

A CHINA ENVIRONMENTAL HEALTH PROJECT RESEARCH BRIEF

Food Safety in China

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Regulation of food safety has long been a problem in China due to weak monitoring capacity, strong local government protectionism of industries, and few consumer protection watchdogs. The growing safety problems with food exports—ranging from food bans by the European Union (EU) and Japan to the most recent pet food scare in the United States—are bringing global attention to these deficiencies and catalyzing new laws and crackdowns within China.

MAGNITUDE OF SAFETY PROBLEM

China is one of the world's leading exporters of food products. According to WTO statistics, China's total food exports reached \$246.35 billion in 2005, which is nearly 8 times the \$31.29 billion it exported in 1980.¹ A growing percentage of these exports is made up of food ingredients or preservatives (e.g., wheat gluten, lactic acid, ascorbic acid), with the United States as a major market. In 2002 alone, 82,000 shipments of food products and ingredients were exported from China to the United States, rising to 199,000 shipments in 2006. Officials at the U.S. Food and Drug Administration (FDA) estimate such food shipments from China will reach 300,000 in 2007.² The United States receives twice as many food shipments from China than any other country in the world, and FDA's rejection rate of Chinese food imports—due mainly to contamination or veterinary drug residues—is much higher than those from other trading partners.³

Continuing safety problems with China's food exports catalyzed stricter inspection standards in many countries. For example, Japan dramatically raised the technical standards for the import of food products from China in 2002, increasing the number of inspection criteria for vegetables from 6 to 40. Japanese regulators also developed 40 new criteria for chicken products, 80 for juice, and 91 for rice from China. In 2002, the EU completely blocked the import of many Chinese animal products, which involved 94 Chinese enterprises and led to a loss of \$623 million for Chinese exporters.⁴ For example, EU food regulators banned Chinese shrimp and crayfish when they tested positive for chloramphenicol, a potent antibiotic and a source of aplastic anemia.⁵ In the same year, the EU significantly increased the import standard on honey. According to official statistics, these bans in 2002 decreased Chinese poultry, livestock, and honey exports by 32.9, 4.1, and 16.7 percent, respectively.⁶ EU bans on animal products were eased in 2004 after China made significant improvements to its veterinary standards, but instances of bans on fish have emerged over the past year.⁷ For example, in October 2006, Taiwan banned imports of hairy or mitten crabs from China due to traces of carcinogens,⁸ in April 2007 Wal-Mart removed Chinese catfish from U.S. stores due to antibiotic contamination,⁹ and in June 2007 Russia's federal agricultural products inspection agency banned fish from China.¹⁰

China's fish, meat, and poultry exports have continued to be the focus of many bans from U.S., European, and Japanese food regulators. However, with the April 2007 melamine-tainted dog food scandal in the United States, the issue of toxic food additives in Chinese exports gained worldwide attention. While international concerns about China's food exports are now high, domestically the problem of food safety may be even more serious, representing a growing threat to the health of Chinese consumers. Following the gradual trend towards information transparency in China, the

Chinese central government agencies and news media have been releasing more reports on the growing food contamination problems:

- The Ministry of Health reported in March 2007 that 196 people died of food poisoning in China in 2006.¹¹
- Incidents of food poisoning from eating pork containing clenbuterol—a steroid that promotes weight gain in animals—are growing in China. Some of the larger cases have included 60 people in Zhejiang Province (2001)¹² and 330 in Shanghai (September 2006)¹³ who were sickened by pork tainted with clenbuterol.
- November 2006, Hong Kong authorities found 11 out of 15 samples of Mandarin fish from China tested positive for malachite green—a toxic chemical dye often used in aquaculture as an antifungal agent.¹⁴
- In November 2006, the carcinogens chloramphenicol, malachite green, and furazolidone were found in 100 percent of the turbot fish tested in Shanghai. Turbot sales were subsequently banned or suspended in Shanghai, Beijing, Shenzhen, and Taoyuan.¹⁵
- In August 2006, 87 people were diagnosed with meningitis after eating raw or undercooked locally grown Amazonian snails in Beijing.¹⁶
- In 2005, there were 256 food poisoning incidents reported to the Ministry of Health, 7 percent of which involved more than 100 people.
- In 2004, 171 babies in Anhui Province became malnourished from fake milk powder; 13 of these babies died.¹⁷
- In 2004, the Chinese Ministry of Agriculture reported that between 20,000 and 40,000 people fell ill from food poisoning every year, which some Chinese experts believe is only 10 percent of the real number.¹⁸
- In 2004, the Chengdu Quality Inspection Department released figures stating that less than 23 percent of pickled vegetables in Sichuan met provincial regulations for pesticides residues. According to *China Dialogue*, some factories were spraying 99 percent strength of the pesticide dichlorvos on the pickled vegetables every two to three days to prevent pest damage while they were in the processing plants.¹⁹

DRIVERS OF THE PROBLEM

Contamination During the Cultivation Process

Pesticide and Fertilizer Contamination. Because most of China's farmers are small landholders they often rely on intensive use of fertilizers and pesticides to maintain high production levels.²⁰ According to official statistics, about 7 percent of China's cropland has been polluted due to improper use of pesticides and fertilizers.²¹ Due to the excessive pesticide residues, since 2002 the EU has repeatedly rejected Chinese shrimp, poultry, honey, and tea, while Japan banned Chinese poultry products, frozen spinach and tea. In 2007, Mississippi and Alabama rejected Chinese catfish because they contained antibiotics banned in the United States (enrofloxacin and ciprofloxacin).

Improper Feed Additives and Veterinary Drugs

In addition, improper use of veterinary drugs and compound feeds have led to antibiotic, hormone, and other toxic residues in food products, especially fish that have been raised in polluted waters. (See examples in CEHP **Aquaculture** and **CAFO** research briefs).

Heavy Metal Pollution. Chemical poisoning, particularly heavy metals—such as lead, mercury, and cadmium—accounts for about 40 percent of serious poisoning accidents in China.²² Heavy metal contamination of food in China stems mainly from poor disposal of industrial and **electronic** wastes that leech into water and soil. Besides crops and fish products, even preserved eggs, which are “cooked” by being wrapped in mud can be contaminated—*Nanjing Daily* reported that the preserved eggs in Guangzhou contain a high level of lead, exceeding 1.2 to 8 times the national standards.²³

Food Processing and Production Safety Problems

Inferior raw materials. Some poisoning cases stem from diseased pork and poultry used in food processing and production.²⁴ For example, the Chinese news media reported in late 2004 that a well-known food processor, Texas Braised Chicken, was using diseased chickens. According to the investigative reporter, an illegal chicken supplier was able to off-load half a ton of diseased birds to braised chicken producers each day.²⁵

The use of not-for-food production chemicals. In 2003, one investigation revealed that some ham producers in Jinhua City (Zhejiang) used the pesticide dichlorvos in their production process. In late 2006, duck eggs from Hubei Province were pulled from the shelves in Beijing because they contained the carcinogenic dye Sudan Red IV.²⁶ In 2006, Fuzhou officials also discovered Sudan Red in over 6,000 eggs.²⁷ In Yulin, Guanxi Province, 600 students were poisoned after eating rice noodles containing sodium formaldehyde sulfoxylate, a chemical that was used illegally as a whitening agent.²⁸ One 2005 investigation of pepper, ketchup, and meat products in Fuzhou revealed that 12 of the 97 sample products contained a level of antiseptic that exceeded China’s standards.²⁹

Regulatory and Infrastructure Challenges

China’s small and fragmented food production system. Seventy percent of the food producers in China are small-scale and most of them do not have the capacity to adhere to high sanitation and testing standards for their products.³⁰ Millions of farm households and small traders are involved in the production and circulation of food products, and this trade is usually operated without any records. One major gap in guaranteeing food safety is the lack of regulations that require produce and most meat products to be transported through a cold distribution chain. According to a June 2007 study by the global strategic management consulting firm A.T. Kearney, “79 percent of China’s retailers do not monitor temperature of products during shipping and two-thirds do not check temperature upon receiving.”³¹ The A.T. Kearney study estimated that, as Chinese consumers’ demand for safe food grows, by 2017 China would need “365,000 refrigerated trucks and 5 billion cubic feet of cold storage. Today the country has 30,000 refrigerated trucks and 250 million cubic feet of cold storage.” The lack of basic safe food delivery and storage infrastructure contributes to many food problems. Moreover, China’s weak monitoring system means tracking the origin of contaminated products also is difficult.³²

Incomplete food regulations and weak monitoring. China has passed a number of food safety laws, but still lacks a strong basic food law to help build a stronger regulatory system. While there are ten national government agencies that oversee food safety, their responsibilities and enforcement powers overlap and are often limited due to a lack of coordination.

LOOKING FOR SOLUTIONS

Strengthening Food Safety Regulation from the Top

Prior to 2003, the main central government agencies responsible for food safety supervision in China included: General Administration of Quality Supervision, Inspection and Quarantine; Ministry of Science and Technology; National Institute of Nutrition and Food Safety; State Administration for Industry and Commerce; Ministry of Health, Ministry of Agriculture; Ministry of Commerce; State Grain Administration; and State Environmental Protection Administration. The main problem in

China's food safety supervision is that cooperation and coordination among different agencies have not been effective.

To help rectify this poor coordination among government agencies in the food safety sphere, the Chinese government set up the State Food and Drug Administration (SFDA) in 2003. SFDA is directly under the State Council and it was tasked with supervising food safety nationwide and coordinating the inspections of severe food safety incidents. In light of greater government prioritization and the creation of SFDA, Vice-Premier Wu Yi noted in 2004 that "the supervision and management system for food safety in China will be perfected. Different government departments will be given clearer duties."³³

Since the creation of SFDA, the central government has increased the number of inspectors that conduct spot inspections at markets in every province. After 2003, the central government began passing more regulations on food quality monitoring and hygiene licensing, especially of exports. (See CEHP Fact Sheet: **Food Safety Laws and Regulations**). Under the Eleventh Five-Year Plan (2006-2010) the State Council issued a plan entitled "National Food and Drug Safety" that aims to establish a food safety guarantee system in China.

One significant indication of central government commitment to guaranteeing a safe food supply was the six-month nationwide crackdown on small food makers that were using industrial chemicals and other illegal ingredients (dyes, pesticides). Between December 2006 and June 2007, inspectors closed 180 food plants and uncovered more than 23,000 food safety violations throughout the country.³⁴

Local Government Efforts

While local governments carry the primary responsibility for regional food safety problems, they often protect companies in violation of standards. Public pressure has prompted some major cities to take steps to more progressively address the food safety issues by creating stronger food safety evaluation and inspection agencies. Some examples of municipal government action in this area include:

- The Beijing government issued the "Plan for Rapid Response to Emergent Food Safety Accidents" in 2007.
- Shanghai is in the process of establishing a Research Center for Food Safety Evaluation, which is expected to provide scientific advice to policymakers and set up safety standards for food production.
- Guangzhou recently launched the "Food Reassurance Project" to build the supervision system of food safety inspection, food product circulation, and information dissemination to the public.
- Representatives of county and city government agencies in Xinjiang signed a 2007 food safety supervision responsibilities booklet, which is the first time the Xinjiang government has defined the food safety responsibilities of government agencies at different levels.

International Cooperation

The number of international agreements and forums on food safety issues has been growing in China over the past few years. The need for such collaboration, as well as greater domestic investment into China's ailing food safety sector is great. According to a recent research report issued by A.T. Kearney, "China's food safety process is broken and fixing it will require a \$100 billion investment in improved food safety standards, warehousing, transportation and training."³⁵ Below is a partial list of some of the international activities in China's food safety sector.

- The Global Food Safety Forum was held in Beijing in November, 2004, which was jointly sponsored by the Chinese and Canadian governments. One of the most important objectives of this forum was to promote international cooperation on food safety.
- In order to improve food quality and promote international cooperation on food safety problems, the provincial government of Heilongjiang and the UN's Food and Agriculture Organization held a joint conference in 2006 called the "International Forum on Food Quality and Safety."
- China's Ministry of Science and Technology (MOST) has held a number of forums on food safety with international partners, as well as signed memorandum of understanding (MOU) documents to promote joint research in the area of food safety. For example, in 2003 MOST and **Food Standards Australia New Zealand** signed an MOU on Scientific and Technological Cooperation in Food Safety.³⁶
- In April 2006, the U.S. Agriculture Secretary Mike Johanns signed an MOU with Minister Li Changjiang of China's General Administration of Quality Supervision, Inspection and Quarantine to improve bilateral cooperation on animal and plant health and food safety. The agreement aims to promote and exchange of information on food regulations and standards, inspection and quarantine procedures, and other issues such as pests and disease, harmful residues, and food certification.³⁷
- In September 2006, China's Minister of General Administration of Quality Supervision, Inspection and Quarantine Li Changjiang and EU Health and Consumer Protection Commissioner Markos Kyprianou signed a cooperative agreement on food safety. The agreement aims to prevent illegal actions in the import and export of food and includes improved information exchange between China and the EU during routine pre-export checks.

The China Environment Forum will be holding meetings and publishing more on China's food safety challenges in the fall of 2007, focusing on the potential role of the business sector and international trading partners.

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