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.
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.

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

- 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: WHO.
Dietary change in China
Drivers of dietary change in China

- **Social-economic change**
  - Economic development
  - Urbanization

- **Changes in food system**
  - Food supply increase
  - Qualitative changes in the production, processing, distribution and marketing of food

- **Outcome**
  - Dietary deficiencies elimination
  - Nutrition transition: more animal-sourced food, more high energy density diet
  - Increased obesity, overweight, non-communicable diseases

**Lifestyle change:**
- Less time to prepare food;
- More women entered workforce;
- Eating at home--eating out--online ordering
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)

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 chronical food insecure, 20.8% are transitory food insecure

Source: AII, CAAS survey data.
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

<table>
<thead>
<tr>
<th>Food</th>
<th>Recommendation</th>
<th>Intake (g/eq adult/day)</th>
<th>Lower than recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
<td>2018</td>
<td>2015</td>
</tr>
<tr>
<td>Grains</td>
<td>250-400</td>
<td>598.9</td>
<td>589.8</td>
</tr>
<tr>
<td>Vegetables</td>
<td>300-500</td>
<td>234.0</td>
<td>382.4</td>
</tr>
<tr>
<td>Fruits</td>
<td>200-350</td>
<td>70.0</td>
<td>154.4</td>
</tr>
<tr>
<td>Fish and shrimps</td>
<td>40-75</td>
<td>7.3</td>
<td>7.9</td>
</tr>
<tr>
<td>Poultry and meats</td>
<td>40-75</td>
<td>81.6</td>
<td>88.2</td>
</tr>
<tr>
<td>Eggs</td>
<td>40-50</td>
<td>23.7</td>
<td>26.7</td>
</tr>
<tr>
<td>Dairy</td>
<td>300</td>
<td>17.0</td>
<td>17.4</td>
</tr>
<tr>
<td>Beans</td>
<td>25-35</td>
<td>17.5</td>
<td>34.4</td>
</tr>
<tr>
<td>Oil</td>
<td>25-30</td>
<td>69.0</td>
<td>70.3</td>
</tr>
</tbody>
</table>

Source: All, CAAS survey data.
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

Source: All, CAAS survey data.
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

- **Agricultural production**
  - Production diversification
  - Crop insurance and access to credit
  - Investment in R&D and technology

- **Food system**
  - Inclusive food system for vulnerable people
  - Changes on availability of foods that support healthy food consumption patterns

- **Economic incentives**
  - Food subsidies (Conditional cash transfer?)
  - Price subsidies

- **Market and distribution**
  - Facilitators to access
  - Farm-to-school programs

- **Nutrition education & awareness**
  - School menu & education
  - Household nutrition education (Booklet? Demonstration?)
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Thank You

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