

Unit Two

Global Food Security: Four Dimensions and Affecting Factors

Global nutrition and health challenges: double burden in 21st century



~1 billion
people
go to bed
hungry

>1 billion adults
are overweight
or obese



Poor growth, nutrient deficiencies,
infection, intergenerational effects

Another billion have micro-
nutrient deficiencies.
Poor diet quality.

Need healthy and sustainable food supply that is affordable by all

Lead-in:

“Food security” is really a big and extremely important topic. We heard and also talked a lot about “food security”, and most of our work are also involved in the career in pursuit of “food security” . So what does “Food security” really means?

This text focuses on the key aspects (pillars) and affecting factors of “food security”, and help reader understand “Food security” from different dimensions.

OUTLINE

- ◆ **Concept of food security**
- ◆ **The four pillars of global food security**
- ◆ **Causes and/or factors affecting global food insecurity**
- ◆ **Conclusion**

Concept of food security

The FAO defines food security as “when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food, which meets their dietary needs and food preferences for an active and healthy life”.

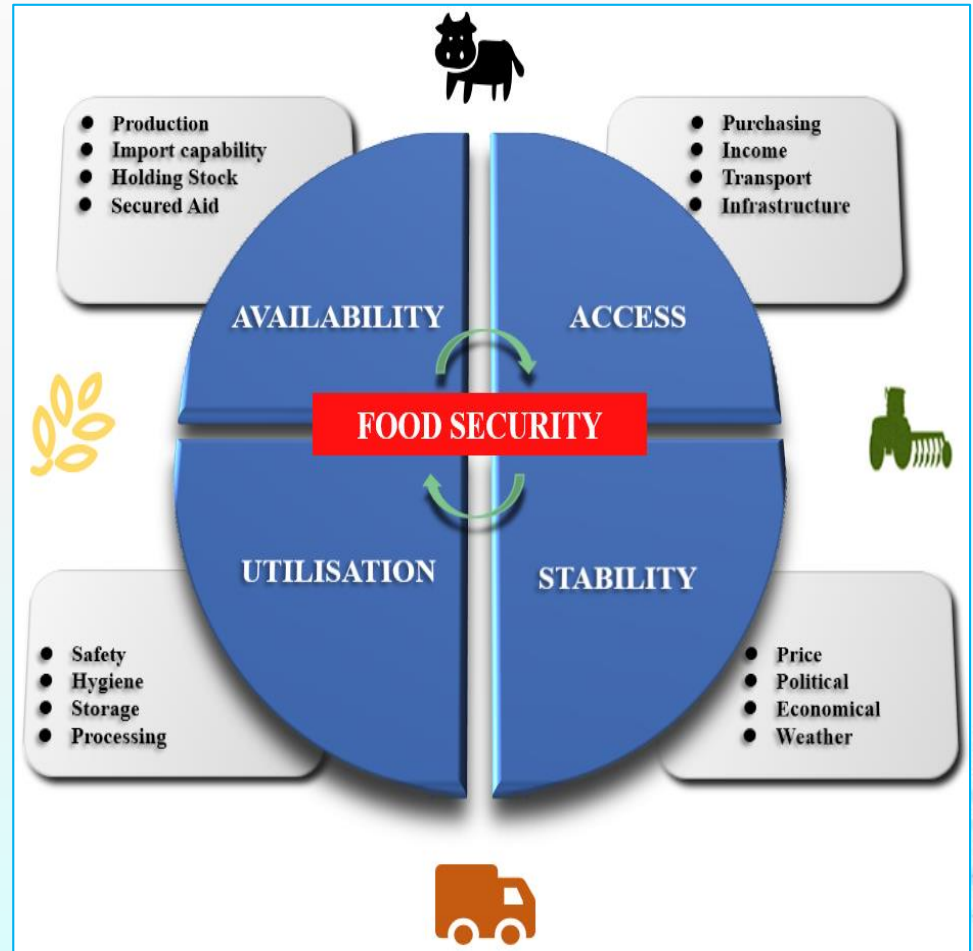
The four pillars of global food security

◆ Food availability

◆ Food access

◆ Food utilization

◆ Food stability



Food availability

- ◆ An adequate quantity of food available **at minimal notice(随时)**
- ◆ High food availability is not in itself sufficient to ensure food security

- ◆ **Production**
- ◆ **Import capability**
- ◆ **Existing food stocks**
- ◆ **The provision for food aid**

Food access

This pillar considers the physical, social and economic access to food

- ◆ **Purchasing power**
- ◆ **Income**
- ◆ **Transport modalities**
- ◆ **Local infrastructures**

Food utilization

- ◆ **Focuses on the entire supply chain**
- ◆ **Deals with the way in which the food is handled from a safety perspective**

- ◆ **Safety and hygiene**
- ◆ **Efficient and safe usage**
- ◆ **Storage**
- ◆ **Processing**
- ◆ **Food preferences**

Food stability

- ◆ **Stability** mainly from a supply and access perspective;
- ◆ The poorer the nation, household or consumer, the more susceptible it is to external factors;

- ◆ **Price**
- ◆ **Political stability**
- ◆ **Economic stability**
- ◆ **Weather patterns**
- ◆ **Disasters**

Causes and/or factors affecting global food insecurity

- ◆ **Population increase**
- ◆ **Urbanization**
- ◆ **Dietary demands**
- ◆ **Natural resources**
- ◆ **Climate change**
- ◆ **Food versus fuel debate**
- ◆ **Infrastructure**
- ◆ **Communication**

Population increase

- ◆ **An overall global population is predicted to increase from its current 7.3 billion to 9 billion in 2050;**
- ◆ **This population growth is expected to occur mostly in the lower income, developing countries.**

Urbanization

- ◆ **More than 65% of the population will be living in urban areas;**
- ◆ **Mainly in low-income countries**
- ◆ **Increased demand on food supply chains**

Dietary demands

- ◆ **There will be a 40% increase in demand (kg per person per year) for meat in higher income countries and a 69% increase in lower income countries;**
- ◆ **The demand for dairy products is expected to increase by up to 70%.**

Natural resources

- ◆ **Humankind use roughly one-half of the planet's vegetated land to grow food;**
- ◆ **Approximately 10 million ha of land is lost each year through soil erosion;**
- ◆ **A further 10 million ha is not suitable for food due to irrigation related issues;**
- ◆ **Water is currently over-exploited by the agri-food industry.**

Climate change

- ◆ **Has drastic effects on the productivity and economic prosperity at regional level;**
- ◆ **May lead to population displacement and resource depletion;**
- ◆ **Has a significantly negative effect on food security from a both a supply and demand perspective at global level.**

Food versus fuel debate

- ◆ **Food supply chains traditionally destined for food production may become redirected towards the production of biofuels due to economic pressure.**
- ◆ **Traditional crops which have been redirected for the production of biofuels include Maize, Oilseed and Sugar cane;**
- ◆ **With the potential to undermine global food security if not managed and monitored correctly**

Infrastructure

- ◆ **Developed countries have more artificially created environments and the ability to automate and modernize the process;**
- ◆ **In developing countries, foods are grown in the traditional farm setting and at the mercy of the weather and the immediate surrounding in which they are transported and stored.**

Communication

Advanced information sharing channels across stakeholders can significantly:

- ◆ **increase profits and reduce food waste**
- ◆ **improve transparency across trading partners**
- ◆ **improve warehouse management and logistical efficiency**

Conclusion

- 1. Food security is highly correlated to food availability, access, utilization and stability;**
- 2. Attaining and sustaining global food security requires a deep consideration for the concerns of a broad spectrum of stakeholders and an ability to merge both experienced and predicted consequences;**
- 3. Weather extremes, political instability and resource overuse pose diverse challenges for food security;**
- 4. Long-term perspective of food security should also consider environmental, social and financial aspects.**

Questions

- 1. What are the four dimensions of food security?**
- 2. What are the important factors associated with food availability?**
- 3. How do you understand the food utilization from the perspectives of culture and dietary requirements?**
- 4. Please describe the significance of food stability in food security.**
- 5. How do you understand the role of infrastructure in securing food access?**

Homework & Topics for Discussion

Highlight summarization

Please summarize the key points of this text. (<200 words)

Topics for discussion

- 1. Please carefully read and think the definition of food security, and then share with your classmates the current situation of food security in your hometown and potential measures to ensure food security there.**
- 2. “The poorer the nation, household or consumer, the more susceptible it is to external factors”. Please state your arguments from the four dimensions of food security in this text.**