Transforming Food Systems for Healthy and Sustainable Diets

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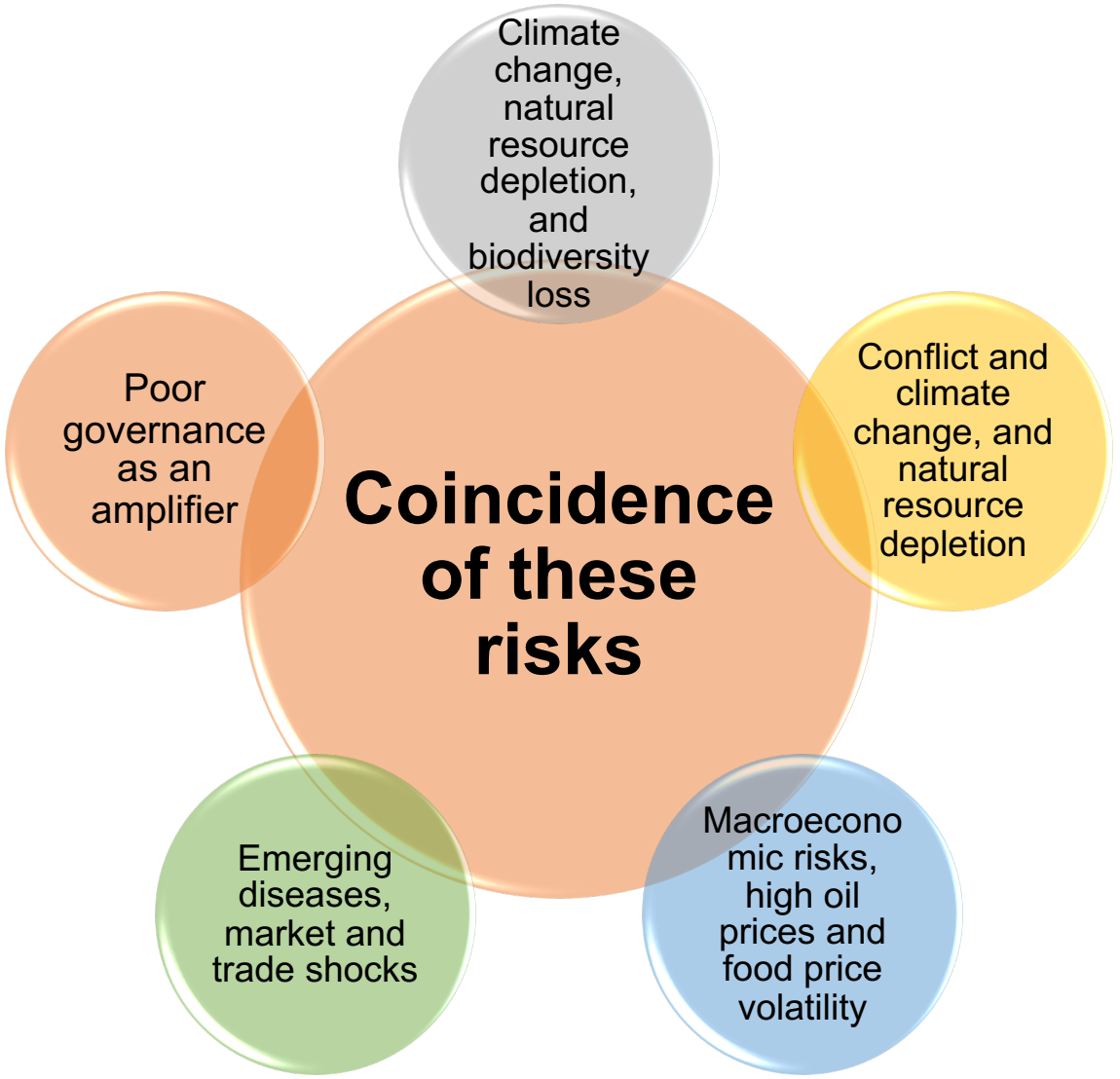
Outline

- Challenges Facing Agrifood Systems
- Agrifood Systems Impacted by COVID-19
- Paths to Healthy and Sustainable Diets

Challenges Facing Agrifood Systems

Coincidence of these risks worsen food systems

- One risk could lead to another one, two or even more, creating a chain or cascading effect that can severely disrupt the global food system.
- Prospects of coincidence of risks have increased significantly as the food systems have become more complex, diverse, interlinked, and globalized.



Picture source: https://image.baidu.com/

Agrifood Systems Impacted by COVID-19

Impact shifts from the supply side to the demand side

At the beginning of the pandemic, the food supply chain was destroyed

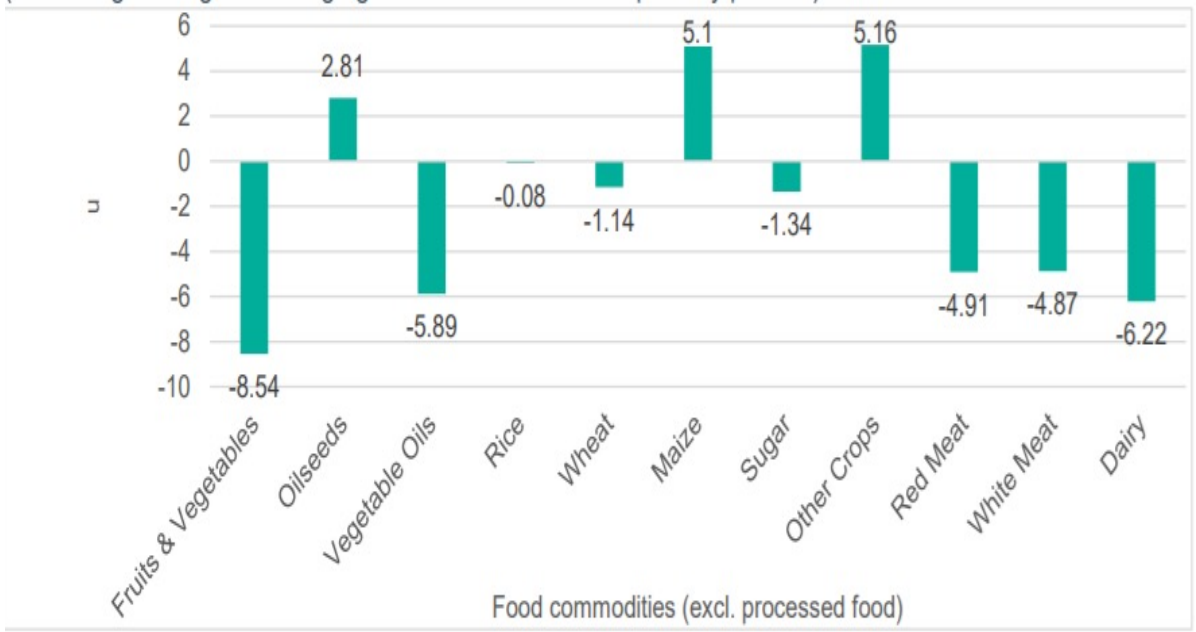
- Logistics disruption
- 30% reduction in employment of migrant workers in China

Pandemic impact shifts to demand side

- Less employment
- Lower income
- The poor shift to relatively cheap staple foods, like rice, corn and wheat

Figure 4 COVID-19 impacts on diets (average effect for world)

(Percentage change in average global household consumption by product)

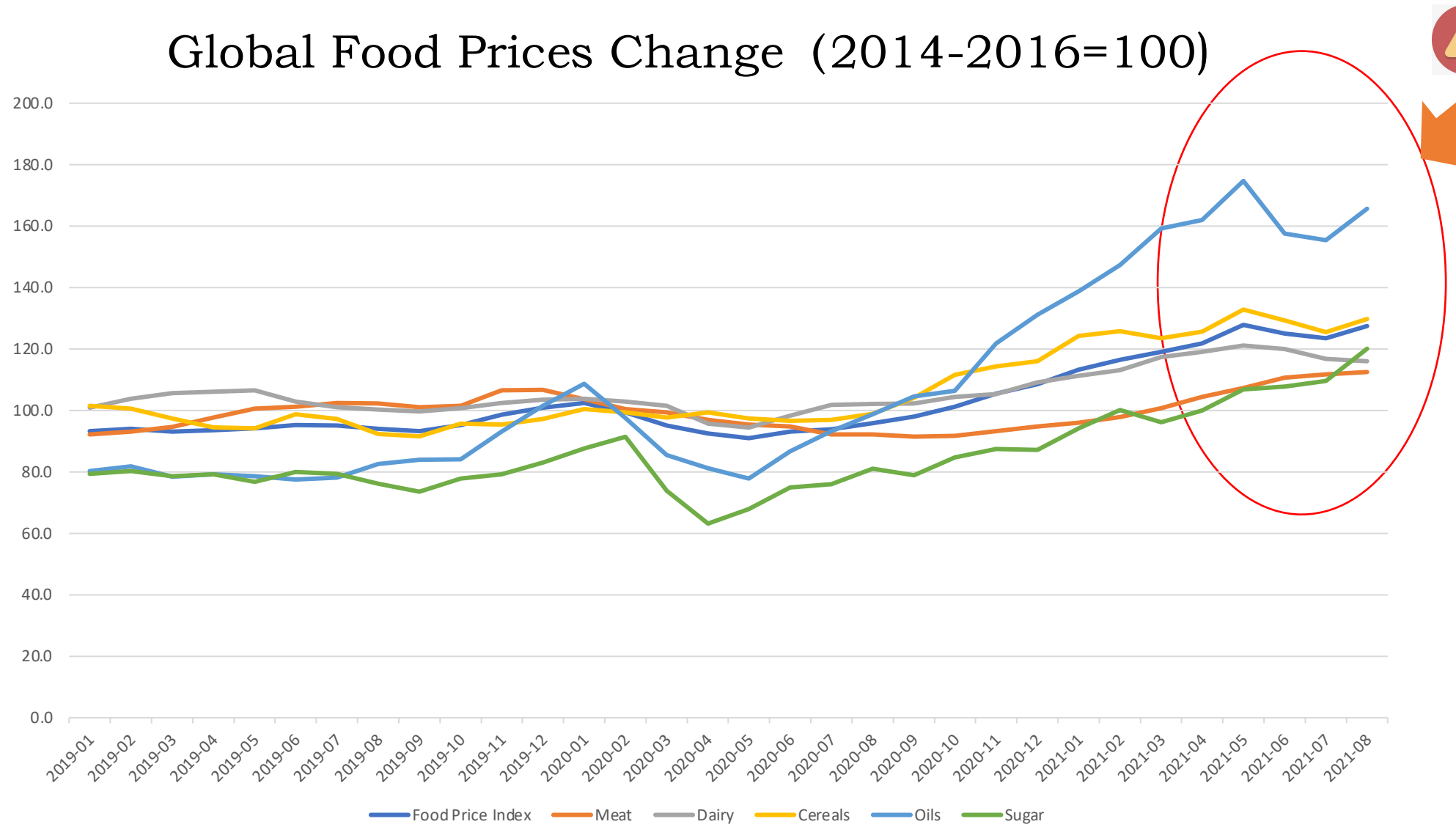


Source: MIRAGRODEP Simulation

Note: Global average based on weighted changes at the estimated at the country or regional levels. Weights are based on base value of consumption, while changes are computed on the evolution of the volume of consumption for each national representative household.

Source：Laborde, David & Martin, Will & Vos, Rob. (2020). Estimating the Poverty Impact of COVID-19 The MIRAGRODEP and POVANA frameworks 1. 10.13140/RG.2.2.36562.58560.

Recent global food prices surge



The FAO Food Price Index (FFPI) averaged 127.4 points in August 2021, up 3.9 points (3.1 percent) from July and 31.5 points (32.9 percent) from the same period last year

- Many Countries Not recovered from COVID-19
- Exchange rate-dollar sinks
- Demand increase
- ……

Perfect Storm

Millions more people can not afford healthy and nutritious food

- As a result of the high cost of healthy diets, coupled with persistent high levels of income inequality, it is estimated that around 3 billion people were unable to afford a healthy diet in 2019
- More than 1 billion people(44%) in Asia can not afford a healthy diet
- In Asia, the increased cost of a healthy diet coincided with higher incomes, so that the number of people unable to afford a healthy diet decreased.

	Cost of a healthy diet in 2019		People unable to afford a healthy diet in 2019		
	Cost (USD per person per day)	Change between 2017 and 2019 (percent)	Percent	Total number (millions)	Change between 2017 and 2019 (percent)
WORLD	**4.04**	**7.9**	**41.9**	**3 000.5**	**-0.7**
AFRICA	**4.37**	**12.9**	**80.2**	**1 017.0**	**5.4**
Northern Africa	4.35	5.6	60.5	141.8	4.2
Sub-Saharan Africa	4.37	13.7	84.7	875.2	5.6
Eastern Africa	4.88	33.0	85.0	342.2	5.3
Middle Africa	3.81	2.2	87.9	152.0	6.8
Southern Africa	4.07	2.1	61.8	41.2	2.0
Western Africa	4.30	6.8	86.8	339.7	5.9
ASIA	**4.13**	**4.1**	**44.0**	**1 852.8**	**-4.2**
Central Asia	3.42	0.9	16.9	5.8	-22.6
Eastern Asia	4.99	6.4	13.5	213.5	-7.4
South-eastern Asia	4.41	4.9	49.5	316.1	-2.9
Southern Asia	4.12	1.2	71.3	1 281.5	-4.2
Western Asia	3.77	5.3	20.3	35.9	8.1
LATIN AMERICA AND THE CARIBBEAN	**4.25**	**6.8**	**19.3**	**113.0**	**8.4**
Caribbean	4.49	6.7	48.5	12.9	-1.0
Latin America	4.00	6.8	17.9	100.1	9.7
Central America	3.93	3.1	20.0	32.0	1.2
South America	4.05	9.2	17.1	68.1	14.3
OCEANIA	**3.25**	**6.2**	**1.8**	**0.5**	**-14.9**
NORTHERN AMERICA AND EUROPE	**3.43**	**6.8**	**1.6**	**17.3**	**-3.6**
COUNTRY INCOME GROUPS					
Low-income	4.06	5.4	87.6	463.0	4.8
Lower-middle-income	4.49	14.3	69.5	1 953.2	-1.4
Upper-middle-income	4.20	5.7	21.1	568.5	-2.0
High-income	3.64	6.6	1.4	15.8	-9.9

Source: FAO

Asian food system have remained resilient

- No major breakdowns of food supply
- Trade not being seriously affected
- No food shortages in markets
- No Increased hunger and malnutrition

Possible Reasons:

- Good road infrastructure
- Access to internet and mobile phones
- Well-developed supply chains
- Policy interventions

Policy response to COVID-19 of Asian countries

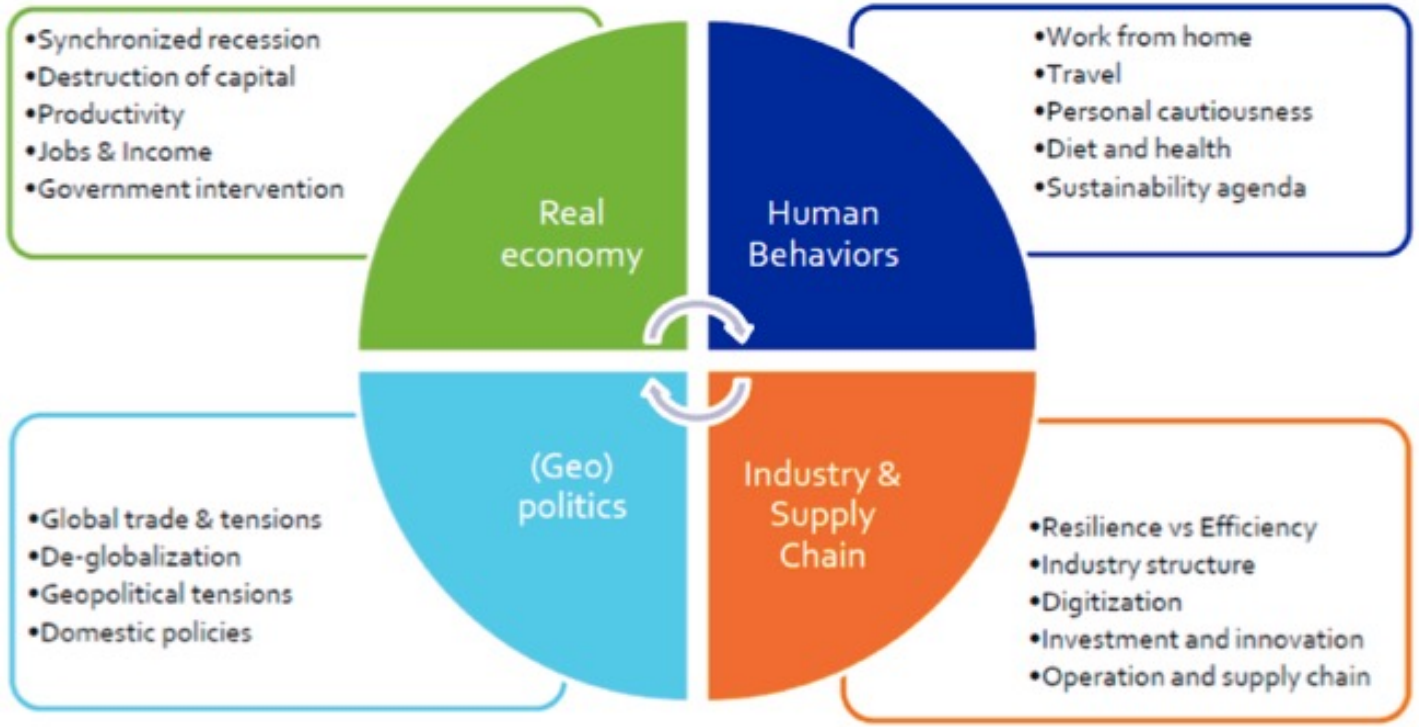
	Macroeconomic Policy			Food Sector Measures		
	Gov't loans or loan guarantees	Tax breaks/subsidies	Employment subsidies	Lockdown exemption for FS workers	Enhanced govt monitoring & guidance	Increased barriers to food exports
CHN	✓	✓	✓	✓	✓	
IND	✓	✓		✓	✓	
JPN	✓	✓	✓	✓	✓	
KOR	✓	✓				
SGP	✓	✓	✓	✓	✓	
IDN	✓	✓		✓	✓	
THA	✓	✓	✓	✓		Yes
MAL	✓	✓	✓	✓	✓	
PHL	✓	✓	✓	✓	✓	
VNM	✓	✓	✓	✓		Yes

Source: Oxford Economics, 2020

Lessons from COVID-19 experience in Asia

- Keep green channels open for foods and for rural workers
- Further strengthen social protection and safety nets
- Continue to invest in research and infrastructure
- Better regulations of wet markets and wildlife
- Influence consumer behavior towards more sustainable and healthier foods

Factors shaping F&A industry post-Covid-19



Source: Rabobank

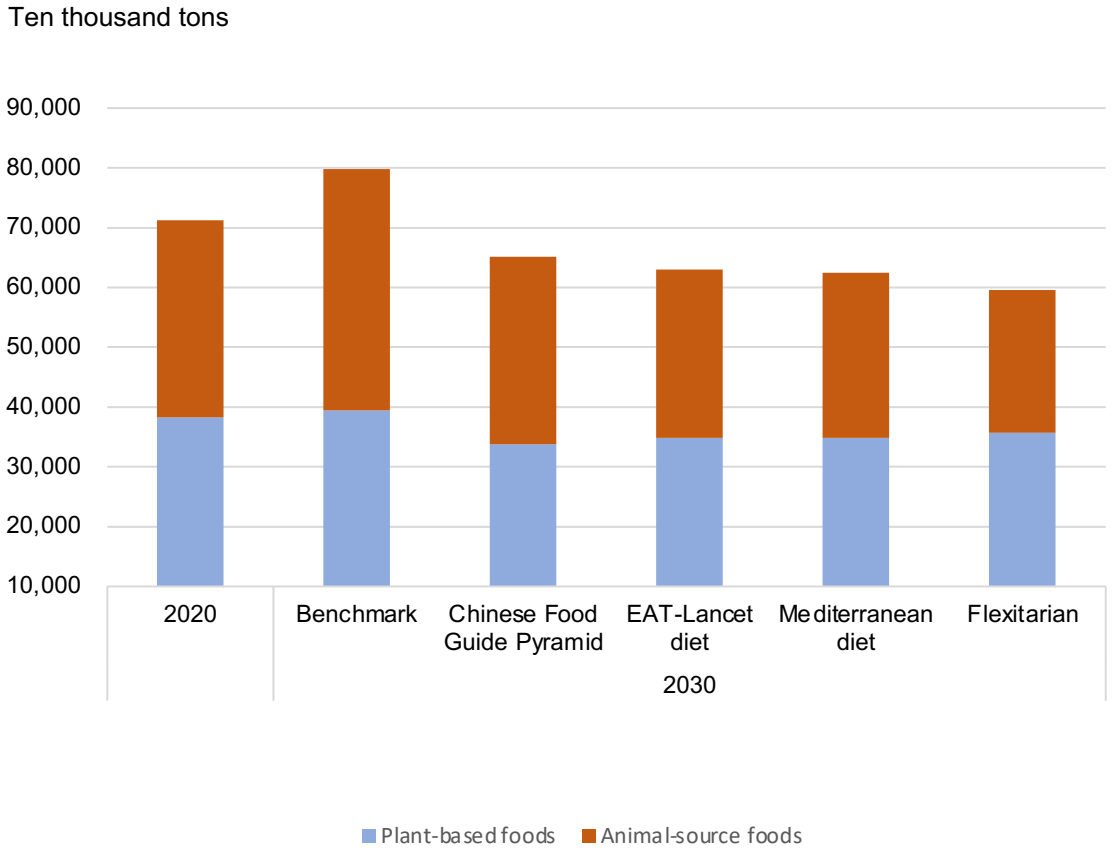
Pathways to healthy and sustainable diets

Transforming Diets

Shifting diets for a Win-Win of health and the environment

- Chinese diets improved with increasing consumption of fruits, eggs, aquatic products and milk
- But, significant gaps still exist between the current diet of Chinese residents and the recommended diets
- New health and environmental challenges arise alongside China's dietary transition
- Adopting the Chinese Dietary Guidelines and EAT-Lancet diets, deaths in China would be reduced by 1.15 million and 1.8 million respectively, and GHG emission from agrifood systems would be reduced by 18.3% and 21.7%, respectively

Agricultural greenhouse gas emissions under different dietary pattern scenarios



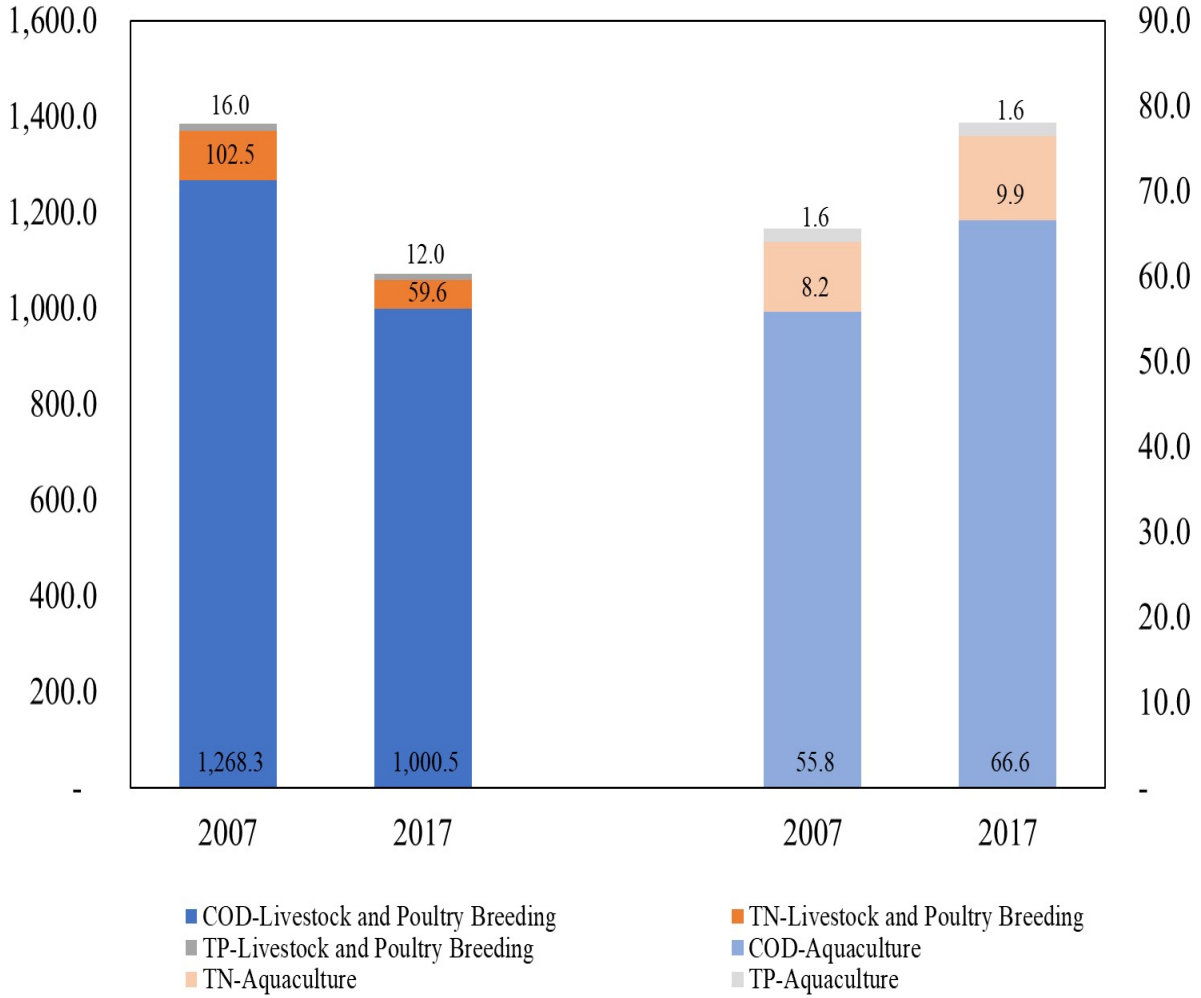
Source: CASM results

Green Transformation

Urgent need of green transformation of agrifood systems

- The agricultural production mode of "high input and high output" is unsustainable
- Five major sources of nonpoint-source pollution: livestock, poultry and aquaculture; chemical fertilizers; pesticides; crop residues; and waste plastic films
- Remarkable reduction of nitrogen and phosphorus emission from the livestock and poultry farming industries, but increasing pollutant emission from aquaculture
- Low utilization rate of chemical fertilizers and pesticides

Pollutant discharge from livestock and poultry breeding and aquaculture, 2007 and 2017

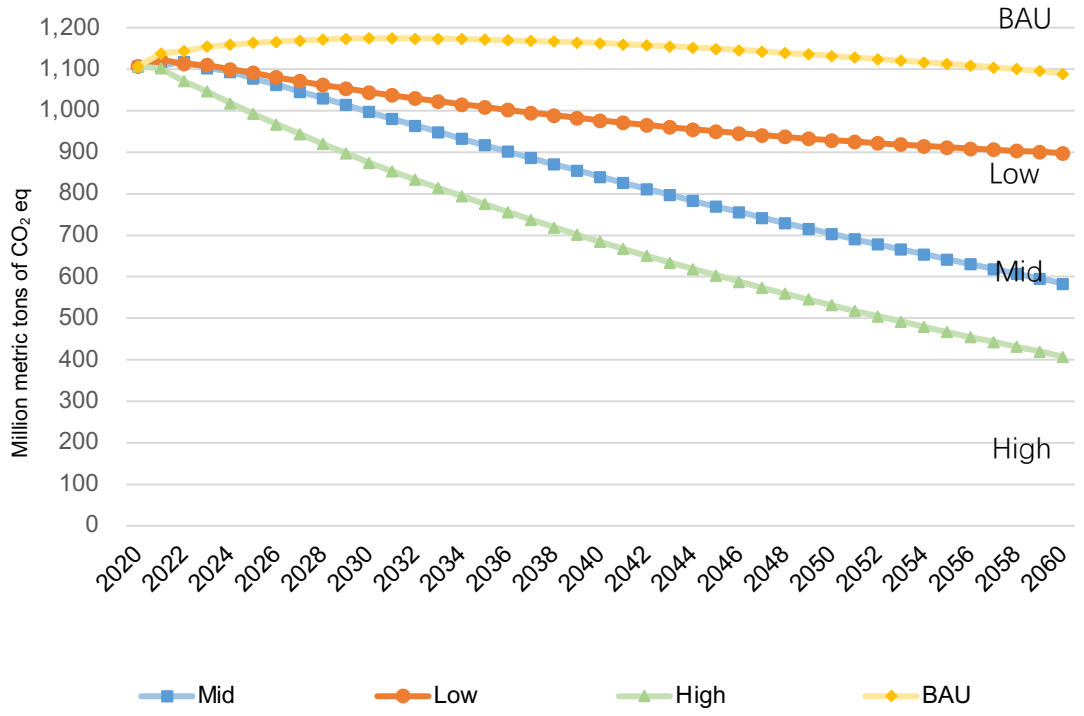


Carbon Neutrality

Agrifood systems must be transformed to contribute to 2060 carbon neutrality

- GHG emissions increased by only 16% in the past two decades, and fell for two consecutive years in 2017 and 2018
- But emissions from agrifood systems still amount to 1.09 billion tons in 2018, and will remain the same by 2060
- Improving agricultural technologies, reducing food loss and shifting dietary patterns can reduce emission in agrifood systems by 47% in 2060 from the 2020 level
- Land use, land use change and forestry play a key role as a carbon sink. The carbon sequestration due to LULUCF was around 1.1 billion tons CO_2 in 2014, and it can increase to 1.6 billion tons CO_2 by 2060

Greenhouse gas emissions from agrifood systems in China under different scenarios, 2020–2060



Source: Results of CASM and CGE

Seven Strategic Transitions

Technological Innovations: Reprioritize agricultural R&D for multiple-win technological innovations-yield, nutrition, sustainability and resilience

Repurposing Subsidies: Reform agricultural subsidies and innovate fiscal policy, by taxing unhealthy and unsustainable foods and supporting the supply chain development of healthy and sustainable foods

Investment in New Infrastructure: Increase investment in rural information and communication technology

Institutional Innovations: Facilitate institutional innovations to build efficient and inclusive food value chains by reforming property rights, empowering women and establishing productive safety nets

Respect for Nature: Respect nature and protect wildlife habitats by introducing laws and regulation

Open and Resilient Trade: Maintain free trade and enhance agrifood systems resilience

Behavioral Change: Guide residents' behavior change for a win-win for human and planetary health

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2021 CHINA AND GLOBAL FOOD POLICY REPORT

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Rethinking Agrifood Systems for the Post-COVID World

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