



# China's Food Safety System in The Year of The Rooster

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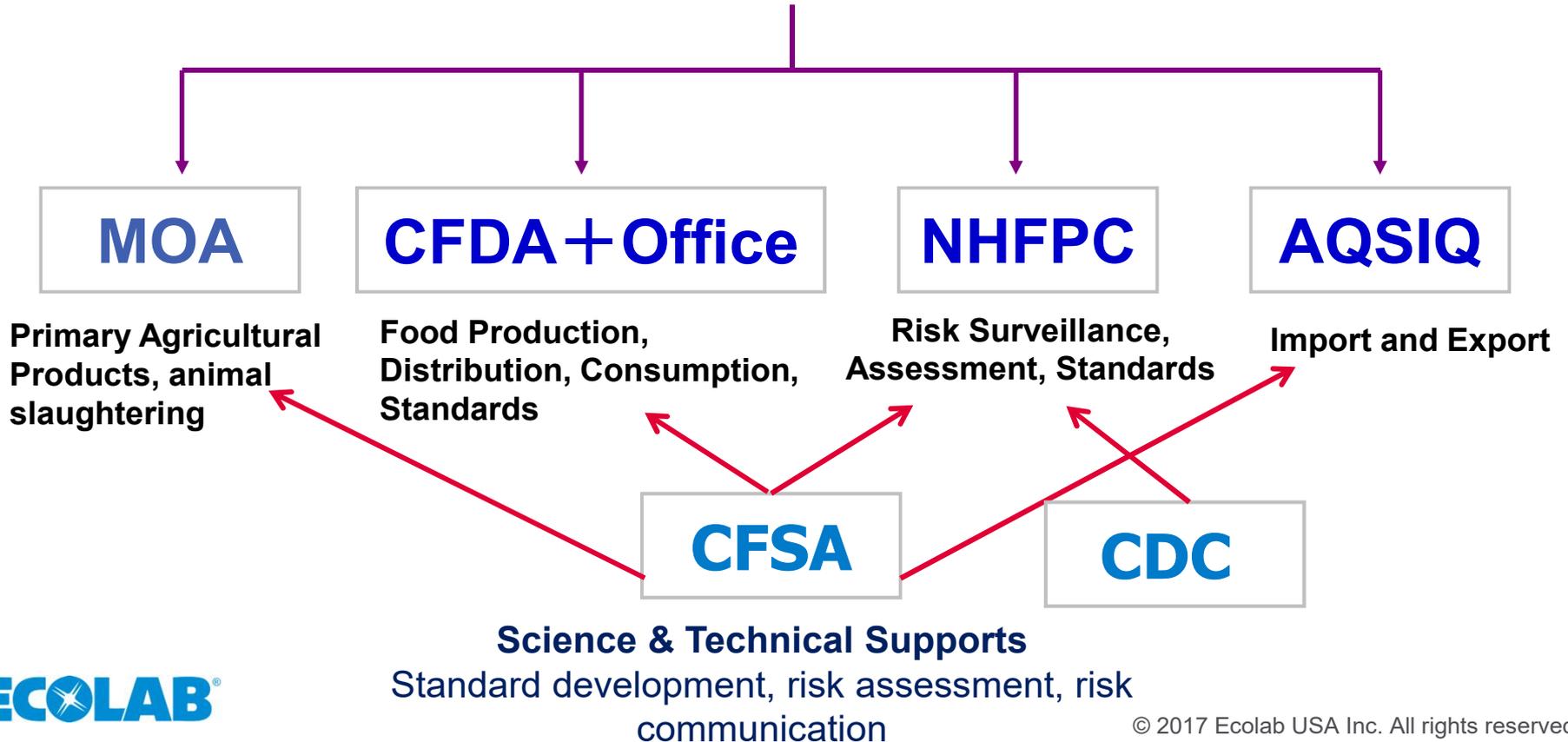


# Agenda

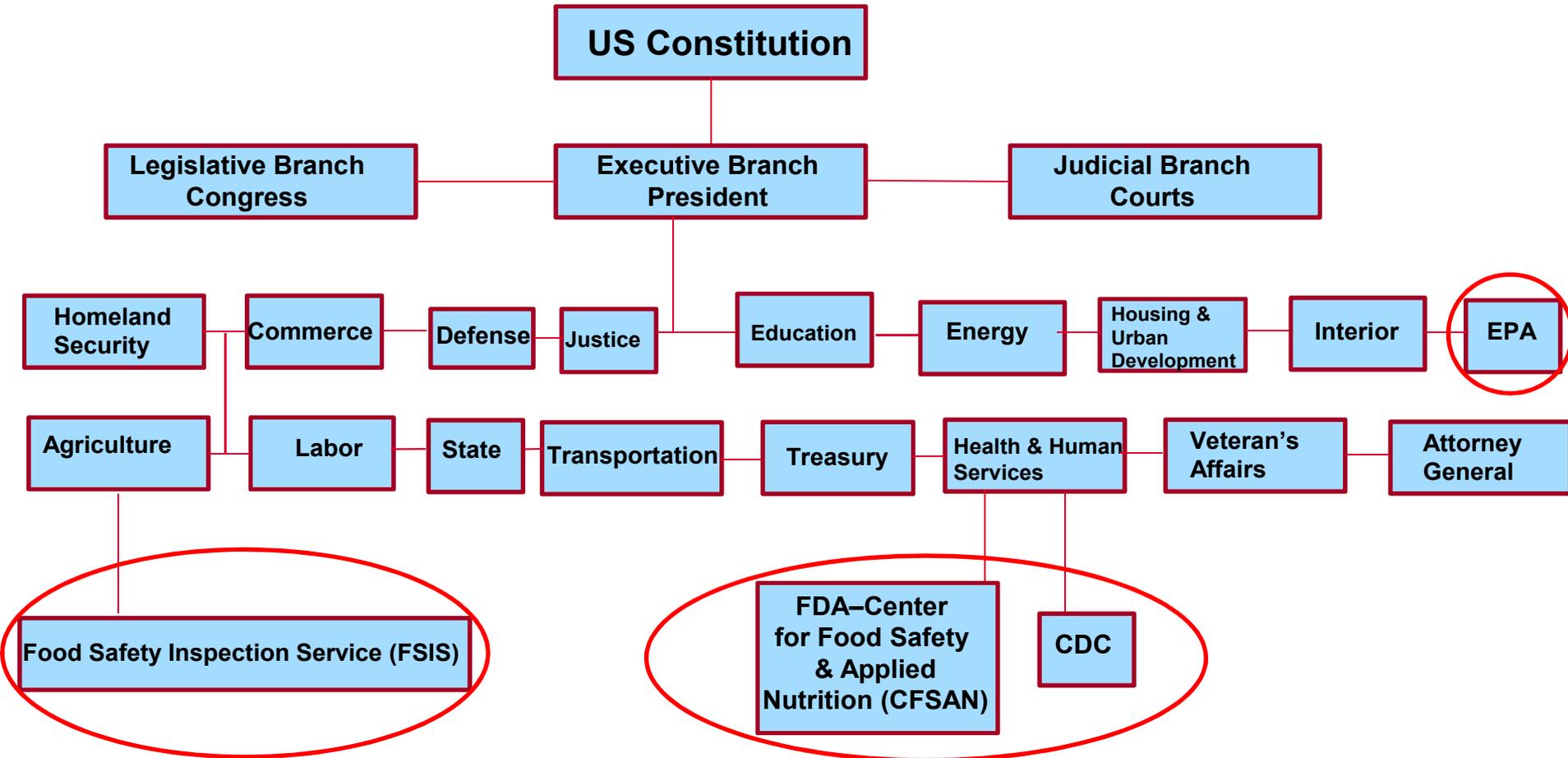
- I. **Food Safety System and Law**
- II. **Food Safety Standards/Risk Assessment**
- III. **Requirement for Food Industries**
- IV. **Challenges**

# National Food Safety System

## State Council Food Safety Commission (FSC)



# US Government Structure



# FOOD SAFETY LAW

**Issued by the National People's Congress, Feb. 28, 2009**



**Revised by the National People's Congress, April 24, 2015, implemented on Oct. 1, 2015**



**\* China Agri-Product Quality and Safety Law: Nov. 1, 2006. MOA.**

# Overall Concepts and Principles

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- ▲ Preventive Control
- ▲ Risk Based Management
- ▲ Whole Process Control
- ▲ Social governance

# 2015 Food Safety Law

- ▲ Chapter 1: General Provisions
- ▲ Chapter 2: **Risk Monitoring and Assessment** of Food Safety
- ▲ Chapter 3: **Food Safety Standards**
- ▲ Chapter 4: **Food Production and Distribution**
  - Section 1: General Rules
  - Section 2: Process Control of Production and Distribution
  - Section 3: Labels, Descriptions, and Advertisements
  - Section 4: Special Food
- ▲ Chapter 5: Food Inspection
- ▲ Chapter 6: Food Import and Export
- ▲ Chapter 7: Settlement of Food Safety Incidents
- ▲ Chapter 8: Supervision and Administration
- ▲ Chapter 9: Legal Liabilities
- ▲ Chapter 10: Supplementary Provisions

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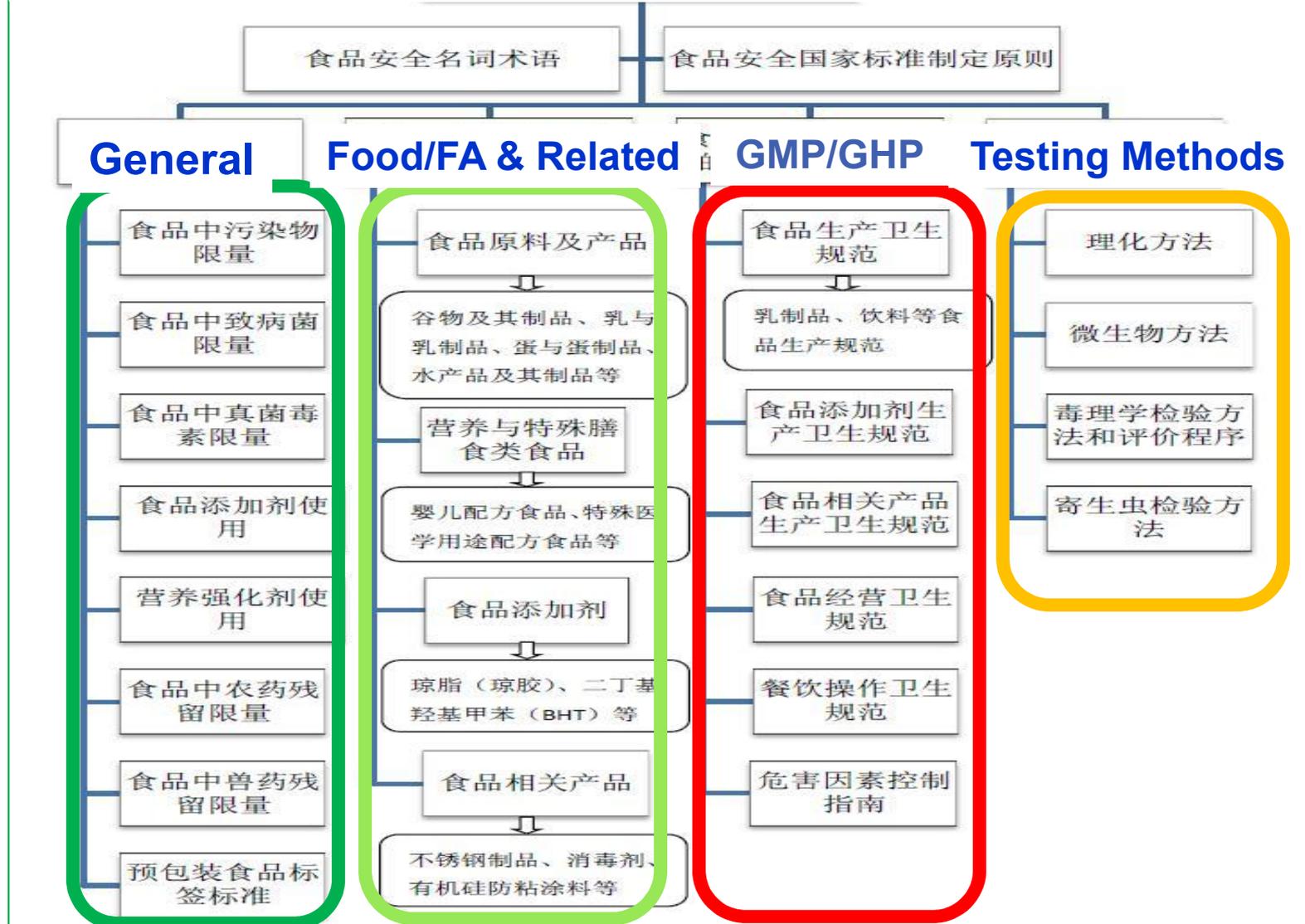
# China National Center for Food Safety Risk Assessment

Established on Oct. 13, 2011

1. 2009, **National Food Safety Risk Assessment** Expert Committee
2. 2010, **National Food Safety Standards** Review Committee
3. 2014, National Food Safety Expert Committee
4. Since 2000, Conduct the **National FS Surveillance Network**



# National Food Safety Standards



# Food Microbial Criteria: Pathogens in Foods

## GB 29921-2013

- ▲ 2014.07.01 implemented
- ▲ 11 food categories
- ▲ 5 Foodborne Pathogens
  - *Salmonella*
  - *E. coli* O157:H7
  - *Listeria monocytogenes*
  - *Vibrio parahemolyticus*
  - *Staphylococcus aureus*



中华人民共和国国家标准

GB 29921—2013

食品安全国家标准  
食品中致病菌限量

2013-12-26 发布

2014-07-01 实施

中华人民共和国  
国家卫生和计划生育委员会 发布

# Example: Meat Products

Foods	Pathogens	Sampling plan & Limits (CFU/25 g or 25 mL)				Notes
		n	c	m	M	
<b>Meat products</b>  <b>Cooked meat</b>  <b>RTE raw products</b>	<i>Salmonella</i>	5	0	0	-	
	<i>Listeria monocytogenes</i>	5	0	0	-	
	<i>S. aureus</i>	5	1	100 CFU/g	1000 CFU/g	
	<i>E. coli</i> O157:H7	5	0	0	-	Only for beef products

# GB14881-2013 General Guidelines of Good Hygienic Practice for Food Production

## Appendix A Food processing control for microbial hazards

		Sampling points	Microorganism	Frequency	Limitation	
<b>monitoring</b>	<b>Environment</b>	Food contact surface	Hands, work clothes, Gloves, conveyor belt, tools and other contact surfaces	TPC Coliform etal.	After clean weekly, biweekly or monthly	Determine the limitation based on the actual manufacture situation
		Adjacent contact surface	outside surface, holder, control panel, parts, cart	TPC Coliform etal. Pathogenic bacteria on occasion	biweekly or monthly	
		Ambient air	Place close to the products	TPC Coliform etal.	weekly, biweekly or monthly	
<b>Processing control</b>		Process products in which microbial level may change and affect the safety and quality	TPC Coliform or other indicators	The first products when opening  weekly, biweekly or monthly		

# National Molecular Tracing Network for Foodborne Disease Surveillance (TraNet)



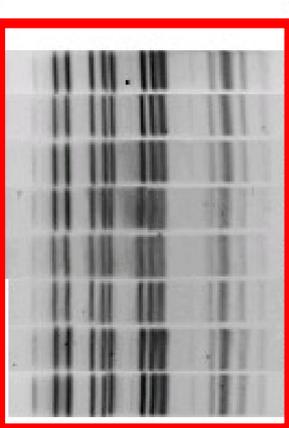
- **PFGE: Pulsed field gel electrophoresis**
- **“fingerprints” in center database at CFSA and local CDC**
- **Real time sharing DNA “fingerprints” maps through internet**
- **Cluster identification**
- **Rapid, coordinated detection & response to outbreaks**

# Application of TraNet

## Investigation of outbreak of *Salmonella* infection in Meishan, Sichuan



PFGE-Xbal



菌株编号	省	自治区	市区	样品来源	样品名称	采样地点	血清型鉴定	鉴定结论
2013ZD015-1	四川		眉山	病人	粪便	四川眉山三医院	1,4,5,12:i:1,2	鼠伤寒沙门氏菌
2013ZD016-1	四川		眉山	病人	粪便	四川眉山三医院	1,4,5,12:i:1,2	鼠伤寒沙门氏菌
2013ZD017-1	四川		眉山	病人	粪便	四川眉山三医院	1,4,5,12:i:1,2	鼠伤寒沙门氏菌
2013ZD018-1	四川		眉山	病人	粪便	四川眉山三医院	1,4,5,12:i:1,2	鼠伤寒沙门氏菌
2013ZD019-1	四川		眉山	病人	粪便	四川眉山三医院	1,4,5,12:i:1,2	鼠伤寒沙门氏菌
2013ZD020-1	四川		眉山	食品	粽子	四川眉山东坡区映天学校食堂	1,4,5,12:i:1,2	鼠伤寒沙门氏菌
2013ZD021-1	四川		眉山	病人	粪便	四川眉山中医院	1,4,5,12:i:1,2	鼠伤寒沙门氏菌
2013ZD022-1	四川		眉山	食品	凉拌豇豆	四川眉山东坡区映天学校食堂	1,4,5,12:i:1,2	鼠伤寒沙门氏菌

2015.07.30 The isolates from foods and patients were identified as *Salmonella Typhimurium* ECOLAB, USA

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# Requirement for Food Production and Service

## Article 33:

- 3) **Full-time or part-time technical staff, food safety management personnel,**
- 4) Have reasonable **equipment layout** ... to avoid cross contamination.
- 6) Use **safe and harmless containers, tools, and equipment** for food storage, transportation, and loading/unloading.
- 7) Use nontoxic and clean **packaging materials**, tableware, kitchenware and containers for foods for direct consumption
- 8) Food producers and traders shall maintain **personal hygiene**.
- 9) **Use water** that complies with the national hygienic standard for drinking water.
- 10) Use **detergents and sanitizers** that are safe and harmless to human health.

# Requirement for Food Production and Service

**Article 42:** Food industries shall establish **food traceability system**.

**Article 44:** The **chief principal** of food producers and business operators shall implement **enterprise food safety management system** and shall take **overall responsibility** for their own work of food safety.

**Article 45:** Food industries shall establish employee's **health record systems**.

**Article 47:** Food industries should have **self-inspection systems**.

**Article 48:** Encourage food industries to **meet good manufacturing or trading, catering practices (GMP, GHP), HACCP**.

**Article 63:** Food industries shall establish **recall system**.

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# Challenges for Government

- ▲ The food safety management systems: lack of good coordination
- ▲ Food safety management capability: have less knowledge and experience in food safety, especially industry operations.
- ▲ The new food safety law and standards were developed in a short time, it will take long time and huge effort to educate, training, and implement the requirement.
- ▲ The conflicts between the rules and practice will occur and requires frequent communications and possibly modifications.

# Challenges for Food Industries

- ▲ It will take a long time for industry to establish and implement the system, programs required by the new law and following standards.
- ▲ It lacks professional food safety personnel to carry out the jobs.
- ▲ The role of industry associations is still not well defined. Tough to make an impact representing industry to work with government.

# Challenges to Academia

- ▲ Academic professionals are focused on theory and research of basic science, not many professors have the practical industry interest and experience.
- ▲ Publication is towards the impact factors, not real industry needs.
- ▲ Lacking of food safety data makes it difficult to develop food safety hazard control strategy and methodology.
- ▲ Education of food safety for students has not been linked with industry. There are big gaps regarding degree and ability.

# New Economic Realities



# Summary

- ▲ Great Progress
- ▲ Much confident
- ▲ Challenges exit
- ▲ Help needed
- ▲ Back to foundations: Education

# Collaboration International Organizations in China



More .....

# Questions?

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