Progress and Challenges of the Asia -Pacific Climate Security Project: How to Address Diverse Risks

Food Security under Climate Change

Alice Yamabe, SCP

Food Security

1. How does climate change affect food security?
2. Can food insecurity lead to conflict?
3. Is the traditional definition of food security enough in an era of climate disruption?
4. What are the implications for Japan?

Kei Kurushima
(Lead)

Naoyuki Okano

Alice Yamabe

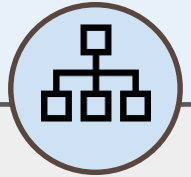
Nazia Hussain

Akane Matsuo

Methodology

Literature Review

how climate change, food security, and human security intersect



Conceptual Framework

seven-pillar framework

Policy Review

regional and national policies

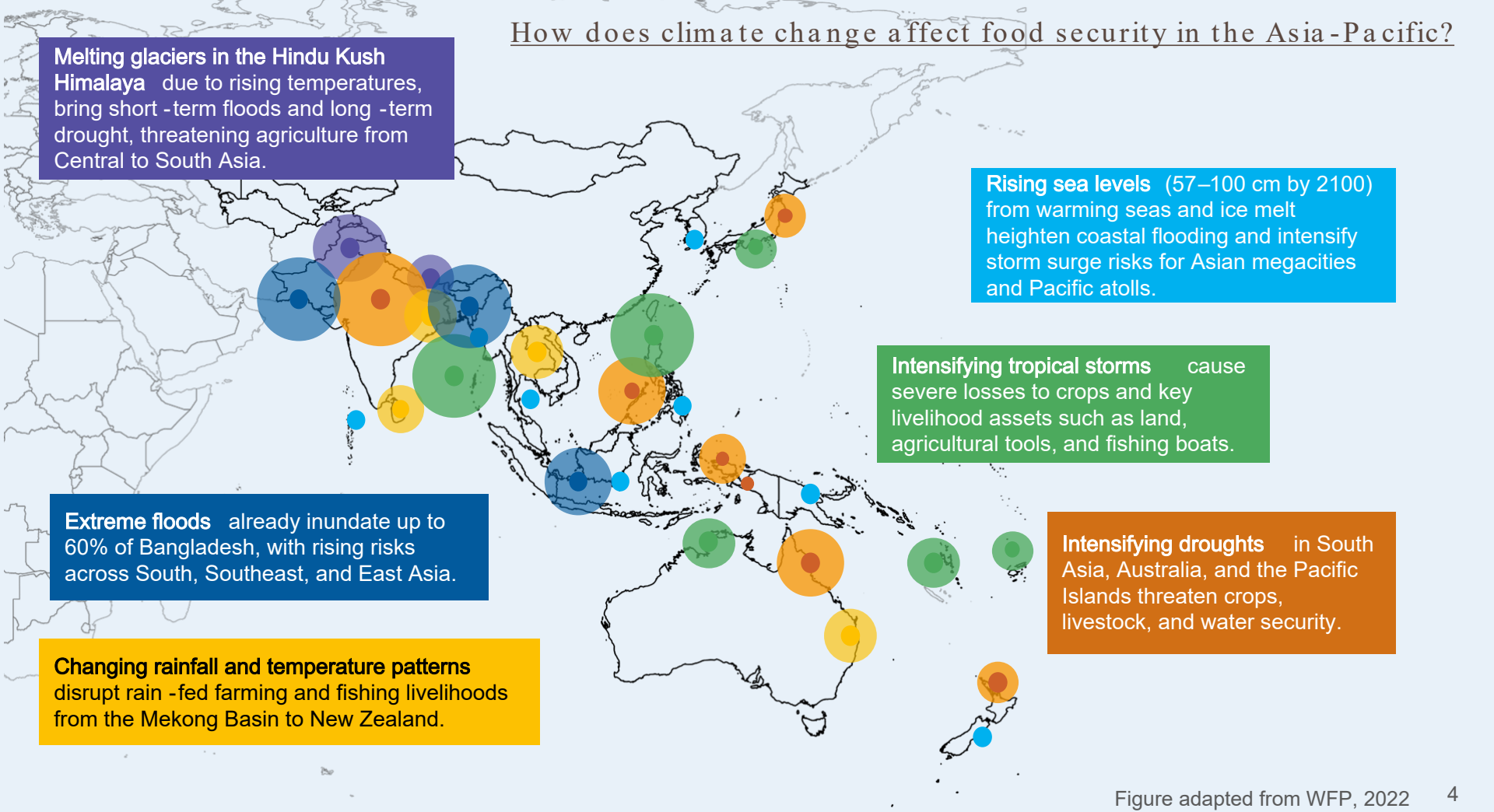
Fieldwork

-Surveys and group discussion in Philippines and Pakistan,
-Experts interviews in Thailand

Recommendations

Synthesised findings
Develop policy recommendations for Japan and Asia Pacific

How does climate change affect food security in the Asia-Pacific?



Melting glaciers in the Hindu Kush Himalaya due to rising temperatures, bring short-term floods and long-term drought, threatening agriculture from Central to South Asia.

Rising sea levels (57–100 cm by 2100) from warming seas and ice melt heighten coastal flooding and intensify storm surge risks for Asian megacities and Pacific atolls.

Intensifying tropical storms cause severe losses to crops and key livelihood assets such as land, agricultural tools, and fishing boats.

Extreme floods already inundate up to 60% of Bangladesh, with rising risks across South, Southeast, and East Asia.

Intensifying droughts in South Asia, Australia, and the Pacific Islands threaten crops, livestock, and water security.

Changing rainfall and temperature patterns disrupt rain-fed farming and fishing livelihoods from the Mekong Basin to New Zealand.

Figure adapted from WFP, 2022

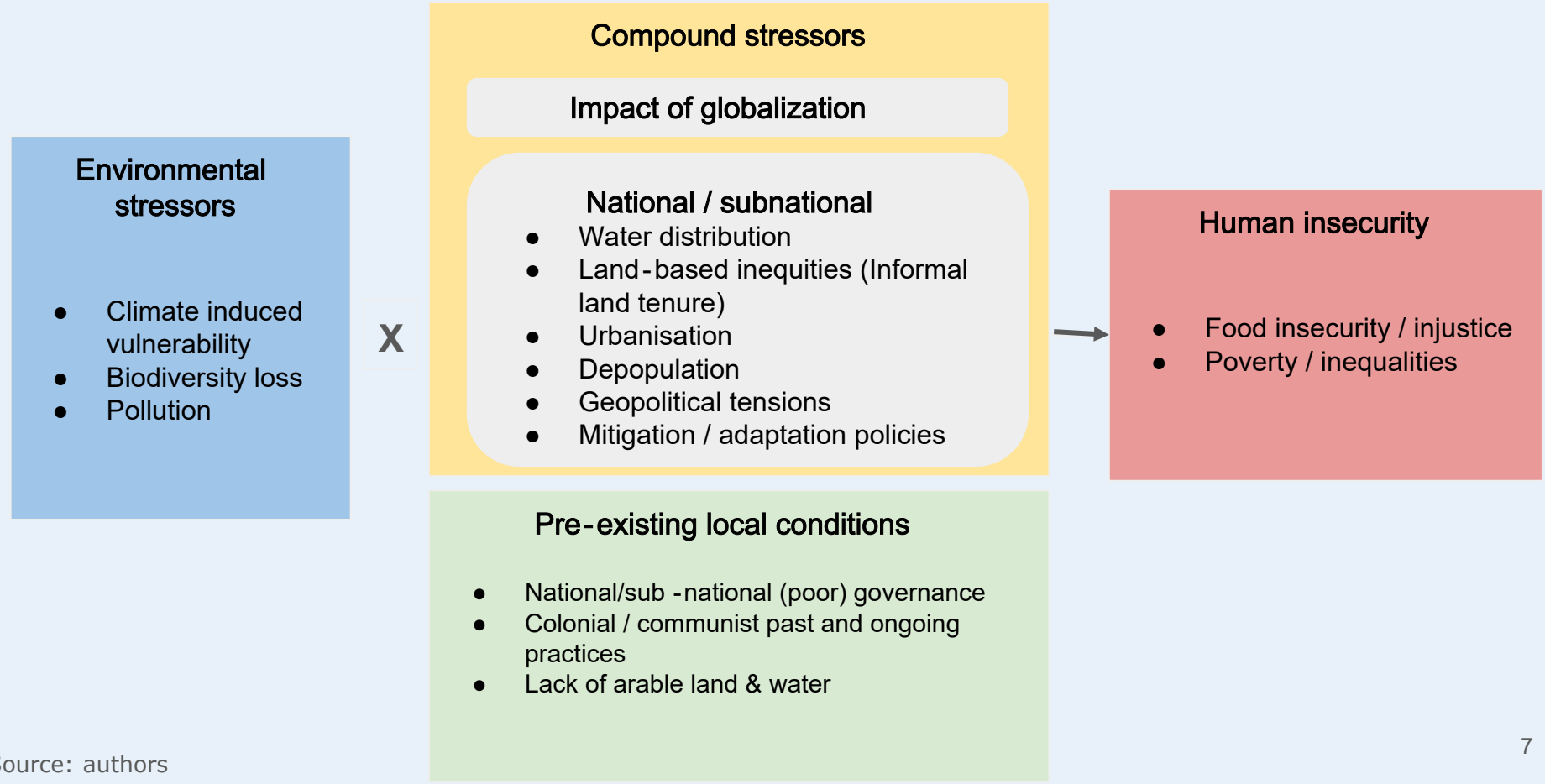
Field insights: Philippines

- World's most climate -vulnerable country
- Agriculture & fisheries: heavily exposed to heat, floods, sea level rise, and cyclones

Findings from survey in rural and fishing communities across Luzon, Iloilo, and Palawan Islands:

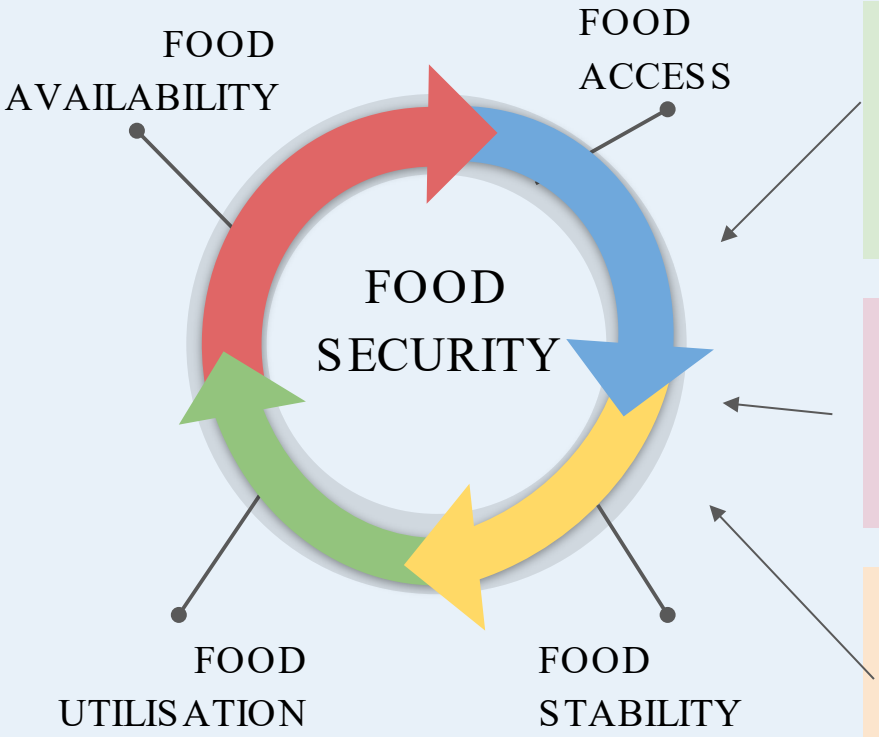
- **Top-down policies** misaligned with local realities → weak consultation
- **Socio-economic inequities intensified** : land & irrigation rights critical, yet most vulnerable lack access
- **Fishing conflicts** : commercial fleets intimidate small-scale fishers
- Potential solution: **People's Organisations (POs)** strengthen rights, joint land/fishing management, and adaptation capacity

Food Insecurity, Climate Change, and Violence



Source: authors

Discussion Paper: Broadening the Definition of Food Security



SUSTAINABILITY

the ability of food systems to meet present needs without compromising the capacity of future generations to produce and access food, ensuring environmental, social, and economic balance

AGENCY

the capacity of food producers, to make informed decisions that affect their well-being and that of their communities, shaping food systems through choices and actions

RESILIENCE

the ability of food systems to anticipate, adapt to, and recover from shocks such as climate change, conflicts, and economic disruptions, ensuring long-term stability

Source: Kurushima et al. (2025)

Discussion Paper: Broadening the Definition of Food Security

Analysis of Regional Policy Frameworks on Food Security:

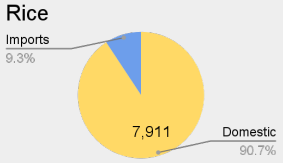
	Conventional four pillars	Sustainability	Agency	Resilience
ASEAN	Yes	Yes	Yes	Yes
SAARC	Yes	Yes	Partially Yes	Partially Yes
PIF	Yes	Yes	Partially Yes	Yes

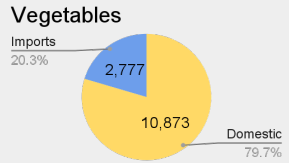
Source: Kurushima et al. (2025)

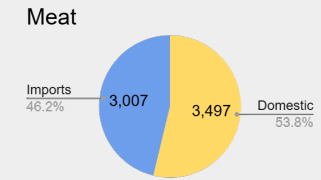
Download the discussion paper:

Implications for Japan

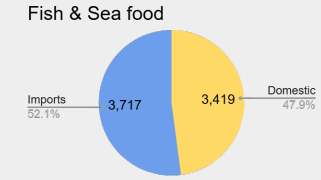
- Japan's food self-sufficiency rate: **38% on a calorie basis** .
- Mostly domestic production of rice and vegetables
- **Major grain imports**
- **Asia-Pacific region** supports supply of **perishable goods**
  - Some vegetables and seafood from **China**
  - Seafood, poultry, palm oil, tropical fruits from **ASEAN**
  - **Livestock feed** and other agricultural inputs from Malaysia



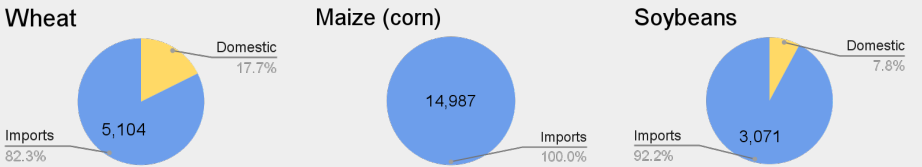




United States, Thailand, Brazil



China, Chili, United States

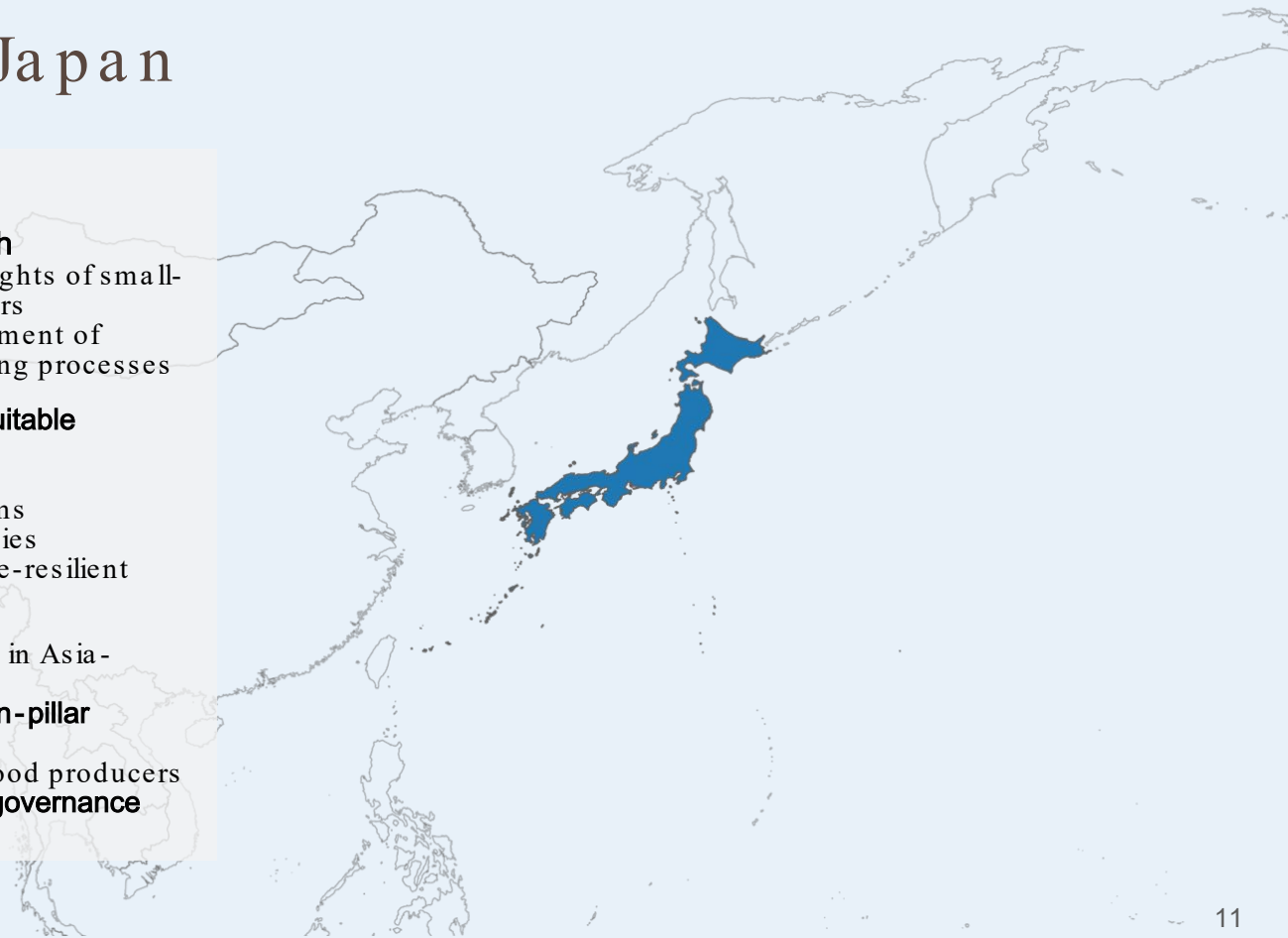


Charts created using data from MAFF (2023), based on the amount of food domestically produced and imported, expressed in 1,000 t.

Implications for Japan

Key food policy recommendations:

- **Take a people-centred approach**
  - Prioritising the needs and rights of small-scale farmers and consumers
  - Ensuring the active engagement of communities in policy-making processes
- Promote **sustainable, resilient & equitable agricultural management**
  - Reforming land tenure
  - Redesigning subsidy systems
  - Climate-resilient crop varieties
  - Context-appropriate climate-resilient technologies
- Advance **food security diplomacy** in Asia-Pacific
  - Lead in promoting the **seven-pillar approach** to food security
  - **Empowering** smallholder food producers
  - Strengthen **land and water governance**



Concluding reflections

1. **How does climate change affect food security?**

⇒ It acts as a **risk multiplier**, amplifying existing vulnerabilities.

1. **Can food insecurity lead to conflict?**

⇒ Not directly, but through **inequities, power struggles, and governance failures** that climate stress exposes.

1. **Is the traditional definition of food security enough in an era of climate disruption?**

⇒ We propose to integrate other dimensions: **agency, sustainability, and resilience**.

1. **What are the implications for Japan?**

⇒ Japan should apply the seven-pillar approaches to food security to **bridge domestic reform and regional cooperation**.