IGES Institute for Global Environmental Strategies

CROP TRUST

With support from:

RCC Asia and the Pacific
Collaboration for Climate Action

RCC MENA and South Asia
Collaboration for Climate Action

Technical Workshop on Cross Linkages among Food Systems Actors and Aligning Food Systems in National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs)

25-26 November 2025

JW Marriott, Bangkok, Thailand

With support from:

Day 2 Agenda

- **Juhi Bansal**, Moderator

With support from:

Day 2 Agenda

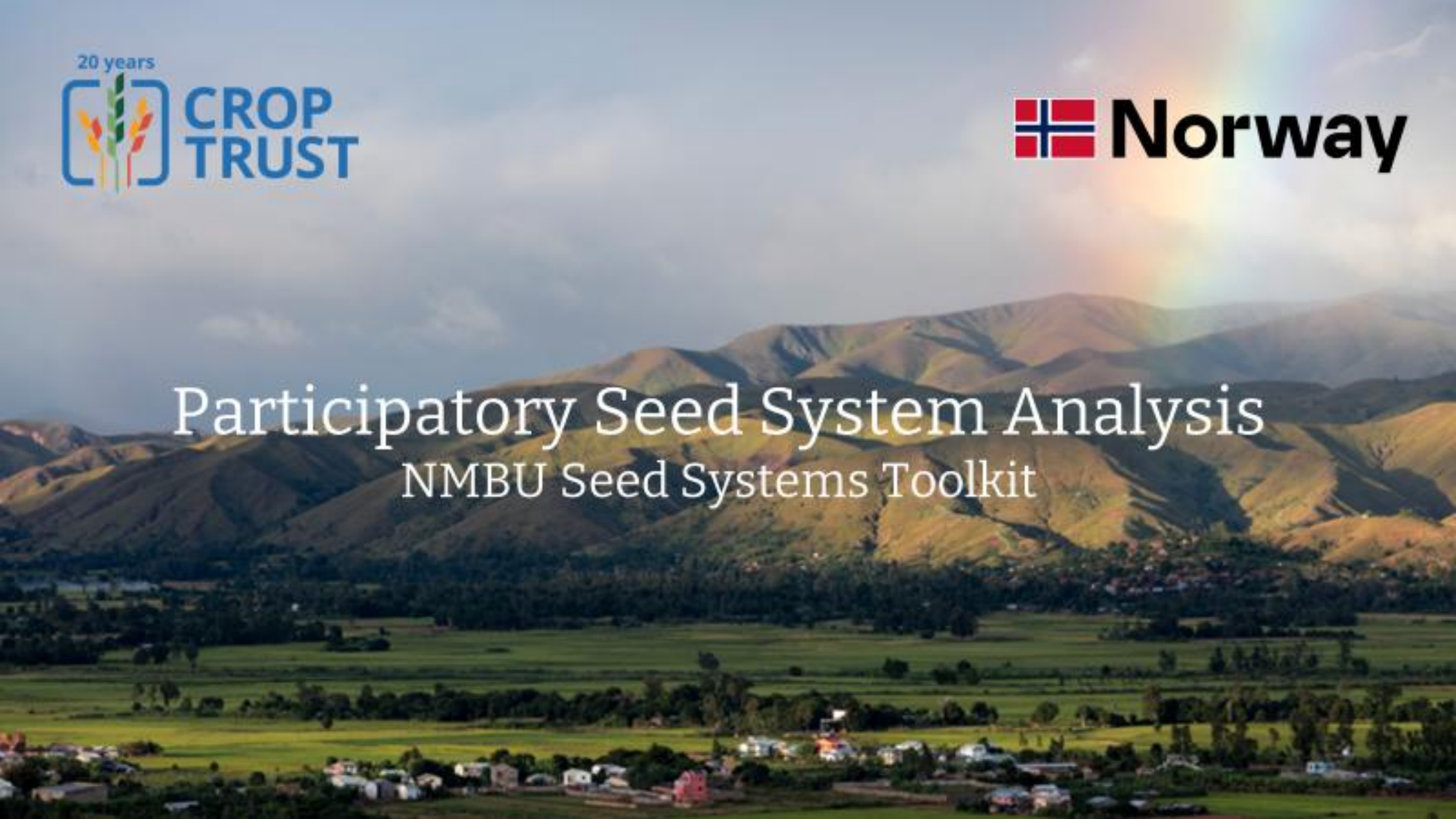
- Day 1 Recap and Icebreaker
- Introduction to the Participatory Analysis Tool
- Sessions 6 & 7 – Country breakouts
- Session 8 Shaping policy recommendations for enhanced stakeholder engagement in food systems
- Session 9 Workshop synthesis
- Closing remarks and next steps
- Administrative reminders

With support from:

Presentation: Introduction to the Participatory Analysis Tool

- **Catherine Hazel Aguilar**, Crop Trust

Technical Workshop on Cross Linkages among Food Systems Actors and Aligning Food Systems in National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs) | 25-26 November 2025 | Bangkok, Thailand



Participatory Seed System Analysis

NMBU Seed Systems Toolkit

Think BOLD: A Global Project for Our Future

BOLD builds on the success of the Crop Wild Relatives Project and expands its work to help ensure **food** and **nutritional security** in the face of **climate change**.

BOLD: Work Packages (WP)

WP1	Capacity and resource development
WP2	Making new diversity available
WP3	Genebanks and seed systems
WP4	Safety duplication at Seed Vault
WP5	Communications, engagement and outreach
WP6	Project management
WP7	Neglected & underutilized species (BOLDER)

BOLD Theory of Change

Enhanced climate resilience of farming communities in partner countries

LONG-TERM GOAL: SDG 2 End Hunger

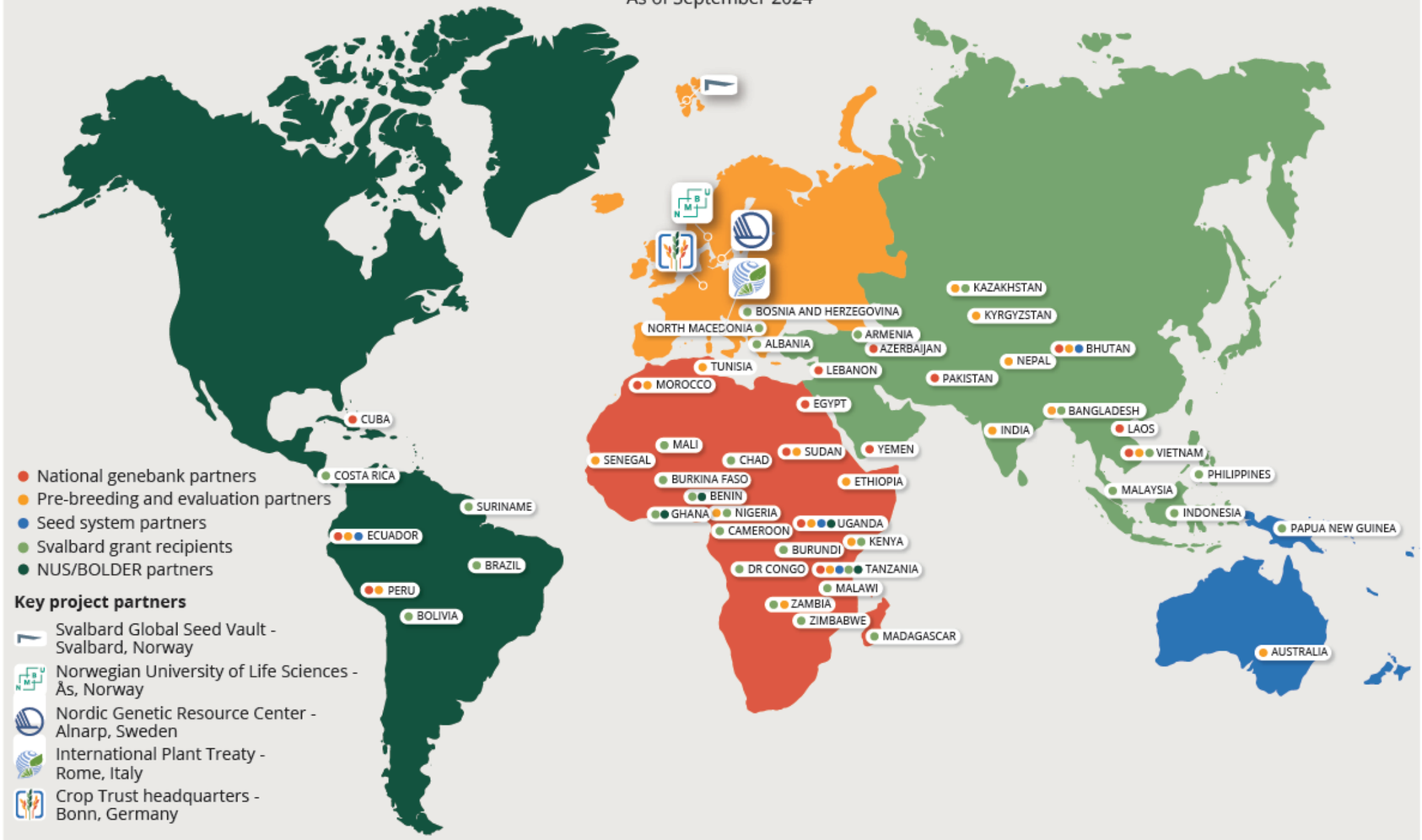
Improved food security among farmer households in partner countries

IMPACTS: SDG Target 2.5
Genetic diversity of crops & their wild relatives is **sustainably conserved by genebanks** for long-term availability **& access by farmers, breeders & other users**

Outcome 1	Outcome 2	Outcome 3	Outcome 4
Genebanks effectively manage crop diversity for long-term use by farmers, breeders, and other users, including safety duplication (WP1 WP4)	Genebanks facilitate the use of new crop diversity by breeders & farmers in the development of advanced lines with novel traits (WP1 WP2 WP3)	Genebanks **strengthen linkages with seed system actors** through technical & institutional innovations **which enhance access to crop diversity** (**WP1 WP2 WP3**)	Genebanks proactively engage with stakeholders to advocate for financial, legal, technical & institutional support for crop diversity conservation (WP4 WP5)
WORK PACKAGE 1 **Capacity & resource development**	WORK PACKAGE 2 **Making new diversity available**	WORK PACKAGE 3 **Genebanks & seed systems**	WORK PACKAGE 4 **Safety duplication at the Seed Vault**	WORK PACKAGE 5 **Communications, engagement, & outreach**
OUTPUT CLUSTER 1 Genebanks' needs assessed; Staff trained on genebank operations & conservation policy; Equipment & facilities upgraded; Genebank user groups established	**OUTPUT CLUSTER 2** New crop diversity with novel traits are identified; Participatory on-farm trials with farmers conducted; Associated data made available to users	**OUTPUT CLUSTER 3** Seed system & farmers' seed use assessed; Pathways for genebank linkages assessed; Projects on genebank-seed linkages supported	**OUTPUT CLUSTER 4** Projects for regeneration of seeds & safety duplication at the Svalbard Global Seed Vault implemented & quality-assured	**OUTPUT CLUSTER 5** The results of the project are communicated to stakeholders; Knowledge-sharing promoted to partners & users of crop diversity

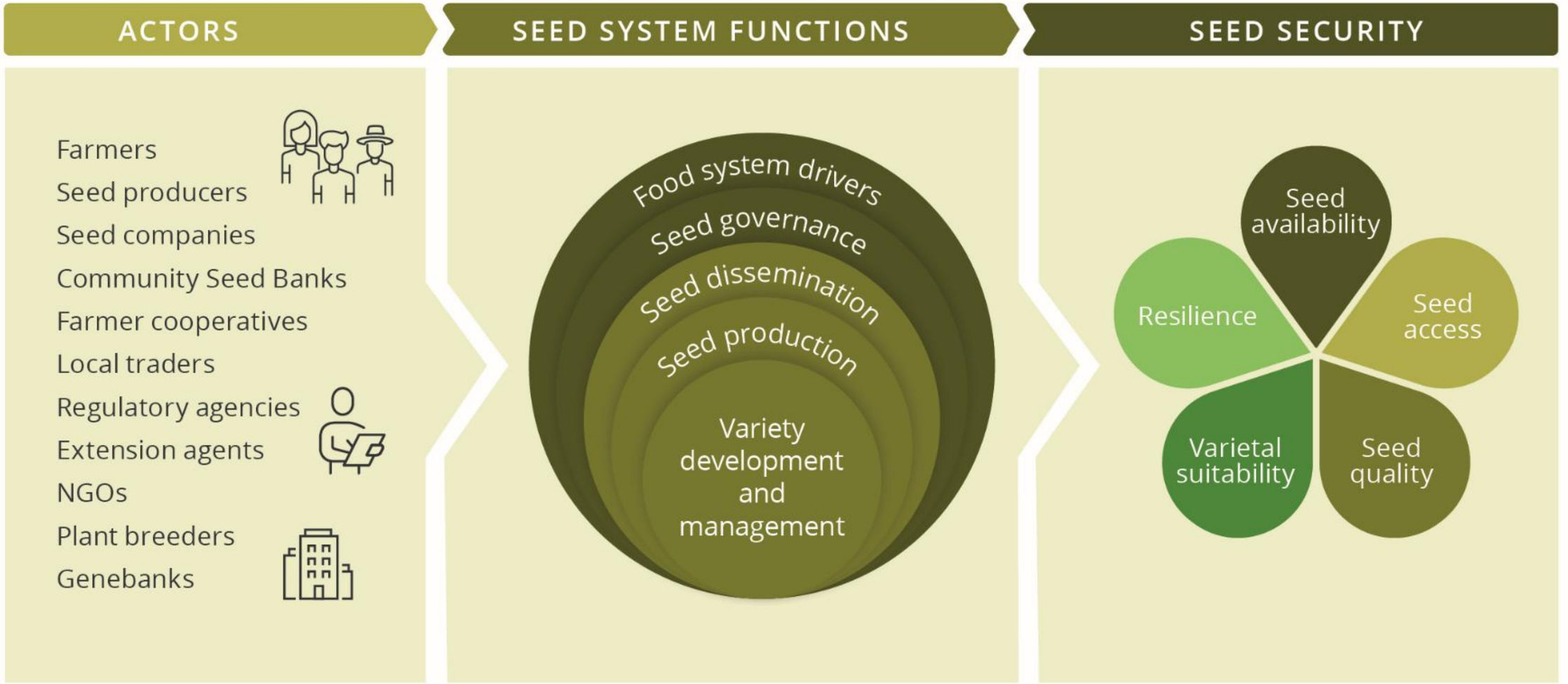
BOLD
Around the World

As of September 2024



WP1: Capacity and resource development

Conceptual framework



PNAS PERSPECTIVE OPEN ACCESS

Navigating toward resilient and inclusive seed systems

Ola T. Westengen[a,1], Sarah Paule Dalle[a], and Teshome Hunduma Mulesa[a]

Edited by Susan McCouch, Cornell University, Ithaca, NY; received November 19, 2022; accepted February 25, 2023

Food systems face new climatic and socioecological as social, environmental, and economic sustainability.

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in seed system development in many countries in the Global South. However, there is a lack of agreement on the best way to achieve national seed systems that contribute to food security, climate adaptation, and poverty alleviation, as well

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WP3: Genebanks and seed systems

BOLD Phase I (2022-2024)

Seed system research to identify sustainable options for increasing farmers' access to genetic crop diversity from genebanks

BOLD Phase II+III (2025-2030)

Pilot projects to test innovations for linking genebanks to seed systems and deploying diversity to farmers

Learning events to share experiences and lessons learned with other genebanks/actors

Four partner countries:

Uganda, Tanzania, Ecuador Bhutan

Seed System Toolkit

https://www.nmbu.no/en/research/projects/seed-system-toolkit

Testing the Seed System Toolkit from the BOLD project in Uganda.
Photo: Teshome Hunduma Mulesa

The toolkit is intended for use by the BOLD research teams. The tools may also be used or adapted by other researchers/projects interested in characterizing and analysing seed systems. Versions in Spanish and Swahili are available upon request.

- What is the Seed System Toolkit? +
- Cross-linkages among seed system actors +
- Key informant interviews +
- Document review +
- Focus group discussions +

Session 6: Understanding Stakeholder Roles in Agrifood Systems for Achieving Climate Roles

Who are the actors? What do they do? Why do they matter?

- Identify and characterize seed system actors relevant to the national context (formal and informal sectors)
- Understand interconnections and dependencies among diverse actors in the seed system
- Assess how actor contributions affect food security and climate resilience outcomes
- Recognize coordination barriers and entry points for strengthening stakeholder integration

Concrete deliverable: A documented list of actors with their specific functions in the seed/agrifood system.

Core seed system actors typically include:

- **Genebanks** (long-term conservation, characterization and evaluation, germplasm distribution)
- **Plant breeders** (variety development, germplasm evaluation)
- **Farmers** (landraces, on-farm selection, seed production)
- **Local seed businesses** (community-based seed multiplication, marketing)
- **NGOs** (farmer organization, capacity building, knowledge integration)
- **Agricultural extension** (information dissemination, farmer support)
- **Private seed companies** (commercial variety development, distribution)
- **Agro-dealers** (input marketing, farmer interface)
- **Ministry of Agriculture** (policy, regulation, coordination)
- **CGIAR Centers** (research, genetic resource distribution)

Session 7: Mapping Contributions and Dependence Across Agrifood Systems Actors (System Dynamics Diagram)

How much does each actor contribute to others? Who depends on whom? What does this reveal?

Expected outputs:

- Completed cross-linkage rating matrix documenting contribution patterns among actors
- Documented rationales for each score (critical for validity and interpretation)
- Total contribution and dependence scores quantifying actor roles
- System dynamics diagram visualizing actor positioning relative to contribution and dependence
- Analysis of coordination gaps affecting seed system effectiveness and climate resilience
- Identification of entry points for strengthening actor integration

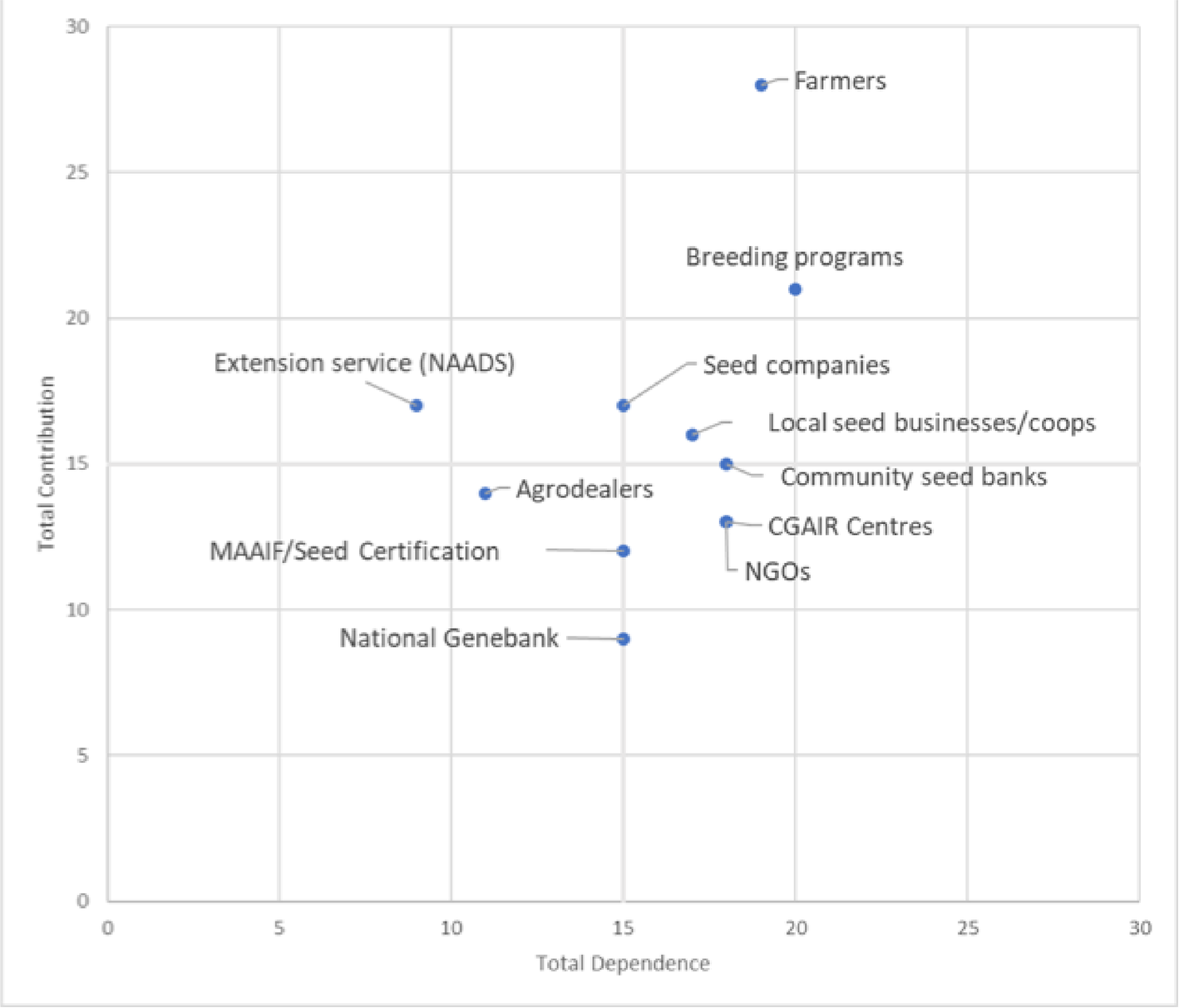
	Genebank	Plant breeders	Farmers	Local seed businesses	NGOs	Ag. extension	Private seed companies	Agro-dealers	Ministry of Agriculture	CGIAR Centers	**Total contribution**
Genebank											
Plant breeders											
Farmers											
Local seed businesses											
NGOs											
Ag. extension											
Private seed companies											
Agrodealers											
Ministry of Agriculture											
CGIAR Centres											
Total dependence											

Cross-Linkage Contribution Rating Scale (0–4)

Score	Label	Objective Criteria
0	No Contribution	Actor provides no support, resources, or services to target actor. No interaction or relationship exists.
1	Minimal Contribution	Actor provides occasional or limited-scope support. Interaction is sporadic, inconsistent, or covers only narrow aspects of support needed.
2	Moderate Contribution	Actor provides regular, meaningful support. Interaction is predictable and covers significant portion of support needed, but gaps remain.
3	Substantial Contribution	Actor provides reliable, consistent support across most relevant areas. Relationship is strong and dependable for system functioning.
4	Critical Contribution	Actor provides indispensable support that the target actor depends on for core functions. Loss of this relationship would significantly disrupt target actor operations.


BANCOS DE GERMOPLASMA (INIAP, U Católica)
PROGRAMAS FITOMEJORAMIENTO (INIAP)
CENTROS DE BIOCONOCIMIENTO
PRODUCTORES
ORGANIZACIONES DE PRODUCTORES (UNORCAC, Comité Central de Mujeres)
MAG (Subsecretaría Agricultura Familiar Campesina, PROYECTO PTATER INSPECTORES DE SEMILLAS)
DEPENDENCIA TOTAL
BANCOS DE GERMOPLASMA (INIAP, U Católica)
PROGRAMAS FITOMEJORAMIENTO (INIAP)
CENTROS DE BIOCONOCIMIENTO
PRODUCTORES
ORGANIZACIONES DE PRODUCTORES (UNORCAC, Comité Central de Mujeres)
MAG (SUBSECRETARÍA AGRICULTURA FAMILIAR CAMPESINA, PROYECTO PTATER INSPECTORES DE SEMILLAS
CONTRIBUCION TOTAL
8.5
2
6
12
8
8
8
6
7.5
6
11
6
- Papa
- Legum
- Granos andinos más fuerte
Falta trabajar en comunidad
- Cuartos fríos
- Publicidad -

	National Genebank	Breeding programs	Farmers	Local seed businesses/ coops	Community seed banks	NGOs	Extension service (NAADS)	Seed companies	Agrodealers	Seed Certification Service	CGAIR Centres	Total Dependence
National Genebank		2	3	1	3	1	1	1	0	1	2	15
Breeding programs	1		3	3	2	1	2	3	0	2	3	20
Farmers	1	2		3	3	2	2	2	2	1	1	19
Local seed businesses/coops	0	3	3		1	2	2	1	2	2	1	17
Community seed banks	2	3	3	2		2	2	0	2	1	1	18
NGOs	1	1	3	2	2		1	3	2	1	2	18
Extension service (NAADS)	0	1	2	0	0	1		2	2	1	0	9
Seed companies	0	2	3	2	0	1	2		2	1	2	15
Agrodealers	0	1	3	1	1	1	1	2		1	0	11
Seed Certification Service	2	3	2	1	1	1	1	2	1		1	15
CGAIR Centres	2	3	3	1	2	1	3	1	1	1		18
Total contribution	9	21	28	16	15	13	17	17	14	12	13	175



System dynamics diagram. Each actor is located in the diagram by marking where the actor's total contribution score is located on the vertical line and the actor's total dependence score is on the horizontal line, and indicating the actor's name.

With support from:

Session 6. Understanding Stakeholder Roles in Agrifood Systems for Achieving Climate Goals - Country breakouts

- **Crop Trust**

With support from:

Coffee/Tea Break

With support from:

Session 7. Mapping Contributions and Dependence Across Agrifood Systems Actors (Systems dynamics diagram)

- **Crop Trust**

With support from:

Sessions 6 & 7
Report back, Q&A and Open Discussion

With support from:

Lunch Break

With support from:

Sessions 8. Shaping Policy Recommendations for Enhanced Stakeholder Engagement in Food Systems

- **Juhi Bansal**, UNFCCC RCC Asia-Pacific
- **Promit Mookherjee**, UNFCCC RCC MENA-SA

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Session 8

With support from:

Objective: Reflecting on the mapping of food system actors in the previous sessions, this session will allow participants to identify key policy measures necessary for improving the involvement of all stakeholders in the process of food systems transformations.

Group Exercise: Participants are to be split into groups according to their countries

Three guiding themes:

1.Stakeholder Engagement Strategies – Identifying mechanisms for dialogue, inclusion, and accountability (e.g., national food-systems platforms, subnational coordination, gender/youth engagement).

2.Cross-Sectoral Alignment – Identifying pathways to embed food systems into the priorities of relevant ministries also involved in NAP and NDC implementation. This could include agriculture, health, environment, energy, and commerce ministries.

3.Enabling Conditions – Identifying capacity-building and resource requirements, institutional reforms, and network creation needs.

Within these three themes and reflecting on discussions from previous sessions, groups will fill **5 columns** on their flip chart.

Session 8

With support from:

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Template:

Policy Gap	Proposed Solution	Aligned with what NDC/NAP target	Cross Sectoral Alignment across Actors	Timeline

Guiding questions:

- What are the key challenges/ policy gaps in improving stakeholder engagement for implementing food systems transformations?
- What opportunities/ solutions can be proposed to overcome the gaps and ensure a more inclusive food system transformation?
- How can NAP and NDC frameworks be used to implement these solutions and sustain stakeholder engagement?
- Who are the key and supporting actors that would be instrumental to delivering these changes?
- How can different food system actors be included and mainstreamed into the policymaking process, with a focus on cross-sectoral linkages?
- What timelines would these actions fall under (near-term, medium-term/ long-term)?

With support from:

Coffee/Tea Break

With support from:

Sessions 9. Workshop Synthesis

- **Juhi Bansal**, Moderator

With support from:

Event Feedback Form

10 minutes

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With support from:

Closing remarks and next steps

- **Julianne Biddle**, Crop Trust
- **Julie Amoroso-Garbin**, UNFCCC Regional Collaboration Centre for Asia and the Pacific

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