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Mingjie Hoemmen
University of New Mexico

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Mingjie Hoemmen*

VERTICAL AND HORIZONTAL MODES OF INJUSTICE IN AIR POLLUTION: A COMPARISON OF LAW AND SOCIETY IN CHINA AND THE U.S.

On the night of November 18, 2017, a big residential fire broke out in the outskirts of Beijing, taking 19 lives. The Beijing city fire department's investigation determined that the fire was caused by illegal re-compartmentalization of a storage building into part-storage, part-rental units. Tenants were stacked up in small rooms.¹ Seizing the chance for swift action against illegal rental units, the city government began removing tens of thousands of migrant workers who were renting similar cheap housing just outside the city limits of Beijing. The newly evicted had to leave quickly and find new living arrangements, whether inside of the city or elsewhere, with no government assistance.² These people worked inside Beijing handling unskilled jobs such as food delivery, garbage collection, and construction work. The large-scale eviction has been largely criticized as the government's way of purging major cities of their population of low-end laborers who have become unneeded as China's economy transitions from unskilled manufacturing towards high-tech services.³ Social media began to show new articles and videos about the government kicking the "DiDuan," literally "low-end laborers," out of the cheap rentals.⁴ The government denies this purge, but the mass eviction nevertheless stirred up a public outcry both domestically as well as internationally.

The main reason for the mass eviction, however, is the Chinese national government's "Blue Sky" project, which was designed to tackle the ever-worsening air pollution problem.⁵ Blue Sky has invested heavily in converting all of China from

*Mingjie Hoemmen was born in Beijing, China. She has a B.A. in Mass Communications from the University of California Berkeley and received her J.D. from the University of New Mexico School of Law in 2019

1. DaXing He Yong (贺勇), *Beijing Daxing Yunanzhe Mingdan Gongbu Guanfang Xingyu 18 Ren* (北京大兴火灾遇难者名单公布 警方刑拘18人) [*Fire Victim Name List Published, 18 Responsible Arrested*], RENMIN WANG (人民网) [PEOPLE'S DAILY] (Nov. 20, 2017), <http://society.people.com.cn/n1/2017/1120/c1008-29657619.html>.

2. *Beijing Daxing Da Huo Hou Anquan Zhengzhi Guangmei Foureun Jieji Qingli "Diduan Renkou"* (北京大兴大火后安全整治 官媒否认借机清理“低端人口”) [*Safety Measure After DaXing Fire, Official Media Denies Removing "DiDuan"*], BBC ZHONGWEN (BBC 中文) [BBC] (Nov. 24, 2017), <http://www.bbc.com/zhongwen/simp/world-42113608>.

3. Sara Hsu, *China Takes Another Step Towards a Service Economy*, FORBES (Feb. 21, 2017), <https://www.forbes.com/sites/sarahsu/2017/02/21/china-takes-another-step-towards-a-service-economy>.

4. See, e.g., Radio Free Asia (自由亚洲电台), *Beijing Diduan Renkou: Women Yeshi Zhongguoren, Weishenmo Yao Zhem Duidai Women?* (北京低端人口：我们也是中国人，为什么要这么对待我们?) [*Beijing Diduan population asks, "We are Chinese, why treat us like this?"*], YOUTUBE (Nov. 28, 2017), https://www.youtube.com/watch?v=sHG_IQ6m31c.

5. See Jiahui Han (韩家慧), *2017 Nian Beijing Mei Gai Qi Gongzhuo Shouguan Wei Daying "lantian Baoweizhen" Zuo Gongxian* (2017年北京煤改气工作收官 为打赢“蓝天保卫战”作贡献)

coal to gas. From 2013 to 2017, Beijing Gas Group, the main actor in the Blue Sky project, has completed converting coal-fired boilers for both domestic and industrial use to gas-fired boilers in the villages surrounding Beijing.⁶ Partly as a result, PM2.5 pollution levels in Beijing dropped from 89.5 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) in 2013 to 58 $\mu\text{g}/\text{m}^3$ in 2017.⁷ The project has completed conversions in 10 districts, 44 counties, and 328 villages of 126,000 homes.⁸ However, the DiDuan live neither in proper villages (what Americans would call “incorporated towns”) because they are too far from Beijing for commuting, nor in Beijing, where they cannot afford housing. Instead, they live in the city-village interface, in unincorporated areas that sprang up quickly from former villages.⁹ Rapid growth and the lack of local government let developers (often former villagers from that area) ignore building codes, and poor infrastructure meant residents had to rely on coal or wood for heating and cooking.¹⁰ Thus, while the government’s policy of removing people from housing not yet upgraded to use gas is facially neutral, it factually discriminates against the poor.

The mass eviction of the DiDuan illustrates that lower social classes can be both creators and victims of air pollution. On the one hand, many see air pollution as a “vertical” or “trickle-down” phenomenon that large, rich industries inflict on the poor. Wealth and social privilege do give people freedom to avoid living and working in more heavily polluted areas. This article will use case studies of the port in West Oakland, California, and steel production in Hebei Province, China, to demonstrate the vertical model of pollution, and the positive effects of government action.

However, the underprivileged also create pollution, often because they lack access to cleaner options. This is the “horizontal” model of pollution in which the same social class is both cause and victim. Government efforts to clean up their pollution, while needed, can violate principles of environmental justice by forcing the poor to bear a disproportionate burden for cleanup. Policies may discriminate, even though they have facial neutrality and may improve air quality in immediate and dramatic ways. They may also not necessarily eliminate pollution sources, but may instead merely “outsource” them, possibly across provincial or state jurisdictions, to more rural, less politically influential areas. The most dramatic version of “outsourcing” environmental justice issues crosses international boundaries.

This article will compare legal remedies to both pollution and environmental injustice available in the United States and China. In 2015, China

[*Beijing’s Coal-to-Gas Conversion Work in 2017 Contributed to the Success of the Blue Sky Project*], XINYUA WANG (新华网) [XINHUA NEWS AGENCY] (Dec. 26, 2017), http://www.xinhuanet.com/politics/2017-12/26/c_129775792.htm.

6. *Id.*

7. *Id.*

8. *Id.*

9. *Beijing Daxing Da Huo Hou Anquan Zhengzhi Guangmei Founren Jieji Qingli “Diduan Renkou”* (北京大兴大火后安全整治 官媒否认借机清理“低端人口”) [*Safety Measure After DaXing Fire, Official Media Denies Removing “DiDuan”*] *supra* note 2.

10. *See generally id.*

adopted a law¹¹ that shares many features with the U.S. Clean Air Act,¹² that have proven successful in the United States. The law is still new, but China's regional cultural differences, less experience with civil lawsuits, and uncertainty about the rule of law may risk its effectiveness. Furthermore, the evolving political situation in both China and the United States may change availability of remedies for class discrimination due to anti-pollution policies. Finally, this article will use the case study of the U.S. exporting waste and recyclables to China, where processing causes air pollution, to discuss pollution "outsourcing" across international boundaries. China has shown increasing willingness both to create regulations prohibiting accepting waste and to enforce those regulations.¹³

I. "TRICKLE-DOWN" PM2.5 AIR POLLUTION

This section will discuss differences between the situations in the United States and China that could either promote or hinder the ability of regulations comparable to the Clean Air Act to reduce PM2.5 pollution in China. The section begins by summarizing the causes and effects of PM2.5 pollution and the issues particular to China that make it worse there. Then, it focuses on how poorer citizens are more exposed to pollution than the wealthy. Evaluation of recent developments in West Oakland, California will show that a combination of regional government investment and regulation in large, exceptionally polluting industrial centers can result in significant reduction in pollution, even when the pollution disproportionately affected the poor. In contrast, given that air pollution crosses political boundaries, the example of Hebei Province "sharing" its pollution with neighboring Beijing shows that China may need to exercise more central power over states than it practically has in the past. Recent developments in Chinese environmental law give the central government more power to intervene directly, in some ways more than in the U.S. Clean Air Act.¹⁴ The new laws also empower some nongovernmental public interest groups to sue, much like the Clean Air Act. The main question is whether the Chinese government has the will to enforce these laws.

PM2.5 pollution consists of air-suspended particles with a diameter less than 2.5 micrometers. The particles' small size makes them stay in the air longer and enter the lungs more easily. PM2.5 pollution increases the risk of lung cancer and heart disease. "Each 10 [microgram per cubic meter] elevation in fine particulate air pollution was associated with approximately a 4%, 6%, and 8% increased risk of all-

11. Zhonghua Renmin Gongheguo Huanjing Baohu Fa (中华人民共和国环境保护法) [Environmental Protection Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Apr. 24, 2014, effective Jan. 1, 2015) 8 P.R.C. LAWS 12, *translated in* EU-CHINA ENVIRONMENTAL GOVERNANCE PROGRAMME, ENVIRONMENTAL PROTECTION LAW OF THE PEOPLE'S REPUBLIC OF CHINA (2014), <https://www.chinadialogue.net/Environmental-Protection-Law-2014-eversion.pdf>.

12. 42 U.S.C. §§ 7401-7671q (2012).

13. *See, e.g.*, OR. REFUSE AND RECYCLING ASS'N, CHINA RECYCLABLES BAN FACT SHEET, http://www.orra.net/wp-content/uploads/2017/09/China-Recyclables-Ban-Fact-Sheet_ORRA_September-2017.pdf (last visited Mar. 31, 2019).

14. *Id.*

cause, cardiopulmonary, and lung cancer mortality, respectively.”¹⁵ According to the World Health Organization’s 2005 Air Quality Guidelines, the most vulnerable populations are children, the elderly, and those with preexisting breathing or heart conditions.¹⁶

PM2.5 particles generally come from combustion. Widespread use of coal for heating, cooking, power production, and factories is a common source in China.¹⁷ “Dirty” coal, with a high sulfur content, tends to make this worse. This is because sulfur dioxide produced by burning dirty coal reacts with water droplets in the air to make sulfuric acid particles, and those particles contribute to PM2.5. “[N]itrogen oxide (NOX) and sulfur dioxide (SO2) . . . often develop into ozone and fine particulate matter (PM2.5) by the time they reach the atmospheres of downwind States.”¹⁸ China has extensive deposits of high-sulfur coal, and disproportionately relies on this coal for heating, electricity, and heavy industry (in particular steel production).¹⁹ The real estate boom of recent decades has driven up steel production in China, though in the past three years, China has closed many steel mills, as we will discuss later in this article.²⁰ China has other sources of particulate pollution besides big industry, like personal heating and cooking, and older and less regulated personal and light industrial transportation.

Even three-year-olds and grandmas in China know about PM2.5. Websites show levels for different cities and different parts of cities, and generally people know that the PM2.5 level reported by the U.S. Embassy in Beijing has been higher (and therefore perhaps more realistic) than the level reported by the Chinese government.²¹ Nevertheless, despite widespread and increasing precedence of health problems, people get used to it. At PM2.5 levels 40 times what the World Health Organization recommends for safe daily exposure, they continue their normal outdoor activity, even exercising and dancing in public squares (a common Chinese practice, given interest in exercise and lack of access to formal exercise facilities).²² They wear cotton masks, even though effective protection against PM2.5 calls for a respirator.²³

Wealthier Chinese have better options to escape air pollution. They can live in cleaner, more expensive suburbs and drive to work. They can even take “PM2.5

15. C. Arden Pope III et al., *Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution*, 287 JAMA 1132 (2002).

16. WORLD HEALTH ORG. REG’L OFFICE FOR EUR., AIR QUALITY GUIDELINES GLOBAL UPDATE 2005, 179 (2005), http://www.euro.who.int/__data/assets/pdf_file/0005/78638/E90038.pdf.

17. *Id.* at 12, 45, 80.

18. EPA v. EME Homer City Generation, L.P., 572 U.S. 489, 497 (2014).

19. WORLD HEALTH ORG. REG’L OFFICE FOR EUR., *supra* note 16, at 12, 21, 22, 45.

20. See, e.g., Paul Ausick, *China to Close 240 Steel Mills, Fire More Than 1 Million Workers*, 24/7 WALL ST. (Mar. 16, 2016, 1:45 PM), <http://247wallst.com/economy/2016/03/16/china-to-close-240-steel-mills-fire-more-than-1-million-workers/>.

21. See U.S. Embassy Beijing, *Extremely High Levels of PM2.5: Steps to Reduce Your Exposure* (Mar. 2017), <http://beijing.usembassy-china.org.cn/20130201-pm25-steps.html>. [<https://web.archive.org/web/20161215235757/http://beijing.usembassy-china.org.cn/20130201-pm25-steps.html>].

22. See Chris Buckley & Adam Wu, *Chinese Defy Pollution, a Stubborn Visitor*, N.Y. TIMES (Jan. 6, 2017), https://www.nytimes.com/2017/01/06/world/asia/china-smog-pollution.html?_r=0 (showing continuation of outdoor activities despite extreme air pollution).

23. See U.S. Embassy Beijing, *supra* note 21.

tours,” that is, vacations in places with cleaner air, when forecasts predict periods of high pollution.²⁴ PM2.5 levels vary based on the weather and season.²⁵ For example, illegal burn-offs of stalks of harvested corn to prepare for the next planting season peak in October to November, and winter sees more use of coal for heating.²⁶ Local weather conditions, such as precipitation, may affect how long pollutants stay suspended in the atmosphere.²⁷ Seasonal and weather effects make forecasting possible. The wealthy follow these forecasts and plan vacations around them. Housing developments outside cities and PM2.5 tours even create unexpected secondary economic benefits from pollution. Transportation companies, tour guides, vacation planners, pet sitters, and others profit from PM2.5 tours.²⁸ Since many of the wealthy, and subsequently influential, people may have financial interests in polluting companies, and less exposure to pollution, the Chinese central and local governments face serious opposition in both proposing and enforcing regulation to reduce PM2.5.

China’s air pollution problem came to the attention of Western media most recently in the run up to the 2008 Summer Olympics in Beijing. The Chinese central government has varied in its willingness to acknowledge the issue, let alone address it with regulation. In turn, the United States government has used air pollution as a lever of influence, for example, by measuring the PM2.5 level at the U.S. embassy in Beijing and broadcasting it via social media.²⁹ This public awareness makes PM2.5 levels a sensitive political issue in China. In contrast, the U.S. has had significant success with the Clean Air Act.³⁰ The original 1963 Act³¹ and subsequent modifications³² passed under both Democrat and Republican presidential administrations. For example, the Clean Air Act Amendments of 1990 have reduced adult mortality due to PM2.5 by 160,000 up to 2010, and reduced lost work by

24. Zhao Yun (赵云), *Yinmai Sifu Zhongguo Cuisheng Chu “Bi Mai You” (阴霾四伏中国催牛出“避霾游”)* [Smog Invasion; “Escape Smog Tour” gains popularity in China], XIN TANGREN (新唐人) [NEW CHINESE] (Jan. 16, 2017), <http://www.ntdtv.com/xtr/gb/2017/01/16/a1307063.html>.

25. Mei Zheng et al., *Seasonal trends in PM2.5 source contributions in Beijing, China*, 39 *ATMOSPHERIC ENV'T* 3967, 3967-76 (2005).

26. *Id.* at 3970.

27. *Id.* at 3975.

28. See Zhao Yun (赵云), *supra* note 24.

29. See David Roberts, *Opinion: How the US Embassy Tweeted to Clear Beijing’s Air*, WIRED (Mar. 6, 2015, 7:00 AM), <https://www.wired.com/2015/03/opinion-us-embassy-beijing-tweeted-clear-air/> (discussing the effects on Chinese politics of the US Embassy’s public air quality measurements).

30. 42 U.S.C. §§ 7401-7671q (2012); Jeremy Rosenberg, *How Los Angeles Began to Put its Smoggy Days Behind*, KCET (Feb. 13, 2012), <https://www.kcet.org/history-society/how-los-angeles-began-to-put-its-smoggy-days-behind>.

31. Act of Dec. 17, 1963, Pub. L. No. 88-206, § 1; 77 Stat. 392 (1963) (codified as amended at 42 U.S.C. §§ 7401-7671q (2012)).

32. Motor Vehicle Air Pollution Control Act of Oct. 20, 1965, Pub. L. No. 89-272, tit. I, § 101(2)-(3), 79 Stat. 992 (codified as amended at 42 U.S.C. §§ 7401-7671q (2012)) (Lyndon B. Johnson); Act of Nov. 21, 1967, Pub. L. No. 90-148, § 2, 81 Stat. 485 (codified as amended at 42 U.S.C. §§ 7401-7671q (2012)) (Lyndon B. Johnson); Act of Dec. 31, 1970, Pub. L. No. 91-604, 84 Stat. 1676 (codified as amended at 42 U.S.C. §§ 7401-7671q (2012)) (Richard Nixon); Act of Aug. 7, 1977, Pub. L. No. 95-95, 91 Stat. 685 (codified as amended at 42 U.S.C. §§ 7401-7671q (2012)) (Gerald Ford); Act of Nov. 15, 1990, Pub. L. No. 101-549, tit. I, § 108(k), 104 Stat. 2468 (George H.W. Bush).

13,000,000 days.³³ Many Americans perceive China's attempts at regulating pollution as political theater, for example, closing steel mills temporarily during major diplomatic events.³⁴

One issue in China is that the central government struggles to get buy-in from local governments in enforcing environmental regulations. In the United States, citizens have come to expect the federal government to intervene at the local level.³⁵ This expectation takes shape from historical events that drove increasing federal power. Examples include the Civil War and Reconstruction, the Great Depression, the Second World War, and the Civil Rights Movement of the following decades. While China has experienced "federalizing" events like the Anti-Japanese War and the Revolution of 1949, regional identity is much stronger, even to the point of distinct and mutually unintelligible languages.³⁶ While Americans think of their country as a union of *states*, Chinese think of their country as a union of *ethnicities*. The Five-Colored Flag of the Republic of China reflected this "five races under one union" concept by highlighting the country's five major ethnic groups.³⁷ In practice, this recognition means that the Chinese central government sets "fairly stringent environmental standards and regulations, but they leave all of the actual monitoring and enforcement to the local-level governments."³⁸

A smaller-scale example of the effects of economic stratification on pollution, and ultimately a success story of regional government regulation and investment, is West Oakland, California. Diesel equipment and ship traffic from the Port of Oakland as well as road traffic from several freeways and a major highway bridge all pollute this neighborhood. Its residents are "twice as likely to go to the emergency room with asthma as people in Alameda County overall," and are "more likely to die of cancer, heart disease or lung disease — all illnesses with known links to polluted air."³⁹ West Oakland also struggles with poverty and crime, and this affects its access to government influence. However, recent efforts by the Port of Oakland, various state and other government agencies, and private industry "cut port

33. *Progress Cleaning the Air and Improving People's Health*, U.S. ENVTL. PROTECTION AGENCY (Mar. 22, 2018), <https://www.epa.gov/clean-air-act-overview/progress-cleaning-air-and-improving-peoples-health>.

34. Scott Paul, *China Temporarily Shuttered Steel Factories to Clear the G20 Air. They Should Stay Closed.*, MANUFACTURE THIS: THE BLOG OF THE ALLIANCE FOR AMERICAN MANUFACTURING (Sept. 9, 2016), <http://www.americanmanufacturing.org/blog/entry/china-temporarily-shuttered-steel-factories-to-clear-the-g20-air.-they-shou>.

35. See, e.g., *Tipping the Scales Toward National Power*, U.S. HISTORY, <http://www.ushistory.org/gov/3b.asp> (last visited May 13, 2019).

36. DAVID M. EBERHARD, GARY F. SIMONS, & CHARLES D. FENNIG, *China*, in *ETHNOLOGUE: LANGUAGES OF THE WORLD* (22nd ed. (2019)), <https://www.ethnologue.com/country/CN/status>.

37. Christopher Rand, *The No Man's Land of Asia*, HARPER'S MAG., Jan. 1949, at 103-04.

38. Melanie Hart & Jeffrey Cavanagh, *Environmental Standards Give the United States an Edge Over China*, CTR. FOR AM. PROGRESS (Apr. 20, 2012, 9:00 AM), <https://www.americanprogress.org/issues/green/news/2012/04/20/11503/environmental-standards-give-the-united-states-an-edge-over-china/>.

39. Grace Rubenstein, *Air Pollution Controversy Swirls Around Oakland Army Base Development*, KQED PUB. MEDIA FOR NORTHERN CAL. (May 6, 2014), <https://www.kqed.org/news/air-pollution-dispute-west-oakland-army-base/>.

diesel particle emissions by 75 percent.”⁴⁰ In addition to regulation, these efforts included investments of over \$100 million, for example in a “dockside electric power system” so that ships would not need to run their diesel engines and in grants to help diesel truck owner-operators buy newer, less polluting trucks or install exhaust filters.⁴¹ This example shows that a combination of regional government investment and regulation can reduce pollution significantly.

Even though the Chinese government may not have as much practical power to enforce regulations as the U.S. government, a provincial or city government could step in with investments. The main challenge for China will be to avoid the “tiger head, snake tail” phenomenon of initial enthusiastic investment followed by loss of interest and neglect. A recent example is the large number of poorly maintained rest stops along China’s new express highways. Large infrastructure investments call for continuous, long-term funding for maintenance. Furthermore, regional governments will need practical authority to enforce regulations, not just make investments. Otherwise, for example, diesel truck owners might just pocket the grants instead of upgrading their equipment.

An important part of the Clean Air Act and other U.S. federal regulations is the power to compel one state to control its air pollution that affects other states. For example, the “Good Neighbor Provision” of the Clean Air Act can force “upwind” states to regulate any of their pollution that “contribute[s] significantly” to a “downwind” state’s “nonattainment . . . , or interfer[ence] with maintenance” of its own pollution levels.⁴² Cases like *EPA v. EME Homer City Generation*⁴³ affect how the Environmental Protection Agency (EPA) may interpret the Good Neighbor Provision, but do not fundamentally challenge the idea that it may hold one state responsible for pollution in another state. Dittman⁴⁴ gives a broad history and overview of the Good Neighbor Provision written right before *Homer*. A Harvard Law Review article⁴⁵ summarizes *Homer*, and Applegate⁴⁶ discusses the case’s possible future impact on case law.

Beijing could benefit from the equivalent of a Good Neighbor Provision. Beijing is a municipality, a political division with the same status as a province (the Chinese equivalent of a State in the U.S.). It is nearly surrounded by Hebei Province, which produces about a quarter of China’s steel.⁴⁷ The Hebei city of Tangshan, just 90 miles from Beijing, produced more crude steel in 2014 than the entire United

40. Denis Cuff, *Oakland Port Slashes Dirty Diesel Pollution in Long Campaign*, MERCURY NEWS (Oct. 28, 2016), <http://www.mercurynews.com/2016/10/28/oakland-port-slashes-dirty-diesel-pollution-in-long-campaign/>.

41. *Id.*

42. 42 U.S.C. § 7410(a)(2)(D)(i) (2012).

43. See *EPA v. EME Homer City Generation*, L.P., 572 U.S. 489, 489 (2014).

44. See generally Brandon Dittman, *How to be a Good Neighbor: The Failure of CAIR and CSAPR, Uncertainty, and the Way Forward*, 25 COLO. NAT. RESOURCES, ENERGY, & ENVTL. L. REV. 1 (2014).

45. *EPA v. EME Homer City Generation, L.P.*, 128 HARV. L. REV. 351 (2014), <https://harvardlawreview.org/2014/11/epa-v-eme-homer-city-generation-l-p/>.

46. Devon Applegate, *What about Whitman? The Supreme Court’s Decision in to Authorize Cost Consideration in Environmental Regulation Contradicts Its Own Precedent*, 42 B.C. ENVTL. AFF. L. REV. E. SUPP. 1 (2015).

47. Ausick, *supra* note 20.

States.⁴⁸ Hebei's pollution contributes significantly (borrowing language from the Clean Air Act) to Beijing's air quality.⁴⁹ The Chinese government has shown that it can close factories on demand for periods of a few months,⁵⁰ but it has not shown that it can force these factories to install scrubbers and meet continuous clean air requirements. An equivalent of the Good Neighbor Provision could help neighboring provinces, like Beijing, sue to force Hebei to impose more regulation on its steel mills. China could benefit from adopting the Clean Air Act's enforcement mechanism of suing to force compliance with pollution standards. The Chinese national government understands the challenge of its currently limited authority over cross-provincial pollution issues. A 2017 editorial in *Qishi*, the Chinese Communist Party's "main theoretical journal,"⁵¹ points this out, and even calls it harmful to environmental justice.⁵² The article explicitly references the "iron and steel economy" in Hebei Province and the resulting drift of pollution into neighboring provinces and cities as an example.⁵³ It observes that local governments can be "powerless and helpless" to address the situation.⁵⁴

China has made legal efforts to control pollution. The Chinese central government passed a new Environmental Protection Law in April 2014, that came into effect on January 1, 2015.⁵⁵ The new law extensively revises a 1989 law.⁵⁶ It has two main features of interest here. First, the law, similar to the U.S. Clean Air Act, gives remedies against polluters like daily fines or the ability to stop projects that might increase pollution.⁵⁷ It goes further in some cases, even allowing the

48. *Mills in China's Top Steel City Face New Pollution Penalties*, REUTERS (Jul. 19, 2015), <https://in.reuters.com/article/china-steel-tangshan/mills-in-chinas-top-steel-city-face-new-pollution-penalties-idINL3N1001FO20150720>.

49. See Meng Meng & Manolo Serapio, Jr., *Top China Steel City Orders More Plant Closures in Pollution Fight*, REUTERS (Nov. 22, 2016), <http://www.reuters.com/article/us-china-tangshan-idUSKBN13H207>.

50. *Id.*

51. *Life and Soul of the Party: Xi Jinping Has Been Good for China's Communist Party; Less So for China*, ECONOMIST (Oct. 14, 2017), <https://www.economist.com/news/briefing/21730138-contradicting-deng-xiaoping-mr-xi-has-concentrated-vast-power-his-own-hands-xi-jinping-has>.

52. Jing-Lai Mao (茆京来), *Queshi De Huanjing Gongping* (缺失的环境公平) [*Missing Environmental Justice*], QIUSHI (求是), (July 07, 2017), http://www.qstheory.cn/science/2017-07/07/c_1121279772.htm.

53. *Id.*

54. *Id.*

55. *Zhonghua Renmin Gongheguo Huanjing Baohu Fa* (中华人民共和国环境保护法) [Environmental Protection Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Apr. 24, 2014, effective Jan. 1, 2015) 8 P.R.C. LAWS 12, translated in EU-CHINA ENVIRONMENTAL GOVERNANCE PROGRAMME, ENVIRONMENTAL PROTECTION LAW OF THE PEOPLE'S REPUBLIC OF CHINA (2014), <https://www.chinadialogue.net/Environmental-Protection-Law-2014-eversion.pdf>.

56. Nicholas J. Schroeck, *A Changing Environment in China: The Ripe Opportunity for Environmental Law Clinics to Increase Public Participation and to Shape Law and Policy*, 18 VT. J. ENVTL. L. 1, 3-4 (2016).

57. David Pettit, *China's New Environmental Law and the U.S. Clean Air Act*, NAT. RESOURCES DEF. COUNCIL EXPERT BLOG (Jul. 7, 2014), <https://www.nrdc.org/experts/david-pettit/chinas-new-environmental-law-and-us-clean-air-act>.

government to shut down offending companies⁵⁸ or detain company managers who violate certain provisions.⁵⁹ Second, Article 58 of the new law gives many more nongovernmental public interest organizations than before—over 300—the power to sue “on behalf of those harmed by pollution.”⁶⁰ The Supreme People’s Court expanded the interpretation of Article 58’s definition of “social organizations” to include “social groups, private non-enterprise units, and foundations,” with over 700 qualifying groups.⁶¹ Article 58 also forces courts to accept lawsuits from organizations that meet the law’s criteria.⁶² Article 64 further subjects “[t]hose who cause damages due to environmental pollution and ecological destruction” to “tort liability in accordance with provisions of the *Tort Liability Law of the People’s Republic of China*.”⁶³

The possibility of class action lawsuits against polluters was a heavily debated part of the new Chinese law.⁶⁴ Such lawsuits could make pollution prohibitively expensive for companies, and thus, have a potent effect in practice. However, the nongovernmental organizations with the power to sue need guarantees that legal action is worthwhile and that polluting companies or their collaborators in local government will not intimidate them into silence. The new Environmental Protection Law gives the central government power to punish local officials for falsification, cover-ups, or failure to enforce the law, and it holds “those responsible for environmental impact assessment and supervision” jointly liable for harm if they carry out their duties fraudulently.⁶⁵

The ability for citizens or organizations to bring lawsuits against public officials, at least in theory, is nothing new. The Administrative Procedure Law⁶⁶ (which came into force in 1990 and was revised in 2015) authorizes suits against “an

58. Zhonghua Renmin Gongheguo Huanjing Baohu Fa (中华人民共和国环境保护法) [Environmental Protection Law of the People’s Republic of China] (promulgated by the Standing Comm. Nat’l People’s Cong., Apr. 24, 2014, effective Jan. 1, 2015) 8 P.R.C. LAWS 12, art. 60, *translated in* EU-CHINA ENVIRONMENTAL GOVERNANCE PROGRAMME, ENVIRONMENTAL PROTECTION LAW OF THE PEOPLE’S REPUBLIC OF CHINA (2014), <https://www.chinadialogue.net/Environmental-Protection-Law-2014-eversion.pdf>.

59. *Id.* at art. 63.

60. Rebecca Valli, *China Revises Environmental Law*, VOICE OF AM. (Apr. 25, 2014, 08:22 AM), <http://www.voanews.com/a/china-revises-environmental-law-to-address-pollution-problems/1900981.html>; *see also* Schroeck, *supra* note 56, at 4.

61. Michael W. Vella & Lillian He, *China Begins Enforcing Newly Amended Environmental Protection Law*, JONES DAY (Jan. 2016), <http://www.jonesday.com/china-begins-enforcing-newly-amended-environmental-protection-law-01-21-2016/>.

62. Zhonghua Renmin Gongheguo Huanjing Baohu Fa (中华人民共和国环境保护法) [Environmental Protection Law of the People’s Republic of China] (promulgated by the Standing Comm. Nat’l People’s Cong., Apr. 24, 2014, effective Jan. 1, 2015) 8 P.R.C. LAWS 12, art. 58, *translated in* EU-CHINA ENVIRONMENTAL GOVERNANCE PROGRAMME, ENVIRONMENTAL PROTECTION LAW OF THE PEOPLE’S REPUBLIC OF CHINA (2014), <https://www.chinadialogue.net/Environmental-Protection-Law-2014-eversion.pdf>.

63. *Id.* at art. 64.

64. *See* Valli, *supra* note 60.

65. Erin Ryan, *The Elaborate Paper Tiger: Environmental Enforcement and the Rule of Law in China*, 24 DUKE ENVTL. L. & POL’Y F. 183, 238 (2014).

66. Zhonghua Renmin Gongheguo Xingzheng Susong Fa (中华人民共和国行政诉讼法) [Administrative Procedure Law of the People’s Republic of China] (promulgated by the Standing Comm. Nat’l People’s Cong., Nov. 1, 2014, effective May 1, 2015) art. 2.

administrative organ or its personnel” to protect their rights and interests.⁶⁷ This “power to punish” distinguishes the Chinese law from the U.S. Clean Air Act. In general, this is not an innovative power. The Constitution of the People’s Republic of China already authorizes the State Council (its highest executive body) to “reward or punish” administrative officials.⁶⁸ China has permanent public institutions tasked specifically with investigating and prosecuting public officials for corruption, like the long-running⁶⁹ Communist Party of China’s Central Committee for Discipline Inspection and the newly formed⁷⁰ State Supervision Commission.

The new Environmental Protection Law thus expands central power in theory. However, for China to enforce the new law may call for a radical expansion of its *practical* central power, especially since Chinese environmental law has suffered in the past from lack of centralized enforcement.⁷¹ This expansion compares to how the 1964 Civil Rights Act increased the U.S. federal government’s practical reach into the states. For example, the Republican candidate for president in 1964, Senator Barry Goldwater, while no friend of segregationists like George Wallace, opposed Title II of the Civil Rights Act as a usurpation of states’ rights.⁷² The U.S. continues to fight this not-fully-resolved political civil war over states’ rights. China may thus find this expansion of central power even more challenging to exercise in practice, given the much greater cultural differences between its provinces.

The lessons of the Clean Air Act in the United States show that China needs both more practical central power over local governments and more willingness to invest in infrastructure over the long term in order to address its air pollution problem. However, the possible rewards are great: China, the world’s largest emitter of greenhouse gases,⁷³ has the opportunity to seize moral leadership among the nations, improve its people’s health, and restore the people’s confidence in the rule of law. In the next section, this article will explore another challenge to environmental justice in China: the mass eviction of so-called “low-end” (DiDuan) workers from the fringes of large cities as a government measure to reduce air pollution.

II. MASS EVICTIONS OF “LOW-END” WORKERS

This article began with the mass eviction of DiDuan (literally “low-end”) workers from the outskirts of Beijing. Many of those workers burned coal for heating

67. Peng Fu, *China Amends Law to Support Citizens Suing Gov’t*, XINHUA NEWS AGENCY (Nov. 1, 2014), [https://web.archive.org/web/20170129162608/http://news.xinhuanet.com/english/china/2014-11/01/c_133758622.htm].

68. XIANFA art. 89 (2018) (China).

69. Ling Li, *The Rise of the Discipline and Inspection Commission, 1927-2012: Anticorruption Investigation and Decision-Making in the Chinese Communist Party*, 42 MODERN CHINA 447 (2015).

70. Xuequan Mu, *China to Set Up National Supervision Commission Next Year*, XINHUA NEWS AGENCY (Oct. 30, 2017), http://www.xinhuanet.com/english/2017-10/30/c_136713601.htm.

71. Ryan, *supra* note 65, at 189-90.

72. See generally Robert Sherrill, *Conservatism as Phoenix*, NATION (May 25, 2001), <https://www.thenation.com/article/conservatism-phoenix/#axzz2crNUSaxp> (reviewing RICK PERLSTEIN, BEFORE THE STORM: BARRY GOLDWATER AND THE UNMAKING OF THE AMERICAN CONSENSUS (2001)).

73. *China Overtakes U.S. in Greenhouse Gas Emissions*, N.Y. TIMES (June 20, 2007), <http://www.nytimes.com/2007/06/20/business/worldbusiness/20iht-emit.1.6227564.html>.

and cooking since they lived in unincorporated fringe areas that had not enjoyed the benefits of the Chinese national “Blue Sky” project to convert coal boilers to natural gas.⁷⁴ Removing the DiDuan helped clean up Beijing’s air, but it meant that workers who could not afford to live in Beijing could not enjoy the benefits of this cleanup. Even though the DiDuan directly created much of the pollution from which they suffered, they still suffered more from both the pollution and the government’s clean-up efforts. Just as in the previous section, lower classes tend to bear a greater burden. This section will summarize the international and domestic reaction to the mass eviction, explain why it is so hard for these workers to get housing and services within the Beijing city limits, compare the situation with “environmental racism” in the United States, and discuss obstacles to access legal remedies.

The mass eviction of the DiDuan drew both international and domestic criticism.⁷⁵ For example, Beijing University professor He Weifang wrote a public letter dated November 26, 2017, that called attention to the government’s human rights violations.⁷⁶ The letter argues that since Beijing’s development relied on these migrant workers, the government cannot evict them now just because they are no longer needed and because they produce air pollution.⁷⁷ An important part of environmental justice is procedural justice, which means “. . . the right to treatment as an equal. That is the right, not to an equal distribution of some good or opportunity, but to equal concern and respect in the political decision about how these goods and opportunities are to be distributed.”⁷⁸ This right echoes what the Beijing University professor’s letter to the city government also emphasized, “respect every citizen equally.”⁷⁹

Erin Ryan, Professor at Florida State University College of Law, criticized the non-enforcement of environmental laws in China as “superficially designed and too often unrealized for lack of meaningful implementation.”⁸⁰ When the government finally takes action, it steamrolls over human rights rather than applying a “meaningful” legal remedy.⁸¹ This mass eviction is a good example: the government has taken action to clean the air, not by implementing or enforcing laws, but by simply removing the people who the government deems the source of the pollution.

74. Jiahui Han (韩家慧), *supra* note 5.

75. CONG. EXEC. COMM’N ON CHINA, CAMPAIGN OF FORCED EVICTIONS IN CHINA CONTRAVENES INTERNATIONAL HUMAN RIGHTS STANDARDS (2018), <https://www.cecc.gov/publications/commission-analysis/campaign-of-forced-evictions-in-beijing-contravenes-international>.

76. He Weifang (贺卫方), *He Weifang Qianze Dangju Qingli Wailai Renkou Zhizao Nacui Shi Yuyan* (贺卫方谴责当局清理外来人口 制造纳粹式语言) [*He Weifang Condemns Government’s Eviction of Unwanted Population by Nazi’s Language Such as “Diduan.”*], DAJIYUAN (大纪元) [EPOCH TIMES] (Dec. 03, 2017), <http://www.epochtimes.com/gb/17/12/2/n9918226.htm>.

77. *Id.*

78. Robert R. Kuehn, *A Taxonomy of Environmental Justice*, 30 ENVTL. L. REP. 10681, 10684 (2000), reprinted in CLIFFORD RECHTSCHAFFEN, EILEEN GAUNA, & CATHERINE A. O’NEILL, ENVIRONMENTAL JUSTICE: LAW, POLICY & REGULATION (2d ed. 2009).

79. He Weifang (贺卫方), *supra* note 76.

80. Zhonghua Renmin Gongheguo Xingzheng Susong Fa (中华人民共和国行政诉讼法) [Administrative Procedure Law of the People’s Republic of China] (promulgated by the Standing Comm. Nat’l People’s Cong., Nov. 1, 2014, effective May 1, 2015).

81. See Ryan, *supra* note 65, at 213.

The “[c]entral building block of the environmental justice movement is empirical evidence about the unequal distribution of environmental benefits and burdens.”⁸² Here, eviction is evidence of this unequal distribution. The people were evicted, thus ending their polluting use of coal, but they cannot afford to move inside Beijing in order to enjoy the cleaner air there. Everyone needs heating and cooking sources, so if the city had not upgraded its heating from coal to gas, all people would have been the cause of pollution, not just the evicted laborers. Furthermore, by being evicted without any compensation and a very short notice, they carry more burden. Evicted people say things like:

- Why treat us like this? We are citizens of this country as well.
- Even if we need to move, at least give us some time.
- The police come every day in the middle of the night to make sure we are out.⁸³

Evicting the DiDuan had far-reaching effects for many outside the city. Businesses, like local supermarkets, suffered uncompensated loss. The evicted lost their livelihood and housing, as well as rent they had already paid.⁸⁴ They also had to pay for moving, as well as the cost of finding a new life somewhere else in the country.⁸⁵ Those who wished to stay had to rush to find housing in a market suddenly with less supply and high demand, so the rent raised hourly.⁸⁶ Meanwhile, the local landowners whose housing had not been upgraded to use gas lost their development investments.⁸⁷ They all carry the burden more than the people inside the city.

In China, people who do not possess a major city residential card are seen as a distinct class of people who are underprivileged, similar to the people of color in the United States, and they suffer environmental injustices similarly. As Eric K. Yamamoto and Jen-L W. Lyman traced the roots of environmental injustice to “environmental racism,” they described the latter as a “‘nationwide phenomenon’ that occurs when ‘any policy, practice, or directive . . . differentially impacts or disadvantages individuals, groups, or communities based on race or color.’”⁸⁸ The same analytical framework applies to the Chinese phenomenon. In China, instead of different races, the discrimination happens against people of different geographic locations that directly links to their social status.

It may sound strange to Americans to describe non-Beijinger Chinese who live and work in Beijing as “migrant workers.” Americans usually reserve this term

82. CLIFFORD RECHTSCHAFFEN, EILEEN GAUNA, & CATHERINE A. O’NEILL, ENVIRONMENTAL JUSTICE: LAW, POLICY & REGULATION 35 (2d ed. 2009).

83. Radio Free Asia (自由亚洲电台), *supra* note 4.

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.*

88. Eric K. Yamamoto & Jen-L W. Lyman, *Racializing Environmental Justice*, 72 U. COLO. L. REV. 311, 315-16 (2001) (quoting Edward Patrick Boyle, *It’s Not Easy Bein’ Green: The Psychology of Racism, Discrimination, and the Argument for Modernizing Equal Protection Analysis*, 46 VAND. L. REV. 937, 967 (1993) and Michael Fisher, *Environmental Racism Claims Brought Under Title VI of the Civil Rights Act*, 25 ENVTL. L. 285, 289-90 (1995)).

for immigrants from other countries. However, based on the author's experience growing up and working in Beijing, the Chinese system more strongly ties privileges and benefits to one's city of residence and has many more conditions to change one's city of residence (that is, to "get a residence card" for that city). Historically, becoming a Beijinger did not happen automatically upon moving to Beijing, and would not happen for people who have no established residence or real estate in the city. There are notable privileges to being a resident, and benefits include such things as public schooling for children of residents; only residents of a city may send their children to schools in that city. While Beijing has recently started opening up this policy, application for Beijing residence is still not automatic.⁸⁹

This system may have made sense as a fair way to allocate resources back when it was rare for Chinese citizens to change their place of residence. However, in the author's experience growing up and working in China, the last few decades have concentrated wealth and privilege in first-tier cities like Beijing. People who, by historical accident, find themselves owning Beijing housing, or who were given government jobs in Beijing for political reasons have been enjoying higher social status since the Revolution in 1949. Many of these people were "accidentally privileged," because their workplace gave them real estate (back when property was inexpensive or not even available for private purchase) while others could afford the high cost of real estate within the city limits. As a result, people who seek a better life in Beijing, but lack a residential card, shoulder the burden of more strenuous labor in a more toxic environment such as the areas just outside of the city limits where clean energy sources are less available. Their daily heating and cooking activities are seen as dirty, polluting, unsafe, and therefore, in need of elimination.

The term "DiDuan" came from China's official government newspaper, the *People's Daily*, as it described the government's processes of rigorous urbanization and improving quality of life.⁹⁰ The article insinuates that these "low-end" people obstruct that process. The term not only imposes a social stigma, it also marks that class as trouble-making, unsafe, unclean, and ultimately unwanted. As one of the people who was interviewed in the video said, "In 2008, Beijing welcomed you; now Beijing does not need you anymore, so you must leave. But we are all Chinese citizens; how can we be 'low end'? We are human beings just like them."⁹¹

An important element of environmental justice is *meaningful involvement*, which the EPA defines as "equal access to the decision-making process to have a healthy environment in which to live, learn, and work."⁹² The communities most impacted by pollution often lack the economic or political resources to make their voices heard and defend their interests during the government's decision-making

89. See Beijingshi Renliziyuan He Shehuibaozhang Ju (北京市人力资源和社会保障局。) [Beijing Municipal Human Resources and Social Security Bureau] (July 14, 2015), http://www.bjrbj.gov.cn/bsfw/zxbs/201507/t20150714_51306.html (listing application requirements for Beijing residency by Chinese citizens who are employed in Beijing).

90. Peng Xunwen (彭训文), *Chao Da Chengshi, Za Tiaokong Renkou* (超大城市, 咋调控人口) [*Mega City, How to Control Population*], RENMIN WANG (人民网) [PEOPLE'S DAILY] (Aug. 01, 2016), http://paper.people.com.cn/rmrbhwb/html/2016-08/01/content_1699908.htm.

91. Radio Free Asia (自由亚洲电台), *supra* note 4.

92. *Environmental Justice*, U.S. ENVTL. PROTECTION AGENCY (Apr. 24, 2018), <https://www.epa.gov/environmentaljustice>.

process.⁹³ As a result, these communities end up shouldering more of the burden for pollution.

One way that a community can get its voice out during decision-making or correct a wrong is to bring those responsible to court. As was discussed in the previous section, the new Chinese Environmental Protection Law has provisions for nongovernmental organizations to represent citizens' interests by suing polluters.⁹⁴ This approach is intended to have a similar effect as the "citizen lawsuits" provision of the U.S. Clean Air Act.⁹⁵ The new Chinese law further gives the central government power to punish local officials for falsification, cover-ups, or failure to enforce the law.⁹⁶ In theory, these provisions should empower Chinese citizens to defend themselves from pollution using the court system.

However, citizens' use of the courts in practice faces three major obstacles. First, in the author's experience growing up and working in China, Chinese people have less cultural experience with resolving non-criminal legal issues using the courts. Second, although more and more people in China these days resort to legal remedies when they encounter injustice, the author's anecdotal experience in China is that going to court is such a long and expensive process that many do not see it as an option. Finally, for those who decide to go through the legal process, recent governmental persecution of civil rights lawyers has put a chill on the legal profession.

The Chinese government has recently stepped up the effort to beat down lawyers who represent people with sensitive issues such as human rights violations. On July 9, 2015, over 200 lawyers, social activists, and their families were arrested, and many were jailed without trial.⁹⁷ This incident later became known as the "709" Crackdown, after the date it began.⁹⁸ Since environmental issues are directly connected to human rights and the fight against corruption, lawyers and supporters of environmental problems are top of the list of government censorship. The close connection between human rights, corruption, and environmental justice and the real threat to lawyers active in those issues will thus likely discourage use of the lawsuits provision in the new Chinese environmental protection law.

Direct protests are a possible last legal resort for those suffering from environmental injustice. However, Chinese citizens who have resorted to direct protests have also suffered persecution. A recent example is the arrest of Beijing

93. RECHTSCHAFFEN GAUNA, & O'NEILL, *supra* note 82, at 9.

94. Zhonghua Renmin Gongheguo Huanjing Baohu Fa (中华人民共和国环境保护法) [Environmental Protection Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Apr. 24, 2014, effective Jan. 1, 2015) 8 P.R.C. LAWS 12, *translated in* EU-CHINA ENVIRONMENTAL GOVERNANCE PROGRAMME, ENVIRONMENTAL PROTECTION LAW OF THE PEOPLE'S REPUBLIC OF CHINA (2014), <https://www.chinadialogue.net/Environmental-Protection-Law-2014-eversion.pdf>.

95. 42 U.S.C. § 7604 (2012).

96. Ryan, *supra* note 65, at 238.

97. Andrew Jacobs & Chris Buckley, *China Targeting Rights Lawyers in a Crackdown*, N.Y. TIMES (Jul. 22, 2015), https://www.nytimes.com/2015/07/23/world/asia/china-crackdown-human-rights-lawyers.html?_ga=2.231326367.1809631306.1522625767-1389341765.1522625767.

98. *China: On '709' Anniversary, Legal Crackdown Continues*, HUM. RTS. WATCH (Jul. 7, 2017), <https://www.hrw.org/news/2017/07/07/china-709-anniversary-legal-crackdown-continues>.

artist Hua Yong, who posted his videos documenting the Beijing eviction.⁹⁹ In his videos he interviewed the people who were forced to uproot the life that they worked very hard to establish just outside of Beijing. He documented police brutality during the eviction process and exposed the unfair treatment that these people experienced and the hardship and heartbreak among them. Due to his videos, he was arrested by Beijing police simply for recording what he saw and what he heard people say. Fortunately, he was released after domestic and international public pressure but has remained under government surveillance ever since.¹⁰⁰

Chinese say, “法律面前人人平等” (“Everyone is equal before the law”). Environmental justice should be based on this principle which the rule of law guarantees. However, “low-class people” in China who have lost homes or businesses due to government intervention have few remedies. They not only lack financial resources, but also have limited access to the court system and little freedom to protest. The Chinese central government does recognize environmental injustice in the abstract sense¹⁰¹ but does not appear to offer solutions to this concrete problem.

III. RECYCLING AND INTERNATIONAL ENVIRONMENTAL JUSTICE

Environmental justice issues also cross international boundaries. The United States has long had a habit of sending waste for recycling to China. For example, the U.S. exported over 13.2 million tons of scrap paper and 1.42 million tons of scrap plastics each year to China, as of early 2018.¹⁰² In 2017, scrap and recyclable waste were the sixth largest export from the U.S. to China.¹⁰³ Recovering usable material from this waste can create local air, water, and soil pollution, and damage the health of workers in the waste processing industry.¹⁰⁴ This approach is especially true for waste that would be too expensive to process in “clean” ways. Thus, in a sense, the U.S. has “exported” pollution to China, by exploiting its cheaper labor and lower regulatory burden. This exportation happens not out of deliberate intent or neglect, but out of the U.S.’s role as consumer of the goods that China produces, and the resulting shipping and labor cost differences. Chinese companies and workers engage willingly in this profitable business, but both laborers and their surroundings suffer. This issue thus combines the two phenomena discussed above: The class of people who directly create the pollution suffer from it, but an entire industry and market drives them in trickle-down fashion.

The Chinese government has recently chosen to address this by banning the import of a large variety of recyclable waste and taking a more active role in regulating this industry. This ban may end up shifting the pollution burden to other

99. Hua Yong, *Escaping Police*, YOUTUBE (Dec. 8, 2017), <https://www.youtube.com/watch?v=J9PgWtRaejE&t=66s> (video no longer available).

100. *Id.*

101. See, e.g., Jing-Lai Mao (茆京来), *supra* note 52.

102. Kimiko de Freytas-Tamura, *Plastics Pile Up as China Refuses to Take the West's Recycling*, N.Y. TIMES (Jan. 11, 2018), <https://www.nytimes.com/2018/01/11/world/china-recyclables-ban.html>.

103. *Id.*

104. Examples are scattered throughout the following book: ADAM MINTER, *JUNKYARD PLANET: TRAVELS IN THE BILLION-DOLLAR TRASH TRADE* (2013).

countries, but Americans also have the power to relieve some of this burden. This article argues that the U.S. should take up more of the burden, not necessarily in processing more waste, but in reducing the amount of waste generated and designing products so they are less wasteful and toxic to recycle. Both American consumers and lawmakers can play a role in this change.

The United States exporting its waste to China arises from China's role as producer of manufactured goods and the role of the U.S. as consumers of those goods. China sends shipping containers full of manufactured goods to American ports. However, the U.S. does not produce enough goods that Chinese consumers want in order to fill those containers for the return trip.¹⁰⁵ Shipping companies thus give large "backhaul" discounts for filling those containers to send back to China. For example, in early summer 2012, it cost four times as much to ship a 40,000-pound container from Yantian to Los Angeles, as it did in the opposite direction.¹⁰⁶ In fact, it is much cheaper to send scrap and waste from western U.S. ports to China than it is to ship by rail from Los Angeles to Chicago.¹⁰⁷ This fact, along with lower labor costs and fewer environmental regulations, make China an attractive place for waste processing. For example, China recycles half of the world's paper and plastic products.¹⁰⁸

This exchange of manufactured goods and recyclables benefits both sides, and recycling often prevents more environmental damage. For instance, China depends on scrap as a source of raw materials to fuel its growth in both manufacturing and real estate development, and it is the world's biggest copper consumer.¹⁰⁹ In 2012, about half of China's copper supply was scrap, and about 70 percent of that came from the United States.¹¹⁰ Recycling is preferred as mining is much more energy intensive and polluting than recycling. For instance, between 2001 and 2011, recycling of nonferrous metals "saved China 110 million tons of coal and the need to excavate 9 billion tons of ore," and recycling of aluminum (a particularly energy-intensive process) "prevented 552 million tons of carbon dioxide from being released."¹¹¹ Some argue that Chinese trash is "dirtier," or more contaminated, and therefore more expensive and polluting to process, and thus Chinese recyclers would prefer to import trash rather than depend on native sources.¹¹²

Nevertheless, recovering recyclable materials from trash pollutes Chinese air, water, and soil, and sickens its citizens. For example, in 2006, Wen'an County, about two or three hours' drive from Beijing, had a third of the 60,000 small family-owned plastic recycling operations in China.¹¹³ The journalist Adam Minter observed

105. *Id.* at 86.

106. *Id.*

107. Jacopo Prisco, *China to U.S.: Please stop sending us your junk*, CNN MONEY (Sept. 11, 2017), <http://money.cnn.com/2017/09/11/news/china-scrap-ban-us-recycling/index.html>.

108. Kimiko de Freytas-Tamura, *supra* note 102.

109. MINTER, *supra* note 104, at 7.

110. *Id.* at 67.

111. *Id.* at 7.

112. Adam Minter, *China's War on Foreign Garbage*, BLOOMBERG VIEW (July 20, 2017), <https://www.bloomberg.com/view/articles/2017-07-20/china-s-war-on-foreign-garbage>.

113. MINTER, *supra* note 104, at 145.

a common practice of burning plastics, and dumping huge unlined earth pits with caustic cleaning fluid and unusable waste.¹¹⁴ A 2010 study in Guiyu, China's "biggest and most notorious e[lectronic]-waste recycling zone," showed that 81.8 percent of village children under the age of six suffered from lead poisoning.¹¹⁵ The lead likely came from solder dust kicked up from processing circuit boards.¹¹⁶ Another 2011 study revealed that 25 percent of Guiyu newborns had elevated cadmium levels; affected newborns tend to have parents employed in e-waste processing.¹¹⁷ China uses "the cheapest means available to clean up other people's messes,"¹¹⁸ and as a result, China disproportionately bears the environmental costs of American consumption.

The Chinese central government responded in July 2017 by enacting a ban on the import of twenty-four different kinds of solid waste, effective January 2018.¹¹⁹ The types of banned waste include materials that U.S. recyclers commonly sell to China, like plastics, unsorted paper, and metals.¹²⁰ This ban, called "National Sword," is the latest development in the "Operation Green Fence" Chinese customs program that started in 2013.¹²¹ National Sword bans importing many kinds of waste, imposes strict limits on contamination of imported waste, and steps up enforcement.¹²²

China's choice to ban importing most kinds of solid waste may cause more pollution temporarily, as waste piles up and eventually gets dumped in landfills. It may over time just shift the environmental burden to other countries, with even lower labor costs and less anti-pollution enforcement. China's increasing consumption of its own manufactured goods has already encouraged its recyclers to process scrap in more efficient, less polluting ways. For example, after 2009, growing consumer demand for Chinese automobiles put pressure on the raw materials market; this spurred Christmas tree light recycling operations in Shijiao to stop burning off plastic wire insulation, and instead strip and sell it.¹²³ Regardless, China has a right to protect its own citizens from this external threat.

More importantly, American consumers have created the problem by consuming and throwing away so much more than they need. American lawmakers could incentivize better consumer behavior by taxing purchases that disproportionately add to the waste stream, like electronics. They could also tax or regulate companies whose products result in hard-to-recycle waste, give incentives to businesses for making their products less toxic to recycle and easier to separate into clean streams of different materials, and even invest in research towards better

114. *Id.* at 153.

115. *Id.* at 185.

116. *Id.*

117. *Id.* at 185-86.

118. *Id.* at 65.

119. Kimiko de Freytas-Tamura, *supra* note 102.

120. OR. REFUSE AND RECYCLING ASS'N, *supra* note 13.

121. *Id.*

122. *Id.*; Steve Wong, *New World Order: China's National Sword policy and its Future Ban on Certain Types of Plastic Scrap are Affecting Global Markets*, RECYCLING TODAY (Sept. 6, 2017), <https://www.recyclingtoday.com/article/national-sword-china-plastics-recycling/>.

123. MINTER, *supra* note 104, at 3-4.

recycling and reuse. The U.S.'s "outsourcing" of its trash makes it easy for Americans to feel good about themselves for packing their recycling bins full, but Americans ultimately bear responsibility to the world for the waste they produce.

IV. CONCLUSION

As we have seen above, thinkers in the Chinese government understand the "acute" problem of "environmental equity imbalances."¹²⁴ They realize that this is a worse problem than pollution alone, because it can result in social unrest. The Chinese central government has taken some measures to increase and consolidate its power to control pollution. However, some government actions, like the mass evictions of "low-end" laborers, discriminated against the underprivileged in the name of cleaning the air. How should government and individual citizens balance these sometimes competing interests in order to protect the environment justly?

Since the concept of environmental justice is new to the Chinese legal system, China can borrow the American model. Pushing to reduce or eliminate threats to health such as toxic air pollution by restricting basic cooking and heating needs is not effective. Such restriction without compensation or assistance imposes "unfair environmental burdens,"¹²⁵ in this case on people's basic right to survive. People are forced to move away in order to stop burning coal, thus encounter moving and higher living expenses. Instead, the government should give these people a way to put forward their voices via procedural justice. That is, they must have a legal channel through which they can find a remedy when their rights are violated, rather than simply being pushed away until they run out of options.

China can leverage existing indigenous systems to improve meaningful involvement of all people. For example, the "street committee," the lowest level of government that governs all residents by geographic locations, historically has offered people a forum to gather, discuss their concerns, and seek government help.¹²⁶ The central government could empower street committees to give citizens a voice in a way that could bypass the sometimes corrupt and impassible layers of local and regional authorities, without circumventing actual government control. In fact, this could be an opportunity for the central government to increase its power and clear away corruption. Street committees could teach citizens about their rights, especially under the new environmental protection law. They could also serve as a less expensive entrance point to the legal system, or as a means for informal arbitration. Cultural awareness makes it more likely that proposed solutions to environmental injustice will "stick."

America also has much to learn about environmental injustice. The mass eviction of "low-end" laborers and the pollution resulting from recycling both challenge the American model that only big industries pollute. The poor still suffer disproportionately from environmental harm, but sometimes they also create it.

124. Jing-Lai Mao (茆京来), *supra* note 52.

125. See generally CHRISTOPHER H. FOREMAN, JR., *THE PROMISE AND THE PERIL OF ENVIRONMENTAL JUSTICE* (1998), reprinted in CLIFFORD RECHTSCHAFFEN, EILEEN GAUNA, & CATHERINE A. O'NEILL, *ENVIRONMENTAL JUSTICE: LAW, POLICY & REGULATION* (2d ed. 2009).

126. FOX BUTTERFIELD, CHINA: ALIVE IN THE BITTER SEA 324-25 (1982).

Government must balance socioeconomic and environmental concerns for fair solutions.