



# Global scientific advances to enhance food security and adaptation of agrifood systems

13th Meeting of the Agriculture Chief Scientists (MACS G20)

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May 15<sup>th</sup>, 2024

# Agrifood systems face a unique climate challenge



**735 million people**  
face hunger (9.2% of the global  
population).<sup>1</sup>

**500 million smallholder farmers**  
produce a third of the world's food  
yet are among the most vulnerable  
to impacts of climate change.<sup>4,5</sup>

Agrifood systems are responsible for  
**30% of global emissions.**<sup>2</sup>

Climate change has already  
**reduced per capita GDP**  
**across Africa by 14%,**  
mainly due to its impacts on  
agriculture.<sup>6</sup>

Only **0.8% of global climate**  
**finance** flows to small-scale  
producers in the Global South.<sup>3</sup>



# Global efforts



**Scaling-up** adaptation solutions, **food security** and **nutrition, employment, integrated water management, maximize climate & environmental benefits.**

*COP28 Declaration on Food and Agriculture.*

Enhance quantity and quality of climate finance:

Access to **finance, knowledge** and **capacity** and **policy support and dialogue.**

*FAST partnership*

Commitment is to **reverse setbacks** in achieving **SDG 1 (poverty eradication)** and **2 (zero hunger and sustainable agriculture).**

*G20 Global Alliance against Hunger and Poverty*

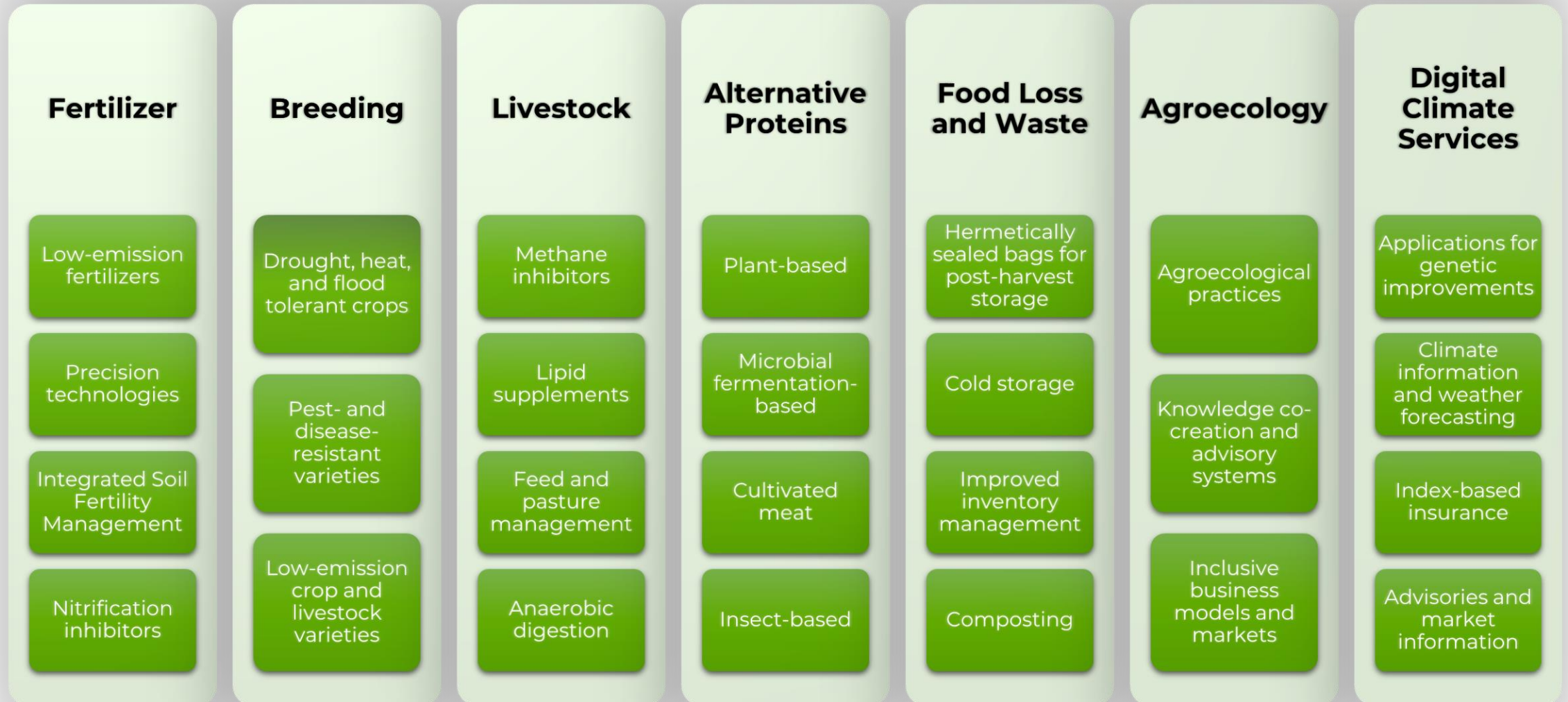


# In CGIAR, we believe that science and innovation can accelerate food systems transformation

- ✿ CGIAR is the world's **largest agricultural research and innovation network** for farmers and food systems in low- and middle-income countries.
- ✿ CGIAR's mission is to deliver science and innovation that advance the **transformation of food, land, and water systems in a climate crisis**.
- ✿ CGIAR evaluates impact systematically. We have robust evidence that **for every \$1 invested in agricultural research and development, investors see \$10 worth of benefits** to smallholder farmers, vulnerable communities and ecosystems.<sup>1</sup>
- ✿ **Partnerships for integrated research** that focuses on **technological and non-technological** innovations to support **policy processes** and create **enabling environments** for transformation.



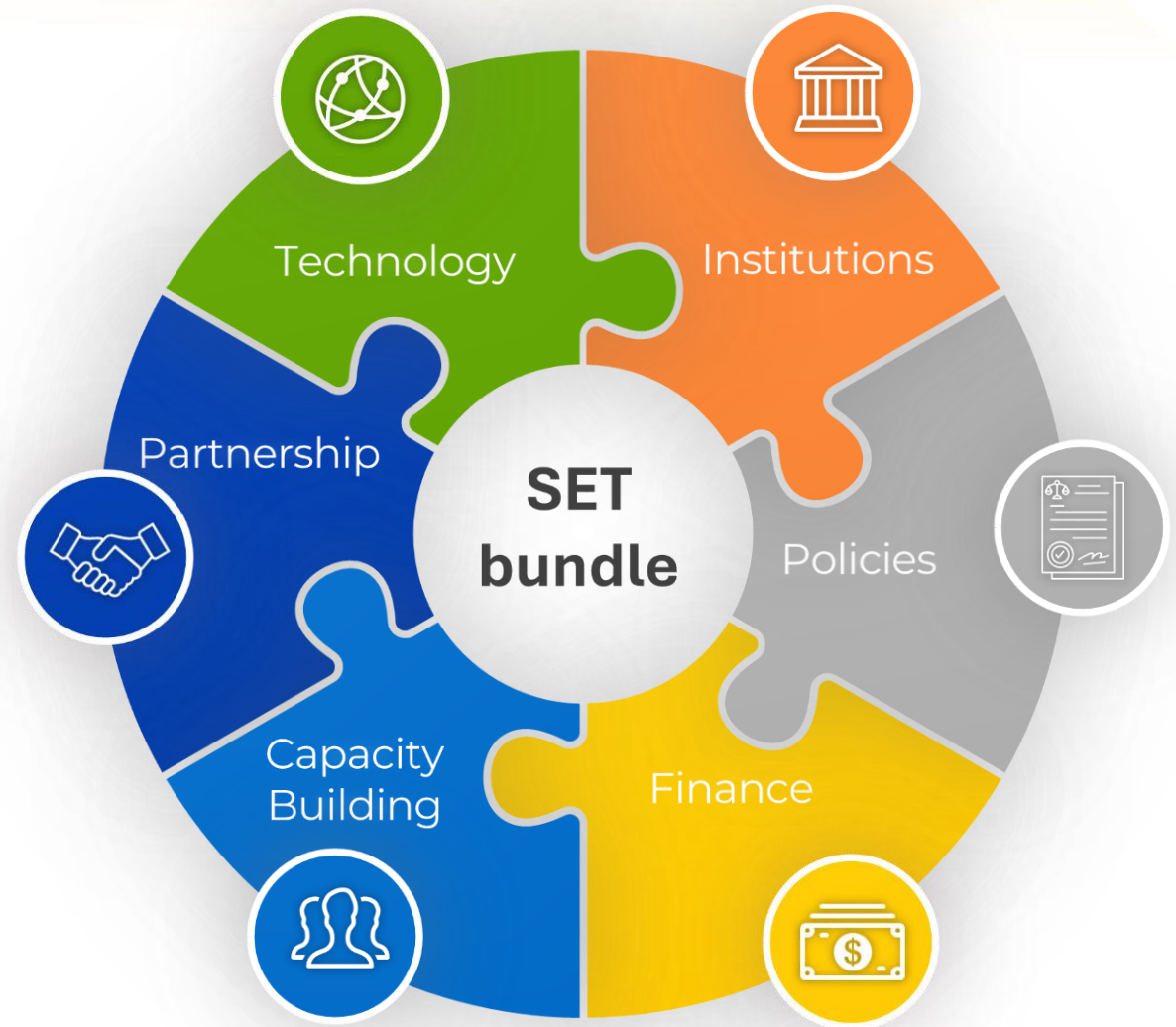
# Innovations for agrifood system transformation





# Bundle innovations to achieve impact at scale

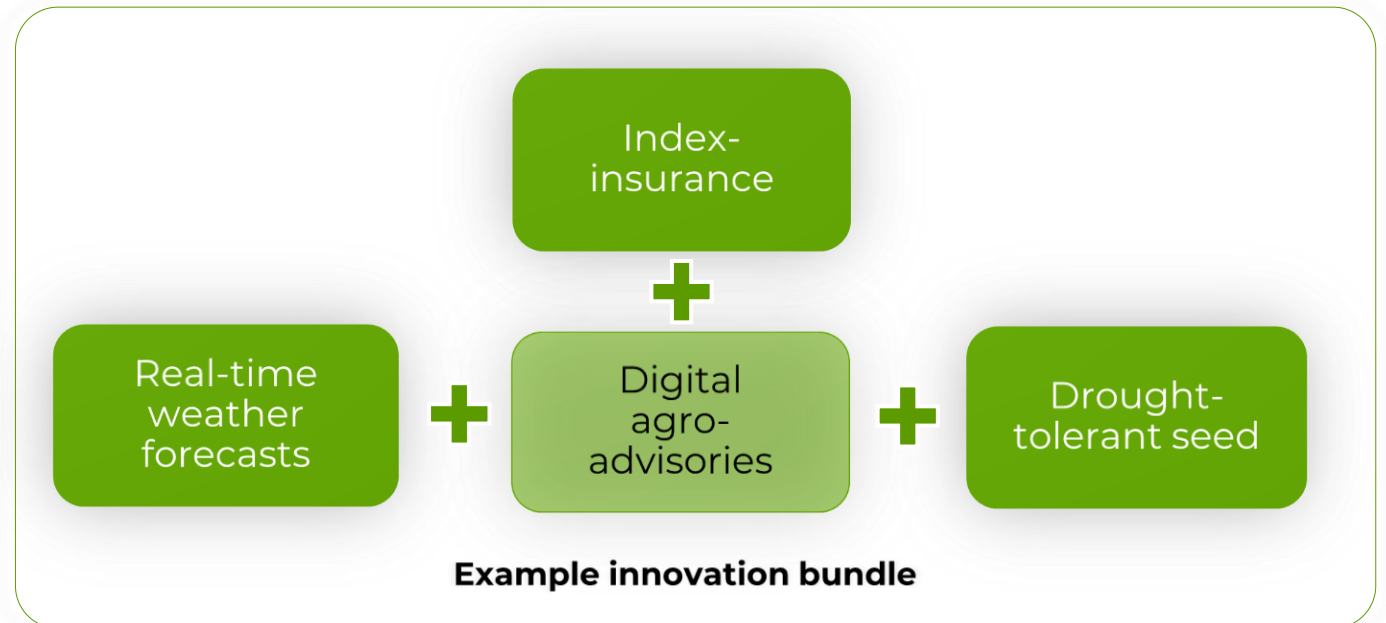
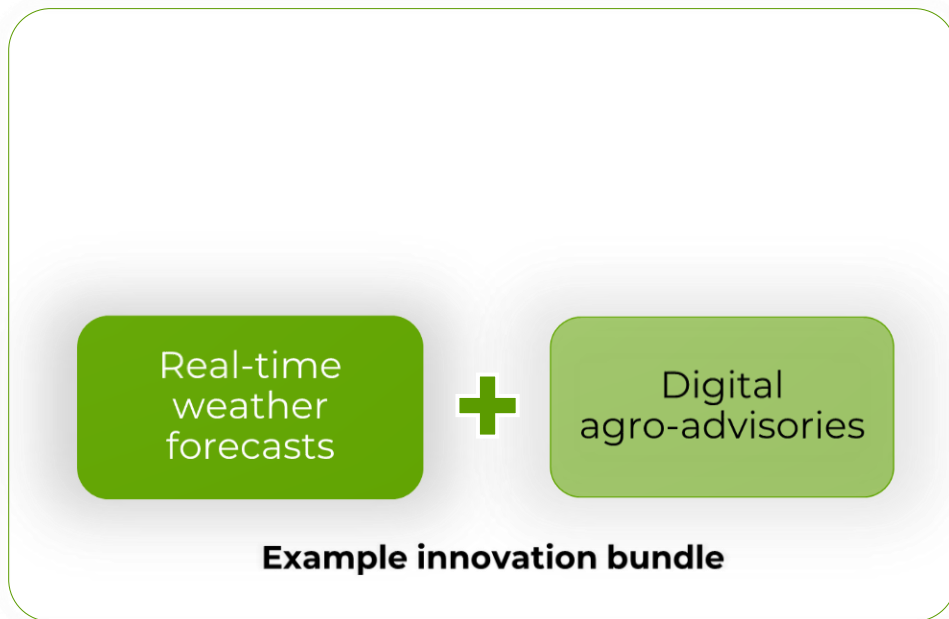
- ✿ Siloed approaches are no longer sufficient.
- ✿ Scale **socio-ecological-technological (SET) bundles** tailored to the local context.
- ✿ Enhance access to innovations through **capacity building, technical cooperation, and innovative finance and policies.**



# Bundle climate services to enhance resilience

Digital climate advisory services **increase farmers' income by 25 percent** and **increase productivity by 30 percent**, on average.<sup>1</sup>

Investments in digital climate advisory services have **high returns**, on average **1-to-24**, and can accelerate **GDP growth**.<sup>1</sup>



# Bundle climate services to enhance resilience



**8 million Shamba Shape Up  
viewers weekly**

Kenya, Uganda, Zambia



Agro-advisories + Digital tools +  
Climate-smart agriculture +  
Capacity building



Munda Makeover filmed in Zambia  
(Photo credit: Agricomm 2022)

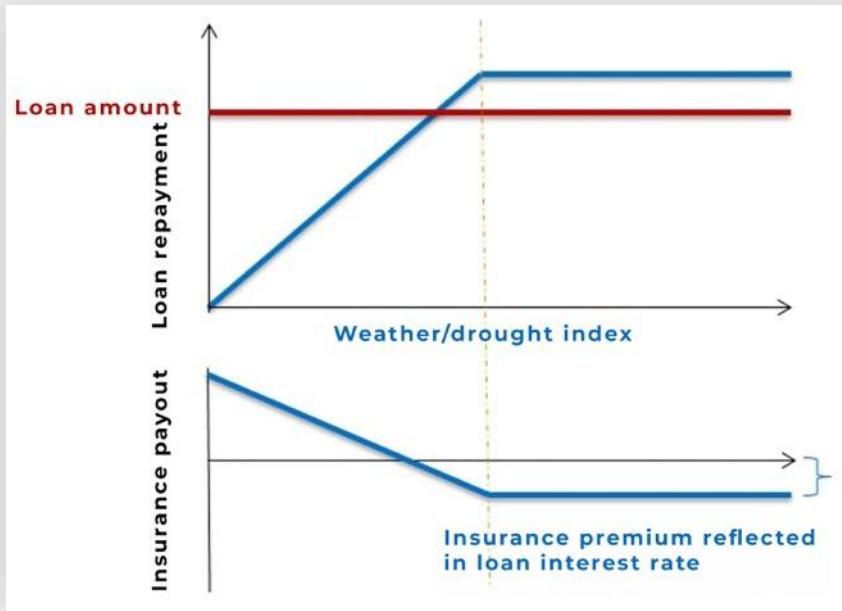


# Bundle climate services to enhance resilience: Local technical agroclimatic committees (MTA)



Agro-advisories + Digital tools + Climate-smart agriculture + Capacity building

# Innovations and technical cooperation increase access to climate finance



**Risk-contingent credit:**  
Bundled credit and insurance to help farmers access microfinance

Ethiopia, Kenya, Zambia

GCF DOCUMENTATION PROJECTS

## Funding Proposal

Project/Programme title: Climate-smart initiatives for climate change adaptation and sustainability in prioritized agricultural production systems in Colombia (CSICAP)  
 Country(ies): Colombia  
 Accredited Entity: Corporación Andina de Fomento (CAF)  
 Date of first submission: 2021/03/29  
 Date of current submission: 14/01/2022  
 Version number: V.012

International funders



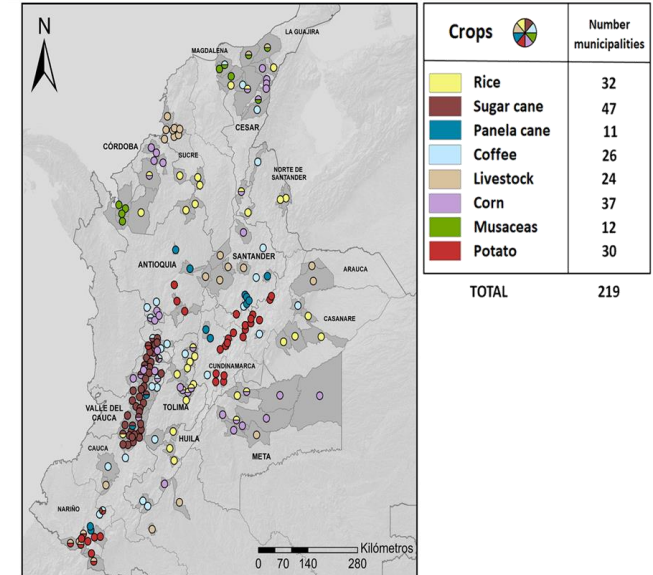
Government lead and funder



Implementing institution



## Geographic scope and agricultural production systems



**~100MM USD project** an example of **blended finance** to scale climate smart agriculture to strengthen agricultural sector, extension services and business models.

Colombia



# Science and innovation are crucial for agrifood systems transformation in a climate crisis

**Small-scale farmers in the Global South**  
are especially at risk due to adverse impacts of climate change.

**Bundling of socio-ecological-technological innovations**  
is an effective approach.

**Innovations must be supported with**  
capacity building, technical cooperation, adequate incentives, and finance to achieve  
impact at scale.

**Transformation requires an enabling policy and fiscal environment**  
that provides incentives to food system actors to adopt innovations and invest in  
improved practices along entire food value chains.



# Thank You!

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