



中国农业科学院

海外农业研究中心

Center for International Agricultural Research, CAAS



中国农业科学院农业信息研究所
Agricultural Information Institute of CAAS

Dietary change and nutrition improvement of vulnerable people in rural China

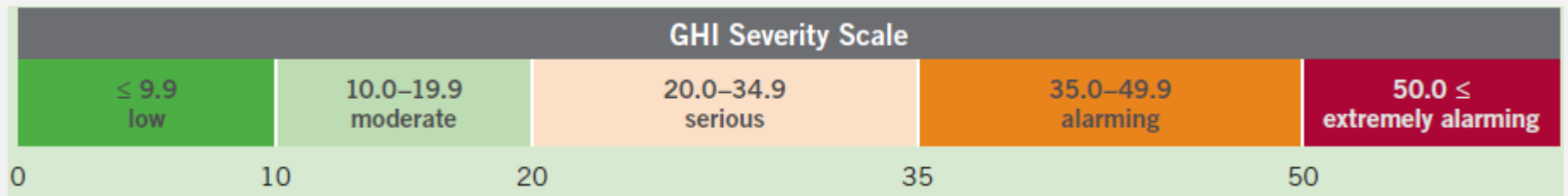
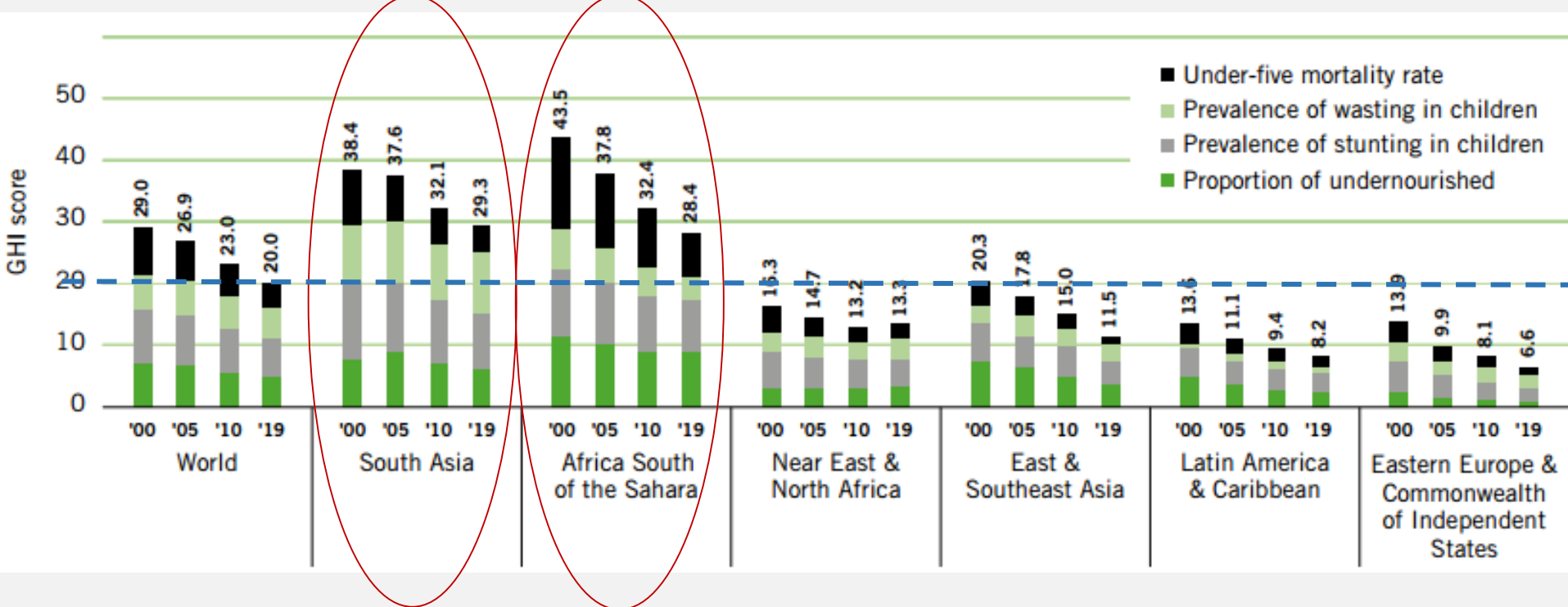
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Hunger and malnutrition remain big challenges globally, especially in South Sahara Africa and South Asia

Global and Regional Hunger Index Scores, With Contribution of Components (2000, 2005, 2010, and 2019)



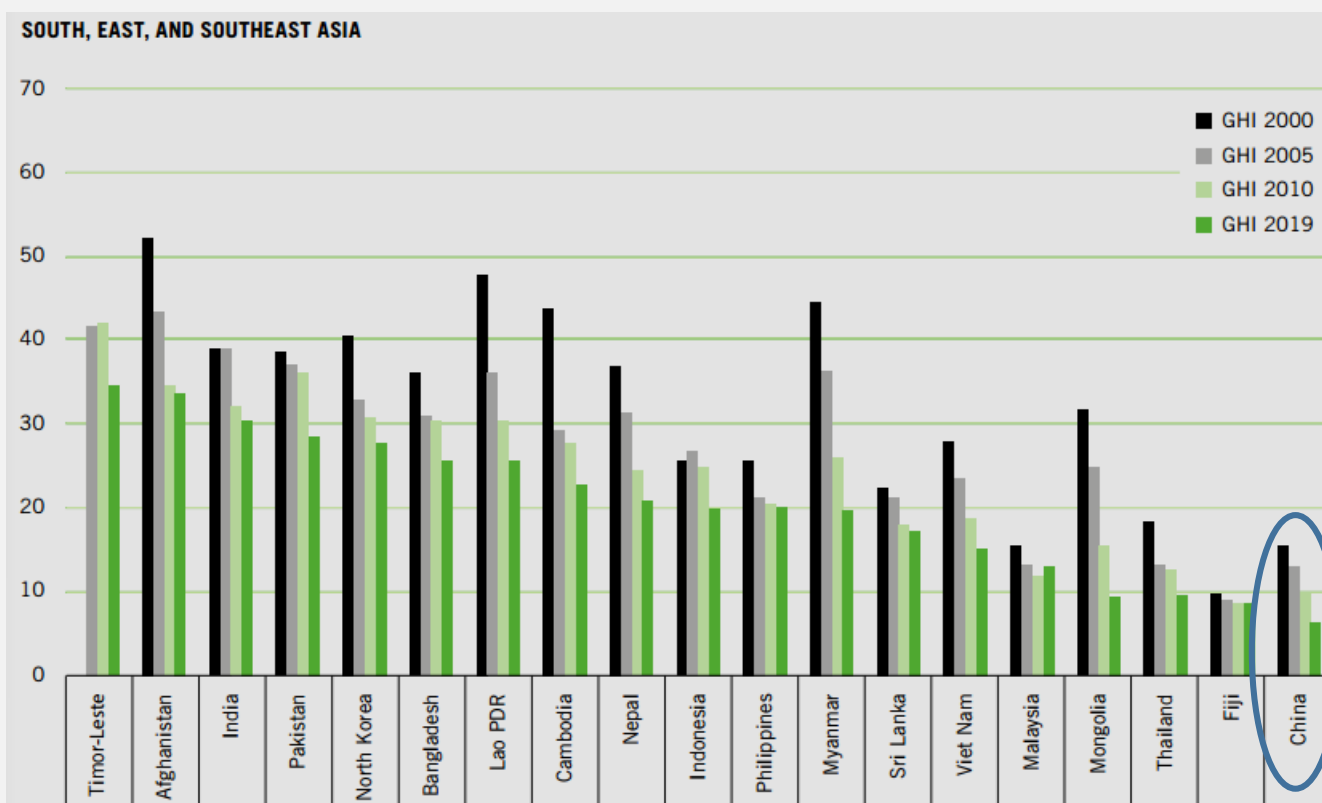
Source: Global Hunger Index 2019.

Food Security & Nutrition Status in China

Food insecure decline

- China's GHI Scores decreased by 60%, changing from 15.8 in 2000 to 6.5 in 2019, showing great improvement in reducing hunger.
- Now, China is a country with very low food insecure severity scale.

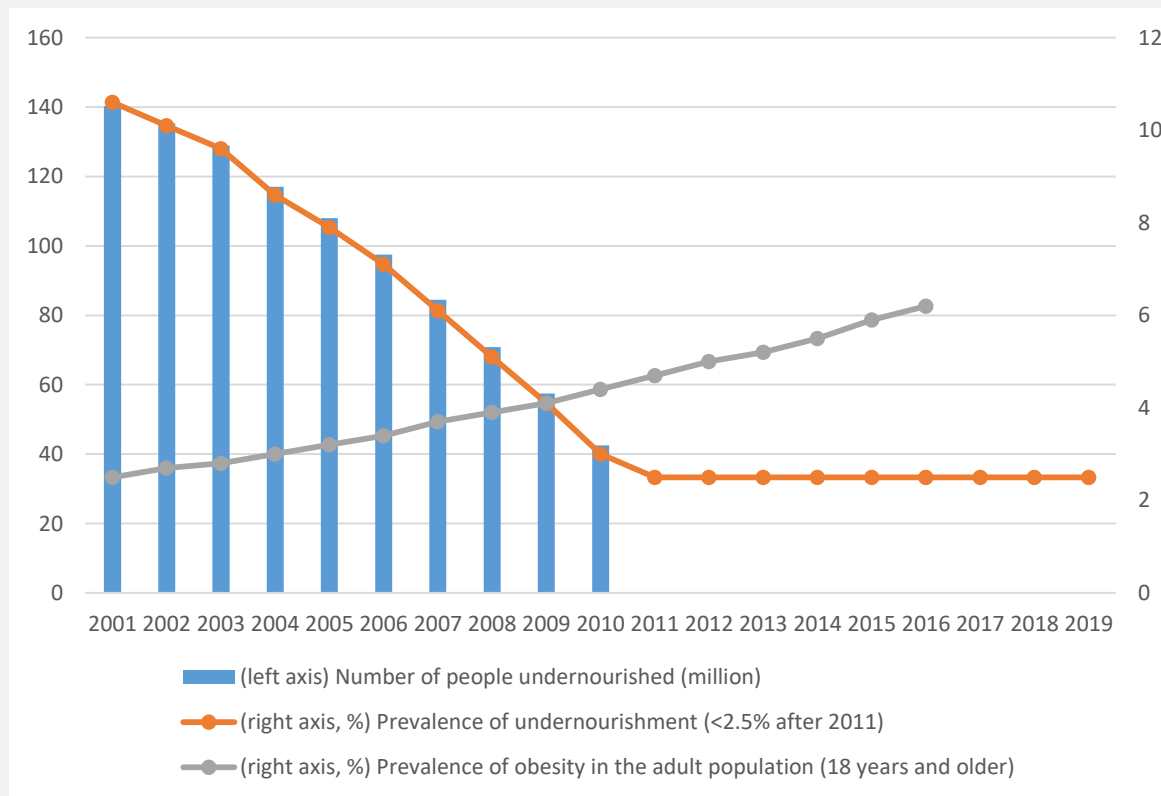
Country Progress in Reducing GHI Scores in Asia (GHI 2000, 2005, 2010, and 2019)



Source: Global Hunger Index 2019.

Undernourishment decline, obesity increase

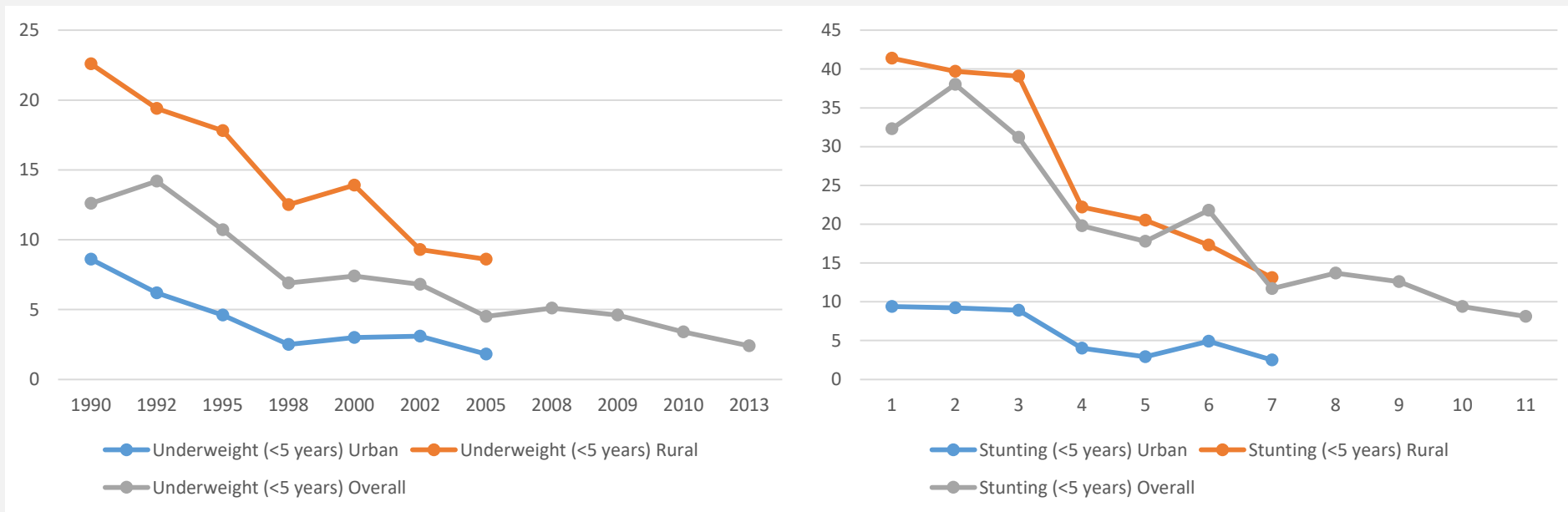
- Prevalence of undernourishment dropped sharply from 10.6% in 2001 to less than 2.5% in 2011.
- However, prevalence of obesity increased from 2.5% in 2001 to 6.2% in 2016.



Source: FAOSTATA food security indicators 2020.

Underweight and stunting (children < 5 years old) decrease

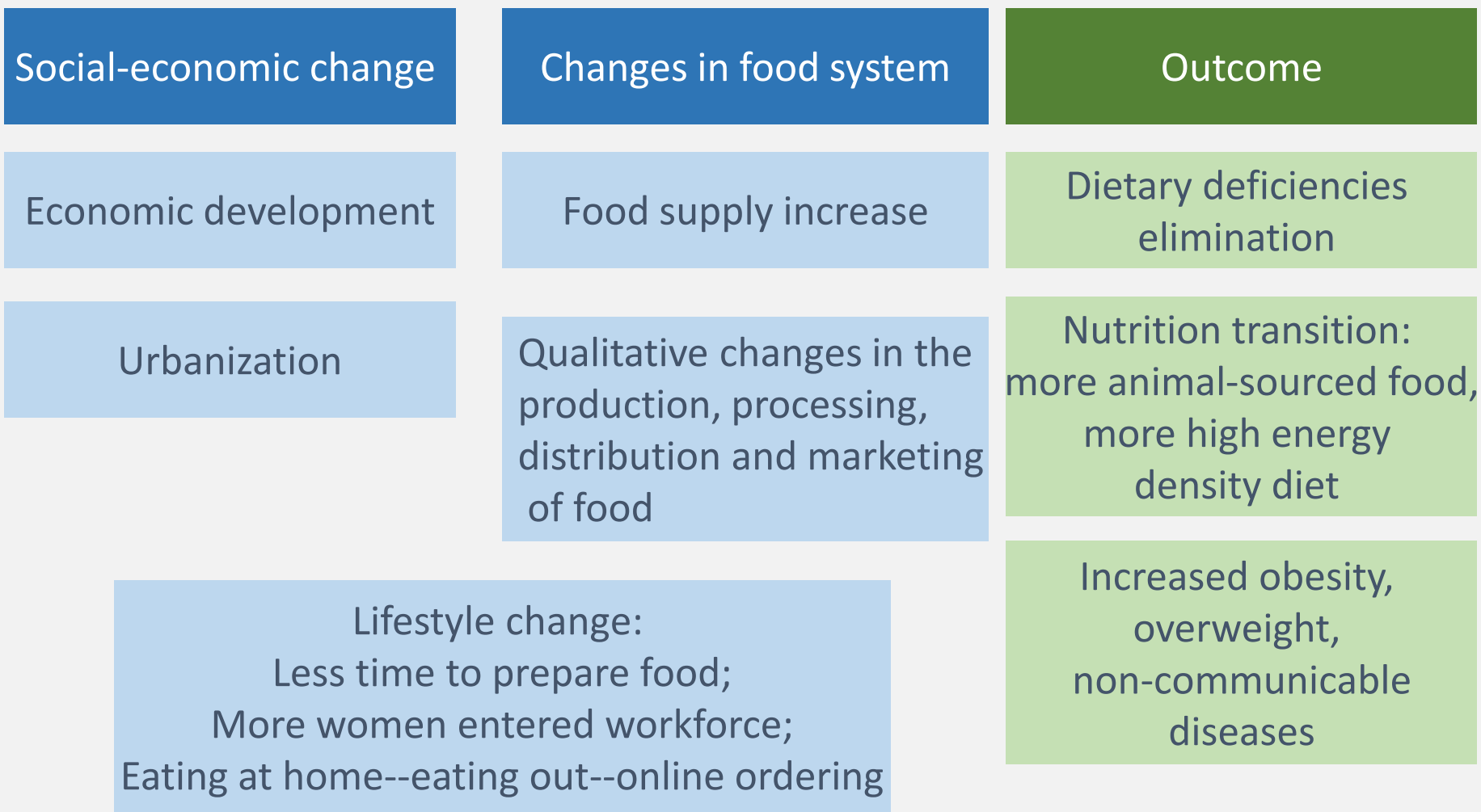
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Source: WHO.

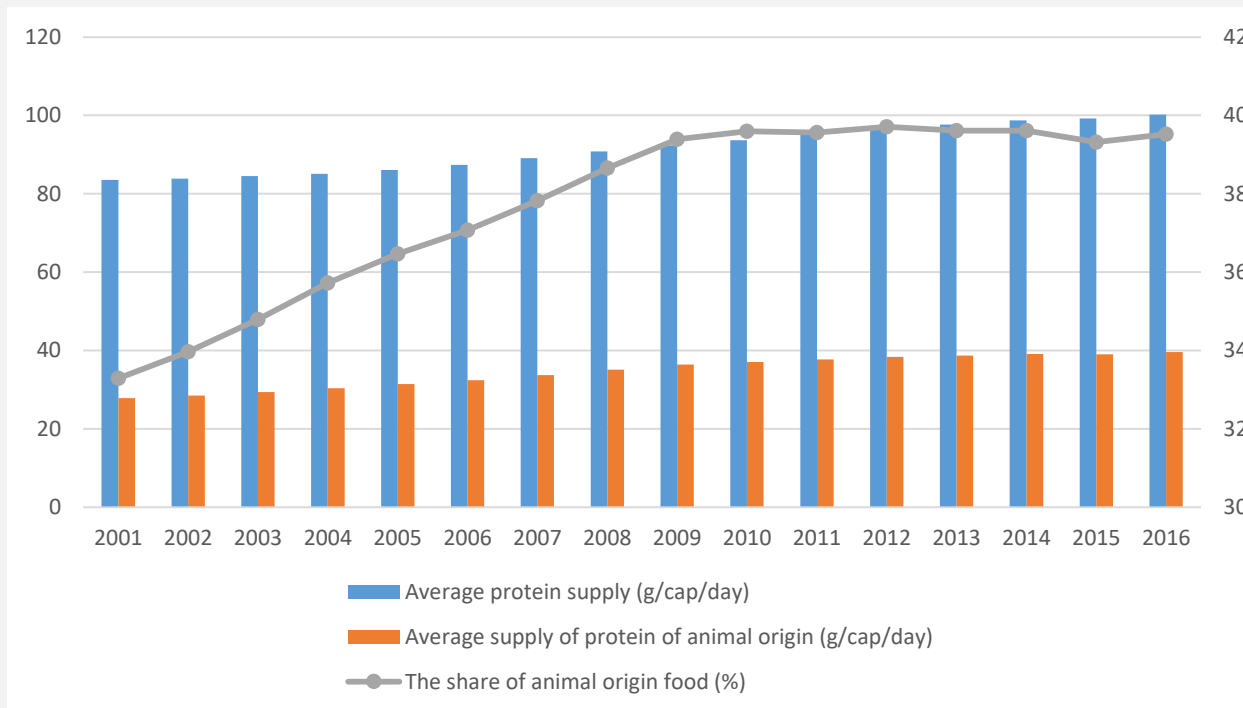
Dietary change in China

Drivers of dietary change in China



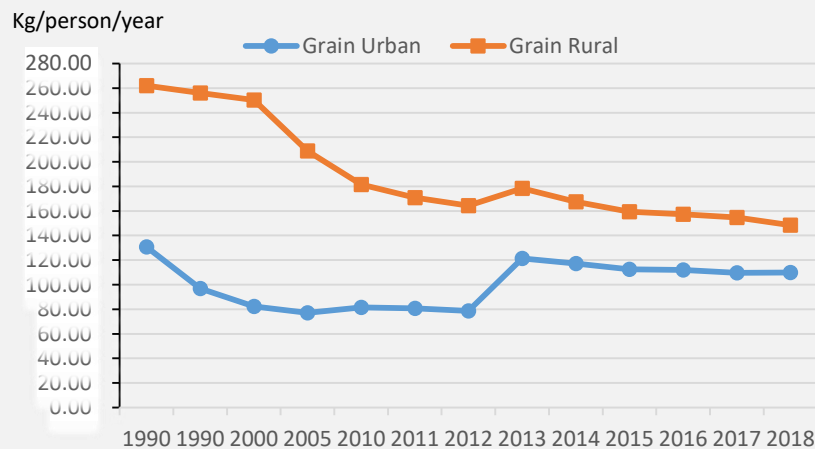
Protein supply increase

- Average protein supply increased from 83.5 g/cap/day in 2001 to 100.2 g/cap/day in 2016
- The contribution of protein from animal origin foods increased from 33.3% to 39.2%

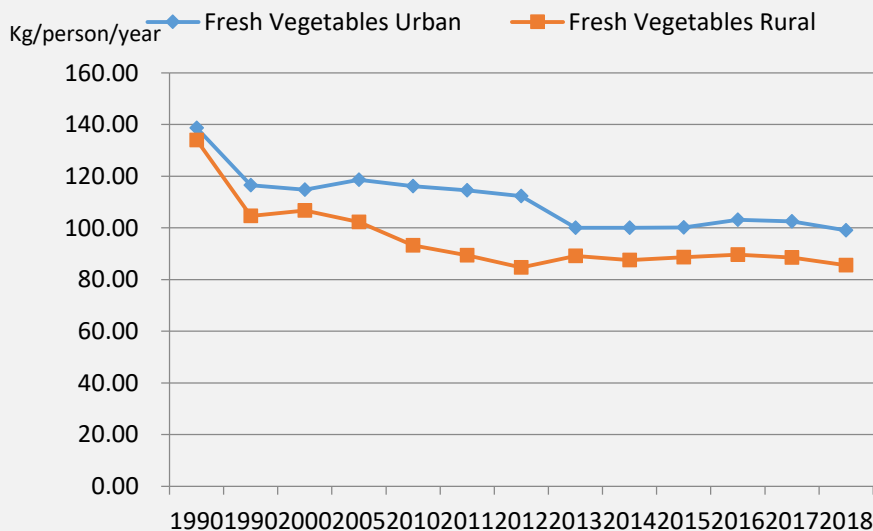
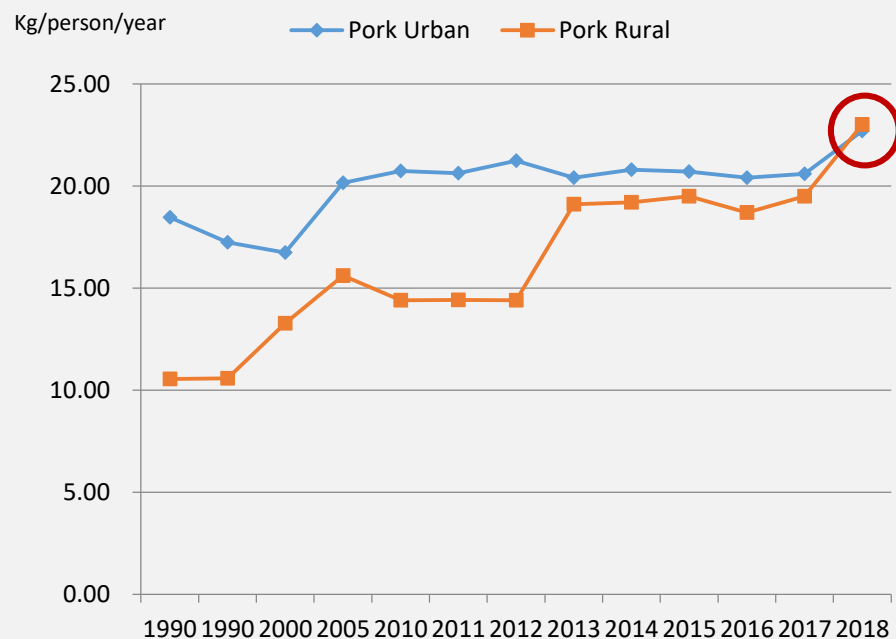


Source: FAOSTATA food security indicators 2020.

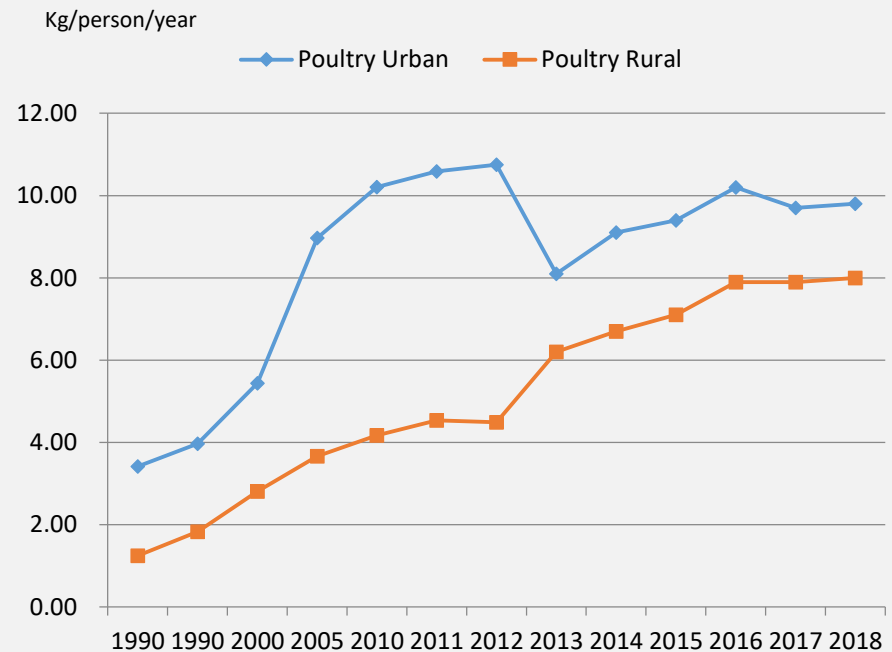
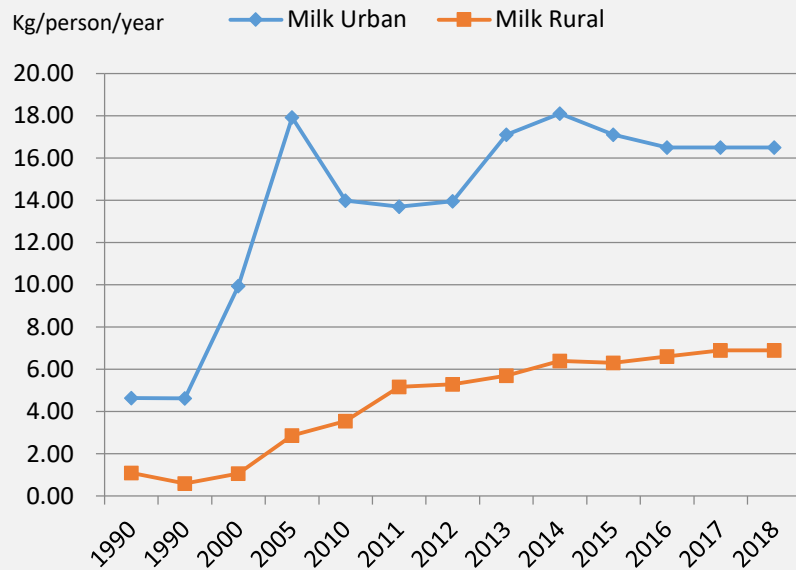
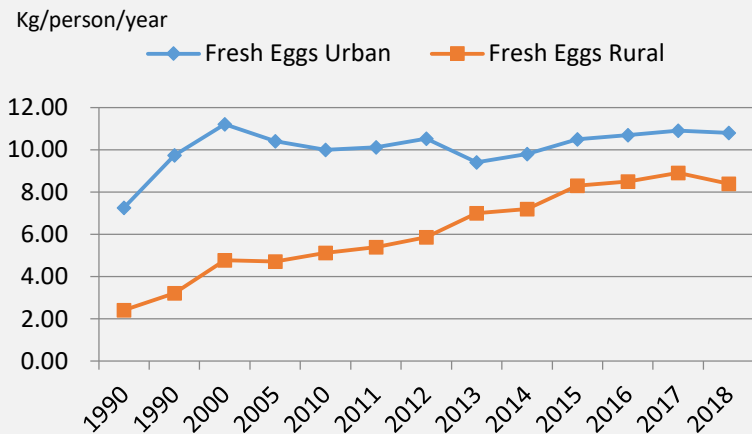
Food consumption transition: Grain consumption decrease, animal-sourced foods consumption increase



■ Narrowed urban-rural gap in food consumption



Grain consumption decrease, animal-sourced foods consumption increase

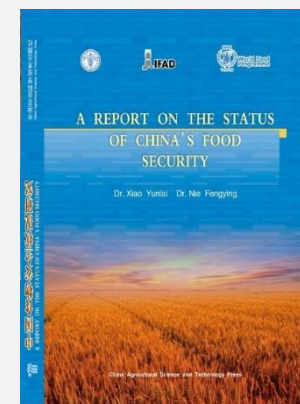


Food security & nutrition of vulnerable people in rural China

Why food & nutrition matters for the vulnerable people ?

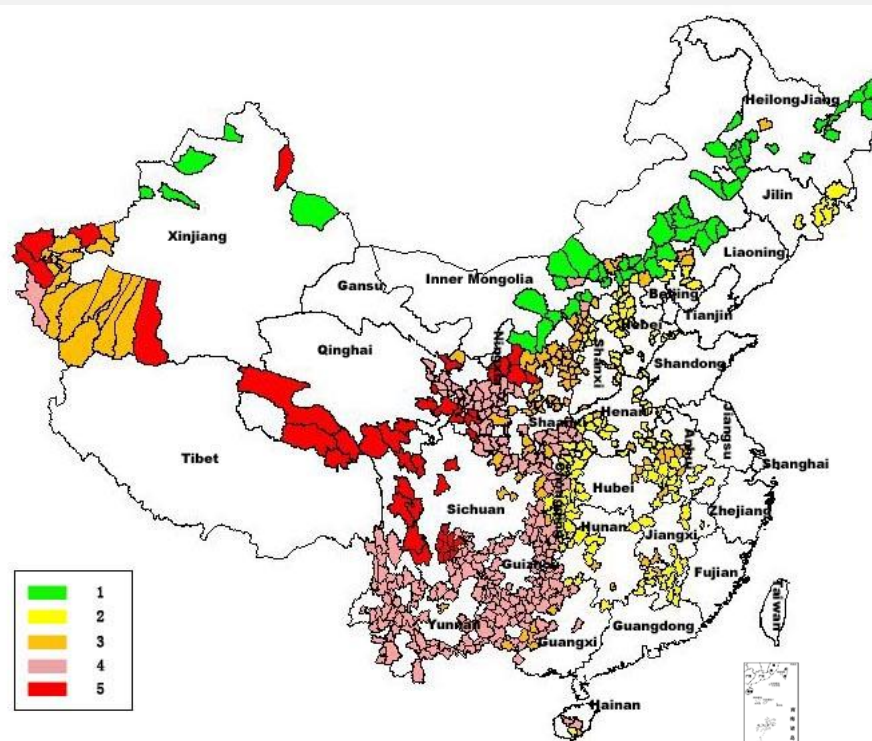
- Malnutrition people living in poverty
- Nutrition-related poverty trap
 - Nutrition is key to human well-being
 - Failing to ensure good nutrition in the critical **first 1,000 days of life** (from conception to a child's second birthday) harms children's **physical and cognitive development** and can have other lasting consequences, including **undereducation and lowered economic productivity**
- Investing in nutrition is one of the **best value-for-money** development actions
 - For every \$1 spent by donors on basic nutrition programs, \$16 (range from \$4-\$35) is returned to the local economy (World Bank, 2017)

Impoverished counties in mountainous rural areas are home to food insecure population in China



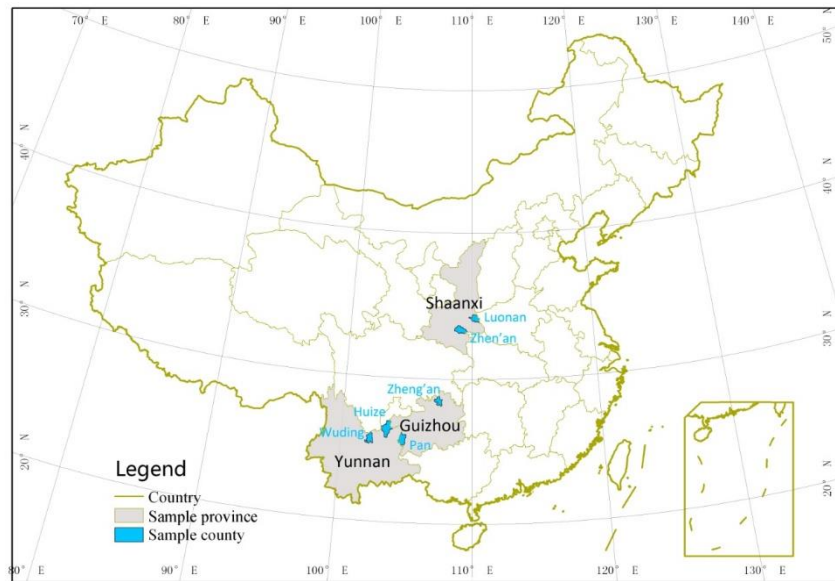
Food security status at county level (2009)

Group	1	2	3	4	5	Poor Counties
Number of poor counties	52	157	112	227	44	592
Total population ('000)	13000	82048	49932	84412	6090	235482
Proportion %	5.5	34.8	21.2	35.8	2.6	100.0
Distribution	Inner Mongolia 25	Shanxi 35	Hebei 33	Yunnan 71	Guizhou 50	
	Heilongjiang 13	Shaanxi 32	Henan 31	Gansu 38	Sichuan 28	
	Hebei 6	Hubei 25	Jiangxi 21	Guangxi 22	Shaanxi 18	
	Xinjiang 5	Hunan 20	Anhui 19	Qinghai 15	Chongqing 11	
	Jilin 3	Xinjiang 16	Sichuan 8	Ningxia 8	Xinjiang 6	
		Guangxi 6	Jilin 5	Inner Mongolia 2	Hainan 2	
		Gansu 5	Inner Mongolia 4			
		Hainan 3	Chongqing 3			
		Yunnan 2	Heilongjiang 1			

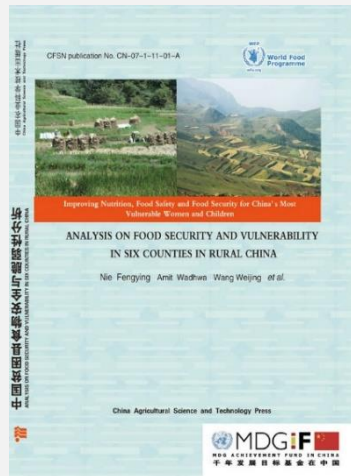


Source: Xiao and Nie. 2010. A Report on the Status of China's Food Security. IFAD, FAO, and WFP Funded Project.

Rural China Poverty and Food Security Household Longitudinal Survey

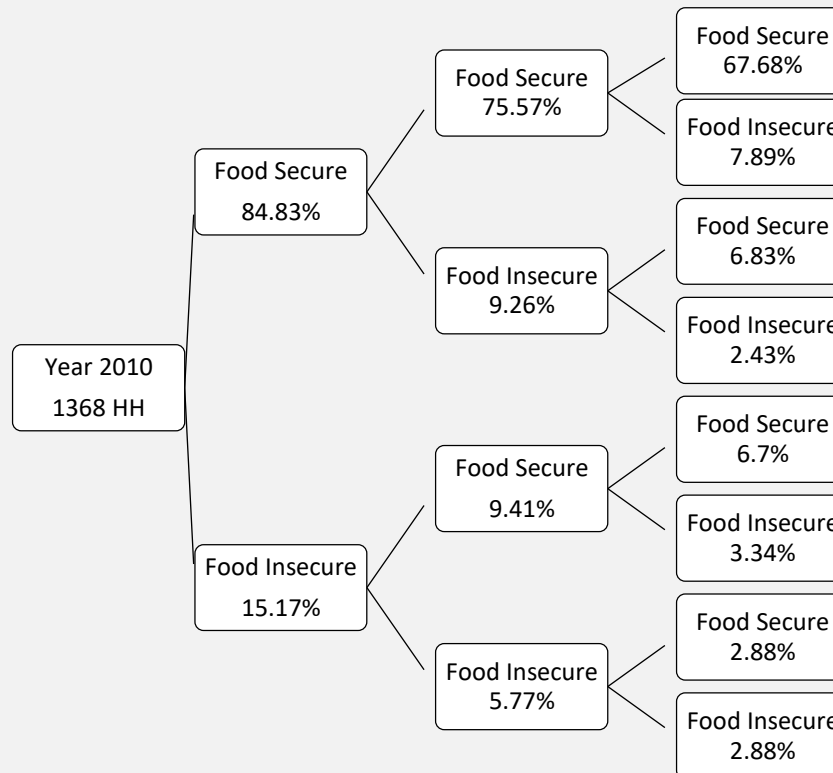


- 4 waves survey with a time span of 9 years (2010, 2012, 2015, 2018, 2021-planned)
- 9 poverty counties, 158 villages, 6300 household samples
- Production, consumption, livelihoods, credits, market, shocks and coping strategies, women empowerment, etc.



How is the household level food & nutrition insecurity?

- Food insecurity dynamics (assessed by Food Consumption Score)
 - 2.9% are chronic food insecure, 20.8% are transitory food insecure



How is the household level food consumption?

- Consumption of grain decreased
- Vegetable, fruits consumption increased
- Fish, meats, eggs, dairy, beans consumption increased

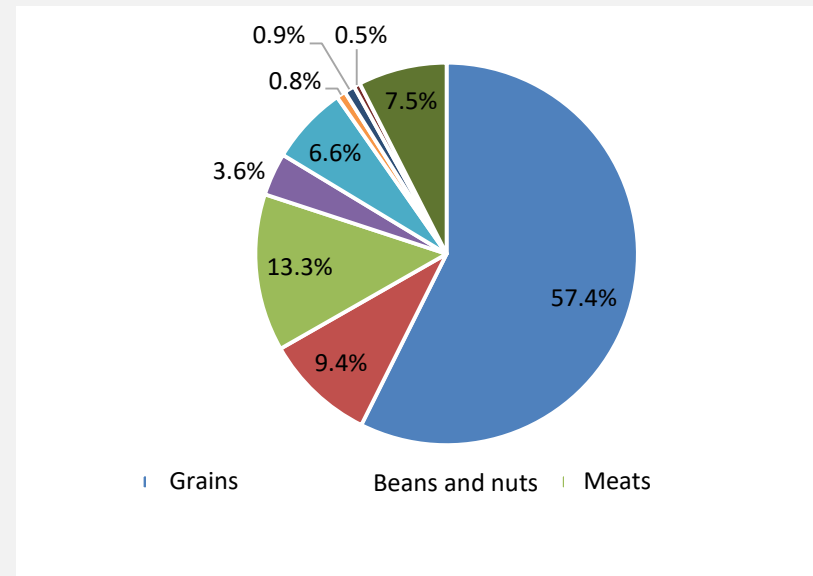
Food consumption and recommended consumption

Food	Recommendation	Intake (g/equ adult/day)		Lower than recommendation	
		2015	2018	2015	2018
Grains	250-400	598.9	589.8	6.1%	7.2%
Vegetables	300-500	234.0	382.4	74.9%	49.1%
Fruits	200-350	70.0	154.4	91.6%	73.2%
Fish and shrimps	40-75	7.3	7.9	94.3%	93.4%
Poultry and meats	40-75	81.6	88.2	38.2%	37.5%
Eggs	40-50	23.7	26.7	81.1%	79.3%
Dairy	300	17.0	17.4	99.2%	99.4%
Beans	25-35	17.5	34.4	77.2%	60.7%
Oil	25-30	69.0	70.3	12.6%	13.7%

How is the household level food & nutrition insecurity?

■ Nutrition insecurity

- Protein: 33%
 - Iron: 8%
 - Zinc: 23%
-
- Protein source: 57.4% of the protein intake from grains, only 13.3% from meats



Who and why food and nutrition insecure?

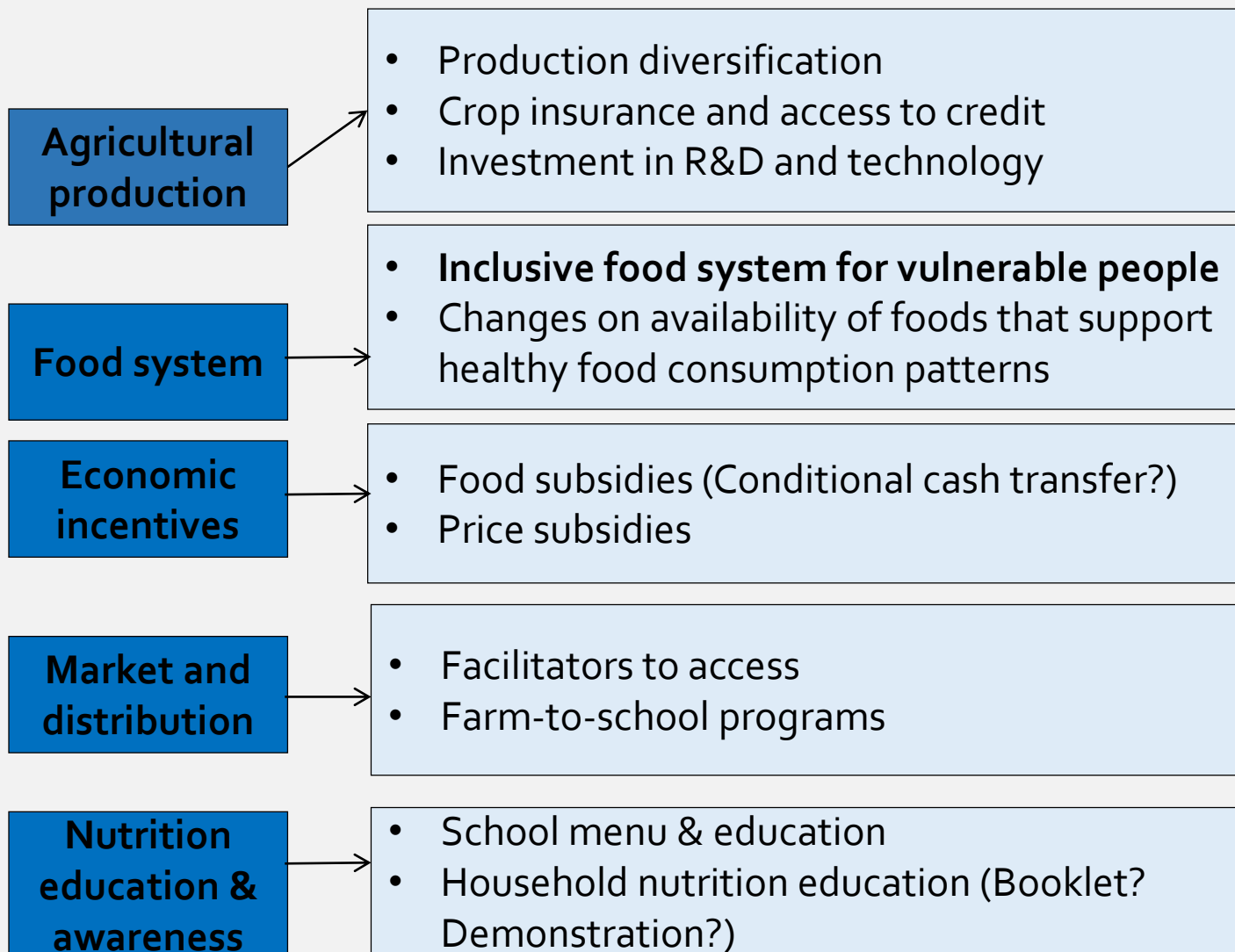
■ Who?

- Lower income, living on pension and remittance
- Lower women empowerment
- Lower educational level

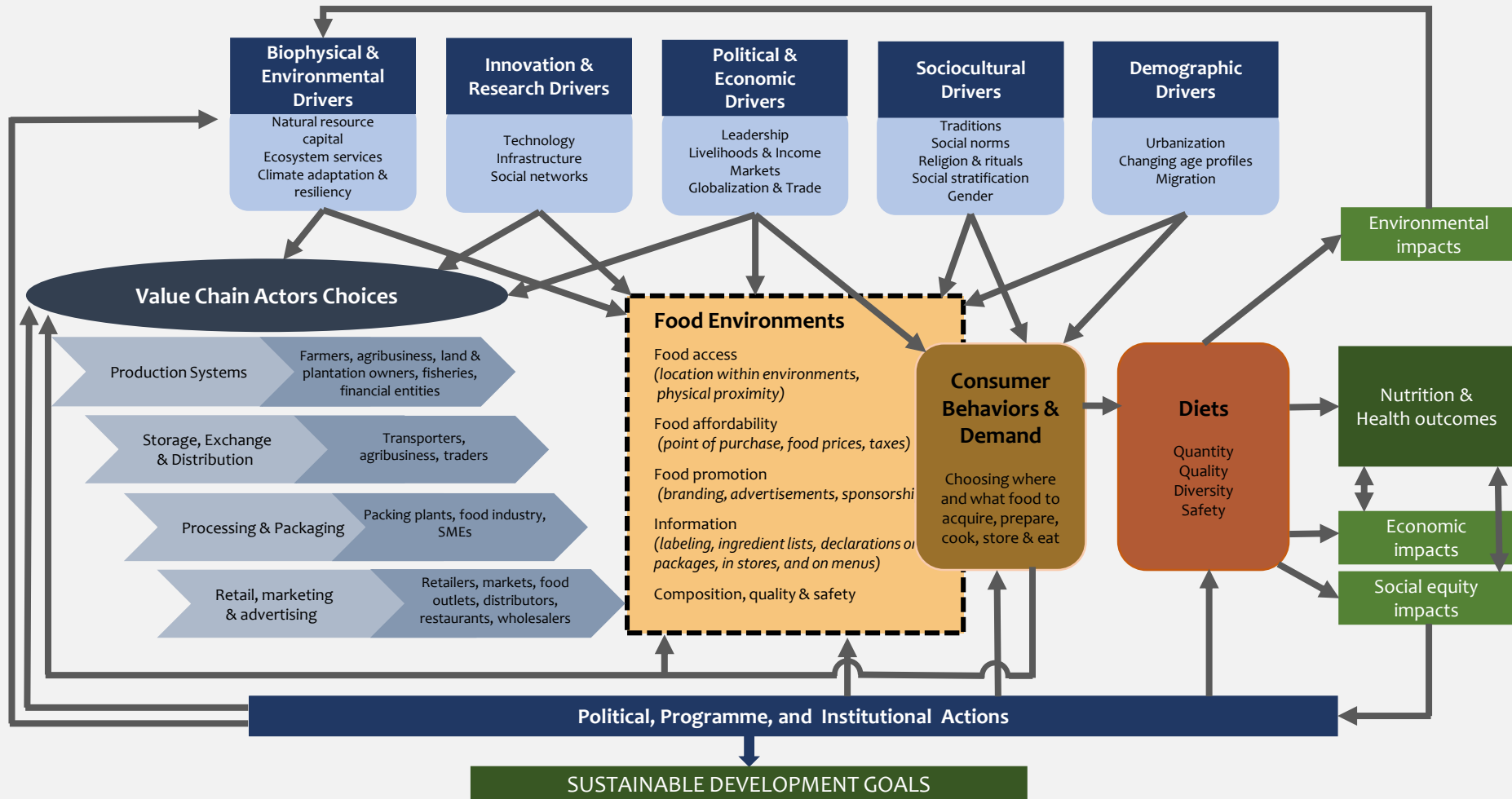
■ Why?

- Economics shocks: income and price
- Environment shocks: flood, drought, etc.
- Market underdevelopment
- Awareness (e.g. fish: 75% not healthy, 78% fish not nutritious)
- Habit and consumption inertia (e.g. fish: 40% no need, 80% no habit)

Policy options



Food system for better nutrition



Source: Fanzo, et al. 2017 UN CFS HLPE Report. *Nutrition and food systems*.

Thank You

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