Climate Smart Investment Plan in Bangladesh:

Foresight modeling for informed investment decisions

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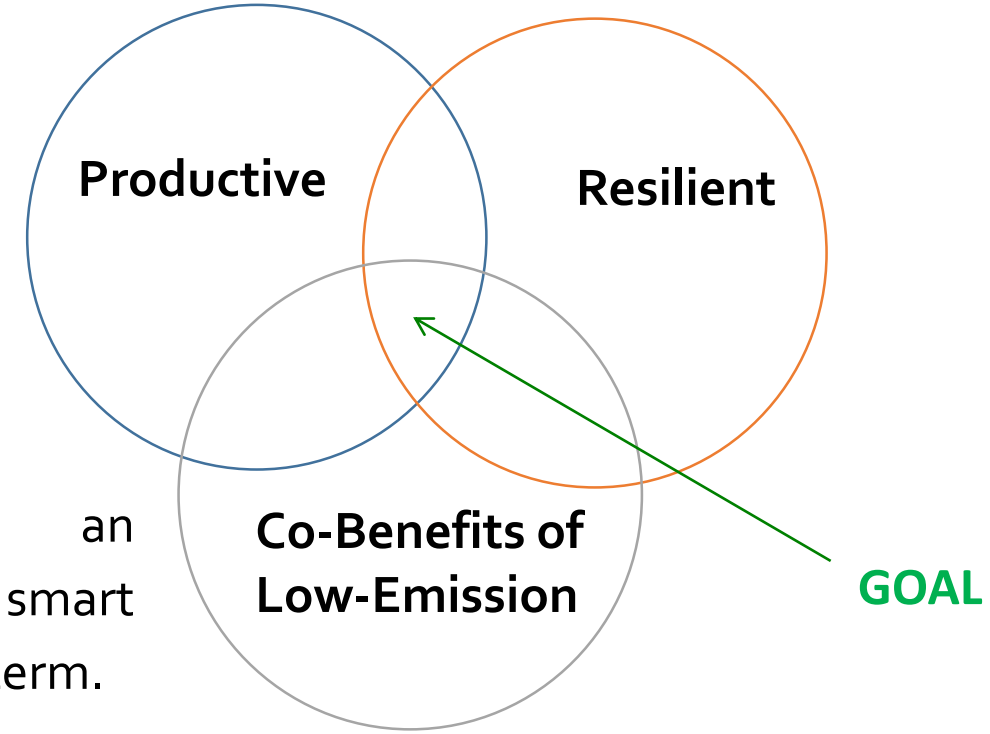
Outline

1. **CSIP objectives**
2. **CSIP approach and toolbox**
3. **Results of the inception workshop**
4. **Model design**
5. **Way forward**

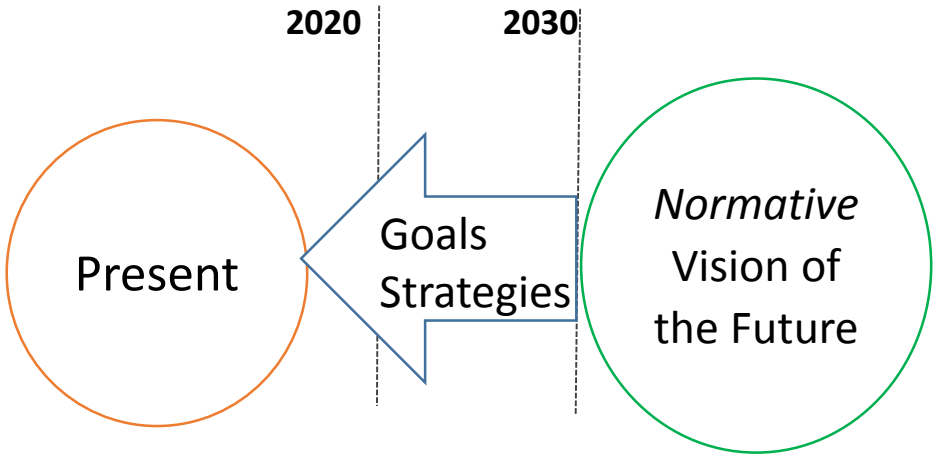
Climate-Smart Investment Plan (CSIP) for Bangladesh

- **Ensuring food security in Bangladesh in the face of climate change will require agriculture to take a sustainable, resilient, high-productive and low-emission approach**

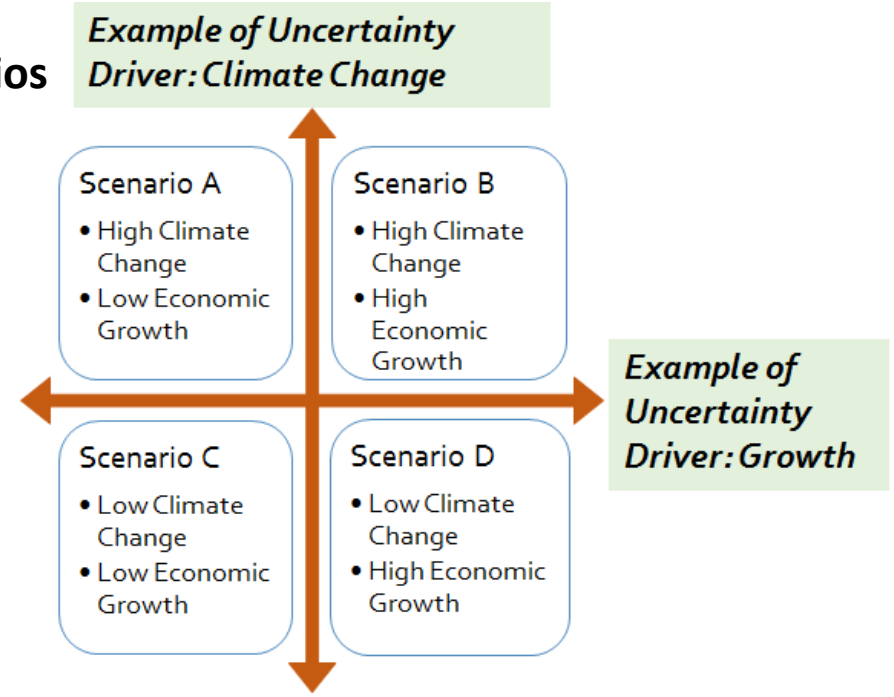
- <u>CSIP Objective:</u>
  - Build capacity to develop an agriculture sector that is climate smart in the short and medium/longer term.
  - Build and use a simplified agriculture sector model to develop a set of robust, quantified strategic priorities for investment and policy.



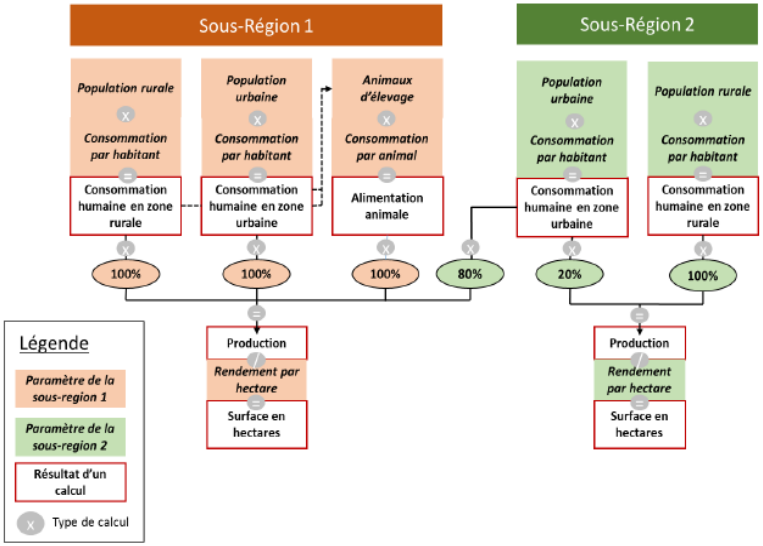
I. Vision and Strategies



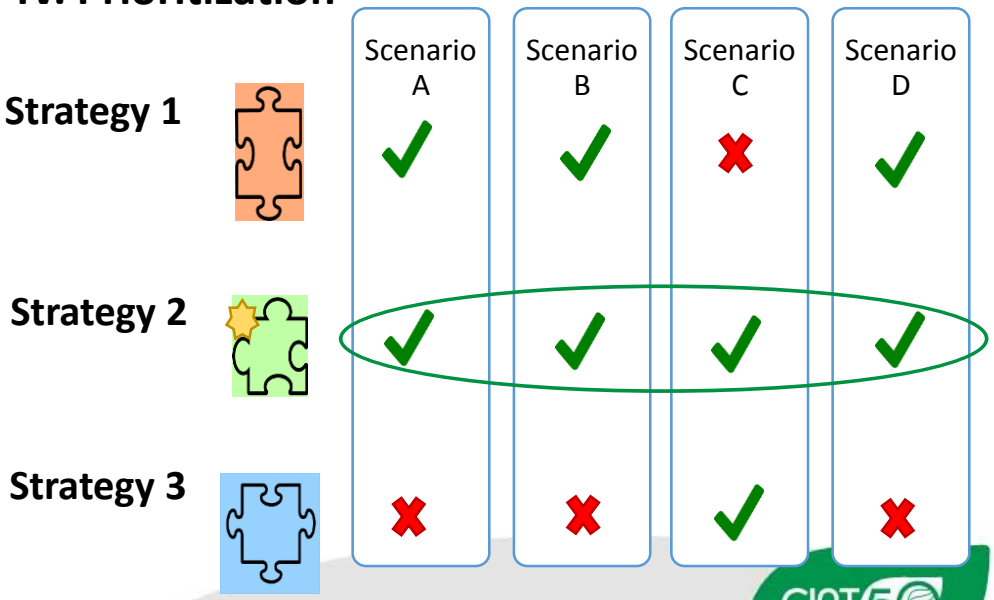
II. Scenarios



III. Agric. Sector Model



IV. Prioritization



Our vision, a sustainable food future

CIAT 50 1967-2017

First results: Inception Workshop in Dhaka

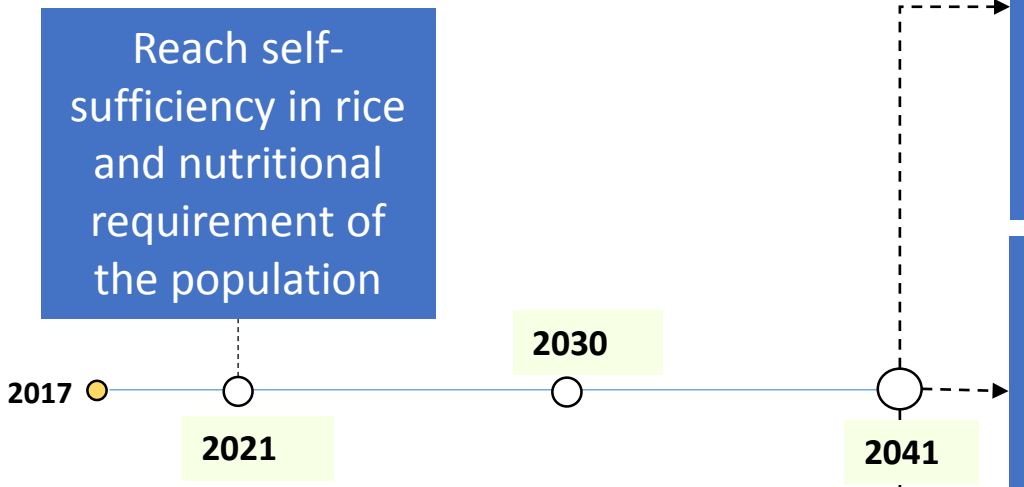
1. Develop a long-term vision for the agriculture sector in Bangladesh.

2. Define key measurable goals associated with this vision.

3. Define policies and technologies that will help us achieve these goals.

4. Identify key drivers of uncertainty that might influence the agricultural sector development.

Workshop results: Vision



Productivity
"Increase crop, fisheries and livestock sustainably to meet the nutritional demand of all people, especially the marginal and smallholder farmers, to ensure food and nutrition security."

Adaptation
"Adapt and build resilience to reduce losses due to climate change-driven shocks, change, and variability."

Mitigation
"Include mitigation of GHG emissions as key component in sector development and investment plans to minimize the contribution to climate change."

Workshop results: Goals

1 - PRODUCTIVITY

1.1 Increase yields by 40% through using **high yield, stress tolerant, micro-nutrient enriched varieties** in profitable cropping patterns.

1.2 By 2041, the adoption rate of **climate smart technology** has reached 50% of farmers' households.

1.3 **Enhance capacity building** of 20% farmers through effective training by 2021 and 100% by 2041.

2 – ADAPTATION

2.1 Create **policy incentives for adoption** of adaptation technologies and practices.

2.2 Policies that support the **conversion of agricultural waste into farm inputs**, including biogas, bioenergy, and fertilizer.

2.3 **Agricultural insurance program** (crop, livestock, forestry, and fisheries).

3 - MITIGATION

3.1 **Reduction in emission of N_2O** by 30% by 2030 using compact urea.

3.2 **Reduce 5% GHG emissions** through improved livestock feed and waste management by 2021.

3.3 By 2040, **reduce 10% of energy-related** emissions by introducing renewable energy.

Source: Workshop breakout sessions

Workshop results: Strategies

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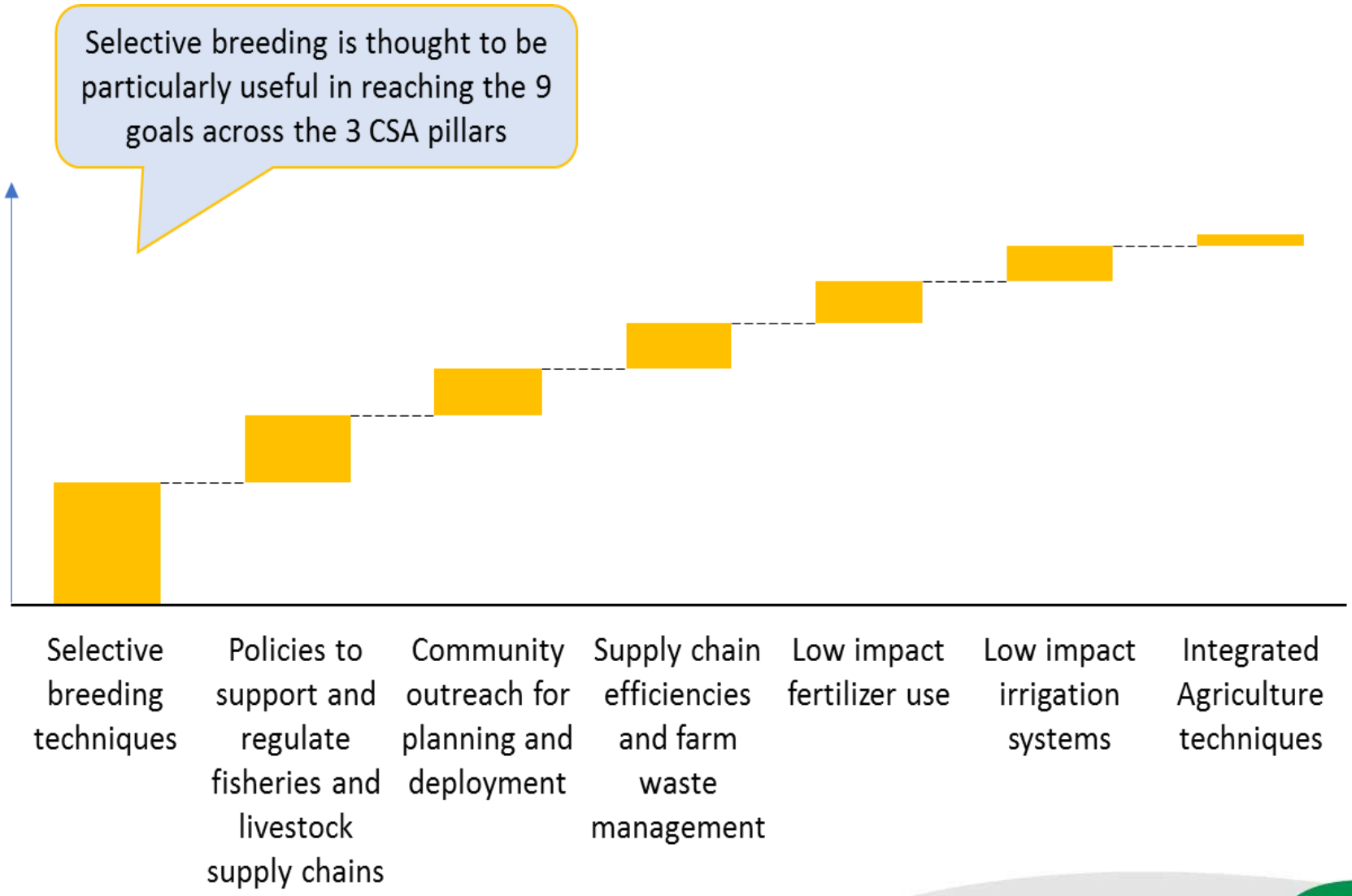

Overview of components in model

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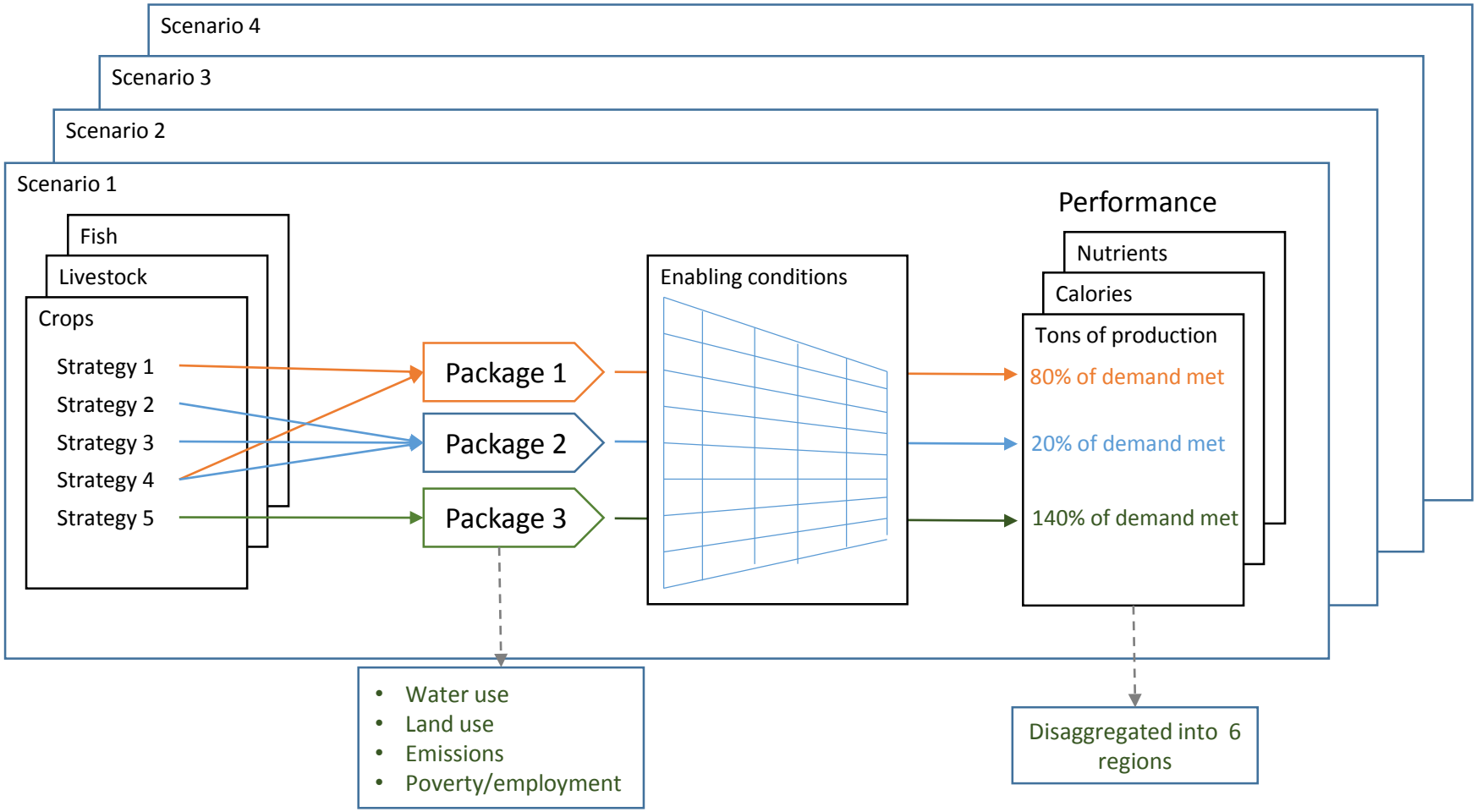

Model design

- **Outputs**: "Overview of production in key agricultural commodities under different scenarios and implementation of different strategies – and their externalities."
- Production (productivity, land use) of different commodities, by division:
  - **Crops**: Rice, Jute, Maize, Pulses, Oilseeds, vegetables, wheat, spices, potato
  - **Livestock**: Cattle (dairy & meat, mixed), small ruminants and chickens
  - **Fish**: Aquaculture and wild fisheries
- Impacts on water use, poverty, emissions

- **Technologies to be tested in the model**:
  - **Crops**: high-yielding, stress tolerant varieties; deep placement of urea; solar-based irrigation; AWD; organic fertilizer use
  - **Livestock**: improved breed; improved feeds; composting and biogas production; improved husbandry and health care;
  - **Aquaculture**: cultivation of small indigenous fish; year-round aquaculture; integrated rice-fish farming

Next step: Policy Workshop

Prioritizing investment packages

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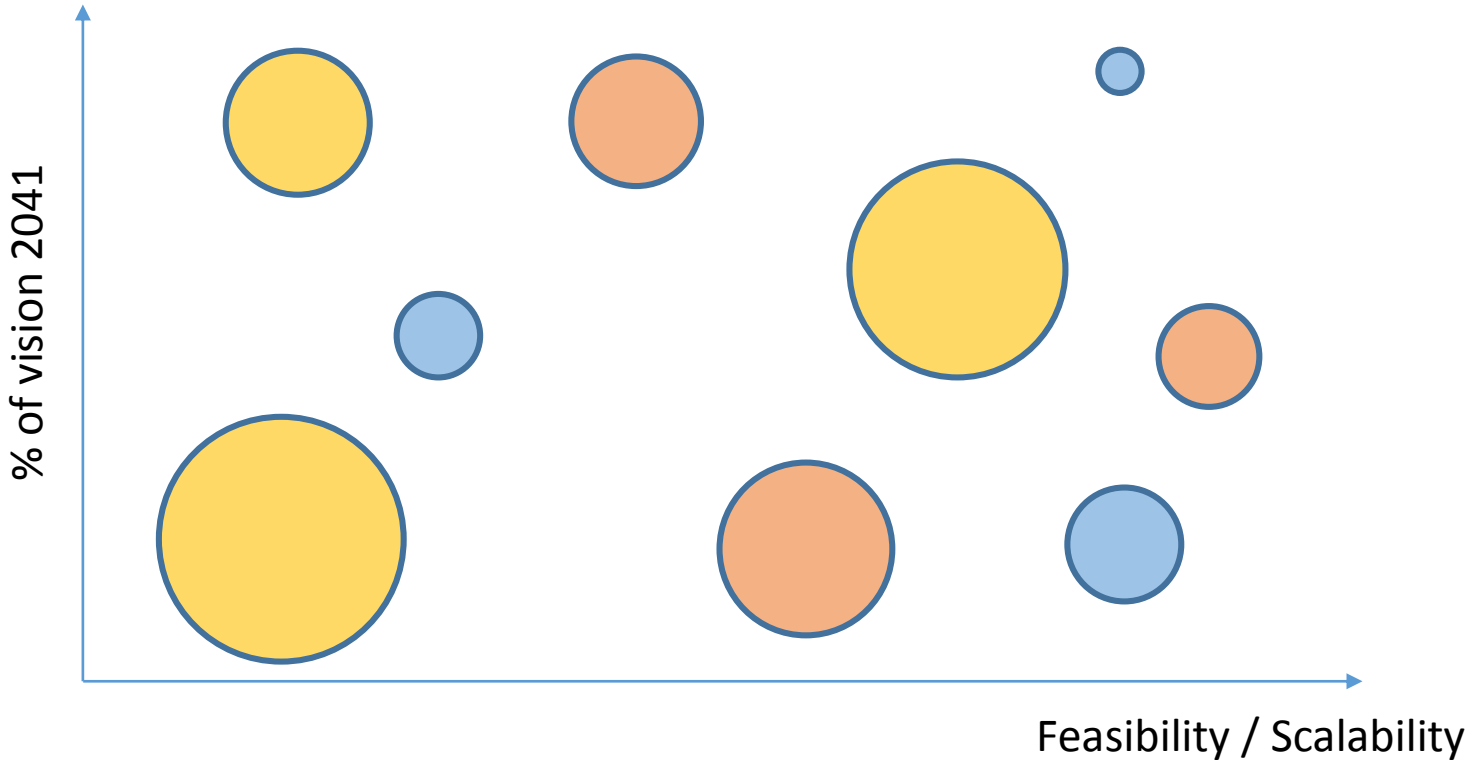
Robustness + other important decision-making dimensions

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