Digital Innovations in China Food Safety Improvement Project

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Food economics: Rising incomes resulting in shifting dietary preferences and eating habits

Environment supply limits: Climate change is affecting ability to produce food and will hit future yields

Urban food governance: Rapid urbanization is challenging food production & stretching supply chains

Food safety improvement was never more important than now. COVID-19 redefines food safety in China

Production Standards: Increasingly food systems are becoming pathways of emerging health risks

Healthy Markets: Environmental conditions are as important as agri-food quality for ensuring food safety

Living eCommerce: New mechanisms of ‘food assurance’ beyond ensuring food quality and food safety
Losses from food borne diseases in China are the highest in Asia and the world at $30 billion a year. Could be still higher if occupational health of food system workers and other morbidities caused by trans fat, toxic foods and other water borne pathogens entering the food chains taken are into account.
One Health approach to link wildlife, animal health and public health aspects for effective food safety management

Ministry of Agriculture and Rural Affairs
Risk assessments
GAP/Standards on microbiology, pesticides, vet drug, feed additives
Animal disease surveillance
Product safety surveillance
Soil/water pollution control

National Health Commission
Chemical/microbial hazards surveillance, Risk assessment
Food safety standards

State Administration for Market Regulation
Factory registration
Inspections on the market
GMP/HACCP Supervision Process
Traceability and Food recall

National Forestry and Grassland Administration
Wildlife trade control
Wildlife-based food testing
Wildlife epidemiology
Control of artificial breeding of wildlife
Wildlife forensics

CDCs
Food borne disease monitoring, AMR
Epidemiology investigation

Hazards & Control
Animal disease transmission
Zoonotic diseases transmission
Ecosystem damages
Invasive species

GAP
Pesticide Contaminants
Veterinary drug contaminants
Mycotoxins
Polluted water

GHP
Animal disease Hygiene practice
Veterinary drug packaging
Feed additives Food Safety Control
Allergens Waste treatment

GMP/GHP/HACCP
Hygiene practice Temperature
Food additives Waste Management
Allergens Food Safety Control

GMP/GHP
Hygiene practice Packaging
Hygiene practice Food Safety Control

GMP/GHP
Hygiene practice Temperature
Food Safety Control

GMP/GHP
Hygiene practice Temperature
Product quality

Awareness
Eat healthy foods
Food hygiene
Safe consumption
Waste and Swill
WHO 5 Keys

Wildlife
Farm
Production
Processing
Distribution
Logistics
Markets
Consumers

Agrifood System in China
Changing paradigm - Food Safety Regulation

Regressive Regulation

Disruptive Compliance

Managing Consumer Backlash
More Testing and Inspections
Testing Samples and On-site Inspections
Defining End Product Standards

Ad hoc Closures
Enforcing Penalties
Risk based approach for food safety management
Transforming food safety outcomes need concurrent engagement with all three players

- **Information Asymmetries**
  - Producing and delivering safe food remains solitary moral driver
  - Food safety regulation in perpetual catch up mode

- **Hypothesis of CFSIP**
  - Changing consumption behaviors
    - Focus on diet, nutrition and health
  - Building evidence for aligning incentives
    - Create consumer value
    - Progressively enhancing standards
    - Food safety technologies
    - Economic incentives for investing in FS
  - Transform hierarchical regulatory behavior to a more facilitating one
Changing paradigm - Food Safety Regulation

Enabling Regulation
- Creating Consumer Value (Risk Communication)
- Risk Based Supervision Proportionate to Risk
- Defining Processes, Standards and Protocols

Facilitating Compliance
- Assisting Compliance by Regulators and Industry
- Promoting Voluntary Compliance (Brand)
- Creating Business Incentives
China Food Safety Improvement Project
(Approved on March 25, 2021)

The PDO is “to improve food safety management at the national and targeted subnational levels and reduce food safety risks in selected value chains.”

Key measures of success

• Risk-based food safety management instruments developed (Number)

• Proportion of food safety events reported on subnational bigdata/traceability platforms for which mitigation measures are initiated (Percentage)

• Proportion of participating enterprises that comply with standards on biological hazards, contaminants, including pesticides and veterinary drug residues, and flavorings and food additives (Percentage)
Multi-sector, multi-domain and multi-jurisdiction operation

- **Project size**: US$ 400 million

- **Central**
  - State Administration for Market Regulation
  - Ministry of Agriculture and Rural Affairs

- **Provinces** *(Focus on areas with high population density, high volumes of livestock production and reported incidence of food borne disease outbreaks)*
  - Guangdong – Aquatic products, pork and fruits and vegetables value chains
  - Shandong – Seafood value chain

- **Municipalities**
  - Guangdong - Foshan, Guangzhou, Huizhou, Jiangmen, Zhaoqing
  - Shandong - Yantai

NB: The map depicts incidence of food borne diseases in China during 2019
Project Design

• Project Components
  • **Institution building and regulatory performance (US$ 59.40 million).**
    • Food safety programing guidance
    • Multi-sector coordination and food safety governance
    • Risk based regulation frameworks
    • Risk management capacity building
  • **Food safety supervision process (US$ 157.90 million)**
    • Food safety surveillance system
    • Food safety information analytics
    • Risk communication
Project Design

• Project Components
  • Whole value chain food safety control (US$ 161.50 million)
    • Investment support leveraging another US$ 250 million investment from participating financial institutions
    • Food safety insurance
    • Modernizing value chain infrastructure
  • Project Implementation Support (US$ 21.20 million)
    • Project management
    • Monitoring, evaluation and learning
Key innovations

• **Technology solutions:**
  • *Bigdata, Artificial Intelligence and Machine Learning*
  • *Laboratory and surveillance technologies*
  • *Traceability systems and platforms*
  • *Financial technologies*

• **Investment solutions:** The project will support investments in clean, green, and blue technologies for helping value chain partners improve compliance with modern food safety regulations
  • *Certified production solutions*
  • *Waste management solutions*
  • *Sustainable packaging solutions*
  • *Safe food distribution and logistics solutions*
  • *Food safety assurance solutions*
Key innovations

• **Insurance solutions:** The project will support development of composite risk management intervention providing market based ex-ante safety regulation, supplementing government own supervision and leveraging surveillance systems under component 2.
  
  • *Production risks (animal health, crop failures, etc.)*
  • *Product failure and recalls*
  • *Business interruption and penalties*
  • *Consumer liability*
China Food Safety Improvement Project
The Digital Architecture
Global public goods

- Limiting spread of Zoonotic Disease
- Exports of high quality and safe food
- Anti-microbial Resistance
- Green agriculture and climate change
- Healthy foods, nutrition and food waste reduction
- Institutional development and knowledge for developing countries
Thank you