CGIAR | Sustainable Intensification of Mixed Farming Systems

Sustainable Intensification of Mixed Farming Systems Initiative

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CGIAR System Council drop-in calls with Initiatives

7 March 2023

Mixed Farming Systems Initiative: Key features

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Farming Systems Approach

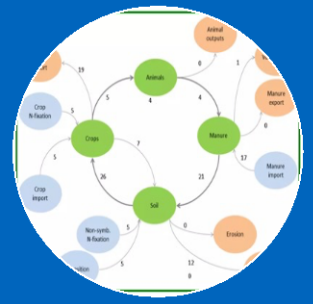
(Crop-livestock-tree integration)

Multi-scale approach

(nested nature of farming systems)

Multi-criteria assessment

(Contribution to all impact areas)

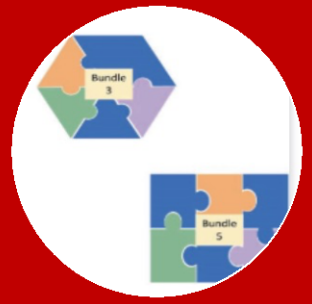


Systems analysis methods and tools

(boundary object for co-learning)

Participatory research

(actor centered approach)



Socio-technical innovation bundles

(concerted action)

The approach

Sustainable Intensification of Mixed Farming Systems

The Sustainable Intensification (i.e., production of more food on the same piece of land while reducing the negative environmental impacts) of Mixed Farming Systems can deliver critical outcomes that result in multiple impacts at scale, minimize sectoral trade-offs and leverage/maximize synergies in MFS.

Sustainable Intensification of MFS

- Integrates genetic, ecological, and socio-economic innovations & information
- Increases productivity per unit land, labor, capital, etc.
- Considers whole-farm & household issues
- Ensures efficient, prudent use of inputs
- Conserves or enhances natural resources
- Increases resilience, equity & reduces risks

A 'Livelihood lens': Socio-technical, economic and institutional conditions that rural families are faced with in making decisions for income, food, risk, cultural values, etc.

Interlinked work packages

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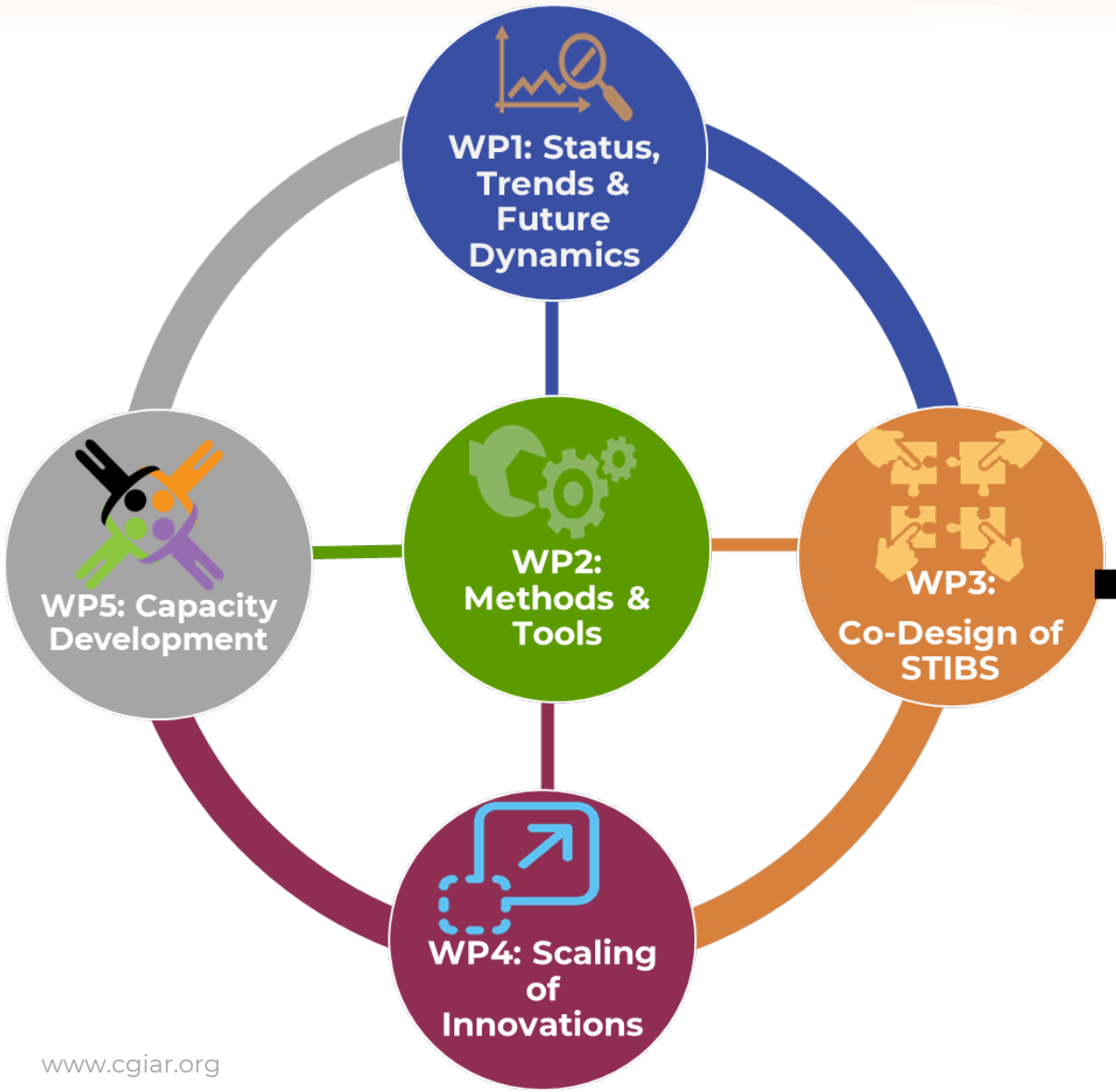


Cross-cutting Workstreams support WPs

- Gender
- Scale Readiness
- MELIA
- Comms

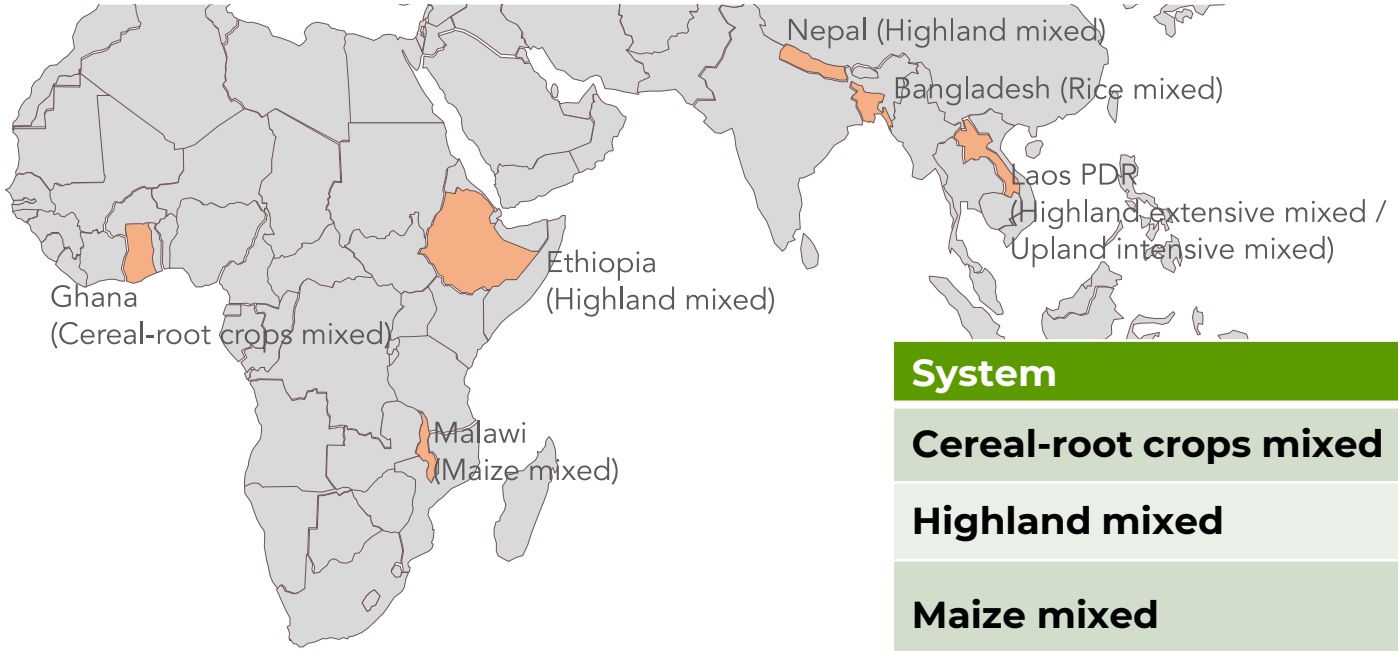
SI-MFS delivers Impact at scale

SDGs

- Nutrition, Health & Food Security
- Poverty Reduction, Livelihoods & Jobs
- Gender Equality, Youth & Social Inclusion
- Climate Adaptation & Mitigation
- Environmental Health & Biodiversity

CGIAR's Impact Areas

Geographic selection of MFS



System	Region	Country
Cereal-root crops mixed	West Africa	Ghana
Highland mixed	East Africa	Ethiopia
Maize mixed	East and Southern Africa	Malawi
Highland mixed	South Asia	Nepal
Rice mixed	South Asia	Bangladesh
Highland extensive mixed	Southeast Asia	Laos
Upland intensive mixed	Southeast Asia	Laos

Launches & partner consultations

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Global Initiative launch
31 May – 2 June 2022
Addis Ababa, Ethiopia

Nepal launch & stakeholder consultation
24 August 2022
Kathmandu, Nepal

Bangladesh launch & stakeholder consultation
16 November 2022
Rangpur, Bangladesh

Ghana launch & partners consultation
12 July 2022
Accra, Ghana

Ethiopia launch & stakeholder consultation
25 January 2023
Addis Ababa, Ethiopia

Malawi launch & stakeholder consultation
27 - 29 September 2022
Mangochi, Malawi

SI-MFS PRMS results in 2022

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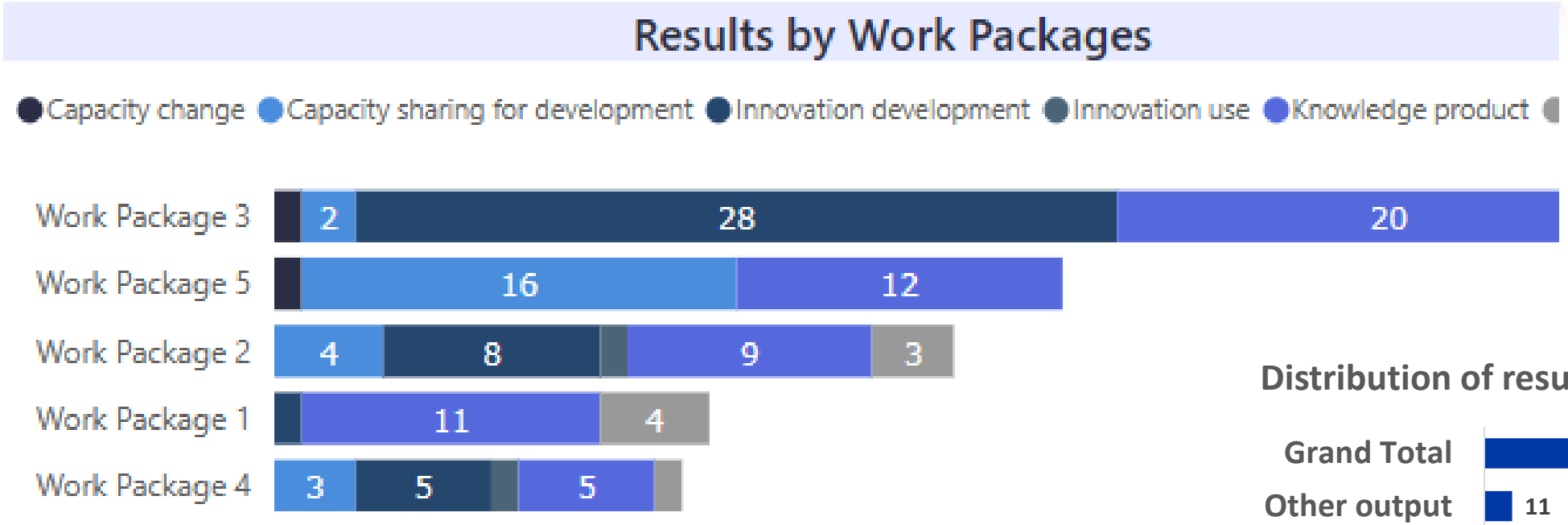

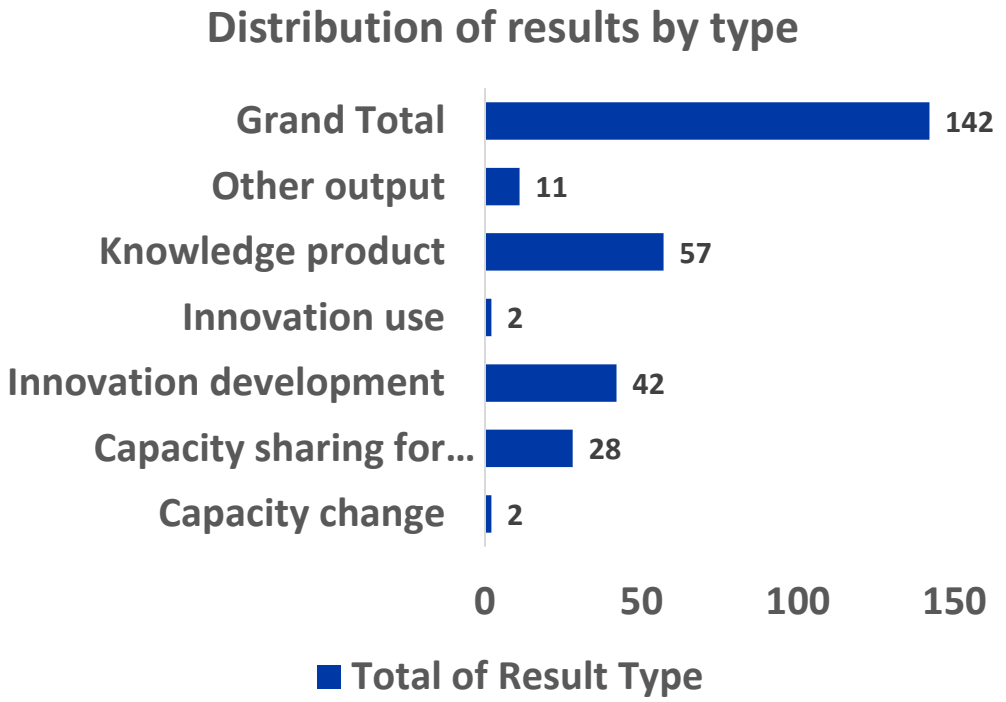

- **142 total outputs with good regional distribution**
- **Good number of outputs related to innovations, knowledge products and capacity development**

2022 Mixed Farming Systems Initiative Implementation results: KEY FACTS

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142
Outputs at the initiative level

57
new knowledge products produced

98%
Open access

42
Socio-technical Innovations for MFS

14
Cross-initiative collaborations engaged (8 established)

Made significant contributions to SDGs
Goals 1, 2 and 5

98
Partnerships engaged

2
Innovation Bundles already in use

8
CGIAR centers contributing to Initiative implementation

Example Knowledge Product

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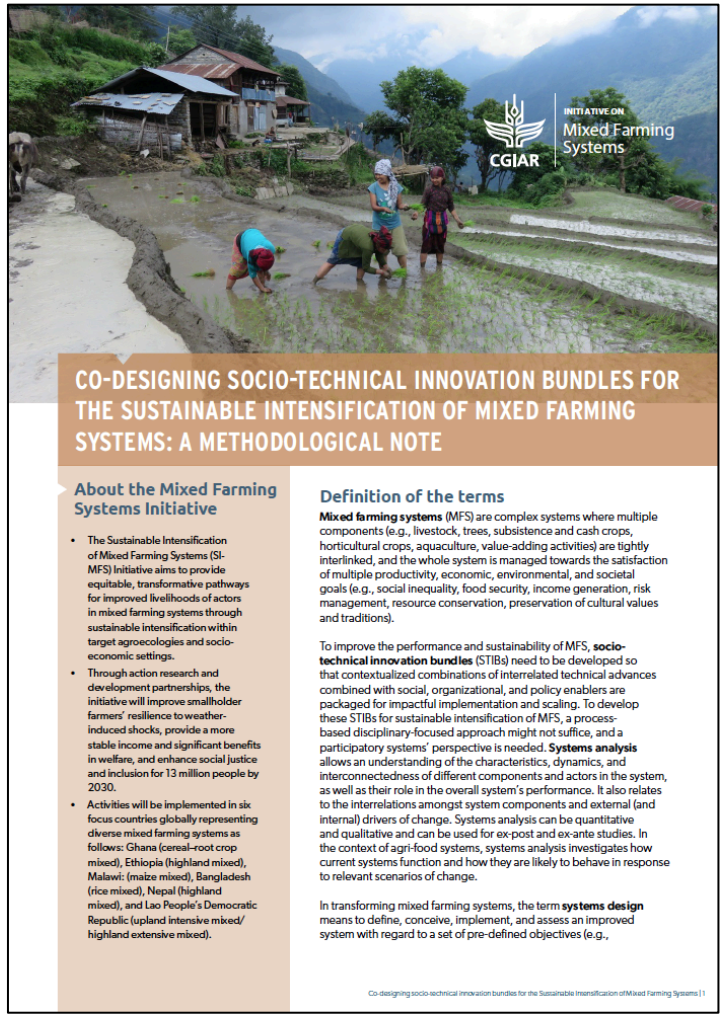
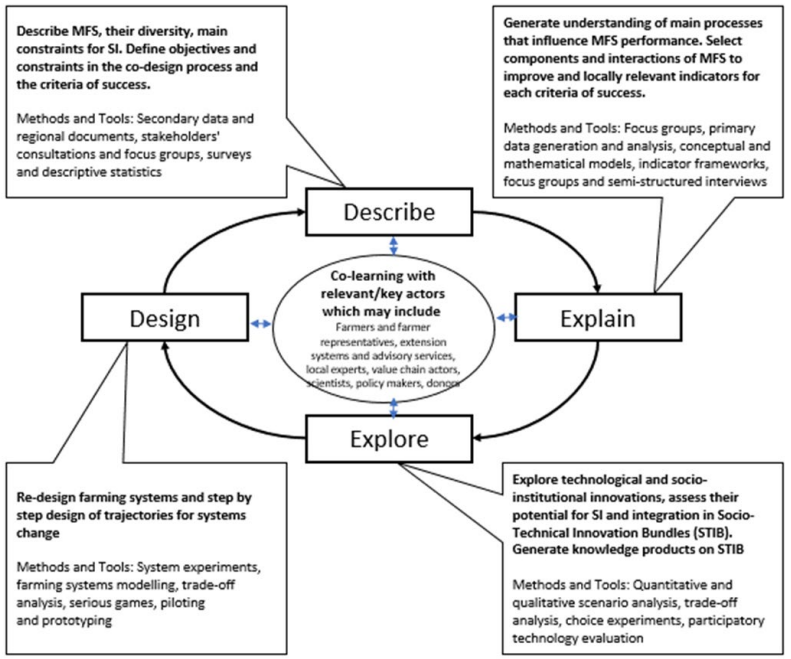
Co-designing socio-technical innovation bundles for the sustainable intensification of mixed farming systems: A methodological note





OBJECTIVES

1. Ensure proper understanding and adaptation of the systemic approach by the research team
2. Share with multi-stakeholders and engage them at the relevant step of the cycle. Identify the target farming systems to be engaged in the process
3. define the three years plan of the case study to ensure that the 'design' phase will have at least started at the end of the three years.

Example Cross-Initiative collaboration

Farming systems analysis in support of user-centered research and innovation. A joint cross-initiative collaboration

Farming Systems Analysis in support of user-centred research and innovation. A joint cross-initative collaboration

MCamila Bonilla (Alliance of Bioversity International and CIAT), Mark Caulfield (International Livestock Research Institute), Katrien Descheemaeker (WUR), Evan Girvetz (Alliance of Bioversity International and CIAT), Aniruddha Gosh (Alliance of Bioversity International and CIAT), Jeroen Groot (WUR), Zhe Guo (IFPRI), James Hammond (International Livestock Research Institute), Santiago Lopez-Ridaura (International Maize and Wheat Improvement Center), An Notenbaert (Alliance of Bioversity International and CIAT), Julian Ramirez (WUR & Alliance of Bioversity International and CIAT), Todd Rosenstock (Alliance of Bioversity International and CIAT), Peter Steward (Alliance of Bioversity International and CIAT), Philip Thornton (Independent), Elke Vandamme (CIP), Joao Vasco Silva (CIMMYT), Mark van Wijk (International Livestock Research Institute), and Liang You (IFPRI)

Impact areas

- Nutrition, health & food security
- Poverty reduction, livelihoods & jobs
- Gender equality, youth & social inclusion
- Climate adaptation & mitigation
- Environmental health & biodiversity

Introduction

Farming Systems Analysis (FSA) is commonly used in CGIAR to assess 'what works where, and for who?'. The findings are used to prioritize tailored/context-specific interventions and target investments for greater impact. An assessment of seven new CGIAR initiatives showed us that FSA is employed in a similar way across these initiatives, opening up avenues for strong collaboration and sharing of data, methods and results to achieve better synergies than we have done in the past.

In September 2022, representatives from these seven CGIAR Initiatives (Sustainable Intensification of Mixed Farming Systems, Livestock Climate and System-Resilience, Building Systemic Resilience Against Climate Variability and Extremes, Excellence in Agronomy, Nature-Positive Solutions for Shifting Agrifood Systems to More Resilient and Sustainable Pathways, Sustainable Animal Productivity, and the East and Southern Africa regional initiative Ukama Ustawi) came together to coordinate FSA-related work. Through better coordination and building shared resources and approaches, we aim to:

- demonstrate the potential of FSA to enhance impact of CGIAR's interventions along the various CGIAR Impact Areas; and
- encourage the use of global best practices in FSA across CGIAR initiatives

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A common multi-level framework for previously uncoordinated analyses. The One CGIAR Initiatives Joint Workshop on Farming Systems Analysis developed an actionable framework to structure our work. The multi-level framework encompasses diagnosis, intervention identification, scaling up and scaling out. Based on actor analyses at different integration levels, constraints and opportunities are identified based on the interests of the different sets of actors.

We will implement the FSA framework through two 'use cases'*:*

Use case #1: Credit access in Kenya

Making better use of existing micro-level data, we plan to develop, perform and scale a climate vulnerability assessment to better evaluate the investment in climate risk insurance to improve climate risk management.

Use case #2: Prioritization and targeting of agronomy-related sustainable intensification options in Malawi

We will make use of newly available micro and macro level data to diagnose investment opportunities for agronomy-related technologies and scale up these results. Topical and regional initiatives will come together in this exercise.

Example in-country capacity building

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The Case for Northern Ghana:

- In Partnership with the Ministry of Food and Agriculture (MOFA); Signed 10 MOUs with 10 Scaling Districts
- Liaise with: Research Extension Linkage Committees (RELCS)
- Uses the IREACH Approach: Innovative Research Extension Advisory Coordination Hubs

Example of ONE District (Wa West)

- Over 80 demonstration sites
- Trained 102 Farmers (57 female; 45 male)
- Trained 13 District of Agriculture Officers (4 females; 9 male)

District Training Thematic Areas

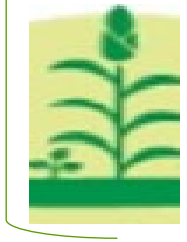
Natural Resources Management

Improved Harvesting

Livestock Management

Nutrition

Agronomy and Climate Services



Plans for 2023

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	FOCUS 1	FOCUS 2	FOCUS 3
WORK PACKAGE 1	Regional and national CASE STUDIES ON STATUS OF MFS	DATA REPOSITORIES on status of MFS	Will share key datasets for the E-Atlas in Year 2 for all WPs
WORK PACKAGE 2	Use cases for SYSTEMS ANALYSIS	Site-specific METHODOLOGICAL GUIDELINES	Liaising with WP3 and WP5 while streamlining DEED cycle for co-designing STIBs
WORK PACKAGE 3	Empirical EVIDENCE FOR SITE-SPECIFIC INNOVATIONS	Engagement in CO-DESIGN PROCESS	Receiving input from all WPs as a central player for co-designing participatory action research
WORK PACKAGE 4	BUNDLING socio-technical innovations and enhance scaling environment	Liaising closely with the CGIAR-wide Scaling team	Working closely across all WPs and sites to ensure scaling issues are addressed
WORK PACKAGE 5	Fill LOCAL CAPACITY GAPS	Build the VIRTUAL INSTITUTE FOR SYSTEMS ANALYSIS	Working closely across all WPs and sites to ensure capacity building is addressed locally and regionally
GENDER	GENDER TRANSFORMATIVE APPROACHES across all WPs and sites	Gender team working closely with WP1 (Status and trends); WP4 (Scaling) and WP5 (Capacity Building)	Gender team engaging with HER+ and the CGIAR-wide Gender Platform on cross-learnings
MELIA	BASELINE STUDIES to take place in all initiative countries	Baseline studies completed for Malawi, Ghana is upcoming and Laos	Ensure key Initiative outputs are well synced with the Initiative Results Framework
SCALING READINESS	Country CASE STUDIES lined up	Initiate specific country engagements for Innovation package identification	Assess specific MFS Innovation package readiness
COMMUNICATION	Stronger INTERNAL COMMUNICATION among all initiative stakeholders.	Agile initiative COUNTRY COMMUNICATION support to localized implementation contexts.	Robust CAPTURING, ORGANIZING, and DISEMINATION of initiative research outputs.

PRIORITIES

1. Strengthen linkages between and across work packages
2. Strengthen convergence of WPs at the site level
3. Fill missing human resource gaps

DO MORE

1. Collaboration and interlinkages with other One CGIAR Initiatives
2. Better articulation of expectations with NARES
3. Balanced portfolio across Africa and Asia

INITIATIVE SUPPORT

1. Offer gender support for all Initiative team members to address social equity and inclusion gaps
2. Offer data collection and reporting support at all levels in a seamless way
3. Ensure internal capacity for understanding scaling readiness is developed adequately
4. Streamline coordination and communication within the Initiative

Emerging and evolving challenges/risks

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Second batch of initiatives (i.e., less than 12 months implementation)

Partnership engagement takes time (i.e., low burn rate / carry over)

Alignment with agricultural seasons (i.e., cropping seasons just starting or missed)

Traditionally weak inter-disciplinary research (i.e., within initiative and NARES)

Emerging and evolving opportunities

Innovation packaging with high scaling readiness scores

Brokering within country inter-disciplinary collaboration

Centrality of Systems Analysis of MFS within RAFS

Virtual institute will have influence beyond the CGIAR (multiple global partners)

Cross-country and cross-entity learnings within and outside the Initiative


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Thank you