

Analytical Tools

TO ASSIST CSA
POLICY MAKING



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CLIMATE-SMART AGRICULTURE COMPONENTS

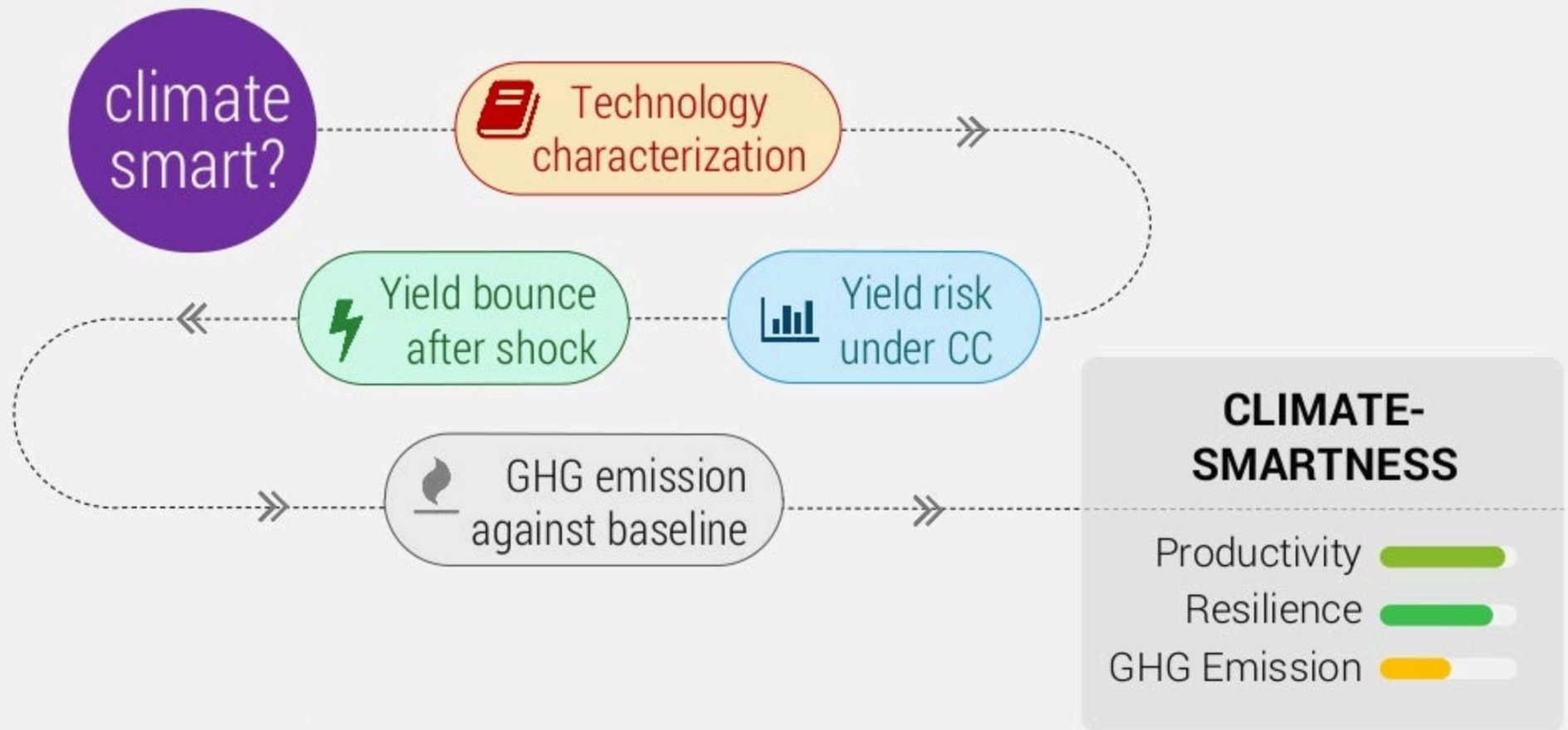


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TECHNOLOGY ASSESSMENT



HarvestChoice
BETTER CHOICES, BETTER LIVES

AgMIP

DSSAT

DNDG-ART

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TECHNOLOGY ASSESSMENT



Decision-makers will need to choose technologies or investments accounting for **tradeoffs**.

➡ Need for **multi-objective decision-making tools** that rationalize the evaluation of choices.

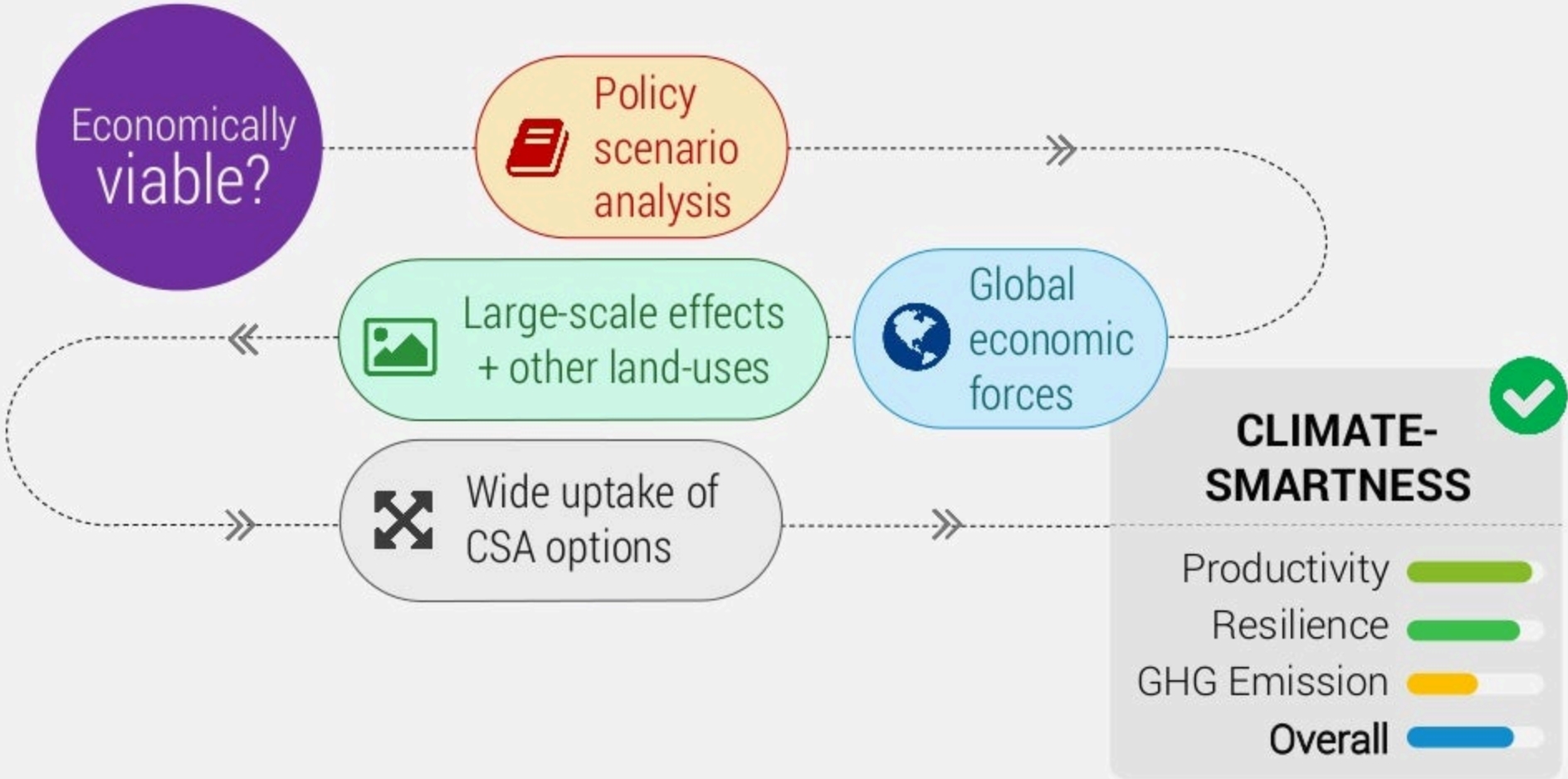
ECONOMIC FEASIBILITY ASSESSMENT



WHAT DOES **CSA** MEAN FOR...

- the country as a whole?
- other non-ag land-uses?
- the global economy?

ECONOMIC FEASIBILITY ASSESSMENT



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SUPPORTING **TOOLS**

WHERE

Geospatial
Baseline &
Targeting

WHICH

Commodity
Priority
Setting

WHAT

Technology
Characterization
& Inventory

+

Integrated
Impact
Assessments

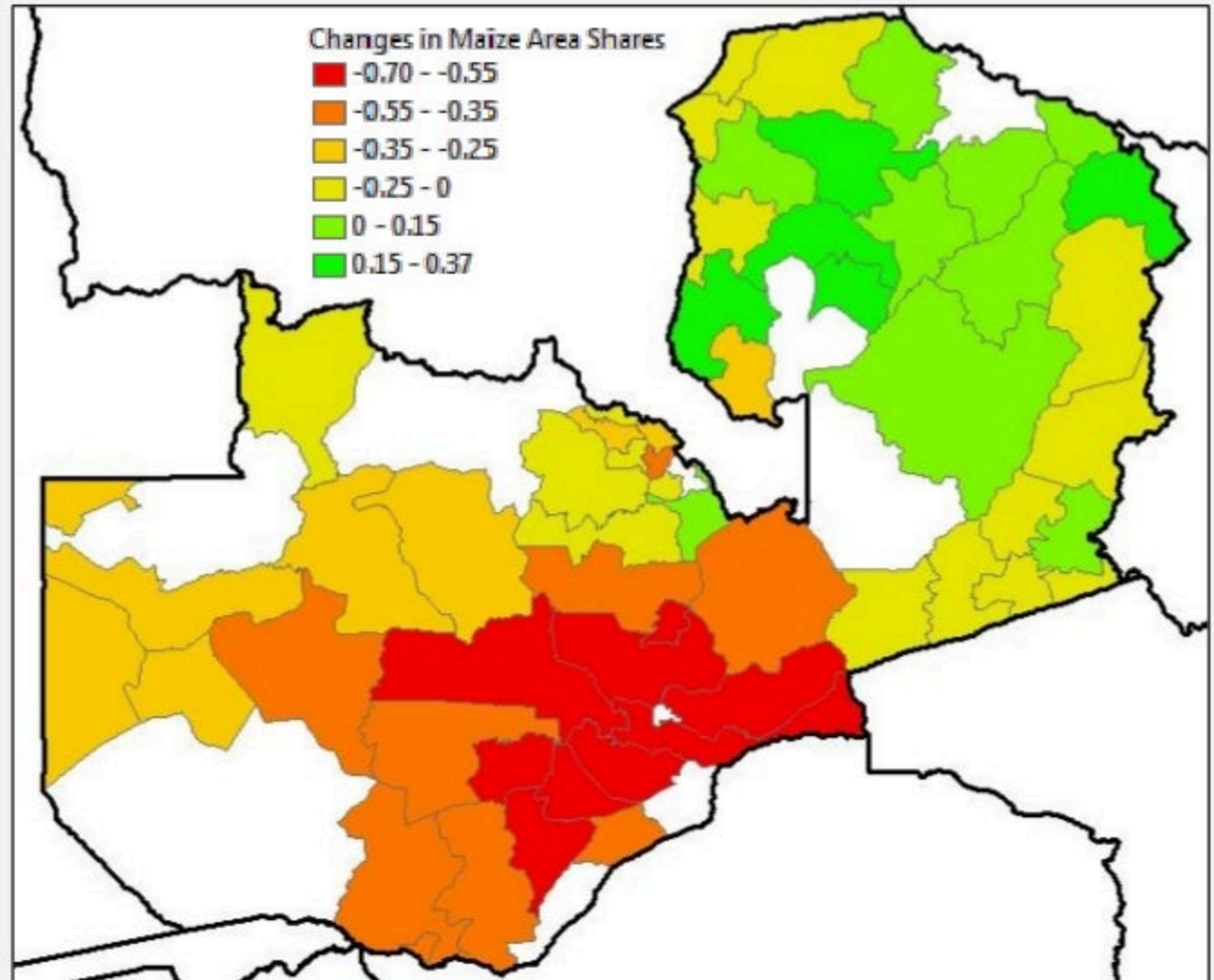
HOW

Policy
Simulation
& Scenario-
Making Tools



POLICY SIMULATION EXAMPLE

Simulating the **aggregate effects** of crop choices by individual risk-averse farmers due to climate change.



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POLICY-MAKING **ENABLING ENVIRONMENT**



Prioritizing agricultural commodities according to CSA criteria



Stakeholder engagement and scenario exploration



Economic effects of wide-scale adoption of CSA



Evaluation of long-term economic & financial sustainability

SUPPORTING TOOLS

EXAMPLES



Rainfall and
Drought
History

The screenshot shows a "New Alliance Commodity Target Setting and Prioritization Worksheet". It contains a table with the following data:

| Key Outcome Factors | Factor Weight | Commodity Related Sub-factors (Process) Contributing to Outcome | Sub-Factor Weight | Sub-factor Value | Priority |
|------------------------------------|---------------|--|-------------------|------------------|----------|
| AGRICULTURAL CAPACITY | 0.800 | Growth in output due to intervention | 0.800 | | High |
| | | Projected growth in demand | 0.800 | 1.000 | High |
| IMPORTANCE TO THE MARKET | 0.100 | Share of national production by poorest 40% (bottom 2 quintiles) | 0.800 | | Medium |
| | | Importance to diet of poorest 40% | 0.800 | 1.000 | Medium |
| NATIONAL FOOD SECURITY & NUTRITION | 0.100 | Increased energy availability with intervention | 0.800 | | Medium |
| | | Increased protein availability with intervention | 0.800 | 1.000 | Medium |
| ENVIRONMENTAL SUSTAINABILITY | 0.100 | Increased water consumption with intervention | 0.800 | | Low |
| | | Increased soil nutrient extraction with intervention | 0.800 | 1.000 | Low |
| PRIVATE SECTOR OPPORTUNITIES | 0.100 | Share of area under improved/consolidated seed | 0.800 | | Low |
| | | Share of output marketed | 0.800 | 1.000 | Low |

Commodity
Priority
Setting Tool



AgriTech
Toolbox

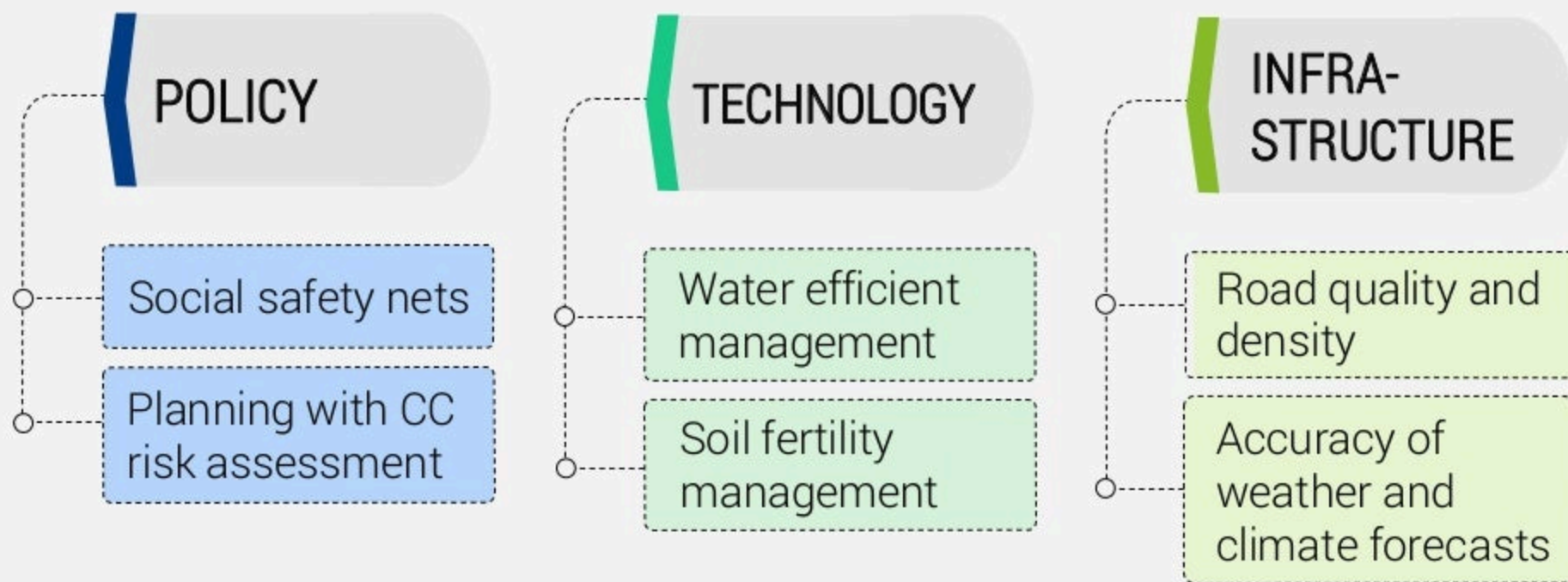
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CSA **INDICATORS** FOR COUNTRY LEVEL

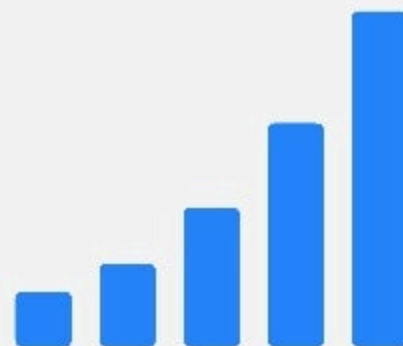
EXAMPLES





CSA forces us to shift the emphasis from policies that aim at a single target to policies that have **multiple objectives**.

CSA changes the planning time horizon: policies and analyses necessarily span **long time periods** of 20-30 years.





Therefore, CSA requires the use of **integrated modeling frameworks** that work at multiple geographical scales to:

- 1) Prioritize investments and provide an accurate understanding of **tradeoffs**
- 2) Design **long-term** economically and politically sustainable policies





More importantly, given its **complexity**, CSA requires an even **closer collaboration** between policy makers and research community.

