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Global Environmental Law: Food Safety & China

JASON J. CZARNEZKI*, LIN YANMEI, & CAMERON F. FIELD

I. INTRODUCTION

Environmental law must now contend with the globalization of environmental harm and the democratization of pollution sources,¹ and “environmental legal norms have become increasingly internationalized.”² However, the globalization of environmental law and policy is not without irony. Pollution sources remain domestic and increasingly localized despite international impacts. Local cultures of consumption have spread throughout the globe. These factors have necessitated international cooperation on environmental and public health issues, even in traditionally domestic fields like food safety, and have forced policymakers and scholars alike to renew their focus on the developing world, especially China.

“[G]rowing international linkages are blurring the traditional divisions between private and public law and domestic and international law, promoting integration and harmonization,” and leading to the creation of “global environmental law.”³ This blurring has occurred not only in sectors of law but also in substantive environmental issues and processes to ameliorate environmental degradation. Due to transboundary relationships and a globalized market, food safety and security have slowly moved into the field of environmental law, and rule of law efforts have proliferated, especially in China, in an attempt for consistency across political boundaries.

This article makes the case for food security law and policy as a component of global environmental law in recognition of the global economy, trade liberalization, and concerns for food safety and environmental harm. It further describes

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1. JASON J. CZARNEZKI, EVERYDAY ENVIRONMENTALISM: LAW, NATURE, AND INDIVIDUAL BEHAVIOR 141 (2011) (citing Timothy P. Duane, *Environmental Planning and Policy in a Post-Rio World*, 7 BERKELEY PLANNING J. 27, 31 (1992)).

2. Tseming Yang & Robert V. Percival, *The Emergence of Global Environmental Law*, 36 ECOLOGY L.Q. 615, 615 (2009).

3. *Id.* at 616. “Global environmental law is an evolving set of substantive principles, tools and concepts derived from elements of national and international environmental law. Yet, it also represents a significant shift in the evolution of environmental law field.” *Id.* at 664.

rule of law as a significant force in mitigating food safety concerns and pollution in China. Part II explores global food safety concerns in the context of United States-China relations, while Part III discusses the U.S. Food & Drug Administration's on-the-ground presence in China as an example of the emergence of cooperative agreements in global environmental governance. Part IV shows how increased rule of law may mitigate environmental harm and food safety concerns in China. The article concludes by arguing that increased international cooperation on traditionally domestic issues is both likely and desirable, and it illustrates the need for increased rule of law efforts in the developing world.

II. GLOBAL FOOD SAFETY

Modern food safety regulations in the United States and China can be traced to a similar beginning: a can of spoiled meat. During the Spanish-American War, more Americans likely died from the U.S. Army's meat provisions than from combat.⁴ Fifty years later, Chinese soldiers died from eating canned meat contaminated with botulism. Mao Zedong swiftly executed the owners of the Chinese meat packing facilities, sending an unofficial message to all food producers in the country.⁵ The culprit in the Spanish-American War was beef from the infamous turn of the century Chicago stockyards. Seven years later, Upton Sinclair would publish *The Jungle*, a novel that portrayed corruption and horrific health conditions in the meatpacking industry through the story of an immigrant worker.⁶ Amid the public clamor surrounding *The Jungle*, the U.S. federal government passed the Pure Food and Drug Act of 1906, which created the bureau later known as the Food and Drug Administration (FDA). Technological, scientific, and regulatory advances have largely modernized the governance of food safety;⁷ however, many producers have responded to food safety demands by using unsafe amounts of pesticides, fungicides, and other chemical additives that degrade soil and water quality. The demand for inexpensive, yet somewhat safe food helps cultivate a culture of corrupt practices as producers cut corners and intentionally alter food products to increase profits. Moreover, the increasingly global food system amplifies the potential impact of these threats to public and environmental health. The rapid explosion of trade in recent years has expanded the ability of one country's food system to negatively affect another's human and natural resources. Part A of this article illustrates the environmental and public health effect of industrial agriculture in the United States, and Part B will explore similar issues in China.

4. HOWARD ZINN, A PEOPLE'S HISTORY OF THE UNITED STATES 100 (2003).

5. Chenglin Liu, *The Obstacles of Outsourcing Imported Food Safety to China*, 43 CORNELL INT'L L.J. 249, 282 (2010).

6. UPTON SINCLAIR, *THE JUNGLE* (1906).

7. There has only been one episode of botulism from commercial canned goods in the last thirty years. It was in 2007; eight people were affected, and they all recovered. BEN HEWITT, *MAKING SUPPER SAFE* 21 (2011).

A. THE FOOD SYSTEM OF THE UNITED STATES: CAUSE FOR CONCERN FOR FOOD SAFETY AND THE ENVIRONMENT

Various pieces of legislation have regulated the changing threats to the safety of the American food supply since the enactment of the Pure Food and Drug Act of 1906. In 1936, the Food Drug and Cosmetic Act (FDCA)⁸ replaced the Pure Food and Drug Act. Congress has amended the FDCA numerous times since—most recently by the Food Safety Modernization Act of 2011.⁹ Despite changing regulations, the industrialized food system and food safety pitfalls continue to sicken the citizens, soil, and waterways of the United States.

Foodborne illnesses cause over 300,000 hospitalizations and 5000 deaths per year in the United States.¹⁰ Advances in science and medicine compete with an increasingly industrialized food system that can sicken more people, more quickly. Immense production facilities and transportation fleets now reach a far greater number of people than in the past. For example, in 2008, the Peanut Corporation of America (PCA) shipped products to over 22,000 people in forty-six states. After some of its product became tainted with salmonella, over 600 Americans were sickened and nine were killed.¹¹ Two years later, a single Iowa company recalled approximately half a billion eggs for salmonella contamination.¹² These incidents illustrate the impact industrialized food systems have on the breadth of foodborne illness outbreaks, but a look past the headlines uncovers a broader threat to food safety: the demand for cheap food and budgetary constraints.

Faced with competitive markets, food producers, like members of any other industry, must reduce their costs to make profits. Safety is often sacrificed to lower expenses. The owner of Wright County Egg farm, a producer of the recalled eggs, violated numerous FDA safety regulations in 2010.¹³ Upon inspecting the facility, FDA authorities found chicken houses in squalid condition with piles of manure beneath the chicken cages and wild rodents wandering around the facility.¹⁴ The Peanut Corporation of America's facility was in similar disrepair. There, a leaky roof, rodents, and an altogether outdated facility created an unsanitary environment that provided the opportunity for salmonella to inhabit batches of peanut butter.¹⁵ Budget constraints likely played a role in the lack of

8. 21 U.S.C. § 301 (2006).

9. 21 U.S.C.A. § 2201 (West 2012).

10. Liu, *supra* note 5; Paul S. Mead et al., *Food-Related Illness and Death in the United States*, 5 EMERGING INFECTIOUS DISEASES 607, 607 (Sept.–Oct. 1999).

11. James Andrews, *2009 Peanut Butter Outbreak: Three Years On, Still No Resolution for Some*, FOOD SAFETY NEWS (Apr. 16, 2012), <http://www.foodsafetynews.com/2012/04/2009-peanut-butter-outbreak-three-years-on-still-no-resolution-for-some/>.

12. Erik Eckholm, *Egg Industry Faces New Scrutiny After Outbreak*, N.Y. TIMES, Aug. 24, 2010, at A10.

13. William Neuman, *Egg Farms Violated Safety Rules*, N.Y. TIMES, Aug. 31, 2010, at B1.

14. *Id.*

15. Michael Moss, *Peanut Case Shows Holes In Net*, N.Y. TIMES, Feb. 9, 2009, at A1.

upkeep of the facilities, but food producers are not the only ones threatening U.S. food safety because of tight budgets.

The budget for government regulation of food safety has steadily decreased despite record levels of foodborne illness outbreaks. Many experts have expressed concern that the FDA's responsibilities continue to expand without matching funds.¹⁶ The number of domestic food facility inspections has decreased from 50,000 a year in 1972 to fewer than 10,000 a year by 2006 due to the relevant lack of funding.¹⁷ Perhaps if the FDA had inspected Wright County Egg farm or PCA's peanut butter facility in the months or years preceding the harmful outbreaks, required safety improvements could have prevented the outbreaks.

The industrialized food system has also taken a toll on the health of the soil and waterways of the United States.¹⁸ The widespread application of fertilizers, pesticides,¹⁹ and herbicides degrades soil quality and pollutes waterways, while intensive livestock production produces toxic amounts of waste that leach into the nation's waters.²⁰ Additionally, industrial food production in the United States is responsible for over 20% of domestic fossil fuel consumption.²¹ The food system inadvertently contributes to both global climate change and the demand to open more oil reserves.

Nowhere is the intrinsic connection of food safety and environmental health more clearly illustrated than the livestock industry. Most meat produced in the United States originates from Concentrated Animal Feeding Operations (CAFOs). CAFOs originated in the first half of the twentieth century when scientists introduced, and the FDA approved, the use of antibiotics and synthetic vitamins on livestock.²² The economic benefits were obvious: introducing antibiotics to animals' feed made them grow faster and fatter. However, after decades of CAFO production, the ancillary consequences of such a system are having deleterious effects on human and environmental health. Animals are raised in confined locations in a CAFO. Naturally, an excessive amount of animal excrement accumulates. This excessive waste product is the source of many polluted waterways and mutant viruses. Manure lagoons leach waste into streams during rainstorms and may even burst, creating an environmental and public health

16. Liu, *supra* note 5, at 265.

17. *Id.*

18. See William S. Eubanks II, *A Rotten System: Subsidizing Environmental Degradation and Poor Public Health with Our Nation's Tax Dollars*, 28 STAN. ENVTL. L.J. 213 (2009) (presenting a more robust discussion on the environmental effects of industrialized agriculture in the United States).

19. In addition to the environmental effects of pesticides, 10,000–20,000 farm workers are poisoned each year from pesticides. *Id.* at 276.

20. *Id.* at 255.

21. Jason J. Czarnezki, *The Future of Food Eco-Labeling: Organic, Carbon Footprint, and Environmental Life-Cycle Analysis*, 30 STAN. ENVTL. L.J. 3, 10 (2011).

22. Hewitt, *supra* note 7, at 112–13. See also Gardiner Harris, *Steps Set for Livestock Antibiotic Ban*, N.Y. TIMES, Mar. 23, 2012, at A11.

emergency.²³

Antibiotics in animals' diets have altered the strains of *E.coli* that grow in their intestines; thus, manure from a CAFO may contain deadly, drug-resistant viruses.²⁴ As animals in a CAFO have little room to roam and defecate, fecal matter inevitably makes its way into slaughterhouses and meat packing plants via animal carcasses. To minimize the risk of contamination, ammonia is frequently added to ground beef.²⁵ However, this process is not flawless, and the incidences of drug resistant *E.coli* poisoning are increasing in frequency.

The industrial system of agriculture and livestock operations in the United States illustrated in the preceding paragraphs contribute to the increasingly significant foodborne illness outbreaks and environmental ills. The rapid explosion of trade in recent years has only expanded the system's ability to harm people and their environment regardless of their distance from the source of bad practices.

B. FOOD SAFETY CONCERNS IN CHINA

China's most recent food safety legislation resembles the FDCA of the United States; however, this legislation is too new to analyze its effects on China's alarming food safety situation. In the 1950s, before modern food safety regulations, Mao Zedong set an example for the food production industry by executing the proprietors of the canning facilities that killed Chinese soldiers. Sixty years later and after much economic reform, China continues to face daunting food safety concerns. Before economic reforms, China's main food safety concern was to supply adequate and sanitary food for its population.²⁶ Economic reforms brought increased privatization of the food and agricultural industries and as a result, food safety concerns in China now frequently stem from the economic adulteration²⁷ of food products.²⁸

China's agricultural productivity has declined in recent years due to urban

23. See Eubanks, *supra* note 18, at 260 (A manure pit in North Carolina burst in 1995, killing "nearly ten million fish.").

24. *Id.* at 279.

25. Hewitt, *supra* note 7, at 60.

26. See Liu, *supra* note 5, at 282–83.

27. Economic Adulteration, as defined by the U.S. Government Accountability Office, is

the fraudulent, intentional substitution or addition of a substance in a product for the purpose of increasing the apparent value of the product or reducing the cost of its production, i.e., for economic gain. [It] includes dilution of products with increased quantities of an already-present substance (e.g., increasing inactive ingredients of a drug with a resulting reduction in strength of the finished product, or watering down of juice) to the extent that such dilution poses a known or possible health risk to consumers, as well as the addition or substitution of substances in order to mask dilution.

U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-12-46, FOOD AND DRUG ADMINISTRATION: BETTER COORDINATION COULD ENHANCE EFFORTS TO ADDRESS ECONOMIC ADULTERATION AND PROTECT THE PUBLIC HEALTH 3 (2011).

28. Liu, *supra* note 5, at 299.

expansion and degraded land quality.²⁹ To compensate for the deteriorating conditions of land and water resources in the country, farmers use their land more intensely, relying on large amounts of pesticides, antibiotics, and fertilizer.³⁰ China now produces 40% of the world's fertilizer.³¹ Government subsidies and poor land quality encourage the application of fertilizer, but scientific reports indicate that farmers apply up to 40% too much fertilizer, which further degrades the soil and pollutes waterways. Agriculture is the largest polluter in China.³² The polluted condition in which food is produced has become a food safety issue.

Aquaculture production in China is of particular concern to consumers, governments, and scientists.³³ Animal waste, pesticides, and veterinary drugs inundate the waters where farmers raise large amounts of seafood.³⁴ Furthermore, wastewater from aquaculture production is discharged into waterways and then reused by other aquaculture farmers. The intentional addition of illegal chemicals, dyes, and antibiotics in the aquaculture industry is a public health concern.³⁵ While farmers depend on the chemicals to keep their aquaculture stock alive, carcinogenic chemical residues can be retained in the finished food product and threaten the lives of consumers.³⁶

The intentional adulteration of food products is not limited to the aquaculture industry. Milk producers intentionally added melamine, a hazardous by-product of coal mining, to milk products in 2007.³⁷ Melamine artificially boosts nitrogen levels, which buyers see as a higher level of protein in the milk, resulting in a better price for the producer.³⁸ The adulterated milk products sickened almost 300,000 Chinese infants.³⁹ In an action reminiscent of the meat packers of the 1950s, two milk producers were executed in 2009 for their actions related to the melamine scandal.⁴⁰ Chinese municipalities are bound by food safety regulations to report high levels of melamine detected in their local products. During the melamine scandal, local authorities did not report the contamination for fear of

29. *Id.*

30. *Id.*

31. Peng Gong et al., *China Must Reduce Fertilizer Use Too*, 473 NATURE 284 (May 19, 2011).

32. Niu Shuping, *China Needs to Cut Use of Chemical Fertilizers: Research*, REUTERS, Jan. 14, 2010, available at <http://www.reuters.com/article/2010/01/14/us-china-agriculture-fertiliser-idUSTRE60D20T20100114>.

33. David Barboza, *In China, Farming Fish in Toxic Waters*, N.Y. TIMES, Dec. 15, 2007, available at <http://www.nytimes.com/2007/12/15/world/asia/15fish.html>.

34. *Id.*

35. Liu, *supra* note 5, at 302–03.

36. *See id.*

37. Mark McDonald, *Death Sentences in China Milk Case*, N.Y. TIMES, Jan. 22, 2009, available at <http://www.nytimes.com/2009/01/22/news/22iht-23MILK.19584434.html>.

38. Liu, *supra* note 5, at 292.

39. Tania Branigan, *Chinese Figures Show Fivefold Increase in Babies Sick From Contaminated Milk*, THE GUARDIAN, Dec. 2, 2008, available at <http://www.guardian.co.uk/world/2008/dec/02/china>.

40. Marisa Anne Pagnattaro & Ellen R. Peirce, *From China to Your Plate: An Analysis of New Regulatory Efforts and Stakeholder Responsibility to Ensure Food Safety*, 42 GEO. WASH. INT'L L. REV. 1, 6 (2010).

losing the milk industry's economic stimulus.⁴¹ When the municipality issued an apology, it was not to the hundreds of thousands of families impacted by the tainted milk but to high-level government officials.⁴² The failure to warn by local authorities presents another interrelated hurdle to effective food safety regulation in China: corruption.

China's level of corruption is similar to that of Mexico, Romania, and Peru.⁴³ Out of 180 countries, China ranks 72nd for its "general corruption perceptions."⁴⁴ In 2007, the director of the State Food and Drug Administration, Zheng Xiaoyu, was found by the People's Court to have accepted \$850,000 in bribes during his time as director.⁴⁵ His subsequent execution did not make a large impact on the behavior of other food and drug authorities in China. In 2009 alone, forty officials from the General Administration of Quality Supervision, Inspection, and Quarantine (AQSIQ) faced criminal corruption charges.⁴⁶ Nearly 200 other AQSIQ quality inspection officials were subjected to corruption charges between 2003 and 2008.⁴⁷

Corruption is a significant concern for food safety in China. State authorities may enact scores of regulations, but if officials choose—or are influenced to choose—to ignore the regulations, food producers will continue to reduce costs and increase yield through economic adulteration. The cost saved by food producers inevitably is paid by China's land and water resources, evidenced by the recent decrease in agricultural productivity, and China's public health, evidenced by foodborne illness outbreaks affecting hundreds of thousands of people. Such practices are clearly a concern for China, but because of China's prominent agricultural export economy, the health of citizens around the world is also at risk.

C. INTERNATIONAL TRADE AS A CHALLENGE TO FOOD SAFETY

Domestic challenges to food safety are exacerbated by the increasingly global food economy. Only a decade ago, the FDA regulated about six million shipments annually through U.S. ports.⁴⁸ The FDA currently regulates four times that amount, twenty-four million shipments, and the number is expected to triple by 2015.⁴⁹ The FDA inspects less than two percent of these imports.⁵⁰ As a result,

41. Liu, *supra* note 5, at 292.

42. *Id.* at 293.

43. *Id.* at 294.

44. *Id.*

45. *Id.* at 296.

46. *Id.* at 298.

47. *Id.*

48. U.S. FOOD AND DRUG ADMINISTRATION, *PATHWAY TO GLOBAL PRODUCT SAFETY AND QUALITY* 1 (2011).

49. *Id.*

50. Food & Water Watch, *A Decade of Dangerous Food Imports from China*, 3 (2011), <http://documents.foodandwaterwatch.org/doc/DecadeofDangerousImports.pdf>.

inadequate food safety regulation in foreign countries is seeping through the porous ports of the United States. China is the world's largest provider of seafood, yet its aquaculture exports have contained antibiotics and chemical residues.⁵¹ The regulatory, political, and economic pitfalls of one nation can become the burden of an importing nation.

The United States and China present an interesting case study of the growing global governance of food safety. Originally, China was "transplanting"⁵² U.S. laws to regulate its food safety as evidenced by China's newest food safety regulation emulating the Food Drug and Cosmetic Act. However, the recent agreements between the two countries illustrate the beginning of "integration and harmonization"⁵³ in the area of global food safety regulation.

III. THE U.S. FDA IN CHINA: GROWING CONCERNS LEAD TO A BILATERAL AGREEMENT

American concern over the safety of Chinese food imports has led to a maturing relationship between the food safety regulatory agencies of the United States and China. Section III of this article explores this growing relationship by first, in Part A, illustrating China's significant role in the American food market, and then, in Part B, explaining and analyzing the FDA's role in addressing China's food safety problems.

A. THE CHINA-UNITED STATES FOOD NEXUS

From decades of isolationist policies, China emerged into the global arena as a powerful player. Economic reforms, population increases, and globalization have fueled China's rapid economic growth. China is now the largest agricultural economy in the world.⁵⁴ It contains 1.3 billion consumers, 200 million farm households, and approximately one million food-processing companies.⁵⁵ Currently, it produces more pears, tomatoes, peaches, garlic, and apples than any other country—but it was not always this way.⁵⁶ Market reforms in the last thirty years have dramatically increased China's agricultural production and influence beyond its borders.

China had a collective agricultural system until the 1970s.⁵⁷ Except for small

51. *Id.* at 6.

52. Transplanting is the "deliberate copying and adaptation of significant portions of statutes or particular doctrines of law by one country from another." Yang & Percival, *supra* note 2, at 626.

53. We define integration as the process of linking national legal systems and harmonization as the adjusting and conforming of their standards and requirements to an international system or to each other.

54. Food & Water Watch, *supra* note 50, at 3.

55. Bryan Lohmar et al., *China's Ongoing Agricultural Modernization: Challenges Remain After 30 Years of Reform*, 51 *ECON. INFO. BULLETIN* 1, 24, 45 (U.S.D.A., 2009).

56. Food & Water Watch, *supra* note 50, at 3.

57. Lohmar, *supra* note 55, at 1.

family garden plots, regional authorities directed the nation's agricultural production.⁵⁸ International trade of agricultural goods was similarly orchestrated by state-owned monopolies. Only a few select crops were exported or imported as the nation focused on self-sufficiency.⁵⁹ State authorities even limited and directed domestic trade between regions of the country.⁶⁰

In the 1970s, market-based reforms began to rapidly unravel the economic and political cross-stitch of China's old agricultural system.⁶¹ Collective agricultural fields were partitioned and leased to individual households.⁶² More food was produced with less labor, farmers' salaries skyrocketed, and national nutrition improved.⁶³ Farmers no longer employed in the collective system moved to the cities where they provided a large, low-wage industrial working class for the booming manufacturing economy.⁶⁴ In the 1990s, the government adopted more liberal trade policies, and in 2001, China officially entered the World Trade Organization (WTO).⁶⁵

Following ascension into the WTO, the state-run monopolies that controlled agricultural exports were officially removed and more liberal trade policies began to dramatically increase the agricultural economy of China.⁶⁶ From 2002 to 2008, China's agricultural imports grew from \$11 billion to \$57 billion and exports increased from \$13 billion to \$29 billion.⁶⁷ WTO membership has launched China into a powerful position in the global food system. Countries and companies compete for access to its enormous market (one of the top four agricultural importers).

Its export power is also far reaching. Inexpensive labor enables China to process food products cheaply, feeding the global demand for inexpensive food.⁶⁸ Costs are so low in China, some food products are now shipped from the United States to China for processing, and then back to the United States for consumption.⁶⁹ Additionally, China has become an important provider of certain food products such as citric acid and seafood. Some U.S. retailers now depend on these imports.⁷⁰

58. *Id.* at 3.

59. *Id.* at 4.

60. *Id.* at 1.

61. *Id.* at iii.

62. *Id.* at 3.

63. *Id.* at 1.

64. *Id.*

65. *Id.* at 4.

66. *Id.*

67. *Id.* at 9.

68. Julia A. Phillips, *Does "Made in China" Translate to "Watch Out" for Consumers? The U.S. Congressional Response to Consumer Product Safety Concerns*, 27 PENN ST. INT'L L. REV. 217, 234 (2008).

69. Fred Gale & Jean C. Buzby, *Imports from China and Food Safety Issues*, 52 ECON. INFO. BULLETIN 1, 6 (U.S.D.A., 2009).

70. Food & Water Watch, *supra* note 50, at 4.

Between 2001 and 2008, the amount of food imported to the United States from China tripled, making China the United States' third largest source of imported food after Mexico and Canada.⁷¹ It is the third largest source of foreign fresh vegetables, second largest source of processed fruit and vegetables, and the number one source of foreign seafood.⁷² Two-thirds of apple juice and one-fifth of the garlic consumed in the United States comes from China.⁷³ China's largest contribution to the American diet is arguably through ingredients ingested on a regular basis in processed foods. These ingredients are products like citric acid, a preservative in soft drinks, and artificial vanilla. In a given year, up to 90% of the citric acid and 85% of artificial vanilla consumed in the United States is sourced from China.⁷⁴ The rise in food trade between the United States and China has benefitted both countries' economies, yet quality concerns of food imports from China have instigated debate among government officials.⁷⁵

China is the largest importer of rejected shipments to the United States.⁷⁶ Food imports from China are frequently rejected for two general reasons: (1) the food contains illegal chemicals or additives, or (2) the food contains dangerous levels of veterinary drug residues.⁷⁷ In 2008, 44% of wheat gluten imported from China contained melamine, a toxic by-product of coal mining.⁷⁸ About 14% of inspected shipments contained drug residues on seafood and 25% were contaminated with hazardous chemicals or additives not allowed in the United States.⁷⁹

B. U.S. REGULATORY OFFICIALS IN CHINA

American confidence in Chinese imports degraded in the beginning of 2007 when over 40,000 American pets were sickened by melamine tainted pet food and an import alert was issued for seafood from China containing drug residue. Faced with import rates doubling every five years and frequent headlines questioning the safety of imported goods, President George W. Bush signed an executive order⁸⁰ to establish the Interagency Working Group (Working Group) on Import Safety in 2007.⁸¹ Then Secretary of Health and Human Services (HHS)

71. Gale & Buzby, *supra* note 69, at 5.

72. Food & Water Watch, *supra* note 50, at 3.

73. *Id.* at 4.

74. *Id.*

75. Lohmar et al., *supra* note 55, at 9; See generally U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-09-873, FOOD SAFETY: AGENCIES NEED TO ADDRESS GAPS IN ENFORCEMENT AND COLLABORATION TO ENHANCE SAFETY OF IMPORT FOOD (2009).

76. Lohmar et al., *supra* note 55, at 1.

77. Food & Water Watch, *supra* note 50, at 6-7.

78. *Id.* at 5.

79. *Id.* at 6.

80. Exec. Order No. 13,439, 72 Fed. Reg. 40,053 (July 18, 2007), available at http://nodis3.gsfc.nasa.gov/displayEO.cfm?id=EO_13439.

81. INTERAGENCY WORKING GROUP ON IMPORT SAFETY, IMPORT SAFETY-ACTION PLAN UPDATE 3 (2008).

Michael Leavitt was appointed to chair the Working Group.⁸² The Working Group was charged with making recommendations to protect the health and safety of U.S. citizens by refocusing import safety mechanisms into a preventative, rather than port-of-entry, approach. President Bush stated that the administration would “improve the safety of imported products in a manner that expands global trade and protects the health and safety of every American.”⁸³

The FDA took special action to restructure its import safety policies in accordance with the executive order. The FDA’s effort has largely focused on China as the leading exporter of rejected shipments and an important trading partner. To bring food exports from China into compliance with FDA food safety standards, the FDA negotiated a memorandum of agreement (MOA)⁸⁴ with the Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) of China in December of 2007.

The MOA between China and the United States strives to “establish a bilateral cooperative mechanism regarding food and feed safety” and to “enhance confidence” in the products from each nation.⁸⁵ The agreement outlines a framework for regulatory cooperation between the countries. Some cooperative regulatory activities enumerated in the agreement are: developing training programs, hosting scientific discussions, and exchanging procedural and substantive information regarding compliance and enforcement mechanisms.⁸⁶

The FDA opened three offices in China to accomplish the objectives of the MOA.⁸⁷ The offices opened in 2008 with official permission from China and were the first official foreign presence of the FDA resulting from its “Beyond Our Borders” program.⁸⁸ “Beyond Our Borders” is an FDA initiative that focuses on preventative import safety by regulating products before they are shipped to the United States. Since opening its China offices, the FDA has established a physical presence in India, Central America, and South America, and is working on a Middle East location.⁸⁹ China nevertheless contains the most offices with one in Beijing, Guangzhou, and Shanghai. The general activities of the foreign offices are:

82. *Id.*

83. INTERAGENCY WORKING GROUP ON IMPORT SAFETY, ACTION PLAN FOR IMPORT SAFETY-A ROADMAP FOR CONTINUAL IMPROVEMENT (2007).

84. Agreement Between the Department of Health and Human Services of the United States of America and the General Administration of Quality Supervision, Inspection and Quarantine of the People’s Republic of China on the Safety of Food and Feed, U.S.-China, Dec. 11, 2007, available at <http://www.fda.gov/InternationalPrograms/Agreements/MemorandaofUnderstanding/ucm107557.htm> [hereinafter MOA].

85. *Id.* § 1.

86. *See id.* § 5.

87. *See* Jerry Boxall, Impact of FDA Opening Offices in China and India, J. CLINICAL STUD., Jan. 2009, at 22, available at http://www.acmgloballab.com/latest_news/JCS_JAN09.pdf.

88. *See id.*

89. *See* U.S. FOOD & DRUG ADMIN., 2011 ANNUAL REPORT ON FOOD FACILITIES, FOOD IMPORTS, AND FDA FOREIGN OFFICES (2011), available at <http://www.fda.gov/Food/FoodSafety/FSMA/ucm250569.htm>.

(1) establishing relationships with U.S. agencies located overseas and foreign stakeholders, including regulatory counterparts and industry; (2) gathering better information locally on product manufacturing and transport to U.S. ports; (3) improving FDA's capacity to conduct foreign inspections; and (4) providing assistance to build the capacity of counterpart agencies to better assure the safety of the products manufactured and exported from their countries.⁹⁰

The FDA in China has faced considerable challenges meeting these goals; however, some progress has been made.

Both FDA officials and local Chinese regulatory authorities agree that the physical presence of the FDA in China has helped develop, albeit slowly, a relationship between the U.S. agency and foreign stakeholders.⁹¹ FDA officials in China recognize the 2007 MOA as the instigator for relationship building.⁹² The FDA in India provides an interesting comparison. There, where FDA officials do not operate under the auspice of an MOA, the Indian regulatory officials must obtain permission from senior government authorities before participating in meetings with the FDA. In China, the MOA has facilitated relationship building as both countries committed to information sharing, capacity building, and annual high-level policy meetings.⁹³ Though FDA officials have strengthened their ties to their Chinese counterparts, language barriers and the complicated nature of the Chinese regulatory system have hindered the development of the relationships.⁹⁴

Regulatory authority over food and agriculture in China is, like in the United States, multi-faceted. FDA officials must develop relationships with the Ministry of Agriculture, the State Food and Drug Administration, and the General Administration of Quality Supervision, Inspection and Quarantine.⁹⁵ During the melamine incident of 2008, it took FDA officials one month to locate and communicate with the correct Chinese agency.⁹⁶ Chinese regulatory authority is both horizontally and vertically divided, with decisions being made on the national level and enforced locally. FDA officials must reach out to regional authorities at various levels of government to build relationships and gather information.⁹⁷

FDA officials have gathered information on local establishments in China, but

90. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-960, FOOD AND DRUG ADMINISTRATION: OVERSEAS OFFICES HAVE TAKEN STEPS TO HELP ENSURE IMPORT SAFETY, BUT MORE LONG-TERM PLANNING IS NEEDED 6-7 (2010) [hereinafter GAO-10-960].

91. *See id.* at 12.

92. *See id.* at 13.

93. *See id.* at 13; MOA, *supra* note 84.

94. *See* GAO-10-960, *supra* note 90, at 14.

95. *See id.* at 12 n.22.

96. *See id.* at 12.

97. *See id.* at 13-14.

it is difficult to measure to what extent this information has helped protect the health and safety of U.S. citizens.⁹⁸ Officials state that simply maintaining a physical presence in China allows FDA authorities to gather intelligence from Chinese authorities and media, allowing them to keep informed on food safety issues in China and more quickly relay information to domestic based officials regarding contaminated shipments bound for U.S. ports.⁹⁹ At least one official bulletin was issued by FDA officials in China warning of possible pesticide contamination in certain food products.¹⁰⁰ FDA authorities in the United States are alerted to target certain products for inspection when an official bulletin is issued. This process enhances domestic authorities' ability to identify and inspect possibly contaminated shipments. However, FDA's "Beyond Our Borders" initiative attempts to transition from a reactive inspection procedure to a preventative one, inspecting foreign facilities and preventing contaminated food from being shipped to U.S. ports.

Foreign inspections of Chinese facilities have historically been sporadic, but recent inspection rates are consistently higher than those in the past. The MOA requires the United States and China to create a "joint, streamlined process for inspections of facilities by the other country."¹⁰¹ It appears the MOA increased the rate of inspections, but the overall percentage of Chinese food processing and production facilities that are inspected is feeble.

The number of FDA inspections of food firms in China varied from zero to sixteen between FY 2001 and FY 2008.¹⁰² Back to back years without any inspections occurred as recently as FY 2006 and 2007.¹⁰³ While only three took place in FY 2009, a dramatic shift in the inspection rate occurred in FY 2010 and 2011. The number of inspections of food firms in China jumped to forty-two in FY 2010 and sixty-six in FY 2011.¹⁰⁴ These advancements are likely the fruition of improved relationships with Chinese officials and an increasingly streamlined process for inspectors. Nevertheless, with China's estimated one million food processing and production facilities, only 0.0066% of Chinese food facilities were inspected during the most productive year.¹⁰⁵

FDA authorities report that the overseas offices and MOA have helped to increase the efficacy of these site visits.¹⁰⁶ Inspectors based in the United States

98. *See id.* at 15.

99. *See id.* at 15.

100. *See id.* at 15.

101. INTERAGENCY WORKING GROUP ON IMPORT SAFETY, *supra* note 83, at 7.

102. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-10-699T, FOOD SAFETY: FDA COULD STRENGTHEN OVERSIGHT OF IMPORTED FOOD BY IMPROVING ENFORCEMENT AND SEEKING ADDITIONAL AUTHORITIES 5 (2010).

103. *See id.*

104. *See* Inspection Classification Database Search, U.S. FOOD AND DRUG ADMINISTRATION, <http://www.accessdata.fda.gov/scripts/inspsearch/index.cfm>.

105. *See id.*

106. *See* GAO-10-960, *supra* note 90, at 18.

frequently have visa issues and inflexible schedules if a facility needs to reschedule.¹⁰⁷ The in-country presence of the FDA enables authorities to bypass these obstacles and visit facilities on short notice. Plus, with a “joint, streamlined process for inspections” and better relationships with local authorities, FDA officials can more easily schedule site visits.¹⁰⁸

The capacity building initiatives of the MOA are designed to familiarize Chinese authorities with FDA standards in order to decrease the amount of shipments that are rejected once they reach U.S. ports. Capacity building is necessary because the FDA does not have the resources to police the Chinese agricultural economy on its own. Only eight FDA employees were dispatched to the country’s three offices by July of 2010, including only two food inspectors.¹⁰⁹ The capacity building provisions of the MOA, however, are still in the “early stages.”¹¹⁰ FDA officials have commented on proposed foreign legislation, assisted other U.S. agencies with questions regarding FDA regulations, and translated U.S. regulations into Chinese.¹¹¹ Officials plan to increase the amount of trainings for local officials in the future.¹¹²

The overall success of the MOA is unclear, as the number of rejected Chinese food imports has remained steady over the past decade despite an increased volume of imported goods.¹¹³ The USDA Economic Research Service attributes this steady rate of rejection to a shortage of FDA inspection resources.¹¹⁴ However, reports from FDA officials in China and an increase in inspection rates illuminate the prospect that a beneficial relationship between the countries’ regulatory authorities is growing.

IV. FOOD SAFETY LAW IN CHINA

Given the increased globalization of the food market and increased food safety concerns, China has recently developed significant food safety laws and regulations. Despite this new infrastructure, China suffers from problems with enforcement and compliance, as illustrated by cadmium pollution in the country’s rice crop. The hope is that global environmental law, here defined as increased rule of law, may mitigate environmental harm and food safety concerns in China.

107. *See id.* at 17.

108. *See id.* at 18.

109. *See id.* at 36.

110. *See id.* at 19.

111. *See id.*

112. *See id.*

113. *See Gale & Buzby, supra* note 69, at 12–13.

114. *See id.*

A. CHINA'S FOOD SAFETY LEGAL INFRASTRUCTURE

As the MOA between China and the United States shows, China is under great pressure to conform to international food safety standards. Similarly, as a member of the WTO, China is bound to the WTO Agreement on Sanitary and Phytosanitary Measures (SPS Agreement), which sets out a regulatory model with which national food safety regulation must comply.¹¹⁵ China seeks to conform to the SPS regulatory model, not only to improve its access to foreign markets, but to also mitigate domestic food safety concerns. Indeed, the 11th Five-Year Plan (2006–2010) clearly recognized that improving food safety is a critical national task, and during the 11th Five-Year plan period in 2009, China's National People's Congress enacted a new Food Safety Law (FSL).¹¹⁶

China now has basic regulatory infrastructure in place after years of legislation and standard setting efforts.¹¹⁷ In addition to the FSL, China adopted the Agricultural Product Quality and Safety Law in 2006 governing raw agriculture production¹¹⁸ and the Animal Husbandry Law in 2005 governing the slaughter of livestock.¹¹⁹ These laws are supported by more detailed administrative regulations and directives issued by State Council and relevant Ministries or departments at the national level.¹²⁰ Under the new FSL, the Ministry of Health (MOH) is responsible for determining and promulgating food safety standards, while the Ministry of Agriculture (MA) sets pesticide residue levels.¹²¹ As of May 3, 2011, MOH promulgated 187 new national food safety standards including new standards for dairy products,¹²² mycotoxins, pesticide and veterinary medicine residue, use of food additives, nutrition labeling, and frozen pastry and rice products.¹²³

115. See WORLD TRADE ORG., THE WTO AGREEMENT SERIES: SANITARY AND PHYTOSANITARY MEASURES (rev. 2010), available at http://www.wto.org/english/res_e/booksp_e/agrmtseries4_sps_e.pdf.

116. Zhonghua Renmin Gonghe Guo Shipin Anquan Fa [P.R.C. Food Safety Law] (promulgated by the Standing Comm. Nat'l People's Cong., Feb. 28, 2009, effective June 1, 2009), available at http://www.gov.cn/jfjg/2009-02/28/content_1246367.htm (Feb. 28, 2009) (China) [hereinafter FSL].

117. See John Balzano, China's Food Safety Law: Administrative Innovation and Institutional Design in Comparative Perspective, 13 ASIAN-PAC. L. & POL'Y J. 23, 25 (2012).

118. Zhonghua Renmin Gonghe Guo Nongye Chanpin Anquan Zhiliang Fa [P.R.C. Agricultural Product Quality and Safety Law] (promulgated by the Standing Comm. Nat'l People's Cong., Apr. 29, 2006, effective Nov. 1, 2006), available at http://www.gov.cn/jfjg/2006-04/30/content_271633.htm (April 29, 2006) (China) [hereinafter Agricultural Product Quality and Safety Law].

119. Zhonghua Renmin Gonghe Guo Xumu Fa [P.R.C. Animal Husbandry Law] (promulgated by the Standing Comm., Nat'l People's Cong., Dec. 29, 2005, effective July 1, 2006) available at http://www.gov.cn/ziliao/jfjg/2005-12/29/content_141833.htm, (Dec. 29, 2005) (China).

120. See Balzano, *supra* note 117, at 36–37.

121. See FSL, *supra* note 116, at art. 21.

122. See Ministry: New Dairy Products Standards Meet with International Standards, PEOPLE'S DAILY ON LINE (July 15, 2010, 4:52 PM), available at <http://english.people.com.cn/90001/90778/90860/7066199.html#>.

123. See Weshengbu, Nongyebu Zhuanjia Jiedu Nongyao Canliu Biaozhun Xiangguan Wenti [Experts from MOH and MOA explained issues regarding to pesticide residue] Bureau of Quality and Safety Supervision for Agro-products at MOA, April 28, 2012, available at http://www.moa.gov.cn/zwl1m/zwdt/201204/t20120428_

China is also serving as the host country for the Codex Committee on Food Additives and Codex Committee on Pesticide Residues, and it is part of the Asian Executive Member of Codex Committee on Food. Through these efforts, China is trying to learn from the experiences of developed countries in formulation and management of food standards and to make China's food safety standards consistent with international standards. In its draft 12th Five Year Plan on National Food Safety Standards, MOH aims to review mandatory contents in the 1900 national food safety standards and 3000 industrial standards.¹²⁴ Based on the review work, MOH will (1) bring forward opinions on whether the standards or indices shall remain effective, to be integrated or annulled; and (2) complete integration and elimination of relevant standards by the end of 2015.¹²⁵

National, provincial, and local government authorities share regulatory control responsibilities in a more or less coordinated fashion, or at least that is the design. At the national level, the key ministries and departments that implement the food and agriculture laws are MOH, MA, State Food and Drug Administration (SFDA), State Administration for Quality Supervision, Inspection and Quarantine (AQSIQ), the State Administration of Industry and Commerce (SAIC), and the Ministry of Commerce (MoFCOM).¹²⁶ The broad administrative structure in China involves thirty-three provinces, autonomous regions, or directly-administered municipalities; 333 regions, municipalities, autonomous prefectures; and 2,861 counties and county-level municipalities.¹²⁷ These provincial, regional, and county-level administrations have parallel food control authorities reporting to the MOH, MA, SAIC and AQSIQ in their respective jurisdictions. In general, these lower level regulatory authorities are directly responsible to their respective level of government body but receive instructions of a regulatory or technical nature from the national agency.¹²⁸ Food safety laws and regulations provide these agencies with enforcement tools including site inspections, samplings, and audits, and empower the agencies, upon finding violations, to seize illegal products, issue fines, revoke business licenses, and shut down the violators.¹²⁹ China's Criminal Law imposes severe criminal penalties on producers and sellers who produce adulterates or substandard products that cause

2614421.htm.

124. See Shipin Anquan Guojia Biaozhun Shierwu Guihua (Zhengqiu Yijian Gao)[12th Five-year Plan on National Food Safety Standards (Version for public comments)], Jan. 20, 2012, available at http://www.gov.cn/zwqk/2012-06/15/content_2161656.htm, translated in FOREIGN AGRIC. SERV., U.S. DEP'T. OF AGRIC., GLOBAL AGRICULTURE INFORMATION NETWORK REPORT (Feb. 10, 2012), available at http://agriexchange.apeda.gov.in/IR_Standards/Import_Regulation/china2-10-2012.pdf.

125. See *id.*

126. See United Nations in China, Advancing Food Safety in China, 12 (Mar. 2008), available at <http://www.un.org.cn/public/resource/2aebcd033e334d961fefb1588b70f2ab.pdf>.

127. See *id.*

128. See *id.*

129. See Liu, *supra* note 5, at 287.

serious bodily injury or death.¹³⁰

China also has general civil laws and administrative laws that govern civil liability and the administrative processes.¹³¹ Consumers who suffer from food safety and quality problems can bring a claim for compensation. China's Tort Law, passed in 2009, introduced punitive damages for defective products. Article 47 of the Tort Law provides that where a party knowingly produced or sold defective products that caused injury to life or health, the injured party has the right to claim punitive damages.¹³² Unlike previous laws that restricted compensation, recovery of punitive damages is not stated as a fixed multiple of the amount paid for the defective product, and the Tort Law does not place a limit on damages.¹³³ Chinese citizens or entities that are directly affected by administrative action or inaction can also bring suits to request court review of those actions under the Administrative Litigation Law.¹³⁴

B. WEAK ENFORCEMENT & COMPLIANCE: AN EXAMPLE OF CADMIUM RICE PROBLEM IN CHINA

Despite the existence of a basic legal infrastructure, these laws, regulations,

130. See Criminal Law of the People's Republic of China (promulgated by the Standing Comm. Nat'l People's Cong., July 1, 1979, effective Jan. 1, 1980, amended Mar. 14, 1997), available at <http://www.cecc.gov/pages/newLaws/criminalLawENG.php>. Article 140 states:

Any producer or seller who mixes impurities into or adulterates products, or passes a fake product off as a genuine one, a defective product as a high quality one, or a substandard product as a standard one, if the amount of earnings from sales is more than 50,000 yuan but less than 200,000 yuan, shall be sentenced to fixed-term imprisonment of not more than two years or criminal detention and shall also, or shall only, be fined not less than half but not more than two times the amount of earnings from sales; if the amount of earnings from sales is more than 200,000 yuan but less than 500,000 yuan, he shall be sentenced to fixed-term imprisonment of not less than two years but not more than seven years and shall also be fined not less than half but not more than two times the amount of earnings from sales; if the amount of earnings from sales is more than 500,000 yuan but less than 2,000,000 yuan, he shall be sentenced to fixed term imprisonment of not less than seven years and shall also be fined not less than half but not more than two times the amount of earnings from sales; if the amount of earnings from sales is more than 2,000,000 yuan, he shall be sentenced to fixed-term imprisonment of 15 years or life imprisonment, and shall also be fined not less than half but not more than two times the amount of earnings from sales or be sentenced to confiscation of property.

131. Balzano, *supra* note 117, at 29.

132. Zhonghua Renmin Gonghe Guo Qinquan Zeren Fa [P.R.C. Tort Law] Art. 47 (promulgated by the Standing Comm. Nat'l People's Cong., Dec. 26, 2011, effective July 1, 2010) available at http://www.squiresanders.com/pdf/chinaupdate/Tort_Liability_Law_of_PRC_Chinese_English.pdf.

133. See FSL, *supra* note 116, at art. 96 ("When a violation of this Law causes bodily harm, injury to property or other loss, then the offending entity shall assume civil liability for compensation in accordance with law. If the entity processes food products that are non-compliant with food safety standards or sells food products that it clearly knows to be non-compliant with food safety standards, then in addition to seeking compensation for loss, the consumer may seek ten times the price from the processor or seller in compensation.")

134. Zhonghua Renmin Gonghe Guo Xingzheng Susong Fa [P.R.C. Administrative Litigation Law] (promulgated by the Nat'l People's Cong., Apr. 4, 1989, effective Oct. 1, 1990) available at <http://www.china.org.cn/english/government/207335.htm>.

civil remedies, and food safety control authorities do not adequately address China's food safety problems.¹³⁵ The general public still has little confidence and trust in the safety of food products, either domestically within China or internationally.¹³⁶ *Southern Weekend*, one of China's most influential newspapers, produced a special report on food safety in China at the end of 2011 that listed many food safety scandals exposed by the media including cadmium polluted rice, excessive amounts of antibiotics residue in aquaculture seafood, waste oil, salted duck eggs containing cancer-causing dyes, contaminated pork, and dyed bread, to name a few.¹³⁷ After *Southern Weekend* concluded that 2011 was China's food safety crisis year, it declared "what can we safely eat today?" is a national question that ordinary people have to ask every day.¹³⁸

China's 2011 food safety incidents fit into three categories: environmental degradation in farms, excessive use of chemicals in agriculture production, and economic adulteration of food products (or illegal use of food additives in food processions).¹³⁹ To provide an example of the link between environmental law and food safety, this article focuses on the problem of environmental degradation in farms as this problem directly challenges the enforcement of food safety.

China's current measures are not adequate to protect the safety of the farm environment. For example, Chinese rice is heavily contaminated with cadmium. Rice is a staple food for 65% of the population in China.¹⁴⁰ In February 2011, a Caixin investigative article revealed that approximately 10% of Chinese rice may be polluted by cadmium, a heavy metal discharged in mine and industrial waste-water that makes its way into rice paddies, according to scientific studies by major Chinese universities.¹⁴¹ The disease caused by excessive cadmium in rice was recognized in the 1960s when hundreds of farmers in Japan suffered years of bone pain.¹⁴² The reporter found that inhabitants in Side, located in Guangxi Province, who ate the local rice with cadmium levels far exceeding the permitted limit also suffered similar unbearable pains in their feet.¹⁴³ This

135. See Balzano, *supra* note 117, at 31.

136. See Wu Jiawen, Han Xiaorong, *Yige Shipin Anquan Wangzhan De Tanhuan [Catalogue of a Crisis]*, May 28, 2012; originally published on THE ORIENTAL MORNING POST, <http://www.dfdaily.com/html/21/2012/5/4/786418.shtml>. (Reporting that a Chinese student's online database of food safety scandals—that crashed after getting 25,000 hits in two hours—is a symbol of the nation's growing fears).

137. See *2011 Shipin Anquan Baogao: Cong Jintianqi, women guanxin liangshi he sucai [2011 Food Safety Report: Starting from Today, We Care Crops and Vegetables]*, SOUTHERN WEEKEND, Mar. 19, 2012, <http://www.infzm.com/content/67049>.

138. *Id.*

139. Fan Zhihong, Baohong Wenti Shipin, Dapian Le Bazi [Shelling of the "Problem Foods", Miss Targets], SOUTHERN WEEKEND, Mar. 28, 2012, <http://www.infzm.com/content/67071>.

140. See Gong Jing, Gemi Sha Ji [China's Tainted Rice Trail], CENTURY WEEKLY, Feb. 14, 2011, http://money.163.com/11/0214/09/6SRFPL3Q00253DC8_3.html; an English translation of this article is available at <http://www.chinadialogue.net/article/show/single/en/4197>.

141. *See id.*

142. *See id.*

143. *See id.*

“cadmium rice” is often found in surrounding areas where zinc, lead, and copper are mined. Heavy metal pollution in soil and irrigation water is the key reason a heavy metal like cadmium enters the Chinese food system. Zhou Shengxiang, the Minister of the Ministry of Environment (MEP), said, “It is estimated that nationwide 12 million tons of grain are polluted each year by heavy metals that have found their way into soil.”¹⁴⁴ Chen Tongbin, a researcher at the Chinese Academy of Science’s Institute of Geographic Sciences and Natural Resources Research, estimates that “around 54,000 square kilometers of land may be polluted with cadmium alone.”¹⁴⁵

China’s top leadership has recognized the seriousness of heavy metal pollution problems in the country and has adopted its first five-year plan for heavy metal pollution prevention and control (2010–2015).¹⁴⁶ The plan outlines efforts to cut the emission of lead, mercury, chromium, cadmium, and arsenic in key regions to 15% of the levels recorded in 2007 by 2015. The plan lists 4452 specific companies in 138 areas within fourteen provinces and autonomous regions to be closely watched.¹⁴⁷ However, China’s central government has had trouble implementing these five-year plans¹⁴⁸ and relatively comprehensive environmental laws¹⁴⁹ to control the pollution.¹⁵⁰

The “cadmium rice” scandal has put heavy metal pollution in Xiangjiang River Basin in Hunan Province under the spotlight, and Xiangjiang River has been selected as a key region to control the heavy metal pollution.¹⁵¹ Xiangtan City, a city within the Xiangjiang River basin, has more than 80,000 hectares (200,000 acres) of farmland polluted by cadmium, almost 40% of Xiangtan City’s farmlands.¹⁵² Findings from a recent field investigation conducted by Hunan People’s Congress and an environmental NGO, Green Xiaoxiang, show that five out of ten outfalls from seven industry parks and mining sites—key control spots

144. *China Faces “Serious” Soil Pollution: SEPA*, THE CENTRAL PEOPLE’S GOVERNMENT OF THE PEOPLE’S REPUBLIC OF CHINA (July 18, 2006), http://english.gov.cn/2006-07/18/content_339294.htm.

145. Gong Jing, *supra* note 140.

146. Cui Zeng, *National Plan Targeting Heavy Metal Hot Spots*, CAIXIN (Mar. 1, 2011), available at <http://english.caixin.com/2011-03-01/100230462.html>.

147. *Id.*

148. China has successive Five Year Plans for National Economic and Social Development (FYPs), Five-Year Environmental Plans, and Environmental Plans. In addition to the five-year plan for heavy metal pollution prevention and control, China’s State Council approved a special plan on the Xiangjiang River heavy metal pollution control plan (2010–2015).

149. OECD WORKING PARTY ON ENVIRONMENTAL PERFORMANCE, ENVIRONMENTAL PERFORMANCE REVIEW OF CHINA (Nov. 2006), available at <http://www.oecd.org/dataoecd/58/23/37657409.pdf>.

150. See Benjamin van Rooij, *The People’s Regulation, Citizen and Implementation of Law in China*, 25 COLUM. J. ASIAN L. 116 (2012).

151. Duan Yan, *Hunan to Tackle Metal Invasion in Xiangjiang River*, CHINA DAILY, (Mar. 9, 2011), available at http://www.chinadaily.com.cn/china/2011npc/2011-03/09/content_12139345.htm.

152. Xu Zhihui, *Shuiwuran Weiji: Xiangjiang Buneng Chengshou Zhizhong [Water Polluter Crisis: Unbearable Burden For Xiangjiang]*, CHINA NEWSWEEK (Apr. 11, 2012), <http://newsweek.innewsweek.cn/magazine.php?id=4946>.

under the Xiangjiang River heavy metal pollution control plan (2010–2015)—consistently exceed their heavy metal pollutants discharge limits, and three out of four drinking water sources near these areas fail to meet safety standards.¹⁵³ The Dong'an Environmental Protection Bureau (EPB), a county level EPB in the Xiangjiang River Basin, reported to the county party committee and government that five Electrolytic Manganese Metal (EMM) companies, which had violated the environmental standards and were ordered to shut down in June 2010, were found in operation again in March 2011.¹⁵⁴ One company even prevented the inspectors from accessing the factory.¹⁵⁵ Despite these problems, new heavy metal plants and mines have been built or have obtained Environmental Impact Assessment (EIA) approvals along the Xiangjiang River in the hope that these new plants and mines will “be in compliance with environmental standards.”¹⁵⁶

On the one hand, the Chinese government failed to effectively enforce environmental laws to prevent contaminations of soil and irrigation water. On the other hand, there is currently no effective regulatory program in place to restrict planting rice on cadmium-polluted land. Rice is very susceptible to absorbing cadmium in the soil. Although the Agricultural Product Quality and Safety Law generally requires the agriculture bureau of a local government at the county level or above to prohibit areas from producing certain agricultural products because of the presence of toxic substances, the authors could not find any such restricted planting zones listed by any local governments.

Caixin reporter Gong Jing, who conducted field research in villages like Side and Xinqiao where cadmium-tainted rice is found, reported that the “villagers of Side and Xinqiao have received no orders from government to stop farming their land.”¹⁵⁷ Apart from a few extreme cases where the pollution is so severe that planting has been banned, the farmers who own most of the heavy-metal contaminated land are allowed to plant whatever crops they want, including rice.¹⁵⁸

The Ministry of Environment and the Ministry of Land and Natural Resources initiated China's first soil pollution survey in 2006. The survey is designed “to assess soil quality across the country by analyzing the amount of heavy metals, pesticide residue and organic pollutants in the soil.”¹⁵⁹ The survey was completed

153. *Id.*

154. DONGAN ENVTL. SUPERVISION TEAM, GUANYU WOXIAN DIANJIEMENG QIYE WURAN ZHENGZHI QING-KUANG HUIBAO [REPORT ON POLLUTION CONTROL AND CORRECTION EFFORTS ON ELECTROLYTIC MANGANESE METAL COMPANIES IN OUR COUNTY] (2011), http://xxgk.yzcity.gov.cn/web67/site/art/2011/9/14/art_14687_15769.html.

155. *Id.*

156. More than 30 EIAs of new plants and mines have been approved by Hunan Provincial Environmental Protection Department. <http://www.hbj.hunan.gov.cn/hjyxpj/jsxmspqgs/default.htm>.

157. Gong Jing, *supra* note 140.

158. *Id.*

159. Charlie McElwee, *China's Soil Pollution Prevention Law*, CHINA ENVIRONMENTAL LAW (Feb. 14, 2010), <http://www.chinaenvironmentallaw.com/2010/02/14/chinas-soil-pollution-prevention-law/>.

in 2010, but as of June 5, 2012, no results of the survey have been publicly released.¹⁶⁰ The Ministry of Agriculture urged local agriculture bureaus to monitor the quality of farmland and heavy metals in crops and report the results of the samplings to the Environmental Monitoring Station affiliated with MA.¹⁶¹ However, the reported results from local agriculture bureaus are also not publicly available. Even if farmers are willing to change their agricultural practices to address the polluted soil problem, they lack the necessary information needed to adjust their practices.

China's local governments lack rigorous programs to prevent rice contaminated with heavy metals from reaching the market. China's national standard on maximum levels of contaminants in foods (GB 2762-2005) and Hygienic Standard for Grains (GB 2715-2005)¹⁶² sets out the indicators of maximum levels of cadmium in grains and their product.¹⁶³ In 2002, the quality monitoring center for rice and rice products at China's Ministry of Agriculture carried out safety checks on samples of rice available on the market nationwide. The results indicated 10.3% of the samples exceeded the maximum level of cadmium allowed in rice.¹⁶⁴ In 2007, Pan Genxing, professor at Nanjing Agricultural University's Institute of Resources, Ecosystem and Environment of Agriculture, led a study that purchased 91 samples of rice from markets at the county level or higher in six regions across China. The results were similar: 10% of rice on the market had excessive levels of cadmium.¹⁶⁵ In April 2008, Pan's team purchased 63 samples of rice from markets in provinces where cadmium pollution in soils are very severe, including Jiangxi, Hunan, and Guangdong, and found that 60% breached national standards for cadmium levels.¹⁶⁶

In February 2008, food safety checks in Chengdu found high cadmium levels in rice sold by the Qionglai Ruitai Rice Company and Sichuan Wenjun Rice Company.¹⁶⁷ The Agricultural Product Quality and Safety Law prohibits the sale

160. Ministry of Environmental Protection: *The National Soil Pollution Situation Completion of the Investigation Will Be Announced in Due Course*, CHINA FINANCIAL (June 5, 2012), <http://www.chinafinancial.info/ministry-of-environmental-protection-the-national-soil-pollution-situation-completion-of-the-investigation-will-be-announced-in-due-course/>.

161. RESOURCES & ENVIRONMENT DIVISION OF SCIENCE & TECHNOLOGY EDUCATION, DEP'T OF MINISTRY OF AGRIC. & ENVTL. MONITORING STATION OF THE MINISTRY OF AGRIC., NATIONAL SURVEY ON SAFETY CONDITION OF FARMLANDS (Dec. 2008), <http://www.jsagri.gov.cn/attachement/55456.doc>.

162. Kevin Latner & Jiang Junyang, USDA FOREIGN AGRIC. SERV., GAIN REP., GB2715-2005 HYGIENIC STANDARD FOR GRAINS.

163. Jim Butterworth & Wu Bugang, USDA FOREIGN AGRIC. SERV., GAIN REP., GB2762-2005 NAT'L STANDARD ON MAXIMUM LEVELS OF CONTAMINANTS IN FOODS OF PEOPLE'S REPUBLIC OF CHINA.

164. Gong Jing, *supra* note 140.

165. Xu Junqian & Li Jing, Cadmium-Tainted Rice only Found in Regions, CHINA DAILY (Feb. 16, 2011), http://www.chinadaily.com.cn/china/2011-02/16/content_12021618.htm.

166. *Id.*

167. Qionglai, *Quality Supervision Bureau*, (Apr. 18, 2008), http://www.chengdu.gov.cn/GovInfoOpens2/detail_ruleOfLaw.jsp?id=OmY16XAJLU2tOaf4QP4G.

of contaminated rice, and local bureaus can impose penalties to violators.¹⁶⁸ The companies argued that they simply buy whatever rice is available and, with intermediaries purchasing supplies from a complex range of sources, they are unable to tell the sources of the contaminated rice, and therefore it is very difficult for them to ensure rice safety by limited sampling of the supplies.¹⁶⁹ The Agricultural Product Quality and Safety Law requires enterprises engaging in agricultural production or professional farming cooperatives to check the agricultural product quality safety personally or utilize a testing institution. The law also prohibits these enterprises from selling any agricultural product that does not comply with the agricultural product quality safety standard.¹⁷⁰ Nevertheless, most of the rice producers in China are individual peasant households¹⁷¹ who are not able to self-check their own rice.

In addition, special food supply systems in China for government and communist party leaders worsen the situation, making the public doubt the truthfulness of government enforcement actions. *Tegong* (特供), meaning “special supply” in Chinese, was the former system established in the 1950s with the support of Soviet advisors to ensure that high level officials had adequately high quality food.¹⁷² In contemporary China, the degradation of the environment and a limited supply of healthy food are fueling the parallel *Tegong* food system for the elites.¹⁷³ A *Southern Weekend* reporter published a story on the *Tegong* system after the reporter snuck into the Beijing Customs Administration Vegetable Base and Country Club, which is a farm providing organic food to Beijing officials.¹⁷⁴ He Bin, a law professor from China University of Political Science and Law, posted a blog on *Caijing* sharing his experiences in visiting the *Tegong* (special) farms established by central ministries and local government agencies. Grains, vegetables, and meats grown in these special farms are all organic and directly supplied to their contracted agencies.¹⁷⁵

In sum, local protectionism, corruption, lack of resources to detect violations

168. P.R.C. Agricultural Product Quality and Safety Law (promulgated by the Standing Comm. of the Nat'l People's Cong., Apr. 29, 2006, effective Nov. 1, 2006) art. 52. (Lawinfochina) (China).

169. Qionglai, *supra* note 167.

170. Agricultural Product Quality and Safety Law (promulgated by the Standing Comm. of the Nat'l People's Cong., Apr. 29, 2006, effective Nov. 1, 2006) art. 26 (Lawinfochina) (China).

171. See Liu, *supra* note 5, at 299.

172. Tsung-Hsueh Lu Shu, Zhang Qing, & Zhu Yang Shen Lim Cho, *Low Key to Grow Vegetables*, SOUTHERN WEEKEND (May 6, 2011), <http://discover.news.163.com/11/0506/10/73C7M72R000125LL.html>; (The continued existence of the “Tegong”, or special supply, is treated with secrecy. After Southern Weekend published the story about the “Tegong” farm, the Central Propaganda Department banned further reporting on the subject, and the article was removed from the newspaper's website, but the article is posted in other websites.)

173. *Id.*

174. *Id.*

175. He Bin, Guojia Jiguan Wei Zijiu & Kaishi Zijian Nongchang, *In Order to Save their Own Lives, Government Agencies Start to Build Their Own Farm*, CAIJING (Aug. 6, 2011), http://blog.caijing.com.cn/expert_article-151508-9905.shtml.

among the fragmented industry, unethical practices, and inadequate tools and mechanisms in responding to stop violations are all root causes for the weak enforcement of environmental laws and food safety laws that have been identified by scholars.¹⁷⁶

C. STRENGTHENING RULE OF LAW IN CHINA

There are regulatory loopholes and law enforcement gaps in each stage from farm to table, as illustrated by the cadmium rice problem in China. Despite the ineffectiveness of the current system, continuing to strengthen the existing environmental and food safety legal infrastructure and implementing key principles of rule of law, such as increasing transparency, holding senior officials accountable, and providing access to civil justice through expanded standing, still may be a viable solution to the problem, at least in part.

One of the key principles of rule of law and good environmental governance is transparency and open government.¹⁷⁷ Routinely making accurate environmental and food safety information available to the public, specifically the communities of concern, not only enables the public to take preventive actions on the individual level but also enables civil society to take an active role in ensuring accountability. Despite progress made since the promulgation of China's first nationwide Open Government Information Regulations in 2007,¹⁷⁸ the disclosure of pollution and food safety-related information still remains inadequate.¹⁷⁹ As mentioned in the cadmium rice example, MEP currently has no plan to release any results of the completed national soil contamination survey. Similarly, MA does not provide public access to its database on farmlands that are located in polluted areas and the key pollution sources around the farmlands. MA requires the local agriculture departments and bureaus to collect such data since 2008.¹⁸⁰

176. See Liu, *supra* note 5, at 290–302; see Benjamin van Rooij, *supra* note 150.

177. Scott Fulton & Antonio Benjamin, Foundations of Sustainability, *THE ENVIRONMENTAL FORUM*, Nov./Dec. 2011, at 34. The World Justice Project defines rule of law as a rules-based system in which the following four universal principles are upheld: “1) the government and its officials and agents are accountable under the law; 2) the laws are clear, publicized, stable, and fair, and protect fundamental rights, including the security of persons and property; 3) the process by which the laws are enacted, administered, and enforced is accessible, fair, and efficient; 4) access to justice is provided by competent, independent, and ethical adjudicators, attorneys or representatives, and judicial officers who are of sufficient number, have adequate resources, and reflect the makeup of the communities they serve.” World Justice Project, <http://worldjusticeproject.org/about/> (last visited Feb 12, 2013).

178. Regulations of the People's Republic of China on Open Government Information (promulgated by the St. Council Jan. 17, 2007, effective May 1, 2008).

179. See INSTITUTE OF PUBLIC & ENVIRONMENTAL AFFAIRS (IPE) & NATURAL RESOURCES DEFENSE COUNCIL (NRDC), *OPEN ENVIRONMENTAL INFORMATION: TAKING STOCK*, (Jan. 2012), available at <http://www.nrdc.cn/pnpcms/userfiles/download/201208/13/PITI%202011%20EN%20Final.pdf>.

180. Shanxi Department of Agriculture, Shanxisheng Nongchanpin Chandi Anquan Zhiliang Diaocha Gongzuo Fangan, [Workplan for Investigation of the Safety and Quality of Origin of the Agriculture Products] (Dec. 2008) (on file with the author).

Information about the quality of farmlands is critical to produce safe grains and vegetables and ensure the effectiveness of sources of origin system. Some civil society groups in China have attempted to conduct their own research and disclose their findings through the media to warn the public and catalyze changes. One notable example is the Institute of Environment and Public Affairs (IPE), a Beijing-based small NGO that started to compile thousands of environmental violations published by various government agencies on public and online databases in 2006 and added its own research findings, creating a groundbreaking "blacklist" of polluters. To get off the list, many polluters took corrective actions and allowed IPE-supervised environmental audits.¹⁸¹ Building upon the database, IPE and other NGOs formed a Green Choice Alliance network to encourage consumers to demand more environmentally friendly products. Such mobilization has resulted in improved environmental compliance by suppliers, as reported by the multinational corporate buyers.¹⁸² The Chinese government has not shut down these civil-group-run databases or punished those that disclosed information to the public. MEP's Legislative Department is studying a Pollutant Release and Transfer Registry (PRTR) system (an example being the Toxic Release Inventory in the United States) with the intention of transplanting such a system to China in the future.¹⁸³ "PRTR systems require public disclosure of pollutant release information, often via the internet," which has been very successful in other developed countries.¹⁸⁴ Once implemented in China, it may increase the transparency of China's environmental protection system and ultimately strengthen compliance and enforcement.

Access to justice is also crucial to rule of law. Affected stakeholders' ability to access environmental and/or food safety legal dispute resolution mechanisms that are fair and responsive is one of the foundations for sustainability.¹⁸⁵ As illustrated by the cadmium rice example, many rural peasants are seriously impacted by industrial and mining pollution. Normally, once a mining site or an industrial park is built in a community or surrounding area, farmlands, drinking and irrigation water, air, and food may become polluted, and citizen health is put at risk due to the high concentration of exposure. China's cancer villages are of growing concern.¹⁸⁶ However, most of the peasants in Chinese villages do not

181. Hau L. Lee, Erica Plambeck, & Maria Shao, *Ma Jun and the IPE: Using Information to Improve China's Environment* (2009), available at <http://csi.gsb.stanford.edu/ma-jun-and-ipe-using-information-improve-chinas-environment>.

182. Ma Jun et al., *Greening Supply Chains in China: Practical Lessons from Chinese Suppliers in Achieving Environmental Performance* (World Resource Institute Working Paper, Oct. 2010), available at <http://www.wri.org/publication/greening-supply-chains-in-china>.

183. See U.S. ENVTL. PROT. AGENCY (EPA), *INTERNATIONAL Cooperation on Chinese Environmental Law* (Dec. 13, 2012), <http://www.epa.gov/ogc/china/cooperation.htm#legislation>.

184. Fulton & Benjamin, *supra* note 177, at 34.

185. *Id.*

186. See Jonathan Watts, *China's 'Cancer Villages' Reveal Dark Side of Economic Boom*, THE GUARDIAN (June 6, 2010, 9:00 PM), <http://www.guardian.co.uk/environment/2010/jun/07/china-cancer-villages-industrial>.

have the opportunity to participate in development decisions made by the four levels of governments (County, Municipality, Province, and State). Moreover, there is no fair and responsive legal channel for farmers or citizens to challenge the decisions or seek redress when harm occurs.¹⁸⁷ Zhang Gongli, whose land was damaged by waste water discharged by a pesticide chemical plant which was only ten meters away from his land, filed a case in court, and the only remedy he received was compensation for losses of plants that year.¹⁸⁸ He concluded that the pollution compensation lawsuit was not useful in terms of stopping the pollution and restoring the polluted land.¹⁸⁹ Even seeking damages either from polluters or food producers through civil tort litigation is very difficult.¹⁹⁰ Improving the Chinese judicial system's response to environmental and food safety problems is critical.

Moreover, since China's civil procedure provides that the plaintiff in a civil lawsuit must be a citizen, legal person, or an organization that has a direct interest with the case, civil society groups or other citizen activists are generally not able to sue the violators.¹⁹¹ Other countries' experience shows that the judiciary can play an important role in enforcing environmental laws, in particular in countries that have expanded standing that allows citizen groups to bring citizen enforcement actions.¹⁹² Drawing on international experiences, some Chinese local courts have started to experiment with innovative practices such as expanding standing, providing instructive preliminary and permanent relief to the plaintiffs through issuances of court rules, and establishment of specialized environmental courts.¹⁹³ These experiments have led to seven ground-breaking environmental

pollution.

187. See Alex Wang, *Environmental Litigation in China Today*, in GREEN LAW IN CHINA 4 (China Dialogue Special Series, Sept. 2011), available at http://www.chinadialogue.net/content/file_en/4550/Green_Law_210911_1_1_.pdf.

188. Pang Qinghui, Zhang Gongli Filing Lawsuit [Zhang Gongli Da Guansi], CHINA NEWSWEEK (June 6, 2011), <http://newsweek.inewsweek.cn/magazine.php?id=1177>.

189. THE WARRIORS OF QIUGANG (Camp Films 2010). See <http://www.warriorsofqiugang.com/en/1AboutFilm.html>.

190. See Meng Si, *Seeking Damages*, in GREEN LAW IN CHINA 27 (China Dialogue Special Series, Sept. 2011), available at http://www.chinadialogue.net/content/file_en/4550/Green_Law_210911_1_1_.pdf; see also Balzano, *supra* note 117, at 45.

191. Zhonghua Renmin Gonghe Guo Minshi Susu Chengxu Fa [Civil Procedure Law] (promulgated by the Standing Comm. of the Nat'l People's Cong., Oct. 28, 2007, effective Apr. 1, 2008), art. 108 (Lawinfochina) (China).

The following conditions must be met before a lawsuit is filed: (1) The plaintiff must be a citizen, legal person, or an organization having a direct interest with the case; (2) There must be a specific defendant; (3) There must be a concrete claim, a factual basis, and cause for the lawsuit; and (4) The lawsuit must be within the scope of civil lawsuits to be accepted by the people's courts and within the jurisdiction of the people's court to which the lawsuit is filed.

192. Fulton & Benjamin, *supra* note 177, at 35.

193. See Lin Yanmei, *Environmental Public Interest Litigation: Seven Experimental Case Studies*, 5 CHINA ENV'T Y.B. 107, 107-09 (2011).

public interest cases against both polluters and inactive government agencies that were brought by environmental NGOs on behalf of the public.¹⁹⁴ The Standing Committee of the People's Congress, China's legislative body, has conducted a second review of amendments to Civil Procedure Law, which includes a new provision that allows relevant agencies and social groups to bring lawsuits against activities that damage the public interest, such as environmental pollution and food safety problem.¹⁹⁵ The proposed provision stipulates that "[r]elevant authorities, social organizations can bring litigation against acts that pollute the environment, infringe legitimate interests of large number of consumers and other social public interest."¹⁹⁶ Relaxing the requirements for standing is a potentially positive development for strengthening environmental rule of law in China.

Making the government and its officials accountable under the law is a key principle of rule of law. According to China's Environmental Protection Law in 1989 and other media specific environmental laws, local governments at the county level or above should be responsible for the quality of the environment within their respective administrative regions.¹⁹⁷ However, there are no clear legal mechanisms to hold the local governments accountable when they fail to meet ambient environmental quality standards under current China's environmental law.¹⁹⁸ Starting from the 11th Five Year Plan in 2007, the central government linked the targets of key pollutant reduction and energy efficiency to the career prospects of government leaders.¹⁹⁹ The mayors and the governors of the local governments began to pay more serious attention to environmental enforcement,

194. List of Environmental Public Interest Litigation from 2007–2012, see Lin Yanmei & Cheng Gong, *Public Interest Litigation: A New Tool to Hold Hazardous Waste Generator Liable for Illegal Deposition*, 9 CHINA ENVT & RESOURCES L. REV. (2011).

195. Ma Kai, *The Second Draft of Civil Procedure Law Allows Social Organization to Bring Public Interest Litigation* [Minshi Susong Fa Ershen Cao'an Guiding Shehui Tuanti Ke Tiqu Gongyi Susong], NEWS CHINA (Apr. 26, 2012), available at http://www.china.com.cn/news/law/2012-04/26/content_25265994.htm.

196. Proposed New Article 55 (Under the Chapter VI Participants in the Proceeding Section I Parties) of the Draft Amendments of Civil Procedure Law, released by National People's Congress, Oct. 29, 2011, available at http://www.npc.gov.cn/npc/xinwen/syxw/2011-10/29/content_1678367.htm.

197. See *Zhonghua Renmin Gonghe Guo Huanjing Baohu Fa* [Environmental Protection Law] (promulgated by the Standing Comm. of the Nat'l People's Cong., Dec. 26, 1989, effective Dec. 26, 1989), art. 7 (Lawinfochina) (China); *Zhonghua Renmin Gonghe Guo Shui Wuran Fangzhi Fa* [Water Pollution Prevention and Control Law] (promulgated by the Standing Comm. of the Nat'l People's Cong., Feb. 28, 2008, effective June 1, 2008), art. 4 (Lawinfochina) (China); *Zhonghua Renmin Gonghe Guo Kongqi Wuran Fangzhi Fa* [Prevention and Control of Atmospheric Pollution Law] (promulgated by the Standing Comm. of the Nat'l People's Cong., Apr. 29, 2000, effective Sept. 1, 2000), art. 3 (Lawinfochina) (China).

198. The Environmental and Natural Resources Protection Committee of China's National People's Congress (NPC) recently submitted draft amendments to the Environmental Protection Law for the NPC's Standing Committee to review. One of the key amendments proposed is to strengthen local governments' legal responsibilities in environmental protection. See Li Jing, *Environmental Rule Set to Shift*, CHINA DAILY (Oct. 10, 2011, 7:58 AM), http://www.chinadaily.com.cn/cndy/2011-10/10/content_13858494.htm.

199. Yangtze Yan, *China Says Energy Efficiency Key to Performance of Government, Company Leaders*, XINHUA NEWS (June 4, 2007), http://www.gov.cn/english/2007-06/04/content_634907.htm.

invest in new treatment facilities to help companies comply with the pollutant emission standards, and build new municipal wastewater treatment plants.²⁰⁰ But as Dr. Bei Tao, the deputy director of the policy, law and regulation department of MEP said, “although local officials are obliged to meet targets on energy conservation and emission reduction, the legal obligations for local governments are still rather ambiguous”; China needs to specify legal obligations for local governments and continue improving its accountability-generation system.²⁰¹ Moreover, the existence of a *Tegong* system (special food supply) mentioned in the previous section has weakened the desire of the government officials to truly enforce the environmental and food safety laws. *Tegong* creates an unequal system between government officials and normal citizens, which is against the principle of rule of law, and it should be abolished.

V. CONCLUSION

Given globalization, increased international cooperation on traditionally domestic environmental and public health issues, like food safety, is both likely and desirable, and it supports the case for increased rule of law efforts in the developing world. Hence, in light of the food safety concerns in the context of U.S.-China relations, it should come as no surprise that cooperative agreements are emerging in global environmental governance as evinced by the U.S. Food & Drug Administration’s on-the-ground presence in China. China’s environmental degradation and resulting food safety problems, including the cadmium pollution in Chinese rice, have come under increased scrutiny due to their severity. While China has now begun to seriously consider the environmental-food nexus from a legislative standpoint, there are regulatory loopholes and law enforcement gaps. Despite the ineffectiveness of the current system, continuing to strengthen the existing environmental and food safety legal infrastructure and implementing key principles of rule of law such as holding senior officials accountable, increasing transparency, and providing access to civil justice through expanded standing, may still, at least in part, be a viable solution to the problem.

200. The State Council Approved in Principle the Mid-term Evaluation Report on 11th Five-Year Environmental Protection Plan [Guowuyuan Yuanzexing Tongguo Shiyiwu Huanbao Zhongqi Pinggu Baogao], XINHUA NEWS (Jan. 28, 2010), Original from People’s Daily, available at <http://env.people.com.cn/GB/10859517.html>; THE STATE COUNCIL OF PEOPLE’S REPUBLIC OF CHINA, CHINA NATIONAL ENVIRONMENTAL PROTECTION PLAN IN THE ELEVENTH FIVE-YEARS (2006–2010) 7, 14, 23, available at http://english.mep.gov.cn/pv_obj_cache/pv_obj_id_95C19E57CF17128BC28D9119274532C9883C0400/filename/P020080306440313293094.pdf.

201. In China, many of the accountability-generating mechanisms like threat of judicial review, strong congressional oversight, and strong, consistent channels of public criticism are still developing or in a nascent stage; see Balzano, *supra* note 117, at 28.