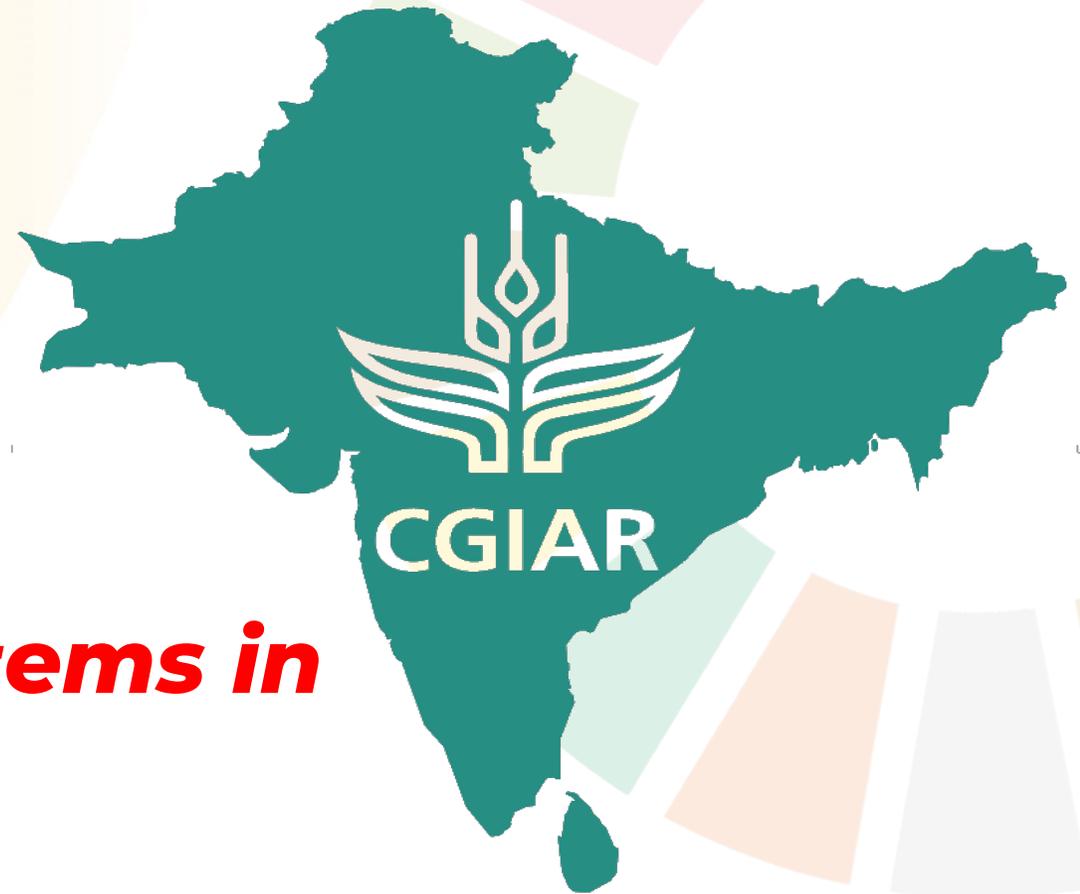




Regionally Integrated Initiatives (RIIs)

Transforming Agrifood Systems in South Asia (TAFSSA)

Coordinated research and actions for development impact across the food production to consumption continuum



14 March 2023

Initiative Lead: Timothy J. Krupnik
Initiative Co-Lead: Purnima Menon

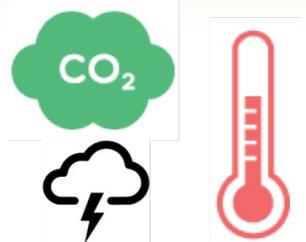
Agrifood system challenges in the world's leading poverty dense and climate change hotspot



Transforming Agrifood Systems in South Asia



1/4 of all of humanity



World's most crucial climate risk prone region



World's largest concentration of poverty & malnutrition



Declining groundwater tables, severe pollution



Systematic inequalities affect adaptation



Institutional and policy challenges to adaptation



Food production & availability



Food access & affordability



Consumption

Climate change and social inclusion challenges



TAFSSA makes crucial links across the agrifood system in South Asia



Transforming Agrifood Systems in South Asia

Inclusive, multi-stakeholder learning platforms and public data systems



Transforming agroecosystems to boost income and diversified food production



Evidence and actions boosting access to sustainably produced, healthy diets



Behavioural and structural determinants of sustainable healthy diets



Building resilience to climate change & mitigating environmental degradation



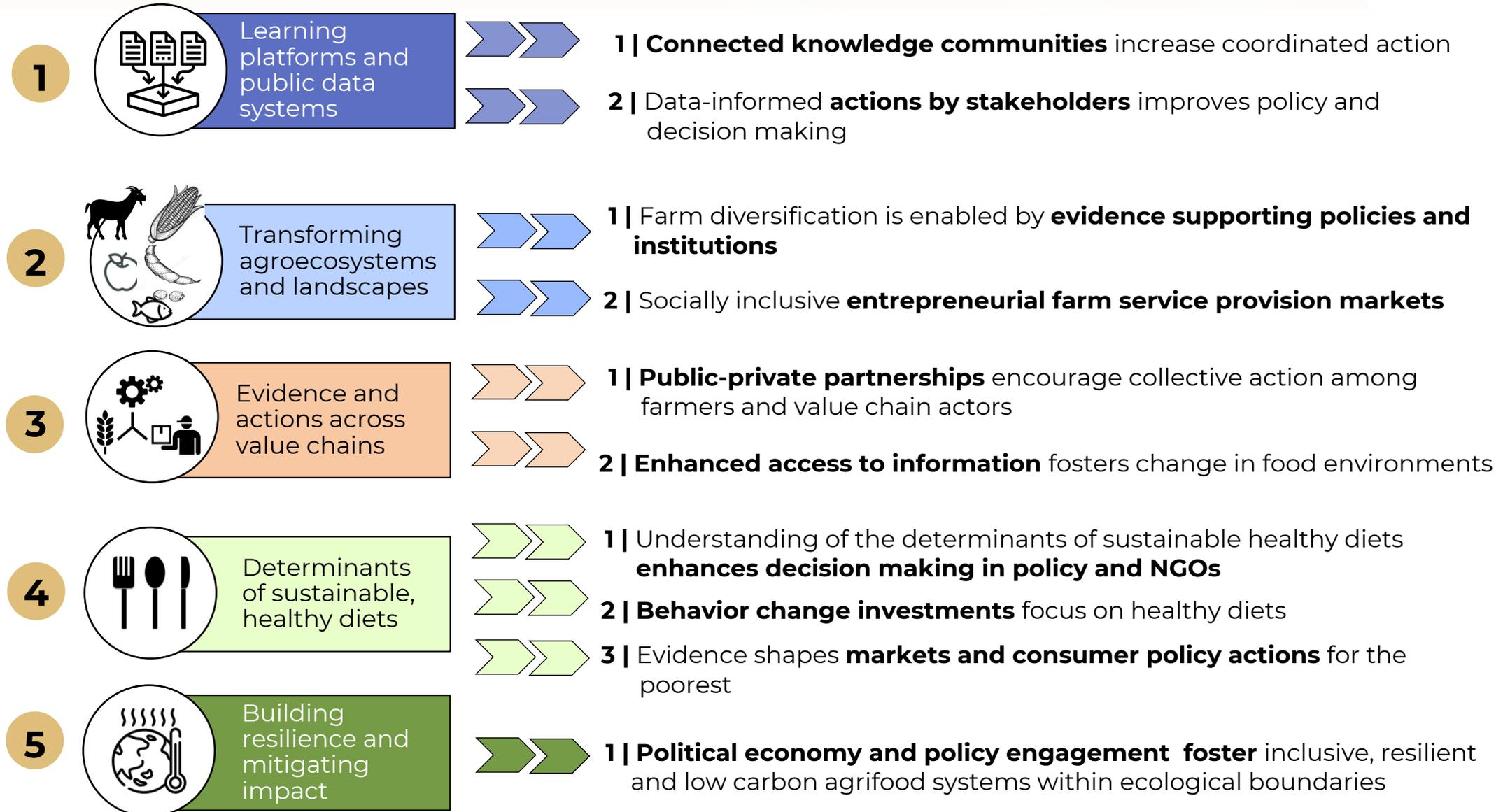
Social inclusion (gender, youth, caste, tribe, ethnicity, religion)



Pathways to bottom-up impact through innovations, partnerships, markets, and policies

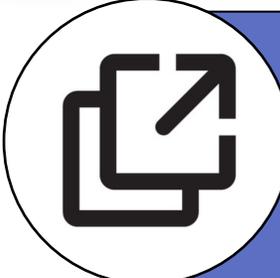


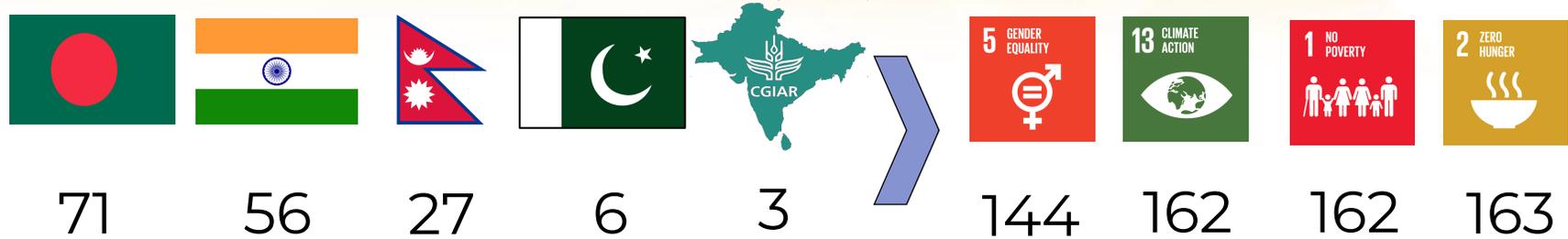
Transforming Agrifood Systems in South Asia

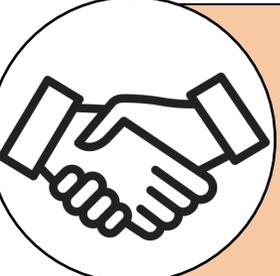


What did TAFSSA achieve in 2022?

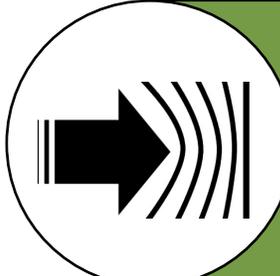


 163 Outputs



 160 Partnerships



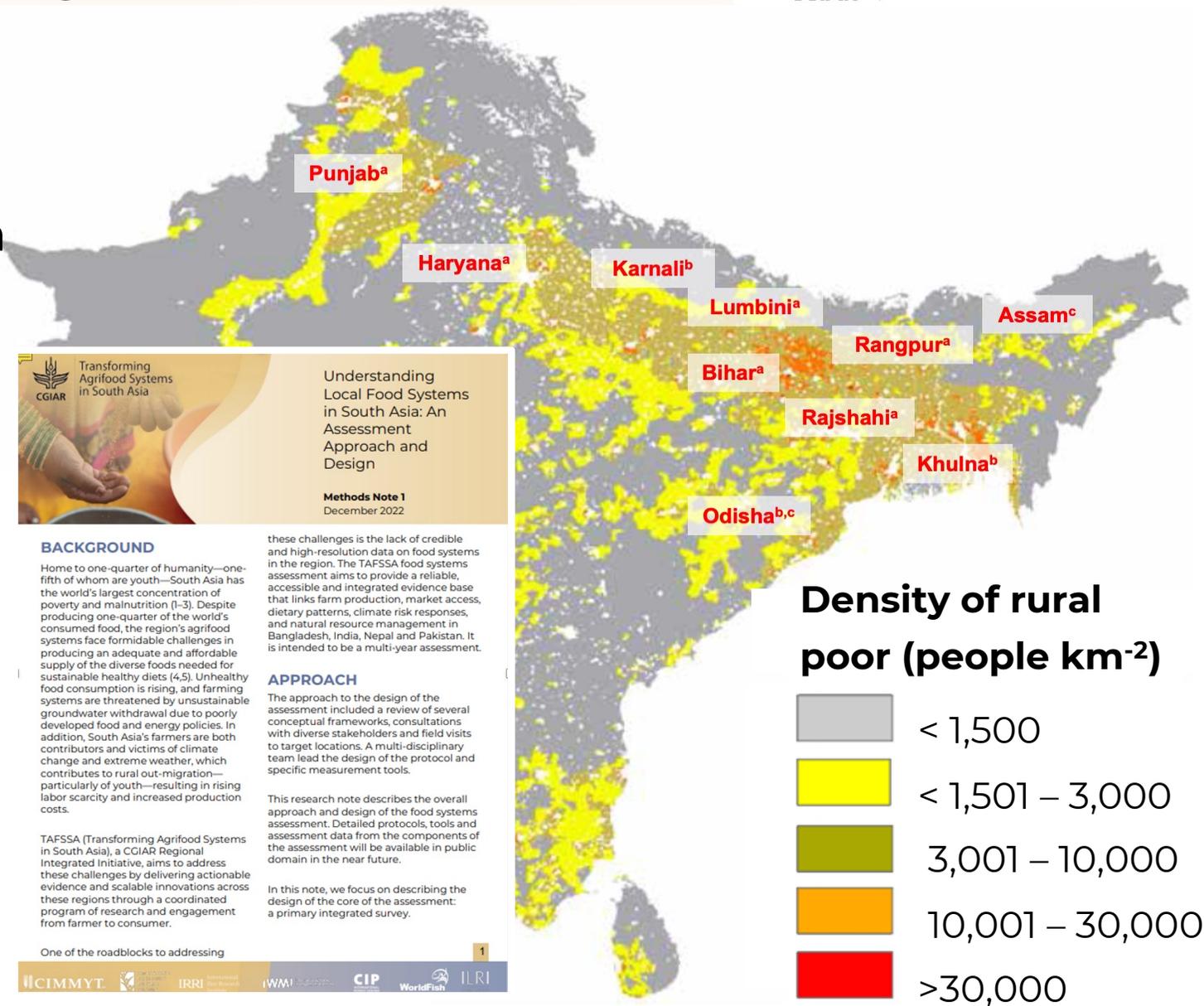
 21 Major Outcomes

- Capacity change**
- Innovations used**
- 112 Training events, 23 partners, and 2,524 people trained.
- Capacity raised in 722 businesses
- 35,900+ ha, 0.71+ m people (24% women)

TAFSSA is a transformative vehicle for bottom-up, South-South collaboration

Evidence to support informed action: TAFSSA's Integrated Food Systems Assessment

1. **Conceptually strong:** frameworks to identify food systems indicators
2. **Digitally collect** high-resolution data linking the food system (production, markets, diets, environment)
 - Household surveys
 - Farming systems
 - Villages
 - Market census & surveys
3. **Gender-disaggregated** data across the food system
4. **Expand and scale-out** to other TAFSSA locations, other countries and regions





Transforming Agrifood Systems in South Asia

Understanding Local Food Systems in South Asia: An Assessment Approach and Design

Methods Note 1
December 2022

BACKGROUND

Home to one-quarter of humanity—one-fifth of whom are youth—South Asia has the world's largest concentration of poverty and malnutrition (1–3). Despite producing one-quarter of the world's consumed food, the region's agrifood systems face formidable challenges in producing an adequate and affordable supply of the diverse foods needed for sustainable healthy diets (4,5). Unhealthy food consumption is rising, and farming systems are threatened by unsustainable groundwater withdrawal due to poorly developed food and energy policies. In addition, South Asia's farmers are both contributors and victims of climate change and extreme weather, which contributes to rural out-migration—particularly of youth—resulting in rising labor scarcity and increased production costs.

APPROACH

The approach to the design of the assessment included a review of several conceptual frameworks, consultations with diverse stakeholders and field visits to target locations. A multi-disciplinary team lead the design of the protocol and specific measurement tools.

This research note describes the overall approach and design of the food systems assessment. Detailed protocols, tools and assessment data from the components of the assessment will be available in public domain in the near future.

In this note, we focus on describing the design of the core of the assessment: a primary integrated survey.

One of the roadblocks to addressing

1

#CIMMYT IIRRI WFP CIP WorldFish ILRI

Scaling research innovations for nutrition-and gender-sensitive, climate smart agriculture



- Designed and implemented with national partners
- 16 living laboratories
- 600+ farm families
- Action research in diverse crop and livestock systems
- Multi-criteria analysis (nutritional yield emphasis)
- Groundwater and climate change assessment
- Farmers linked to markets

		Nutrition Training	
		No	Yes
Agricultural production and marketing Trainings	No	Control	N
	Yes + On-farm experiment	AgP+	AgP+&N

Figure 1: Matrix of treatments tested in the social-agricultural experiment.



Can farmers profit from producing affordable nutritious food within environmental boundaries?



Biofortified rice

Shamsul Haque Rice Mill is branding biofortified premium quality rice



Kick-starting markets and branding bio-fortified rice production in Bangladesh

Lentil

Mostofa Pulse Mill is now purchasing lentil at fair prices



Small farmer, large field lentil after short duration rice

Potato

Women team up to profit from potato in Assam and Odisha



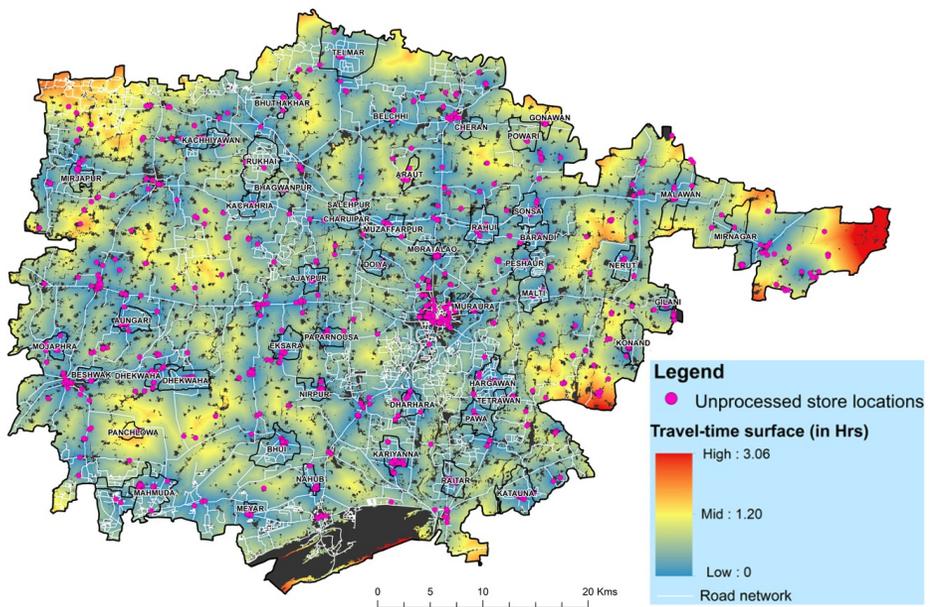
Profits increase 200% on average

- **>15,000+ farmers in India and Bangladesh are better linked to markets and are being empowered to have better bargaining power**

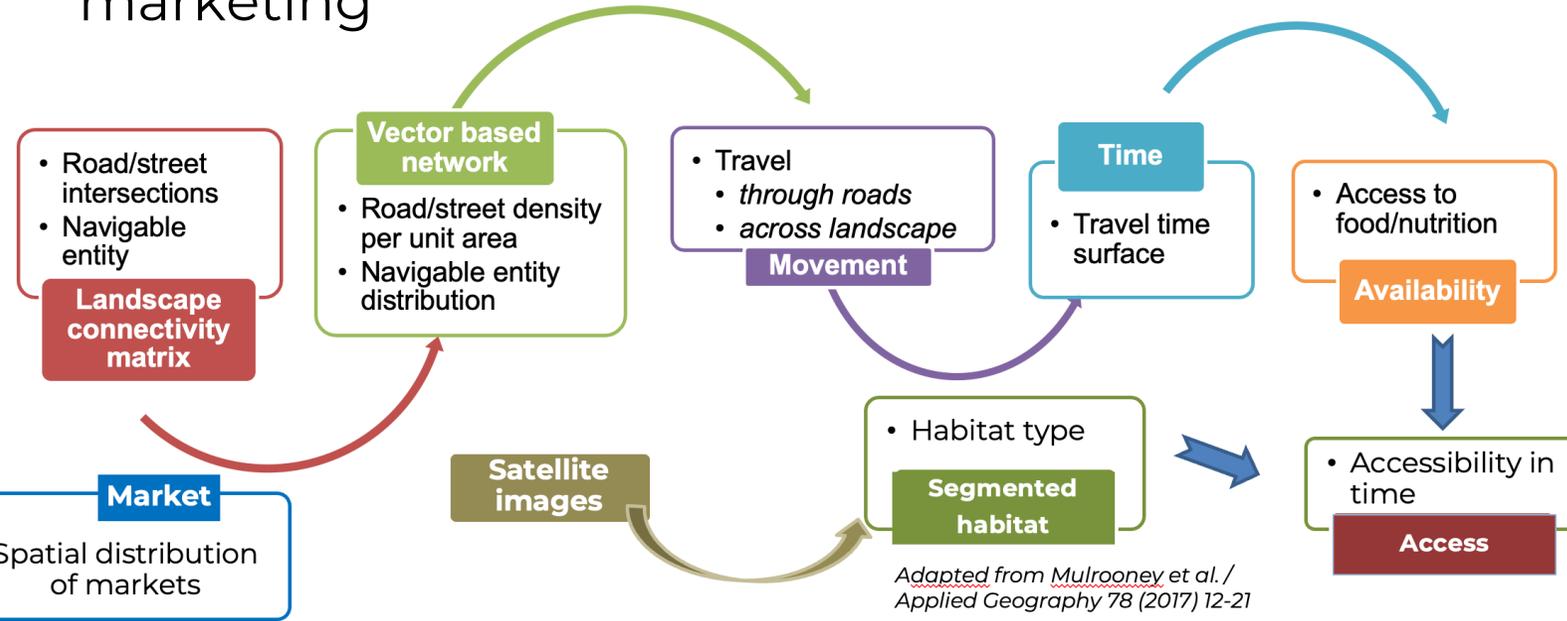
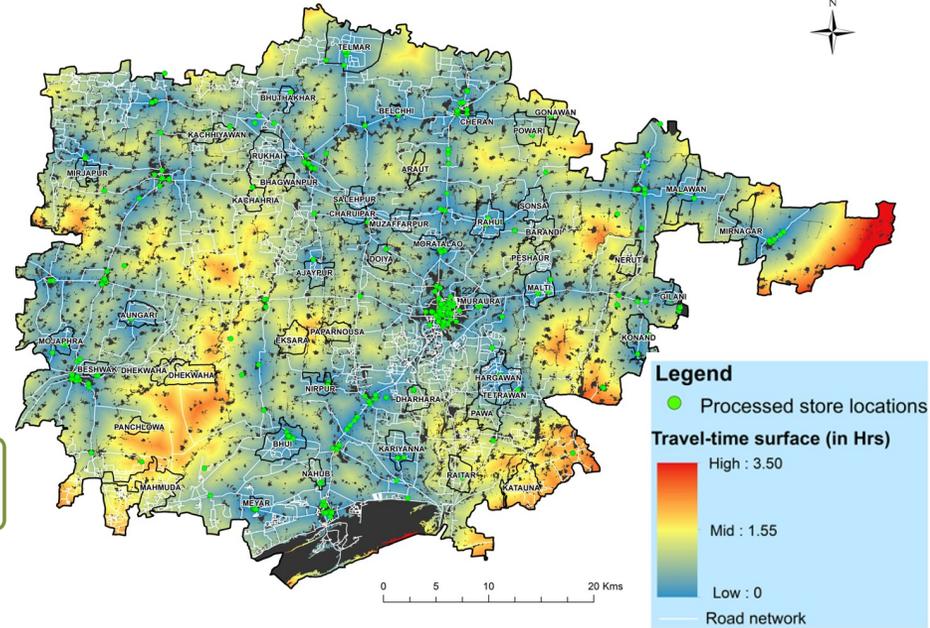
Data to help reduce transaction costs and increase availability and affordability of nutritious foods

- Collaboration with governments in India and Bangladesh
- Comprehensive market assessments, first-of-a-kind data linkages between production and consumption through markets & supply chains
- Options for cultivation, collection, processing marketing

Travel time surface for *unprocessed* foods

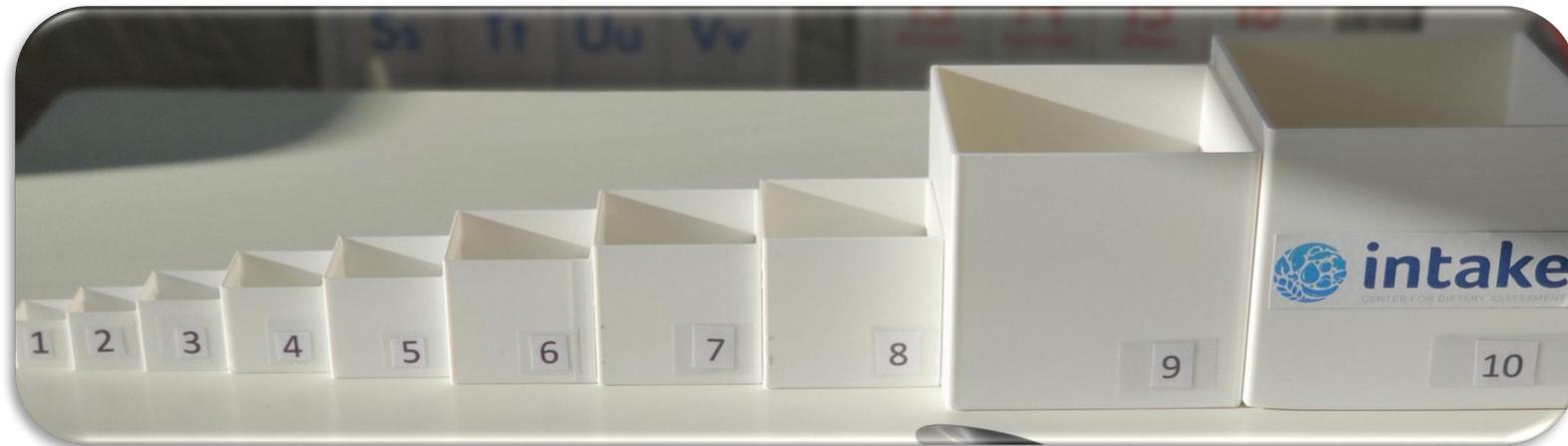


Travel time surface for *processed* foods



Behavioral change innovations supporting sustainable, healthy diets

- **Scoping review of evidence:** 2,700+ studies on unhealthy food consumption in South Asia screened and review under-way with 4 partner research organizations in South Asia
- **Innovations in measurement** of diet quality and drivers of dietary choice



Innovations supporting climate change mitigation and adaptation

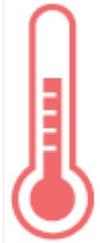
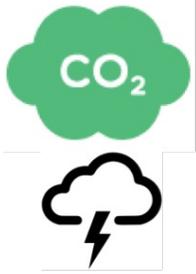


- **Evidence supporting policies**

Science supporting reforms correcting groundwater over- and under use

- **Actionable climate adaptation**

0.5+ m farmers accessing improved gender-specific, real-time weather, crop, livestock, and aquaculture mgt. advisories



- **Putting out the fire**

Political economy of crop residue burning and air pollution in India



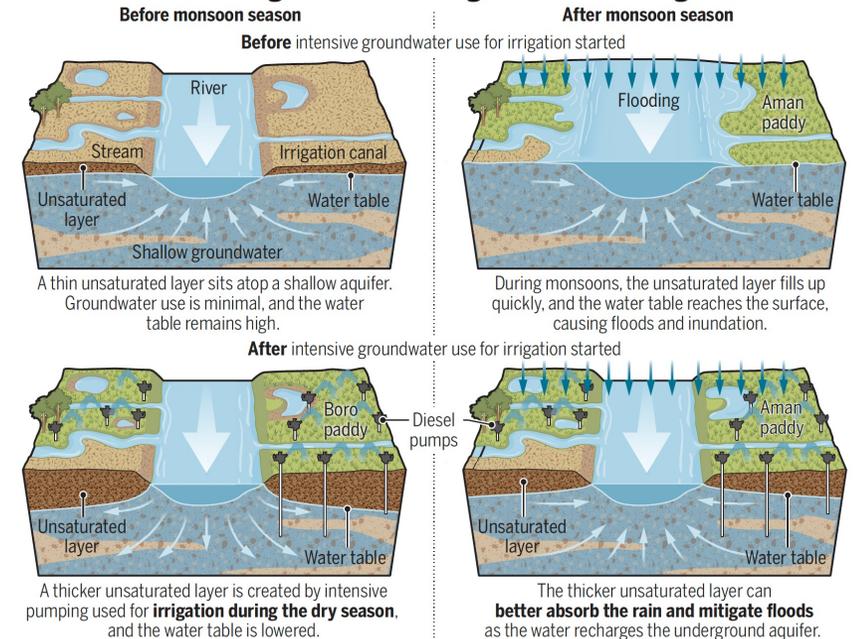
Science

WATER MANAGEMENT

The “water machine” of Bengal

A data-driven and policy-supported strategic use of aquifers for irrigation is needed to maximize their benefits

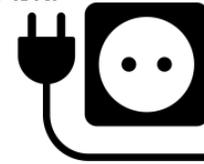
The benefits of groundwater irrigation in the Bengal basin



TAFSSA amplifies CGIAR's efficiency & impact



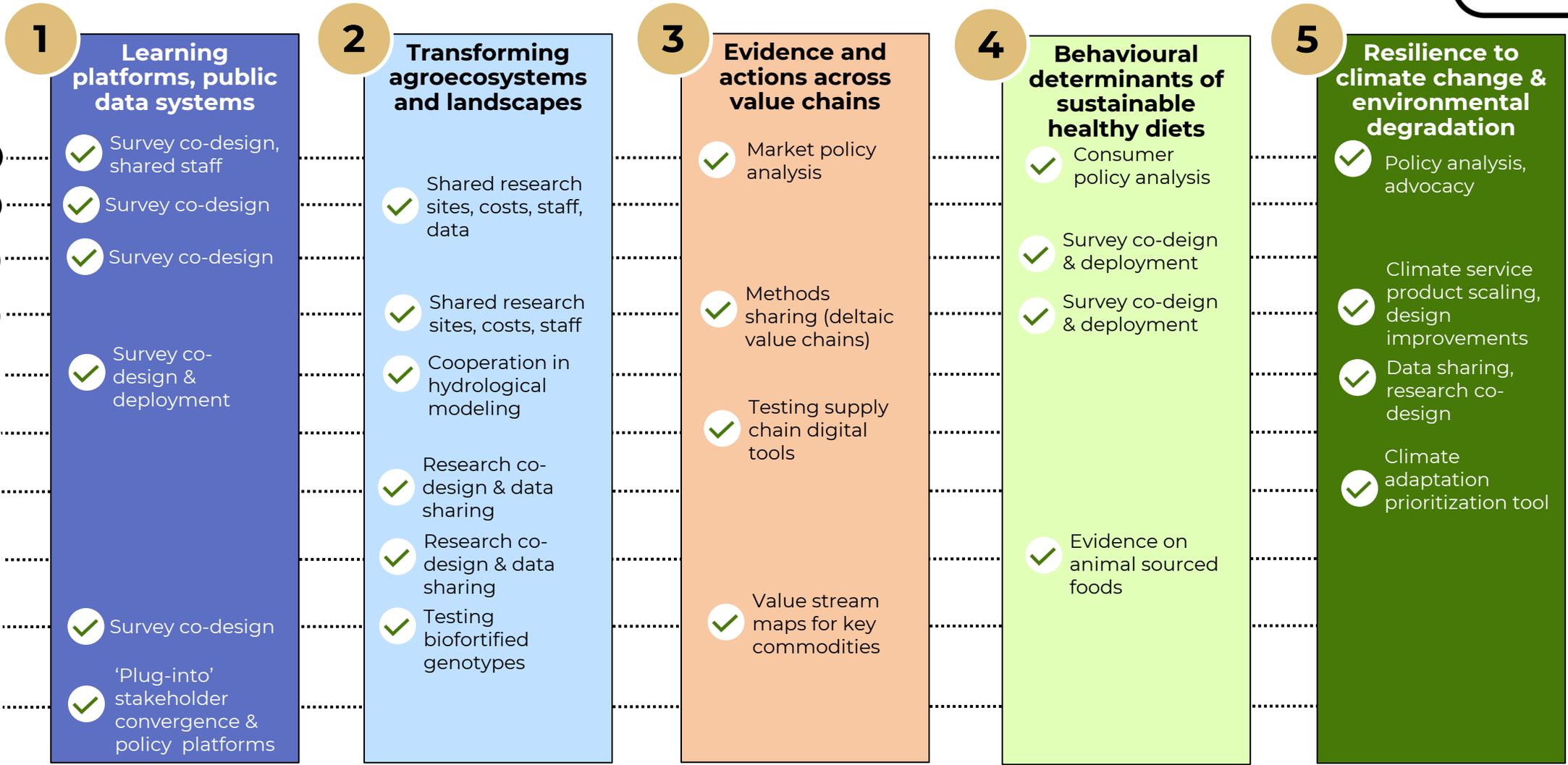
Transforming Agrifood Systems in South Asia



Work package examples of coordination and 'plug-in' by CGIAR's global research initiatives

Initiative examples*

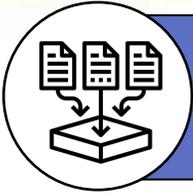
- National policies
- SI-MFS
- SHiFT, FRESH
- AMD
- Nexus
- Digital
- EiA
- SAPLING
- GI Initiatives
- All Initiatives



* This list is illustrative and not exhaustive

What impact will TAFSSA have in 2023?

1



Learning platforms and public data systems

1 | Stakeholder knowledge **network gap analyses**

2 | Integrated survey **results affect policy**

- **150+ stakeholders** engage
- **1+ policy** primed for improvement

2



Transforming agroecosystems and landscapes

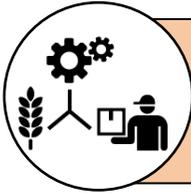
1 | Regional **analysis of nutritional yield** primes policy

2 | **Groundwater sustainability** assessment affects extension

3 | **Business models** stimulate entrepreneurial farm services

- **300+ K hectares**
- **500 K farmers** (25% women)
- **50 K farmers** access markets (**50% women**)

3



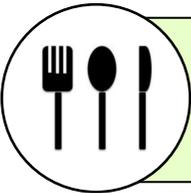
Evidence and actions across value chains

1 | **Product branding** expands farmer access to markets

2 | Farmers **aggregate production** and enhance bargaining power

- **1+ govts.** Work towards improving markets

4



Determinants of sustainable, healthy diets

1 | Scoping reviews and **behavioral change experiments** inform partners

2 | **Gender equity tools** supporting healthier diets prime policymakers

- **1+** BCC program
- **1+** social protection program
- **1+ policy** primed for improvement

5



Building resilience and mitigating impact

1 | Historical policy **insights on crop residue burning** informs extension and policy

2 | Business models expand farmer **access to climate advice**

3 | **Ecological footprint analysis** primes extension and market policy

- **2.25+ m tons CO₂** mitigated

Thank you!



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