Toward Sustainable and Resilient Food Systems in Asia and the Pacific

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Webinar on Sustainable and Resilient Food Systems in Asia and the Pacific
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Asia’s phenomenal economic growth is strongly correlated with poverty reduction

(based on $1.9/day international poverty line)

https://www.adb.org/publications/asias-journey-to-prosperity
But COVID-19 reversed gains in poverty reduction...

Number of Poor in Developing Asia (million)

- $3.2/day poverty line
- $1.9/day poverty line

2012: +78 million with COVID-19 compared to no COVID-19
2020: +162 million with COVID-19 compared to no COVID-19

...and is threatening food security...

Share of Population with Insufficient Food Consumption, February 2021 (%)

...through both supply and demand shocks

**Impact on supply**
- Labor shortage due to travel restrictions and fear of infection
- Limited capacity of farmers to store harvested crops
- Factory or facility shutdown
- Port restrictions and congestion, leading to the spoilage of perishables and increasing food waste due to a lack of refrigerated storage
- Delays or retrieval in capital investment

**Impact on demand**
- Income loss due to layoffs and furloughs
- Consumer sentiment and behavior (e.g., panic buying, hoarding)
- Limited accessibility to food
- Undernutrition for the vulnerable groups

**Input Supply**
- Fertilizer, pesticide
- Seeds, feeds
- Energy
- Logistics

**Farming**
- Local, seasonal migrant workers
- Structure, machinery and equipment

**Processing**
- Workers
- Facilities, storage
- Machinery

**Distribution**
- Packaging
- Logistics

**Wholesale and retail**
- Grocery stores, supermarkets
- Food chains
- Online markets

**Consumers**
- Hotels, restaurants, schools
- Households

Source: Kim, Kim, and Park (2020).
On the demand side, governments have taken steps

Packages announced in response to COVID-19
(% of GDP)

Developing Asia 15.4%  East Asia 16.5%  South Asia 12.7%  Southeast Asia 14.5%  The Pacific 7.5%

Liquidity support  Credit creation  Direct long-term lending  Equity support  Health and income support  No breakdown

Note: Data as of March 8, 2021. One out of the 46 DMCs has zero amount—Niue.
On the supply side, many Asian countries are highly relying on food imports.

**Cereal import dependency ratio (2011–2013) and consumption of rice and wheat per capita (2018)**

Note: Negative values indicate that the economy is a net exporter of cereals.


[Image of the graph showing cereal import dependency ratio and per capita consumption for various countries in different regions.]
Production networks in Asia have been strong in primary goods.

GVC and RVC Participation Rates (%)

- World GVC (y-o-y)
- Asia-to-World GVC (y-o-y)
- Asia-to-Asia Gross RVC (3-yr ma)
- Asia-to-Asia Net RVC (3-yr ma)
- Asia-to-Asia Gross RVC (y-o-y)
- Asia-to-Asia Net RVC (y-o-y)

3-yr ma = 3-year moving average, GVC = global value chain, RVC = regional value chain, y-o-y = year-on-year.

Notes: The GVC participation rate is the share of gross exports that involves production in at least two economies using cross-border production networks. The RVC participation rate, on the other hand, is the same as that of GVC, except that it only involves economies of the same region.

Sources: ADB calculations using data from ADB Multi-Regional Input-Output Tables; and methodology by Wang, Wei, and Zhu (2013).

RVC–GVC Trade Intensity, by Major Sector—Asia

GVC = global value chain, RVC = regional value chain.

Note: Sectoral classification is based on ADB (2015).

Sources: ADB calculations using data from ADB Multi-Regional Input-Output Tables; and methodology by Wang, Wei, and Zhu (2013).
Indeed, nontariff measures are increasing in agriculture

*Products Affected by COVID-19-Related Trade Measures, by Effect on Trade (as of 24 August 2020)*

- **a. Imposed by Asian Economies**
  - Agriculture: 13 (6 Liberalizing, 41 Restrictive)
  - Medical goods: 37 (41 Restrictive)
  - Others: 10 (5 Liberalizing, 5 Restrictive)
  - All: 4 (4 Restrictive)

- **b. Imposed by Non-Asian Economies**
  - Agriculture: 20 (16 Liberalizing, 8 Restrictive)
  - Medical goods: 75 (10 Liberalizing, 65 Restrictive)
  - Others: 8 (10 Liberalizing, 5 Restrictive)
  - All: 5 (5 Liberalizing)

COVID-19 = coronavirus disease.

Trade plummeted during the initial phase but is rebounding fast

Real exports (% change, year on year)

- World
- Asia
- Asia ex-PRC

Global Weekly Trade Indicators (Z scores)

- Baltic Exchange Dry Index
- Dow Jones Global Shipping USD Index
- Bloomberg World Packaging and Containers Index
- MSCI World Containers and Packaging Index

Real imports (% change, year on year)

- World
- Asia
- Asia ex-PRC

Weekly Number of Port Calls, by Region (thousands)

- Asia
- Europe
- North America
- Africa
- LatAm
- Middle East
- Others

Real exports and imports—Asia refers to the weighted average of the People’s Republic of China; Hong Kong, China; India; Indonesia; Japan; the Republic of Korea; Malaysia; Pakistan; the Philippines; Singapore; Taipei, China; Thailand; and Viet Nam. Source: CPB Netherlands Bureau for Economic Policy Analysis. Global weekly trade indicators—Source: Bloomberg and CEIC. Weekly number of port calls—Data are from the weekly port call dashboard, a collaborative initiative between the UN Statistical Division, the Environmental Change Institute at the University of Oxford within the context of the AIS Task Teamwork program. It aims to monitor weekly port calls from around 1,200 ports based on AIS datasets available at the UN Global Platform. Source: UN Comtrade AIS Port Database.
Overall crop prospects are favorable, but risks remain.

*International Supply and Demand for Rice and Wheat*

This highlights the importance of RCI initiatives

**Areas of Subregional Cooperation Efforts to Promote Recovery Post-COVID-19**

<table>
<thead>
<tr>
<th></th>
<th>ASEAN</th>
<th>CAREC</th>
<th>GMS</th>
<th>SASEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
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<td>⬜</td>
<td>⬜</td>
<td>⬜</td>
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<tr>
<td>Trade and trade facilitation</td>
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<td>Agriculture and food security</td>
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<td></td>
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<tr>
<td>Climate change and environmental sustainability</td>
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</tbody>
</table>

ASEAN = Association of Southeast Asian Nations, CAREC = Central Asia Regional Economic Cooperation, COVID-19 = coronavirus disease, GMS = Greater Mekong Subregion, SASEC = South Asia Subregional Economic Cooperation.
Digitalization and technology will facilitate a post-COVID-19 transition to resilient and efficient food supply chains.

Marketing through online platforms

Advanced information system

Agricultural technology

<table>
<thead>
<tr>
<th>Institutional and legislative reforms</th>
<th>Targeted support to poor and smallholder farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Promote digital agriculture and mechanization</td>
<td>• Access to affordable digital infrastructure and training</td>
</tr>
<tr>
<td>• Improve value chain infrastructure</td>
<td>• Marketing opportunities through economies of scale and entrepreneurial skills</td>
</tr>
</tbody>
</table>
Digitalization can also help social protection programs for better food security

Granular poverty map (at 4km x 4km grid) based on satellite imageries
Key policy areas for resilient food systems

• Protect consumers and public health
• Secure supply chains for producers
• Ensure fair trade and other related policies
• Enhance regional cooperation
• Promote digitalization
THANK YOU!

Yasuyuki Sawada
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But Asia is vulnerable to food trade restrictions and disruptions

### Bilateral Trade Flows of Rice and Wheat for Select Importers (% of total imports, 2018)

<table>
<thead>
<tr>
<th>Exporter/Importer</th>
<th>LAO</th>
<th>BAN</th>
<th>NEP</th>
<th>INO</th>
<th>SRI</th>
<th>PHI</th>
<th>MAL</th>
<th>KAZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>94</td>
<td>7</td>
<td>0</td>
<td>42</td>
<td>0</td>
<td>56</td>
<td>54</td>
<td>0</td>
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<tr>
<td>Viet Nam</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>20</td>
<td>0</td>
<td>27</td>
<td>27</td>
<td>0</td>
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<tr>
<td>India</td>
<td>0</td>
<td>82</td>
<td>100</td>
<td>18</td>
<td>77</td>
<td>5</td>
<td>5</td>
<td>0</td>
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<tr>
<td>Pakistan</td>
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<td>2</td>
<td>0</td>
<td>16</td>
<td>16</td>
<td>4</td>
<td>7</td>
<td>94</td>
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<td>Rest of the world</td>
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<td>8</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

**Rice**

<table>
<thead>
<tr>
<th>Exporter/Importer</th>
<th>AZE</th>
<th>UZB</th>
<th>FIJ</th>
<th>TAJ</th>
<th>AFG</th>
<th>ARM</th>
<th>GEO</th>
<th>MON</th>
<th>KGZ</th>
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<th>PHI</th>
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<td>94</td>
<td>86</td>
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<td>0</td>
<td>9</td>
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<tr>
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<td>100</td>
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<td>100</td>
<td>72</td>
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<td>14</td>
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<td>0</td>
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<td>0</td>
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<tr>
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<td>0</td>
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<td>0</td>
<td>14</td>
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<td>Ukraine</td>
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<tr>
<td>Rest of the world</td>
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<td>5</td>
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<tr>
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</tr>
</tbody>
</table>

**Wheat**

AFG = Afghanistan, ARM = Armenia, AZE = Azerbaijan, BAN = Bangladesh, INO = Indonesia, FIJ = Fiji, GEO = Georgia, KAZ = Kazakhstan, KGZ = Kyrgyz Republic, LAO = Lao People’s Democratic Republic, MAL = Malaysia, MON = Mongolia, NEP = Nepal, PHI = Philippines, SRI = Sri Lanka, TAJ = Tajikistan, UZB = Uzbekistan.

Note: Calculation is based on trade volumes in metric tons.

Nontariff measures are on the rise while barriers to trade facilitation remain.

Number of nontariff measures imposed on Asia (cumulative as of each year)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sanitary and phytosanitary rules</th>
<th>Tariff-rate quotas</th>
<th>Antidumping measures</th>
<th>Quantitative restrictions</th>
<th>Special safeguards</th>
<th>Other NTMs</th>
</tr>
</thead>
</table>


Note: Data cover NTMs in force until December 2020.

NTM = nontariff measures.
A great reset: COVID-19 highlights the need for developing Asia to build back better

• A green and inclusive recovery
  o To meet urgent needs such as public health, education, and job creation, especially for the most vulnerable
  o To build resilience to future disasters

• Building back better requires mobilizing huge amounts of capital from both public and private sources

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**Asia Pacific region’s annual investment requirements, 2016–2030, by broad SDG sectoral groupings**

- **Clean energy and climate action**: $434 billion
- **End poverty and hunger**: $373 billion
- **Health and education**: $296 billion
- **Transport, ICT and WSS infrastructure**: $196 billion
- **Biodiversity**: $156 billion

ICT = information, communications and technology, SDG = sustainable development goals, WSS = water, sanitation, and safe water.

Source: UNESCAP (2019).