



# INVESTMENT REQUIREMENTS TO ACHIEVE FOOD SECURITY IN ASIA AND THE PACIFIC IN 2030

**ADBTA-9218 REG: Investment Assessment and Application  
of High-Level Technology for Food Security in Asia and the  
Pacific (50058-001)**

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# Outline

## ■ **Project Details**

- Rationale
- Objectives
- Methodology
- Activities
- Workplan
- Outputs
- Impact Statement

## ■ **Country Case Studies**

- Indonesia
- China

# PROJECT DETAILS

# Rationale

- ADB's Operational Plan for Agriculture and Natural Resources 2015-2020 - focused on investigating the importance of **agriculture and natural resources** (ANR) sector as key driver of **inclusive growth** and promotion of **food security** in Asia and Pacific
- Need to assess **investments** required in ANR to achieve economic growth and food security, including agricultural R&D, irrigation, rural roads, rail, electricity, and ICTs.

# Overall Objectives

- To estimate the **total investments** required in ANR sector by taking account the **changing climate** and ongoing economic and demographic **transitions** to **produce adequate food** to meet the demand in the region by 2030.
- To prioritize areas for investment in **China** and **Indonesia**.
- To suggest **actions** to be taken by governments and other stakeholders to mobilize new investments in the prioritized areas.

# Regions and country case studies

- **Regional analysis**
  - Central Asia
  - East Asia
  - South Asia
  - Southeast Asia
  - Pacific
- **Country case studies**
  - China
  - Indonesia

## Duration

- 12-person month, 2-year research activity



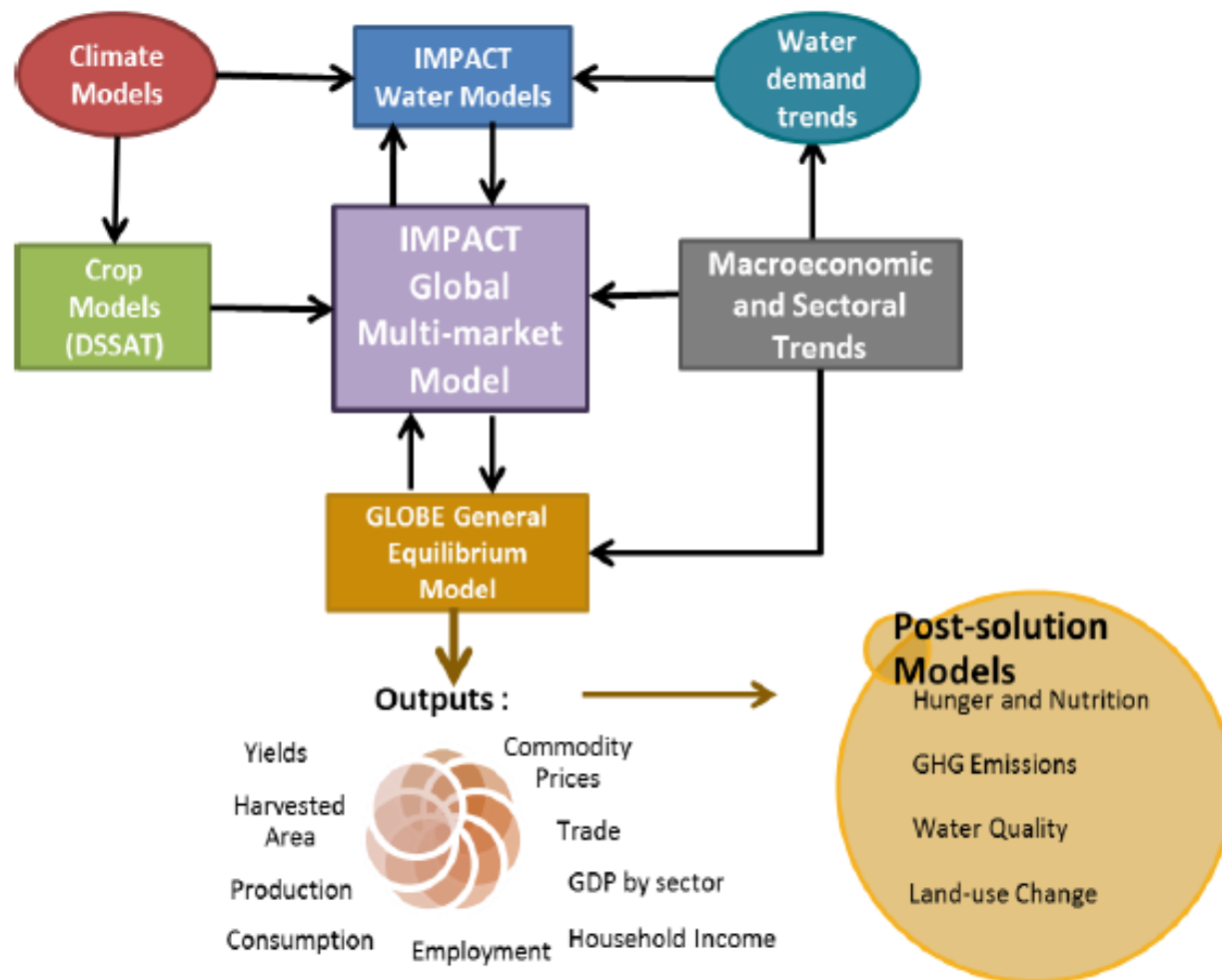
# Methodology: Regional Study

- Utilize a **global quantitative modeling** system to provide insights on baseline developments in global agricultural production systems, focusing on potential impact of climate change
- Explore **costs** and implications of **investments** for reducing hunger in Asia-Pacific
- Examine the **investment gaps**: comparing the investment needed and the current levels of investment.

# Modeling Framework: IMPACT

*International Model for Policy Analysis of Agricultural Commodities and Trade*

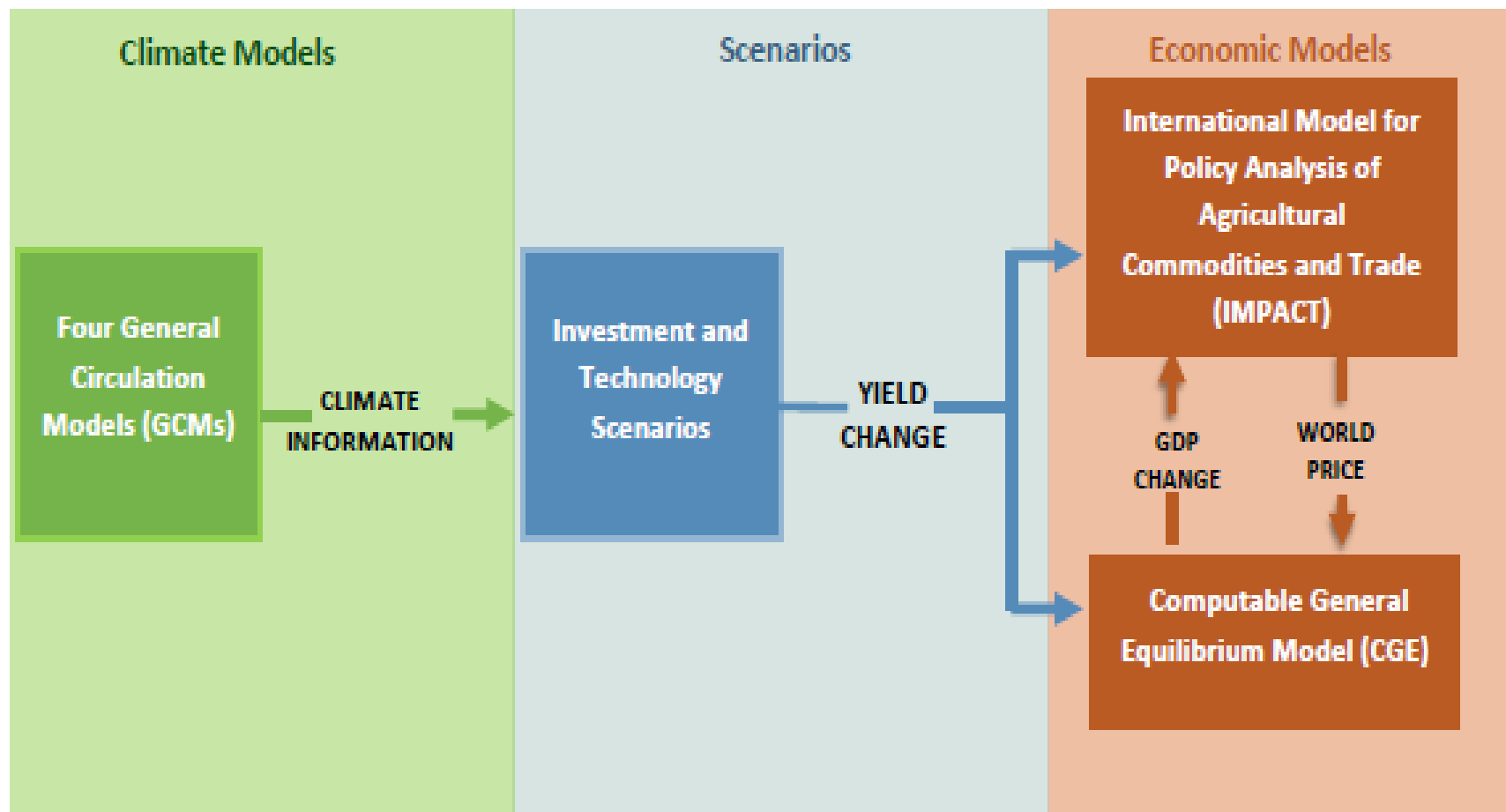
## Extended IMPACT modeling framework





# Climate Change

**Interlinked modeling system to assess the agricultural impacts of climate change on the economy**



# Activities

- Data collection (primary and/or secondary)
- Technical model and modeling exercises at the regional level
- Review of policy and institutional environment
- Country case studies
- Workshops/Meetings/Forum
  - Inception workshop
  - One-on-one meetings
  - Policy Forum

# Approved workplan of IFPRI project team, March 2017 – February 2019

N°	Activity	Months																											
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	n			
		M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F				
1	Proposal approval																												
2	Project management																												
3	Project Brief																												
4	Project research meeting																												
5	Inception Report																												
6	Country case studies with national consultants																												
7	Data collection and compilation																												
8	Modeling, projections and analysis of priority agriculture investment opportunities including ICTs and climate adaptation strategies to end hunger																												
9	Interim Report																												
10	Mid-Term Team Meeting																												
11	Review of current agricultural investments and climate adaptation strategies for Asia and Pacific																												
12	Analysis of agricultural policies and institutional structure in Asia-Pacific																												
13	Review and assess selected ADB's ongoing and pipeline investments in the agriculture sector																												
14	First Draft Technical Report																												
16	Preparation and Concluding Workshop																												
17	Final Draft Technical Report																												
n																													

# Outputs

- **Inception Report**

- **Interim Report**

- Progress of regional study
- Progress of case studies in China and Indonesia
- Plan of remaining activities

- **Final Report:**

- The investments required in agriculture at regional level and in the case study countries; for China, the investment will focus on ICTs used in agriculture.
- Considering changing climate conditions and economic and demographic transitions in medium (2025) and long-term (2030).
- Roles of national institutions, public and private sectors in prioritization of investments

# Impacts/Outcomes

- **Assist ADB and national governments** of Asia & Pacific in:
  - prioritizing their agricultural investments and policies in seeking to achieve the goals of long-term sustainable economic development, climate adaptation, and ending hunger; and
  - extending technical support and inform the national governments on the impacts of alternative agricultural policies and investments.
- **Collaborative partnerships** with national agricultural agencies and ADB will encourage the implementation of the planned activities and help achieve policy impact
- **Influence the plans** of national economic development and provide guidance on investment strategies for the agriculture sector in the region.

# **CASE STUDY: INDONESIA**

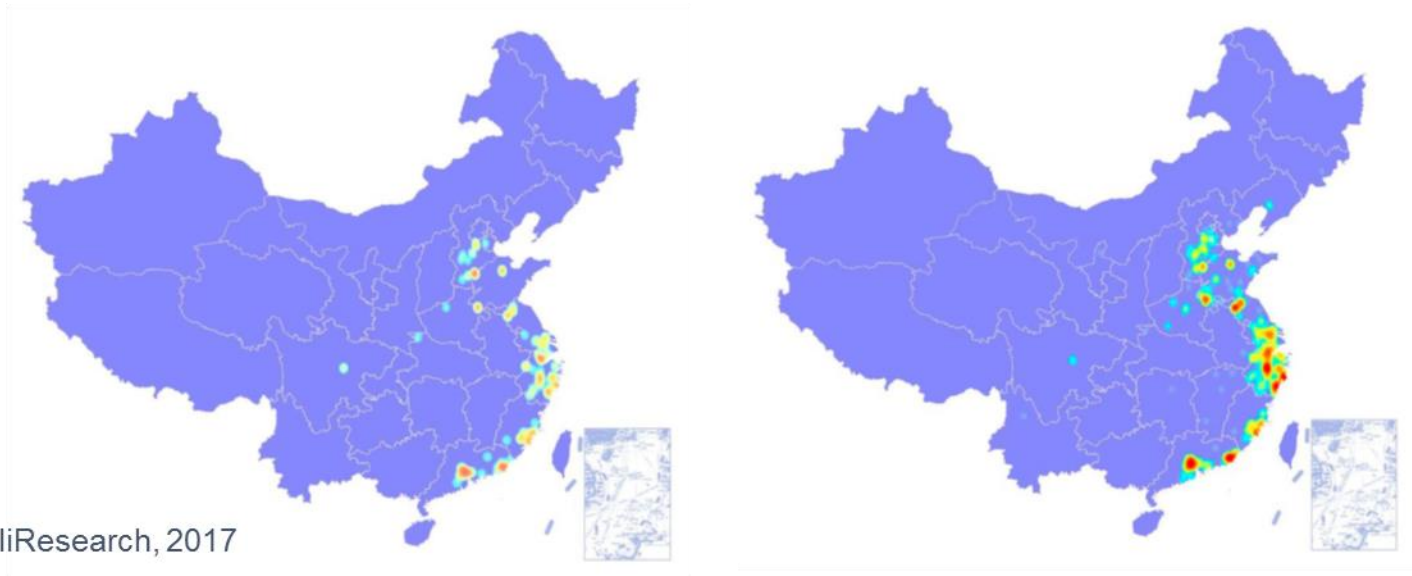
# Indonesia: Assessment of Agricultural Investments and Related Policies using CGE

- **Similar to the regional level study in terms of objectives, outputs and outcomes;**
- **But with additional modeling analysis and more detail studies on institution, policy and investment in agriculture within the country:**
  - Modeling: links IMPACT with Indonesian CGE model
  - Comprehensive evaluation of investment and policy in agriculture by sub-sector
  - Investment priorities and policy obstacles: rural infrastructure, irrigation, advanced technologies (e.g., precision agriculture, ICT), etc.

# CASE STUDY: PR CHINA

## Focus on ICTs used in agriculture

### Distribution of Taobao Villages 2014 2016



Source: AliResearch, 2017

**Goals:** to have a better understanding of the potential uses of ICTs in agriculture and to provide guideline for its investment.



## ■ Objectives:

1. Document the **status and trend** of ICT's applications in agriculture
2. Identify major **driving forces** affecting ICT's applications in agriculture
3. Analyze their **potential impacts**
4. Analyze the **investment needed** for ICTs used in agriculture
5. Provide **recommendations** for scaling up ICT's applications.

## ■ Methodologies:

1. Literature review + industrial interview + government plan/policy
- 2 and 3:
  - Village survey
  - Household survey
  - Policy survey
  - Industry survey
4. Case studies:
  - ADB's projects
  - Other projects
5. Estimations based on the rests of Objectives 1-4