
**Food Systems and Human Health and
Nutrition: An Economic Policy
Perspective with a Focus on Africa**

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Security Symposium
Stanford University
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2,900,000,000,000

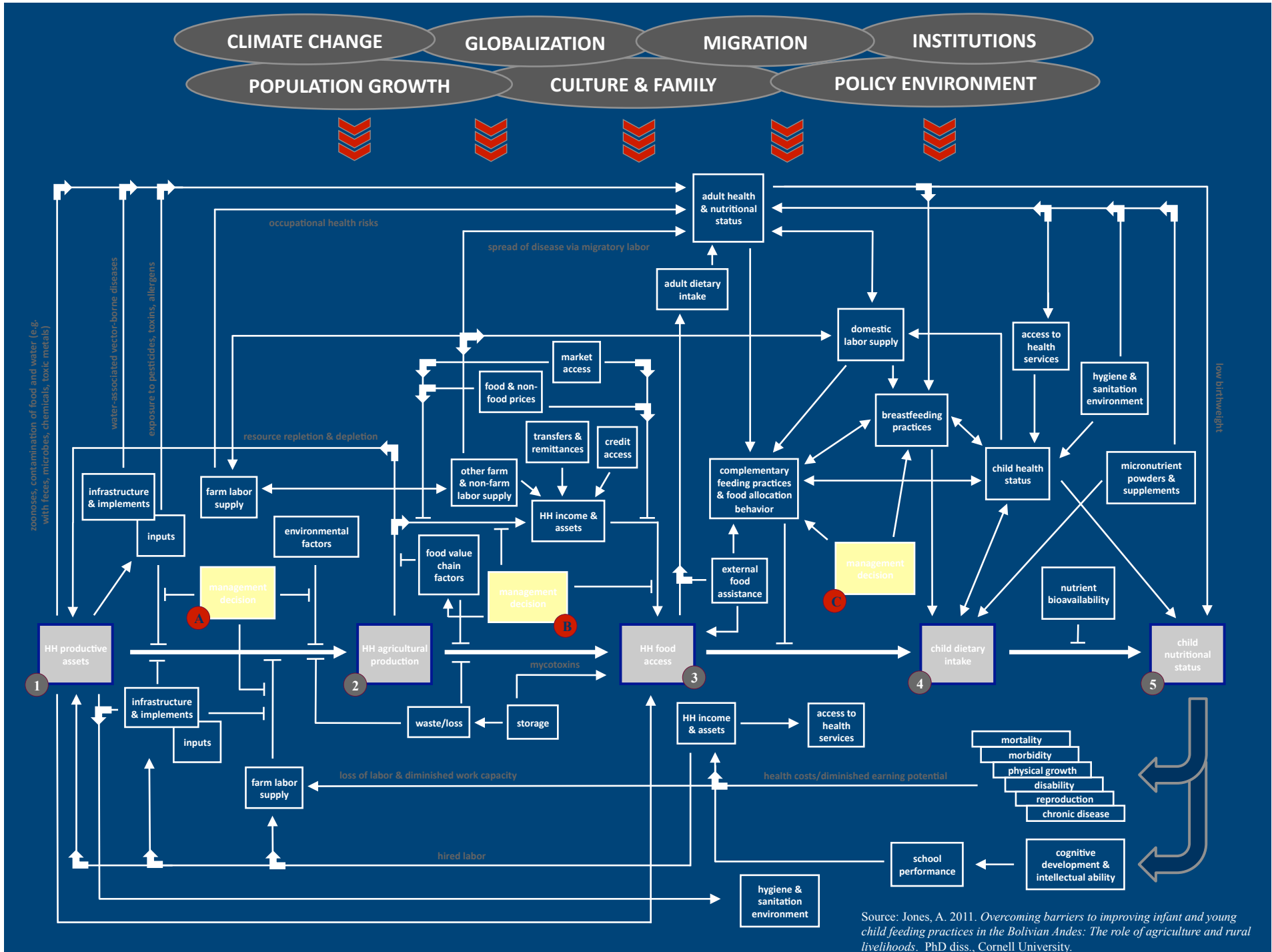
Pounds of Food Lost

3-3.5 Billion Additional

People Could be Fed



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Source: Jones, A. 2011. *Overcoming barriers to improving infant and young child feeding practices in the Bolivian Andes: The role of agriculture and rural livelihoods*. PhD diss., Cornell University.

Key Health and Nutrition-Related Drivers of Contemporary Food Systems

- **Food Price Changes**



Key Health and Nutrition-Related Drivers of Contemporary Food Systems

- Food Price Changes
- **Economic Growth, Urbanization and Globalization**



Key Health and Nutrition-Related Drivers of Contemporary Food Systems

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- **Research and Technological Change**



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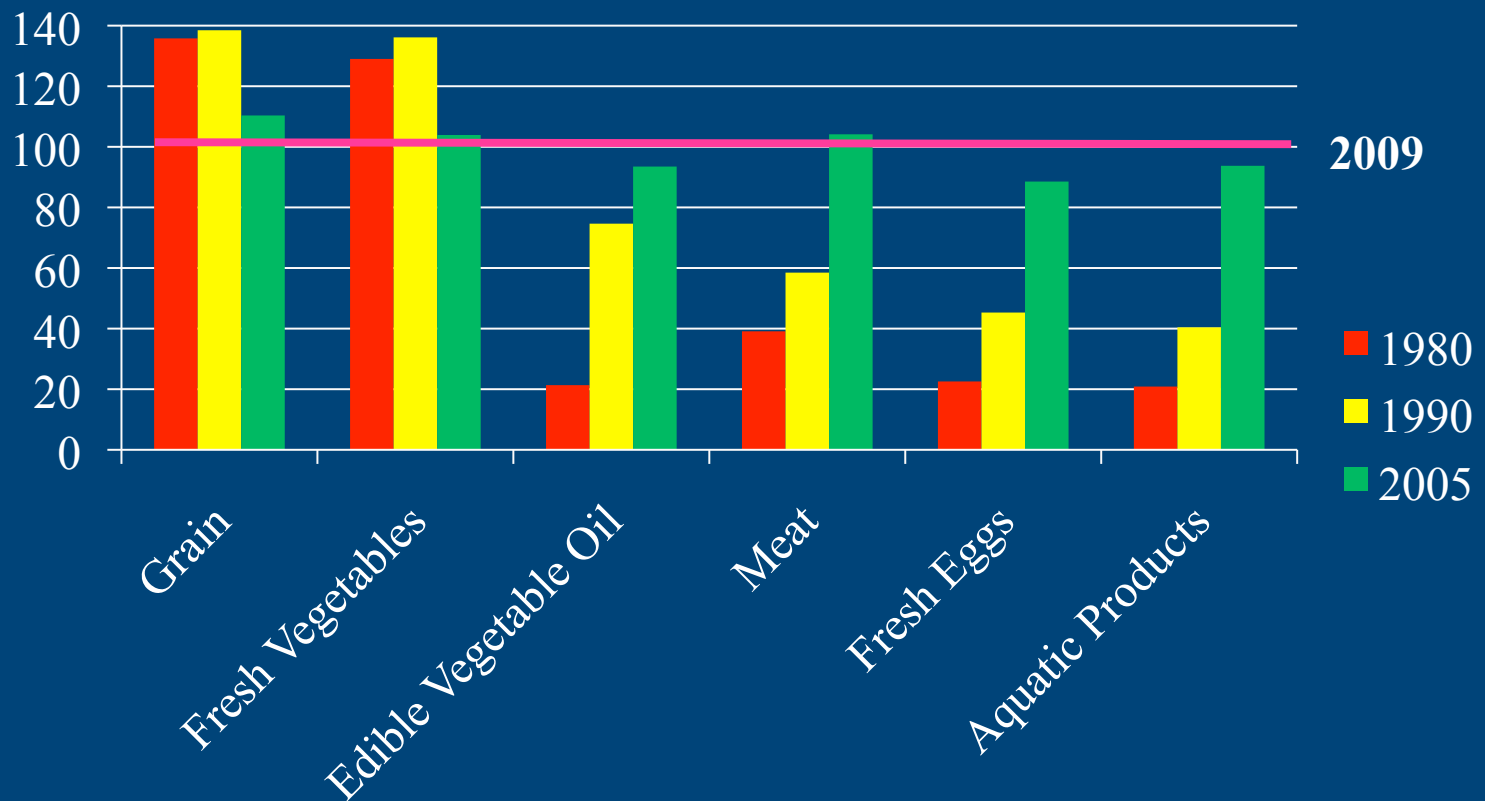
Key Health and Nutrition-Related Drivers of Contemporary Food Systems

- Food Price Changes
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- Biofuel and Competition for Resources
- Land Grabbing
- Climate Change
- **Demographic Change**



Per Capita Annual Consumption of Selected Food Groups by Chinese Rural Households (Index, 2009=100)

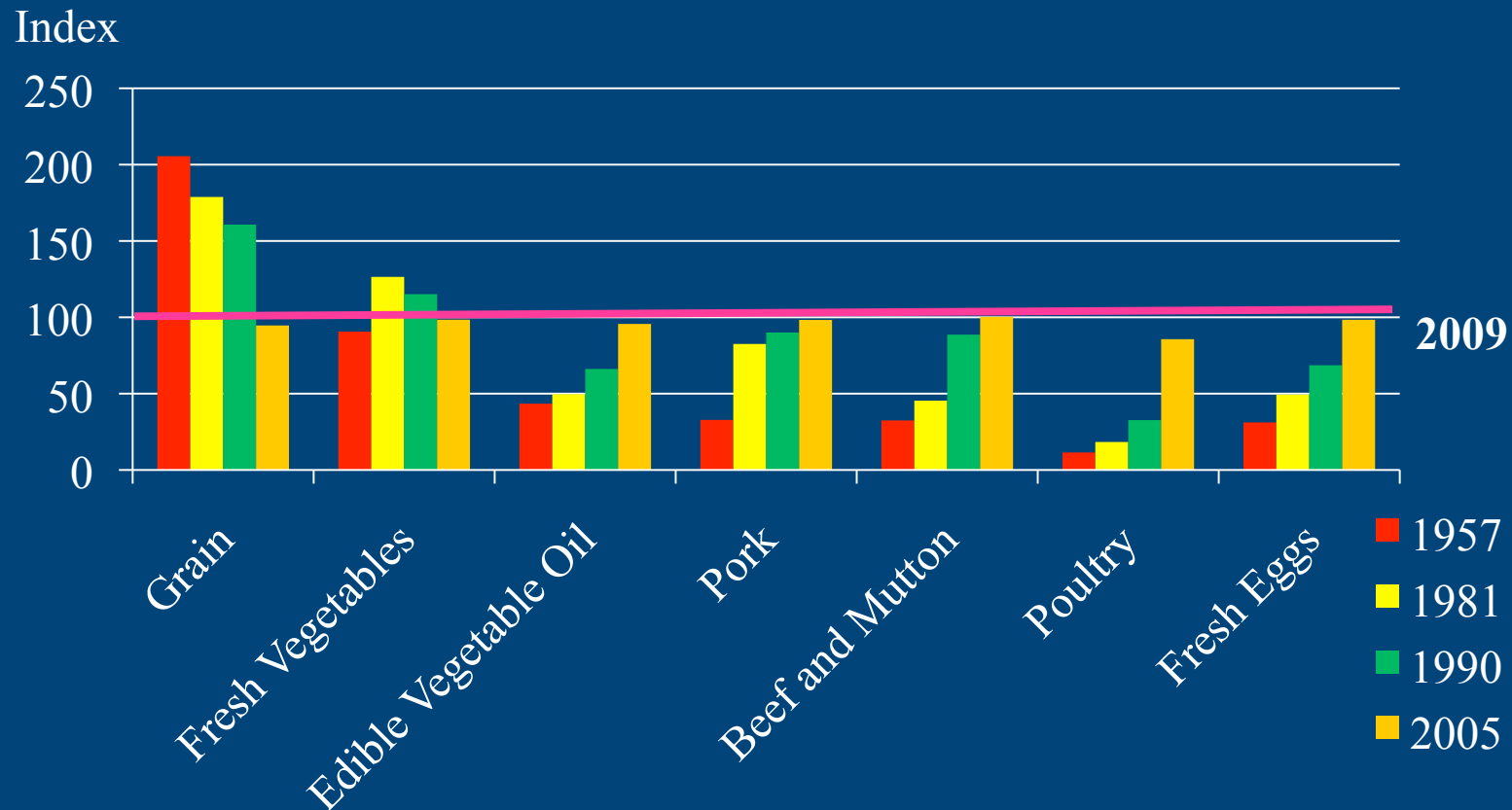
Index



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Source: NBS: China Statistical Year Book, 1987 and 2010.

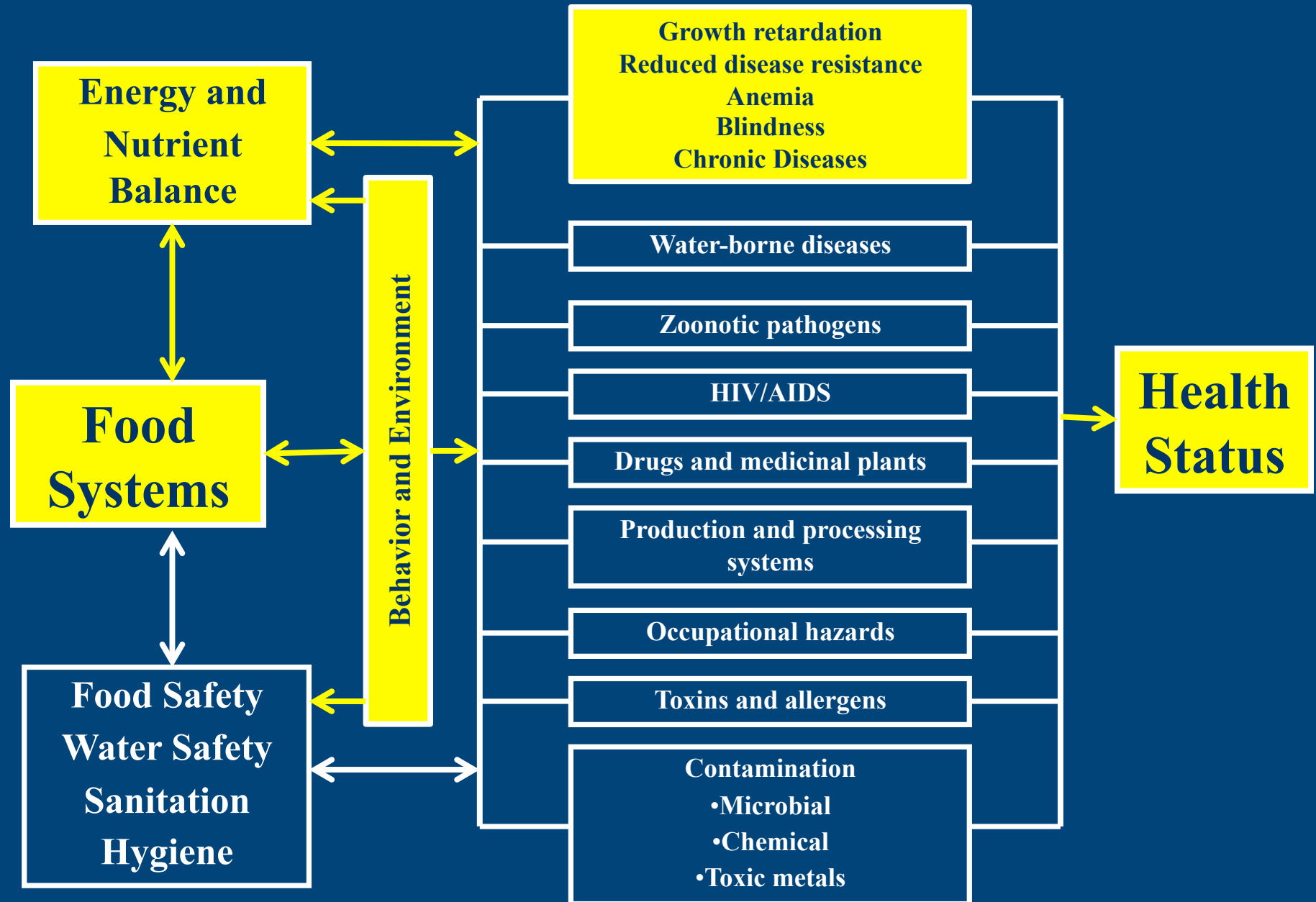
Per Capita Annual Consumption of Selected Food Groups by Chinese Urban Households (Index, 2009=100)



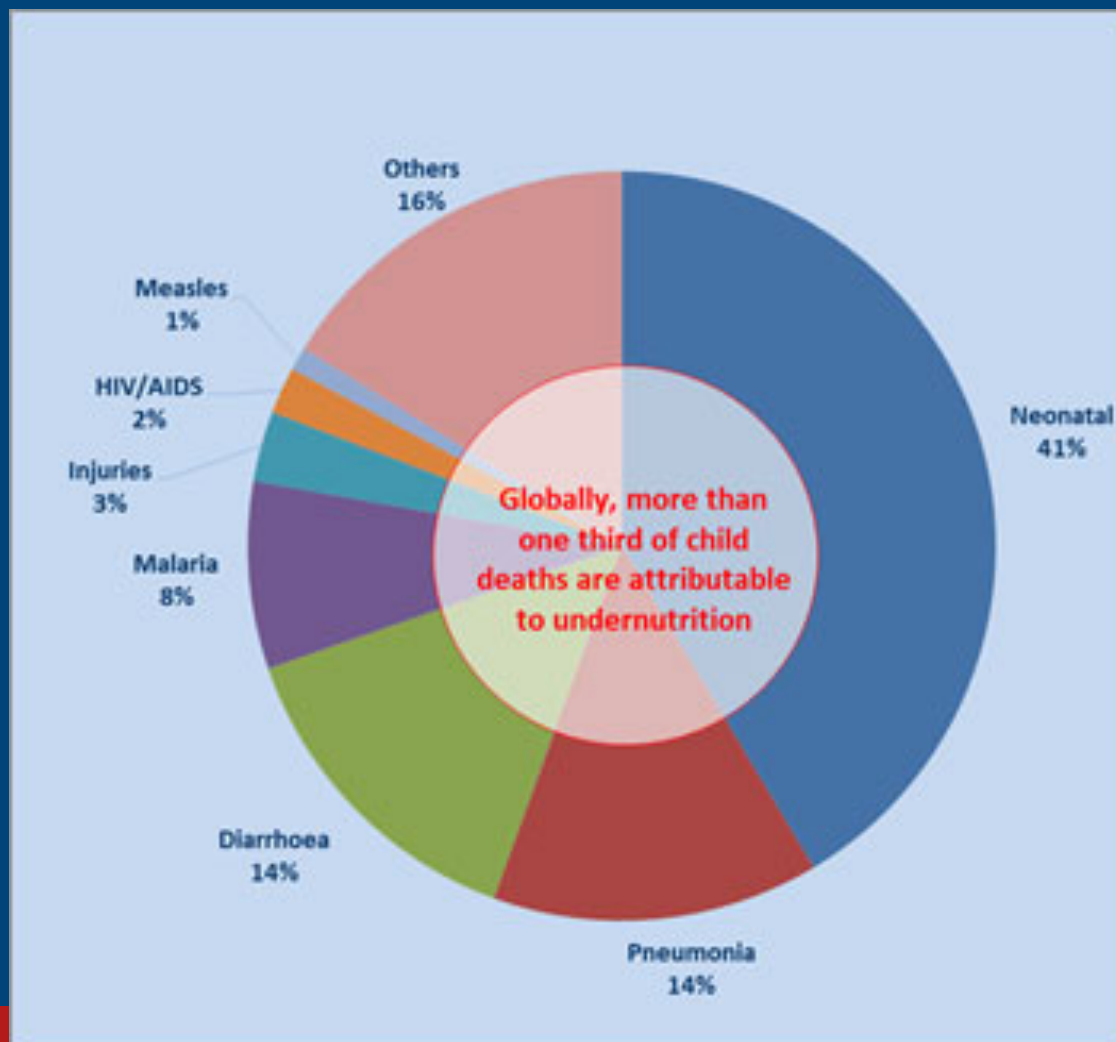
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Source: NBS: China Statistical Year Book, 1987 and 2010.

Interactions Between Food Systems and Human Health and Nutrition



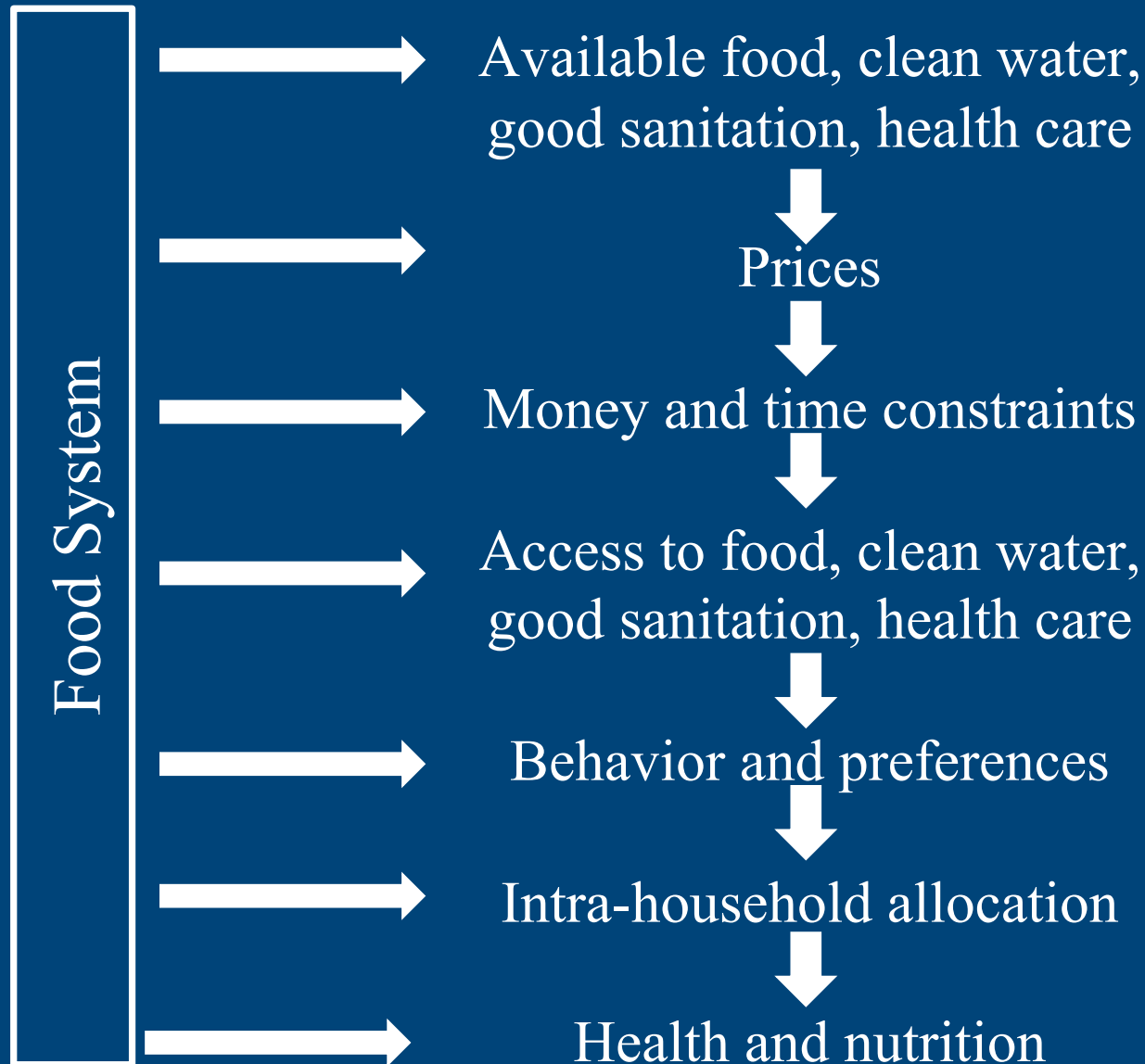
Causes of Under-Five Deaths in 2008



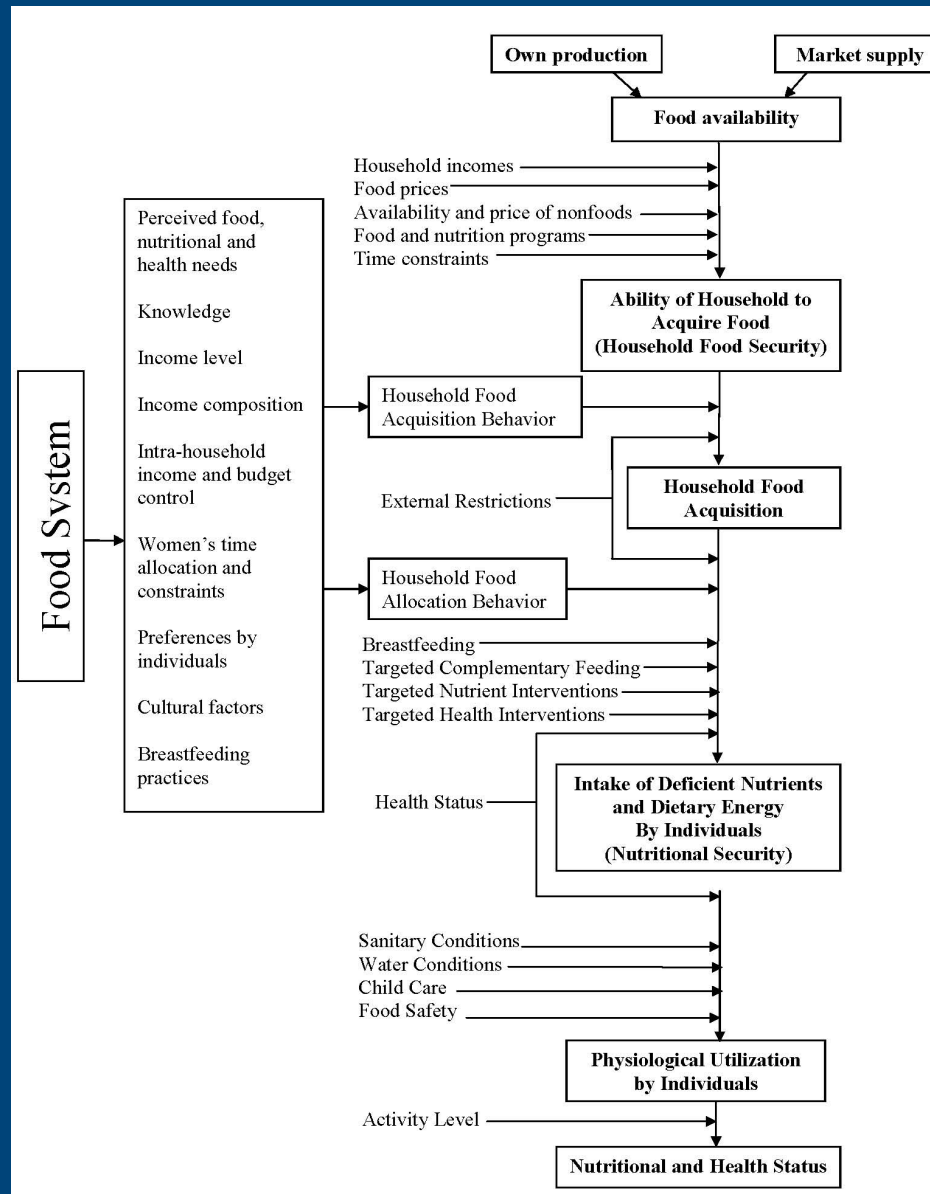
Cornell University

Source: UNICEF, September 2012, *ChildInfo: Monitoring the Situation of Children and Women*, Accessed online at: <http://www.childinfo.org/malnutrition.html>.

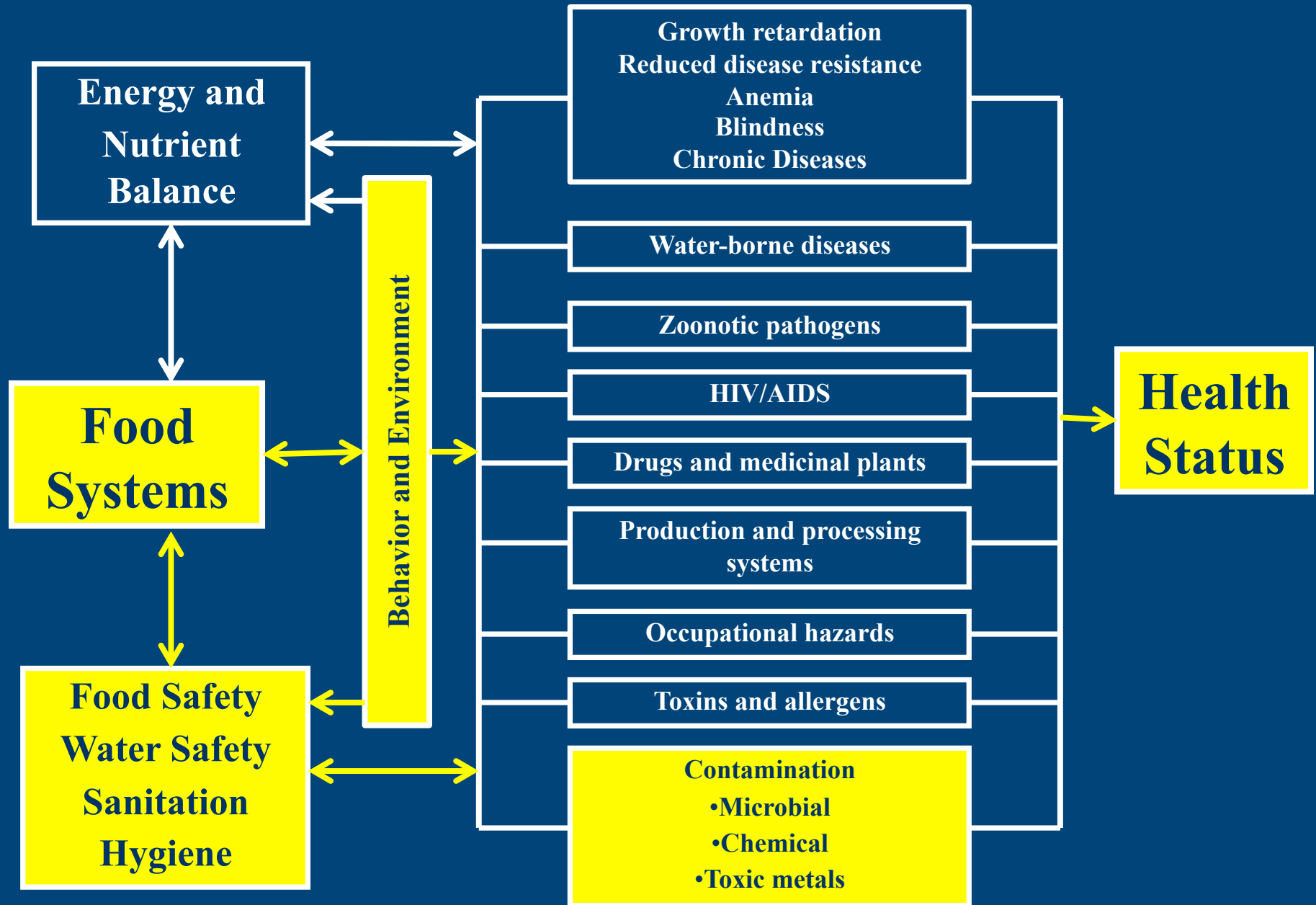
The Generic Pathway



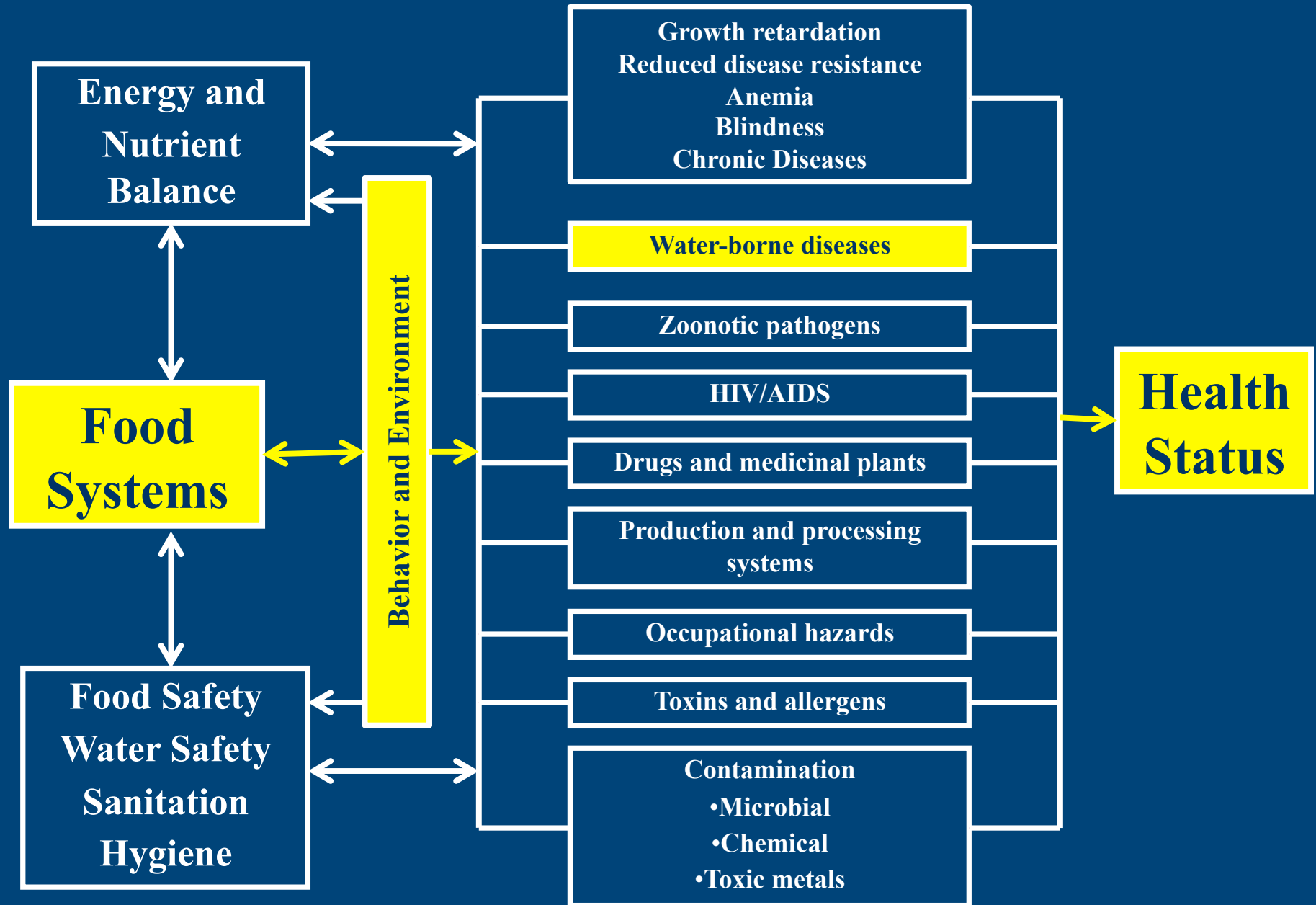
A Simplified Conceptual Framework Linking Food Availability, Food Security, Health and Nutrition



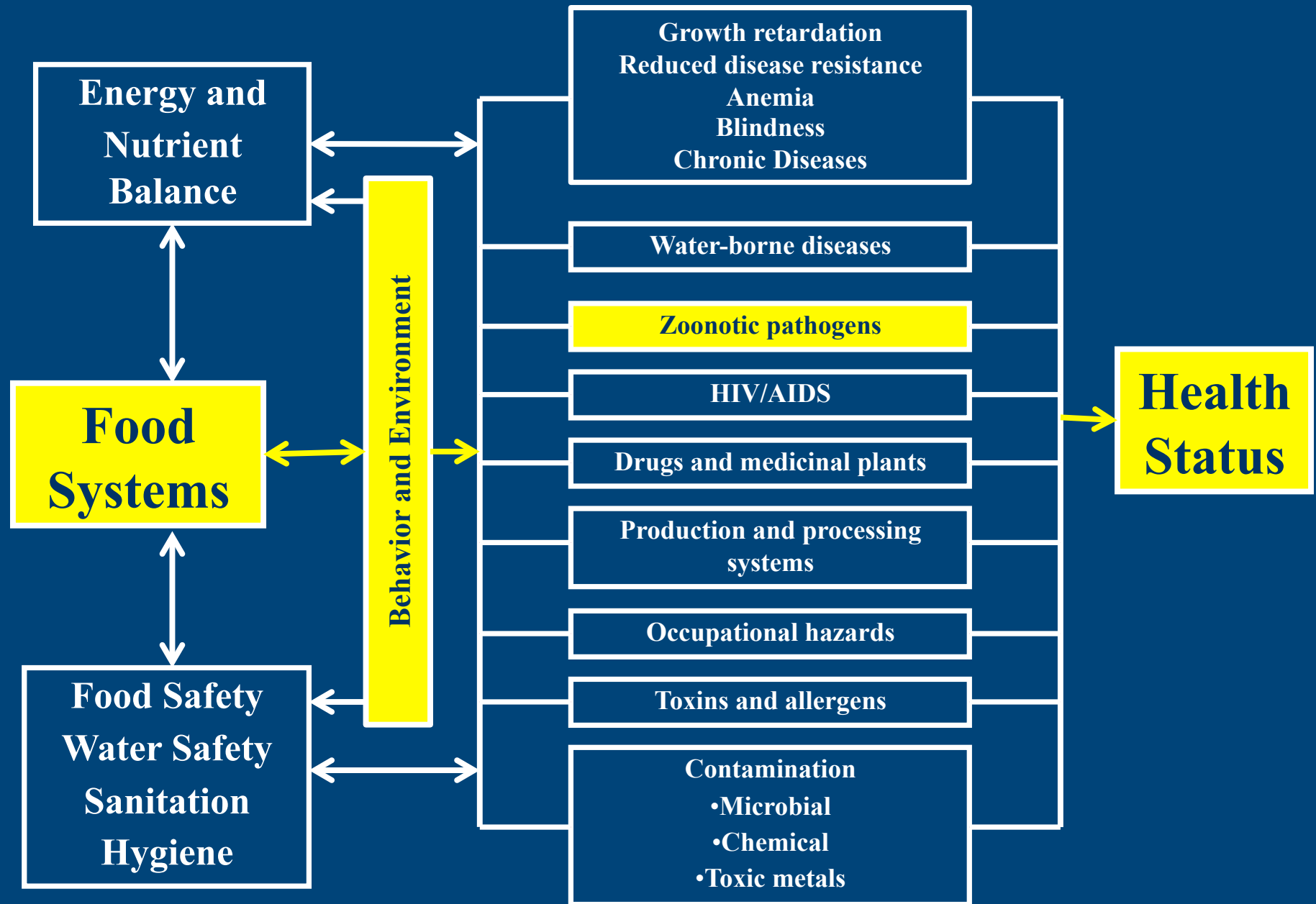
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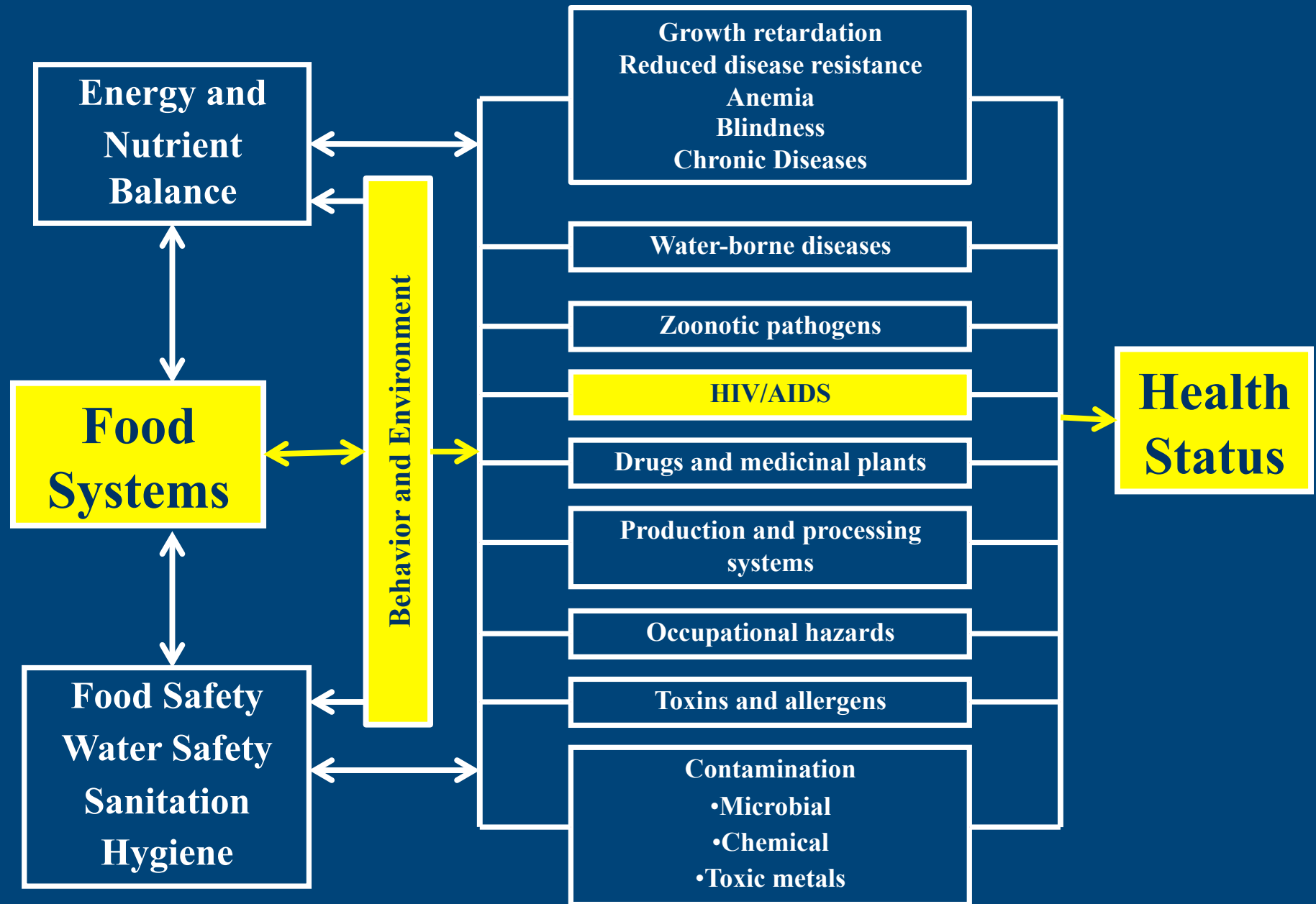
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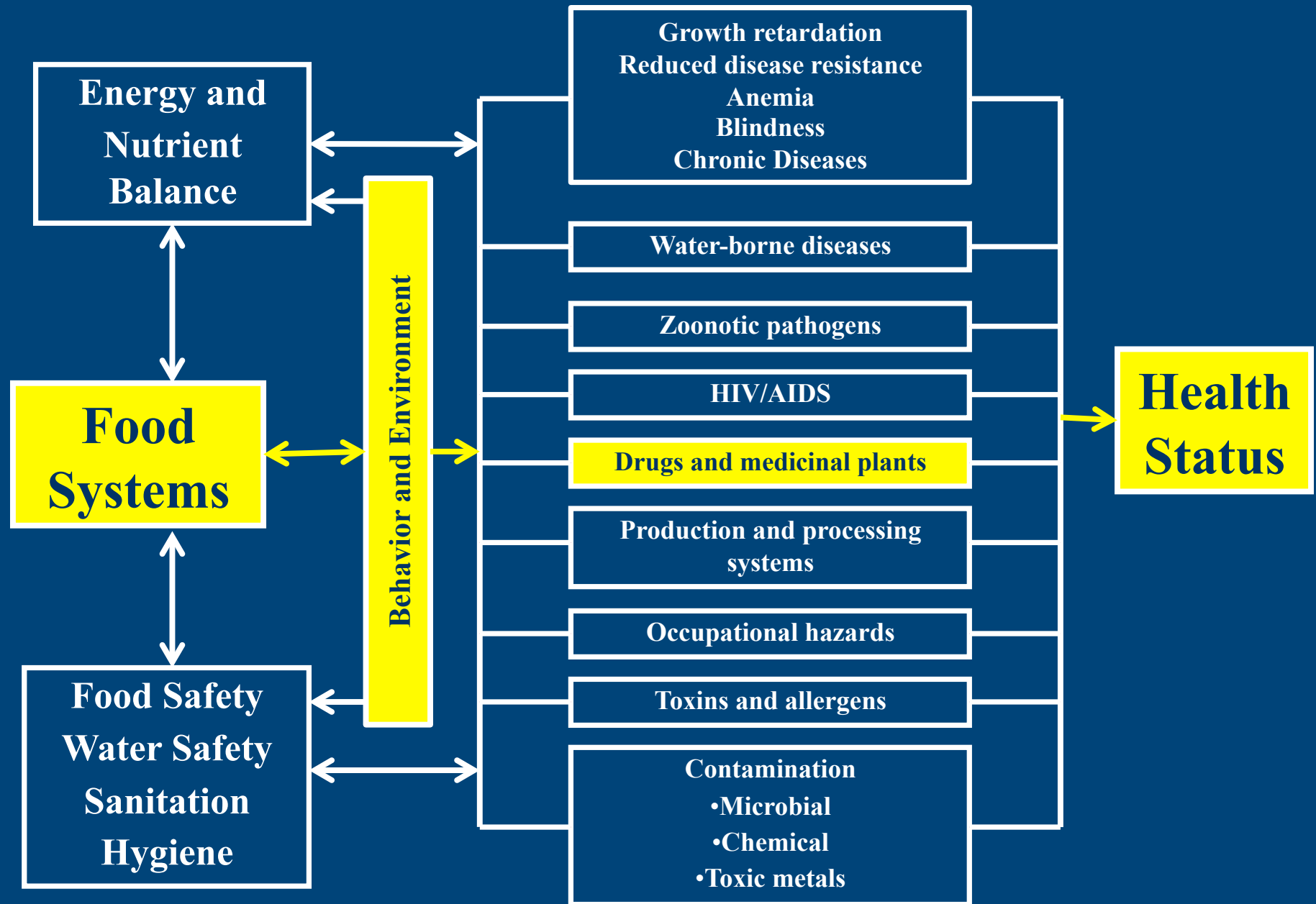
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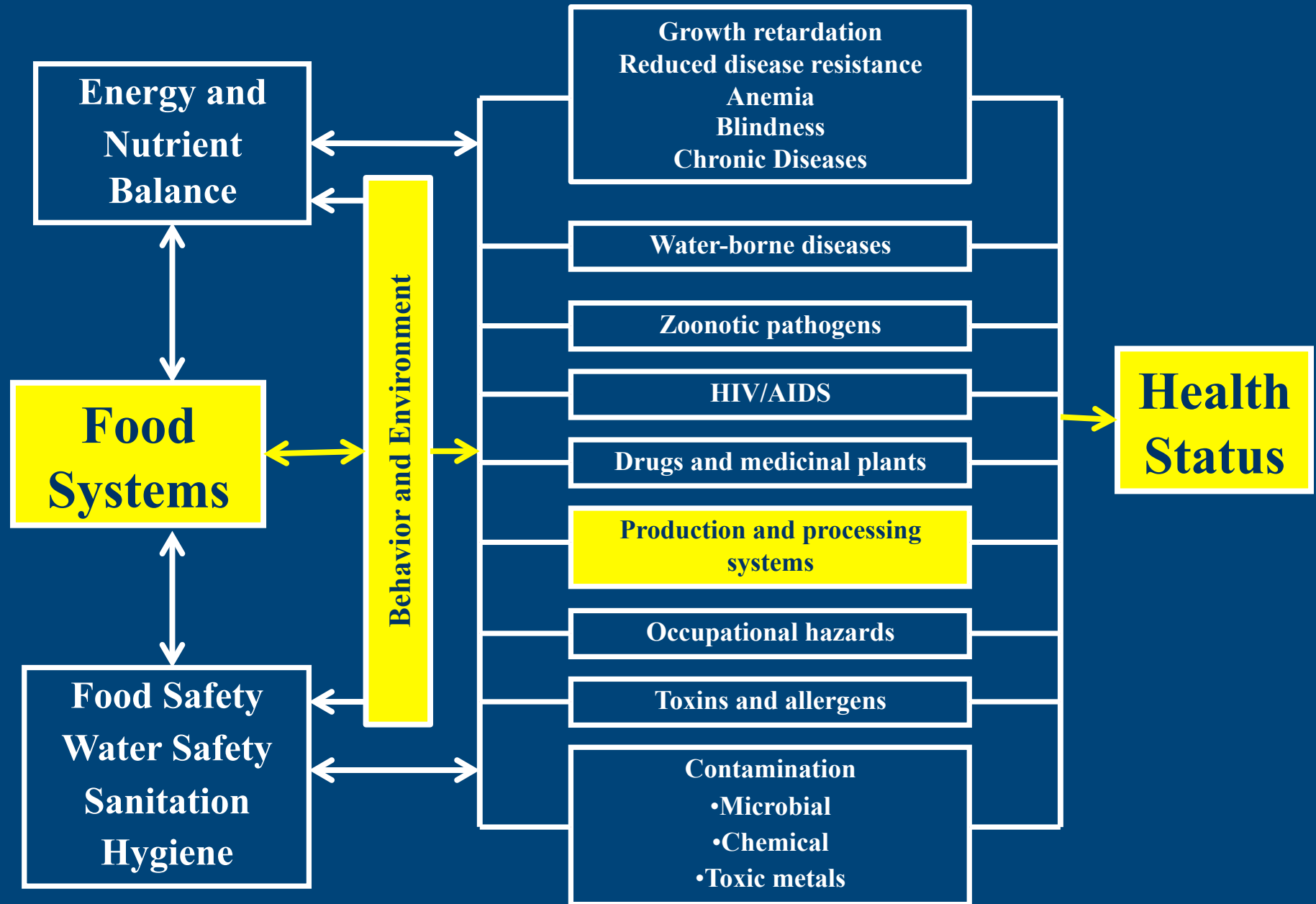
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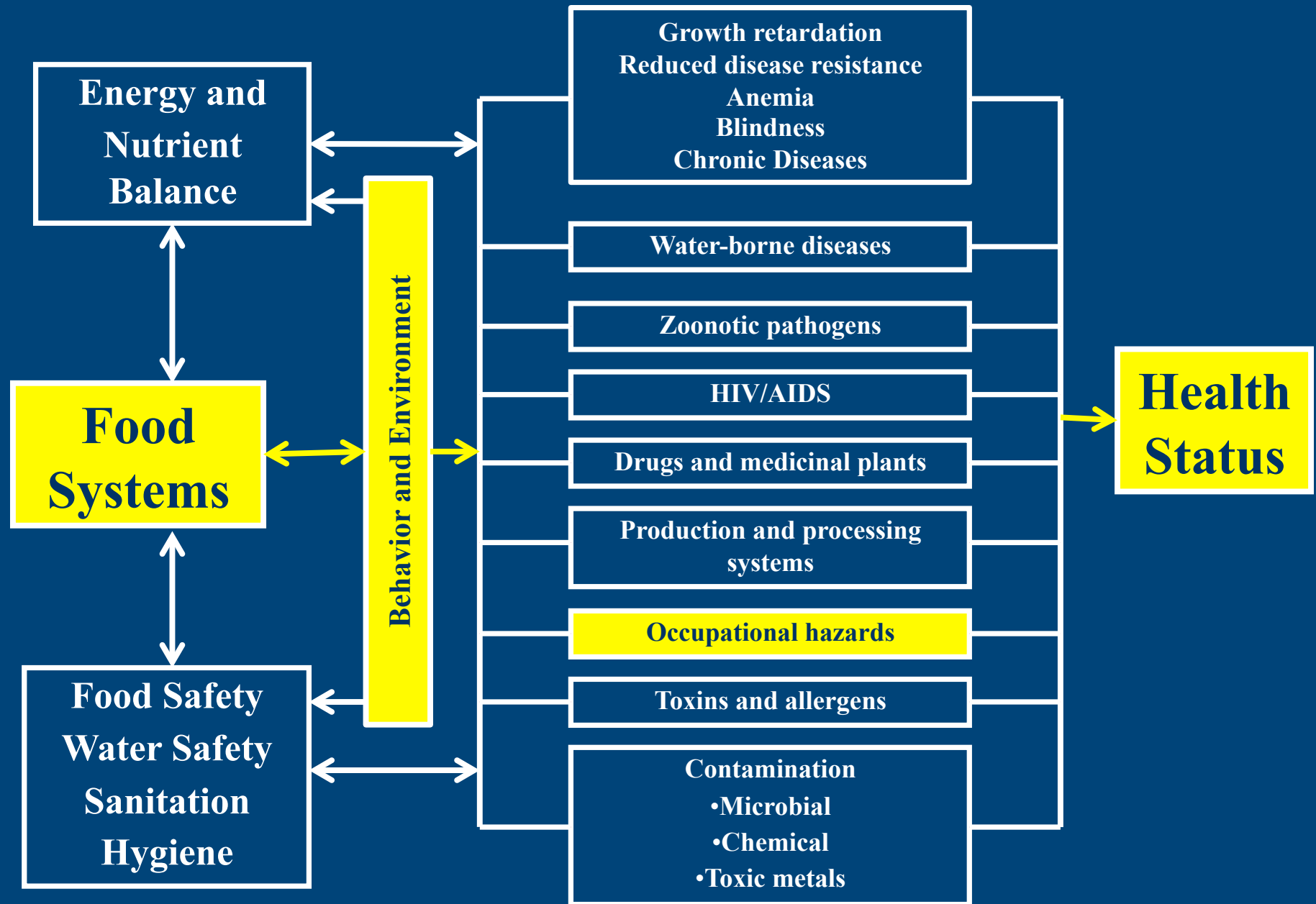
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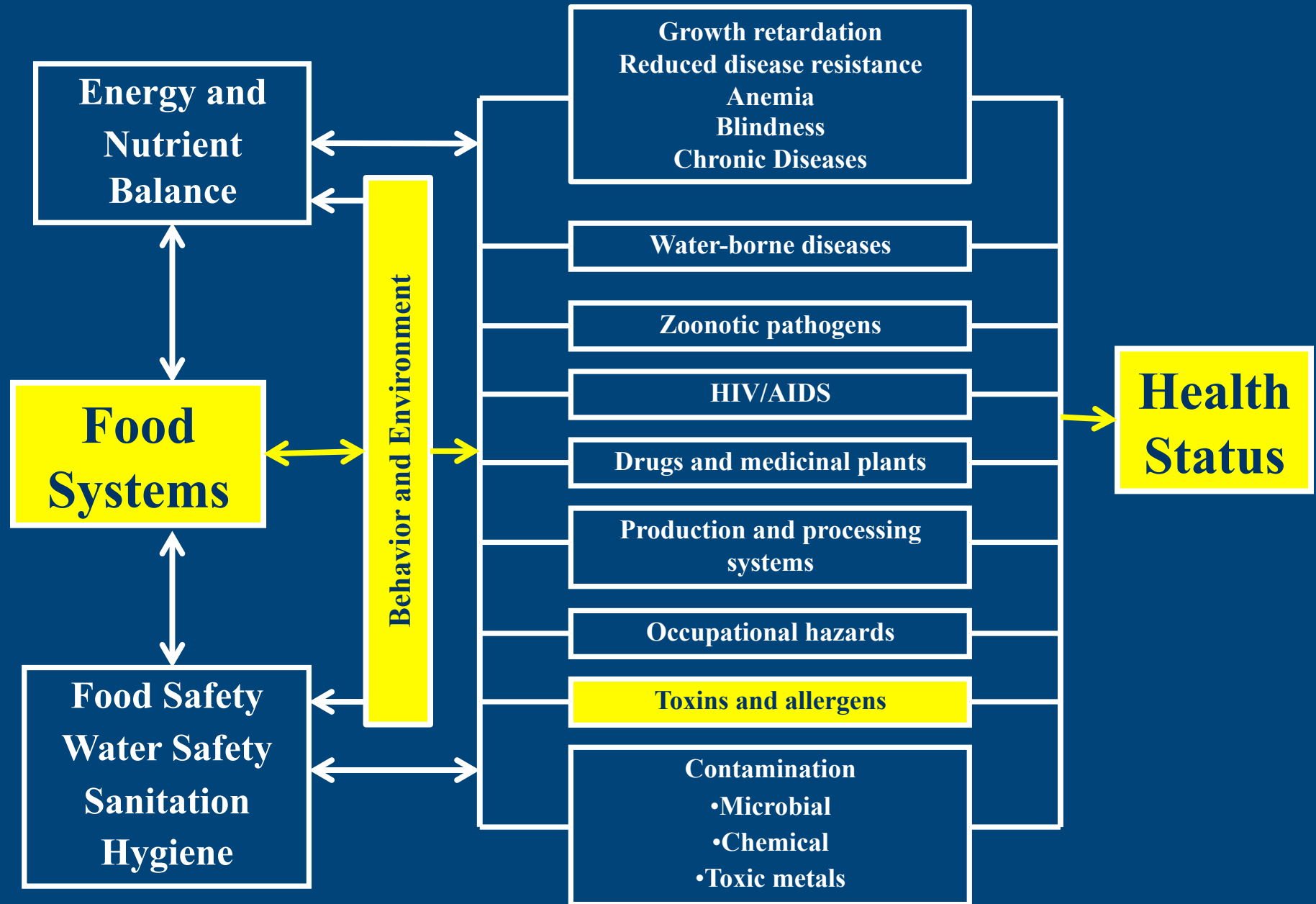
- Energy-Dense Foods → Diabetes
- Red and Processed Meat → Cancer
- Melamine in Milk → Illness and Death
- Chicken Feed and Feather Meal!
 - Arsenic
 - Caffeine
 - Tylenol
 - Prozac
 - Benadryl
 - Antibiotics
 - and Resistant Bacteria



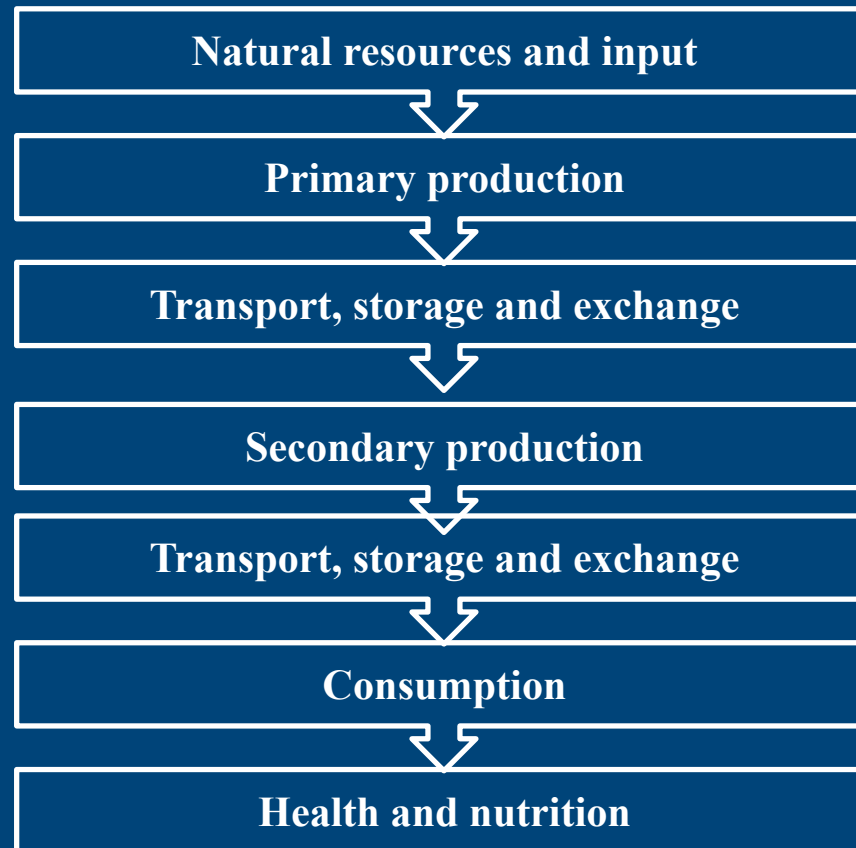
Interactions Between Food Systems and Human Health and Nutrition



Interactions Between Food Systems and Human Health and Nutrition



Illustrations of Areas for Health-Sensitive Policy Interventions Along The Food Value Chain



Illustrations of Areas for Health-Sensitive Policy Interventions Along The Food Value Chain

**Natural resources
and input**



- Improve water management systems to avoid water borne diseases
- Improve quality of drinking water to reduce risk of infectious diseases
- Add micronutrients to soil to reduce micronutrient deficiencies in humans
- Control interaction with wildlife to reduce risk of zoonotic diseases



Illustrations of Areas for Health-Sensitive Policy Interventions Along The Food Value Chain

Primary production



- Promote increased productivity and production diversity through research and policies
- Research and incentives to develop and facilitate adoption of biofortified crops
- Enhance gender-specific productivity in activities traditionally undertaken by women
- Strengthen gender equality in production decisions
- Improve interaction between humans and animals to reduce the risk of zoonotic diseases
- Introduce labor-saving technology and production practices in households with HIV/AIDS affected members
- Improve sanitary conditions in the production process



Illustrations of Areas for Health-Sensitive Policy Interventions Along The Food Value Chain



Illustrations of Areas for Health-Sensitive Policy Interventions Along The Food Value Chain

Secondary production

- Fortification
- Labeling and regulation of food processing with respect to content and processes
- Improve sanitary conditions in food processing
- Maintain food safety standards suitable for the intended consumers



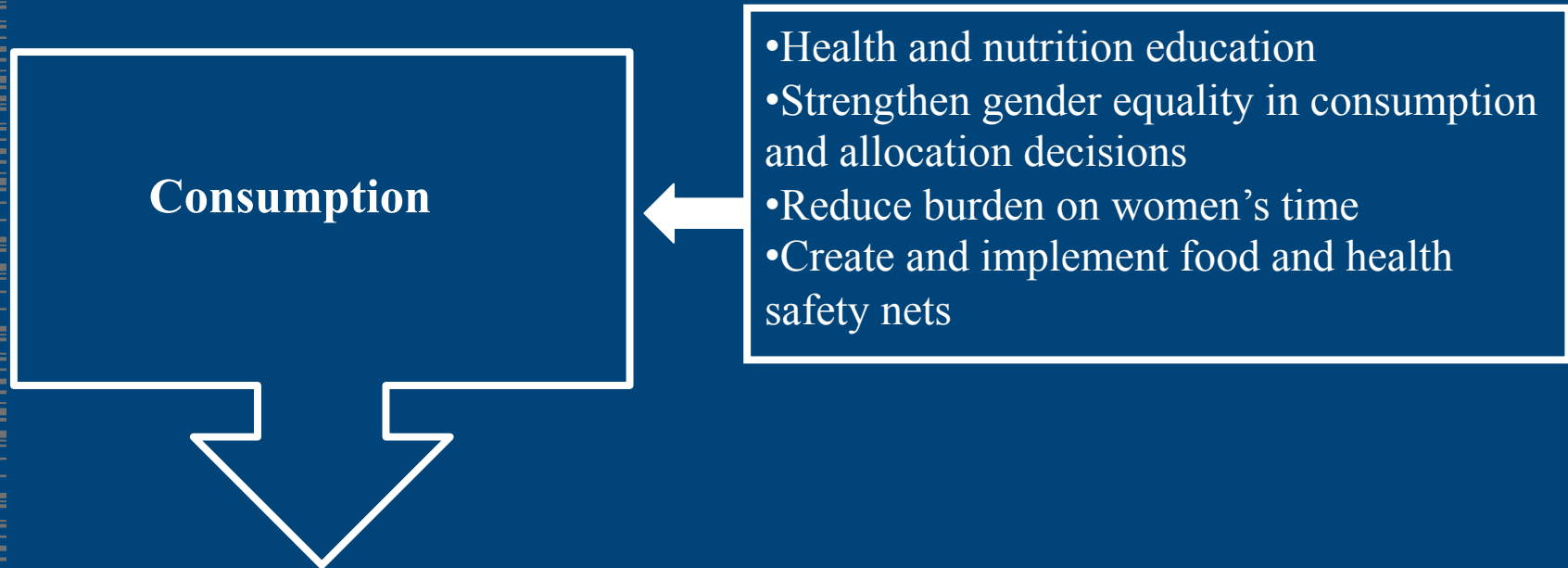
Illustrations of Areas for Health-Sensitive Policy Interventions Along The Food Value Chain

**Transport, storage
and exchange**

- Regulation of food advertising
- Health-focused social marketing campaigns
- Improve cold-chain for perishable foods



Illustrations of Areas for Health-Sensitive Policy Interventions Along The Food Value Chain



Illustrations of Areas for Health-Sensitive Policy Interventions Along The Food Value Chain

Health and nutrition

- Empower women in household and community decision-making
- Improve sanitation and drinking water
- Enhance access to primary health care

