



Six lessons from CoSAI for CGIAR

Commission on Sustainable Agriculture Intensification (CoSAI) *Promoting innovation for transformative change in the Global South*

System Council, 14 December 2021





Commission with 21 Commissioners from the Global South, 2020-2021

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CoSAl's mission: Promoting innovation for sustainable agrifood systems for the Global South

- Innovation in policies, finance, institutions, practices, as well as science and technology
- To meet SDGs and climate goals
 - Including equity and nutrition goals

CoSAI has built a portfolio of evidence for advocacy



Photo credit: Neil Palmer (CIAT)



Eight main pieces of evidence to build the CoSAI case

Innovation needs and priorities



Mapping research on agrifood systems

Financial instruments: Paying for nature and society (PANS)



Innovation priorities for Urban and Peri-urban Agriculture

How much investment is needed?



Current investment in innovation (IIS)



Global investment gap (IGS)

How to do innovation better?



Principles and Metrics Taskforce



Pathways for innovation: Case studies in Brazil, India and Kenya



Approaches and instruments for investment in SAI innovation





CoSAI findings on global research and innovation gaps could inform ongoing prioritization in CGIAR



15,000 - 80,000 ARTICLES

Number of publications

Several CoSAI studies have pinpointed potential gaps:

- Post-harvest, land and natural resource management, local seed systems [1]
- Design of equitable <u>farm-level</u> financial instruments to protect and restore nature [2]
- For Urban and Peri-urban Agriculture: land and water rights, waste management, and informal markets [3]

CoSAI is supporting a "mining the gaps" database:

- using machine learning to categorize and spot neglected areas in over one million research papers on small-scale agriculture from CAB Abstracts [4]
- Social equity, nutrition and health outcomes are the outstanding gaps spotted
- Consider: how does emerging overall CGIAR portfolio match up with global gaps
- Consider: increased support to farm-level financial instrument design

Sources: [1] CoSAI Innovation Investment baseline report, [2] CoSAI Paying for Nature and Society report, [3] Urban and Peri-Urban Agriculture report (WLE for CoSAI), [4] CoSAI 'Mining the Gaps' report (source of graphic)





CoSAI Commission on Sustainable ariculture



TECHNOLOGY



Plant Breeding (81,000) Safety (80,000) Tillage (69,000) Irrigation (49,000) Livestock (46,000) Energy (45,000) Genetics (45,000) Seeds (31,000) Digital (21,000) Weather (9,000)

21-30%

Crop (255,000) Soil (110,000)

Water (87,000)

<10%

11-20%



Social equity (<u>beyond</u> gender and youth) needs to be institutionalized in research and innovation

- Wider issues of equity (e.g. wealth, caste, ethnicity-SDG10) are not systematically incorporated into research and innovation.
 - Innovations generate winners and losers, and may increase social inequity
 - 'Small-scale farmers' not homogeneous, may have conflicting needs.
 - Consider social equity within wider rural transformation and aspirations
 - Important to track equity issues in innovation processes, and consider appropriate mitigation, compensation, or complementary support for the 'losers'
 - Consider: more systematic focus on wider equity issues (beyond gender and youth), including appropriate resourcing, skills and training, across CGIAR.



Research and innovation should explicitly consider different objectives, and trade-offs between them

- In a CoSAI study of current innovation funding for the Global South, less than 7% of funding had detectable environmental aims.
 - Conversely, some ecologically-focused research ignored economic/productivity aims
 - Consideration of multiple aims and trade-offs can be incentivized by common principles.
- CoSAI has launched a global <u>Taskforce on Principles for Innovation in</u> <u>Sustainable Agrifood Systems</u>
 - CGIAR System Office is represented on Taskforce, with <u>other global R&D leaders</u>
 - The Taskforce has proposed a pilot version of the <u>Principles</u> and scoring system
 - Consider: piloting the Principles within CGIAR

Sources:

CoSAI Innovation Investment baseline report, CoSAI Taskforce for Principles and Metrics in Sustainable Agrifood Systems



'Translational research' merits more investment: how to make innovation and scaling more effective and efficient

Findings from CoSAI studies on pathways and approaches:

- 'Putting the end-user at the center' and 'bundling innovations' are agreed to be vital. *How* to do this effectively and efficiently is an important research question.
- 'Newer' instruments and approaches (platforms, prizes, incubators) have potential for 'co-creation' and to boost and sustain use of innovations. But more systematic collection on design, costs and benefits is needed.
- Going to scale depends on many factors including long-term leadership and informal networks. How to support these most effectively is a research question.
- Consider: review of portfolio re. approaches and instruments for innovation
- Consider: investing in more translational research: including how to improve approaches and instruments for innovation.

Sources: CoSAI Innovation Pathways Study, CoSAI Study on Approaches and Instruments for Innovation



Regions: critical insights for engagement – and could benefit CGIAR regional initiatives

- Evidenced-based regional dialogues in Asia, Latin America and Africa
- Engagement with regional platforms – APAARI, FONTAGRO, FARA, IUCN, SEARCA, TAP, GFAR...
- Regional platforms are transitioning to innovation hubs
- Strong interest in evidence to underpin resource mobilisation and partnership development



International effort

- Consider: effectively blended partnerships for sustainable impact region by region
- *Consider*: using established platform as a key mechanism for design, delivery and impact



The annual modelled 'investment gap' for ARI4D for the Global South is \$4 bn per year*

- The investment gap for CGIAR is at least \$2.1 bn per year
- About a fifth of the CGIAR 'gap' (\$0.4 bn/year) is for higher research productivity and efficiency
 - *Consider*: further tracking and investment in research efficiency and productivity
- Additional country-level investments (e.g. in NARES) are critical for CGIAR effectiveness (estimated investment gap: \$1 bn per year)
 - Consider: tracking country innovation investments (building on IFPRI- ASTI) and providing complementary support to national systems

Source: CoSAI Investment Gap report (*With complementary investments in climate change and water this rises to \$15.2 bn)



Some key suggestions for CGIAR / System Council to consider Portfolio

- Review the overall CGIAR portfolio: does it cover key global gaps
- More translational research: more systematic focus on how to improve approaches and instruments for innovation, e.g. for 'bundling' and 'co-creation' with end users.
- Increased investment in design of <u>farm-level</u> financial instruments for nature

Cross-cutting issues

- CGIAR working "smart" in the regions through investment and delivery partnerships
- Introducing a more systematic focus on wider inclusion/equity issues (*beyond* gender and youth), including appropriate resourcing and skill building across CGIAR.

Monitoring, evaluation, and lesson learning

- Piloting and monitoring new Principles for Innovation in Sustainable Agrifood Systems
- Global tracking of innovation finance, including CGIAR partner countries, and increased support to national ARI4D systems



Thank you

For more information and updates on our work, visit our website <u>https://wle.cgiar.org/cosai</u> (or just google CoSAI)

