CONSERVATION AGRICULTURE

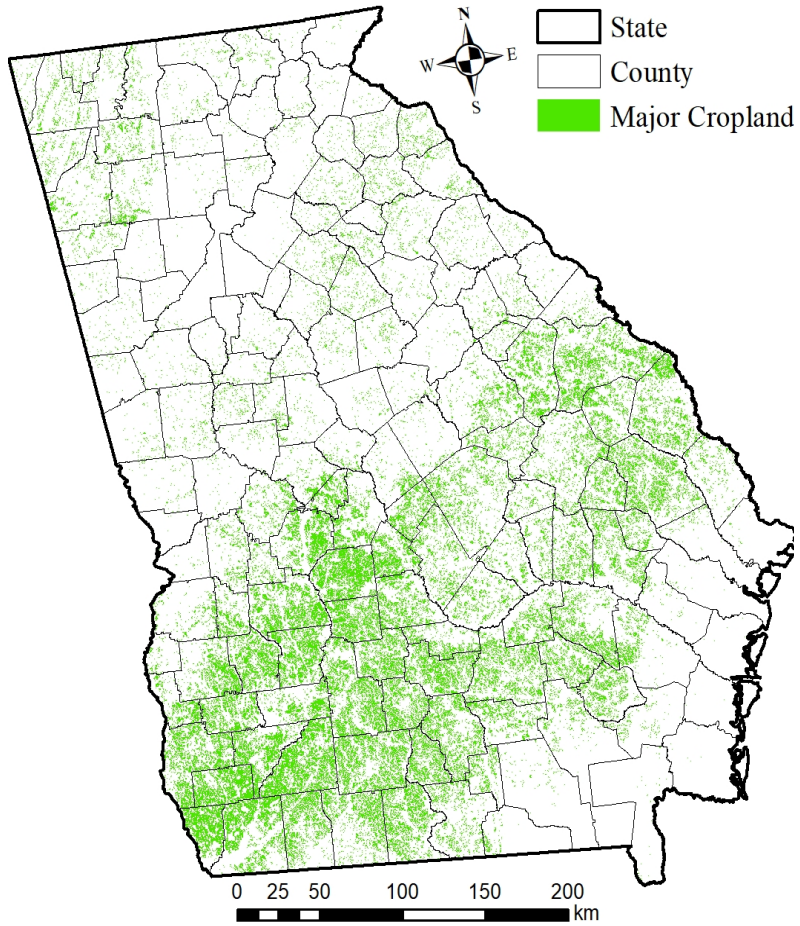
Current Capacity:
0.75 Million ha cropland

Achievable Potential:
Reduction of
0.5 Mt CO_2 in 2030

Technical Potential:
Reduction of
0.7 Mt CO_2 in 2030

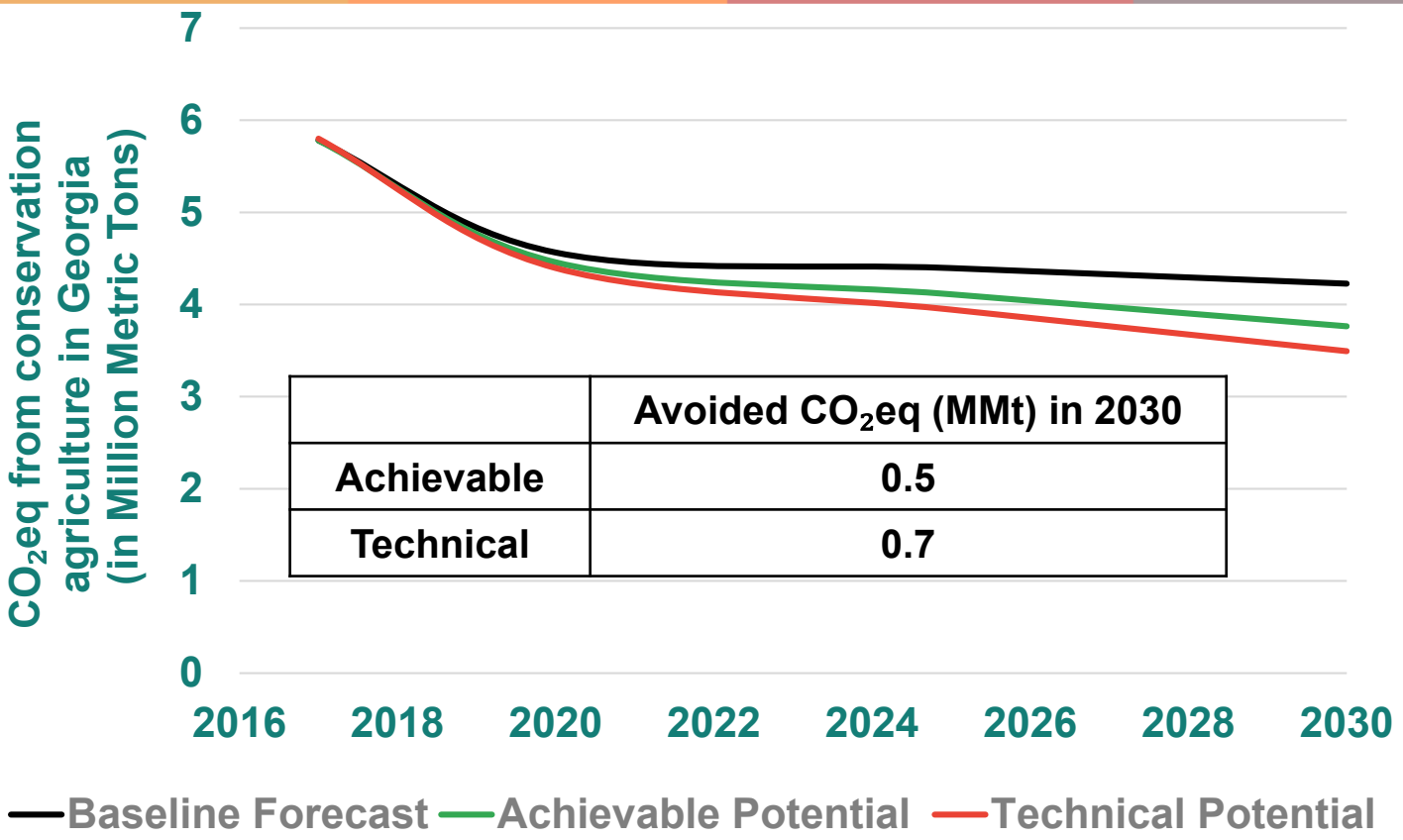
Carbon Abatement Cost: Ranges from 2 to 7 (2017$/t $CO_{2\text{-}e}$ in 2030

- In 2017, Georgia has about 1.5 million ha of cropland and majority of the cropland are distributed in the southern region.
- On average, about 50% of the current cropland are under conservation agriculture practices in Georgia (about 1.5% adoption rate).
- Higher cost to certain crops, lack of awareness and credible information, higher uncertainties are key obstacles for fully adopting conservation agriculture practices in Georgia.



Conservation Agriculture

Future trends: Base line, achievable and technical potential



	Avoided CO_2eq (MMt) in 2030
Achievable	0.5
Technical	0.7

Baseline = The current adoption rate of 1.5% annual growth decreases about 0.03 $MtCO_2$-e in yearly emissions by 2030.

Achievable Potential = Reduction of **0.46 MMtCO $_2$-e** in 2030 by doubling the baseline adoption rate between 2020 and 2030.

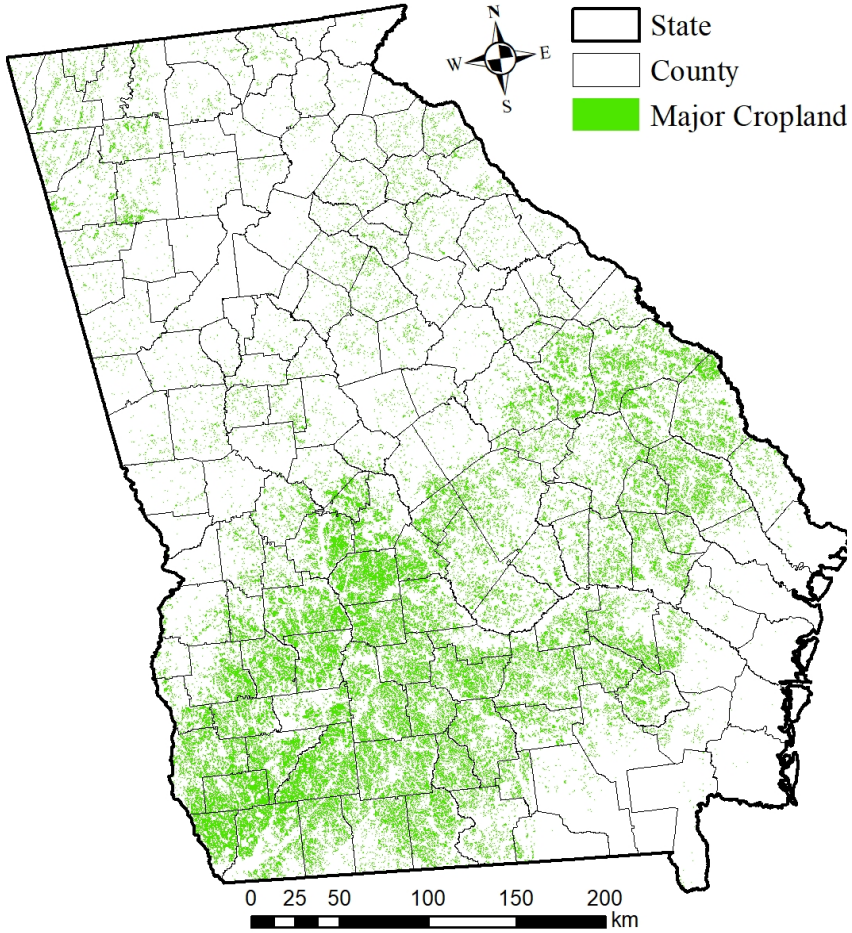
Technical Potential = Adoption of 100% cropland into conservation agriculture practices yields **0.7 $MMtCO_2$-e** reduction in 2030.

About 0.75 million ha of cropland are currently under conservation agriculture
An additional 0.75 million ha of cropland available in Georgia to adopt conservation agriculture

+ Enhanced soil health
+ Less soil erosion
+ Less water, soil and air pollution
+ Low food prices

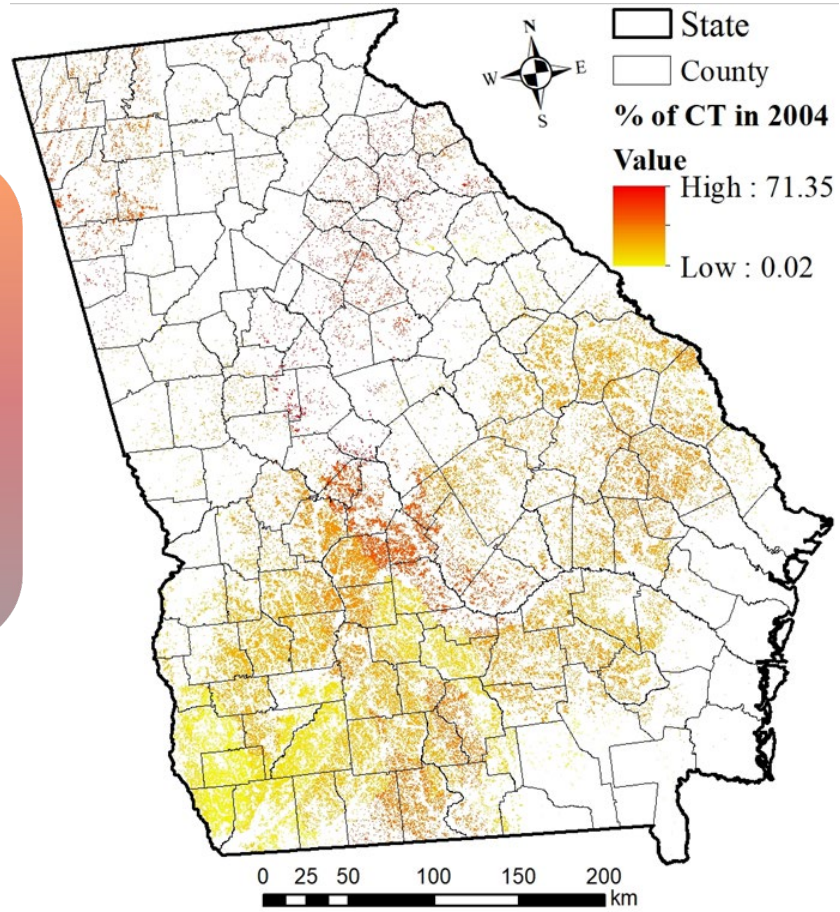
Conservation Agriculture Achievable Potential

Substantial reductions possible by 2030



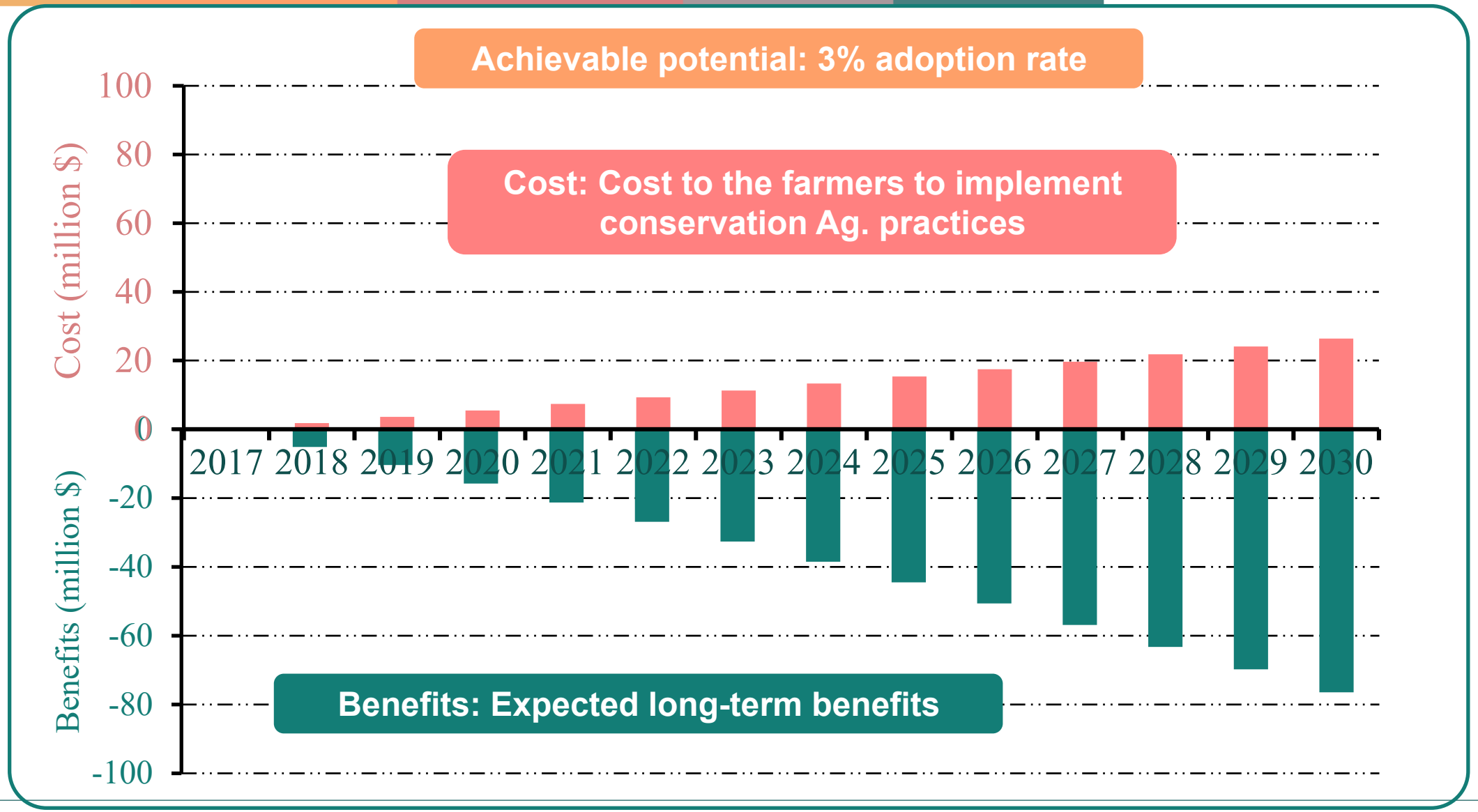
About 3% adoption rate of conservation agriculture by 2030

0.6 million ha of cropland shifts to conservation agriculture practices

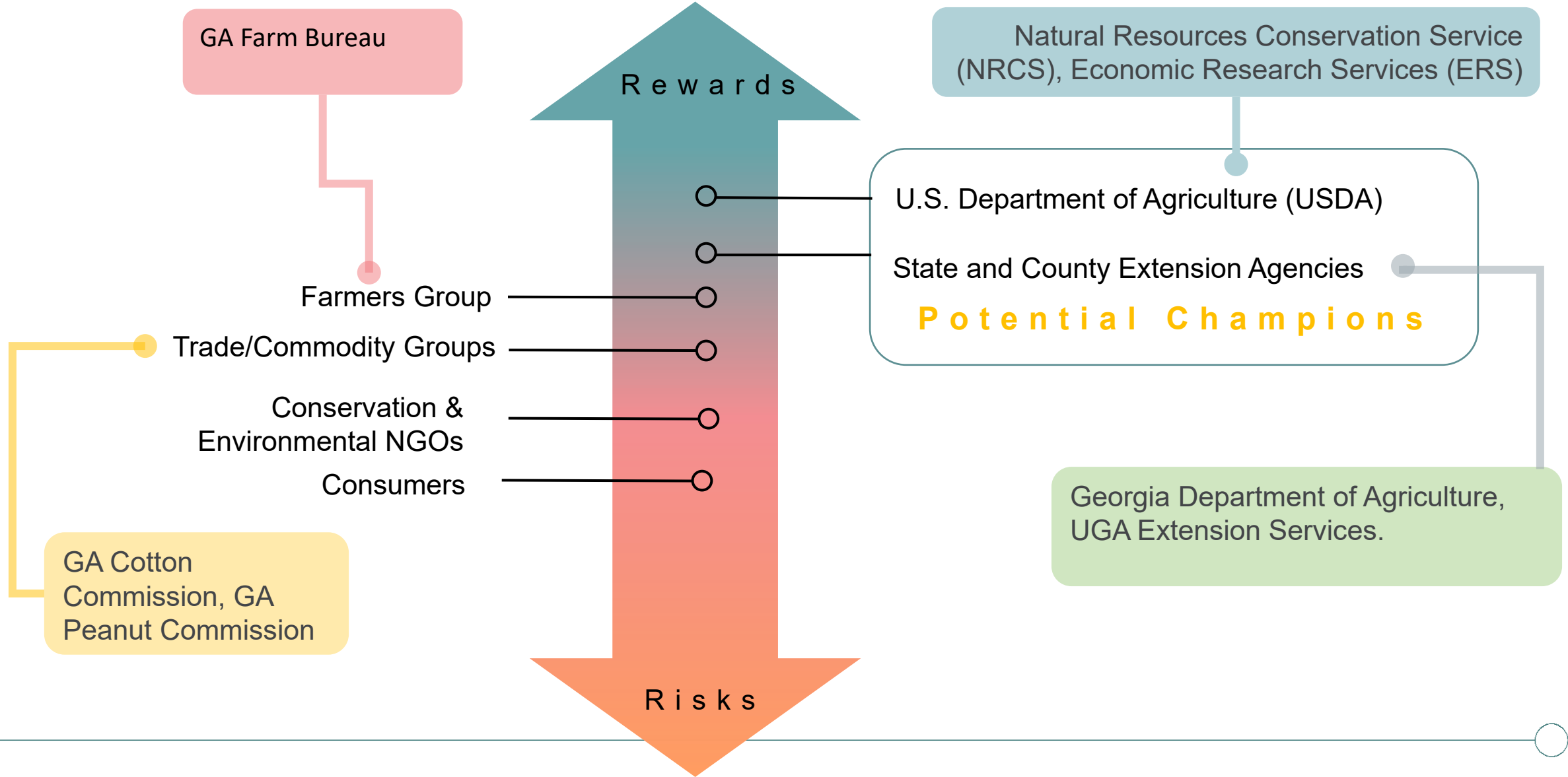


Costs and Benefits of Adopting Conservation Agriculture Practices

Improvements in soil health and carbon sequestration leads to high net benefits



Stakeholder Analysis of Conservation Agriculture



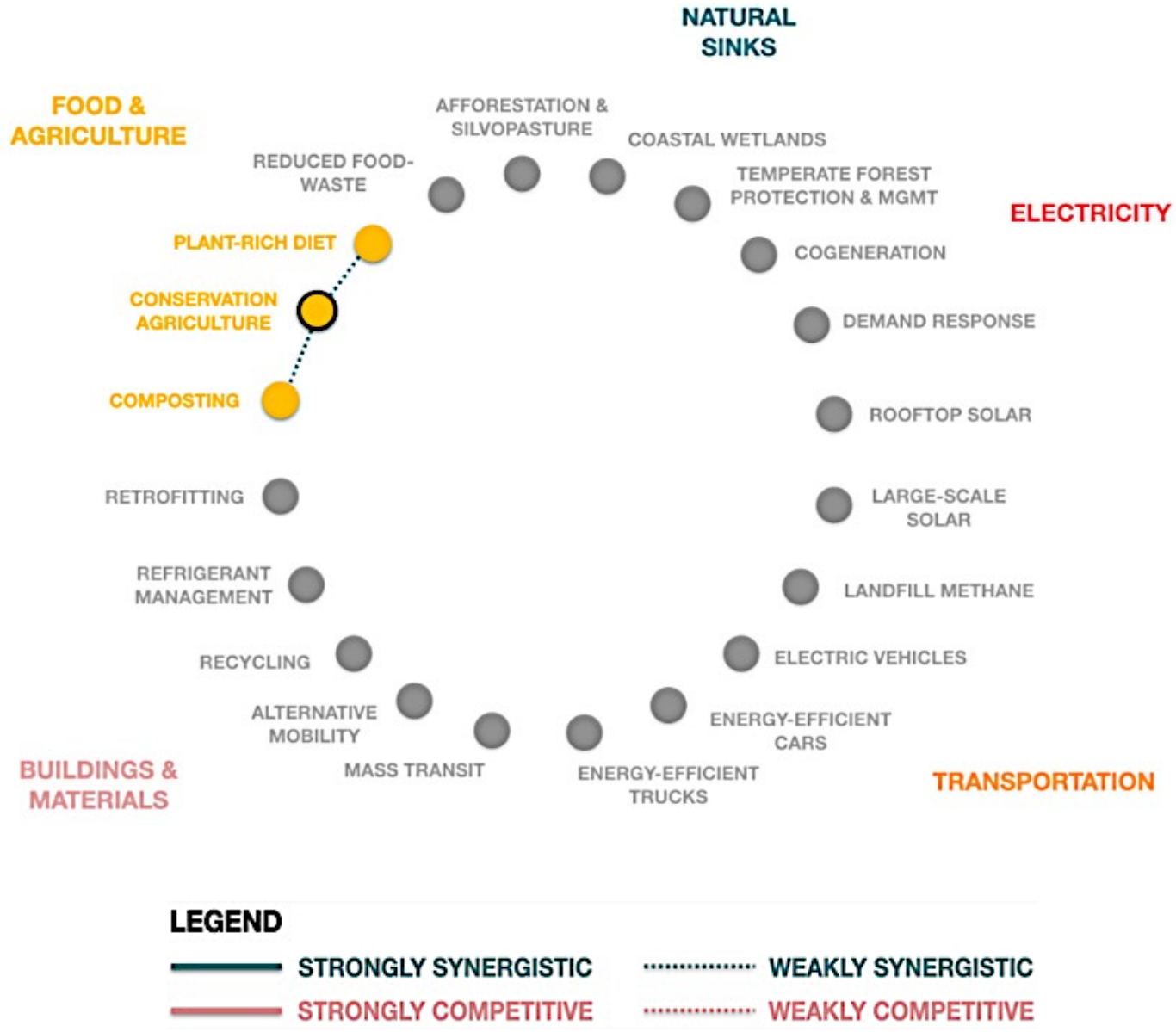
Conservation Ag. Solution Interactions

Composting

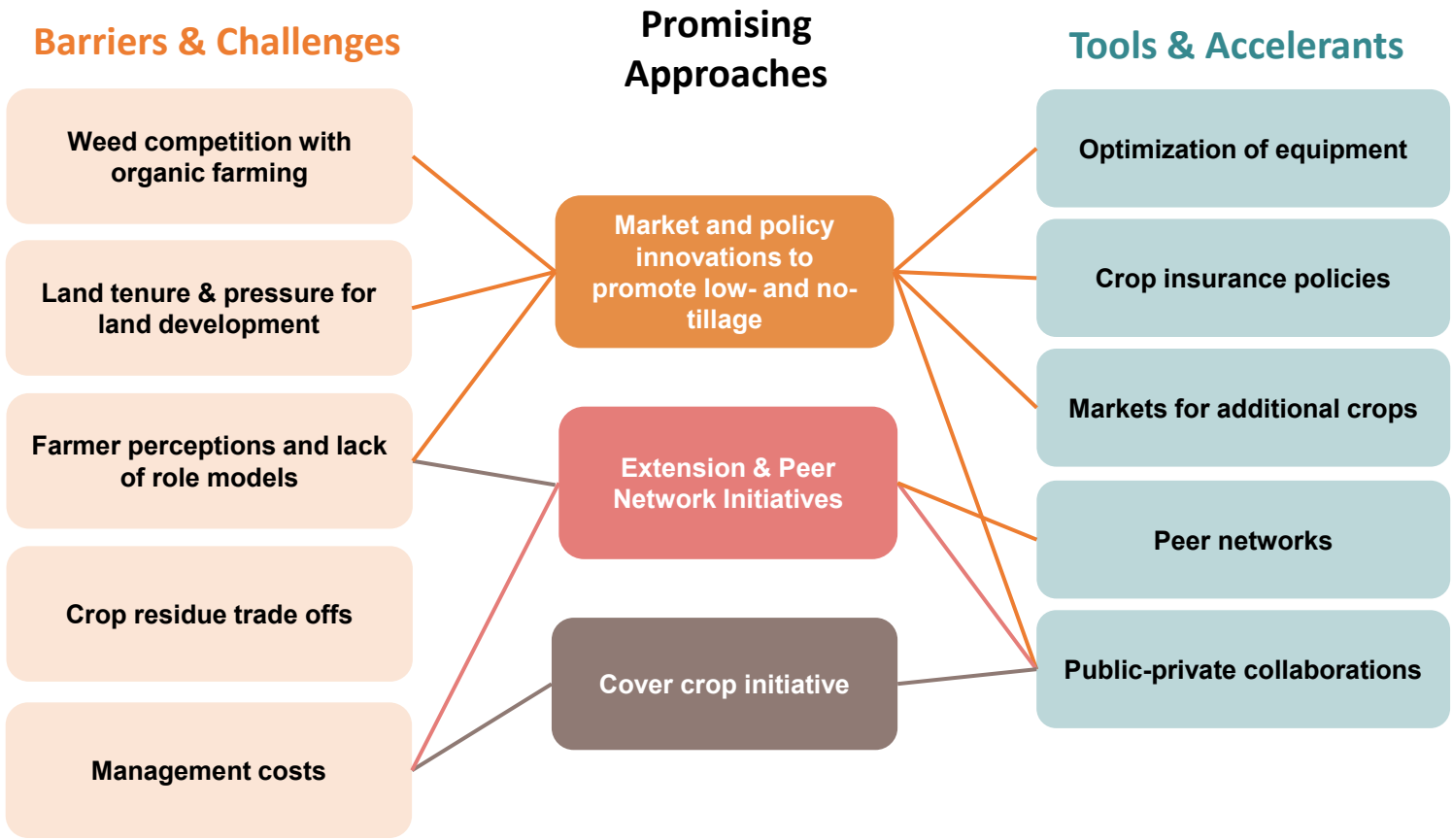
- Conservation agriculture practices benefits from composts by displacing fossil-derived fertilizers

Plant-Rich Diet

- Conservation agriculture practices improve crop yields and reduce carbon footprints of plant-rich foods.



Conservation Agriculture: Challenges and Promising Approaches



Promising Solution for Cropland in Georgia

Source: UGA Extension

- **Improved soil health** enhances the long-term soil fertility for food production
- **Minimizes nutrient losses** by maintaining soli cover with minimal soil disturbance/erosion
- **Decarbonizes the soil** by crop rotation and leaving the residues in the soil.
- **Increased productivity** is expected in some crops due to increased soil organic matter and results in lower food prices.

DRAWDOWN GA

Corresponding author:

Dr. Sudhagar Mani
Professor, School of Chemicals, Materials, and Biomedical Engineering
University of Georgia
Phone: 706-542-2358
Email: smani@engr.uga.edu
0155F Riverbend Research Center North
110 Riverbend Road, Athens, GA, 30602

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