Excellence in agronomy
for Sustainable Intensification and Climate Change Adaptation

Prioritization

(i) level 1/ importance and urgency
(ii) level 2/ contributions of agronomy
(iii) level 3/ enabling conditions

Agronomic gain Key Performance Indicators

Yield, Yield Quality, and Profitability

Climate adaptation, Yield Stability, and Reduced Risk

Resource Use Efficiency (nutrients, water, labour)

Soil Health

Region	As per the prioritization to level 1 and 3	Retention of countries with presence of CGIAR scientists
CWANA	**Egypt**, Morocco, Uzbekistan	Egypt, Morocco
ESA	**Ethiopia**, Kenya, Malawi, **Rwanda**, Tanzania, Uganda	Ethiopia, Kenya, Malawi, Rwanda, Tanzania, Uganda
LAC	**Colombia**, Ecuador, El Salvador, Guatemala, Mexico, Peru	Colombia, Mexico, Peru
SA	Bangladesh, **India**, Nepal, Pakistan, Sri Lanka	Bangladesh, India, Nepal
SEA	**Cambodia**, Indonesia, Myanmar, Philippines, Vietnam	Cambodia, Indonesia, Philippines, Vietnam
WCA	Benin, Burkina Faso, Chad, Cote d'Ivoire, **Ghana**, Mali, **Nigeria**, Senegal	Cote d'Ivoire, Ghana, Mali, Nigeria, Senegal

6 Key Elements
Use Case at-a-glance

- An active **Scaling/Demand Partner** (public or private) with a network that reaches tens of thousands of smallholder farming households and for which agronomy is core to its development objectives

- A **Zone of Influence** defined in geographical, agricultural value chains, and farming systems terms

- An **Agronomy Product** with specific technical content (core innovations and complimentary innovations) and end-user profiles

- A **Dissemination Network** with service providers that facilitate the scaling of agronomic solutions

- **Co-Investment** in the creative process of the Scaling/Demand partner

- Development of **Public Goods** providing turnkey solutions that are made accessible to other interested Scaling/Demand partners

Cropping calendar advisories for smallholder maize farmers and extension agents in the Guinea Savannah zone

Co-development of digital solutions to deliver fertilizer and time of planting advice for rice, maize, and cassava

Accelerating the use of digital tools for delivering agronomic advice in potato-based cropping systems

Co-development of targeted fertilizer advisory services to improve NUE, reduce cost and enhance productivity

Co-development of agronomy and climate advisory tools for high yielding and high quality wheat production

Web-based advisory for in-season yield potential & water productivity of irrigated wheat-based systems

Testing hyperlocal digital agronomic advisory services and the delivery pathways in rice-based cropping systems

Optimizing productivity, profitability and environmental sustainability using mechanized and precise direct-seeded rice

Smart farming systems at the local level:
Sustainability assessment and targeted data-driven recommendations for smallholder farmers

Managing time in the rice-based cropping systems of South Asia
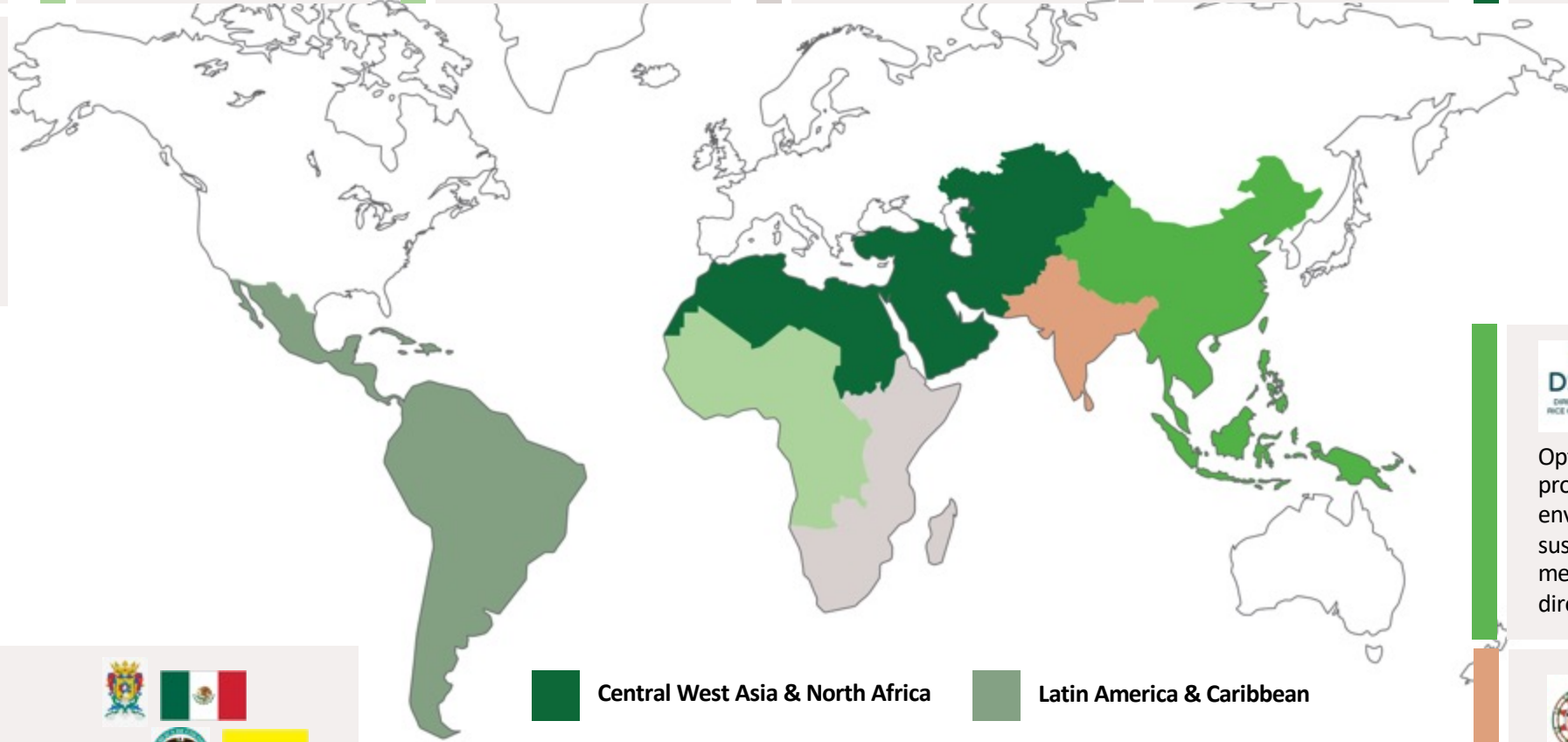
Central West Asia & North Africa

Latin America & Caribbean

South East Asia & Pacific

West & Central Africa

South Asia

East & Southern Africa

4 Interlinked Work Packages

These work packages facilitate the development and delivery of agronomic solutions at scale

ORGANIZE
Organization, capacity development, performance management

- Organization of communication and advocacy
- Development of capacity of local partners
- Facilitation of centers to share services
- Monitoring & evaluation of EiA performance

Excellence in agronomy research engine

ORGANIZE
Hosts functions related to internal organization & external partnerships

- Tracking of demand from private & public partners
- Prioritization of demand using ex-ante analytical approaches
- Administration of partnerships under the DELIVER modules

Opportunity driven innovation projects, guided by partner demand, analytics, and ex-ante impact

PROJECT 1

PROJECT 2

PROJECT n

TRANSFORM
Hosts past, current & novel data plus analytical capacities

- Primary & secondary data on agronomy and soil health
- Advanced statistical, simulation modelling, and geospatial tools
- Farming system analytics and farmer segmentation
- Decision analytics, with risk assessment information
- 'Turn-key' solutions for transfer of approaches to crops/geographies
- Workflow for 'speed agronomy'

Climate Change/Sustainability

- Long-term observatories to assess changes in soil health
- Long-term assessment of changes in agronomy practices
- Tools to assess the climate-smart nature of agronomy interventions

INNOVATE
Addresses key knowledge gaps & facilitates innovation in agronomy R&D

- Generation of data & tools required to fill key knowledge gaps identified through the DELIVER Module
- Facilitation of innovation in agronomy R&D at scale to create new demand
- Collection of key data that are required for under-research crops
- Facilitation of specific studies of common interest for which the CGIAR presents a comparative advantage
- Facilitation of the engagement of Advanced Research Institutes to fill key gaps in skills, expertise, data, and tools

DELIVER
Hosts the delivery of services & products to partners towards improved productivity, climate change resilience, and sustainability

- Development of workflows in response to priority Use Cases
- Deployment of existing data and tools Co-creation of solutions
- Facilitation of feedback loops to TRANSFORM

What EiA needs from SI-MFS...

EiA's **entry points are agronomy-related** in line with the following research themes:

    1. Sustaining **soil productivity and ecosystem services**, focussing on site-specific nutrient management, organic resource recycling and soil health

    2. Climate change adaptation, emphasizing risk management, micro-irrigation and water harvesting and farm system re-design

    3. Precision cropping and system management, prioritizing diversification, mechanization, and weed control

    4. Perennials for livelihoods and conservation, focussing on diversification of tree-based mitigation, linking intensification to conservation

Entry points may require **complementary innovations** in order for those to deliver impact at scale → *Tools for assessing the diversity of constraints (hardware, orgware, software)*

Evaluation of the **performance of those entry points** requires system-level evaluations → *Toolbox for farming systems analytics (trade-off analysis, multi-criteria assessments, etc)*

What EiA could offer to SI-MFS...

Through its **TRANSFORM** Work Package...

  1. Access to **standardized data collection** and management tools/approaches

  2. Access to the **data and analytical infrastructure** (building on Big Data)

Through its **DELIVERY** Work Package.

  1. **Respond to demand** for agronomy solutions in line with the research themes

  2. Facilitate the **operationalization of Use Cases**, as needed

Through its **ORGANIZE** Work Package...

  1. **Tools for targeting** (yield gap decomposition, climate change adaptation, farmer segmentation, etc)

Through its **INNOVATE** Work Package...

  1. Access to the **agro-typing platform** (potentially)