

Financing Sustainable and Resilient Food Systems in Asia and the Pacific

Kevin Chen, Chair Professor of Zhejiang University and Senior Research Fellow of IFPRI

Shingo Kimura, Senior Natural Resources and Agriculture Specialist, East Asia Department, ADB

Qingfeng Zhang, Chief, Rural Development and Food Security (Agriculture) Thematic Group, ADB

Sustainable and Resilient Food Systems as an instrument to address ADB's operational priorities



Poverty



Gender



Climate Resilience and Environment



Livable Cities



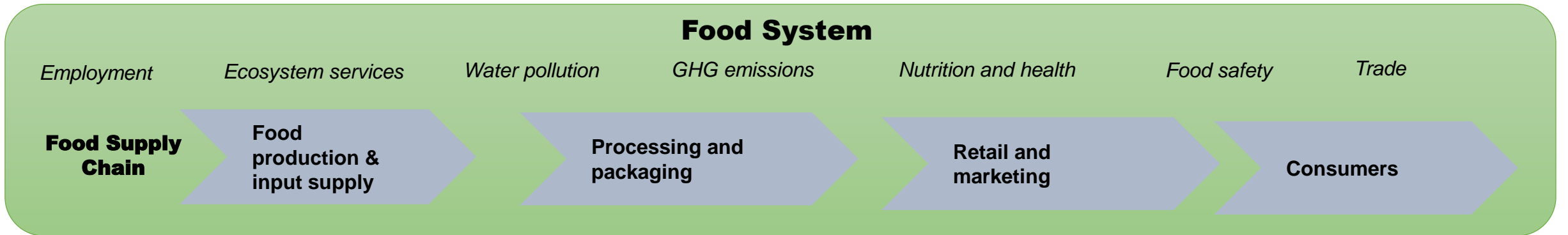
Food Security and Rural Development



Governance



Regional cooperation

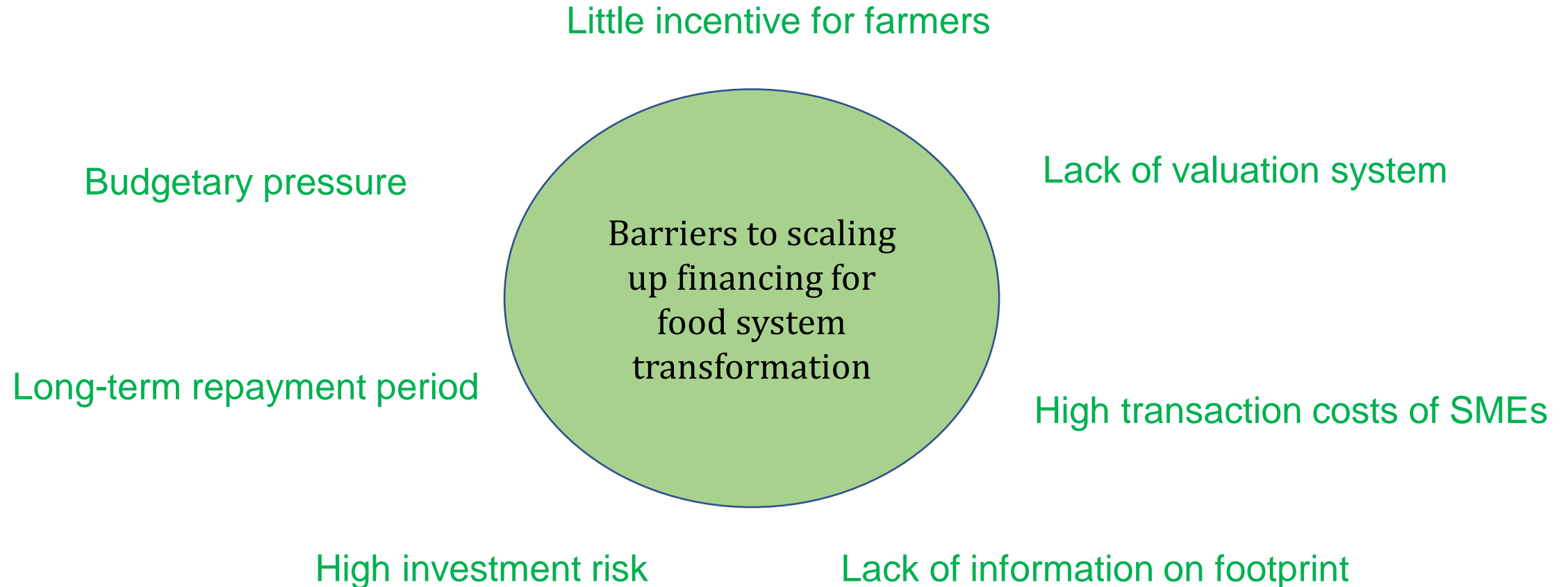


Sustainable and Resilient Transformation

- Sustainable production practice
- Regenerative Farming
- Integration of smallholders with value chains
- Use of renewable biological resource
- Sustainable protein solution
- Resilient logistic and food reserve system
- Strengthening biosecurity to prevent zoonotic disease
- Access to healthy and nutritious diet
- Consumption choice based on environmental and climate footprint

Requires whole supply chain approach: EU's [Farm-to-Fork Strategy](#)

Food system transformation requires public and private finance, but barriers exist



Closing financing gap

Action 1: Reorientation of public finance and policy institutions

Of the USD 536 billion provided annually in public support to farmers:

- about two-thirds is provided through measures that **distort farm business decisions**.
- another 9% are payments linked to output or the **unconstrained use of inputs** (OECD, 2020).

Reallocating the distortive form of support to sustainability policy objective:

- **EU policy reforms**: 30% of payments to farmers conditional upon additional conservation measures.
- **Brazil**: link subsidized farm credit to forest protection

- **Environmental taxes** for forestry, fisheries, and water that provide incentives for more sustainable extraction and effective tax collection.
- **Payments for environmental services** such as PRC's eco-compensation experiments.
- **Tradable permits** for regulating environmental externalities such as carbon trading.
- **Valuation of natural capital** for channeling sustainable investments.
- **Traceability and eco-labelling** for market prices to integrate the true costs of producing and distributing food.

Closing financing gap:

Action 2: Scaling up private investment in food system transformation

Transitional finance

- Use of loans wherein repayment terms are pushed back to accommodate multi-year return gaps.
 - Three-year operating loans to farmers transitioning to organic production, with market off-take support and repayment over 8 to 10 years through a 10-50% revenue share.

Channeling green finance

- Financial flow from the public, private and not-for-profit sectors to sustainable development priorities
 - social impact bonds (SIBs) and other sustainability-linked debt products

Blended finance

- Public capital can take more risk to catalyze investments faster.
 - Global Agriculture and Food Security Program (GAFSP): International Finance Corporation uses concessional funds from the GAFSP alongside its own commercial funding – to support projects that are not commercially attractive due to the high risk.

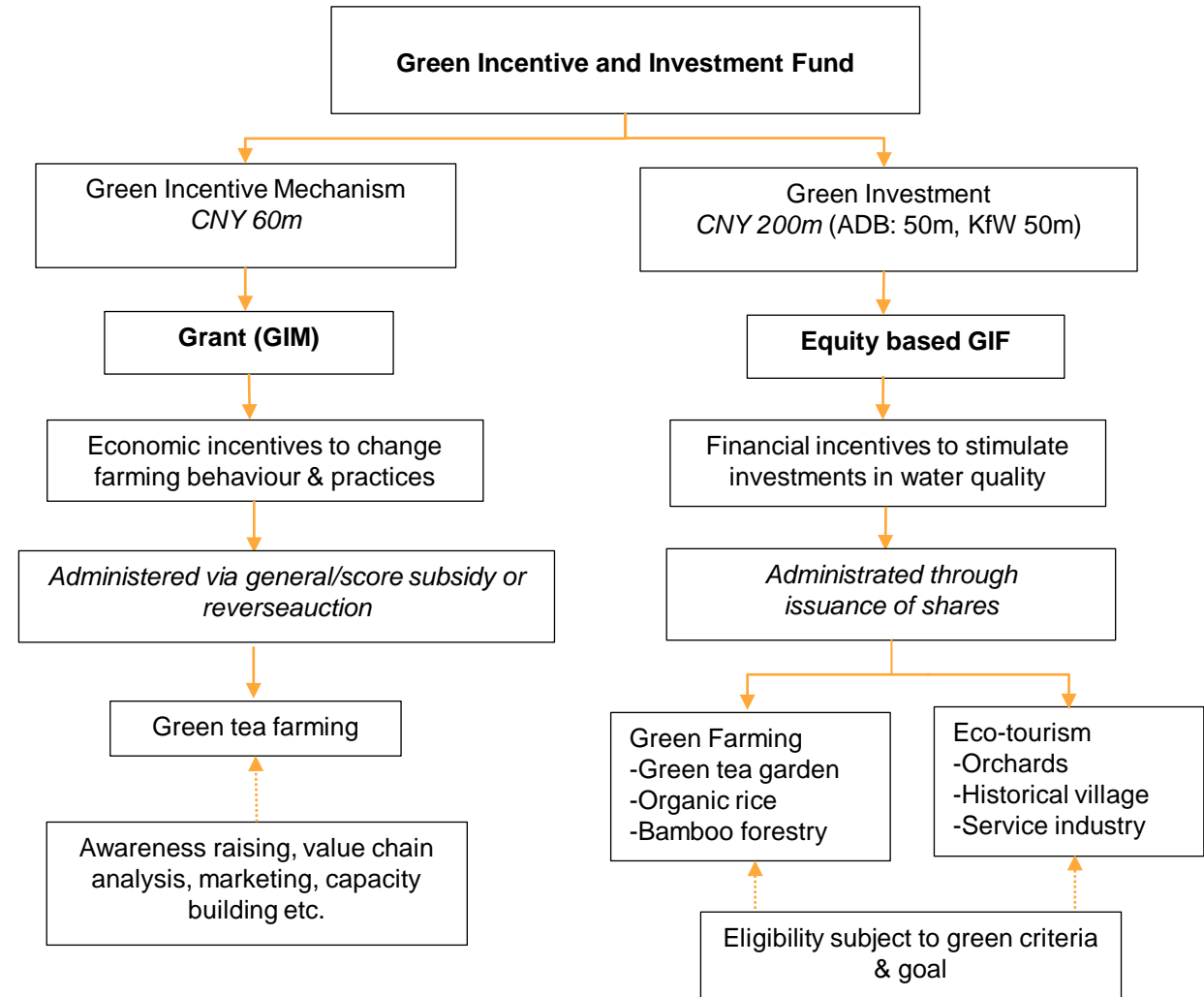
Structuring financial instruments to connect different pools of capital

- Use of financing tools & special public funds to support SMEs that suffer from lack of access to long term financing

ADB's Innovative Green Finance Mechanism

Anhui Huangshan Xin'an River Ecological Protection and Green Development Project in the PRC

- Cross-Provincial Eco-compensation Fund: financed from the compensation payments Huangshan Government received from the Xin'an River Eco-compensation Scheme between Anhui and Zhejiang provinces.
- Huangshan Tea Farmer Green Incentive Mechanism: engages farmers to adopt environmentally sustainable farming practices through an innovative results-based incentive scheme.



Closing financing gap:

Action 3: Leveraging digital technologies

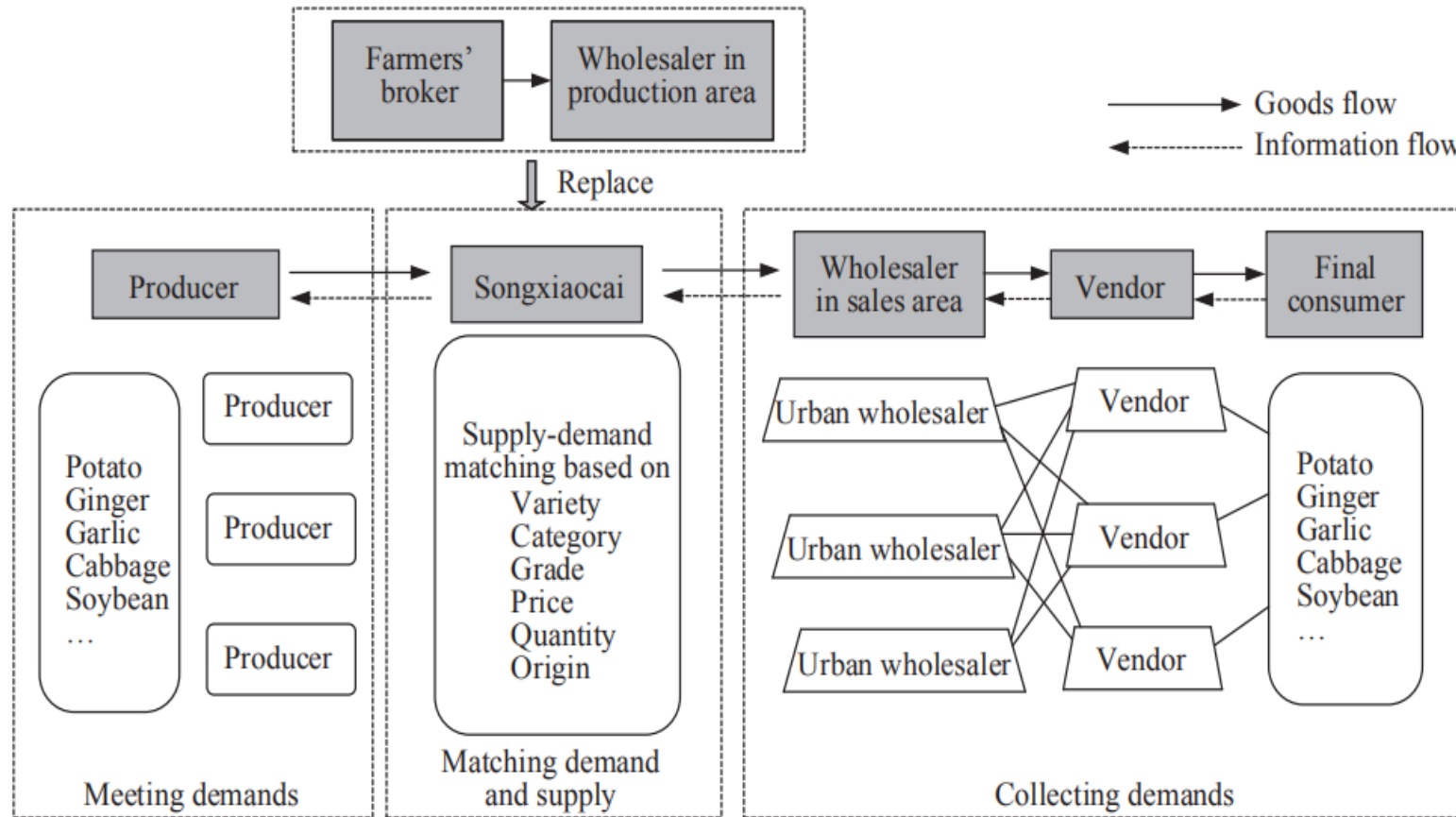
Digital technologies are offering new financial models to support food system transformation

- **Climate change mitigation and adaptation.** Sensor technologies, big data analytics. automated early warning systems for crop or livestock health, precision agriculture technologies.
- **Sustainable use of natural resources.** Labeling and traceability system reflecting implicit value, IT-based, farm- or estate-level natural capital accounts showing farming externalities.
- **Reduce food loss and waste.** E-extension for farmers/AI and machine learning to motivate consumers to buy near expiry foods.

Digital technologies can improve the productivity of entire food supply chains

- **At the production stage**, big data analytics, Internet of Things (IoT), and sensors help farmers' decision-making through accurate, timely, and location-specific price, weather, and agronomic data and information.
- **At the distribution stage**, digital technologies can reduce the transaction costs including wholesalers and intermediaries for commodities, equipment, and processed goods, and improve product traceability and integrity.

Case of Songxiaocai: Replacing the Traditional Vegetable Supply Chain with a Demand-driven Supply Chain



“There are more than 30 kinds of products in my vegetable booth. In the past, my husband spent a lot of time purchasing products in the wholesale market at deep night. Now, we can place orders online and it is really convenient.”

Food waste and loss: reduced to 0.2%

Implications for ADB's engagement in food system transformation

Support enabling policy and Institutional environment

- Payments for eco-system services
- Reforms in farm subsidy
- Environmental markets
- Eco-labelling and certification
- Valuation of natural capital and ecosystem services
- **Natural Capital Lab (NCL) initiative**

Provide financial instruments to unlock private investment

- Catalytic capital fund
- Financial intermediation channeling a diverse pool of fund
- Support financial disclosure
- **Innovative Natural Capital Financial Facility**

Facilitate the application of digital technologies

- Traceability system
- Monitoring and evaluation of sustainability performance
- Digital infrastructure and skill development

Establish multi-stakeholder platform for food system transformation

- Sharing innovative financial and knowledge solutions through South-South and Triangular cooperation
- Connecting international, national and local agencies, NGO, private sectors and communities

A Concept of project preparation and financial structuring facility

ADB can establish a project preparation and financial structuring facility to scale up investment in food system transformation from different public and private sources.

Identify and prepare investment project on sustainable and resilient food systems with governments and participants to food supply chains.

Identify possible sources of public and private investment and financing and analyze their investment motivations and operational requirements.

Develop the financial structures, and operational designs to mobilize the expected resources and implement such projects with economic, social and environmental sustainability.

Support for the monitoring and evaluation activities for the pipeline of projects.

ADB's Innovative Natural Capital Financing Facility (INCFF)

