Agriculture R&I: a key contribution to the implementation of SDGs

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Climate Change, Agriculture and Food Security

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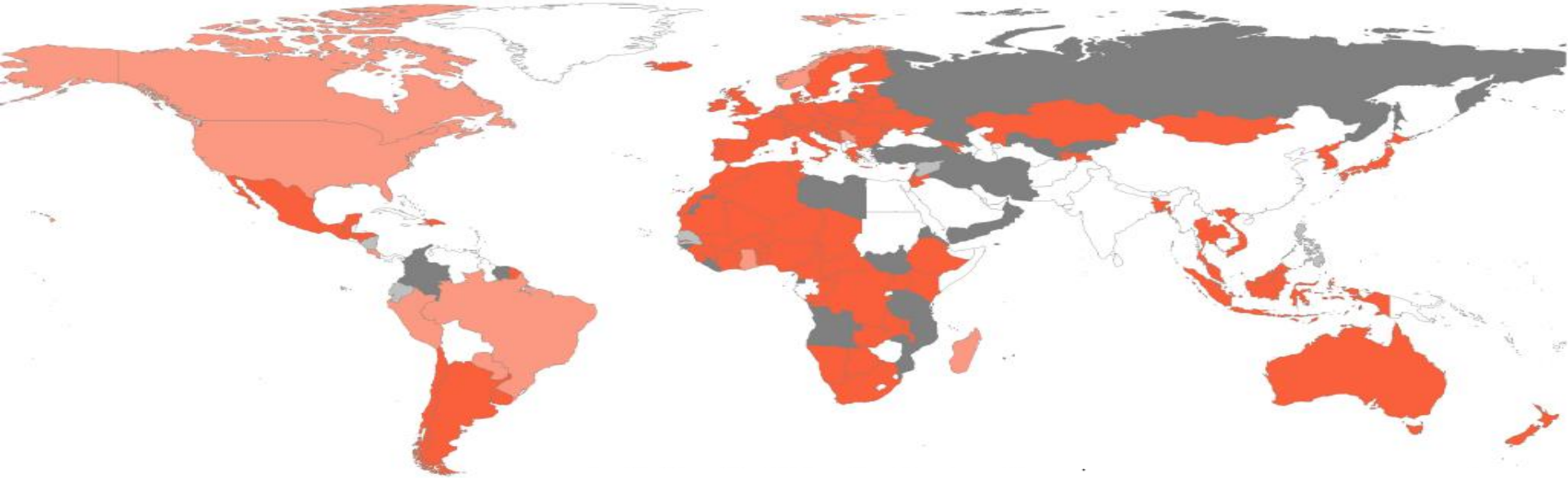
Outline

- Great opportunity for action on global change
- Challenges are immense
- Trade-offs are considerable
- Need an agri-food system transformation
- Need a transformation in our innovation systems

Agriculture in NDC mitigation priorities



98 countries
13 countries

- GHG reduction target specifically includes agriculture
- Economy-wide GHG reduction target
- No GHG reduction target, or excludes agriculture
- Joined/ratified but no NDC
- Not joined/ratified

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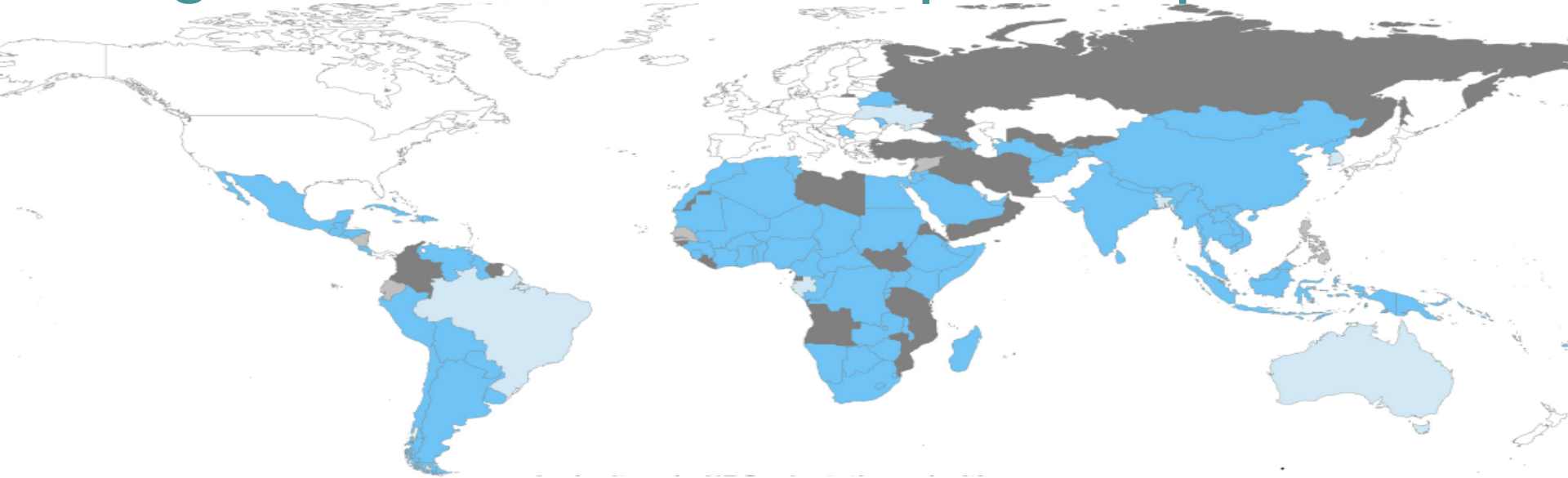
Agriculture in NDC adaptation priorities



110 countries

- Adaptation priorities include agriculture
- Adaptation priorities do not include agriculture
- NDC does not cover adaptation
- Joined/ratified but no NDC
- Not joined/ratified

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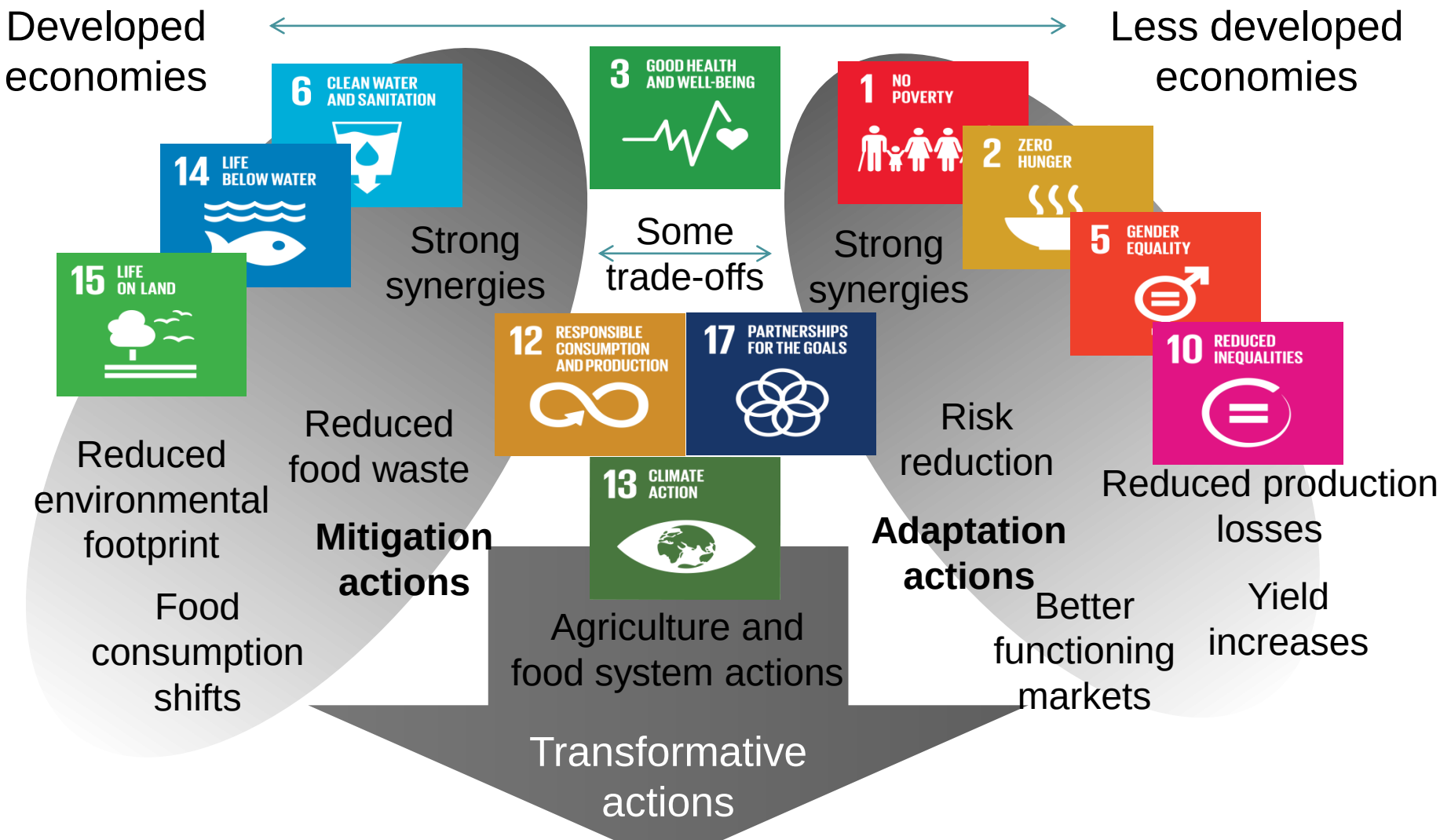
Need to reach 500 million smallholders by 2030

I GT reduction target (2030)
Current technologies can only do 20-40%

Up to 40% gender disparity
in agricultural productivity
in some countries

420 million youth in Africa
- two-thirds unemployed/vulnerably employed
- one in six in wage employment

Age group will nearly double by 2050


Developed economies
Less developed economies
6 CLEAN WATER AND SANITATION
14 LIFE BELOW WATER
15 LIFE ON LAND
3 GOOD HEALTH AND WELL-BEING
1 NO POVERTY
2 ZERO HUNGER
5 GENDER EQUALITY
10 REDUCED INEQUALITIES
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
17 PARTNERSHIPS FOR THE GOALS
13 CLIMATE ACTION
Strong synergies
Some trade-offs
Strong synergies
Reduced environmental footprint
Reduced food waste
Food consumption shifts
Mitigation actions
Risk reduction
Adaptation actions
Reduced production losses
Better functioning markets
Yield increases
Agriculture and food system actions
Transformative actions

Need an agri-food transformation

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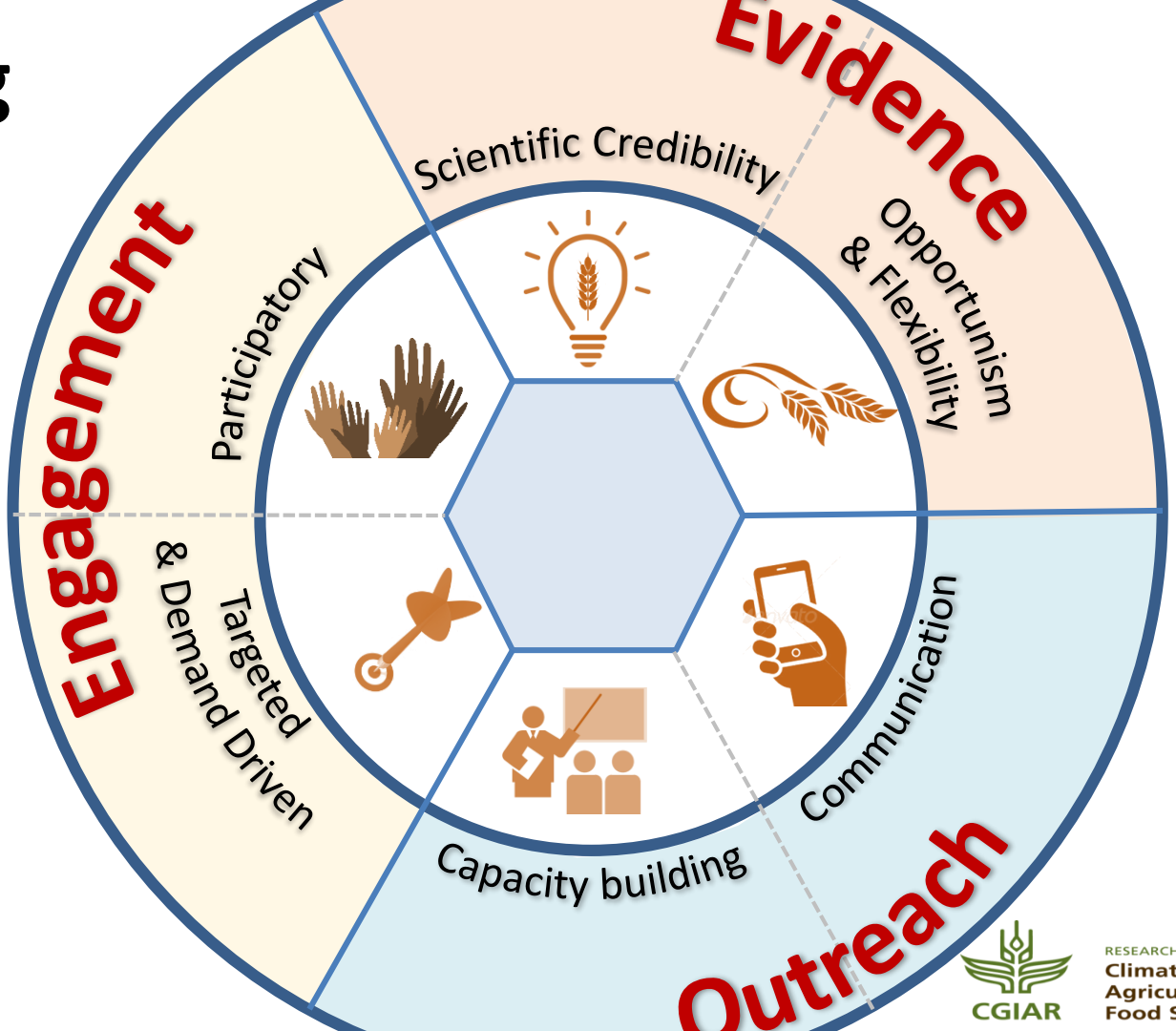
Context-specific actions tailored to socio-economic and agro-ecological context

- Capacity, and enabling policy and institutions
- Strong farmer organisations and networking
- Climate-informed advisories and early warning
- Digital agriculture
- Climate-resilient and low-emission practices and technologies
- Different development pathways
- Credit and insurance
- Expanded private sector activity and PPPs

Changing R&I



Three thirds principle

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E.g. Outcomes from new approaches to R&I

- 7 million farmers getting climate-informed advisories in Senegal
- New insurance indices being used for millions of farmers in India
- USD 500 million of investments by major development agencies climate-proofed

Conclusions

- Great opportunity for action on global change
- Challenges are immense
- Trade-offs are considerable
- Need an agri-food system transformation
- Need a transformation in our innovation systems

Research topics

- Creative finance
- PPPs – what works?
- Policies and incentives
- Climate-informed advisories
- Digital connectivity and farm-specific extension
- Farmer networks for adaptation and change

- Innovation systems

Led by CIAT
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