-food agricultural outputs

- Use the Ghosh approach to estimate forward linkages for non-food outputs
- Fundamental equation for this model is:

$$X' - X'B = V'$$

where V is a vector of total factor returns in each sector.

- Vector B is defined as row shares of interindustry flows

$$B = (Diag(X))^{-1}F$$

where F is the matrix of interindustry flows of domestic products

- Gross output vector associated with either the total vector of factor returns, V, or with a subset of sectors such as our agrifood sectors, **VA**, is thus:

$$X' = VA'(I-B)^{-1}$$

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Economy wide IO Data

- Primary Source: GTAP 11c database (2017)
  - Identifies domestic and imported intermediate use
- Supplement from other sources to:
  - Split Accommodation & Food Services
    - Detailed IO tables for 41 countries
  - Allocate margin services to individual products
    - Supply-use tables for 35 countries
- Identify three subsectors that produce agrifood goods
  - Agric, fisheries, forestry; Food Processing; Food Services
- Employment & wage data
  - World Bank Gender Disaggregated Labor Database (GDLD)
    - Disaggregated by gender and skill level

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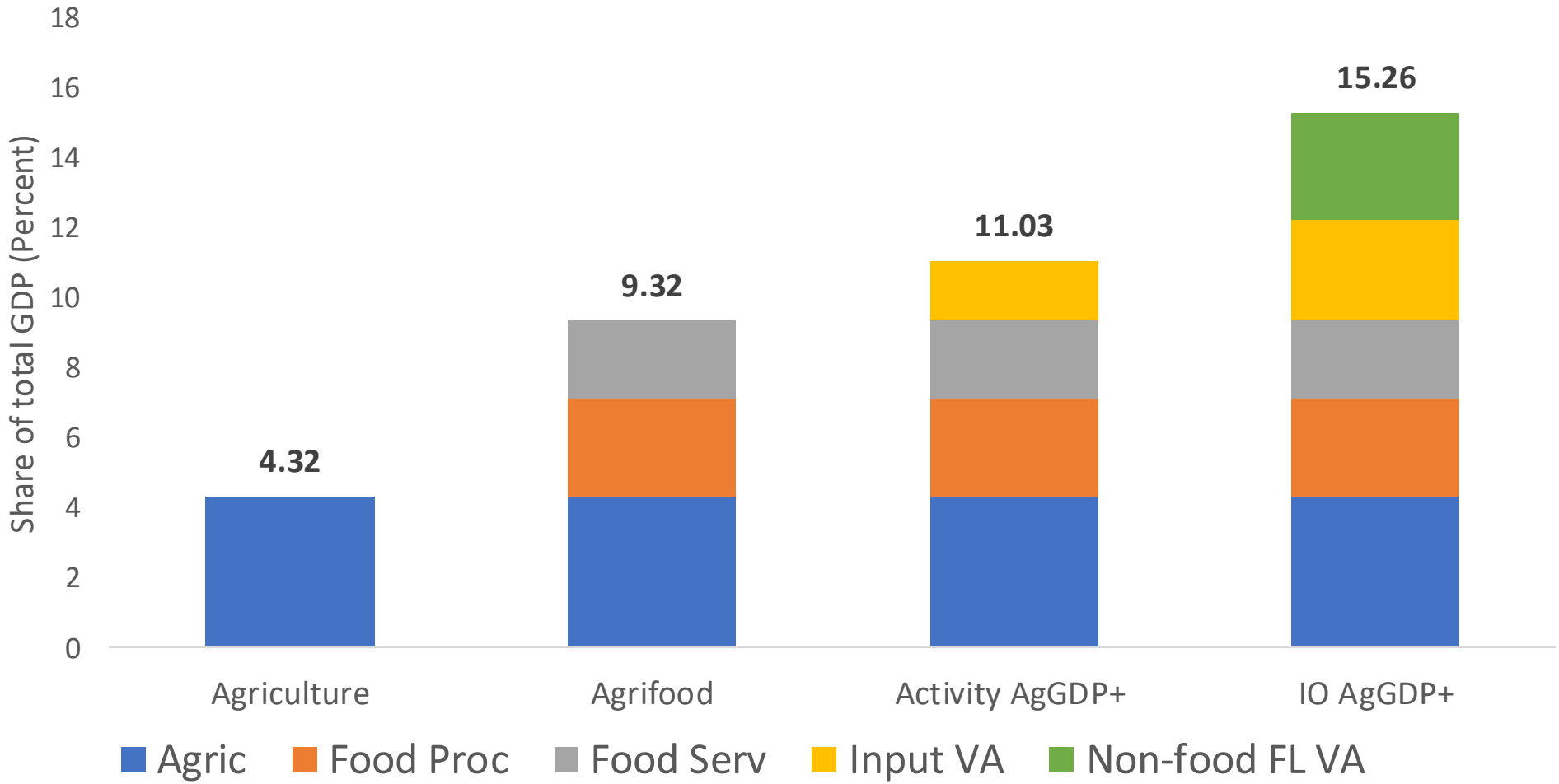
Results

Agrifood GDP by sector, % of GDP (Global)



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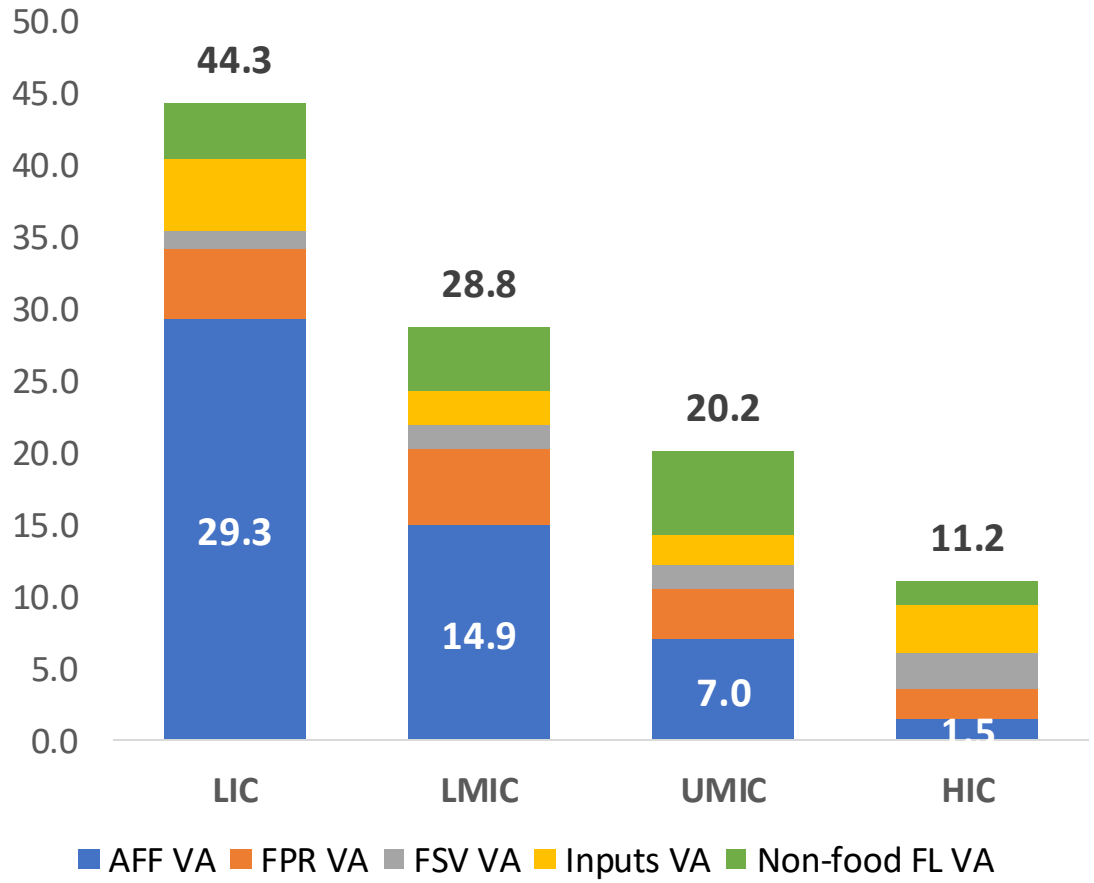
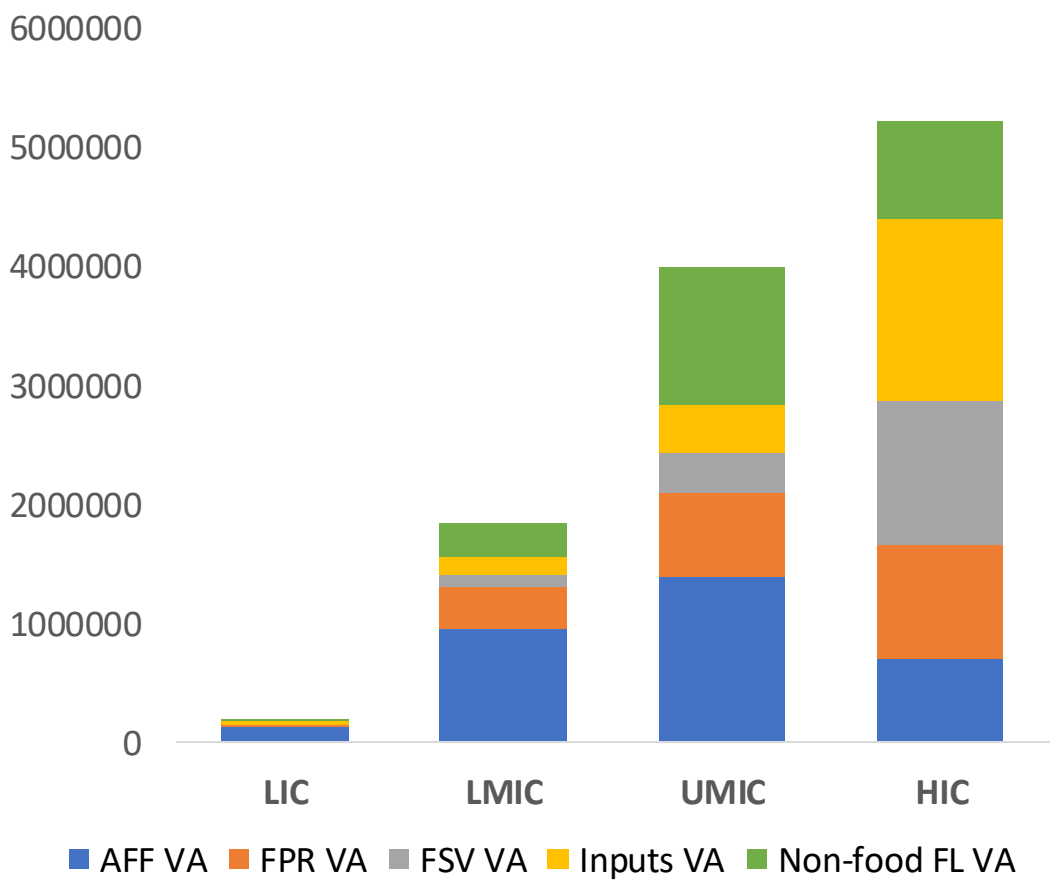
Share of agrifood system in economy falls but grows massively in absolute value terms (25x – from LIC to HIC)





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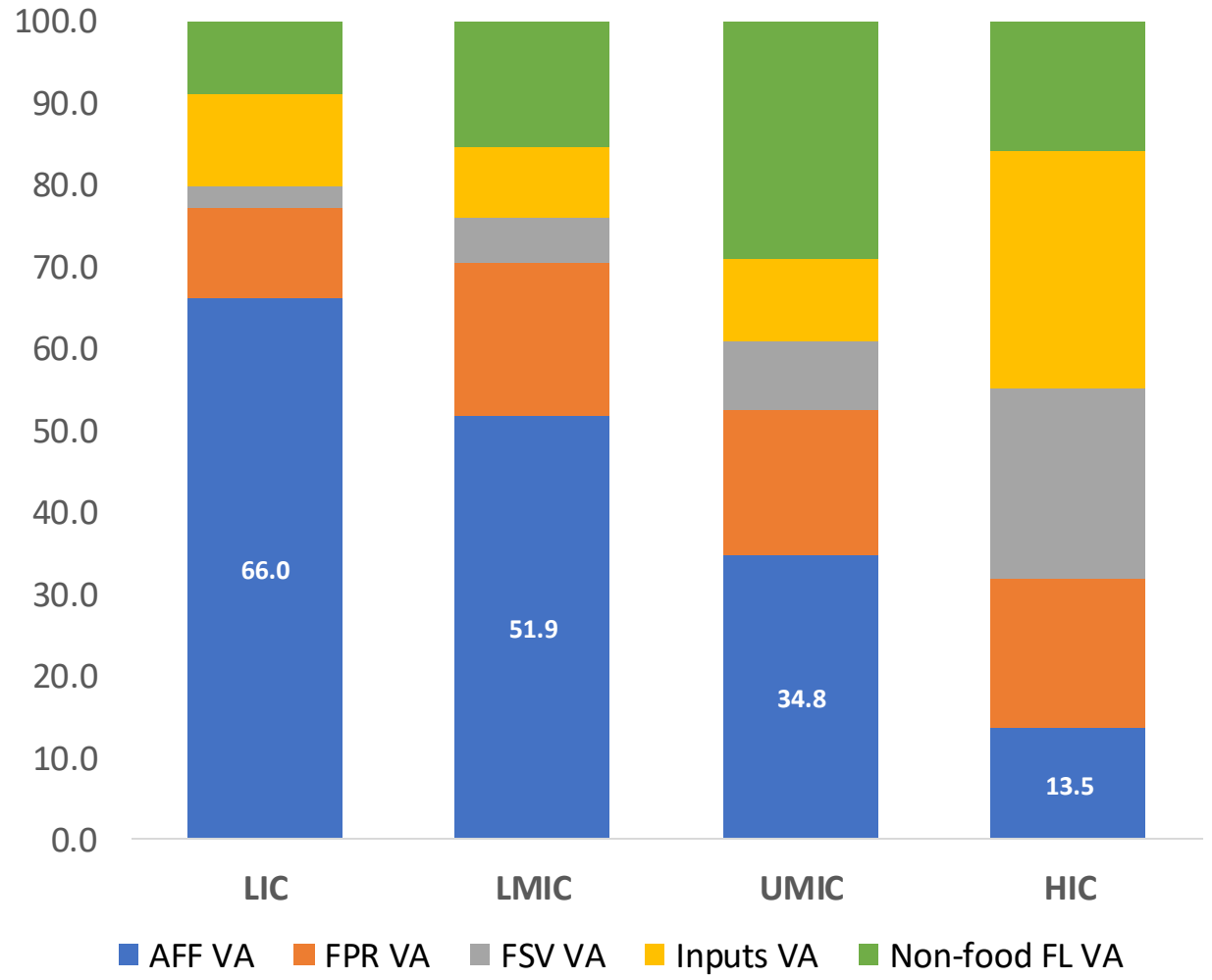
Food system becomes more industrialized and service oriented with development

- Share of primary agriculture falls rapidly as agrifood system transforms
- Non-farm inputs (goods and services) account for major share in UMIC, dominate in HICs
- Input industries and food Services account for largest shares in HIC



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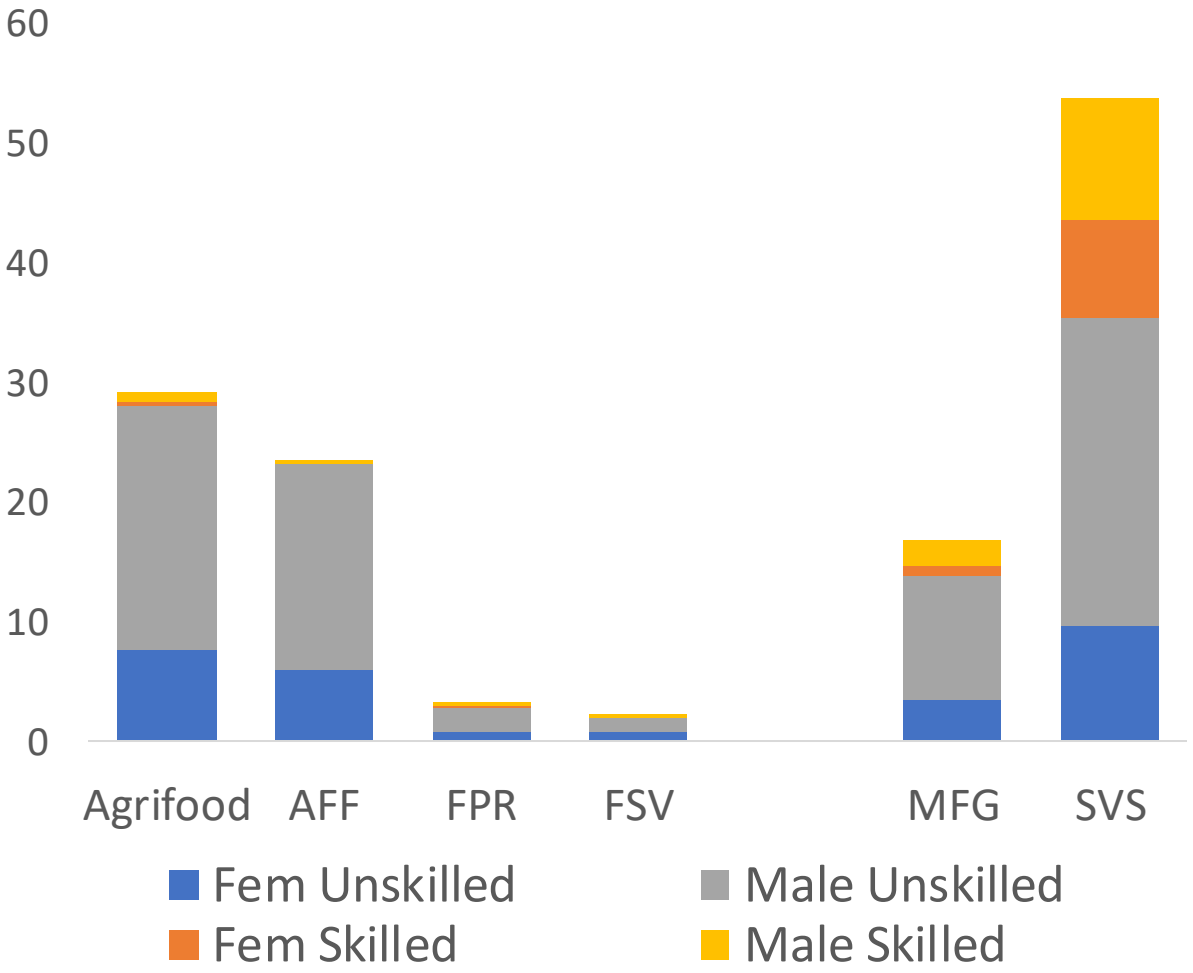
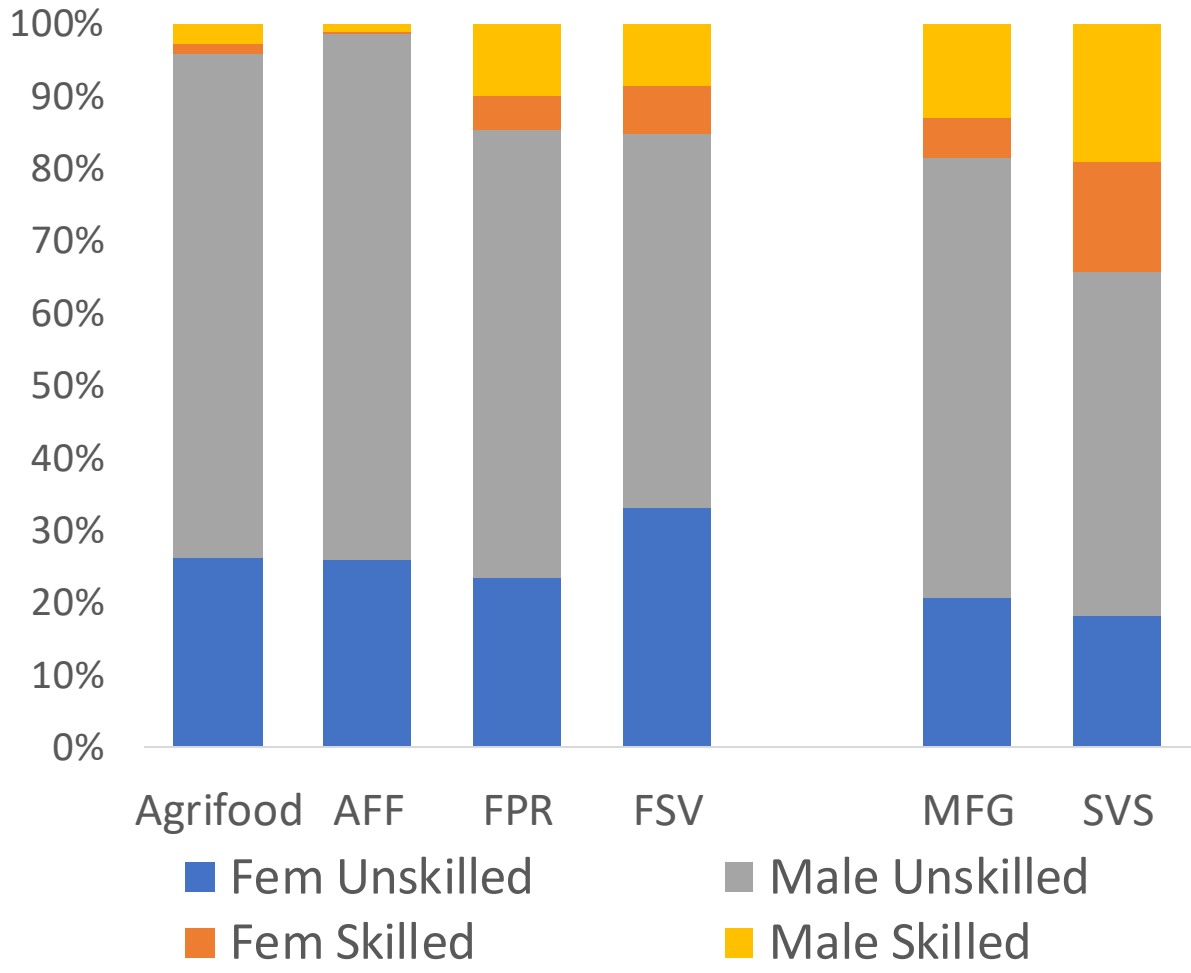
Food system employment by gender & skill, sector shares and distribution





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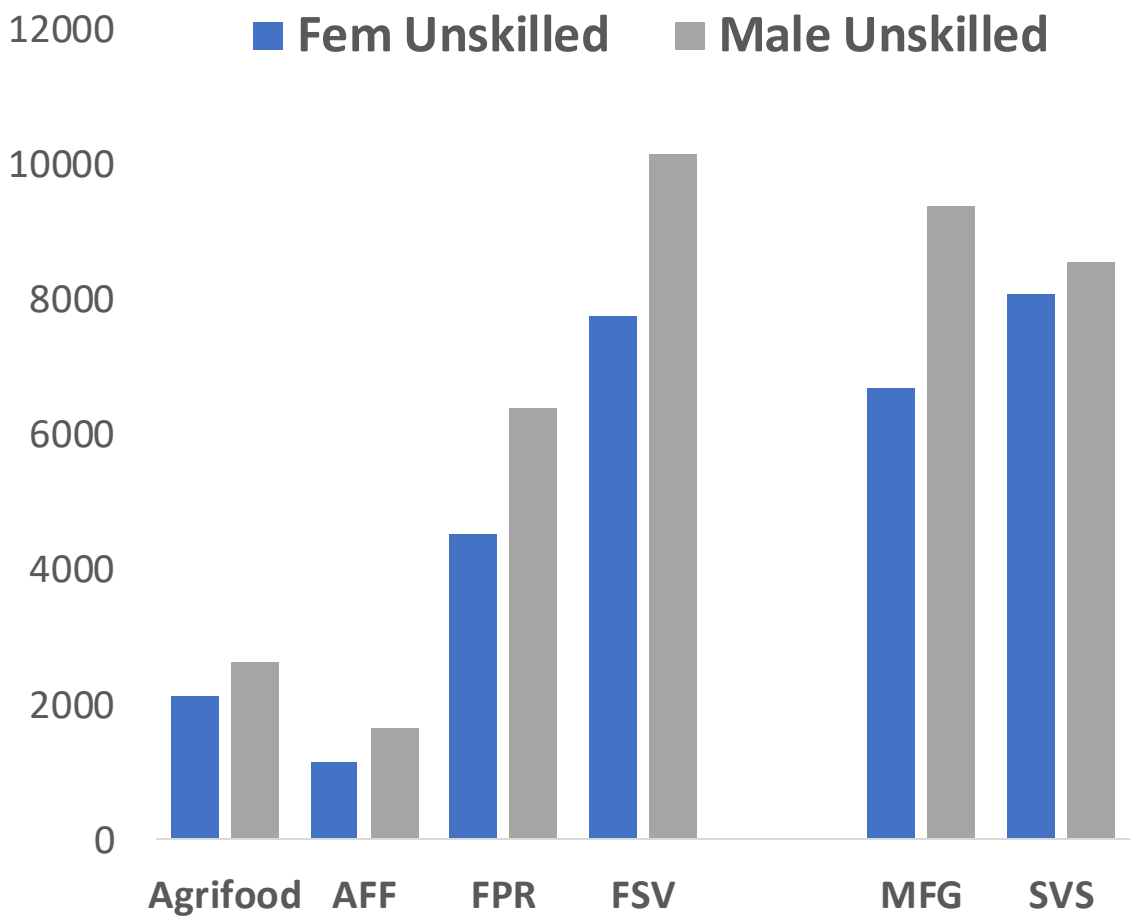
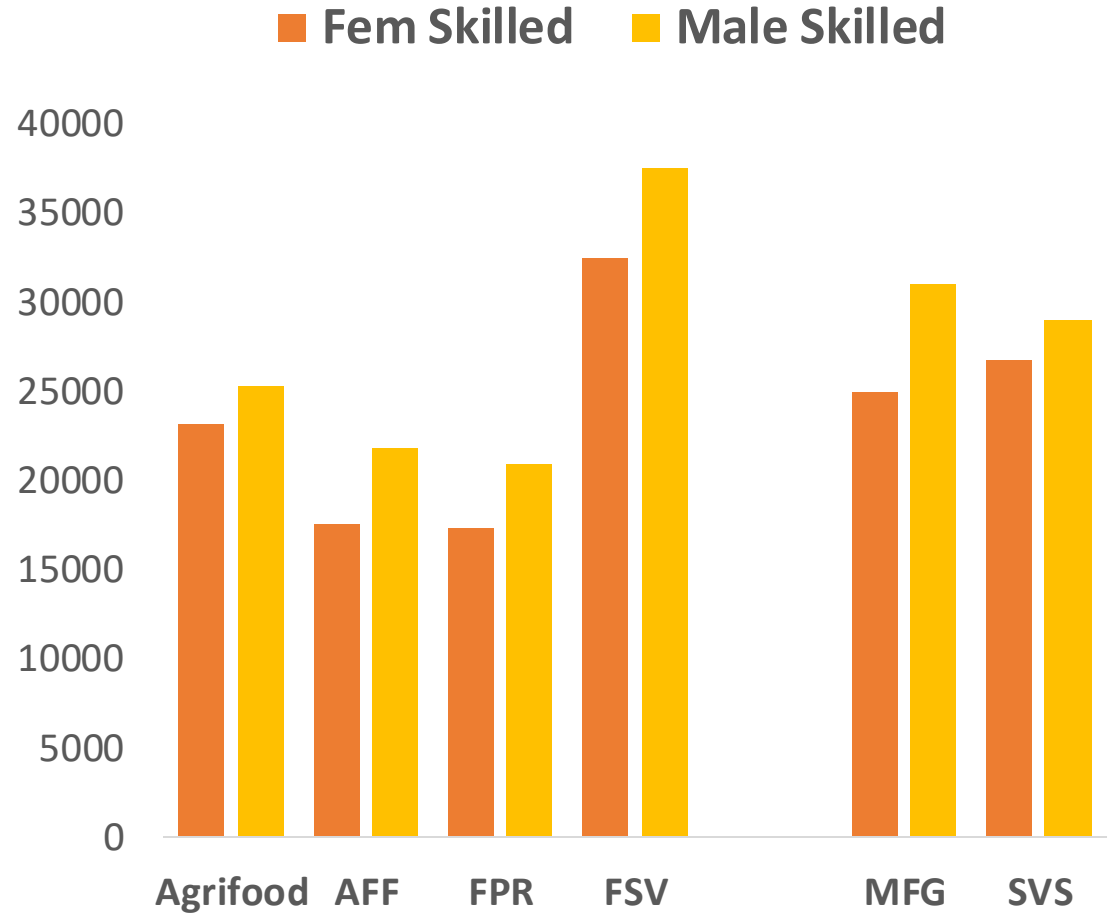
Annual Wages, by Gender and Skill, USD





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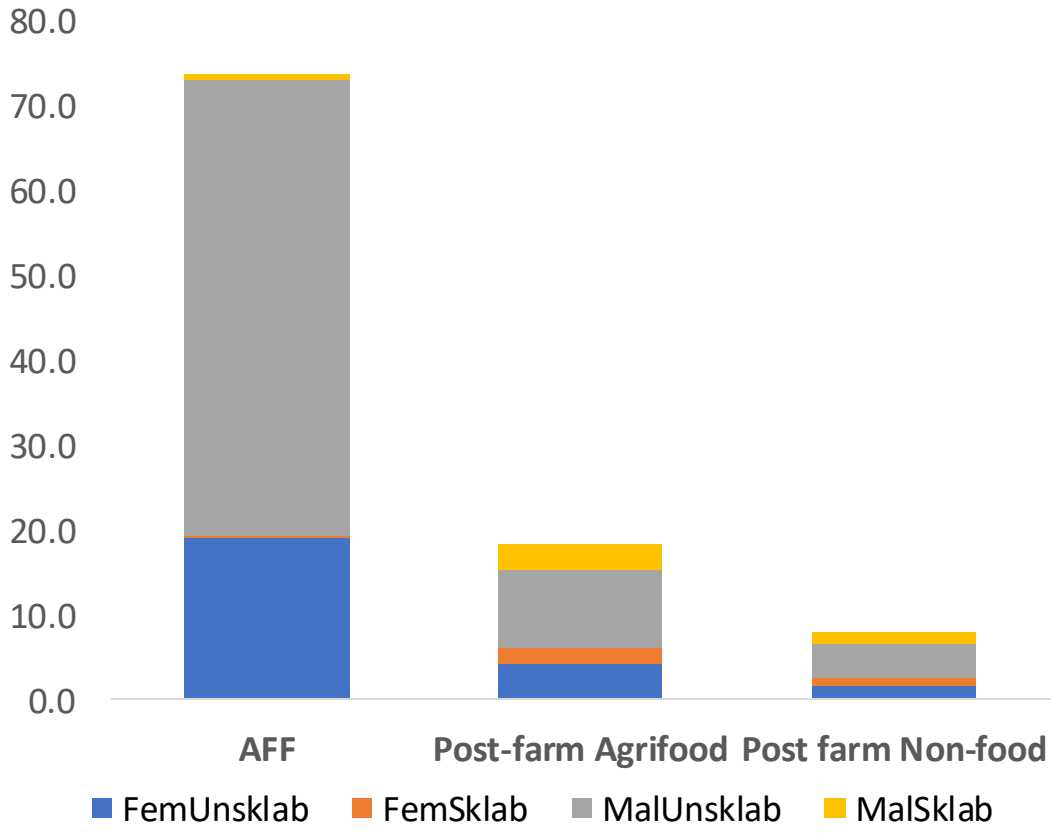
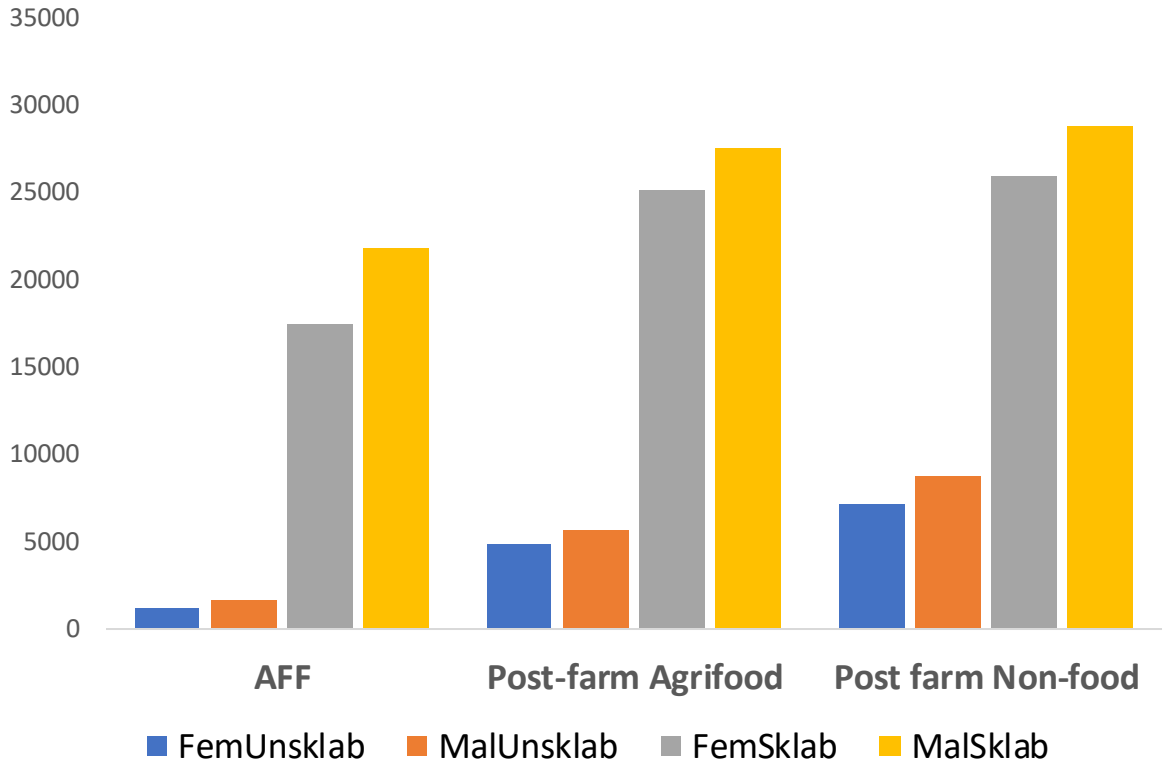
Agrifood system generates many jobs and better-quality jobs in non-farm segments

Share of total employment



Annual wage rates



Male/female wage premium

	AFF	Post-farm Agrifood	Post farm Non-food
Unskilled	1.45	1.18	1.23
Skilled	1.25	1.09	1.11

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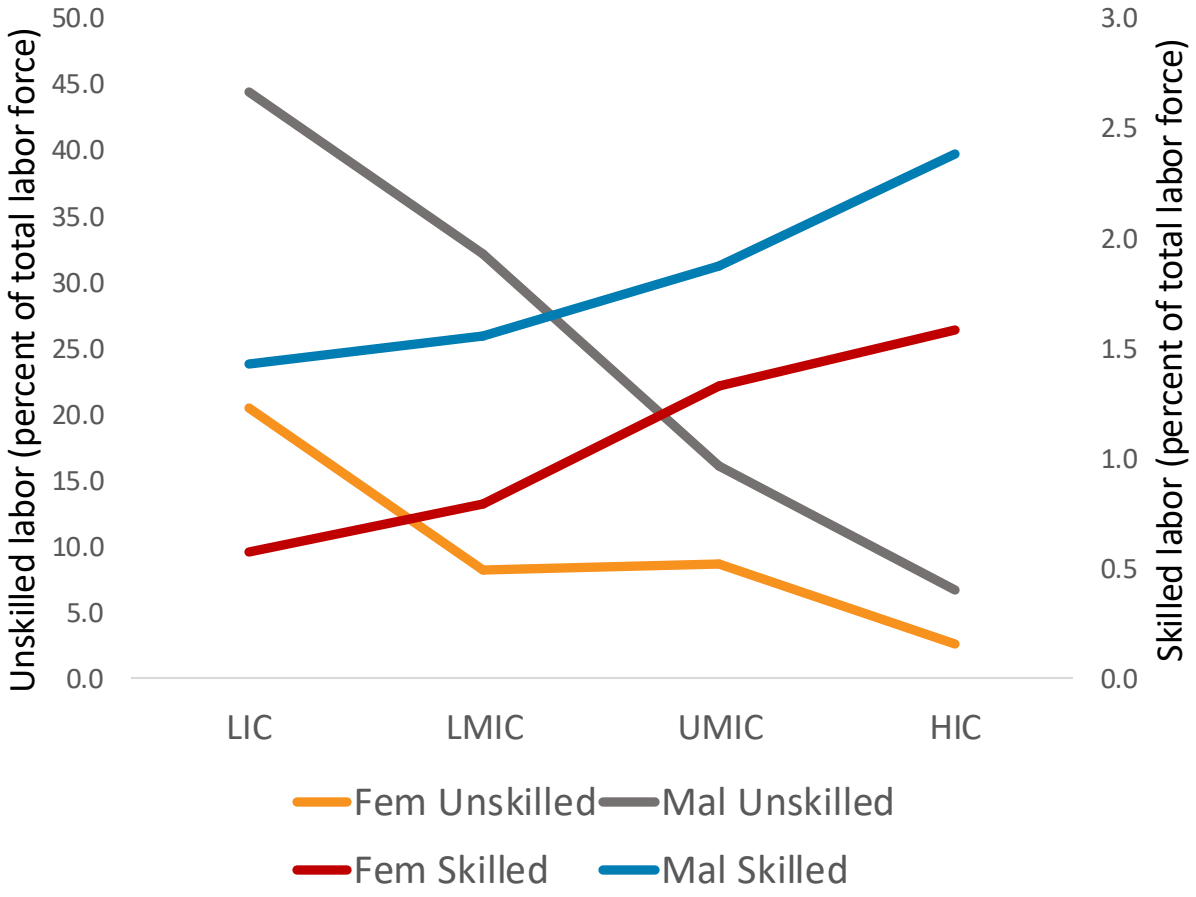
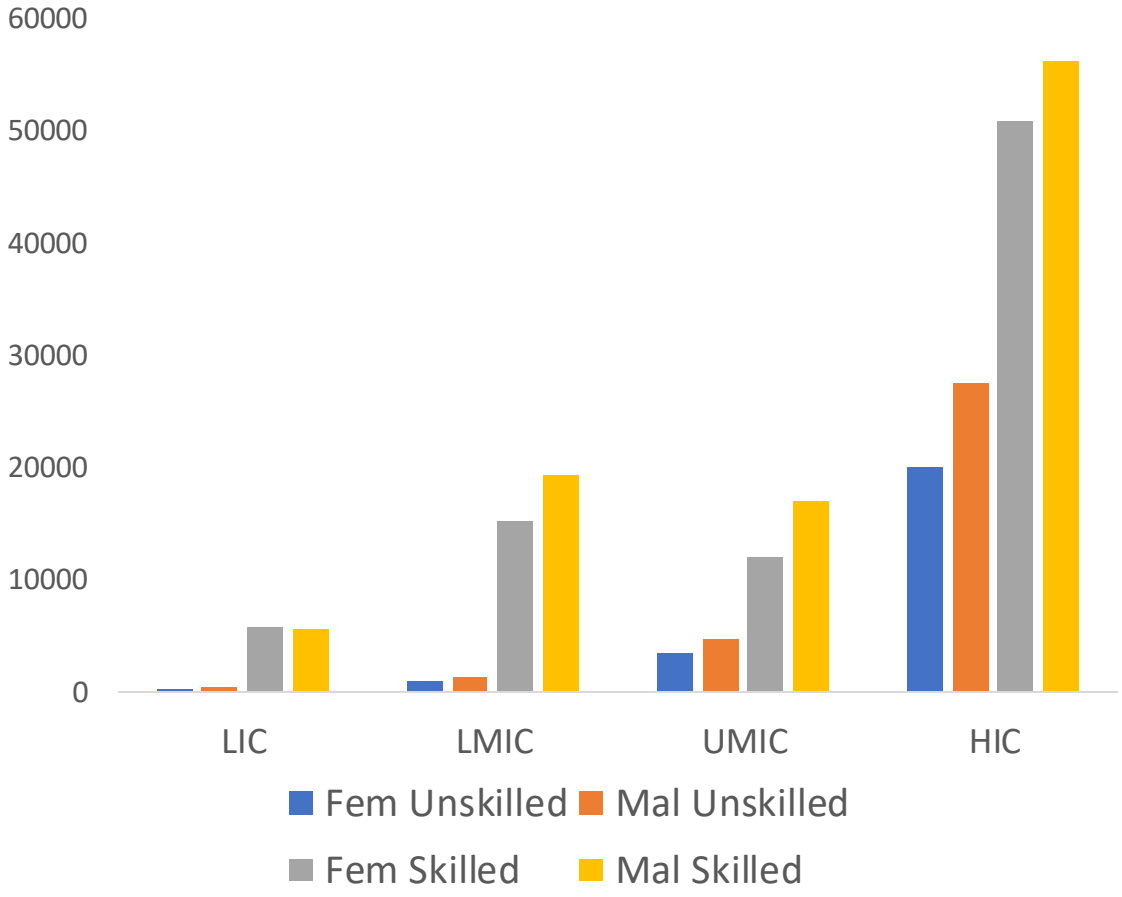
Within agrifood, overall employment falls but composition shifts towards more skilled and better-quality jobs

Trends in agrifood employment labor force by income level



Agrifood wage rates by labor type and income level (nonfood trends similar)



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Conclusions

- Important to consider the broader Agrifood Sector with production agriculture
- Two broad approaches to doing this:
  - Activity-based approach
  - Comprehensive approach – exploits structure of entire economy
- Final demand approach seems to better capture the contribution of Agrifood to GDP and employment
- Non-food output has greater leveraging factor – in terms of triggering larger downstream value addition
- Much greater use of skilled labor in broad Agrifood sector
  - Pathway to transition from low-skilled low-paying on farm jobs

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LUNCH

12.30 — 1.30

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Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Plenary Session F

Feasibility of scaled agrifood value chain innovations, trade-offs and policy reform scenarios – model-based scenario analyses for Bangladesh, Ethiopia, Honduras, Nigeria and Uganda

Moderator: Rob Vos, IFPRI

Presentations:

Karl Pauw, **Valeria Piñeiro** and **Luis Escalante**, others, *IFPRI*

Discussants:

- **Sergiy Zoriya**, *Global Lead for Agricultural Policy and Public Expenditures, World Bank*
- **Ibrahim Tanimu**, *Director, Planning & Policy Coordination, Federal Ministry of Agriculture and Food Security, Nigeria (Online)*
- **Wonekha Deogracious**, *Senior Dairy Development Officer MAIF, Uganda (Online)*
- **Sudha Narayanan**, *IFPRI*
- **Byron Reyes**, *Alliance Bioversity & CIAT (Honduras)*

INITIATIVE ON Rethinking Food Markets

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IFPRI Modeling Systems

Informing future pathways and priorities

Scaling agrifood value chain innovations

Model-based scenario analyses for Bangladesh, Ethiopia, Honduras, Nigeria and Uganda

Presenters: Karl Pauw, Jasmine Jiang, Luis Escalante, Henry Kankwamba

Other contributors: Valeria Pineiro, Julius Mukarati

Rethinking Food Markets | Science, Innovation and Policy Symposium

10 – 11 December 2024 | Washington D.C.

Introduction

- RFM evaluated impacts of six value chain innovations in five countries: measure direct impacts on beneficiaries
- Research questions
  - What are the **economywide impacts** of scaled innovations?
  - What additional **policy support** is needed?
- Work plan
  - Meetings with value chain teams (Sep/Oct)
  - Setting up RIAPA country models (incl. **new** Honduras model) (Oct/Nov)
  - Conducting simulation analysis (Nov/Dec)
  - Next: Refine and finalize scenarios

Outline of session

- Three parts
  - Part A: How can economywide models complement value chain analysis?
  - Part B: From value chain innovations to economywide modeling
  - Part C: Results showcase: Honduras (coffee) and Uganda (dairy)
- Discussion

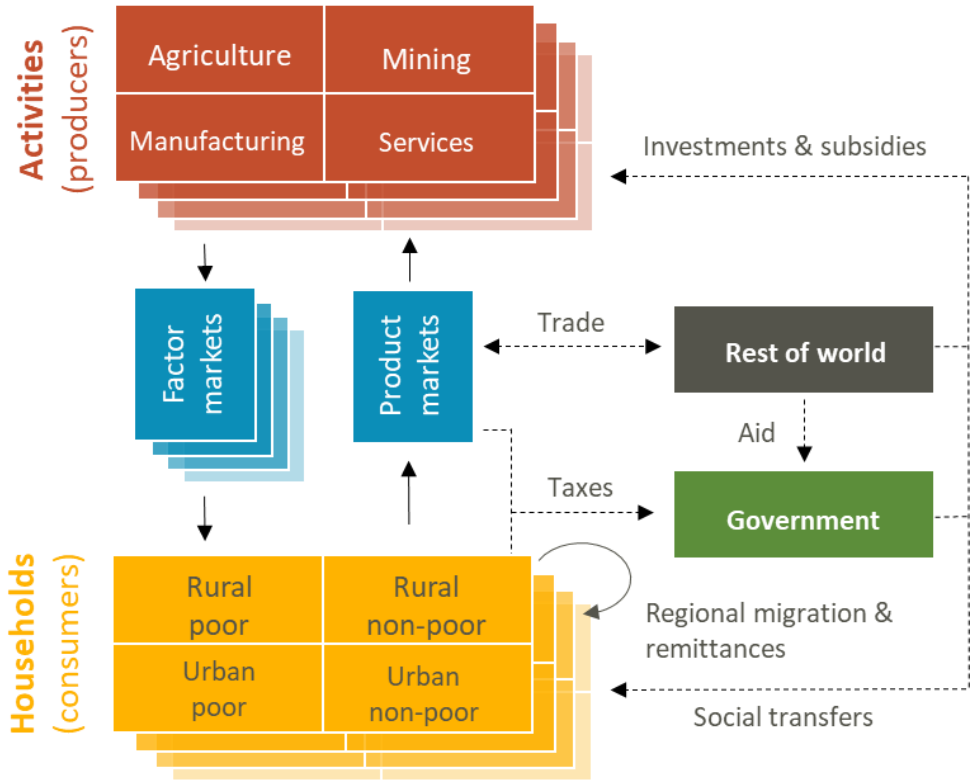
Part A

How can economywide models complement value chain analysis?

RIAPA data & modeling system

- Rural Investment and Policy Analysis
- At the core is a forward-looking **economywide model** (or CGE model)
  - Captures the circular flow of income in an economy (see figure)
  - Simulates how policies, investments, and external shocks affect **producers**, **workers**, and **households**
- RIAPA features
  - Highlights **policy trade-offs** associated with competing interests and scarce resources
  - Includes detailed specification of **agrifood systems**; ideal for value chain analysis
  - Link household outcomes to microsimulation models (poverty)
  - Extensive **country coverage**

Linkages in an economywide model

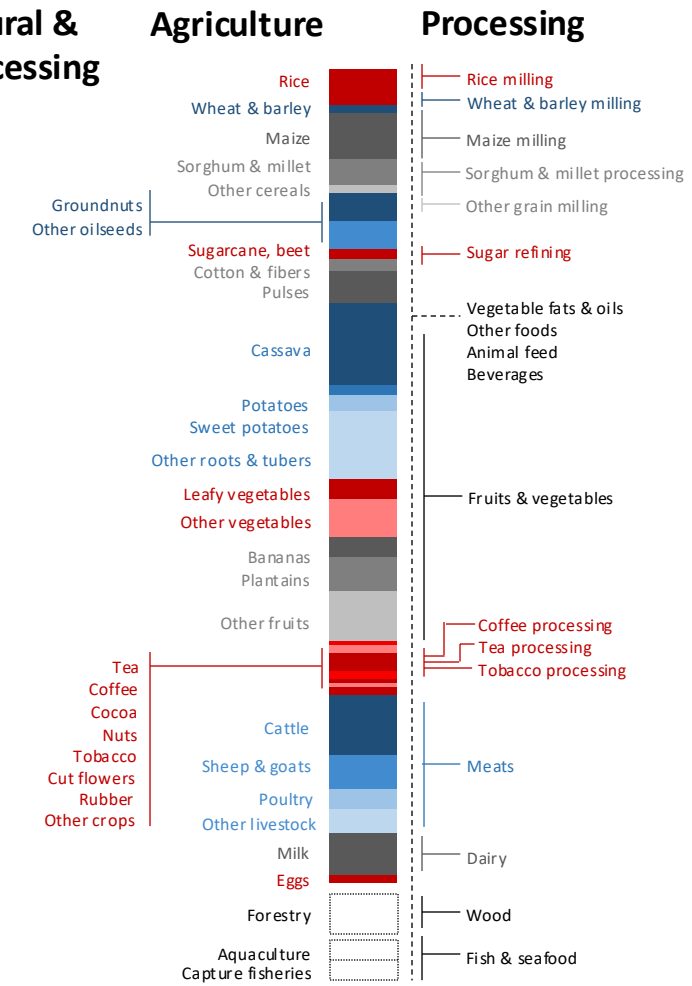


https://www.ifpri.org/project/riapa-model

Capturing Agrifood Systems

Unpacking agriculture & agroprocessing

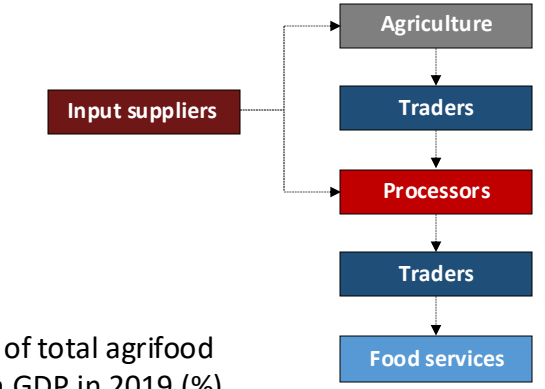
RIAPA has up to 36 agricultural & 17 agroprocessing sectors



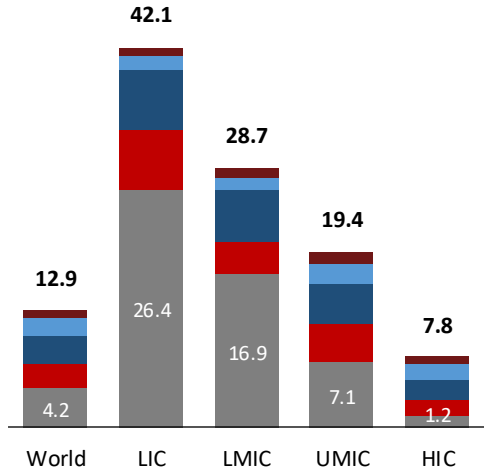
The agrifood system (AFS) beyond the farm

In addition to agroprocessing, RIAPA also captures trade, transport & food services

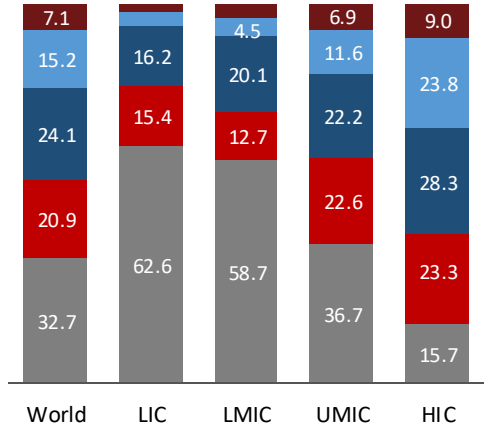
More developed countries have larger off-farm agrifood systems



Agrifood system share of total GDP in 2019 (%)



Share of total agrifood system GDP in 2019 (%)



LIC = Low-income countries | LMIC = Lower-middle income | UMIC = Upper middle income | HIC = High-income

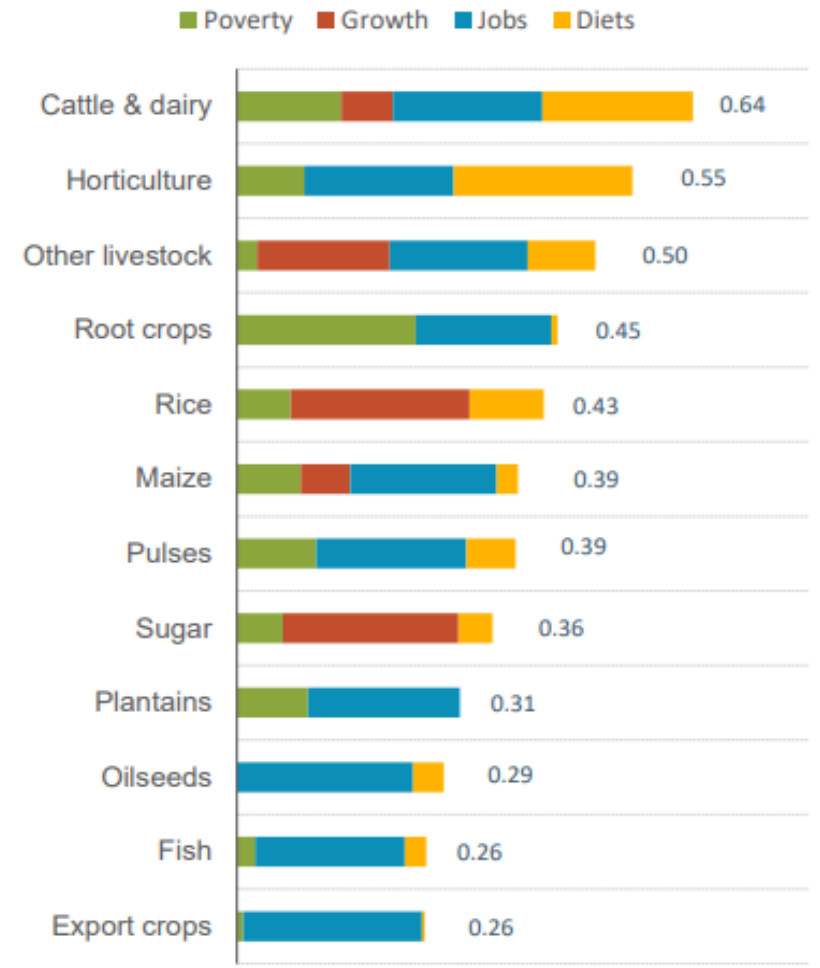
Source: IFPRI Agri-Food System Database

RIAPA value chain analysis

Example 1: Value chain ranking

- Value chain ranking is part of IFPRI's **"agrifood system diagnostics"** using economywide data
- Objective of ranking: Identify **agrifood value chains** that are most effective at achieving development objectives
- Approach
  - Productivity growth scenarios
  - Estimate multipliers (e.g., growth, jobs) and elasticities (e.g., poverty, diets) to rank value chains
- Findings consistently show (i) not all value chains are equally effective at improving all development outcomes; and (ii) distinct patterns emerge

Example: Value chain ranking for Uganda



Normalized composite scores

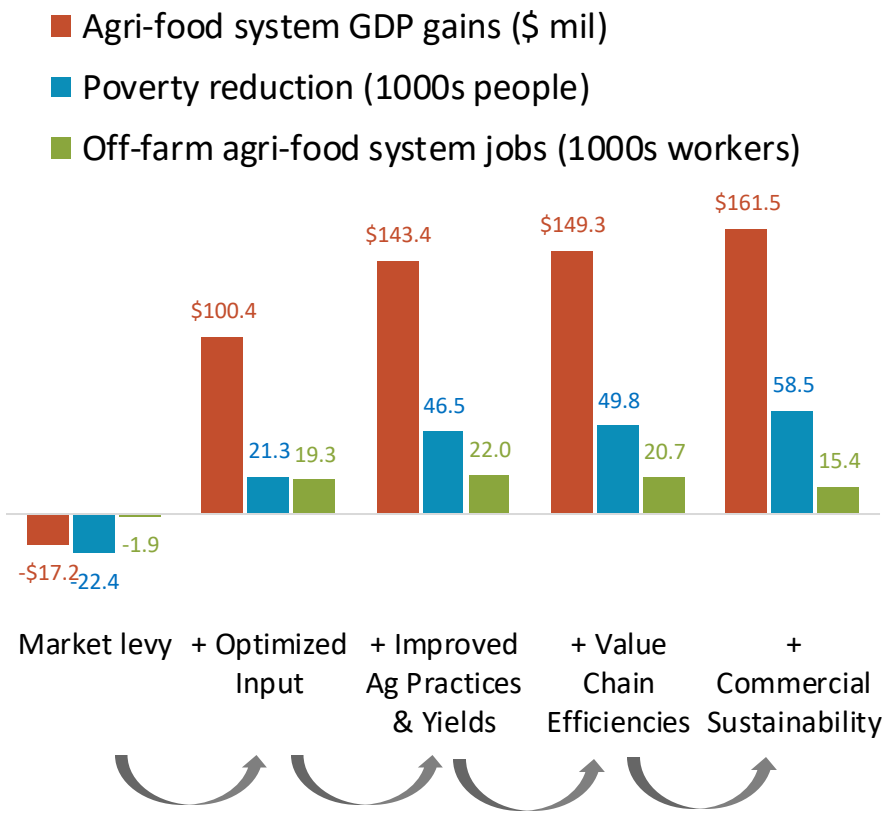
https://www.ifpri.org/project/agrifood-system-afs-diagnostics

RIAPA value chain analysis

Example 2: Scaled innovations

- Gross margin analyses and impact evaluations provide **"business case"** for agrifood value chain innovations
- But at scale, value chain reforms can have economywide implications
  - Spillovers
    (input-output linkages, price & income effects)
  - Trade-offs
    (competition for resources)
- RIAPA can help establish the **"development case"** for government policy or investment support

Example: Coffee reforms in Kenya

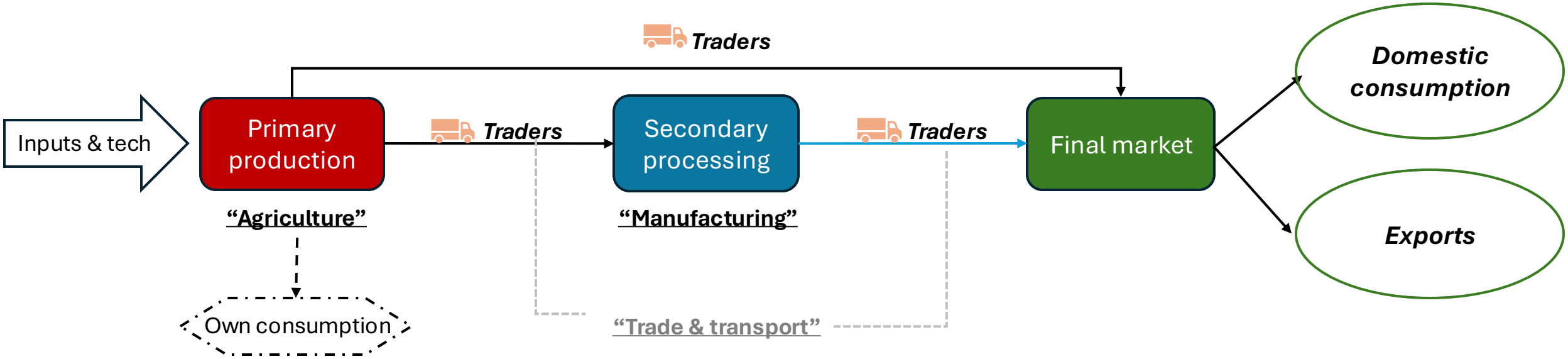


https://ppvc.bfap.co.za/

Part B

From value chain innovations to economywide modeling

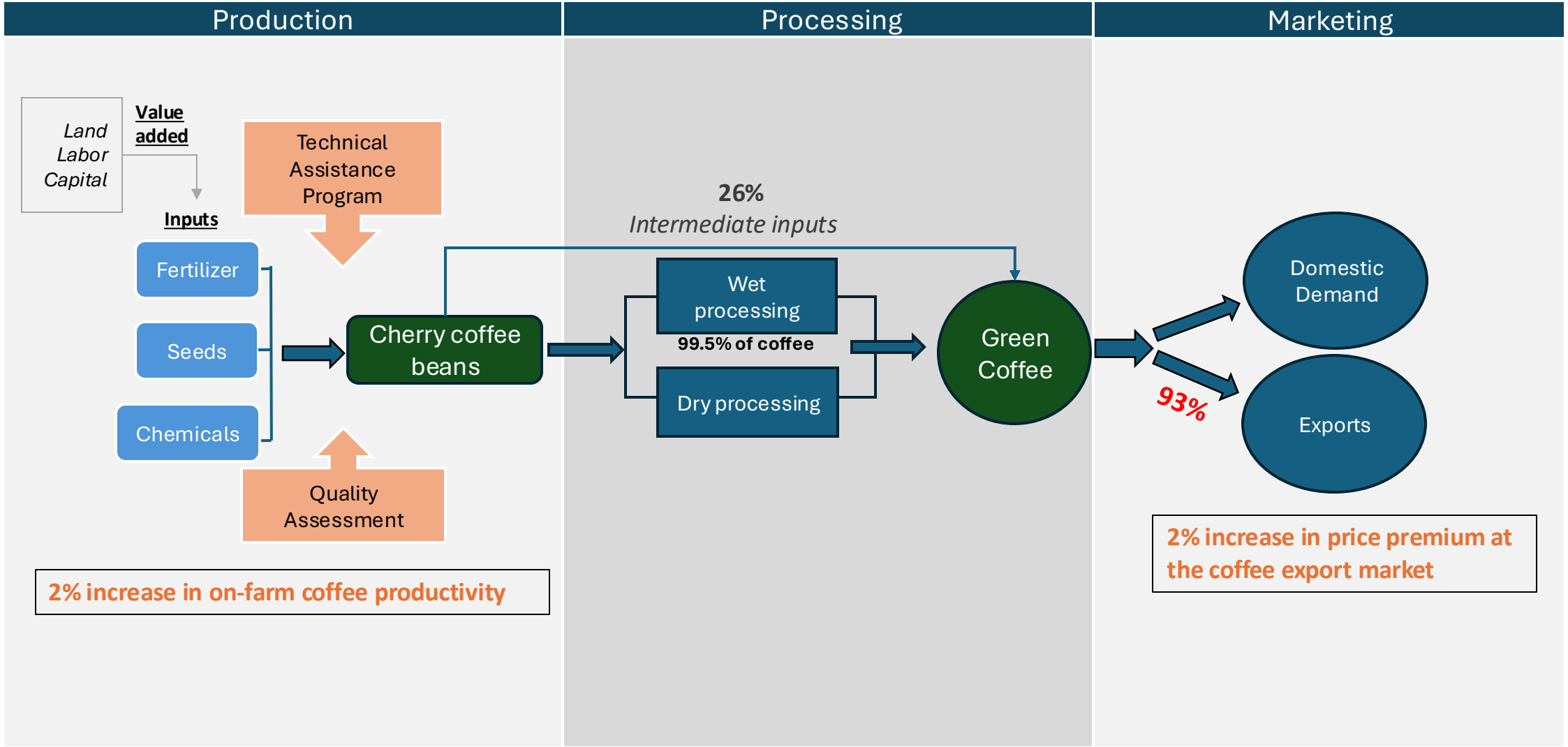
Conceptual value-chain structure



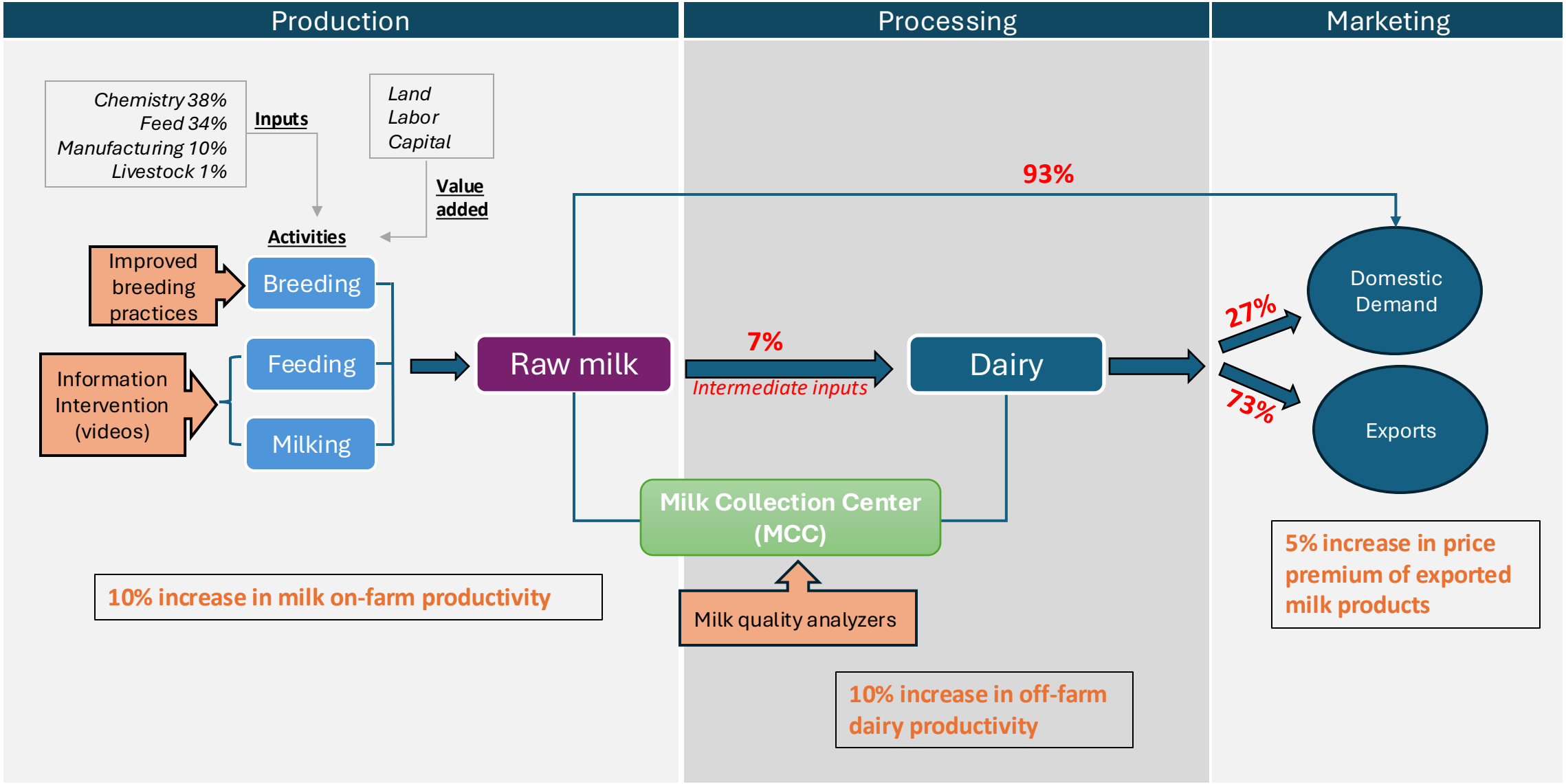
RFM value chain interventions – recap

Country	Value Chain	RFM Interventions
Bangladesh	**Shrimp** *(Shrimp is the largest food export commodity for the country)*	**Farmer cluster formation**: contiguous cluster ponds with improved SPF-PL and better access to financial support and markets
Honduras	**Bean** *(Bean is a majorly domestic-consumed commodity)*	(1) On-site grain **quality testing**; provide price information to farmers (2) Sharing **technical information** to farmers via WhatsApp
	Coffee *(Coffee has an export-oriented value chain)*	Provide the **Technical Assistance Program** complemented with **Quality Assessment Innovation** for local coffee farmers; provide digital public infrastructure
Uganda	**Milk** *(Milk has a relatively diverse value chain)*	(1) Install **milk quality analyzers** in Milk Collection Centers to make the quality evaluation process transparent and traceable for farmers (2) Provide short, engaging **videos** to help dairy farmers improve practices and increase technology adoption
Nigeria	**Fruits & Vegetables** *(Tomato, mango, and orange are the priority commodities)*	(1) improve seeds; (2)cold transport; (3)cold storage; (4) solar dryer; (5) financial support
Ethiopia	**Sesame** *(Sesame is the largest exported oilseed, and it is also one of the major and strategic crops controlled by the government)*	(1) Improve market information volatility (2) Train farmers in setting up a farmer collective so that they can market sesame together

Honduras – Coffee value chain



Uganda – Milk value chain



Part C

Results Showcase: Honduras and Uganda

Honduras – Coffee value chain

Economic structure based on SAM

	% GDP	% EMP
Total GDP	100.0	100.0
Agriculture	**11.7**	**26.9**
Crops	8.9	21.5
Coffee	3.2	7.8
Beans	0.4	0.9
Livestock	2.1	4.3
Forest and fish	0.8	1.1
Non agriculture	**88.3**	**73.1**
Industry	18.8	14.9
Food processing	7.0	5.0
Beverages and tobacco	2.3	1.8
Services	69.5	58.2
Food services	3.8	4.5

	EXP-OUT share	IMP-DEM share
GDP	18.6	31.9
Agriculture	**18.6**	**31.9**
Crops	54.5	26.6
Coffee	93.4	0.0
Beans	0.0	0.0
Livestock	0.5	2.0
Forest and fish	41.2	3.0
Non agriculture	16.0	32.9

Scenario simulations

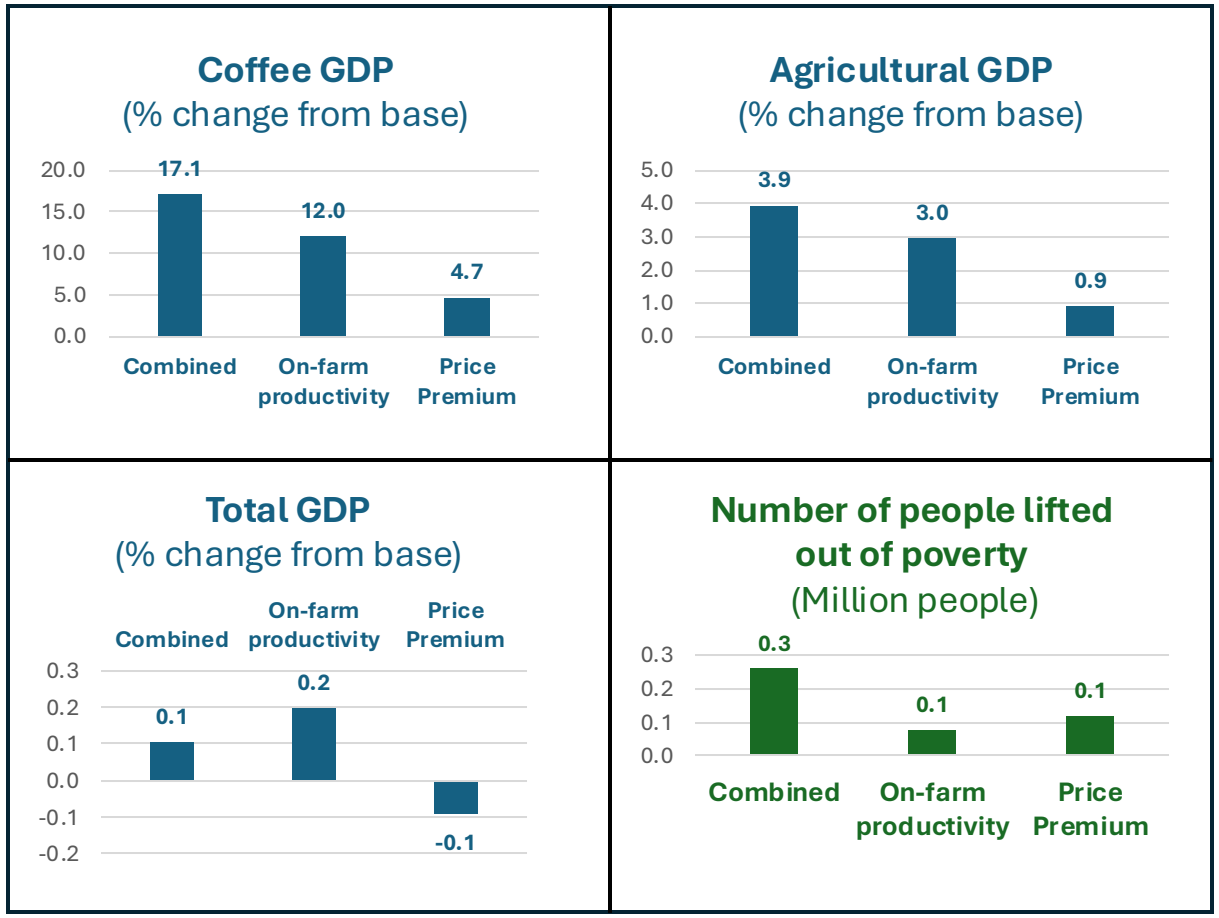
	Model scenario simulations
On-farm productivity	• 2% cumulative increase in coffee on-farm productivity
Price premium	• 2% increase in coffee world price

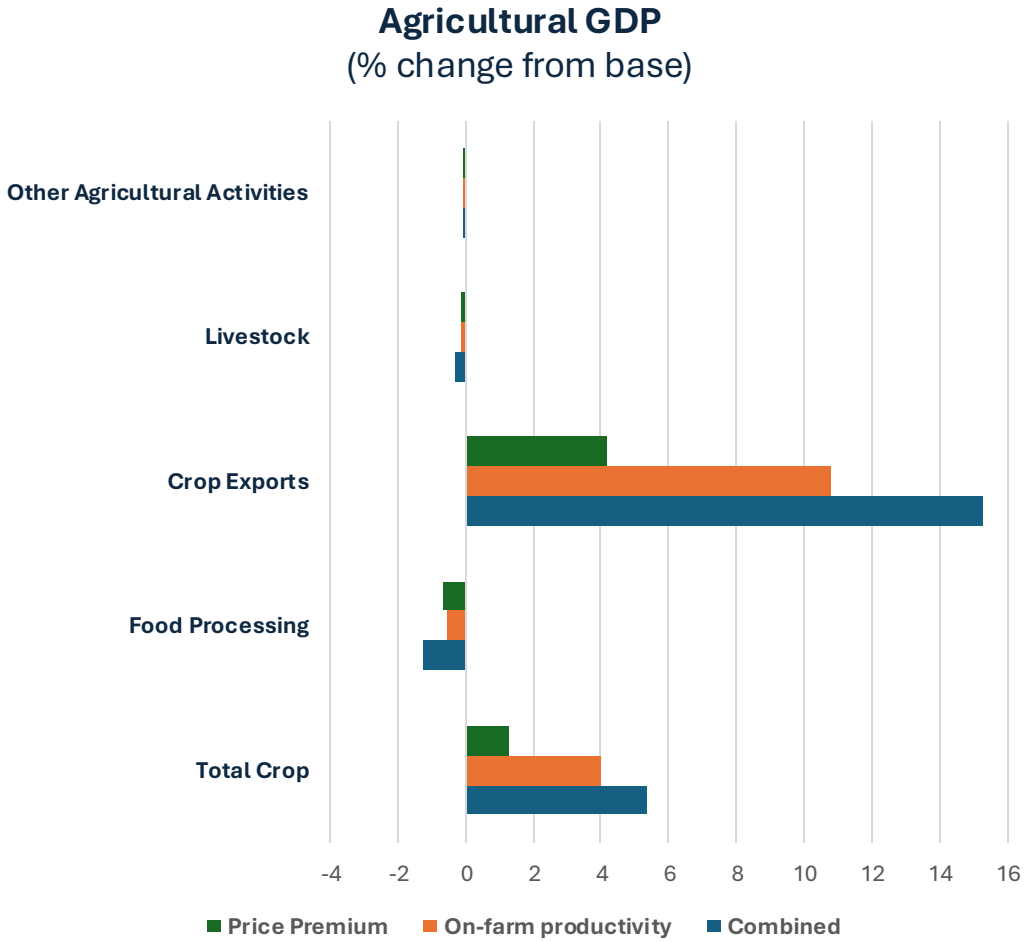
- Technical assistance
- Quality assessment

Key assumptions

[3] fixed capital growth at 3%. [4] Fully employed and mobile labor. [5] Fully employed and sector specific capital.

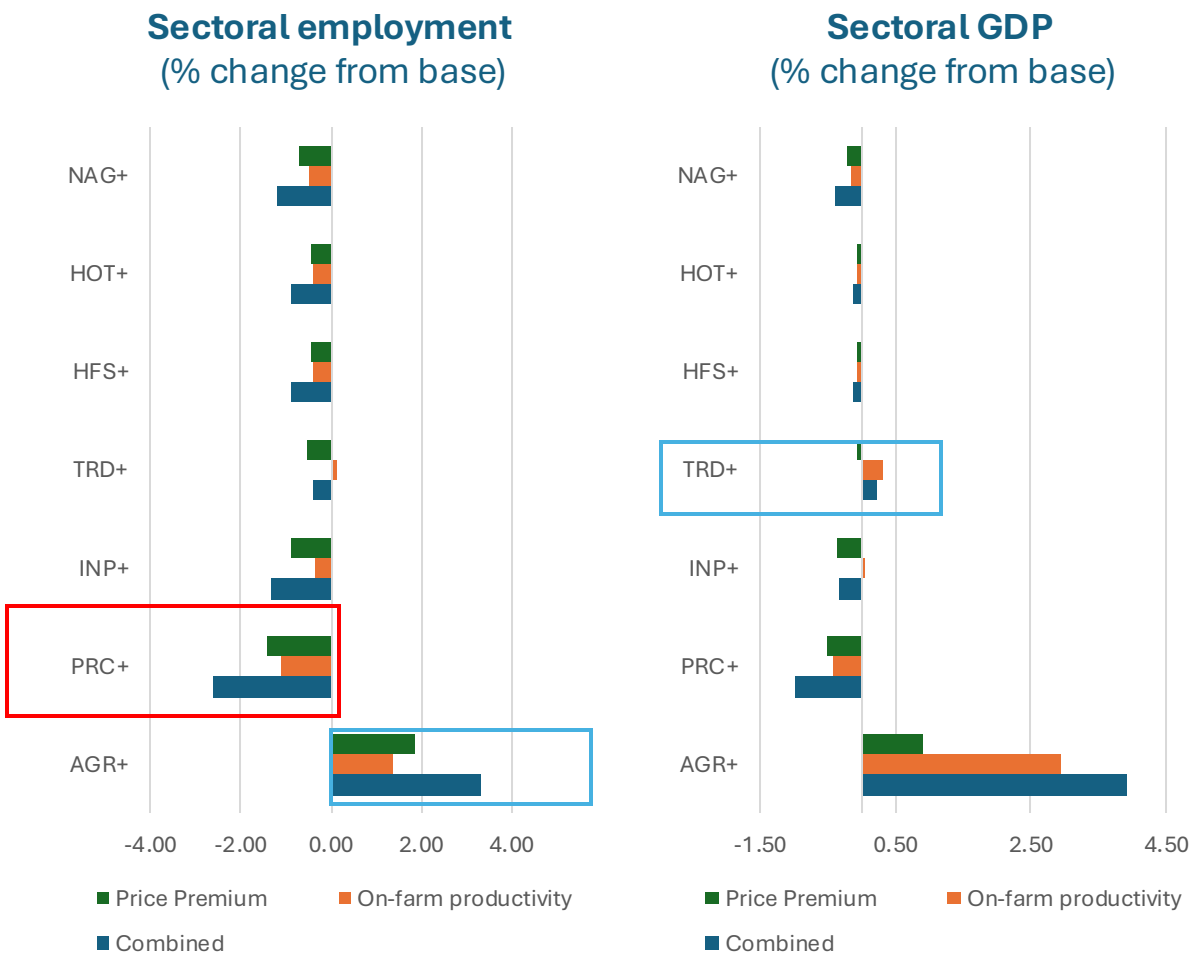
Honduras – Coffee value chain





Key assumptions: [1] 2% cumulative increase in TFP. [2] 2% increase in world price. [3] fixed capital growth at 3%. [4] Fully employed and mobile labor. [5] Fully employed and sector specific capital.

Honduras – Coffee value chain



Labor shifts → Reduced overall productivity efficiency (price scenario)

Summary

- The coffee sector has limited connections with other sectors (e.g., input-output linkages or roasting); most production is exported as green coffee (90-95%).
- Increased on-farm productivity only affects commercial services, requiring better transport, storage, and logistics.

The analysis suggests :

- Development of coffee sector may come at the expense of other agrifood value chains with larger processing components
- Explore opportunities for increased domestic roasting for niche export markets

Uganda dairy value chain

Economic structure based on the SAM

	% GDP	%EMP
Total GDP	**100**	**100**
Agriculture	**24.8**	**72.1**
Livestock	3.1	8.2
Dairy & milk	1.7	0.9
Other agriculture	3.2	8.3
Non agriculture	**0.7**	**1.7**
Manufacturing	**75.2**	**27.9**
Agroprocessing	28.8	6.5
Food processing	1.9	0.4
Other manufacturing	0.7	0.7
Utility	2.0	0.5
Services	1.1	0.1
Trade	0.1	0.0
Transport	0.0	0.0
Hotels & food services	10.2	2.2
Finance and business services	6.3	2.1
Government services	5.7	2.2

Only dairy products are exported.

EXP-OUTshr	IMPshr	IMP-DEMshr
76.4	0.1	15.2

Scenario simulations

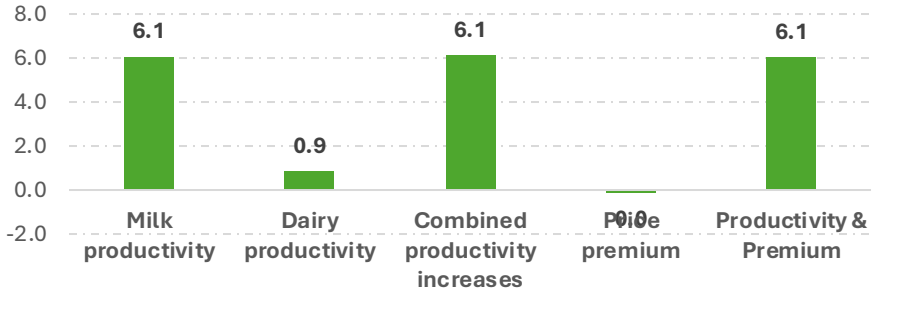
	Model scenario simulations
On-farm productivity	• 10% cumulative increase in milk on-farm productivity
Dairy productivity	• 15% cumulative increase in dairy productivity
Price premium	• 5% increase in dairy world price due to quality improvements

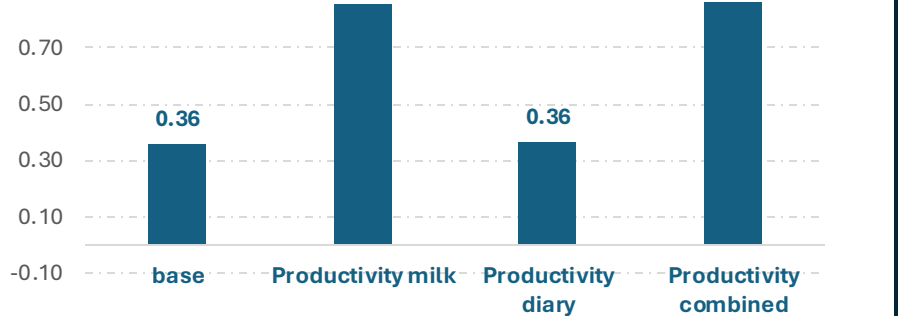
- milk quality analyzers
- Video extension

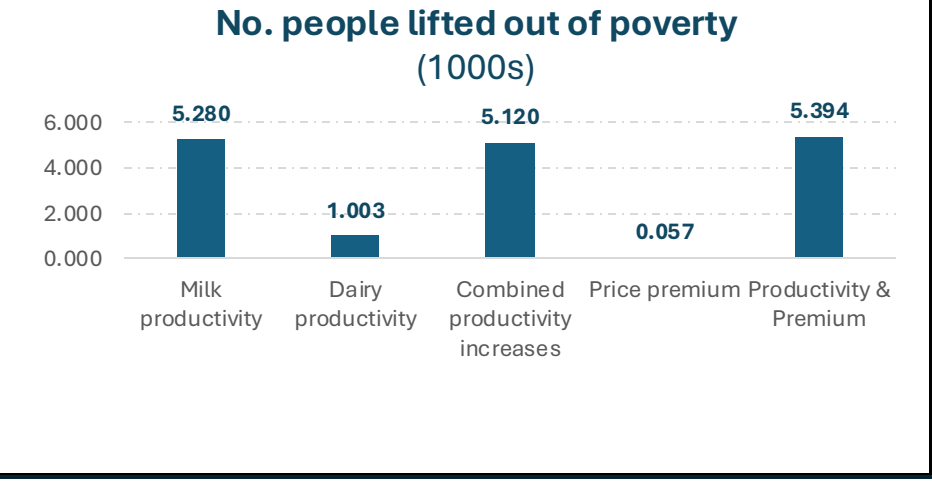
Key assumptions

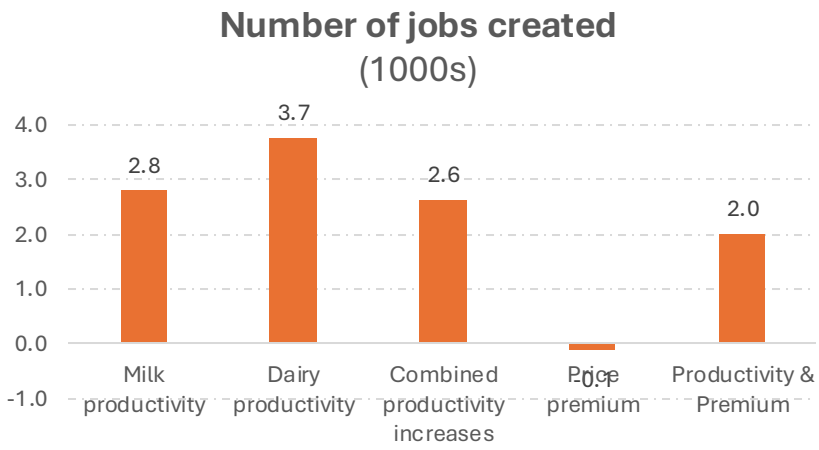
[3] fixed capital growth at 3%. [4] Fully employed and mobile labor.
[5] Fully employed and sector specific capital.

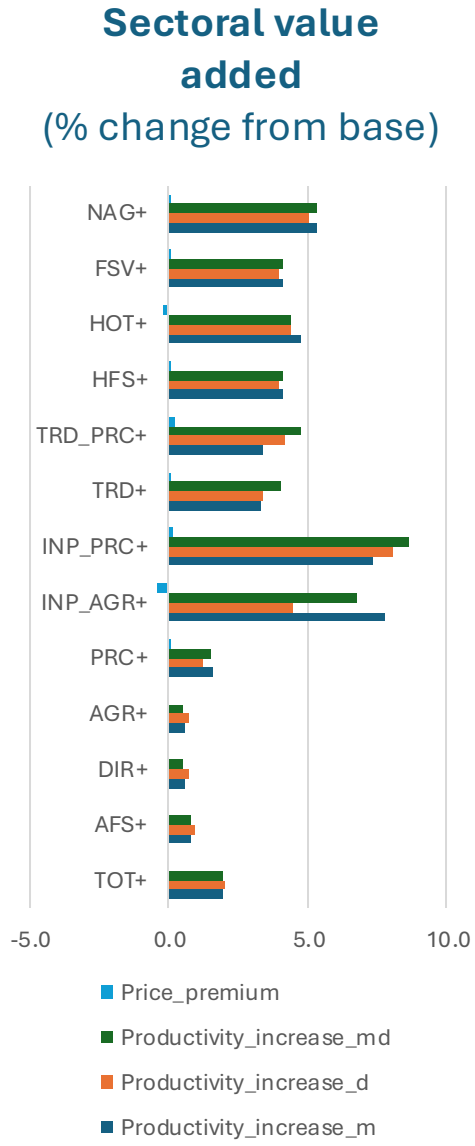
Uganda dairy value chain



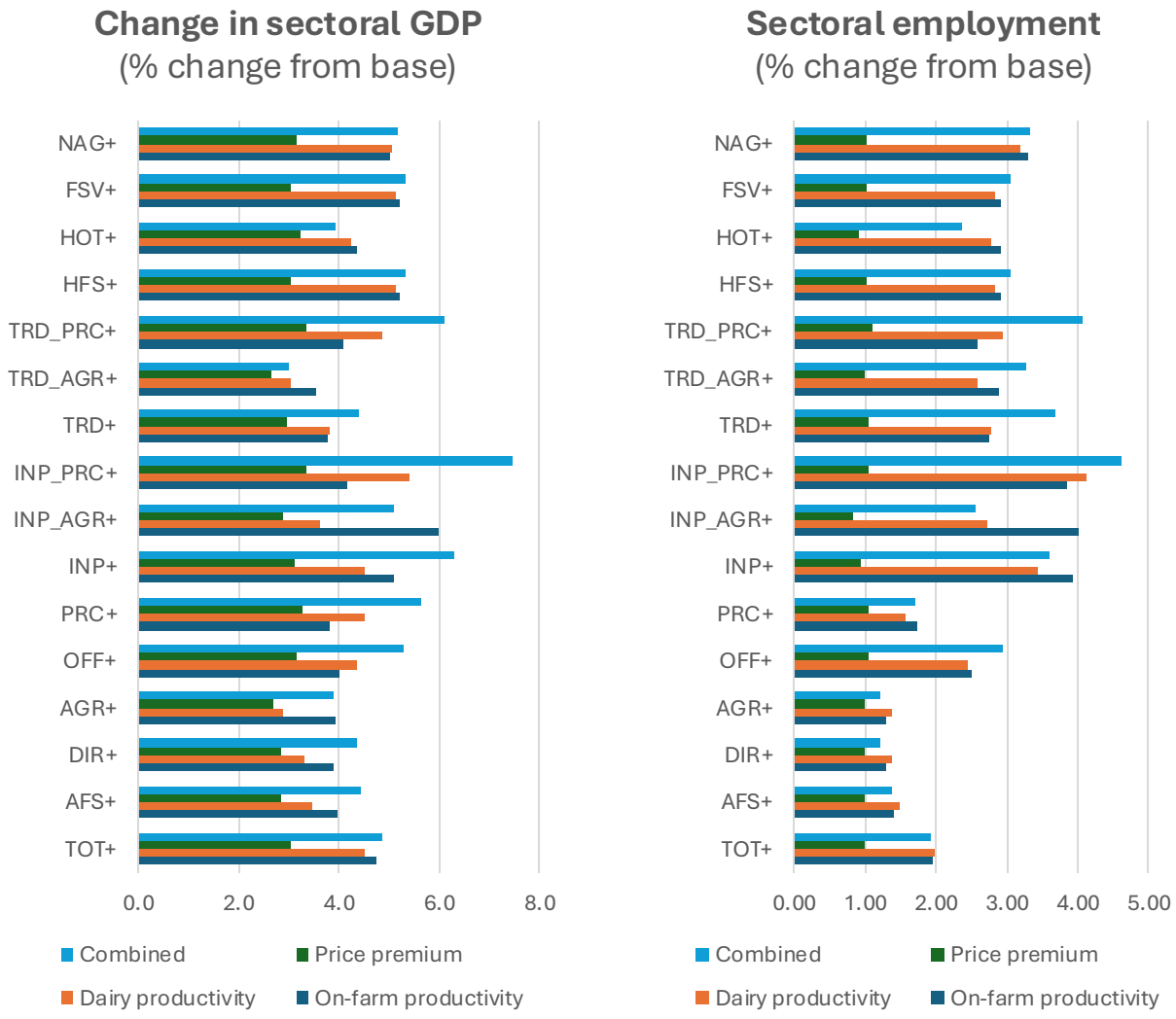








Uganda dairy value chain



Summary

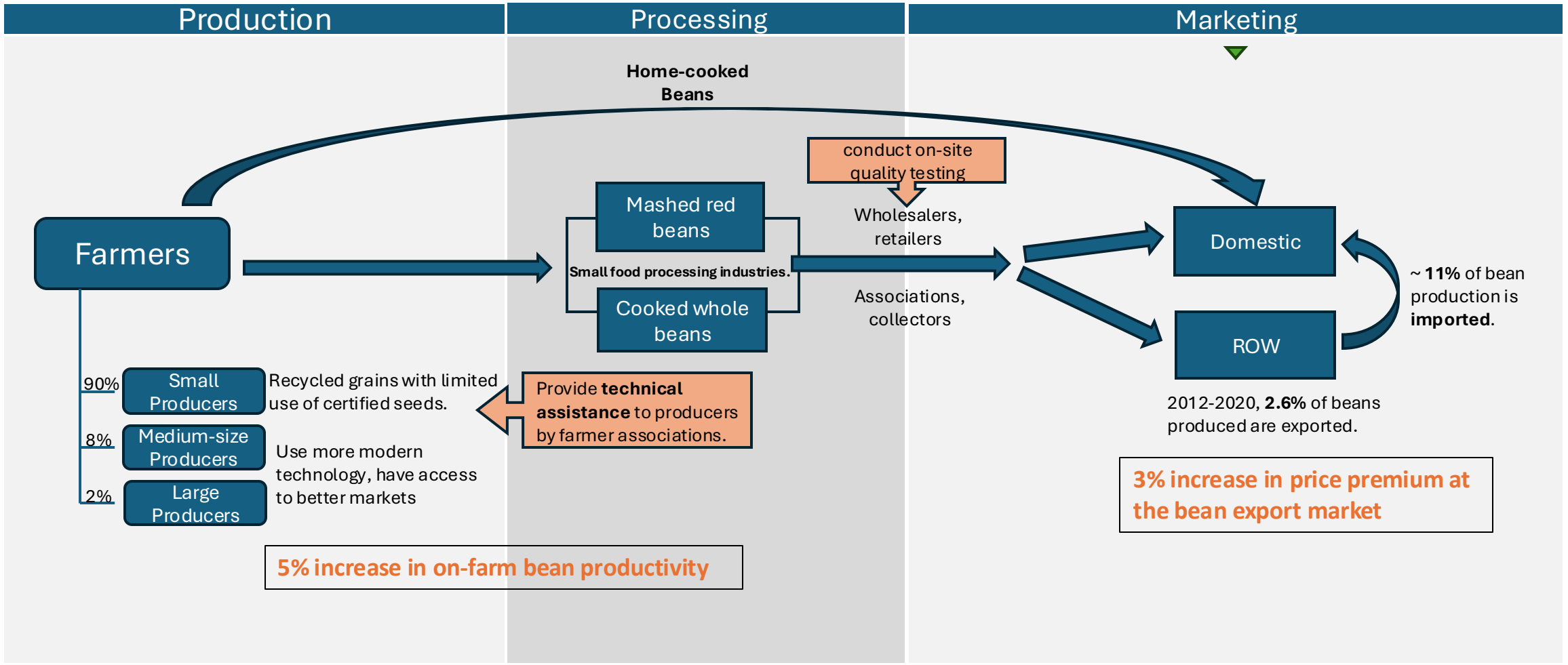
- Milk and dairy sectors are treated differently in the SAM. In the milk sector, 30% of the output is for own home consumption while 70% is sold on the domestic market – 6.5% of which goes into the dairy sector.
- The milk going into the dairy sector comprises 18% of the dairy output. Exports make 72% of total dairy demand.
- Increasing productivity in the milk sector influences productivity in the dairy sector.
- The milk sector adds 6% to agricultural GDP while the dairy sector adds 1%.
- In depth analysis in the value chain using Gross Margin, PE Modeling and VC mapping to flesh out domestic resource costs, and relative trade advantage measures.

Conclusions

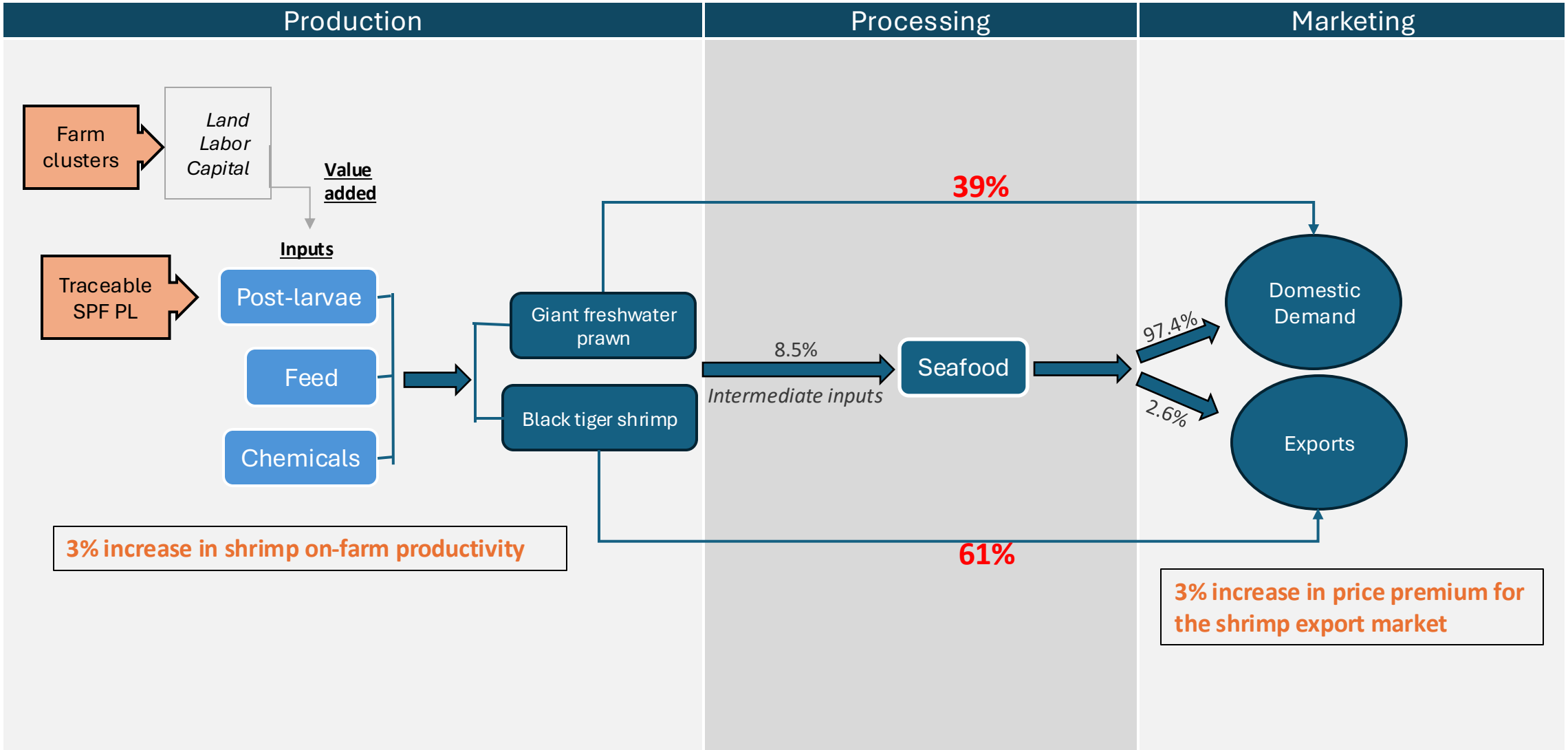
- Not all value chain innovations have economywide impacts
  - Diagnostic analysis can help decide whether its worth while
- Economywide analysis can complement, not replace value chain analysis
  - Economywide models capture broad linkages, not detailed behavior of value chain actors → "calculators" for measuring spillover effects
  - "Rethinking" food markets requires looking at entire agrifood value chains – both on- and off-farm – and developing "bundled innovations"
- Economywide models reveal spillover benefits, constraints, or trade-offs
  - Productivity-enhancing innovations boost supply, but demand constraints (e.g., limited processing or demand) may cause price declines and create production disincentives
  - Export supply is unconstrained, but export often have minimal local processing
- Next steps
  - Refine analysis based on feedback from value chain teams
  - Where feasible and demand exists, identify and simulate impacts of proposed policy reforms (e.g., investments, taxes, subsidies)

Discussion

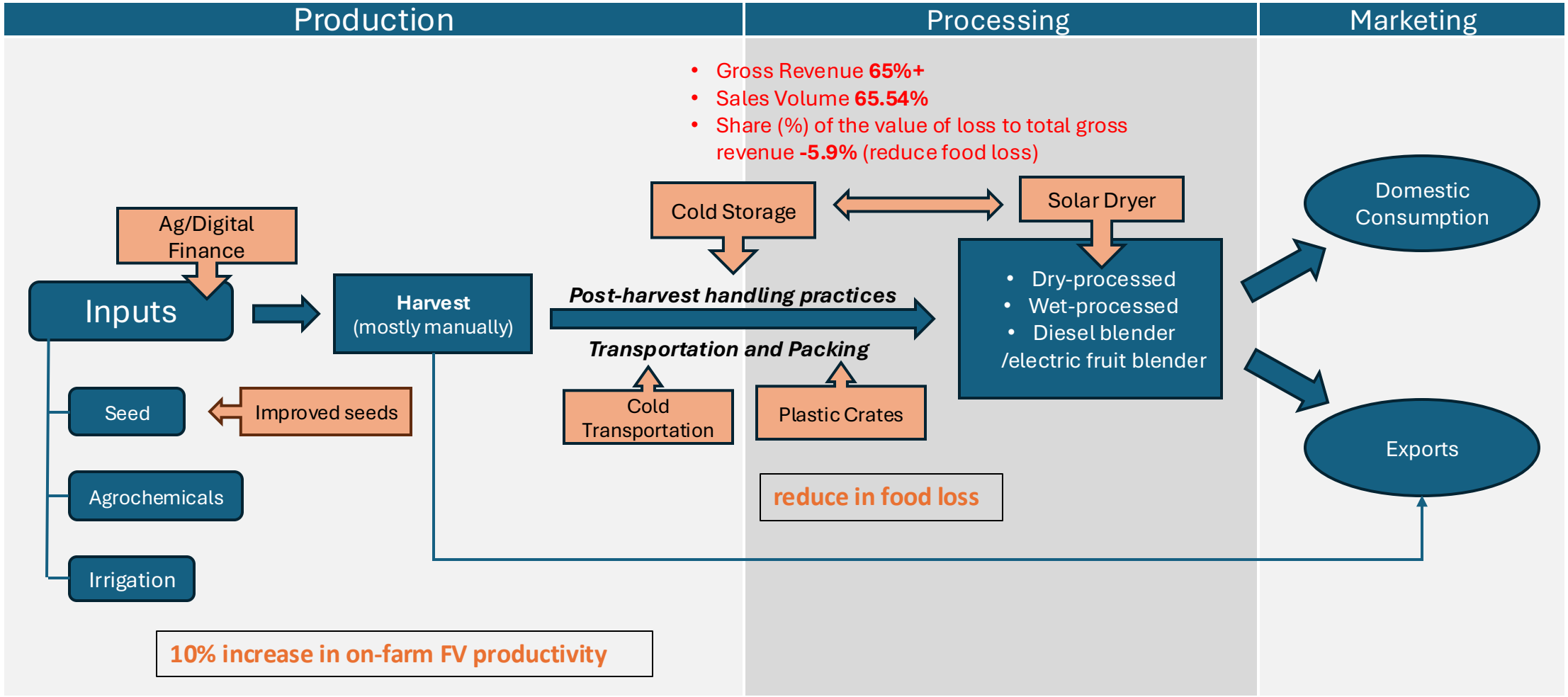
Honduras – Bean value chain



Bangladesh – Shrimp value chain

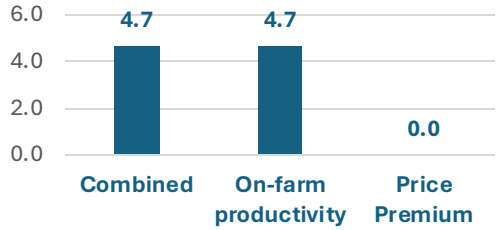


Nigeria – Fruit & Vegetable value chain

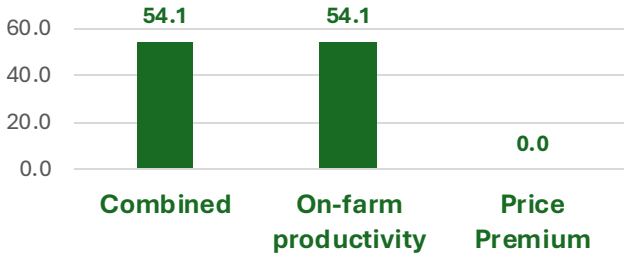


HONDURAS - BEANS

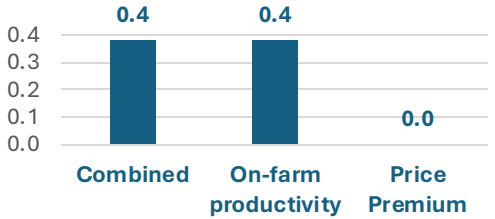
Beans GDP
(% change from base)



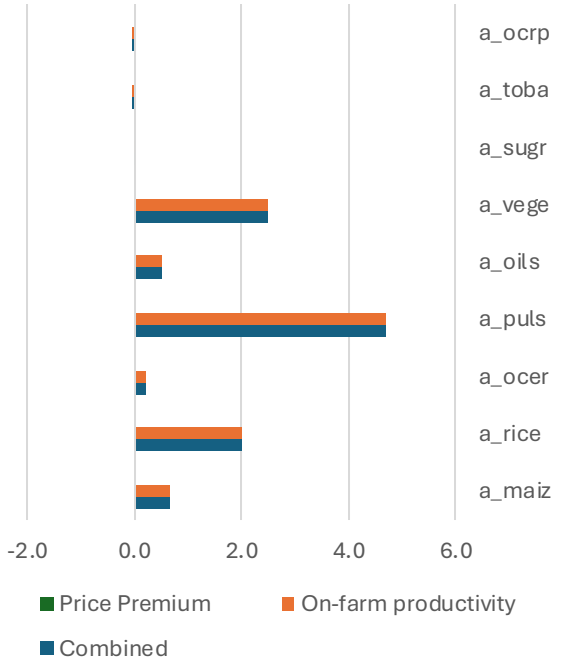
Number of people lifted out of poverty
(Thousands people)



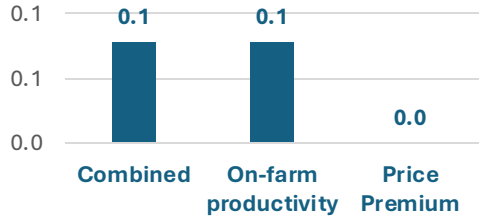
Agricultural GDP
(% change from base)



Crop GDP
(% change from base)

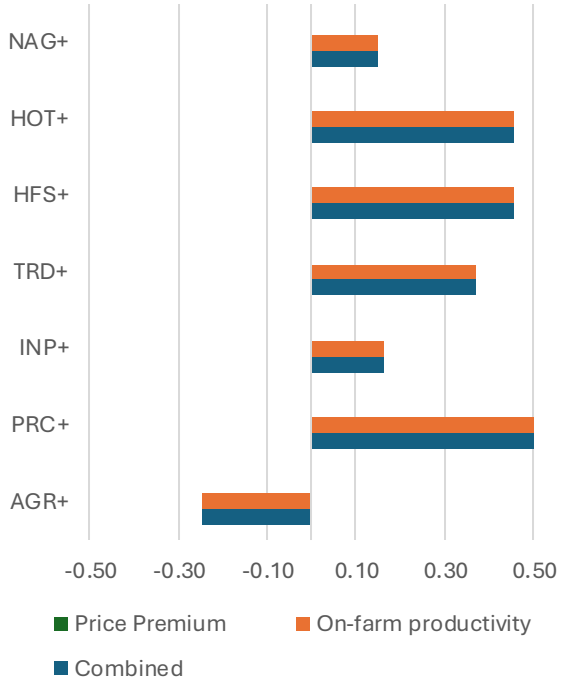


Total GDP
(% change from base)



Sectoral GDP
(% change from base)

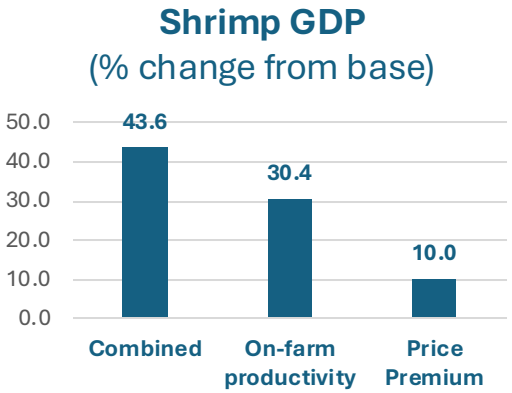
Sectoral employment
(% change from base)

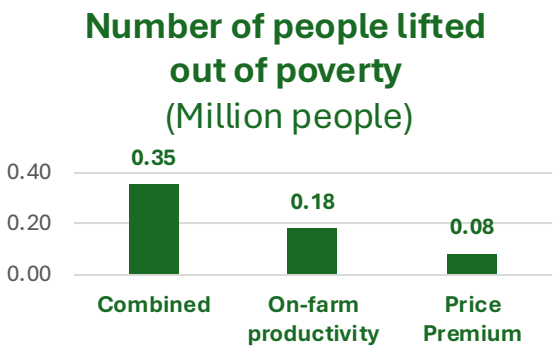


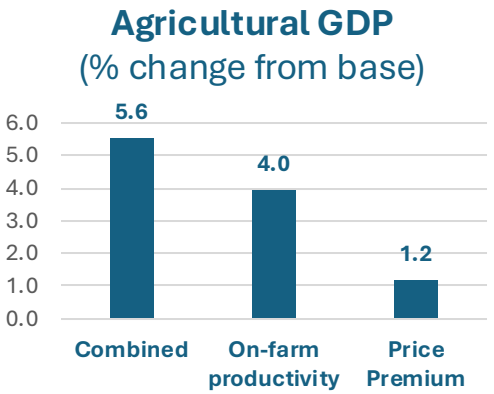
HONDURAS - BEANS

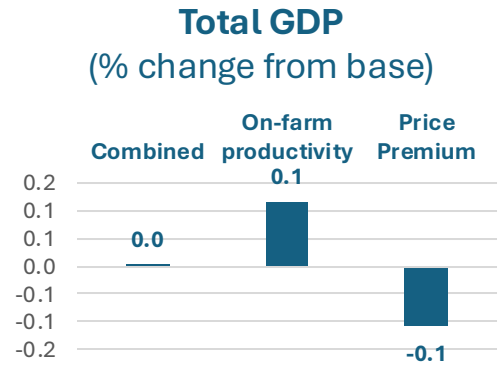
Key assumptions: [1] 5% cumulative increase in TFP. [2] 3% increase in world price. [3] fixed capital growth at 3%. [4] Fully employed and mobile labor. [5] Fully employed and sector specific capital.

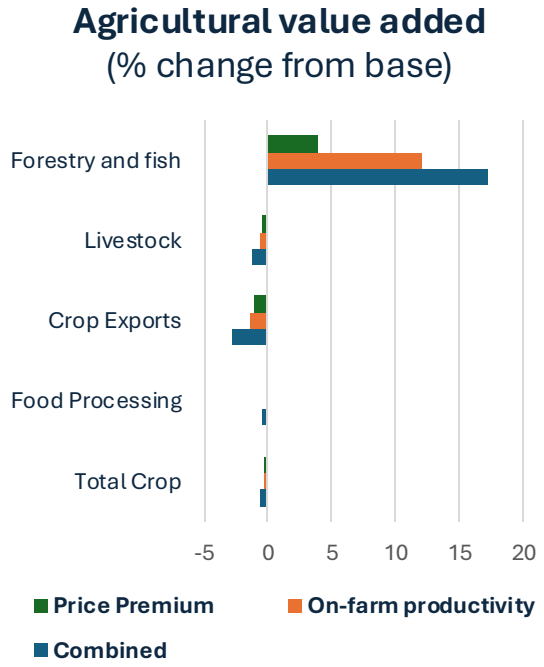
BANGLADESH - SHRIMP

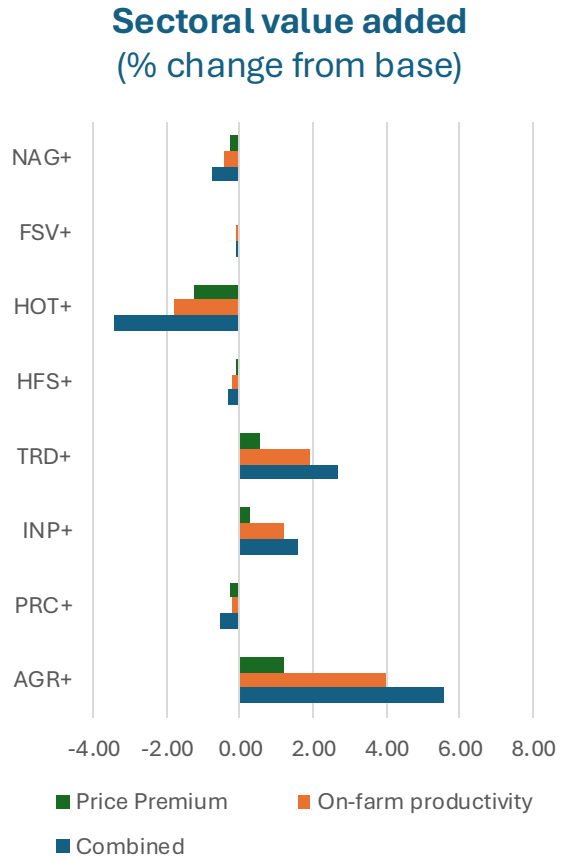


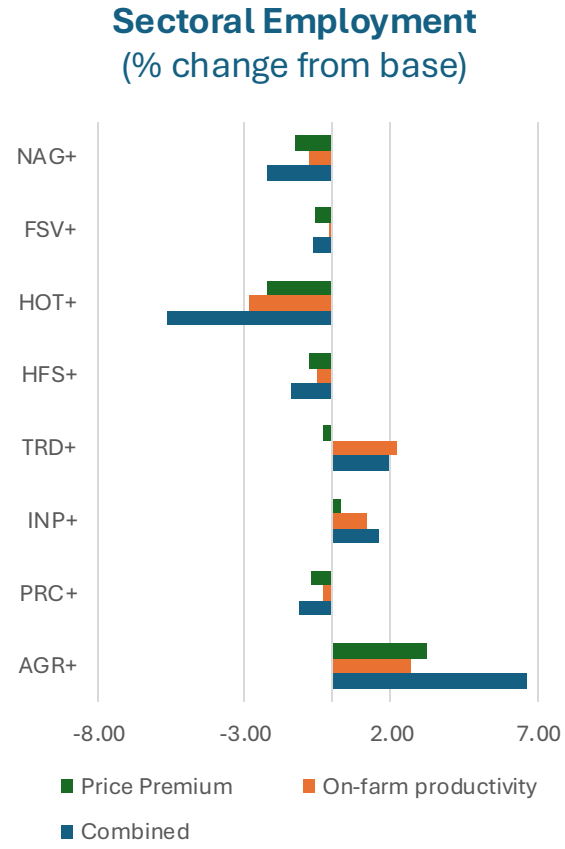










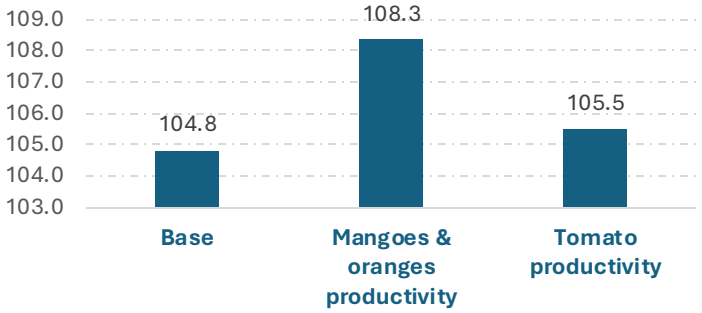


BANGLADESH - SHRIMP

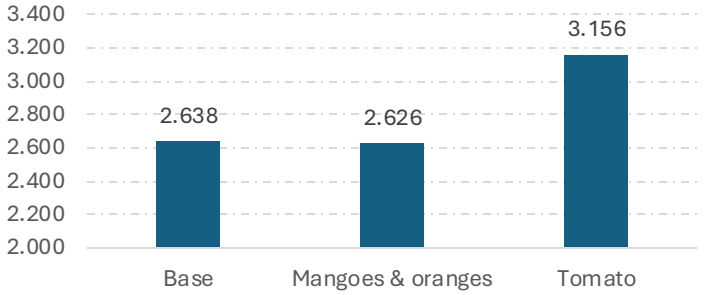
Key assumptions: [1] 3% cumulative increase in TFP. [2] 3% increase in world price. [3] fixed capital growth at 3%. [4] Fully employed and mobile labor. [5] Fully employed and sector specific capital.

NIGERIA – TOMATO & FRUITS

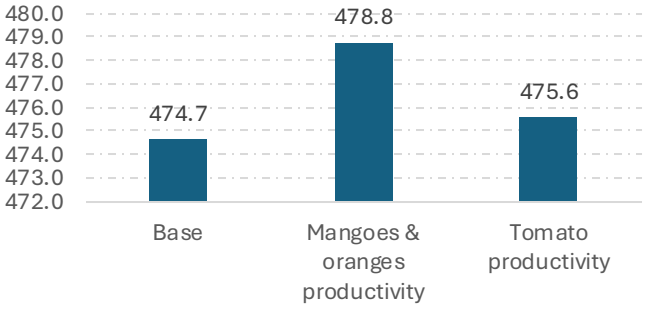
Changes in Agricultural GDP (Million US$)



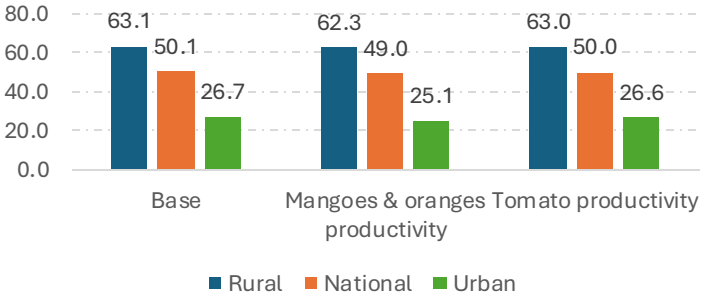
Tomato GDP results (million US$)



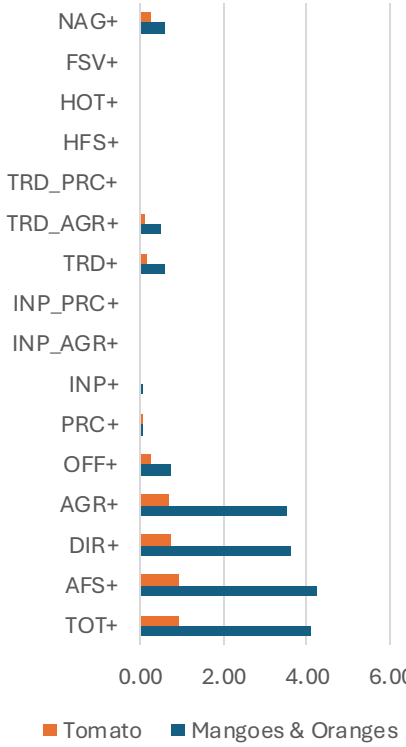
Changes in National GDP (Million US$)



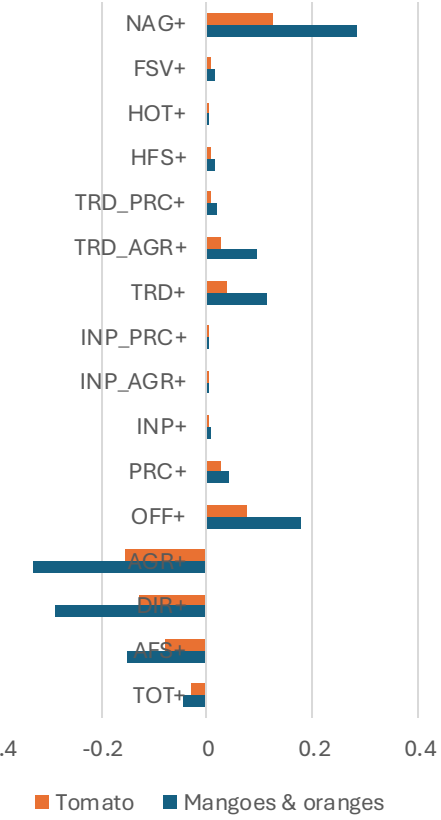
No. people lifted out of poverty (1000)



Change in GDP in the agri-food system (% change from base)



AFS employment (1000)



Nigeria – [1] Tomato. [2] Mangoes & oranges

Key assumptions: [1] 10% cumulative increase in TFP. [2] fixed capital growth at 3%. [4] Fully employed and mobile labor. [5] Fully employed and sector specific capital.

CGIAR

Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Introducing KISM & its features and outline on the guideline documents

Naomi Black, ISEAL

CGIAR

INITIATIVE ON
Rethinking
Food Markets

KISM

implemented in partnership with

iseal evidensia®

Knowledge dissemination for impact:

Highlights from the Knowledge Platform for Sustainable Food Markets (KISM)

Dec 2024 | Washington D.C

Introduction

CGIAR | INITIATIVE ON Rethinking Food Markets

KISM

Naomi Black
Project Manager –
ISEAL & Evidensia

Evidensia | focus and scope

- **Evidensia's focus is on market-led and supply chain sustainability approaches**
- Evidensia tracks relevant research (academic and grey literature) on the functioning, impacts and effectiveness of these approaches
- It focusses on all sustainability topics, organised into twelve major themes of interest
- Evidensia produces value-added products that distils results and learnings from research through briefings, podcasts and webinars
- Evidensia conducts regular systematic evidence reviews on effectiveness of market-led approaches on key topics
- Evidensia's unique inline features help make sense of the evidence base and are increasingly used and referenced by researchers

- **Visit us at www.evidensia.eco**

Market-based sustainability approaches:

- Voluntary sustainability standards
- Bans, moratoria and multi-party agreements
- Sustainability Reporting
- Supply chain investment programmes
- Corporate codes of conduct
- Sustainability requirements within trade and procurement policies

Evidensia | How we work with partners

evidensia

1. Knowledge partner on large-scale research and programme initiatives

Role and activities:

1. Synthesis research and literature reviews
2. Knowledge simplification and dissemination
3. Learning events
4. Value-added products such as research briefings, blogs, podcasts

Examples

CGIAR INITIATIVE ON Rethinking Food Markets KISM

GOOD GROWTH PARTNERSHIP Led by UNDP

2. Bespoke research studies on specific topics

Role and activities:

1. Undertake or commission systematic reviews on specific research topics
2. Project delivery from start to finish including timely delivery, quality control, partner consultation
3. Publication, dissemination, learning from studies

Examples

idh transforming markets

SCIENCE BASED TARGETS
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

3. Support for building Evidensia's use as a public good

Role and activities:

1. Platform maintenance, access, core functions (tracking, coding)
2. Core staff capacity to run operations and governance
3. Regular communication and dissemination (webinars, newsletter, social media)
4. New platform features

Examples

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Confederation

Federal Department of Economic Affairs, Education and Research EAER
State Secretariat for Economic Affairs SECO

gef

Collaborative knowledge sharing drives systematic change

Moving research from here

To here

Images from recent Honduras stakeholder workshops

CGIAR INITIATIVE ON Rethinking Food Markets

KISM

Today's session

1.
Raise awareness about KISM as a resource

2.
Share past KISM activities & highlight practical tools

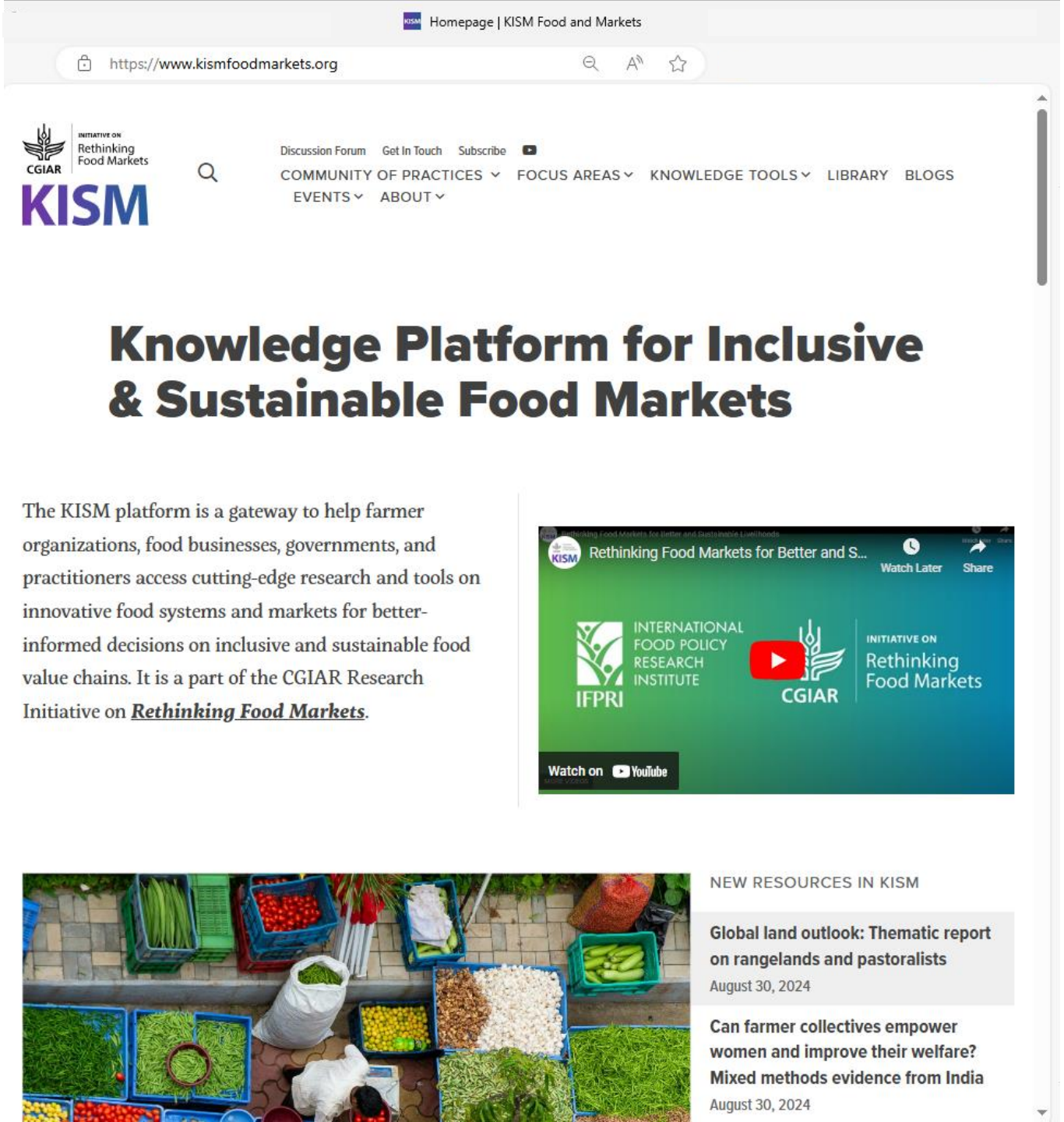
3.
Create a space for collaboration & shared learning in agri-food systems

Key achievements & features of KISM

Building & sharing: The KISM platform

Launched March 2023:

- A library
- Knowledge tools
- A community of practice
- Knowledge events



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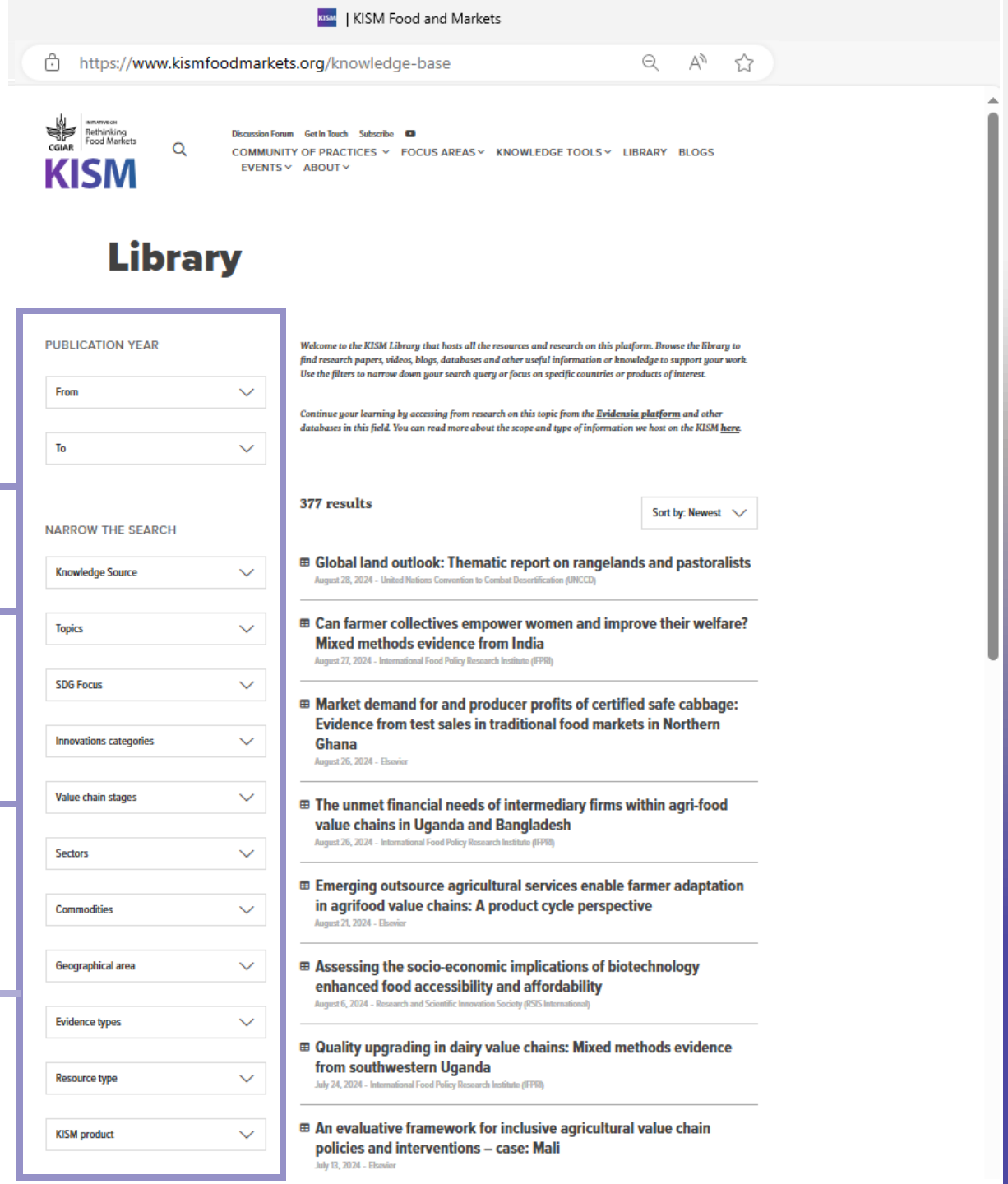
KISM

Finding relevant resources for you

The KISM library offers:

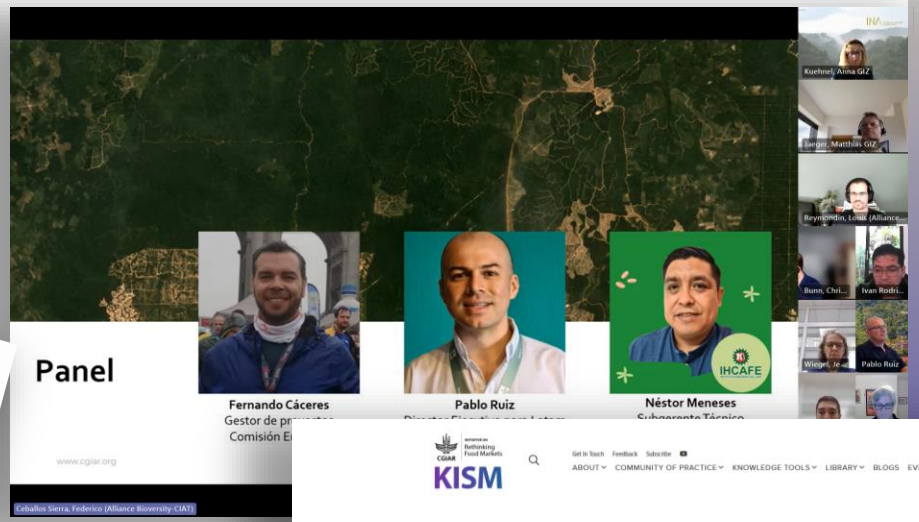
- CGIAR, Evidensia & 3rd party research
- On climate management, social inclusion and poverty reduction sub-topics
- From the farm level to the supply chain and wider environment
- Across all geographies & ag commodities

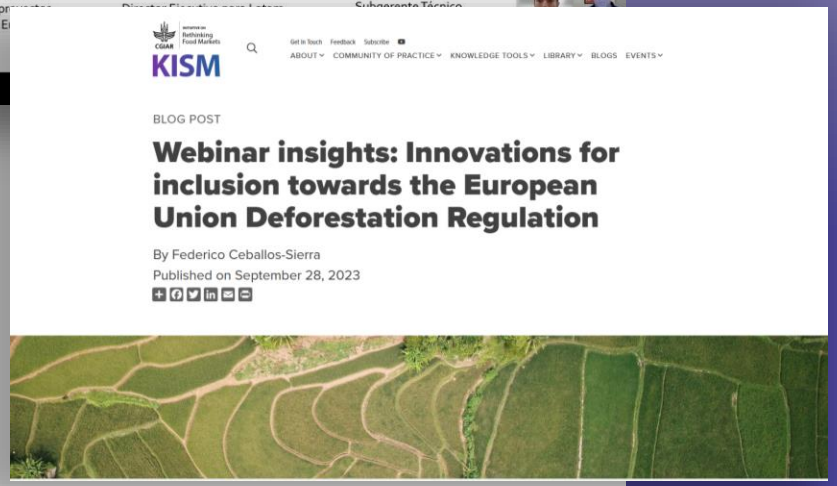


Other resources

Blogs from researchers

Webinars on key topics & digestible summaries



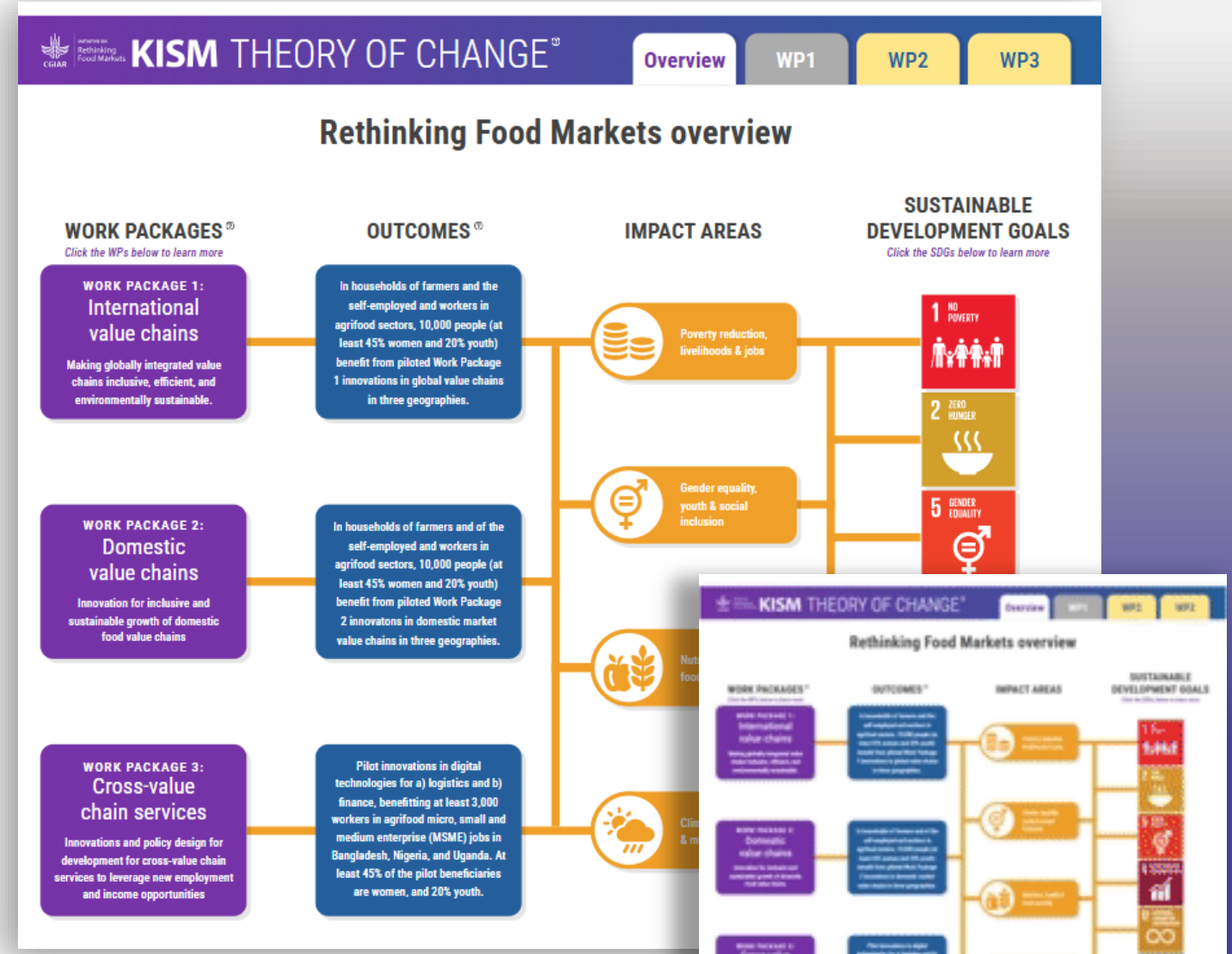


Communicating strategic impact research

New feature coming soon

KISM Theory of Change for food systems:

- Using structured around the initiative's research, interventions, outcomes and impact areas
- 3rd party research can be added to build a more granular picture of where impacts research exists
- Vision is to plot evidence against routes of change to increase accessibility



Developing practical guidance tools

Guidance for inclusive action:

- Making agri-food research practical for stakeholders by
  - Taking the findings in this 2023 meta-study
  - Using them to develop guidance for food systems actors on more inclusive action

See the study and all knowledge products at www.kismfoodmarkets.org/node/2495

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Developing practical guidance tools

3 guidance notes:

1. Gender-positive action in food system employment
2. Decent work: inclusive standards certifications for food systems employment
3. Equitable digital innovations

Audiences:

Policymakers & agri-business actors

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1. Gender-positive action

Components:

1. Overview of research on female experiences and inclusion in agri-food systems (on and off-farm)
2. A presentation of the gender toolkit and direction to other tools developed by the CGIAR sister programme HER+

Central question for readers:

1. How can/do your actions encourage or discourage women from participating in agri-food systems?

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2. Equitable digital innovations

Components:

1. Overview of research on digital innovations in ag, focusing on common equity issues
2. A framework for guiding thinking on these emergent issues
3. Application of the framework to case studies from the initiative

Central question for readers:

1. How can/do your actions lead to more equity in:
   a) The way actors are included in processes;
   b) The way benefits are distributed;
   c) The way actors, their knowledge, and their interests are represented;

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3. Decent work

Components:

1. Overview of findings on the effectiveness of sustainability standards and certifications on ag employment & decent work from 2 key meta-studies
2. Recommendations for practitioners and researchers involved in this area.

Key points for readers:

1. Guidance on where these approaches are most effective
2. Suggestions on how actors can contribute to their long-term effectiveness

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Creating a community of practice

Creating a space for collaboration & shared learning in agri-food systems

Key aims:

1. Strengthen peer-to-peer learning
2. Enable continuous learning and uptake of findings & recommendations to inform practice
3. Facilitate co-creation of context-specific tools and strategies

Image courtesy of Livier Garcia

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The CoP

1. **What is it?** *A collaborative space for sharing knowledge, discussing challenges, and co-creating or advocating for solutions*
2. **Who is it for?** *All food system actors*
3. **What form does it take?** *A mix of participatory online and, potentially, in-person workshops, seminars, and other events, convened around key topics*

Image courtesy of Quang Nguyen Vinh

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Your input

Opening questions:

1. *What would make you feel excited and motivated to engage in this CoP actively?*
2. *What challenges or gaps in your current work could a CoP help address?*
3. *What issues would you be interested in coming together with peers on?*
4. *What, in your view, would make the initiative's research come to life for other food system actors?*

Image courtesy of Thibault Lucycx

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KISM

Looking ahead

Future KISM activities

1. **Growing the resource collection**

2. **Launching guidance pieces:**
   Look out for these on the KISM in the new year

3. **Community of practice:**
   Activities are being planned for 2025

Image courtesy of Gotham AGM

CGIAR INITIATIVE ON Rethinking Food Markets

KISM

Work with us to make sure the knowledge we generate not only informs but also transforms

CGIAR

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Rethinking Food Markets

KISM

implemented in partnership with

iseal evidensia®

Join our mailing list:

Stay informed of upcoming KISM events and new resources


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BREAK

3.15 → 3.45

CGIAR

Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Plenary Session G

From pilot to scaling. How to determine scaling preparedness and scaling feasibility? Experience from Ethiopia, Honduras, Nigeria and Uganda

Moderator: Rajalakshmi Nirmal, IFPRI

Presentation: Minh Thai, IWMI

Discussants:

- **Thomas Reardon**, *MSU & IFPRI*
- **Samson Akankiza Mpiira**, *Executive Director, DDA, Uganda*
- **Michael Ogundare**, *CEO Crop2Cash, Nigeria*
- **Behailu Nigussie Demeke**, *Deputy CEO of the Ethiopian Commodity Exchange*
- **Guillermo Alvarado**, *Secretary General, Honduran Chapter of the Global Coffee Platform*

INITIATIVE ON
Rethinking
Food Markets

CGIAR

The Initiative on Rethinking Food Markets
Science, Innovation and Policy Symposium

Moving beyond the piloting with scaling preparedness and feasibility: Experience from Ethiopia, Honduras, Nigeria, and Uganda

Thai Thi Minh, IWMI, t.minh@cgiar.org

Rajalakshmi Nirmal, IFPRI, r.nirmal@cgiar.org

Girma Kassie, ICARDA, **g.tesfahun@cgiar.org**

Rob Vos, IFPRI, r.vos@cgiar.org, and many other researchers and stakeholders involved in the RFM Initiative

Key concepts

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Scalability

Innovation's ability to adapt to the new scaling contexts and respond to changes during the scaling process, and anticipated performance, impact, and trade-offs when going to scale

Intervention

- Identifying
- Designing
- Bundling
- Piloting
- Scaling
- Strategizing
- Evaluating

Bundled innovations

Scaling feasibility

The possibility that the scalable innovation can be scaled to achieve larger-scale impacts

Scaling contexts

Bio-natural-physical-climatic features

Socio-economic-institutional characteristics

Challenges and opportunities

Existing partnerships, networks, investment

Available and resources needed for scaling

Scaling preparedness

The ability of food systems, market actors, and relevant stakeholders to scale and accelerate the scaling innovation

Identify scalable innovation/bundle

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Dimensions	Indicators	Description
INNOVATION SCALABILITY		
Innovation	1. Type of innovation	Incremental, radical, disruptive
	2. Innovation attribute	Maturity, availability in the market, target value chains
	3. Intervention	Timing of intervention, investment needed, required resources, return on investment
	4. Desired impacts	Nutrition, health, and food security; Poverty reduction, livelihoods, and jobs; Gender equality, youth, and social inclusion; Policy and institution
Context	5. Potential new conditions	Demands, challenges, opportunities, potential risks in new scaling context/value chains
	6. Ability to adapt	Ability to adapt to new demands, challenges, opportunities, potential risks
Scaling status	7. Adoption status	Current users, their accessibility and affordability to the intervention, drivers to adopt
	8. Scaling extent and speed	Other user segments, potential geographical reach, time frame for scaling
	9. Unintended negative outcomes	Undesired impacts/trade-offs, possible adjustments of intervention to reduce the trade-offs
SCALING PREPAREDNESS		
Stakeholder engagement	10. Stakeholders involved	Diverse actors and stakeholders
	11. Engagement degree	Stakeholder interests, attitude, and acceptance to participate
Stakeholder commitment	12. Stakeholder ownership	Stakeholder participation in intervention activities, their commitment to the achievement of intervention goals, their demand for accountability regarding intervention
	Buy-in and continuation	Investment in innovation, intervention, and scaling
Stakeholder accountability	Resource contribution and investment	Available resources, time investments, budget and staff contribution, capacity

Identify scalable innovation/bundle

CGIAR | INITIATIVE ON Rethinking Food Markets

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Stakeholder accountability	Resource contribution and investment	Available resources, time investments, budget and staff contribution, capacity

Five levels scale to score scaling potential

1. Very low
2. Low
3. Neutral
4. High
5. Very high

Scalable innovation overview

Innovation	Innovation scalability	Scaling preparedness	Scaling potential
Ethiopia: Smart sesame marketing	Relatively high	Neutral to high	Relatively high potential
Honduras: Quality assessment	High	Relatively high	High potential
Honduras: Women typology in coffee supply chains	High	Neutral	Neutral
Honduras: Digital infrastructure	Neutral to high	High	Relatively high
Honduras: Improving business relationship	High	High	High potential
Honduras: New food formulation and packaging	Neutral	Neutral	Neutral
Nigeria: Cool transportation and cold storage	High	Neutral to High	Relatively High
Nigeria: Solar dryers	Relatively high	Neutral	Neutral
Nigeria: Plastic crate rental and market support	Relatively high	High	High
Nigeria: Digital financial services	High	High	High
Uganda: Milk analyzers	Neutral	High	Relatively high
Uganda: Ezy Agric digital platform	High	Relatively high	High potential

Ethiopia deep dive: Smart Sesame marketing bundle (1)

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SSM scalability: Relatively high

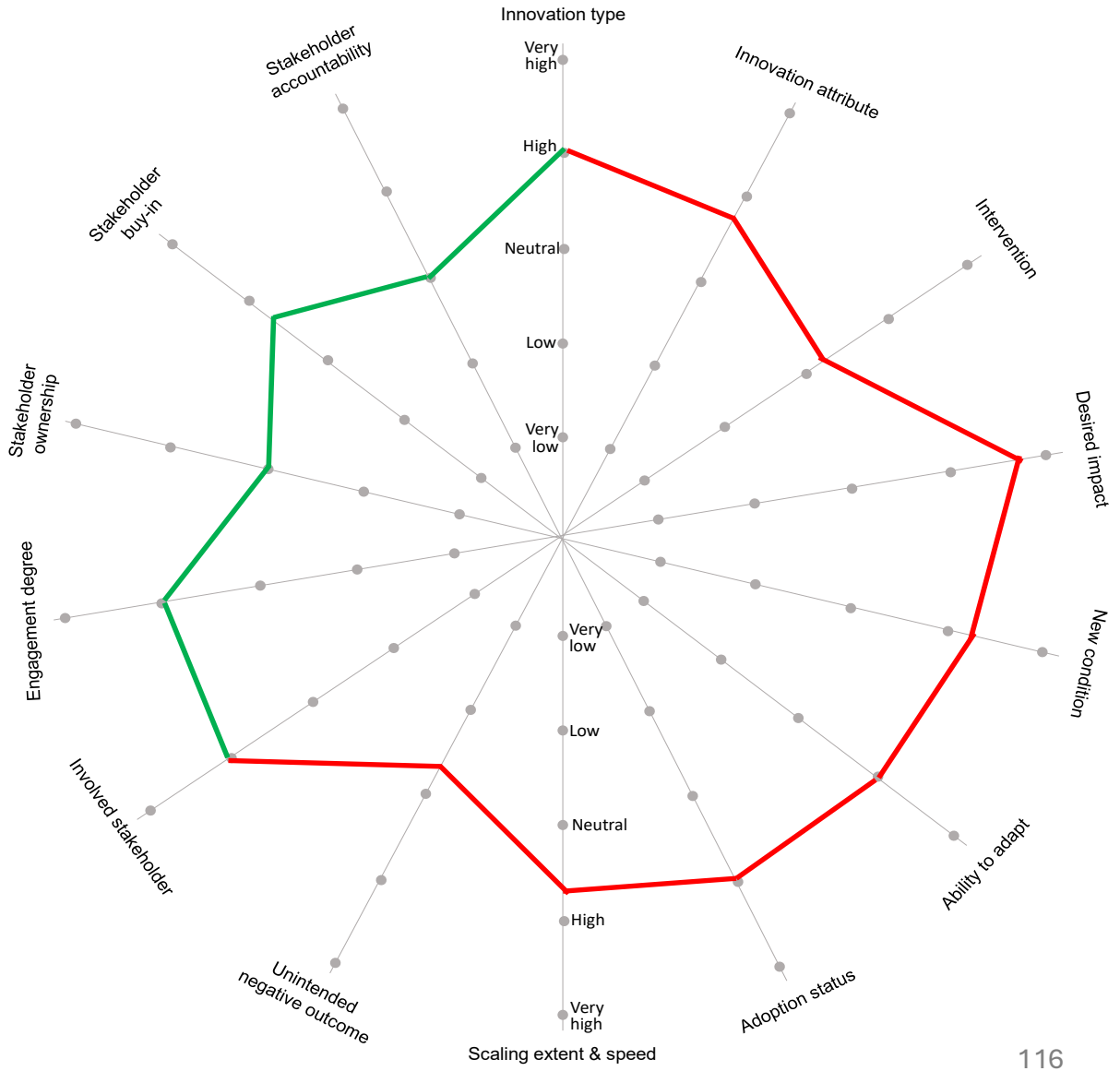
- SSM is understandable, compatible, timely, and easy for the cooperatives and traders
- Intervention's accessibility, acceptability, and affordability for smallholder farmers, partners, and stakeholders
- Requiring resources, project push, bundling-related technical assistance, and strong stakeholder support

Scaling preparedness: Neutral to high

- Diverse stakeholder Involvement with high interest, acceptance,
- Limited ownership, buy-in, and accountability

Scaling potential: Relatively high

It is scalable but requires technical backup and additional interventions to advance the technology while mitigating uncertainties due to collective actions, and organization dynamics.



Ethiopia deep dive: Pathways to scale SSM (2)

Critical contextual challenges:

- Climate hazards (e.g., heavy rains, unpredicted drought, and flood) and weather variation)
- Ongoing civil war, tensions between ethnic groups, displacement, political instability, and security
- Limited market access, low profitability, and high inflation
- Resource gaps: limited access to loans/credits; limited expertise and know-how to design and bundle innovation; challenges for farmers to afford telecommunication services

Available resources and structures:

- Telecom infrastructure
- Existing networks/platforms: ECX platforms, primary transaction centers, and market information forecast.
- Ongoing investment and initiatives: upgrading and expanding telecom infrastructure, Digital Ethiopia 2022, Sesame Business Networks

GOAL: Improve market inclusion and sustainable livelihoods for smallholder farmers

Pathway 1. Enhancement of the market efficiency of 55,000 sesame producers in Humera and Quara

- Improve access to market information
- Enhance collective action strategies
- Invest in innovative markets

Time frame: 2025 – 2027
Actors: existing partnerships, businesses, and services from cooperatives, regional trade offices, ECX, Ethio Telecom, Research Centers, and development projects

Pathway 2. Establishment of a foundation to scale SSM bundle reaching 70% sesame producers with market information

- Enhance stakeholders' orientation, awareness, and capacity
- Establish market and information networks

Time: 2025 – 2030
Actors: Existing partnerships, implementing partners, and all responsible public and private stakeholders

Honduras deep dive: Quality assessment

The **quality assessment** bundle has high scalability and neutral to high scaling preparedness**.** It is scalable but requires interventions to enhance stakeholder ownership, buy-in, and investments.

GOAL: Capitalize multi-stakeholder involvement to coordinate the implementation of strategies and technical assistance, quality measurement, and unlock business and culture challenges.

Pathway 1. Direct intervention by the State and other actors

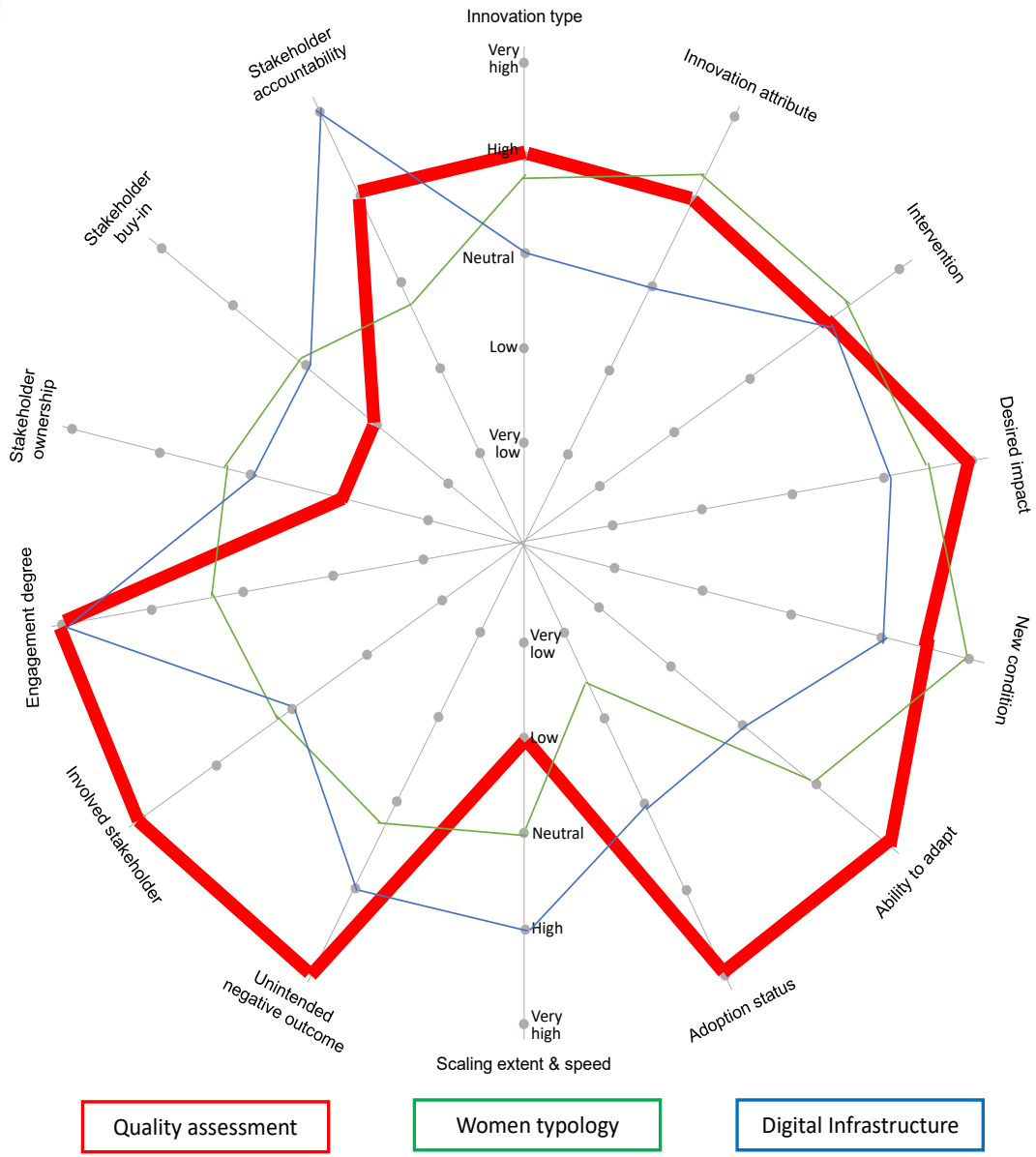
- Ensure compliance with regulations by the State
- Strengthen the capacity for producers by other actors
- Facilitate the implementation of strategies by the Global Coffee Platform
- Mobilize the involvement and investments from the private sector actors, i.e., BECAMO, AMUCAFE, ANACAFEH

Pathway 2. Creation of inclusive chain linkages

- Bring buyers closer to producers by integrating into existing business models and process automation
- Integrate donors, NGOs, the State, and other stakeholders to support implementing strategies
- Leverage long-term relationship reputation

Pathway 3. Enhancement of contract fulfillment

- Establish multi-actor contract-warranty agreements between the private sector (banks/ buyers), producers, and the government
- Monitor contract deployment and fulfillment to ensure seller-buyer business relationships and roles of buyer-as-guarantor for the bank



Nigeria deep dive: Cool transportation and cold storage

The **cool transportation and cold storage** bundle has high scalability and neutral to high scaling preparedness. It is scalable but requires concrete interventions to incentivize the private sector's investment and investors' funding to lower the initial investment and improve the enabling environment

GOALS: Eliminate food spoilage to enhance the sustainability of Nigeria's fruit and vegetable value chains

Pathway 1. Provide end-to-end cold chain infrastructure and services (2025-2027)

- Map and identify market and aggregation centers suitable for the cold facility installment
- Develop the technology/process from end-to-end
- Sensitize farmers on cold storage and transportation for pre-cooling.
- Train farmers on agronomy practices and harvesting for cold storage
- Develop flexible logistics and different types of products to be transported

Pathway 2. Improvement of enabling environment and infrastructure

- Optimize the transport route (Explore Onitsha, Port Harcourt)
- Policy intervention, e.g., price subsidy and good road networks and the transportation cost
- Collaborate with funders and stakeholders to lower the financial constraints to invest in cool transportation and cold storage

Nigeria deep dive:
Plastic crate rental and market support

The **plastic crate rental and market support** bundle has high scalability and relatively scaling preparedness**.** It is scalable under the conditions of mobilized investments and raised awareness amongst farmers.

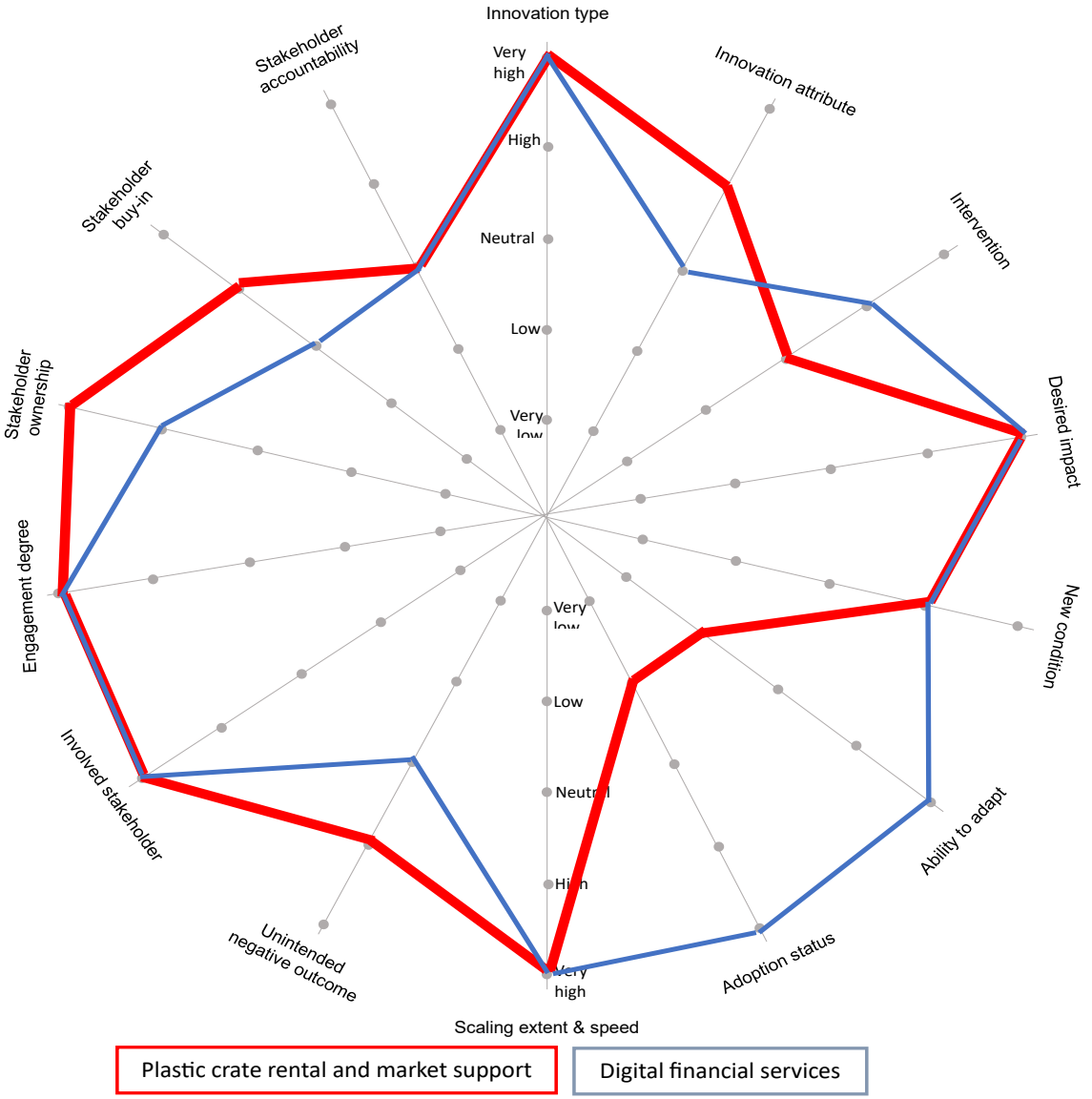
GOAL: Reduce post-harvest losses and improve logistics and food availability for smallholder vegetable producers

Pathway 1. Capitalization of investment in plastic crate rental and market support

- Increase plastic crates and invest in transportation means for returning crates
- Collaborate with the tomato association to buy and invest more in procuring plastic crates.
- Diversify markets and aggregation centers to increase/ensure reasonable profits from the investment in plastic crates
- Establish a direct market linkage with processing companies.

Pathway 2. Creating inclusive chain linkages

- Digitalize awareness creation and communication on plastic crates rental and market support
- Provide GAP and post-harvesting handling training for farmers
- Bundling cool transportation and sold storage with crate rental



Uganda deep dive: Milk analyzers

The **milk analyzer bundle** has neutral scalability and high scaling preparedness. It has high demand, and scaling is essential to speed up milk analyzer adoption, quality compliance, and bundling with other solutions to enhance market access.

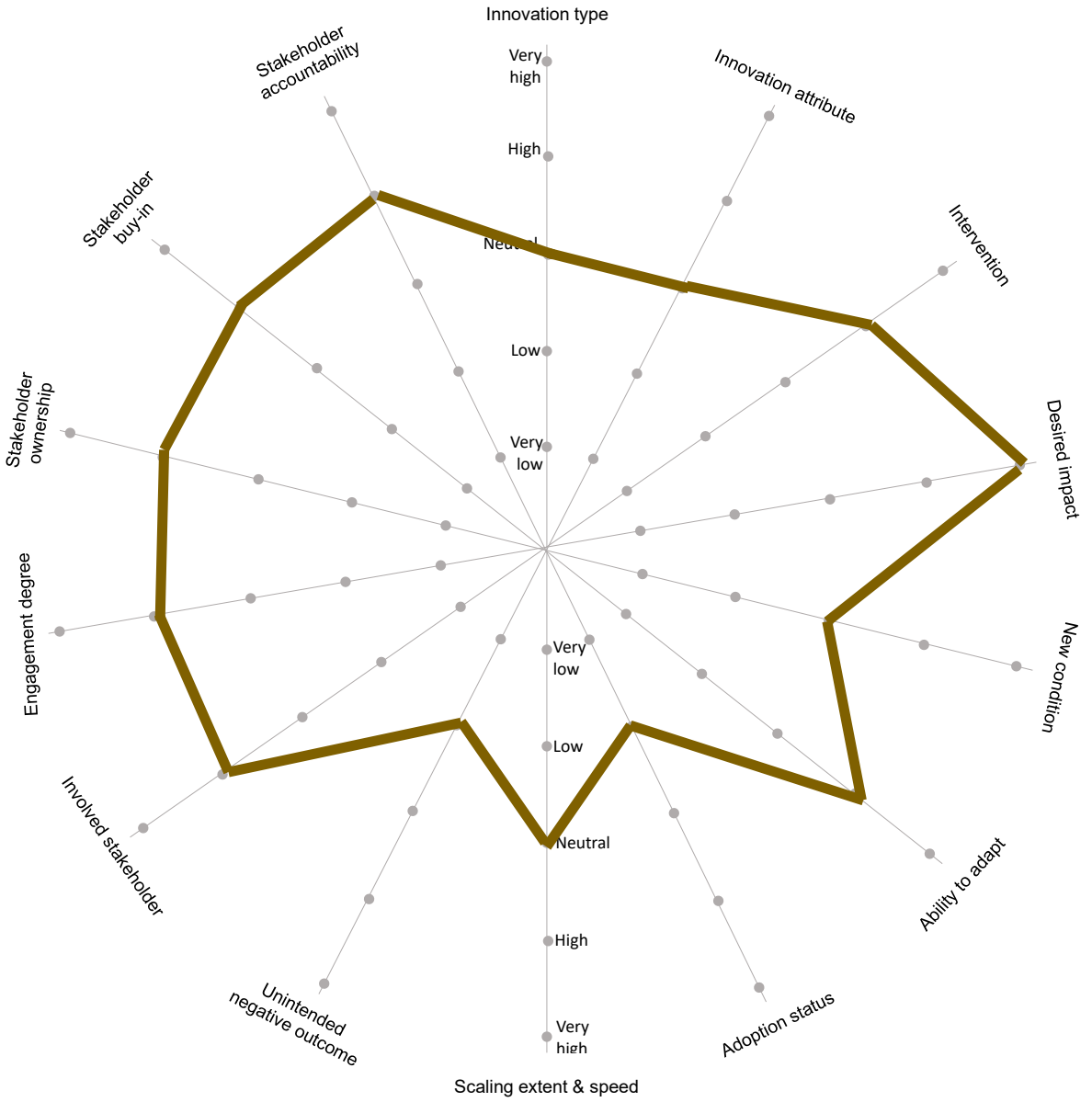
GOAL: Upgrade Uganda's dairy value chain by increasing milk quality and market access for milk collector centers and farmer suppliers

Pathway 1. Catalyzation of milk analyzers to target 600 milk collection centers (MCCs) in three milk sheds and 600,000 household suppliers (2025-2027)

- Facilitate licensing for 600 MCCs;
- Reduce post-harvest losses from 10% to 3% in two years
- Build a pool of technicians for repair and maintenance
- Enforce milk quality regulations
- Develop training centers and credit facilities in the areas

Pathway 2. Improvement of market access along Uganda's dairy value chain

- Link dairy farmers to profiled, quality input suppliers
- Rehabilitate and equip the existing MCCs
- Build capacity for technicians to use/repair/maintain milk analyzers
- Train farmers on hygienic milk handling and good animal husbandry for quality milk production
- Establish traceability, data management, and evaluation systems
- Formulate quality and disease control policies
- Improve feeding and breeding



Uganda deep dive: Ezy Agric Digital Platforms

The **Ezy Agric Digital Platforms** bundle has high scalability and neutral to high scaling preparedness. Its scaling is essential to enhancing the involvement and buy-in of stakeholders, especially input and information service providers.

GOAL: Improvement of digital literacy and input provision and information services for 400,000 registered farmers

Pathway 1. Equipment of digital agric services for 10,000 merchants/dealers

- Partner with capacity-strengthening institutions to provide tailor-made training for merchants
- Create awareness and strengthen capacity for merchants/dealers
- Build and operationalize trusted networks of merchants

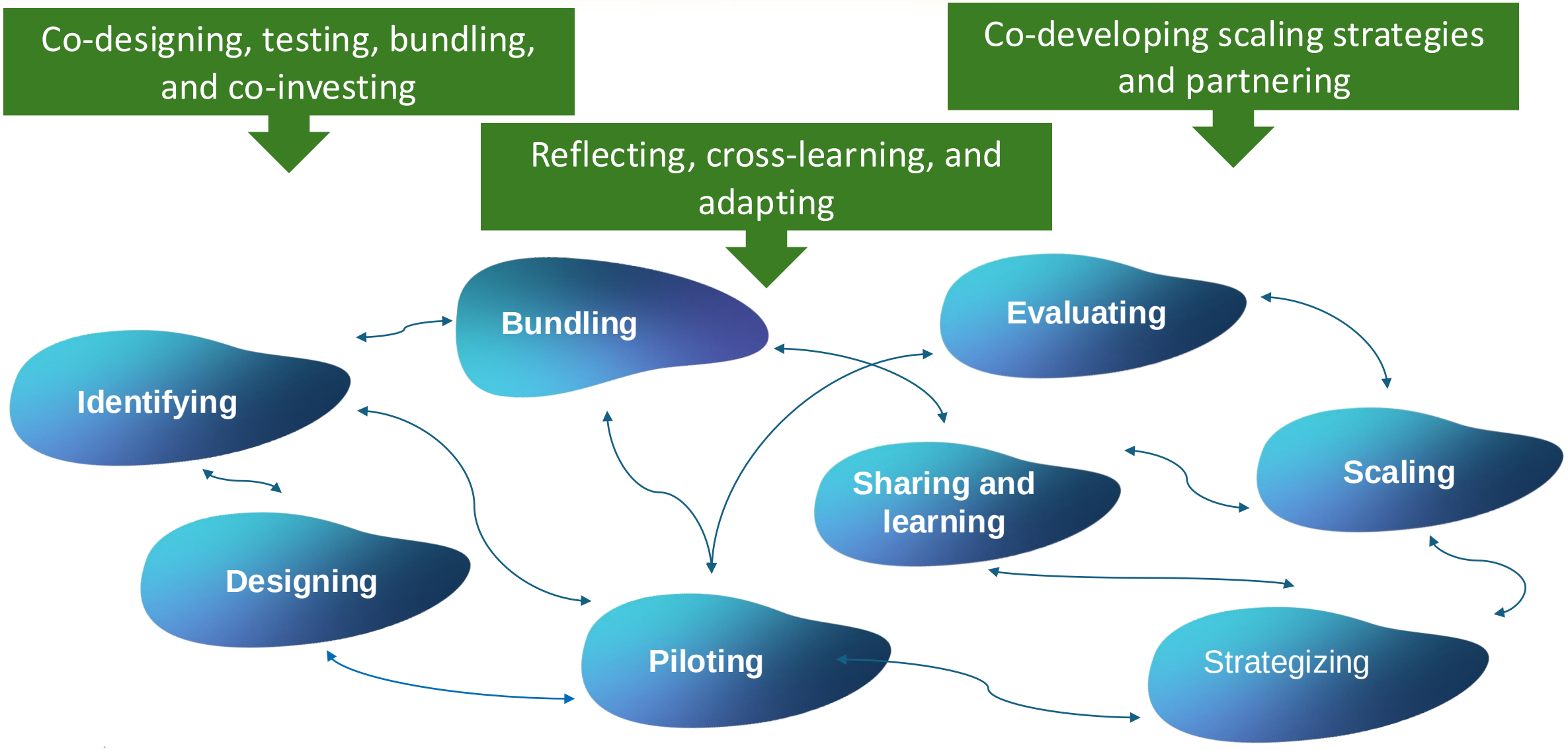
Pathway 2. Increase of active usage by 20% of the registered farmers in 5 years

- Incentivize the provision and use of Ezy Agric Digital Platforms
- Improve extension support and services
- Leverage existing partnerships and business relationships to enhance the benefits of Ezy Agric Digital Platforms to the registered farmers

Highlights

- **Scalability** of most innovation bundles is from neutral to high, showing their high relevance and value-added to enhancing food market and value chain inclusion and sustainability
- Although **scaling preparedness** varies depending on the design of the intervention process, established partnerships, and stakeholder involvement, stakeholder ownership, buy-in, and accountability are generally limited.
- Across innovation bundles, their ability to adapt to new contexts, adaption status, scaling extent and speed, and stakeholder ownership, buy-in, and accountability are critical to their **scaling feasibility.**
- Scopes of **scaling pathways** vary depending on “who is leading and owning the pathway.”
- Capitalizing the existing partnerships, momentums, and stakeholder engagement is key to facilitating the **investment and actualization** of the scaling feasibility

Scaling preparedness in practice



CGIAR

Rethinking Food Markets and Value Chains for Inclusion and Sustainability

Closing Panel Discussion

Rethinking Food Markets: what have we learned, what are the challenges and what is next for policy and research?

Moderators: Rob Vos, IFPRI and Christine Chege, Alliance Bioversity & CIAT

Discussants:

Johan Swinnen, *IFPRI*; **Thomas Reardon**, *MSU;* **Ruth Hill**, *IFPRI*; **Rob Bertram**, *USAID (Online)* **Hope Michelson**, *Univ. of Illinois at Urbana-Champaign;* **Saweda Liverpool-Tassie**, *MSU;* **Jenny Wiegel,** *Alliance Bioversity-CIAT, Nicaragua;* **William Buyungo Luyinda,** *Cofounder & CEO, EzyAgric (Online);* **Samson Akankiza Mpiira**, *Executive Director, DDA, Uganda;* **Wonekha Deogracious**, *Senior Dairy Development Officer MAIF, Uganda (Online)*

RECEPTION

5.30 — 6.30