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**WILLIE CHENG**

**SHARIFAH MOHAMED • CHERYL TANG**

“Doing good” is a calling for some, often anchored in faith. For others, it is compassion for the poor, sick, and disadvantaged that drives their work. The individuals featured in this book should inspire each of us to reach out to those in need with passion and compassion—we may just discover our own calling in the process.”

—Bishop Tarcisio Isao Kikuchi, President, Caritas Asia

“Everywhere and every day, there are people who dedicate their talents and time to ideas worth doing. They tackle the most important and toughest social challenges we face with innovative solutions. The authors of *Doing Good Great* spent months traveling across Asia to find out about, and share the lives and work of, 13 remarkable people. I was energized by their fascinating stories and powerful ideas, all worth spreading like TED Talks. This book will undoubtedly leave you inspired and hopeful for our shared future.”

—Dave Lim, Global TEDx Ambassador

“While funding announcements from Bill Gates, Azim Premji, and Jack Ma have been given much publicity by the press, this inspiring book highlights real, everyday, unsung heroes who have taken it upon themselves to make a difference in people’s lives. Through grit, determination, and uncompromising competence they work tirelessly to provide a voice, dignity, and equality to the over 800 million poor in Asia. It makes us all realize that not all heroes wear capes.”

—Deval Sanghavi, Founder and Managing Partner, Dasra

“This book showcases the admirable work done by 13 social heroes. Their strength to persevere, determination to succeed, ability to adapt in trying circumstances make them unique and indeed, heroes. These heroes have one thing in common: the capacity to take risks. They are a rare breed of social innovators who have risked all in the hope of changing the world. This book is definitely worth reading.”

—Frank Wong, Independent Board Director, China Mobile Limited

“Two-thirds of the world’s poor are in Asia and there are numerous social problems associated with this poverty. Asian heroes have emerged in this milieu to contend with these difficulties with innovative solutions and indomitable spirits. The book is instructive, engaging, and inspiring.”

—Hsieh Fu Hua, President, National Council of Social Service

“I was taught that 13 was an unlucky number, but Willie, Sharifah and Cheryl have done what all great social entrepreneurs do—turned our expectations on their head! The heroes they spotlight are all high achievers, though often dubbed “crazy” for their unblinking pursuit of solutions for the world’s most intractable social ills. I learned to admire and even love them while co-authoring a recent book, *The Power of Unreasonable People*. With a welcome focus on Asia, *Doing Good Great* is uplifting, challenging, inspiring, and, above all, fun. Highly recommended.”

—John Elkington, Co-founder and Chairman, Volans

“Asia is a continent of contrasts. Its remarkable economic growth has been achieved alongside the growth of critical social issues and disparities. This is a serious book about local champions who are seeking to put right what is wrong in their societies. I know some of these social entrepreneurs through our association as Ashoka Fellows. I have been amazed at how the authors have managed to capture little-known details, anecdotes, and intimate insights into the minds and motivations of these native heroes. At the same time, *Doing Good Great* provides us an education about the diverse social difficulties that plague Asia. This is a book whose time has come and I am excited for its impact on our space.”

—Karen Tse, Founder and CEO, International Bridges to Justice

“Social entrepreneurs are a rare breed of individuals who succeed because they think out of the box. They leverage different skills and work with single-minded purpose to find solutions to the issues they tackle. Asia is blessed to have such heroes. You will

be inspired by this well-written book that brings to the fore the brilliance and tenacity of these individuals by demonstrating the collective power of social entrepreneurs in Asia who are literally changing the world.”

—KK Tse, Founding Chairman, Hong Kong Social Entrepreneurship Forum

“Social innovators exhibit a new level of expertise and creativity in dealing with wicked social problems. They show us different ways to tackle problems, even when it seems impossible. But almost more importantly, social innovators show courage and perseverance, even when faced with barriers and blockages of traditional systems. It is no wonder then that some are revered as heroes in their field! With *Doing Good Great*, it is now easier to distill learning points from these heroes so that others in the social innovation field can replicate their work, and seek comfort in their approach.”

— Louise Pulford, Director, Social Innovation Exchange

“I found the book intriguing, as no one has yet pulled together the collective stories about Asian heroes in this manner. What I liked most is that *Doing Good Great* pinpoints a key social issue specific to a particular country and features the local heroes who have worked from the ground up to address the social problems within their homeland. These unsung heroes are remarkable, inspiring, and they deserve our utmost respect and admiration. A must read for all involved in the Third Sector.”

— Mildred Tan, Chairman, National Volunteer & Philanthropy Centre

“This book is an eye-opener for anyone who wants to better understand the social ills that plague Asia and the everyday heroes who strive to make a difference for their fellowman. The research that the authors have done on the diverse causes of these social ills and the life journeys of these social entrepreneurs who try to do something about them is truly amazing. From toilets in India to pollution in China, prostitution in Thailand, caged

homes in Hong Kong and landmines in Cambodia, they have done a remarkable job of providing discerning perspectives on the landscape of social issues in Asia. Society, in these developed and developing countries, has a long way to go before their conscience can be clear.”

—Professor Ravi Kumar, Dean  
Nanyang Business School, Nanyang Technological University

“Asia is on the rise. Asia is, however, still a continent besieged by poverty, corruption, environmental degradation, and injustice. Instead of accepting the status quo as a reality, the 13 men and women portrayed in this book decided to challenge that reality. They are inspiring models of agents of change. They deserve our respect and our support.”

—Professor Tommy Koh, Ambassador-At-Large, Singapore  
Chairman, SymAsia Foundation

“*Doing Good Great* is an important book for three reasons: it demonstrates vividly that governments and business don't always provide solutions for social injustice; that social entrepreneurs have vital roles to play in improving social and economic outcomes; and that individuals—the most important form of capital—can be more important than institutions. The book confirms that we each have a moral sense which can rise above adversity to empower us to make our world better.”

—Stephen B. Young, Global Executive Director, Caux Round Table

“This is a book about uncommon Asian heroes. *Doing Good Great* captures a fresh panorama of change making, and of turning insightful inspirations into lasting transformations. From human trafficking to media freedom, the journeys of these heroes are deeply inspiring and could motivate each of us to start our own hero journey.”

—Sunit Shrestha, Founder, Change Fusion



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**SHARIFAH MOHAMED • CHERYL TANG**



EPIGRAM BOOKS / SINGAPORE

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Published in Singapore by Epigram Books  
www.epigrambooks.sg

National Library Board, Singapore  
Cataloguing-in-Publication Data

Cheng, Willie, author.  
Doing good great : thirteen Asian heroes and their causes /  
Willie Cheng, Sharifah Mohamed, Cheryl Tang. –  
Singapore : Epigram Books, 2015.  
pages cm

ISBN : 978-981-46-1593-8 (hardcover)  
ISBN : 978-981-46-5512-5 (ebook)

1. Social reformers – Asia - Biography.
2. Volunteers – Asia - Biography.
- I. Mohamed, Sharifah, author.
- II. Tang, Cheryl, author.
- III. Title.

HN652.5  
303.48409225 -- dc23 OCN919105671

First Edition: October 2015

10 9 8 7 6 5 4 3 2 1

*To our spouses,  
Julie, Shahrom, and Graham,  
for putting up with us*

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NOT  
ALL  
HEROES  
WEAR  
CAPES

## EXTRAORDINARILY ORDINARY

Asia—a region beleaguered by social problems.

To start, 800 million people—or over two-thirds of the world's poor—live in this part of the world.<sup>1</sup> Intertwined with the causes and consequences of poverty are social problems such as health, sanitation, education, housing slums, corruption, pollution, and prostitution.

For countries that have been blessed with wealth, there are hidden problems such as a high degree of individualism, an increasing divide between the rich and poor, human rights violations, and the suppression of media freedom.

Into this background of challenges and hardships are born the heroes of Asia. No, these are not the heroes that we read about in comic books, with super powers, and who wear masks and capes.

These are but very ordinary individuals who have responded in extraordinary ways to the social issues they have faced. They are social entrepreneurs. They are seismic change-makers leading the charge to alleviate social ills with innovative solutions.

Through their creativity, tenacity, and perseverance, they bring the full force of their formidable intelligence, imagination, and resourcefulness to bear on the lives of the underprivileged and neediest in societies and communities throughout Asia. They lead the way in making the impossible possible.

While social entrepreneurs have been widely identified and celebrated in other parts of the world, their work has been less acknowledged in Asia.

This book seeks to shine the light on 13 individuals from across Asia who have been unusually innovative in their social solutions. Some of the most striking social innovations have been successfully implemented in Asia: microfinance, the two-pit latrine system, a pollution-watch database, an anti-corruption watchdog, slum housing, and a more empathetic form of assisted living.

## FINDING THE HEROES

In this book, we celebrate the work of heroes from 12 Asian countries.

Selecting a singular representative champion of social change from a country was not easy. We looked for change-makers who have made a significant impact on their respective causes, be it in changing policies, galvanizing people, or directly treating and solving the problems. Specifically, we looked for natives who have worked from the ground up while struggling through trials in their own lives.

We started with the most pressing social issues in each country. In finalizing the shortlist, we also sought to ensure a diversity of social causes so that no one cause is featured twice in this book.

Since champion and cause are so inextricably intertwined, we tell each hero's personal story—what got them started, what they believe in, what they do, and why they continue to do what they do despite the challenges. Along the way, we have endeavored to understand and explain the nature of the cause, as well as the other groups and people working on their resolution, both globally and locally. At the end of each chapter, we recap each person's journey by tracing the key milestones in his and her life and the recognitions that he or she has received.

For the benefit of readers not familiar with the countries in question, we have provided brief facts on each country's population, economic and political makeup<sup>2</sup>, and expressed all amounts in both local currencies and their US dollar equivalents.<sup>3</sup>

## WHO AND WHERE

In summary, the selected heroes and their causes are shown in the map in the diagram below. The chapters themselves are simply ordered geographically from North Asia to South East Asia, and then to South Asia.

- |   |  |  |
|---|--|--|
| <b>1</b> Ma Jun<br><i>Environment</i>     | <b>2</b> Dharma Master<br>Cheng Yen<br><i>Compassion</i> | <b>3</b> Ho Hei Wah<br><i>Urban Poor</i> |
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|---|---|--|
| <b>7</b> Sompop Jantraka<br><i>Child Prostitution</i> | <b>8</b> Premesh Chandran<br>& Steven Gan<br><i>Media Freedom</i> | <b>9</b> Braema Mathi<br><i>Migrant Workers,<br/>Human Rights</i>    |
| <b>10</b> Teten Masduki<br><i>Corruption</i>          | <b>11</b> Sir Fazle<br>Hasan Abed<br><i>Social Enterprises</i>    | <b>12</b> Bindeshwar Pathak<br><i>Toilets, Social<br/>Inequality</i> |

## THE HERO WITHIN

Although the geographical, social, and cultural divide across the countries of Asia is a wide one, every single hero in this book shares similar traits. For one, they never planned to be where they are now. In fact, most started with ordinary, quotidian ambitions—to finish school, find a job, and take care of their families. However, life in all its adverse forms threw these plans into disarray. It forced them to dig deep within themselves to discover hidden reserves of strength to fight for what they believed in so passionately.

And in doing so, they discovered a person they never imagined and carried out acts that they had never dreamed they were capable of.

Their journeys, though often long and difficult, have, nevertheless, been fulfilling and transformative, both for themselves and for the people they have helped. The paths that they have taken are, indubitably, the ones less travelled. Their stories teach us; they humble us; they encourage us; and, above all, they inspire us to reach for the heroes within ourselves. ■

## ENDNOTES

- 1 See “Rural Poverty in Asia” at the Rural Poverty Portal by the International Fund for Agricultural Development (IFAD), <http://www.ruralpovertyportal.org/region/home/tags/asia>. In Asia, there are more than 800 million people surviving on less than US\$1.25 a day, the level considered as extreme poverty by the UN Millennium Declaration.
- 2 The country data for the “Brief Facts” box in each chapter has been sourced primarily from the CIA World Factbook in May 2015. Where GDP figures are not available from the CIA World Factbook, these are obtained from the World Bank. Most of the information is for 2014.
- 3 Generally, the exchange rate used for each local currency against the US\$ is the rate at the beginning of 2015. However, where historical exchange rates are significantly different from the exchange rate in early 2015, we have used the exchange rate relevant to the time period indicated.

1

MA JUN • *China*

ORGANIZATION

**Institute of Public and  
Environmental Affairs**



CAUSE

**Environment**

DATA  
ECO-WARRIOR



Ma Jun doing a night recce to investigate air pollution caused by factories.



Ma Jun interviewing a factory worker to understand the process of waste disposal at a manufacturing plant.

**M**a Jun started his career as an investigative journalist on the environment desk. After years of reporting on environmental disasters and exposing pollution scandals, he realized that there had been a great deal of misinformation due to data discrepancies or cover-ups.

Ma felt that if real change was to happen, it had to come from public awareness and social pressure by the people. So he started and maintained an online repository of environmental data for the public to track the state of pollution around China and take relevant action. Since then, the Institute of Public and Environmental Affairs, which he founded, has become the leading monitor of corporate environmental performance in China.

Pollution is a global problem, and not just in China. However, Ma believes that, with the right momentum and partners, China can take the lead in building an ecological civilization. But this can only happen through the state, market, and civil society moving forward together, with the help of the power of information.



## MILKY RIVER

It was a cold, wintry morning on April 15, 2011. Armed with test tubes for collecting water samples, recording devices, and a pollution monitor, the founder of the Institute of Public and Environment Affairs (IPE), Ma Jun, was squeezed in a tiny sampan<sup>1</sup> with three others—a fellow environmental activist, an informant, and a boatman.

His mission: to collect water samples to test for heavy metal poisoning in the waters of Nantaizi lake.<sup>2</sup> The suspect: Meiko Electronics, a printed circuit board manufacturer and supplier of parts for the renowned global technology company, Apple Inc.

Ma's fellow investigator was Friends of Nature's<sup>3</sup> Wuhan branch leader, Zeng Xiang Bin. Zeng had coincidentally been investigating complaints about pollution causing the depletion of fish in the Nantaizi lake. Interested to investigate the possible link with Ma's case, Zeng recruited the help of Zhang Zhi Lai, an ex-employee of Meiko, and Wan Zheng You, a local fisherman, to assist with the investigation.<sup>4</sup>

As Ma stared at the milky water that meandered towards the Nantaizi lake, he was reminded of the challenges he had faced in dealing with companies like Meiko. Of the 27 companies that had been on the IPE watch list of environmental polluters, Meiko was no different. Such companies seemed to have the knack of "clearing up the evidence" before environmental charges could be made. And although Meiko had had previous environmental accidents,<sup>5</sup> it continued to operate in Wuhan.

Ma has found it challenging to take these companies to task about their environmental issues. This time, however, Ma felt things could be different. Having linked Meiko with Apple Inc.,<sup>6</sup> all they needed now was to gather concrete evidence on the environmental pollution and make their case.

The 150-meter channel that runs along Meiko's facility was filled with a pale white liquid. Ma witnessed first-hand the

infamous "river of milk" that residents had so often complained about. As fisherman Wan steered the intrepid team through a small discharge channel, they observed greenish bands layering a drainage pillar. Zhang postulated that these may have been caused by the factory discharge of green oil that is used to manufacture the solder resistant area of the circuit board. This chemical is hard to break down and contributes to the toxicity level of the water.

The channel spills into the Nantaizi lake, which in turn feeds into the Yangtze River. Any contamination in this body of water would pollute the drinking water of millions along the Yangtze. Seeing the greenish discharge, Fisherman Wan lamented, "My generation is drinking polluted water; the next will have only poisoned water to drink." Ma and his team quickly collected water and sediment samples from different parts along the channel, and also from the mouth of the lake.

The test results confirmed their suspicions. The water was contaminated beyond acceptable levels and was deemed unsafe for drinking.<sup>7</sup> But what was more ominous was that the sediment samples tested for high levels of heavy metals.<sup>8</sup> Heavy metals do not degrade easily; once they accumulate within the substrate their harmful effects will linger for years. The amount of copper in the sample was at least 13 times higher than the acceptable standard set by the National Oceanic and Atmospheric Administration Sediment Quality Standards.<sup>9</sup>

Armed with these results, IPE together with four other environmental groups wrote a letter to Meiko Electronics (Wuhan) inquiring about their environment management. Within a week, Meiko had initiated talks to discuss the environmental issues raised and in subsequent in-depth discussions with IPE, agreed to undergo a third-party audit. This was a remarkable breakthrough for IPE and all the environmental agencies involved.

But the real icing on this data cake was that five months later, Apple Inc. finally took steps to address the environmental issues caused by companies in its supply chain.<sup>10</sup>

Ma feels vindicated that his persistence and passion to pursue this work, along with the efforts and hard work of his team and the partner environmental agencies, has paid off.

### WADING THROUGH MURKY WATERS

Ma's passion for the environment began in 1993 when, as a young man of 25, he worked as an investigative journalist at the environment desk of the *South China Morning Post*.

During his seven years with the *Post*, Ma witnessed the devastating floods on the Yangtze, the drying up of the Yellow River, and the rapid decline of China's water table. Not surprisingly, he questioned man's ability to manage the environment. His research showed that China had built 85,000 dams in 50 years, resulting in a hundred-fold increase in urban water supplies. Yet both the arid north and humid south ended up with worse water shortages. Over that same timeframe, a spectrum of players—from state-run logging firms to commercial farmers—had methodically exposed the country to the worst forms of environmental damage, fuelled by commercial interests.

Ma tried to get first-hand information through interviews with officials and company executives, but he frequently found that they were evasive or else underplayed the extent of the environmental damage.

Ma felt that the only way to get to the truth was through other means. He used informants to understand companies' internal disposal policies. He compared the companies' published data with that gathered by other international non-governmental organizations (NGOs). Once, he even crawled through a sewer pipe to measure the toxicity of the water being consumed by villagers.

Initially, like many others, Ma naively believed that “these environmental problems should and could be left to the officials and engineers.” Over time and after gathering much first-hand information on the sources of the pollution, Ma reluctantly concluded that “these officials were the very people who were trying to rob nature of the last drop of water in order to serve economic expansion.”

After several years of uncovering discrepancies between official versions and the glaring reality of his data on water pollution, Ma wrote his groundbreaking book, *China's Water Crisis*<sup>11</sup>, in 1999.

Ma documented how dams and other water control projects resulted in the Yellow River and other watercourses literally drying up. He described the effects of deforestation along the Yangtze River, examined the major problems stemming from defects in many of China's large-scale reservoirs, diminishing underground water tables, and the abuse of aquifers<sup>12</sup> in the name of urbanization and industrialization. Overall, he painted a picture of how China, over the course of the next few decades, will see a major deterioration in its clean water resources unless major steps to adjust unbridled commercial development are taken.

The book was hailed by *TIME* magazine as China's first “environmental call to arms.”<sup>13</sup> Indeed, it has been likened to Rachel Carson's *Silent Spring*<sup>14</sup> that created an environmental awakening in the US in the 1960s.

### CONFRONTING THE WATER CRISIS

In 2002, Ma joined a US environmental consulting firm, Sinosphere Corporation.<sup>15</sup> There, his personal calling to the environmental cause grew stronger.

During visits to clients' factories, he repeatedly saw factory workers facing huge health risks through constant exposure to toxic chemicals. He was indignant, but what could he do? He could choose to continue with the paper-pushing audits and hope his findings would pressure the clients' suppliers to comply

with regulations and create a safer workplace. Such a route, was however, too slow for Ma. He felt that there had to be another way—a better way.

The answer came after Ma was awarded a Yale World Fellowship for his work on sustainable environmental management in 2004. After a year of conducting cross-comparative research on environmental governance in China and the West, he concluded that the missing piece of the puzzle of environmental change in China was vigorous participation by members of the public.

In the West, active campaigning and public support had been key in creating watershed developments that resulted in changes to environmental policies. However, public participation in China, particularly in environmental initiatives was, at the time, diffused and largely non-existent.

If he was going to change the status quo, Ma felt that information was vital to creating public awareness and galvanizing action. He planned to build and maintain a website that provided objective data and monitored pollution, then leverage the internet to make this public.

After he returned to China in May 2006, Ma gathered a small team to start up IPE. A pioneer group of four full-time staff and more than 10 part-time students was set up to do the data mapping. He enlisted the support of various companies specializing in data analysis to support IPE's data and research.

Other companies that shared IPE's vision of environmental protection began to come forward. Some provided funding, while others offered free office space and equipment.<sup>16</sup>

The portal was a hit and the information that IPE supplied catalyzed many stakeholders into action.<sup>17</sup> The report on Apple's supply chain, for example, was downloaded more than 100,000 times and over 1,000 American and Chinese consumers sent letters to Apple.

With the data publicly available, companies and government officials could no longer ignore the hard facts. They had

to grudgingly admit that the misty browns and greys were not fog, but pollution after all. With knowledge as power, IPE urged consumers to take a stand and boycott environmentally unfriendly products.

Since IPE was launched, 100,000 cases of pollution involving more than 70,000 companies have been reported.

### AN INCONVENIENT TRUTH

Pollution and environmental damage is not China's problem alone. It is a danger that threatens all six billion of the human population.

For a very long time, most people were unaware of environmental issues despite the fact that as early as the eighteenth century, the scientific community observed and documented the association between increased pollution and climate change. However, it was not until the twentieth century that the subject of climate change entered the popular culture. This was, in part, due to former US Vice President Al Gore's best-selling book, *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It* and the related Academy Award-winning film, *An Inconvenient Truth*.<sup>18</sup>

The inconvenient truth that Al Gore presented is that global warming is causing an average increase in the temperature of the troposphere,<sup>19</sup> the atmosphere near the Earth's surface. One of the major causes of global warming is the increased emission of greenhouse gases due to human activities such as the burning of fossil fuels and change of land use.

This has led to an excessive level of carbon dioxide in the atmosphere. Of late, the levels have breached 400 parts per million<sup>20</sup> whereas the safe upper limit is 350 parts per million. This means that more heat is trapped near the earth's surface by the greenhouse gases instead of being radiated back into space. And as the earth becomes warmer, global climate patterns change.

Although “climate change” is often used interchangeably with “global warming,” the former is a broader term that conveys the notion that there are other changes (such as precipitation or wind) at work beyond merely the rise in temperature.

Climate change experts warn of impending calamitous change if global levels of greenhouse emissions are not reduced:<sup>21</sup>

- Nine of the 10 warmest years in the 134-year period on record have occurred in the twenty-first century. The global average temperature in 2013 was 0.99°C above the twentieth century average of 8.5°C.
- Snow cover in the Northern Hemisphere has decreased by 10 percent since the late 1960s while the Arctic sea ice has reduced by about 40 percent. Permafrost,<sup>22</sup> that had been stable for thousands of years, is now thawing.
- Sea levels have risen by 10-25 centimeters across the globe since 1900.
- Extreme weather events like floods, droughts, and storms are becoming more frequent.
- Biodiversity threats accelerate climate change. Agriculture, pollution, overfishing, destruction of coral reefs, and shrinking tropical forests have resulted in the extinction of innumerable living species and have had a negative impact on humanity’s future.
- Climate change threatens water and food production from meeting the growing needs of Asia, Africa, and Latin America. In turn, this leads to sustained poverty, hunger and armed conflicts.

### **GLOBAL RESPONSE TO CLIMATE CHANGE**

Despite these warnings, progress on addressing the cause of climate change has been slow and long-drawn. While the world could feel the impact of climate change, it was not until the 1990s that concerted global efforts were made to address the imminent threat of global environmental issues.

In 1988, James E. Hansen, head of the NASA Goddard Institute for Space Studies, testified about the effects of climate change to the US Congress. This helped to catalyze the setting up of the UN Intergovernmental Panel on Climate Change (IPCC).

The IPCC issued its first report in 1990. The UN General Assembly then agreed to begin negotiations on a framework for conventions on climate change. This led to the Rio Summit in 1992 at which an agreement on the Climate Change Convention was reached.

From 1995 onwards, annual conferences were held to review the progress of climate change initiatives under the UN Framework Convention on Climate Change (UNFCCC). Several of these conferences were significant and effected some positive results: the Kyoto Protocol (1997), Bali Action Plan (2007), Copenhagen Accord (2009), Cancún Agreements (2010), Durban Platform of Enhanced Action (2011), and Doha Amendment to the Protocol (2012).

Under the 1997 Kyoto Protocol, 37 industrialized countries committed themselves to cutting greenhouse emissions by 5.2 percent from 1990 levels by 2012. However, the Kyoto Protocol let developing nations like China and India off the hook. Some developed countries like the US did not ratify the Kyoto Protocol. In fact, as the protocol’s expiry year of 2012 drew near, global greenhouse gas emissions surged higher.

In the 2012 Doha round of discussions just prior to the expiry of the Kyoto Protocol, a second commitment period of 2012 to 2020 was adopted. A more ambitious target of at least 18 percent below the 1990 period was set, and 38 industrialized countries took on the legally binding emission commitments. To add to the challenge, big carbon producers such as Japan, New Zealand, and the Russian Federation did not commit for this period, while Canada had withdrawn from the protocol in 2011.<sup>23</sup>

The global community is under pressure to develop a successor to the Kyoto Protocol by the time this second commitment expires

in 2020. In Doha, countries agreed that big nations like China and India should no longer be exempted on the account of them being developing countries.<sup>24</sup> While it was also recognized that an immediate shut down of coal-dependent manufacturing industries would be impossible, incentives would be needed for these countries to switch to clean energy alternatives. Hence, a landmark decision was made to implement an international mechanism whereby richer nations would mobilize funds to support developing countries during this transition period as they adapt to and mitigate the effects of climate change through the use of renewable energy.

There continues to be much jostling among governments as to which countries need to cut their emissions and how much should be cut. After all, some countries have been producing more pollution and for much longer than other countries, and yet have not been called to account. For others, cutting their greenhouse gas emissions could result in political costs since their economic advantage could be severely compromised.<sup>25</sup>

As governments argue among themselves, international and local NGOs have stepped up to address the interconnected environmental issues. Their work includes acquiring and managing endangered land, conducting field research, lobbying governments, and conducting campaigns to raise public awareness. Others serve as “watchdogs,” holding governments accountable.

There are a number of major international NGOs that have made global impact:

- Greenpeace, which has 2.8 million members worldwide, engages in lobbying, research, and direct action.<sup>26</sup>
- The World Wildlife Fund, the largest conservation organization in the world, promotes biodiversity and sustainability through policy advocacy and on-the-ground conservation efforts, and works to make industries more sustainable.<sup>27</sup>
- The World Resources Institute is a US think-tank that develops and promotes policies related to climate, energy and transport,

markets and enterprise, governance and access, and people and ecosystems.<sup>28</sup>

- The World Business Council for Sustainable Development is an association of 200 leading companies that seeks to provide business leadership for sustainable development.<sup>29</sup>

Many of these international NGOs, including the four mentioned, have a presence in China, given the scale of environmental issues there. In addition, thousands of local NGOs have sprung up in individual countries and regions around the world to deal with the issues at close quarters on their home turf.

In China, there are over 10,000 environmental NGOs.<sup>30</sup> Many are “government-organized” NGOs or GONGOs. They tend to be large, national level organizations with the bulk of their funding coming from the government. They include the China Environmental Protection Foundation, the China Society of Environmental Science, and the National Natural Science Foundation.<sup>31</sup>

Other environmental NGOs are more analogous to western-styled NGOs such as IPE in that they are individually organized even though they are also regulated by the Ministry of Civil Affairs. In addition, there is also a large number of unregistered social groups.

The first Chinese environmental NGO was Friends of Nature<sup>32</sup>, set up in 1994. Two other pioneers, Global Village of Beijing and Green Home, were both set up around 1996. IPE works with many of these NGOs. In 2008, it set up the Green Choice Alliance as a coalition of 15 NGOs to create “a global green supply chain”. The goal was to push large corporations to concentrate on both the procurement and the environmental performance of their suppliers. The program signs up corporations that openly commit to not use polluters as suppliers in China, and to engage in a process that identifies polluting companies and allows these companies to resolve their environmental management problems. The process includes auditing by market-based independent auditors supported by 20 NGOs.

## CHINA AND CLIMATE CHANGE

After three decades of heady economic growth, today China is a global economic powerhouse.<sup>33</sup> But as a result of its rapid economic development, China now faces one of its greatest challenges in its history: addressing land, air, and water pollution that is impacting its people and economy.

Land pollution is largely due to China's extensive industrialization. Desertification, acid rain, heavy metals, toxic substances, and lack of proper solid waste disposal all contribute to the problem of land pollution. About 28 percent of its landmass has been stripped by deforestation and soil erosion. Polluted land is expanding by approximately two million hectares each year. As a result, China's food security is threatened.<sup>34</sup>

Air pollution is at danger levels. By 2009, China had become the world's largest emitter of carbon dioxide, accounting for two-thirds of global growth since 2000.<sup>35</sup> The emissions look set to continue with 75 percent of energy production still dependent on coal and the demand for automobiles growing fast.<sup>36</sup> Seven of the world's 10 most polluted cities are in China.<sup>37</sup>

Water pollution is no different. Four hundred out of 600 Chinese cities face water shortages to varying degrees, including 30 of the 32 largest cities.<sup>38</sup> Thanks to decades of rampant discharge of waste from factories being poured into rivers, about 40 percent of water from China's river systems is unfit for human consumption.<sup>39</sup>

To its credit, the country's leadership has committed publicly to tackling its chronic pollution issues, while also admitting its failure on some fronts.<sup>40</sup>

One notable achievement is in the use of renewable energy. By 2013, some 30 percent of China's electrical energy was generated from water, wind, and solar power rather than fossil fuels and nuclear sources. Since 2008, and except for 2011, China led the world in investments in developing renewable energy

sources. In 2013 alone, it spent US\$54 billion compared to the US\$37 billion spent by the second-ranked US.<sup>41</sup>

At the same time, the Chinese leadership, which has been generally unsupportive of freedom of speech, seems to be making an exception for environmental matters.

In March 2007, Pan Yue, then the deputy director of China's State Environmental Protection Administration (SEPA),<sup>42</sup> said that the Chinese public should "make full use of the rights that the constitution grants them: the right to know, the right of expression, the right to monitor the government and participate to a greater extent in environmental protection."<sup>43</sup>

The government subsequently passed several laws on information disclosure, requiring environmental agencies to disclose a range of data related to pollution and polluters, and requiring errant companies to respond or be fined.<sup>44</sup> These new disclosure requirements have enhanced the work of environmentalists. IPE, for instance, has greatly expanded its water and air pollution databases and has since added more than 10,000 violations to its water database. In 2008 alone, the year the rules came into effect, another 10,000 pieces of information were gathered.

In April 2014, the government announced the enactment of a revised Environmental Protection Law that allows qualified NGOs to file suits against companies for environmental destruction.<sup>45</sup> Prior to this, environmental disputes were usually resolved through administrative channels, rather than the courts. With the new law, NGOs are now encouraged to obtain redress through the courts. However, enforcement and litigation costs remain gray areas.

Critics say that the actions of the government are inevitable. After all, the government views pollution as a bottleneck in its economic growth goals. The country's elites and its people are similarly impacted by the effects of pollution. What is more, individuals and NGOs are pushing the envelope on environmental activism through the explosion of social media and mobile phones in China.

Half of China's population is made up of active mobile users, 37 percent are internet users, and 26 percent are active social network users. However, the popular social network sites are not Facebook, Twitter, or YouTube. Rather it is the Chinese equivalent sites such as Tencent Weibo and Sina Weibo (Twitter-like micro-blogging sites); QZone and Pengyou, Renren and Kaixin (Facebook-like sites); Youku and Tudou (YouTube-like video hosting services); and WeChat and QQ (WhatsApp-like instant messaging applications).<sup>46</sup>

Environmental activism through social media was jump-started by the 1999 flooding of the Yangtze River. Evidence of waste dumping went viral through social media, causing a public outcry when it became apparent that the flooding was more likely caused by human activities.<sup>47</sup>

With greater awareness and improved communication, the discontent about pollution issues has boiled over. Complaints to environmental authorities have been on the rise.<sup>48</sup>

In some cases, citizens have been able to successfully group together to protest and shut down polluters or suspend development projects. Objections to new developments are also due to a heightened sense of NIMBYism.<sup>49</sup>

For example, in 2004, a series of planned dams on the Nu River in southwestern China's Yunnan province was put on hold after a campaign led by the Green Earth Volunteers.<sup>50</sup> Another proposed dam at Tiger Leaping Gorge, part of the Three Parallel Rivers of Yunnan Protected Areas World Heritage Site, was stopped after a three-year campaign (2004 to 2006) by a journalist and a local activist.<sup>51</sup> In 2007, the circulation of nearly a million text messages by angry residents suspended plans for a petrochemical facility in Xiamen.<sup>52</sup>

But the high-water mark of environmental activism was the July 2012 protest of a proposed molybdenum copper plant in Shifang in Sichuan. The protest was started by high school students who

had discovered the potential deadly effects of the plant. They used China's most popular social networking sites to post documents, images, and fact sheets. Tens of thousands of citizens turned up over three days to protest the building of the plant. The police, who were dispatched to quell the protests, fired tear gas, used stun grenades, and arrested protestors. The images of blood and violence were almost instantaneously shared across the web. Finally, the local government announced the copper plant construction would be suspended and most of those detained were released.

### **CROSSING THE RED LINES**

Over the years, much progress has been made by Ma and other NGOs in increasing transparency and advocating for change. The apparent greater freedom afforded to environmental NGOs by the authorities has certainly helped the cause.

Still, Ma is ever conscious of how far they can push the envelope and how long the official indulgence will last. "Every day we have to think, 'How much space do we really have?' or 'Where are the red lines we cannot cross?'" says Ma. He knows activism and the spread of "unproven information" can land an activist into trouble.

In September 2013, the government announced that people who spread "irresponsible rumors" online could be punished by up to three years in jail.<sup>53</sup> Subsequently, several high-profile micro-bloggers were detained. They include 47-year-old Dong Liangjie, co-founder of a water purifier company, who had been prolific in his articles on pollution and the environment.<sup>54</sup>

Police said that Dong's blogs, which had a following of more than three million bloggers, contain sensational or false information that exaggerated the problem of environmental pollution. For example, one of his blog posts cited a study that found that the water from six major water supply systems contained contraceptives that could affect the fertility of consumers. The author of that study reported that Dong had distorted the study's

conclusion. Dong subsequently apologized publicly on television for creating unnecessary panic.

Another prominent case was that of Wu Li Hong, an environmental hero, who was eventually jailed and lost everything when he got on the wrong side of the local authorities.<sup>55</sup>

Wu, a factory salesman, lived near Lake Tai, China's third largest freshwater lake in the Yangtze Delta near Shanghai. He first noticed foul smells coming from the waters in the 1990s. Suspecting that they were caused by discharges from several hundred chemical factories that lined the river, he took photos and water samples, and submitted the evidence to the provincial inspectors. The inspectors followed up and imposed stiff fines on the errant factories.

Thereafter, life became a roller-coaster ride for Wu and his family. He and his wife both lost their jobs; they were continually harassed by local thugs, and even detained and interrogated by the police. Local government officials and factory owners also tried for years to bring Wu into the fold with contracts, gifts, and jobs. Wu nevertheless persevered with his campaign.

After nearly a decade of campaigning, both the Chinese and foreign press picked up his story in 2005. He received praise from the highest level of the Chinese administration and was declared an "Environmental Warrior" by the National People's Congress. However, his sense of pride and achievement was short-lived. Some say local party officials were jealous of his liaisons with top officials in Beijing.

When local party officials offered him a chance to profit handsomely from a pollution clean-up contract, a friend warned him against the offer. Wu, who needed the money, accepted. He was arrested, tried, and convicted for alleged extortion of one of the polluters. He was jailed for three years. Released in April 2010, he told reporters he had suffered brutal treatment during his detention.<sup>56</sup>

From these experiences, Ma knew he had to proceed cautiously. In fact, some observers have wondered whether this sense of caution has led Ma to focus on scrutinizing foreign companies instead of national ones.<sup>57</sup> Disagreeing, Ma explains that he had targeted Chinese companies in the early years, but realized, over time, that the chain of suppliers would largely end up with big international corporations. The mostly small and medium-sized Chinese businesses have little awareness of their damage to the environment and it was "practically impossible to get them to clean up their act on their own accord," whereas they would change if their "reputation-conscious mega-corporations" at the top of the supply chain stopped buying from them due to their harmful environmental practices.

Ma believes that the Apples, Siemens, and Walmarts of the world should adhere strictly to environmental and labor standards in China just as they would in their own countries. He feels that it is time for China's local administrative authorities that want foreign investments to stop overlooking the misconduct of these companies.

### THE TRANSPARENCY INDEX

Regardless of the longevity of the government's current openness to social media freedom, Ma is ever conscious that the spread of "unproven information" cannot effect change—only real data can.

Since 2006, IPE has painstakingly collected data to produce a China Pollution Map (CPM). The CPM monitors corporate environmental performance, pinpointing geographical locations of pollution sources so as to provide data on regional pollution status, such as water and air quality, and pollutant discharge rankings.

Based on the CPM data, IPE partnered with the National Resources Defense Council (NRDC) to jointly develop the Pollution Information Transparency Index (PITI) in 2009. The Index ranks 120 Chinese cities on the transparency of their

environmental monitoring and compliance information. It evaluates these major urban cities against four key metrics: the comprehensiveness, timeliness, integrity, and user-friendliness of their data.<sup>58</sup>

The PITI was in itself a game-changer, but Ma wanted to push the envelope further and make environmental data available to smartphone users. He upped the ante by developing a smartphone pollution map application that organizes publicly available information from 15,000 factories across China. Using background screens similar to iPhone's weather application, it provides a quick picture of the local environmental climate, contextualizes pollution levels according to public health, and allows users to track trends in pollution levels over time. Users can also search for air and water quality information by region, by city, by pollutant, and by polluter. What is most impressive is that this application provides real-time pollution monitoring data to enable users to identify the major sources of atmospheric pollution; in other words, to "name and shame" the worst offenders.<sup>59</sup>

In July 2014, IPE expanded on the PITI to develop another index that measures a company's performance in managing the environmental impacts of factories in their supply chains in China—the Corporate Information Transparency Index (CITI). The CITI covers 147 companies across eight industries,<sup>60</sup> evaluating whether the company has the will, the capabilities, and the necessary systems in place to push their supplies towards greater environmental compliance.

Like the PITI, the CITI provides a green roadmap that can be utilized by consumers who want a better method of evaluating the environmental impacts of the products they purchase. Its evaluation framework is based on a straightforward numerical scoring that is easy to understand. What is heartening is that the index covers both domestic brands as well as foreign ones. China companies such as Huawei, Lenovo, Lining, Youngor Group,

and Tread are also monitored within the index and have begun to enact green procurement policies.<sup>61</sup>

With traction from the inaugural CITI, Ma has seen a small yet critical change in the corporate paradigm.<sup>62</sup> He firmly believes that the time is right for China to change the environmental tide.

### **TOWARDS AN ECOLOGICAL CIVILIZATION**

Ma believes that China's zeal in achieving an industrial civilization can be emulated in the environmental realm. Just as the world marveled at how the Chinese government was able to "miraculously" reduce the smog and improve air quality during the 2008 Beijing Olympics Games, it now awaits a similar, more long-term environmental miracle.<sup>63</sup>

The Chinese Communist Party's 2007 vision of an "ecological civilization"<sup>64</sup> remains an achievable goal. Political willpower is an issue, but China's growing civil society—one that is willing to push for this ambitious and worthwhile agenda—is a hopeful sign.

Ma remains a dedicated member of this movement. Likening China to a mammoth vessel, he believes China is most lacking in "propulsion power" and needs to be nudged forward "from all angles," including the market, judiciary, and government.

What cannot be resolved by market forces alone will require the intervention of the various stakeholders. Ma's firm belief is that the role of NGOs such as IPE—with its focus on solid data and disclosure—is a crucial part of the equation. ■

**BRIEF FACTS****MA JUN**

- 1968** Born in Qingdao, China, to engineer father, Ma Xu Wen, and administrator mother, Zhang De Lan
- 1993** Investigative journalist at *South China Morning Post*
- 1999** Published *China's Water Crisis*
- 2000** Appointed Chief Representative of SCMP.com at South China Morning Post in Beijing
- 2002** Joined Sinosphere Corporation
- 2004** Joined the Yale World Fellow Program
- 2006** Founded IPE

**AWARDS & RECOGNITION**

- 2006** *TIME's* 100 most influential persons in the world
- 2009** The Nature Conservancy and Society of Entrepreneurs & Ecology's Eco-Award
- 2012** The Goldman Environmental Prize
- 2012** *Foreign Policy's* Top 100 Global Thinkers
- 2015** Skoll Foundation's Social Entrepreneurship Award

**CHINA AT A GLANCE**

<b>LAND AREA</b>	9,569,961 sq km or 3,705,407 sq miles
<b>POPULATION</b>	1.3 billion
<b>GDP</b>	US\$10.360 trillion or US\$7,594 per capita
<b>ETHNIC GROUPS</b>	Han Chinese 91.5%, Zhuang, Manchu, Hui, Miao, Uighur, Tujia, Mongol, Tibetan, Buyi, Dong, Yao, Korean, and other nationalities 8.5%
<b>RELIGIONS</b>	Taoist, Buddhist, Christian 3-4%, Muslim 1-2%
<b>LANGUAGES</b>	Standard Chinese or Mandarin (official; Putonghua, based on the Beijing dialect), Yue (Cantonese), Wu (Shanghainese), Minbei (Fuzhou), Minnan (Hokkien-Taiwanese), Xiang, Gan, Hakka dialects, minority languages
<b>GOVERNMENT</b>	Communist state
<b>CAPITAL</b>	Beijing

## ENDNOTES

- 1 A sampan (Chinese: 舢舨 shān bǎn) refers to a long, wooden boat generally used for fishing or transportation in coastal areas or rivers. Sampans are traditionally propelled by single poles or double oars.
- 2 This, together with other anecdotes in this chapter, have been adapted from discussions with Ma Jun.
- 3 Founded in 1994, Friends of Nature (FON) is the oldest environmental NGO in China. FON's focus is on promoting environmental awareness of China's most pressing environmental problems—in particular, protection of endangered species and promotion of environmental education and awareness raising. FON's greatest achievement is helping to foster a growing network of grassroots environmental NGOs throughout China. For further details, see <http://www.fon.org.cn/>.
- 4 “The Other Side of Apple II: Pollution Spreads Through Apple's Supply Chain,” Friends of Nature, IPE, Green Beagle, Envirofriends, Green Stone Environmental Action Network, August 31, 2011, <http://www.ipe.org.cn/Upload/Report-IT-V-Apple-II.pdf>.
- 5 On April 29, 2008, a workplace accident due to human operational error occurred at a production workshop at Meiko (Wuhan) causing some of the employees to be poisoned with chlorine, 18 of whom were sent to hospital for treatment.  
  
On February 15, 2011, Hubei Province Environmental Protection Bureau Pollution Prevention and Control Department published in its report that vehicles utilized by Meiko for the transfer of hazardous waste materials was not in accordance with the related regulations and the hazardous waste labelling was also not in accordance with the relevant national regulations. Details of these violations may be found at <http://www.ipe.org.cn>.
- 6 IPE did not always have the means to link the errant supplier with the global company at the top of the supply chain. However, in the Meiko case, the IPE team chanced on a newspaper article announcing that due to the 2011 Japan earthquake, the contract for manufacturing the printed circuit board for Apple's iPad 2 shifted from Meiko's mother company in Japan to Meiko in Wuhan. This was the first step that enabled IPE to make a conclusive link between Meiko (Wuhan) and Apple.
- 7 The chemical oxygen demand (a measure of water pollution) was 192 mg/L: 4.8 times the category standard for surface water quality—the worst category—indicating the water is unsafe for use for any purpose. Further, the water sample contained unacceptable levels of heavy metals copper and nickel. The concentration of nickel was found to be 0.223mg/L, which was 11.15 times the authorized standards limit of 0.02mg/L for centralized water designated as a source for domestic drinking water or surface water.
- 8 The amount of copper in the water sample from the drainage channel contained 463mg of copper per kg, whereas the sediment sample taken at the point where the drainage channel flowed into the lake contained 4270mg of copper per kg.
- 9 The acceptable standard is 34mg per kg. “Sediment Quality Guidelines Developed for the National Status and Trends Program,” Environment Protection Agency, Technical Resources—Guidelines, National Oceanic and Atmospheric Administration, December 6, 1999, <http://water.epa.gov/polwaste/sediments/cs/guidelines.cfm#noaa>.
- 10 Apple held a videoconference with the IPE and the Natural Resources Defense Council (NRDC) to discuss a bilateral agreement to participate in an audit using Meiko Electronics (Wuhan) as the first company for this pilot. This was the first of many collaborative actions with the technology giant to address environmental issues and work together on the necessary corrective actions.
- 11 Ma Jun, *China's Water Crisis*, trans. Nancy Yang Liu and Lawrence R. Sullivan (Norwalk, CT: Eastbridge, 2004).
- 12 An aquifer is an underground layer of permeable rock, gravel, or sand containing or conducting groundwater, especially one that supplies the water for wells, springs, etc.
- 13 Ed Norton, “Ma Jun,” *TIME*, May 8, 2006.
- 14 Rachel Carson, *Silent Spring* (Boston, MA: Houghton Mifflin, 1962). The book describes the detrimental effects on the environment, particularly on birds, of the indiscriminate use of pesticides. Although *Silent Spring* was met with fierce opposition by chemical companies, it was the catalyst for a nationwide ban on DDT and other pesticides, the creation of the U.S. Environmental Protection Agency, and generally advanced the global environmental movement.
- 15 Sinosphere Corporation is a US consultancy and representative of the World Business Council for Sustainable Development (WBCSD) in China. It advises corporations and governments on environmental issues.
- 16 Naomi Li, “Tackling China's Water Crisis Online, Ma Jun,” *China Dialogue*, September 21, 2006, <https://www.chinadialogue.net/article/392-Tackling-China-s-water-crisis-online>.
- 17 See from Keiko Yoshioka, “Interview/Ma Jun: Is China ready for greening?” *Asahi Shimbun*, July 20, 2012.
- 18 Al Gore, *An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It* (Emmaus, PA: Rodale, 2006). There was some controversy over some of the claims made in the book, but Al Gore went on to win the 2007 Nobel Peace Prize for his advocacy work in climate change.
- 19 The troposphere is the lowest portion of Earth's atmosphere. We live in the troposphere. Weather happens in this layer. Most clouds are found in the troposphere. The next layer up is the stratosphere.
- 20 “Observed Concentrations of CO2 Cross 400 Parts Per Million Threshold at Several Global Atmosphere Watch Stations,” UNEP News Centre,

- United Nations Environment Program, May 14, 2013, <http://www.unep.org/newscentre/default.aspx?DocumentID=2716&ArticleID=9503>. Measurement was taken at Mauna Loa, Hawaii. At the current rate of increase, the global annual average CO<sub>2</sub> concentration is set to cross the 400 ppm threshold in 2015 or 2016.
- 21 The summary of the impact of climate change is drawn from various sources. It has also been previously summarized in an article by one of the authors: "For Whom the Bell Tolls," *Catholic News*, May 30, 2010.
- 22 Permafrost is permanently frozen soil and occurs mostly in high latitudes.
- 23 "Questions & Answers on EU Ratification of the Second Commitment Period of the Kyoto Protocol," European Commission Memo, November 6, 2013, [http://europa.eu/rapid/press-release\\_MEMO-13-956\\_en.htm](http://europa.eu/rapid/press-release_MEMO-13-956_en.htm).
- 24 Roger Harrabin, "UN Climate Talks Extend Kyoto Protocol, Promise Compensation," BBC, December 8, 2012. A Loss and Damage mechanism would be put in place whereby rich nations are encouraged to mobilize at least \$10 billion a year.
- 25 Countries such as Russia and the United Arab Emirates have an abundant supply of fossil fuels, which they can get at a lower cost. But with a cut in the rate of greenhouse gas emissions, they will need to purchase and develop alternative sources of energy and this can increase their costs of production dramatically.
- 26 Greenpeace International, <http://www.greenpeace.org/international/en>.
- 27 World Wild Life Fund, <http://www.worldwildlife.org>.
- 28 World Resources Institute, <http://www.wri.org/>.
- 29 The World Business Council for Sustainable Development, <http://www.wbcsd.org>.
- 30 The number of environmental NGOs ranges in the thousands. Different sources provide differing numbers. The number of over 10 thousand is found in Neil Carter & Arthur P. J. Mol, "Urban Environmental Governance Innovations in China," *Current Opinion in Environmental Sustainability* (2009) and Timothy Doyle and Doug McEachern, "Green Non-Governmental Organizations," *Environment and Politics* (London: Routledge, 2007).
- 31 China Environmental Protection Foundation, <http://www.cepf.org.cn/en/>; China Society of Environmental Science, [http://english.sepa.gov.cn/About\\_SEPA/Social\\_Organizations/200708/t20070814\\_107909.htm](http://english.sepa.gov.cn/About_SEPA/Social_Organizations/200708/t20070814_107909.htm); National Natural Science Foundation of China, <http://www.nsf.gov.cn/publish/portal1/>.
- 32 Friends of Nature was set up by Liang Congjie, a historian. The organization was originally called Academy for Green Culture. See <http://old.fon.org.cn/>.
- 33 A leading financial think tank, The Conference Board, predicted that by the year 2020, China could account for almost a quarter of the global economy, as compared to the US's 15 percent and Western Europe's 13 percent.
- 34 As of 2012, China had 334 million acres of arable land. Official data showed that one-fifth or 66 million acres of arable land in China were laced with dangerous chemicals and should be taken out of agricultural production. This would then leave China with 268 million acres of usable land, lower than the minimum of 300 million acres that the Beijing government needs for the country's food security. See Minxin Pei, "China's Soil Pollution: It's much worse than you think," *Fortune*, April 18, 2014.
- 35 Leslie Hook, "China's Environmental Activists," *Financial Times*, September 20, 2013.
- 36 Between 1990 and 2050, it is estimated that China's cumulative emission of greenhouse gases would be 500 billion tons, roughly equivalent to the total world output from the period of industrial revolution till the 1990s. See "China and the Environment: The East is Grey," *Economist*, August 10, 2013, and World Wildlife Federation, "Environmental Problems in China," [http://wwf.panda.org/who\\_we\\_are/wwf\\_offices/china/environmental\\_problems\\_china/](http://wwf.panda.org/who_we_are/wwf_offices/china/environmental_problems_china/).
- 37 The ranking of Chinese cities by air pollution is by Greenpeace China. See <http://www.greenpeace.org/eastasia/news/blog/bad-to-worse-ranking-74-chinese-cities-by-air/blog/48181/>.
- 38 Leslie Hook, "China's Environmental Activists," *Financial Times*, September 20, 2013.
- 39 "Environmental Problems in China," World Wildlife Federation, [http://wwf.panda.org/who\\_we\\_are/wwf\\_offices/china/environmental\\_problems\\_china/](http://wwf.panda.org/who_we_are/wwf_offices/china/environmental_problems_china/).
- 40 In March 2012, former Premier Wen Jiabao acknowledged that the government had failed to meet most of the environmental targets of its 11th five-year plan. Elizabeth Economy, "China's Environmental Future: The Power of the People," *McKinsey Quarterly*, June 2013.
- 41 Bobby Magill, "U.S. Lags Behind China in Renewables Investments," *Climate Central*, April 3, 2014, <http://www.climatecentral.org/news/u.s.-lags-behind-china-in-renewables-investments-17257>.
- 42 In March 2008, China's State Environmental Protection Administration (SEPA) was elevated to cabinet level, becoming the Ministry of Environmental Protection (MEP). Pan Yue, the number of deputy director of SEPA then became Vice Minister of MEP. Pan Yue is recognized as an outspoken advocate for stronger environmental protection and received the 2010 Ramon Magsaysay for his environmental leadership.
- 43 Cited in Ma Jun, "Getting Involved," *China Dialogue*, June 24, 2007, <https://www.chinadialogue.net/article/1034-Getting-involved> referring to a speech made on March 31, 2007 to mark "Green China Day."

- 44 In 2007, China's cabinet issued new regulations to open up access to information throughout government. The new rules went into effect on May 1, 2008. As part of the rules, environmental agencies have to disclose 17 different types of data. This includes information on regional environmental quality; enterprises violating discharge standards; pollution complaints filed against companies; and administrative and enforcement actions against polluters. Enterprises listed as violators were required to publish their discharge data within 30 days in the media and to register the data with local government. See Maria Shao, "Ma Jun and the IPE: Using information to improve China's environment," *Stanford Graduate School of Business*, Case SI115, July 20, 2009, <http://users.business.uconn.edu/tdowding/opim5894sus/case%20study%20articles/Stanford-ma%20jun%20and%20the%20environment.pdf>.
- 45 The law is effective from January 1, 2015. "New Law Invigorates China's environmental NGOs," *China Daily*, April 29, 2014.
- 46 Forty-eight percent of China's population are active social media users according to *Social Media Today*. For this and other statistics, see Simon Kemp, "Understanding Social Media in China in 2014," *Social Media Today*, April 14, 2014.
- 47 Guobin Yang, "Global Environmentalism Hits China," *Yale Global*, February 4, 2004.
- 48 The key authority is the Ministry of Environmental Protection. The most recent published statistics are for 2006 (see [http://english.mep.gov.cn/standards\\_reports/EnvironmentalStatistics/yearbook2006/](http://english.mep.gov.cn/standards_reports/EnvironmentalStatistics/yearbook2006/)). According to the data available, complaints has been increasing 30 percent year on year, reaching more than 600,000 in 2004. In tandem, the number of mass protests due to concerns about pollution has grown by 29 percent per year. See Ma Jun, "A Path to Environmental Harmony," *China Dialogue*, November 30, 2006, <http://www.chinadialogue.net/article/summary/589-A-path-to-environmental-harmony>.
- 49 "NIMBY" stands for "not in my backyard." It usually refers to opposition by residents to a proposal for a new development such as a factory which residents may acknowledge as being useful or needed for larger societal purposes but still think it should be located away from their home or community because of unfavorable consequences (such as pollution).
- 50 However, it appears that the project to construct the dams which was mothballed in 2004 will be resurrected in 2014 or later. See Li Jing, "Ban lifted on Controversial Nu River Dam Projects," *South China Morning Post*, January 25, 2013, and "China Dam Project Slated for Tibet Quietly Passes Key Hurdle," *Wall Street Journal*, August 14, 2014.
- 51 The activist is Xiao Liangzhong, an anthropologist. The situation has been documented by the journalist, Liu Jianqiang. See Liu Jianqiang, "How Tiger Leaping Gorge Was Saved," *China Dialogue*, April 19, 2013, <https://www.chinadialogue.net/books/5923-How-Tiger-Leaping-Gorge-was-saved/en>.
- 52 In 2004, Premier Wen Jiabao put the plans on hold, pending an environmental impact assessment. In May 2007, the city government of Xiamen in the southeastern province of Fujian suspended plans for the petrochemical facility after residents argued that the project was approved without the required environmental impact assessment. See Christina Larson, "The Green Leap Forward," *Washington Monthly*, July/August 2007 and Chris Buckley, "China City Suspends Chemical Plant after Uproar," Reuters, May 30, 2007.
- 53 Reuters, "China Threatens Tough Punishment for Online Rumour Spreading," *National*, September 9, 2013.
- 54 Chris Luo, "'Environmental Expert' Arrested in Anti-Rumour Campaign," *South China Morning Post*, September 29, 2013.
- 55 For more details, refer to Joseph Kahn, "In China, a Lake's Champion Imperils Himself," *New York Times*, October 14, 2007, and William Wan, "The Tale of Tai Lake," *Washington Post*, October 29, 2010.
- 56 For the story of Wu Lihong, see "In China, a Lake's Champion Imperils Himself," "The Tale of Tai Lake," and "A Lot to be Angry About," *Economist*, May 1, 2008.
- 57 Keiko Yoshioka, "Interview/Ma Jun: Is China ready for greening?" *Asahi Shimbun*, July 20, 2012.
- 58 Amy Weinfurter, "Can Air Pollution App for Smartphone Users Kickstart New Era of Transparency in China?" *China Dialogue*, August 11, 2014, <https://www.chinadialogue.net/article/show/single/en/7206-Can-air-pollution-app-for-smartphone-users-kickstart-new-era-of-transparency-in-China->.
- 59 "Case Study: Five Years of Measuring Transparency in China: What Progress Has Been Made?" Environmental Performance Index, <http://epi.yale.edu/case-study/five-years-measuring-transparency-china-what-progress-has-been-made>.
- 60 The eight industries include information technology, textiles, food and beverage, household and personal care, automobile, breweries, and leather.
- 61 "Green Supply Chain CITI Report," Institute of Public Environmental Affairs, [http://www.ipe.org.cn/en/about/notice\\_de\\_1.aspx?id=11649](http://www.ipe.org.cn/en/about/notice_de_1.aspx?id=11649).
- 62 As of June 2014, the brands evaluated within the CITI have collectively pushed more than 1600 suppliers to issue statements on their specific pollution problems or to disclose their emissions data, and several hundred of these companies have taken corrective actions.
- 63 In 2008, China hosted the Olympics. As part of its bid, it committed itself to, inter alia, lowering air pollution. Although air pollution in Beijing is usually always much worse than most other cities, Chinese efforts to clean up the air before the Games paid off. It took some extreme measures such

as shutting down all nearby factories and ordering half the cars off the road during and just before the Games. See Rick Lovett, “China’s Olympic Pollution Efforts Paid Off, Expert Says,” *National Geographic News*, August 15, 2008.

64 Parts are mentioned in the article by Ma Jun, “Ecological Civilization is the Way Forward,” *China Dialogue*, October 31, 2007. In the 16th Central Committee of the Communist Party’s report to the 17th Party Progress, then secretary general Hu Jintao spoke of the need for “a model of growth and consumption, as well as industries, which are frugal in their use of energy and resources and protect the environment.”



<b>2</b>	<b>DHARMA MASTER CHENG YEN • <i>Taiwan</i></b>
<b>ORGANIZATION</b> <b>Tzu Chi Foundation</b>	
<b>CAUSE</b> <b>Compassion</b>	
<b>COMPASSION ORGANIZED</b>	

“*Doing Good Great* is a great book that not only tells the personal stories of a remarkable group of Asian social entrepreneurs, but is also an informative primer on the social cause that each hero is tackling in his or her country, and where that cause stands on the world stage.”

—Douglas Miller, Chairman, Asian Venture Philanthropy Network

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—KK Tse, Founding Chairman,  
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