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Transforming agricultural innovation for people, nature, and climate

Taking action research to scale in agricultural systems

Ana Maria Loboguerrero

Research Director

Climate Action

a.m.loboguerrero@cgiar.org

02 September 2021



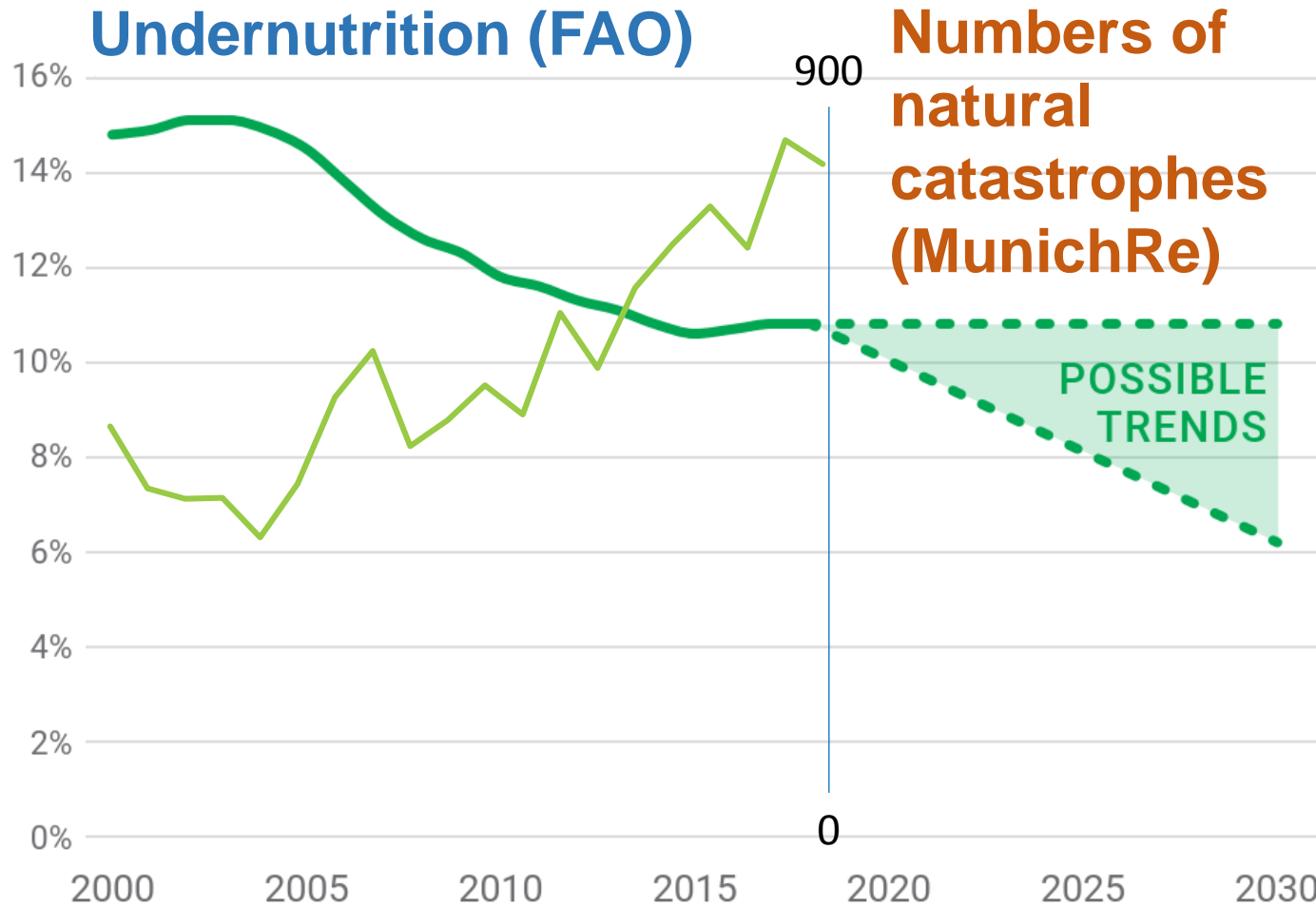
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RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



The global food system needs fixing



Climate extremes

- selling productive assets
- reducing number of meals
- migration
-



The environment

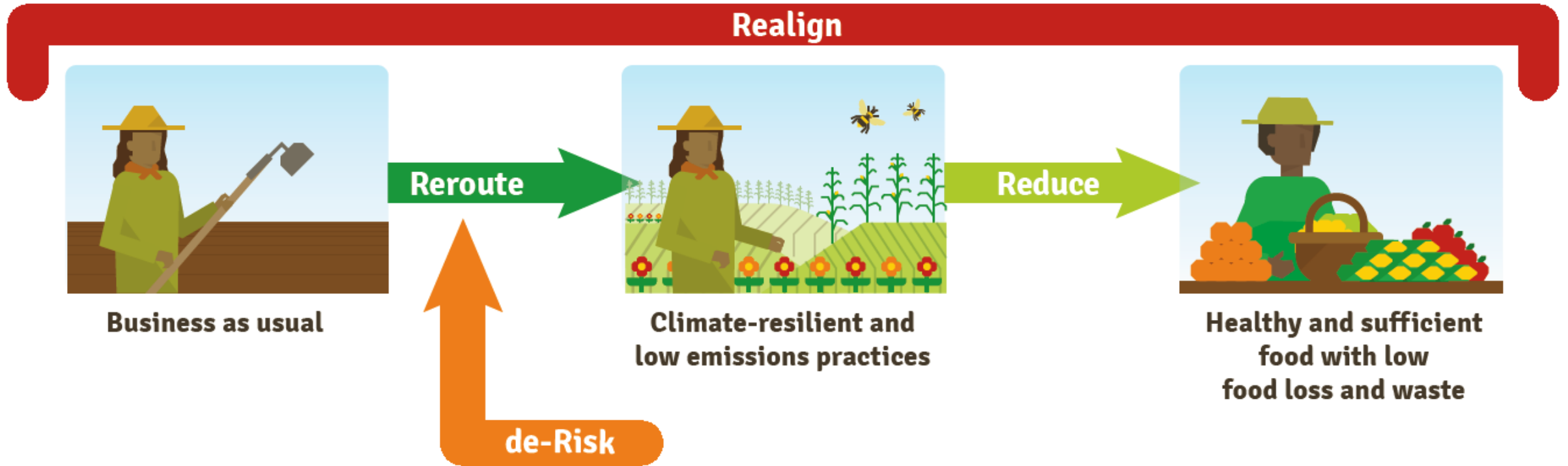
Very poor and a major and increasing cause of concern



Human health and nutrition

Good progress overall, but looming challenges (triple burden of malnutrition)

Transform research, development
and innovation systems to deliver
impacts at scale



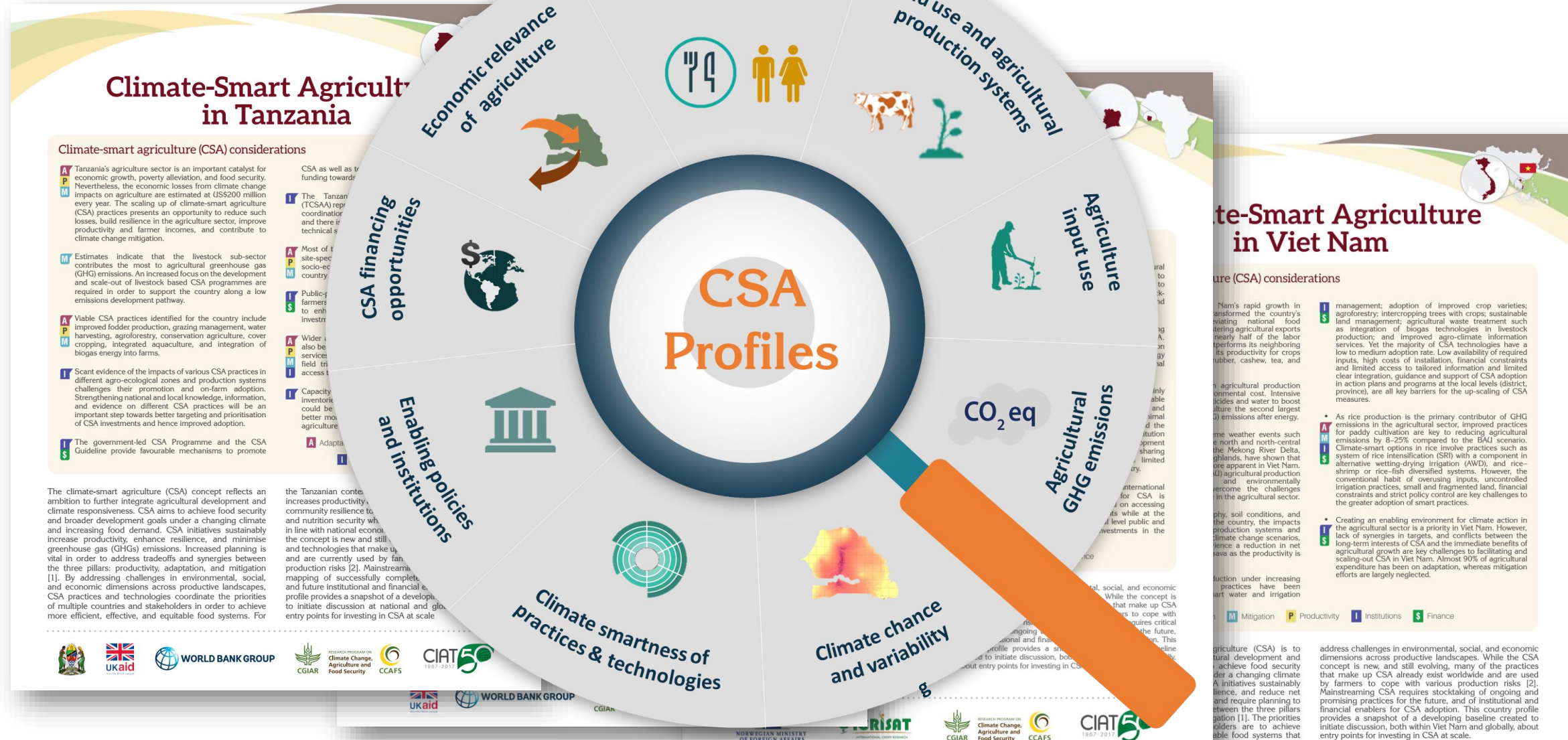
Find the report [here](#)

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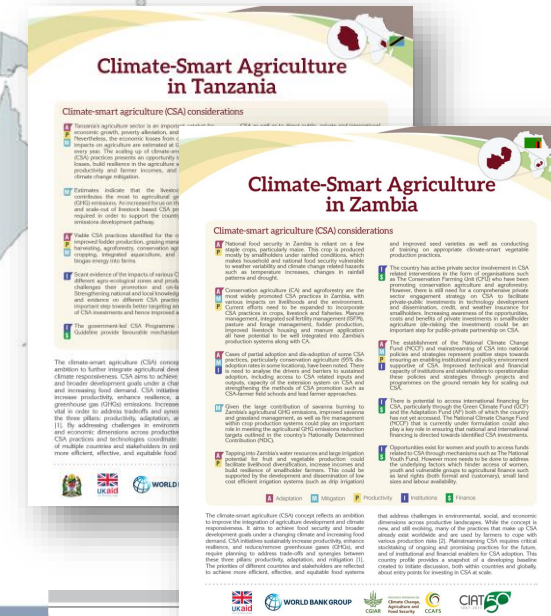
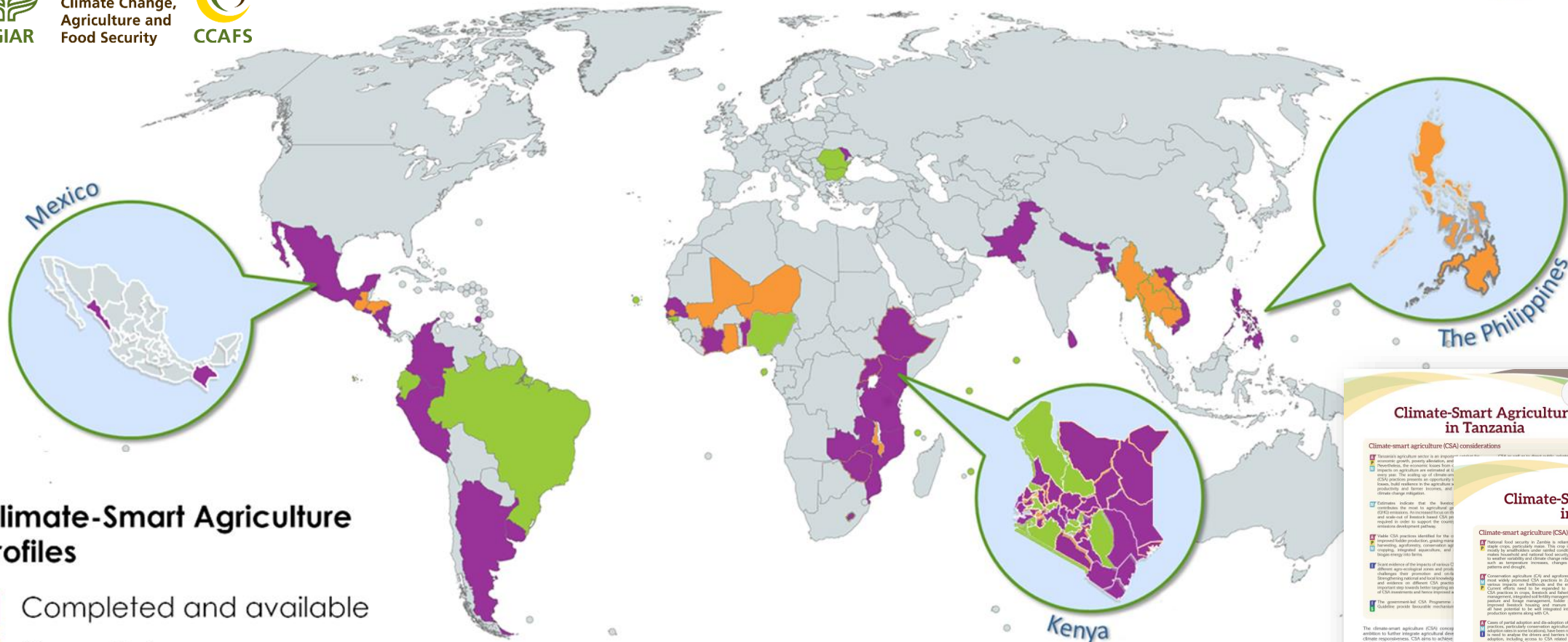
Situation Analysis: CSA Profiling

<https://ccaafs.cgiar.org/publications/csa-country-profiles>



CSA & Climate Risk Profiling

<https://ccafs.cgiar.org/publications/csa-country-profiles>



Training and Information were Identified as the Single Largest Barrier Category to CSA adoption

CSA is
Common-Sense
Agriculture:
Income and
Profit are
Important



88%

Training/
information



39%

Policy/
institutional



30%

Economic



16%

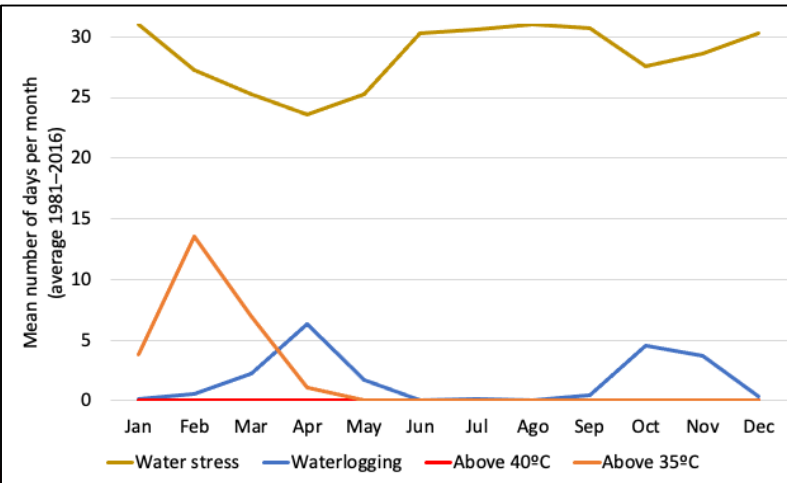
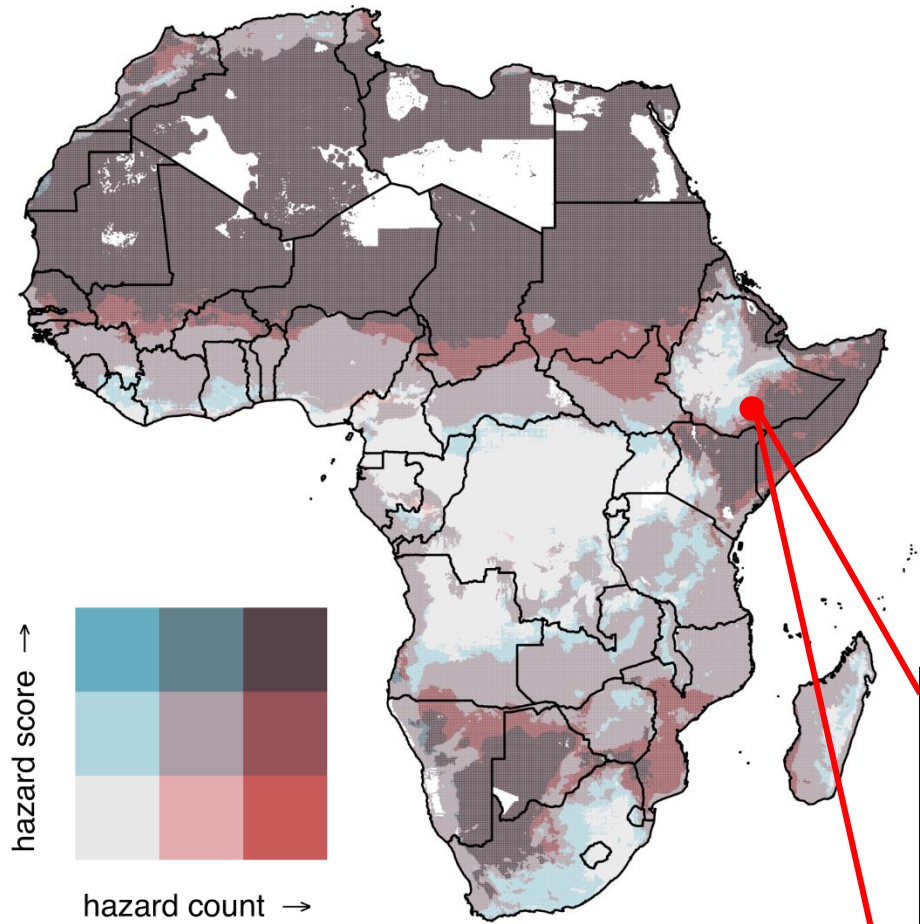
Social/cultural



9%

Environmental

Understanding spatial and temporal dynamics of climate hazards and climate change impacts



- Hot days (>35°C)
- Very hot days (>40°C)
- Water stressed days
- Waterlogged days

East and Southern Africa

Modelled climate change impacts

33.5% less climatically suitable cropland

-15%
wheat yield reduction

-15%
maize yield reduction

West and Central Africa

Modelled climate change impacts

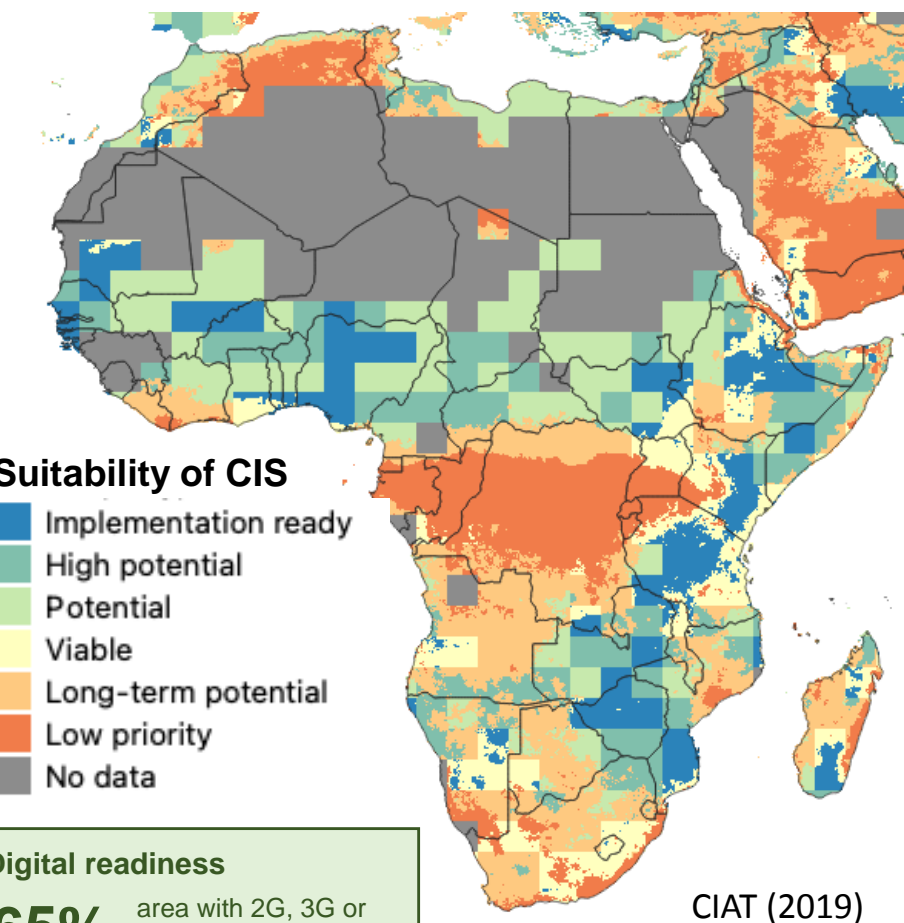
23.2% less climatically suitable cropland

-15%
wheat yield reduction

-30%
maize yield reduction

Adaptation options

Climate information services

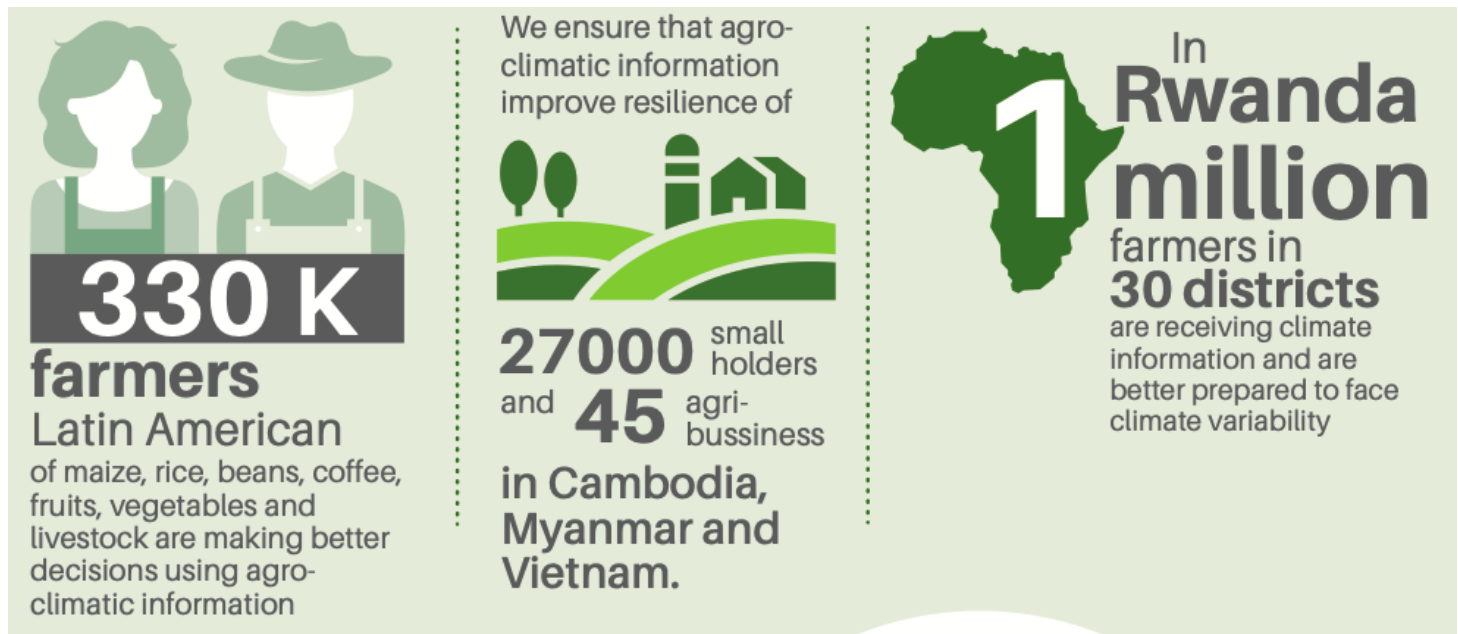


Digital readiness

65% area with 2G, 3G or 4G network coverage

37% area with 3G or 4G network coverage

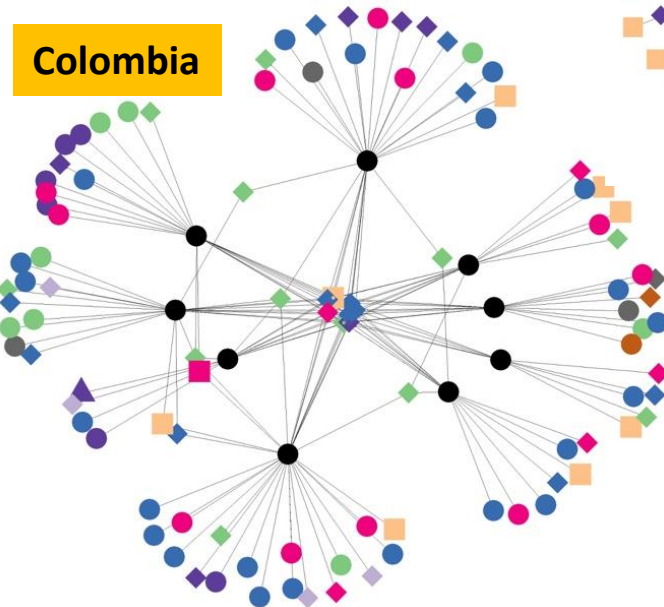
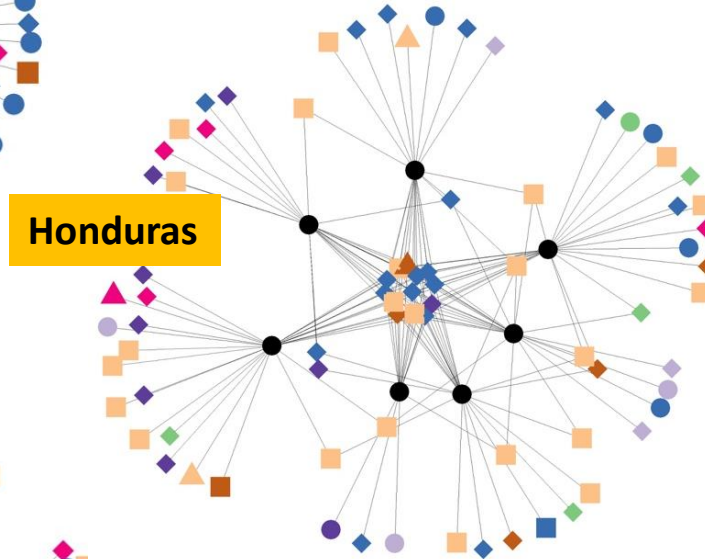
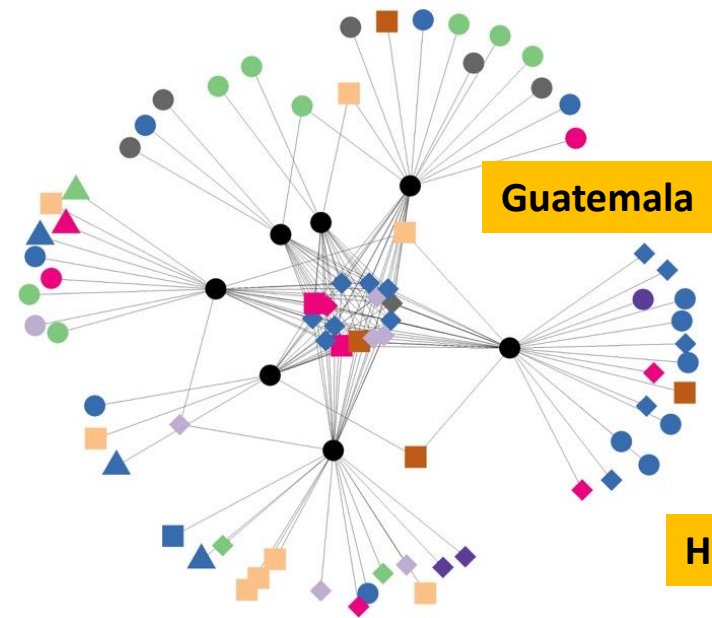
67% hazard exposed area suitable for climate information services



Type of changes made (Rwanda only)	Women	Men
Grew a new or different crop	17%	22%
Grew a new or different variety	25%	25%
Increased the area grown under a crop or variety	2%	4%
Decreased the area grown under a crop or variety or stopped growing it	0%	1%
Changed the date of planting crops	24%	30%
Changed the type or amount of inputs used	33%	36%
Changed the way to manage land and / or crops	49%	50%

CIAT (2020)

Building institutional capital and digital technologies to deliver agro-climatic advisory



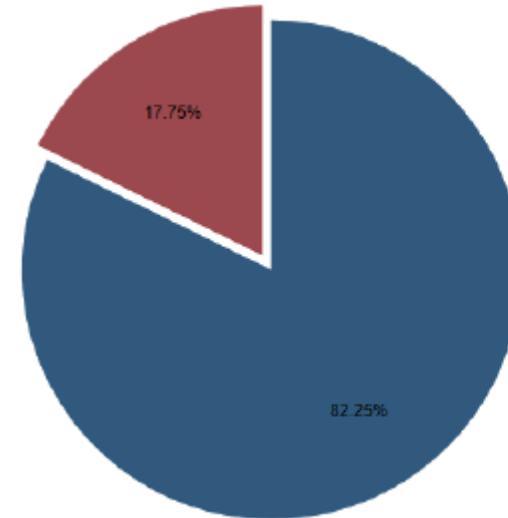
Types:

- Farmer Organization
- NGO National
- NGO International
- Private sector
- Government
- Research and Training
- Program / Project
- Civil society
- MTA

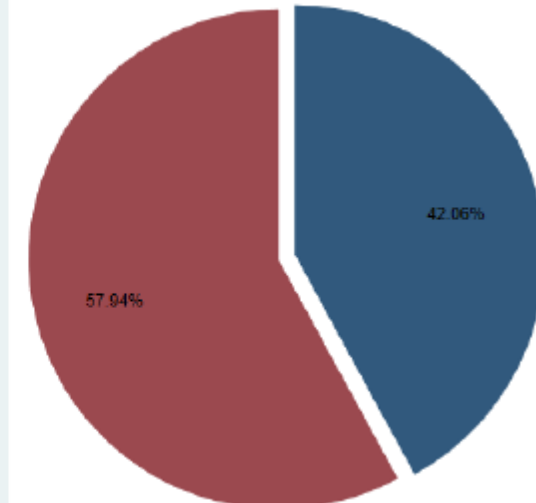
Levels:

- Local
- National
- Regional
- International

Control group



Treatment group



Used agroclimatic forecasts

Did not use agroclimatic forecasts

From Climate-Smart Profiles to Investment Plans

US\$ 1.5 Billion+
of investments planned

Climate-Smart Agriculture Profile

Climate-smart agriculture (CSA) considerations

- A** Tanzania's agriculture sector is an important catalyst for economic growth, poverty alleviation, and food security. Nevertheless, the economic losses from climate change impacts on agriculture are estimated at US\$200 million every year. The scaling up of climate-smart agriculture (CSA) practices presents an opportunity to reduce such losses, build resilience in the agriculture sector, improve productivity and farmer incomes, and contribute to climate change mitigation.
- T** Estimates indicate that the livestock sub-sector contributes the most to agricultural greenhouse gas (GHG) emissions. An increased focus on the development and scale-out of livestock based CSA programmes are required in order to support the country along a low emissions development pathway.
- A** Viable CSA practices identified for the country include improved fodder production, grazing management, water harvesting, agroforestry, conservation agriculture, cover cropping, integrated aquaculture, and integration of biogas energy into farms.
- T** Scant evidence of the impacts of various CSA practices in different agro-ecological zones and production systems challenges their promotion and on-farm adoption. Strengthening national and local knowledge, information, and evidence on different CSA practices will be an important step towards better targeting and prioritisation of CSA investments and hence improved adoption.
- T** The government-led CSA Programme and the CSA Guideline provide favourable mechanisms to promote
- CSA as well as to direct public, private and international funding towards CSA in the country.
- T** The Tanzania Climate-Smart Agriculture Alliance (TCSAA) represents a promising opportunity for improved coordination, dialogue, and information sharing on CSA and there is need to ensure financial, administrative, and technical support for the platform.
- A** Most of the CSA practices identified in the country are site-specific and hence understanding of the different socio-economic and environmental contexts across the country is crucial when designing scale-out strategies.
- T** Public-private partnerships and the organisation of farmers into cooperatives present good opportunities to enhance smallholders' access to credit for CSA investments, particularly from micro-finance institutions.
- A** Wider adoption of CSA technologies and practices can also be facilitated through strengthening of the extension services on climate related matters, conducting of farmer field trials for various CSA practices and enhancing access to CSA related input and output markets.
- T** Capacity building on agricultural greenhouse gas inventories and use of improved GHG modelling tools could be an important step in helping the country to better monitor, report and verify GHG emissions in the agriculture sector.
- A** Adaptation **M** Mitigation **P** Productivity
I Institutions **S** Finance

The climate-smart agriculture (CSA) concept reflects an ambition to further integrate agricultural development and climate responsiveness. CSA aims to achieve food security and broader development goals under a changing climate and increasing food demand. CSA initiatives sustainably increase productivity, enhance resilience, and minimise greenhouse gas (GHGs) emissions. Increased planning is vital in order to address tradeoffs and synergies between the three pillars: productivity, adaptation, and mitigation [1]. By addressing challenges in environmental, social, and economic dimensions across productive landscapes, CSA practices and technologies coordinate the priorities of multiple countries and stakeholders in order to achieve more efficient, effective, and equitable food systems. For

the Tanzanian context, CSA is agriculture that sustainably increases productivity and income, ability to adopt and build community resilience to climate change and enhances food and nutrition security while achieving mitigation co-benefit in line with national economic development priorities. While the concept is new and still evolving, many of the practices and technologies that make up CSA already exist worldwide and are currently used by farmers to cope with various production risks [2]. Mainstreaming CSA requires a critical mapping of successfully completed, on-going practices and future institutional and financial enablers. This country profile provides a snapshot of a developing baseline created to initiate discussion at national and global levels about entry points for investing in CSA at scale



Complement and build on
CSA profiles to **identify and
design bankable CSA
investment opportunities**

Completed:
Bangladesh, Burkina Faso, Côte d'Ivoire, Ghana, Mali

Forthcoming:
Nigeria (with UNDP)



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Policy, Program and Strategy Review: Developing a Long List of Potential Investments

NAIP/PNDA



PROGRAMME NATIONAL D'INVESTISSEMENT AGRICOLE DEUXIEME GENERATION (2017 – 2025)

RAPPORT FINAL
NOVEMBRE 2017

NDC/CDN



CONTRIBUTIONS PREVUES DETERMINEES AU NIVEAU NATIONAL DE LA COTE D'IVOIRE

1. Contexte national

Données clés	
Superficie	322 463 km ² - 550 Kilomètres de littoral
Climat	Sud - climat équatorial, chaud et humide. Nord - climat tropical plus sec.
Population	22,87 millions dont 41,5% de moins de 15 ans (RGPH, 2014)
PNB	34,25 milliards USD (2014)
PNB/h	1 550 USD (2014)
Poids dans le PIB mondial	0,06% Part de Pouvoir d'Achat (PPA) constant en 2011
Part de l'agriculture dans le PIB	24%
Consommation d'énergie primaire/h	0,44 toe en 2012
Accès à l'électricité	56% des ménages

Sources : RGPH 2014, PND 2016-2020, BAD, Banque Mondiale, EDS 2011-2012, AIE, PNIA 2010-2015

Après une décennie de crise politico-militaire qui a entraîné une profonde fracture sociale, la Côte d'Ivoire s'est donnée pour objectif de devenir un pays émergent à l'horizon 2020. Pour impulser et coordonner les multiples facettes de son développement, la Côte d'Ivoire a renoué avec sa tradition de planification.

Le pays a également renoué avec une croissance rapide (de l'ordre de 8% par an), dans un contexte de paix, de sécurité fortement améliorée et d'une meilleure gouvernance. Les populations commencent également à tirer profit du dynamisme retrouvé, grâce aux efforts de redistribution et de correction des inégalités réalisés dans les différents secteurs.

Le PND 2016-2020 en cours de finalisation vise à consolider cette trajectoire vers l'émergence et l'industrialisation. Cette planification s'inscrit dans une vision à plus long terme. L'Etude Nationale Prospective « Côte d'Ivoire 2040 » est également en voie de finalisation.

La stratégie nationale de développement du pays conjugue à une forte croissance démographique conduisant à une augmentation substantielle des émissions de gaz à effet de serre (GES). En outre, la Côte d'Ivoire est vulnérable aux impacts du changement climatique qui touchent tous les secteurs essentiels de son développement.

Pour relever ces défis, la Côte d'Ivoire a mis en place en 2012 le Programme National Changement Climatique (PNCCC) afin de coordonner, proposer et promouvoir des mesures et stratégies en matière de lutte contre les changements climatiques. Une Stratégie Nationale de Lutte contre les Changements Climatiques 2015-2020 a été adoptée fin 2014.

Au travers de cette Contribution Prévue Déterminée au niveau National (CPDN / INDC), la Côte d'Ivoire entend : marquer sa volonté de réduire l'empreinte carbone de son développement en privilégiant des options d'atténuation présentant des "co-bénéfices" élevés (Section 2 : **Atténuation**) ; renforcer la résilience du pays aux changements climatiques (Section 3 : **Adaptation**) ; mettre en cohérence ses politiques sectorielles et renforcer son dispositif et ses outils de mise en œuvre pour faciliter l'atteinte de ces objectifs (Section 4) ; et mobiliser à cet effet tous les moyens pertinents, notamment de financement, tant nationaux qu'internationaux (Section 5).

Strategies & Programs

MINISTRE DES TRANSPORTS



SOCIÉTÉ D'EXPLOITATION ET DE
DEVELOPPEMENT AEROPORTUAIRE,
AERONAUTIQUE ET METEOROLOGIQUE

Notre mission : les Aéroports et la Météo

REPUBLIQUE DE CÔTE D'IVOIRE

Union - Discipline - Travail



DIRECTION DE LA MÉTÉOROLOGIE NATIONALE

PLAN D' ACTIONS DE LA CÔTE D'IVOIRE 2016 – 2020 POUR LA MISE EN PLACE DU CADRE NATIONAL POUR LES SERVICES CLIMATIQUES (CNSC)

Avril 2017



Agricultural Systems

1. Climate-Smart Irrigated Rice Development Program
2. Climate-Smart Rainfed Rice Development Program
3. Climate-Smart Cotton Development Program
4. Climate-Smart Maize Development Program
5. Program for the Climate-Smart Development of High Value Vegetable and Small Livestock Production for the Abidjan Market (Bassin Vivrier Abidjanais)
6. Climate-Smart Soy Development Program
7. Program for the Development of the Climate-Smart Production and Processing of Yam (Ignose)
8. Climate-Smart Cassava Production and Processing Program
9. Climate-Smart Plantain Development Program
10. Development Program of Financial Products for the Climate
11. Program for Exploiting the Hydrological Potential for Vegetable and Protein Crops

Fish and Livestock Systems

12. Climate-Smart Coastal Zone Development Program (Fishery and Coconut)
13. Climate-Smart Aquaculture Development Program
14. Program for the Climate-Smart Development of the Livestock Sector (Cattle and Small Ruminants)
15. Climate-Smart Livestock Development Program (Cattle, Sheep and Goat)
16. Forestry, tree crop systems, agroforestry and sustainable land and water management
17. Climate-Smart Cocoa Development Program
18. High Value and Nutrient Dense Agroforestry System (Cacao, Ginger, OFSP, etc.) Development Program in Isolated Low Rainfall Zone
19. High Value (Coffee, Cacao, etc.) Perennial Cropping System Development Program at High Elevation
20. Climate-Smart Cashew (Nuts and Fruits) Development Program
21. Climate Smart Palm Oil (Tropical Forest Alliance 2020) and Rubber Development Program
22. Forest Protection, Protected Areas and Reforestation Development Program

CSA Services

23. Agrometeorological Stations Development Program, By Region
24. Climate Smart Bio-Energy Development Program
25. Insurance Products For Climate Risks Development Program
26. Grain Banks Development Program
27. National Monitoring System of GHG Emissions and Forest Areas Development Program (REDD+ Implementation)
28. Agricultural Mechanization, Harvest, Processing and Storage Infrastructure Development Program
29. Payment for Environmental Services (PES) Development Program
30. Climate-Smart Agriculture Extension Capacity-Building Development Program

SITUATION ANALYSIS

Target Setting, Climate Risks & Enabling Conditions

Weather forecasts in Senegal

- 7 million farmers get forecasts
- Better food security outcomes

- Working with women and men farmers
- Working with national meteorological service
- Working with extension agencies
- Working with 15 community radio stations

CCAFS is supported by:



Fund



¿What is GANSO guarantee?

- GANSO guarantee has been created in response to a growing demand in the Colombian market for sustainable and zero-deforestation beef products.
- GANSO Sustainability guarantee (*Aval GANSO*) outlines a clear path to achieve sustainability in beef farms.
- GANSO guarantee offers a voluntary assessment tool for cattle ranchers and livestock companies interested in evaluating their management and a market assurance mechanism.
- This is a tool that facilitates the continuous improvement of livestock production.



GANSO guarantee system



Environment

- Reduction of GHG
- ✓- Zero deforestation
- ✓- Biodiversity , water



People

Decent, fair and safe working conditions



Management

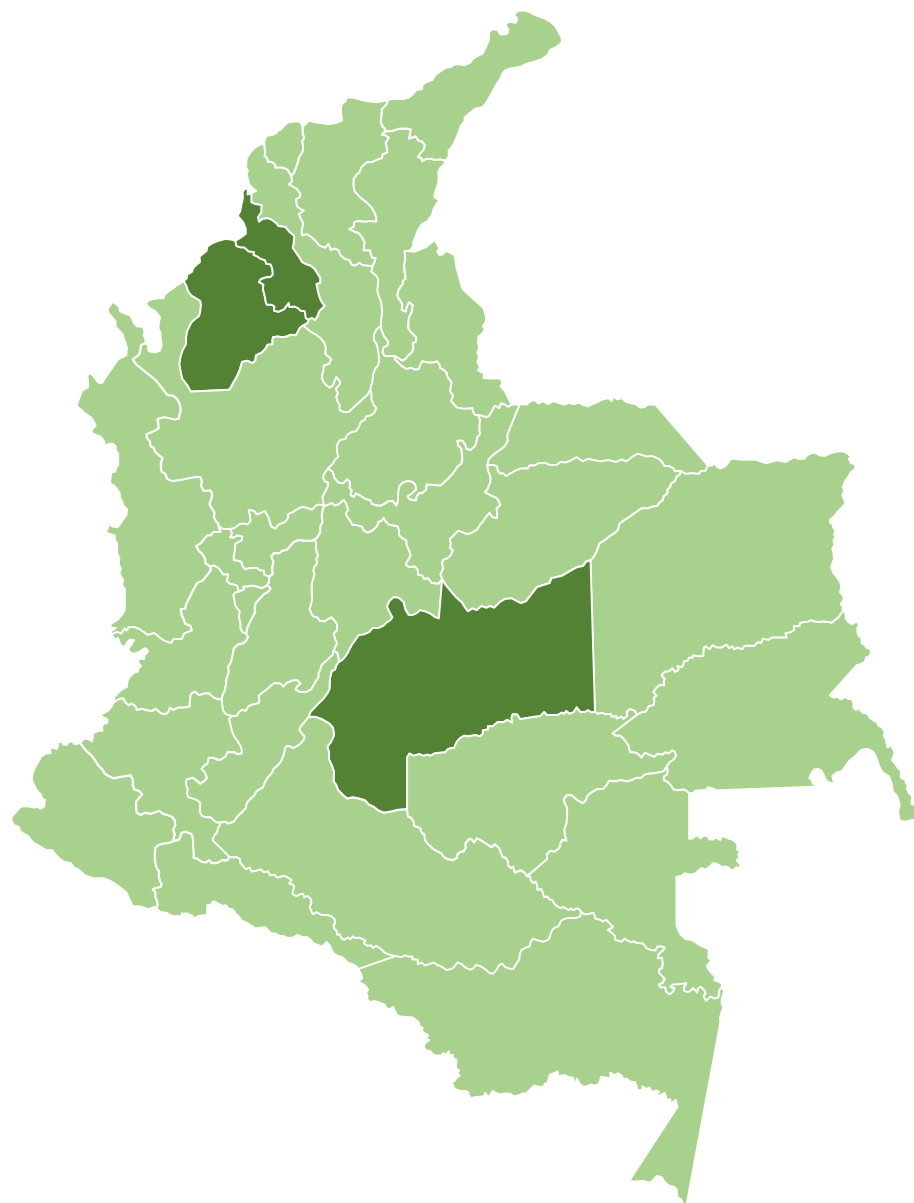
Planning, execution and verification



Animals

Animal health and welfare





GANSO guarantee coverage



10,205 ha

Conservation area



1,025 ha

Number of cattle



15,391

[More info:](https://hdl.handle.net/10568/110456)
<https://hdl.handle.net/10568/110456>

Info Note

GANSO: New business model and technical assistance for the professionalization of sustainable livestock farming in the Colombian Orinoquia region

Alejandro Ruden, Juan P. Castro, Jhon F. Gutiérrez, Simon Koenig, Mauricio Sotelo, Jacobo Arango

NOVEMBER 2020

Key Messages

- Colombia's Orinoco region has extensive livestock production and conservation potential, making it a melting pot for technical assistance initiatives focused on creating sustainable landscapes.
- The characterization, the property management plan and the interventions for livestock farms, must be carried out using an integrated landscape approach, which includes productive, environmental, social and gender considerations.
- GANSO proposes a business model that allows attractive financial returns for investments made in productive systems to make them more sustainable.
- The GANSO guarantee is a tool that makes it possible to design a plan for the continuous improvement of the conditions of a livestock farm in order to make it more sustainable.

This information note summarizes the state of livestock farming in the Orinoco region and the conditions that combine there to develop GANSO (abbreviation for sustainable livestock farming in Spanish, *Ganadería Sostenible*), an innovative technical and financial assistance program aimed at a transformation to low-carbon and sustainable livestock farming that embraces productive, economic, social and environmental factors.

Assessment of livestock farming in Colombia's Orinoco region

The Colombian Orinoco region possesses climatic, physical, political and cultural characteristics that have historically made it a livestock farming area. Currently, the region covers 255,000 Km² (22% of the country's surface), which is mostly occupied by livestock (55%), which compares with just 1.3% occupied by agriculture. It is an area in which four of the country's administrative regions converge (Arauca, Casanare, Meta and Vichada) and is mainly made up of floodable savannahs, flat alluvial areas, dissected alluvial areas and piedmonts, in addition to a smaller proportion of forest transitions, protected areas and a mountain range.

According to information from the Bovine Census (ICA, 2018), the Orinoco region is home to 20.3% of the national bovine population. Casanare has the highest number of livestock (1,992,767), followed closely by Meta (1,948,553), then Arauca with 1,162,032, and finally Vichada with 258,820.

The main focus of the activity in the region is breeding of livestock for meat. However, it also contributes an important amount to national milk production, especially in the piedmont area and the Andean transitions where both meat and milk are produced.

Towards the piedmont zone, which is on the west and south of Meta, there is a wide strip of introduced or improved pastures, where the carrying capacity (number of animals per unit of area) is higher than the regional average. In contrast, the native savannahs, that have a limited supply of forage, low nutritional quality and high fiber content (due to little or no management), have a reduced carrying capacity.



<http://ganso.com.co/>

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Thank you!

Ana María Loboguerrero

Research Director – Climate Action

a.m.loboguerrero@cgiar.org



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[Transformation Report](#)
[GFS article](#)