

**The Atmosphere of an Ecological Civilization:
A Study of Ideology, Perception and Action in Chengdu, China**

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**A Thesis Submitted in Partial Fulfilment
of the Requirements for the Degree of
Doctor of Philosophy**

in

Anthropology

The Chinese University of Hong Kong

December 2016

Abstract of thesis entitled:

The Atmosphere of an Ecological Civilization:
A Study of Ideology, Perception and Action in Chengdu, China

生態文明的大環境：有關中國成都市意識形態、感知和行動的研究

Submitted by Edwin Anton Schmitt for the degree of Doctor of Philosophy in
Anthropology at the Chinese University of Hong Kong (December 2016).

In recent years, as the Chinese people have had to face environmental issues in their everyday lives, environmental protection has come to stimulate new social movements and forms of governance in China. After decades of state emphasis on economic growth, it has yet to be made clear how this new concern for environmental governance resonates with different segments of Chinese society. Thus, this thesis analyzes the rise of environmental consciousness among different social groups in the Western Chinese city of Chengdu.

Environmental consciousness is examined according to three components: ideology, perception and action. At the turn of the millennium, the Chinese state started to promote Ecological Civilization (生態文明), the CCP's ideological answer to Sustainable Development. With a singular emphasis on enforcing environmental protection as long as it does not interfere with economic development, this uni-dimensional structure of Ecological Civilization has been introduced to Chinese society through local government and NGO projects, as well as academic and media reports. By ethnographically exploring the issues of mobility, consumerism, food safety and urbanization within the daily lives of Chengdu residents, the thesis examines how this uni-dimensional aspect of Ecological Civilization resonates with the way urban residents contribute to “greying” or “greening” Chengdu. Residents engage in the “greying” of Chengdu because such actions help them maintain or accumulate greater amounts of social capital. Aspects of “greening” Chengdu are related to a grassroots environmental ideology, described here as “being environmentally-friendly” (很環保), which is paradoxically thought of as being both old-fashioned and high-class.

A social survey of 245 households shows upper class residents perceiving the environment as having a higher impact on their life than lower class residents. The environmental actions of garbage separation, water conservation and air pollution mitigation are variably related to a resident's social class, age and place of residence. While our survey also determines that residents' interpretation of Ecological Civilization has multiple dimensions, there are three distinct groups that emerge from an examination of the intersection of environmental ideology, perception and action in China. This includes, the Developmental Group, who benefit from the state promoted uni-dimensional interpretation of Ecological Civilization, the Environmental Group, who are more heavily influenced by the “being environmentally-friendly” ideology, and the Apathetic Group, who struggle with environmental actions as both old-fashioned and high-class practices. Being made up primarily of residents from the Developmental Group, the state is strengthened by the uni-dimensional structure of Ecological Civilization because it makes the Apathetic Group desire for a more authoritarian

government that will simply take care of environmental problems for them. However, the inability of the state to engage with the local interpretation of Ecological Civilization along multiple dimensions will only drive more residents towards a more antagonistic stance shared by the Environmental Group, placing the state within a paradox it is unable to resolve.

摘要

近幾年，中國人民每天都要面對多種環境問題，環境保護促成新的社會運動及實政方式。數十年來，中國政府一直以強調經濟發展為先，因此，如何能將環境管理與中國社會的其他部分相協調仍沒有一個清晰的答案。本文將以中國西部城市成都為例，分析環保意識在不同社會族群中的興起。

本文通過三個要素來檢驗環境意識：意識形態、感知和行動。自千禧年始，中國政府開始宣傳“生態文明”的觀念，它是中國共產黨給出的有關如何進行可持續發展的意識形態方面的答案。“生態文明”作為一個單一維度結構，特別強調要在不影響經濟增長的前提下加強對環境的保護。這個概念通過地方政府、非政府組織的項目、學術研究及媒體報道等多種方式滲透中國社會。通過利用民族志的研究手法來探討成都市民日常要面對的交通問題、消費主義、食品安全及城市化等議題，本論文著重研究“生態文明”作為一個單維觀念，是如何與普通市民讓成都變得“更灰”或“更綠”的方式相協調的。市民讓成都變得“更灰”是因為相關行為可幫助他們維持或積累更多社會資本。而讓成都變得“更綠”則是一種草根的環保意識形態，通常被描述為“很環保”。“很環保”是個自相矛盾的講法，一方面它帶有“過時”的意味，而另一方面它又帶有“上流”的感覺。

本研究針對 245 戶人進行了社會調查，結果顯示相較底層社會的市民而言，上層社會的市民普遍認為環境的好壞對他們生活的影響更大。類似於垃圾分類、節約用水、減少空氣污染等環保行為不同程度的與受訪市民的社會階層、年齡及居住地點有關。一方面，調查顯示市民們對於“生態文明”的理解五花八門，伸展至多個維度，另一方面，通過檢驗環境意識形態、對環境的感知和環保行動三者的交集後，我們發現，在環保問題上，中國民眾可被分為三大不同族群。這包括，發展組，他們因國家宣傳的單維“生態文明”政策而受益；環境組，他們最受“很環保”這個意識形態的影響；以及“不知所從”組，他們因環保行動又“過時”又“上流”的雙面性而感到不知所從。大部分身處權利中心的人都屬於發展組，理論上講，由發展組人士組成的國家可借引入“生態文明”這個單維結構而變得更穩固，因為“生態文明”的結構單維性讓“不知所從”組的人更樂意接受一個集權政府，並寄希望於後者可以替他們解決環境問題。但是，由於國家無法從多個維度介入民眾對於“生態文明”的地方詮釋，更多的市民因此將會趨於加入環境組人士，持與他們類似的對抗態度，而這將會讓國家陷入難以走出的困局。

Acknowledgements:

As it is obvious from the length of this thesis how long winded I can be, it would be disingenuous of me to skimp on the acknowledgements, so please bear with me and I do apologize if there are those I may have forgotten.

First, to my committee, I appreciate the extensive feedback you have provided to help shape this document into something I am proud to share with others. Thanks to Sidney Cheung for always supporting my interests in food; to Christoph Steinhardt for taking a chance on an Anthropology dissertation and providing a much needed perspective from Political Science; and to Eugene Anderson for showing an interest in my work over many years and encouraging me to take the path less travelled. Many thanks to my advisor Joseph Bosco, who of course has always challenged me intellectually, but I believe my greatest thanks and memories will be of his support during various episodes over the last five years that were personally distressing for me. I wish you the best in your new life in St. Louis!

I need to thank the Hong Kong Ph.D. Fellowship Scheme for providing me with three years of funding while in Hong Kong. There is one group of people we rarely show thanks for in these acknowledgements and that would be the librarians of our academic institutions: this dissertation would not have been possible without the tireless support of the CUHK librarians! The wonderful staff at the CUHK Department of Anthropology was extremely helpful and supportive in navigating the perils of Hong Kong bureaucracy; especially Kathy Wong who I miss dearly! Thanks to Sealing Cheng for reading the first draft of my methods and for being a general idol for everyone in the department. My deepest thanks go out to Chen Ju-chen; looking back on it now I think

you have probably been the greatest anthropological and inspirational influence on me of anyone in the department these past five years. I look forward to sharing new books and ideas with each other for years to come! Oh and what the hell: thanks to Gordon Mathews for showing me the meaning of life, more or less. Certainly a number of classmates need to be thanked, particularly the MPhil's who I began this journey with. I learned so much by editing the theses of Candy, Gloria, Calvin and Allen; I was also lucky to have Calvin in Sichuan with me during fieldwork! Special thanks go to Yu Xin and Lin Dan; you are the future of Chinese Anthropology and it has been an absolute privilege to work with you both and more importantly your friendship has been a blessing over these past five years. To Yuan Changgeng, my 好基友, without whom I most surely would have lost my sanity long ago while dealing with a final year of thesis writing. I look forward to helping you renew a Leftist perspective in Chinese Anthropology in the coming years! Finally, thank you so much, Philipp Demgemski; you were always there to listen to me complain, to engage me in some of the most stimulating intellectual conversations of my life, and to encourage me when my personal life was a mess.

This thesis could not have been possible without the support of so many people in Sichuan, my second home. The Sichuan University Office of Foreign Affairs was instrumental at helping an American from CUHK navigate some very tricky bureaucratic and political issues during a period of obscurity in Sichuan. In particular, thanks to Shi Laoshi who ensured that I would not need to pay tuition while I was in the field. I also need to thank Professor Li Yongxian for his years of support while at Sichuan University and apologize for any inconvenience my first year of fieldwork may

have caused him. I am very grateful to Prof. Lu Hongyan and the Department of Environmental Studies for agreeing to support me when no one else would. Prof. Lu was also instrumental in connecting me with Global Trees. Thank you as well to Prof. Yan Jiong for many stimulating conversation; I was very lucky to have read through your dissertation before beginning my surveys and it provided my own methodology with many important ideas. There are too many people to thank within the Department of Urban Planning who have been a continual source of inspiration and support during many years of collaboration, particularly with regard to research on rural village planning.

It was through the Urban Planning Department that I made four lifelong friends who have shaped this dissertation more than anyone else. To Gao Yushi, Shao Yuqian, Wang Yuehan and Zhao Baoyang, thank you so much for collaborating with me on the Chengdu Environmental Consciousness Survey. Many of the ideas in this dissertation originate in conversations with all of you at my apartment, in Three Café and in the courtyards of the seven housing estates. Working together was not just about learning something new, it quite literally became fun! I will never forget after a long evening of surveying our late night viewing of *Interstellar*, then walking out into an empty 春熙路 at 2 a.m. and talking for another forty minutes in the cool fall air before we all finally gave in to the need for sleep. The conversation never ended and I hope it never will!

I am so grateful to the seven housing estates where we conducted surveys for welcoming us and attending our final report in March 2015. We learned so much from all of you and look forward to working together in the future. Of course, I need to thank all those working at Friends of Chengdu, Global Trees, and the various Neighborhood

Management Committees for talking with me even though there was little incentive for them to do so. In the end I know all of us gained from sharing our different perspectives on environmental consciousness in Chengdu with each other.

Over the past 13 years of living in and visiting Chengdu the number of people I should thank is becoming ridiculous. Most important I need to thank Robbie for giving a poor man a home. And Forest for being my partner in so many adventures, big and small; the Distiller's Well lives on in this dissertation, ha! To Star for always being a friend even after you became famous ☺ Thanks to Shuang for making me chicken soups just when I needed them. Thanks to the Wu family for joining me for occasional walks in the park. Special thanks to those at Wildgrass who have been my guide in all things environmentally related in Chengdu for so many years now. It was a long, difficult journey but I think all of us involved can feel proud that the organization was a pioneer in organic agriculture and urban farming throughout Sichuan and Chongqing.

I need to thank all of the wonderful members of the Chengdu Craft Brewing Society, in particular those who were involved in that failed experiment at Xiaoyao, even Geezer, that lout. Thanks to Nick for giving me a job in 2015 when I was really broke, it felt great to be working around a kitchen again despite being a brief stint. It was also exciting to be a part of something special in Chengdu's burgeoning world of mixology and I am so happy to see Eddie succeeding at Lullaby. I miss my little twin! I also need to thank Michael McSorley for being the only friend to ever unite my previous life with my present life by joining me for a month in Chengdu. Thanks as always to Liu Tianfeng; you and the Leg and Whistle have remained the most consistent aspect of my time in Chengdu. I hope you know your friendship and the comfort of the Leg mean a lot to me. And to Zhang Jialu, who along with joining me for late night debauchery on

the streets of Chengdu when she was home, also lent me her political notebooks from high school that taught me the need to take the political system in China seriously in order to present an equally serious critique. Special thanks to Zhou Zong, while we met within the bar world, your friendship has extended far beyond that circle. Thank you for teaching me what it means to be “from Chengdu” even though I know sometimes you wish you could be somewhere more “civilized”! Thanks to Patti and Michelle for some awesome conversations throughout the years. Finally, thanks to Anne Greenleaf for being the best grad school co-sufferer one could hope for in the field. I hope you, Josh and I can always reminisce about the fact that you guys hooked up the night we watched Dan rock the mic at KTV!

On that note, there is also a group of China and, Sichuan scholars who need to be thanked for their influence on this dissertation. Dan Abramson has probably been the most influential for helping me make the transition to an urban anthropologist and I thank him for continuing to involve me in his projects after all these years. Looking forward to more long talks with you and Cindy over beer sometime soon! Although he unfortunately had minimal impact on this dissertation, nothing made me more proud than to hear Li Xingxing say “有道理” after I summarized the basic idea of this text. My old friends Tang Yun and Zhang Yuan were gracious to welcome me into their anthropology reading groups, which kept me in a very anthropological frame of mind while in the field. Lan Jie was also always a fun person to toss ideas off of in those sessions and I am excited to see how her work will progress at Xiamen University. Zhang Qiaoyun joined us in the reading groups and it was great to have her as a fellow fieldworker-at-large with me in Sichuan for that first year. Stevan Harrell, who

introduced me to Sichuan and after 14 years is still my #1 e-mail partner-in-crime, gave me the first opportunity to present this work at a very intimate roundtable at UW-Seattle (all in Chinese, which was great!) when my data was still fresh and ideas still raw with fieldwork. The conversation with that group was essential for framing many of the ideas that continue on into this final draft. Eric Cheng, Loretta Lou and Ma Xiao were the first to read any part of this dissertation and I thank them for their stimulating feedback! Christian Sorace and JJ Kinkle gave great feedback on multiple parts of the dissertation, as well as papers and abstracts; if there are any faults in my work I hold them entirely responsible, ha! ;-p Li Hongtao and Anna Ahlers provided crucial feedback on a paper that drew on much of the work in this dissertation and their comments helped me clarify some of my key arguments. In that same paper, Mette Hansen helped me see the lack of consistency in my writing but more importantly gave me guidance on how to fix those problems, which in turn had a huge influence on the structure of Chapter 3 in this dissertation. I feel particularly blessed to be included in the Airborne project and I thank Mette for inviting me to the Center for Advanced Study to engage with some of the best minds now concerned with environmental issues in China.

Thank you of course to my family who has been so supportive of me despite not returning home at one point for a three year stint. There is a special family acknowledgement sent to you all, so I won't go too deep here, but thank you of course to my mother, Mary Neshek, for not selling my house these past five years, to my father, Peter Schmitt, for not completely losing his mind while I have been away, and to Nancy Schmitt, for being the only reason he hasn't yet.

Finally, a complicated thanks go to both Jia Yuling and Chang Xinyue for putting up with my nonsense and for being the closest friends I have ever had.

In Memory of James A. Neshek (1927-2015)

I am convinced that the values you embodied in life,
frugality, dedication and caring,
are at the heart of what it means to be an Environmentalist.

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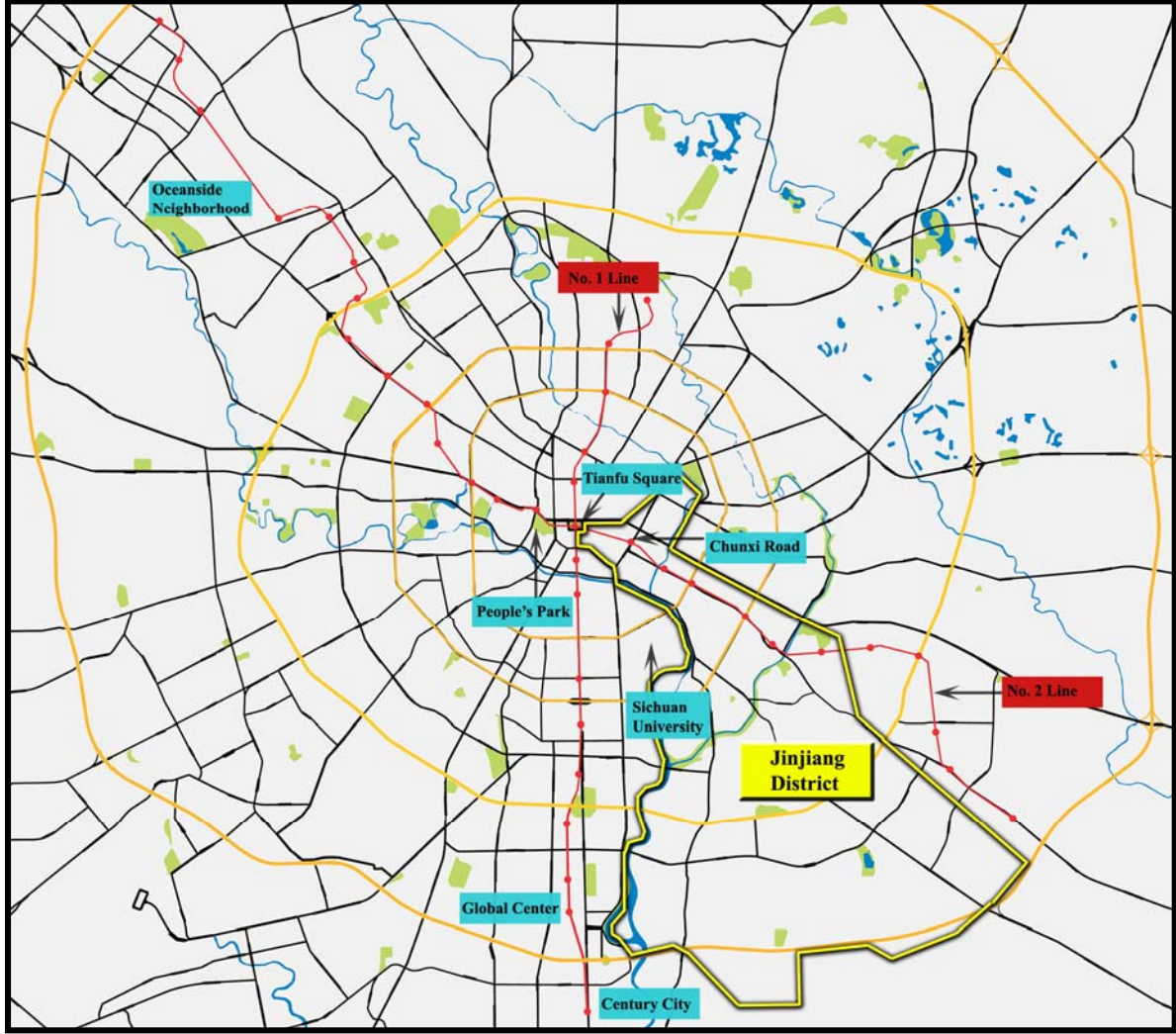
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Map of Chengdu

Chapter 1: It's not Easy Being Green in Western China

On a warm April day in 2008 underneath Chengdu's famous Nine Eye Bridge (九眼橋) a group of protestors slowly moved their way towards the center of the city. Being only a month after the Tibetan protests, when Chengdu had been teeming with military police, tensions in the city remained high. For this reason, I was fairly surprised when I first received a SMS text about a group of protestors organizing an environmental protest against an industrial chemical plant, specifically a PX plant, scheduled to be built in Pengzhou, a city about 30 km North of Chengdu. After all, with the city already on high alert would such a protest even be allowed to take place?

At the time I knew next to nothing about Pengzhou and even less about PX, the shorthand for p-Xylene or paraxylene, which is a chemical used in the production of polyethylene terephthalate, a component used to make fabrics, plastic bottles and other synthetic materials. Many are concerned about the production of PX¹ because it is quite similar in structure to benzene and other volatile organic compounds (VOCs), which are extremely dangerous to human health (Zhou et al. 2011). PX also has a high boiling point (138.35 °C) meaning that it will not evaporate during a spill, increasing the chance that it could leech into the water system if the proper environmental protocols are not followed, a concern that many Chengdu residents worry about when they discuss the plant in Pengzhou. The production of PX requires the catalytic reforming of naphtha, a petroleum-based product, which requires the consumption of large amounts of electricity (Gentry 2002; Roberts 2010) making the plant dependent on coal-fired power plants that already produce a good amount of air pollution. A more direct concern is the

¹ For a toxicity assessment of p-Xylene see <http://www.cdc.gov/niosh/idlh/95476.html>

various compounds of air pollutants produced at a PX plant including, benzene and particulate matter. Thus, there are a number of reasons that Chengdu residents were upset about the locating of a PX plant upstream of the city.

China has seen a string of PX protests, beginning first in Xiamen² about a year before the protest in Chengdu. This particular PX plant had been under design for quite some time, but it had come to the attention of many in Pengzhou and Chengdu that the government was about to begin breaking ground on the project. The environmental protestors involved decided to organize outside of the East Gate of Sichuan University and march towards the provincial government headquarters downtown. However, the day before the protest, the activists were warned to only walk along the river outside of campus and not to proceed past Nine Eye Bridge. Directly underneath the bridge and all along the road leading back towards campus was a line of black uniformed policemen as far as one could see and in their midst in the middle of the road was an armored car and a group of perhaps twenty people carrying signs. The primary message they wished to convey was that the design of the plant was a danger to the residents of Chengdu as well as Pengzhou. They were demanding that the project be re-evaluated before construction began. The riot police outnumbered the activists by more than 10-to-1 making it clear to everyone that they were not going to get near the provincial government building. That said, the public concern over this plant never truly subsided.

However, when the Wenchuan Earthquake struck the month after the Pengzhou PX protest, Chengdu residents were distracted for a number of years. The entire environmental NGO community in Sichuan suddenly shifted their focus to disaster

² For a list of these protests see <http://www.scmp.com/topics/paraxylene-px>. An analysis of the importance of the Xiamen protest can be found in Steinhardt and Wu (2016).

recovery and reconstruction. Wildgrass, a small grassroots NGO formed in Chengdu, which has undergone multiple organizational transformations (Schmitt 2012), was able to find a way to combine their concern for the environment with the reconstruction process. Just before the earthquake they had been busy constructing waterless eco-toilets in rural communities of Sichuan³. The point of the toilets was to conserve water while also giving residents a source of fertilizer in the form of nightsoil with the hope it would encourage farmers to use less chemical fertilizer during the growing season. With many homes destroyed in the rural mountainous areas of Northern Sichuan, Wildgrass reached out to funders who were willing to provide village households with an eco-toilet that was either integrated into the design of the newly reconstructed home or an independent outhouse⁴.

In January of 2009, I was introduced to Yang Zhengxian one of the founders of Wildgrass, to help them find funding from international sources to support the construction of a large number of eco-toilets in the disaster area. The project was attractive because it had long-term implications that went beyond just disaster reconstruction. At the time Yang Zhengxian believed China's most disastrous environmental problem was water pollution, which came from the chemical fertilizers, herbicides and pesticides that would run into Sichuan's many rivers during a rainstorm⁵. At the time he provided a very detailed explanation of how he viewed the potential of the eco-toilets.

³ Similar projects developed earlier in Inner Mongolia, see Magistad (2011).

⁴ An outhouse was a common feature of homes in these areas before the earthquake, often left beside a pigsty where the human feces would combine with the swine feces to centralize nightsoil collection. It was not uncommon though for newer houses to also have an indoor bathroom with running water, which would either be flushed into a field or directly into a nearby stream.

⁵ For more on the issue of water pollution in China see Yu (2011).

You see, currently the only truly unpolluted waterways in Sichuan exist at these small stream sources, many of which are in the disaster area, where farmers have only just recently started to use chemical fertilizers. The eco-toilets help protect these waterways by encouraging farmers to use nightsoil instead of chemical fertilizers and also prevents human wastes from running into the water. Moreover, the organic crops grown in this system can fetch a high price in Chengdu's produce markets. Once downstream communities recognize that this is a model that can make money, they will begin to switch their cropping practices and construct their own eco-toilets; the upstream communities can even make money by instructing them how to go about implementing an organic agricultural system. Additionally, if farmers are using less chemical fertilizers then there is no reason for those factories to continue producing such chemicals, thereby also reducing pressure on the environment. If those factories stop producing chemicals, which require a great deal of energy to make, then there is a reduced need for mining coal or damming rivers to generate electricity. Regardless, the key is to begin at the source because otherwise it won't be a clean system from the get go.

Over the years Yang Zhengxian's friends have all come to recognize his impressive skills as a salesman and an idealist who knows how to motivate agriculturalists and urban consumers alike. In fact, before meeting Yang Zhengxian I had spent more than four months trying to start an organic tea project in another part of the disaster area. Our project had attempted to collaborate with multiple organic farmers who ran businesses in the countryside surrounding Chengdu, but it was difficult to do so because they were extremely busy trying to keep up with the demands of their customers. In fact, one farmer had even marketed his organic farm as a kind of training center with a very steep tuition. Thus, in those days the market for organic food that Yang Zhengxian described was developing quickly.

We all worked together for a year to construct more than 400 eco-toilets throughout the disaster area, but a problem emerged during harvest season when the villagers wanted to start selling their new organic crops. With roads still in general disrepair after the earthquake, it was expensive and risky for a logistics company to try

to haul the crops to markets in Chengdu. Once there, they would also have to compete with the organic farms around the city that had been supplying the local market since the early 2000s. As Wildgrass came to discover, by 2010, only residents from Chengdu's upper class were willing to spend money on organic food. While the middle and lower classes perhaps perceived food security to be a problem, many assumed that organic foods were beyond their price range. Thus, in recent years the organization has spent much of their time trying to promote food safety awareness to a wider range of urban consumers, even teaching people how to grow their own food with minimal space in their apartments.

As the years have passed, the idealism most environmental groups in Sichuan held for implementing a more sustainable model of development in the disaster zone faded (Teets 2009, Shieh and Deng 2011). What still sticks in my memory from that period between 2008-2009 is the blue skies, which many of my environmentalist friends argued were the result of so many factories in Northern Sichuan being shut down for repairs. They persisted even into the winter time, sometimes for four, five days at a stretch; beautiful blue skies. Some may think my emphasizing this point to be excessive but over the past thirteen years that I have been traveling to or living in Chengdu, there is no other stretch of time where I can remember seeing so many blue-sky days⁶.

Of course, my pondering on air quality in Sichuan was not entirely isolated from the central focus in China's environmental circles that had developed around the summer of 2008 in anticipation of the opening of the Beijing Olympics in August. In the build up to the Olympics there was a great deal of pressure from the global community

⁶ For a review of atmospheric visibility in Chengdu that demonstrates just how rare high visibility days were in the city between 1973-2010 see Wang Qiyuan et al. (2013).

for China to face not just the issue of human rights, but the environmental catastrophe developing within the country⁷. Before the games began, the U.S. Embassy in Beijing began to release hourly air pollution monitoring updates to inform American expats of the level of danger the air in Beijing actually presented to those planning a longer stay. Undoubtedly, the Embassy chose to distribute that information via Twitter rather than through their own website in the hopes that it would spread to the Chinese public as well and come to have an influence on environmental politics in China. It was also at this time that the global community truly became concerned for the environmental health of the Chinese people as well. A new literature on health, environment and society became prominent in a number of academic journals (Holdaway 2010, 2013) and in the pages of popular media. With the strict traffic prohibitions and the temporary shutdown of many factories surrounding Beijing during the Olympics, the concern for air pollution became exacerbated when these policies produced periods of relatively cleaner air. Some began to wonder what the health tradeoffs were for increased economic growth and the convenience of urban living.

Within academic circles some researchers have even estimated how the policies implemented during the Olympics may have resulted in a reduction of cancer and heart disease for the city (Jia et al. 2011). Much of the focus has been on particulate matter, similar to some of the pollution produced by the Pengzhou PX factory described above. Atmospheric particulate matter, also called particulates or just PM, are tiny pieces of solid or liquid matter that are suspended in the air. Particulates come in a range of sizes, from 0.001 to 100 microns. In recent years, both academic and public discourses have

⁷ For more on the connection between the games and environmental concerns see Julie Sze's (2014) introductory chapter.

focused on the dangers of PM 2.5, which is a designation for particulates that are smaller than 2.5 microns (Seinfeld and Pandis 2006:350-353). The composition of these particulates can include non-toxic material such as fungal spores or other organic compounds. Other particulates, however, can increase instances of asthma through long-term exposure to the respiratory system or even heart disease as it has been determined that such material can enter the bloodstream through the lungs. Particularly dangerous are polycyclic aromatic hydrocarbons (PAHs), various combinations of carbon and hydrogen-based organic compounds produced through combustion that are composed of at least seven aromatic rings (Seinfeld and Pandis 2006:670-675). PAHs with an increasing number of these benzene rings have been demonstrated to have an increasing level of carcinogenicity (Boström et al. 2002).

While most of us recognize air simply as an essential, transparent, flowing substance, atmospheric and aerosol scientists see a realm of tiny bits of matter suspended in perpetual interaction producing numerous new molecules as they blend with water vapor in the clouds and are irradiated by the sun (Seinfeld and Pandis 2006). Of course, folk understandings of air exist as well; the Chinese understanding of air and air pollution has demonstrated a great deal of change just in the last 100 years alone (Svarverud 2014). Indeed, the world of air does seem to challenge one's linguistic range when approaching the topic from a sociological perspective (Choy and Zee 2015), perhaps because air is something we take for granted in our everyday lives to the point that we are simply missing the vocabulary to describe it properly. As this thesis will argue, while the multiple ways we might have for explaining human interaction with the environment at first glance does seem infinite, the way a given individual comes to

engage with something like the air settles into a specific dimension that often is a reflection of their place within society.

For instance, my experience with aerosol scientists, which I will only discuss tangentially throughout the thesis, shows that their understanding of air is firmly grounded in models and air samplers⁸. They do not share the apprehension and apparent epistemological crisis that social scientists do when confronted with scientific uncertainty. Nor, somewhat paradoxically, do they seem to be surprised that social scientists would be so concerned. For instance, Becky, a colleague who was previously working as a postdoc at the University of Washington, told me that uncertainty is inherent in the study of air pollution but what is crucial is how we communicate that information. According to Becky:

The point is that air pollution is bad in all cases, but in some instances we are unsure exactly what the pollution is doing to our bodies. Thus, it is important to choose research topics that have the potential to provide clarity about a threat to public health. By removing more of these uncertainties through such research we should have the primary goal of helping those who potentially will be exposed to air pollution gain insight into the threats they face.

In other words, these uncertainties should also help us determine which projects deserve the attention of scientists. There are now a range of scientists from ecologists to theoretical physicists who are spearheading the need to take scientific uncertainty seriously (Funtowicz and Strand 2007). Moreover, they are establishing clear and useful ways of talking about such uncertainties, rather than taking poetic theoretical stabs in the dark, which do more to help prevent scholars from perishing for lack of publishing than to provide society with practical knowledge. There is nothing particularly wrong with theoretical stabs and who is to say that it will not produce practical knowledge in the

⁸ Probably some would call them Latourian artefacts (Latour 1999)

future. However, the reason frameworks for analyzing uncertainty (Ravetz and Funtowicz 1990) exist is specifically to stimulate practical discussions about what uncertainty means to different social actors and what we could do about it to make their lives better, making such frameworks inherently ideological (Strand 2002), which is not necessarily a bad thing as I will discuss throughout this thesis.

In 2011, I was given the opportunity to move to Hong Kong to begin my Ph.D. studies and around the same time air pollution became by far the most pressing environmental issue throughout China. During the summer of 2012 the Ministry of Environmental Protection (MEP) even demanded that the US Embassy stop publicizing their data via Twitter, stating:

The data released to the public by the American Embassy is only related to the air quality in the vicinity of the Embassy. Moreover, it is not a professional monitoring system, its “lack of rigor and standards” is certainly a fact. To conduct air quality monitoring and release relevant data is definitely the public authority of the Chinese government. Standing on valid legal principles, the Ministry of Environmental Protection demands that the American Embassy stop releasing this data (Global Times 2012)⁹.

Naturally, the American response was to inform the MEP that it had no plans to stop reporting the data, arguing that they were providing “information that Americans get in U.S. cities every day” (Ramzy 2012). The worst was yet to come, when on Jan. 12th, 2013 the Embassy measured a record-breaking AQI of 755, which was far higher than the 500 limit proposed by the EPA (Wong 2013)¹⁰. This event was later named Airpocalypse and created a great deal of discussion in the cybersphere both

⁹ Unless otherwise noted, all textual translations are by the author.

¹⁰ Most atmospheric and aerosol scientists would say that AQI is a fairly worthless indicator of air quality. However, on Jan. 12th for a ten hour period the embassy PM 2.5 samplers only dropped below 800 ppm once. All Embassy and Consulate data collected in China has been released to the public, for more information visit <http://www.stateair.net/mobile/mission/1/>

within and beyond China¹¹. One of the most widely shared posts within China came from a blog written by Wu Qiang on Jan. 29th. Wu Qiang likened Airpocalypse to Rachel Carlson's publication of *Silent Spring* in 1962 that set off the environmental movement in the U.S. or the importance of the Club of Rome's publication of *Limits to Growth* in 1972 for Europe (Wu 2013). In truth, no such keystone publication has emerged from China¹², but the symbolism Airpocalypse has come to represent for Chinese environmentalists might bear a family resemblance to the burning of the Cuyahoga River in 1969 in the U.S.

During the winter of 2013, I was preparing for my Qualifying Exams and return to rural Sichuan to begin fieldwork. My original project was to study the changes in ritual and agricultural practices among three ethnic groups of Western Sichuan. Thus, air pollution was at first something that was shuffled away into my "Future things to Study" folder. In July 2013, when I first moved back to Chengdu to deal with visas and research permissions to work in minority areas, I was fortunate to stay with a close friend, Qi Daina, from my college years when I was an exchange student at Sichuan University from 2003-2005. Daina had finished a doctorate in the U.S. focused on air pollution and had returned to Chengdu to work in a government agency responsible for evaluating environmental impact assessments throughout Sichuan. In the evenings I would listen to Daina talk about the essays that the Party was forcing her entire department to write with topics about the Mass Line (群眾路線), the China Dream (中國夢) and Ecological Civilization (生態文明). It appeared that little by little an ideological shift was taking

¹¹ See Alex Wang's (2013) explanation of why the event occurred despite recent environmental measures taken by the government

¹² However, in Chapter 5 I discuss Chai Jing's recent documentary on air pollution, *Under the Dome*, which might be a relevant example. <https://www.youtube.com/watch?v=2WlyXjjvdZY>

place within the Chinese state not just on paper but also in practice. Moreover, such changes were not only impacting the party but had implications for and were perhaps a reflection of ideological changes happening throughout Chinese society.

At the political level, the starkest sign of this shift came on July 22nd 2013, when the phrase “Ecological Civilization” that Daina had mentioned to me, found its way to the front page of the People’s Daily (人民日報). An op-ed penned by Ren Zhongping¹³, entitled “The Chinese Awakening of an Ecological Civilization”, sent a clear signal to party members of the important place this new construct was meant to hold within the larger ideological cannon. After showing the article to Li Huicheng, a close college classmate who had become an editor for one of Sichuan’s largest newspapers, he said: “Yes, that is an important shift. For environmentalists in China this is probably one of the most important announcements the Party has ever made.” Notably the essay pulled no punches regarding the fact that lax environmental policies and a political mindset driven by GDP growth contributed to China’s environmental crisis leading to public unrest, even going so far as to highlight the normally sensitive topic of PX protests that had unfolded across the country. According to Ren Zhongping (2013), “In stark contrast with the daily increasing formation of an awareness of the need for ecological environmental protection among the Masses is the backward development concept of a few leading cadres.” The underlying argument within the editorial was that Ecological Civilization, as an ideological framework for guiding the future direction of Chinese politics, has emerged in response to the rise in environmental consciousness among ordinary citizens. While my own experience in Chengdu over the previous decade

¹³ This is a pen name of an editorial group responsible for promoting ideological developments within the Politburo. For more information on these groups see Tsai and Kao (2013)

seemed to support Ren Zhongping's observation that an environmental consciousness was emerging among the public in China, my initial question was in what way was the rise of an environmental consciousness among my friends in Chengdu related to the Party's claim to be constructing an Ecological Civilization? The examples of the PX protest and work with Wildgrass led me to the initial reaction, as I imagine would be true for most academics, that of course what Ren Zhongping was describing does not precisely represent what is happening at the local level. Some might even say that it is not surprising such an article was published only a few months after the Airpocalypse episode.

While some academic literature shows that the Chinese state covered up the air pollution catastrophe that has enveloped nearly the entire nation (Andrews 2008, Ghanem and Zhang 2014), there has not been a clear attempt to explain why government officials would do that in the first place. At first glance, air pollution does appear to have a distinctly different physical characteristic than say the problems associated with the production of industrial chemicals or foodstuffs grown with green revolution technologies, namely that air pollution does not stay put. Regardless of one's social class or social network (i.e. *guanxi*), there are few practical solutions that allow one to "out run" air pollution. So, assuming that many are aware that air pollution impacts all citizens fairly equally, it would seem the government "cover-up" would be not only heartless but foolish since they are allowing the poisoning of themselves and their family members. Perhaps many scholars simply assume that greed and corruption have come to dominate the Chinese political system and that the elite can use their power and wealth to purchase high tech air purifiers to protect themselves. A more

pressing question is why everyday residents of a city like Chengdu would allow the status quo to continue? Perhaps they are simply powerless in the face of oppressive state control, which seems to be the case with the PX protest.

Such oppressiveness sounds a bit too totalizing and does not fit well with the bulk of my experiences over the past decade. The state after all is still made up of individuals who are also a part of society and establishing a dichotomy between the two is not very productive when trying to understand China (Perry 1994). Many individuals and groups within various government agencies are hard at work using their knowledge about air pollution to positively influence the policies that impact environmental health in society. However, it is important to uncover whether the authoritarian structures of Chinese state power influences the way individuals working within the state come to make decisions that shift responsibility for China's many environmental problems away from the state and on to individual Chinese citizens. When Ren Zhongping's article first emerged, I was not clear whether it was an attempt to shift responsibility away from the state or an admission that it was time to shoulder some of that responsibility. Regardless, the article is significant as a recognition by the Party of a rising Chinese environmental consciousness; which of course begs the question: what exactly is an environmental consciousness? This question would eventually come to influence much of my interest in environmental issues in China but at the time my focus was still on research in rural Sichuan.

In October 2013, I finally received my research permissions left for the mountains of Sichuan. Suddenly, in mid-December in the midst of participating in a three day non-stop Nyingma Buddhist festival, I received a call from my host institution

at Sichuan University. I was to return to Chengdu the next day as my research permissions had been revoked by the Sichuan Provincial Foreign Affairs Office. I was later to find out that in a bureaucratic flexing of muscles during a time of political uncertainty¹⁴ my case was used as a means of sending a message to Sichuan University: do not allow projects of this nature to apply for research permission approval as they will be rejected. Another friend in the state security apparatus later helped me analyze my research permission application and came up with three key sensitive words: ethnic minorities, post-1949 history, and ecology. The first two were expected and I had been quite careful in the wording of my application, much as I had during previous projects. It was the last keyword that took me entirely by surprise: ecology.

After two weeks of spinning my wheels trying to salvage my original project, I came to the realization that if I was going to stay in Sichuan, I would have to conduct a project based in Chengdu. Initially, it seemed that something related to air pollution would be the timeliest topic. I returned to Hong Kong briefly, where I met an American political science doctoral candidate, Deborah Seligsohn, who had spent the previous few years studying the politics of NO_x in China. When I mentioned my interest in developing an ethnography about air pollution she posited one of the most salient and simple points I have yet to hear on the topic: “What would I want to know about air pollution from the perspective of an anthropologist? I really don’t know.” She was being forthright about it, at the time she honestly could not think of an answer. After reading through a bit of the literature, I returned to Chengdu in late January 2014, confused

¹⁴ Sichuan was one of the first Provinces hit particularly hard by the anti-corruption movement due to the fact that Zhou Yongkang, one of the primary targets of the anti-corruption campaign, had established himself there before gaining power in the Politburo.

about whether an anthropological study of air pollution should be about Tim Choy's eco-poetics (2011) or Jancie Harper's environmental justice (2004).

I decided what was more important was just to start talking to people, as many as possible, which was easy enough as Spring Festival was approaching and generally people had little to do other than sit around and chat. I had just moved into my good friend Zhou Lei's old apartment, which was directly across the street from the People's Park in the heart of Chengdu. After a walk through the park one day I realized that the Memorial to the Revolution of 1911 would make a perfect background for a daily air pollution photo. With the Chengdu EPA and U.S. Consulate air pollution samplers already recording PM 2.5 levels above 300 ppm, it was a hot topic in the lead up to the Spring Festival celebrations. My friends in the environmental bureaucratic system were even considering banning the sale of fireworks throughout the city.

On the eve before Spring Festival (Jan. 31st 2014), Li Jie invited me out to her newly opened hotpot restaurant. Li Jie's parents had left her behind in Chengdu to go to Thailand for the week, and Zhou Lei, our mutual friend, decided at the last minute it would be awkward for both of us to attend to his family dinner. Over dinner I mentioned how surprised I was that the restaurant was open over the holiday and asked if she was worried about the economic slowdown everyone was starting to whisper about. She said that it really had not affected their business much; they actually intended to expand their chain and invest in a resort in Hainan. While the anti-corruption campaign may have hurt high-end establishments, it was somewhat of a boon for restaurants in her price range. She asked if the problem with my dissertation project had been resolved and I mentioned that I was going to stay in Chengdu to conduct a study on air pollution, to

which she promptly replied: “Is the air pollution really that bad?” It is important to realize that Li Jie is a kind of social media master. She became famous as an online food critic and 26 year-old business owner because she understood how to engage with an online discourse and draw customers to the places she feels are worthy of patronage, including her own. So the point is that she was not unaware that people were talking about air pollution, but rather as she said “I just have not really noticed that it was all that bad. I see people posting comments up on WeChat all the time, but I cannot really tell. The air seems to be the same as it always has been.”

Following dinner, we decided to drive around and find a cake as it was also Zhou Lei’s birthday and we planned to meet him at my apartment to celebrate. After we circled a couple of blocks, we were riding underneath Chengdu’s 2nd Ring Road and driving towards the Japanese shopping center Ito Yokado hoping it was still open. Suddenly Li Jie gasped, “Where is it? I can’t see it!” And she was right. With PM 2.5 levels quickly approaching 500 ppm, the smog was so thick that even just 20 meters away we could not see the gigantic department store. Granted the lights were off, which meant Zhou Lei was going to have a cakeless birthday party, but we literally could not see the building. “I guess it really is that bad!” she exclaimed as we drove away in search of a fireworks display, with only the barest hint of irony.

While a simple vignette, this exchange helped me realize how important specifics are in the intersection between environmental ideology, perception and action that will come to form the core concerns of this thesis. Despite being well aware of the air pollution discourse, it was only during our dinner conversation and the “disappearance” of the department store that Li Jie’s perception of air pollution became

grounded in a real life experience. On March 6th, 2014, Li Keqiang issued his “Declaration of War against Pollution” during the National Party Congress (NPC) Meetings. With persistent polluted air in Chengdu during this period, it is no wonder that the ideology underlying the air pollution discourse began to resonate with Li Jie to the point that she returned from a shopping trip to Japan with a new air purifier stuffed in her luggage. She described it as “a way of arming myself in this battle with air pollution” even though only weeks before she had given little thought to the matter. I started to realize that an ethnography of air pollution would require the narration of extreme events, such as an Airpocalypse, which would make for great stories to tell ourselves about ourselves. The problem I began to see is that it is difficult to learn anything about society and humanity from such stories other than that people generally agree air pollution is awful.

In my mind it seemed important to heed Yang Zhengxian’s advice, in a metaphorical sense: the key is to begin at the source. In other words, an important starting place would be to examine environmental consciousness in Chengdu. This would allow for a better explanation of the social context that influences the way residents perceive rising levels of air pollution, show a concern for water and air pollution created by PX plants and grow organic agriculture in their home. Li Jie helped me realize an important point, namely that, environmental consciousness is an integration of the way different social groups think about, perceive and act upon their environment. Moreover, although there are links between them, there are differences between environmental ideology, perception and action that are in need of further unpacking in the Chinese context. In China environmental ideology is complicated by a

strong political focus on economic development, which has been one of the most consistent features of the CCPs ideological canon since the formation of the PRC in 1949 (Pairault 1988). For many I talked to at the time it seemed unclear whether or not a “Declaration of War against Pollution” or the “Construction of an Ecological Civilization” would be seen as challenges to the Party’s obsession with GDP growth. In the past, I think most people would have ignored these new ideas as typical Party propaganda, but as I said this period of time was considered to be one of general uncertainty in Chengdu.

It was because of the anti-corruption drive and the “new normal” mode of economic growth (meaning 7% per annum or less) that most of my friends during this period of time led me to believe that there was an atmosphere of general discontent in China. Some outside of China have expressed concern that the Xi Administration, which came to power in late 2012 and has put many political changes into motion, will be unable to see that these changes are put into practice without causing increasing levels of dissatisfaction. The primary way the PRC tries to distract the populace is to unite them through an imagined but shared sense of nationalist pride and there is no shortage of that at present. However, as MacFarquhar (2015) has somewhat off-handedly suggested, another possible path would be to unite the Masses in a kind of environmental movement led by the state itself, such as by encouraging the social embedding of the Ecological Civilization ideology. This is not an unheard of course of action for a state to take. Belize’s focus on eco-tourism¹⁵ or Costa Rica striving to become the first nation to utilize 100% renewable energy (Welch 2015) are relevant examples. In many cases, though, these environmental movements are difficult to

¹⁵ But also see Duffy (2002) for some of the pitfalls of eco-tourism that have emerged in Belize.

disentangle from nationalism, as can be seen in Bhutan's isolationism connected to their shift to a measure of Gross Domestic Happiness (Nyaupane and Timothy 2010, Pellegrini and Tasciotti 2014) or, in more extreme terms, the connection between Nazi Fascism and environmentalism¹⁶. More importantly for this thesis is the possibility that an environmental movement might only reinforce social inequality, which is precisely what some observers have documented to be the result of the Dominican Republic's commitment to forest preservation (Carrier and Macleod 2005, Rocheleau and Ross 1995). Present day China is an extremely diverse nation and it is not entirely clear which segments of the population would find solace in a state-led Ecological Civilization ideology or how it would impact the way people perceive or act upon their environment. It is this train of thought that leads me to my main research questions in this thesis:

1. What is the Ecological Civilization ideology and with which social groups does it resonate?
2. How do different social groups in China perceive and interact with their environment?
3. How are perceptions of and actions towards the environment related to interpretations of the Ecological Civilization ideology by different social groups?

Through these questions my overall goal is to understand how a rising environmental consciousness fits within the many significant changes that are taking place in Chinese society. In particular the thesis focuses on the way the tension between environmental protection and economic development are related to and come to

¹⁶ Which Staudenmaier (2011) explains has its roots in the *völkisch* movement of the late 19th century that preached a return to nature while claiming that urban industrialization was a Jewish conspiracy.

influence social inequality and rapid urbanization in Chengdu. In the chapters that follow I unpack the way that the state and local residents of Chengdu interpret the Ecological Civilization ideology and how that is related to the way residents perceive and act towards the environment. The thesis argues that the state's uni-dimensional interpretation of Ecological Civilization is premised on the need for environmental protection as long as it does not interfere with economic development, because the latter has been the source of legitimacy for the CCP since its inception. This contrasts with the multi-dimensional interpretation of Ecological Civilization seen among Chengdu residents and the diverse ways in which their perception of and action towards the environment engages with the ideology. Environmental consciousness in Chengdu is composed of three groups of people: those who fall roughly in line with the expectations of the state, those who seem to be more "environmentally-friendly" and those who are unsure about what needs to be done. On one hand, the state is able to use the apathy of the last group to its advantage. On the other hand, it is likely that the inability of the Chinese state to allow for greater variation in their formulation of the official interpretation of Ecological Civilization will drive more residents towards a more antagonistic stance, thereby also creating a situation that could lead to de-legitimizing the power of the CCP. Thus, the state must struggle with the possibility of placing greater emphasis on environmental protection that could de-stabilize the Party from within or continue with the status quo that is giving rise to greater instability in society-at-large.

While these macroscopic issues are important for our understanding of China's current situation, an anthropological approach to these questions means focusing on how

environmental ideology, perception and action influences the everyday lives of my informants. Clarifying the nature of a Chinese environmental consciousness has relevance for those interested in promoting environmental activism at the local level. At times in the thesis I provide suggestions for how environmental activism could engage with different social groups based on my experience and collaboration with activists in Chengdu. Moreover, furthering our understanding of Chinese environmental consciousness has implications that go beyond Chinese political discourse to include general insights in urbanization, consumerism and globalization. As Weller (2006) has argued, Chinese environmentalism is not necessarily the result of globalization. Thus, there is no reason to expect a rising environmental consciousness in China will have the same effects as in other parts of the world. In fact, many are now documenting how China is influencing the way other nations interact with their environment through Chinese development projects in Africa and South America (Liu and Raven 2010). To understand how Chinese citizens are interacting with the non-human world beyond its borders it would make sense to first understand more clearly how it does so domestically.

A number of pioneering studies have attempted to do just that, although with a particular focus on rural China. For instance, Tilt (2010) has shown how different social groups in a rural township perceive and act upon their environment in the face of rapid industrialization, while Lora-Wainwright (2013) has examined how environmentalism in a rural village influences the way people react to perceived environmental risk. As far as I know, anthropologists of China have yet to examine environmental consciousness in an urban context. Chengdu is a rapidly growing city in China's interior. Being less influenced by politics than Beijing and less cosmopolitan than the megacities on the east

coast, Chengdu is more representative of a typical Chinese city. Of course, Chengdu also has its unique endearing qualities; it is after all “a city that once you visit, you never want to leave¹⁷“. It is through Chengdu’s urban history that a local environmental consciousness sediments into the lives of my informants, which will be discussed at length in the following chapters.

In Chapter 2, I intend to unpack the idea of environmental consciousness by examining the three components referred to above: ideology, perception and action. I contextualize the notion of ideology by examining historical shifts in environmental and developmental ideology that have changed along with the structure of power within Chinese society since 1949. I also engage with a brief history of Chengdu to contextualize the urban and class-based ideologies that have a strong influence on the way residents of the city engage with their environment. I conclude the chapter by outlining the three main methodological steps taken to collect and analyze the data used in the core chapters of the thesis. This will include providing an ethnographic account of participant observation during my time in Chengdu, statistical analysis of a social survey conducted among 245 households and a discourse analysis framework aimed at uncovering official and local interpretations of Ecological Civilization.

Chapter 3 will highlight the results of the first discourse analysis of Ecological Civilization by analyzing the theoretical foundations and official documents related to the ideology. It is here that I will answer my first research question: what is an Ecological Civilization. I also demonstrate that while Ecological Civilization touches on many important environmental issues in China, economic development is still the single

¹⁷ 一座來了就不想走的城市 This is actually the city motto which is often said very tongue in cheek, but there is no doubt that there is an aspect of livability to Chengdu which makes it appealing to many.

dimension that integrates the ideology into PRC politics that will structure the future of Chinese environmental governance. Chapter 4 will then combine unstructured interviews with Chengdu local government officials, NGOs, academics and journalists as well as an analysis of documents created by these four groups that are related to environmental issues in China. In Chapter 5, I begin to describe the way people perceive and act upon their environment through four examples of “graying” or polluting the city. Here I begin to draw from some of the data from the social surveys but primarily provide ethnographic context regarding the driving habits, consumerism, food preparation practices, and rampant urbanization currently taking place in Chengdu today.

In Chapter 6, I show how “greening” is also taking place through public transportation, recycling, urban agriculture, and the use of urban green spaces. The particulars of the “Graying and Greening of Chengdu” help provide the context needed to better understand the statistical patterns I examine from the household social surveys discussed in Chapter 7. In that chapter, I begin to establish a broader interpretation of environmental consciousness in Chengdu by looking at the degree to which different social groups perceive the environment to have an influence on their life. More specifically, I examine the way these social groups separate their garbage, conserve water and cope with air pollution. In Chapter 8, I begin by organizing the way respondents define Ecological Civilization into themes. I then analyze the relationship between certain interpretations of Ecological Civilization and the way respondents perceive the environment as having an influence on their life. I then unpack these themes through a discourse analysis that examines four underlying dimensions in the way Chengdu residents define Ecological Civilization. I then review some of the more

insightful definitions respondents provided to explain how the multiple dimensions of a local interpretation of Ecological Civilization do or do not resonate with the uni-dimensional nature of the official interpretation of Ecological Civilization and the implications this has for how different social groups in Chengdu perceive and act upon their environment. I conclude the Chapter by summarizing the way ideology, perception and action comes to form an environmental consciousness in Chengdu. In Chapter 9, I conclude the thesis on an activist note, by imagining how the tension between the uni-dimensional nature of state ideology and the multi-dimensional nature of society could provide an opening for stimulating an environmental consciousness that also strives to reduce social inequality.

Chapter 2: A Rising Environmental Consciousness through the Sedimentation of Power in Urban Chengdu

If the doors of perception were cleansed everything would appear to man as it is, infinite.

—William Blake (my emphasis)

Following the publication of *The Perception of the Environment* (Ingold 2000), Environmental Anthropology has made perception and ways-of-being in the world, or dwelling, central to many of the subfield's most popular themes (Descola 2013, Viveiros de Castro 2013). Empirically such themes require a strict grounding within ethnography, because according to Ingold (2014), the nature of participant observation, the hallmark of the ethnographic method, makes it the ideal method for studying perception. Despite being a very active interdisciplinarian¹⁸, by placing ethnography within such bounds Ingold gives anthropology a privileged position in the study of perception. This is quite necessary in order for Ingold to achieve precisely what William Blake once imagined must be true: that through a form of “pure” perception man can understand that the world is infinite. In this way it is possible to understand how the infinitely interconnected relationships of humans with the non-human world give way to dwelling in the world, thereby making it “possible to dissolve the orthodox dichotomies between evolution and history, and between biology and culture” (Ingold 2000: 187). This focus on dissolving dichotomies is also quite evident within the supposed “ontological turn” in Anthropology (Kohn 2015) and has led to a similar conclusion of infinite ways of being-in-the-world, a form of perspectivism that Viveiros de Castro has argued must be taken

¹⁸ See for instance his recent rich engagement with design studies (Ingold 2015)

seriously (2014). While all of this has pushed the field to explore relatively (pun intended) new areas of study, I believe it is in the best interest of Anthropology to recognize the importance of the “If” at the beginning of Blake’s famous phrase.

There is a skeptical essence to Blake’s phrase, perhaps because he believes that achieving pure perception is not even possible. Probably no other thinker of the early 19th century was as acutely aware that language is partly responsible for clouding our doors of perception. In that sense, it is striking that Ingold’s definition of anthropology incorporates only three fields, leaving out linguistic anthropology (2000:189). Graeber (2015) has also recently pointed out that the Ontologists have not properly engaged with the realm of Semiotics. Thus, the primary theoretical aim of this thesis is to pick up where Ingold left off, by taking seriously the ideological system that intersects the relationship between perception and action. In this Chapter I begin by introducing the ideas of perception, action and ideology as well as how I see them integrating together¹⁹. Drawing from Braudel (1982), I recognize that it is only through a historical materialist account that we can clearly understand how ideology has come to structure our lives today. Thus, the second part of this chapter examines the way energy has been harvested, processed, transported and consumed in China and how that has given rise to different forms of social power that have sedimented into the environmental ideology of Ecological Civilization discussed in Chapter 1. Within this brief history of energy and society in China, an important social boundary emerges between the rural and the urban, which is why I also provide a brief introduction to Chengdu’s urbanization in this chapter. Finally, I conclude the chapter by summarizing the methodology used to study

¹⁹ I want to stress to the reader that there is no formal reason why I discuss these three topics in this order. I see all three as integral elements to a study of environmental consciousness. I discuss ideology last because directly after that I discuss four different ideologies that are central to the analysis of the thesis.

the environmental perception, action and ideology that forms environmental consciousness in Chengdu.

Perception

Putting aside Boas's original dissertation work on perceiving the color of water (Moore 2009:35), anthropology does not have a solid foundation in the study of perception and even Ingold's (2000) pioneering study borrowed heavily from Gibson's (1986) ecological psychology. Gibson argues that human visual perception is dependent upon movement throughout our environment, or a "path of observation" (1986:195-197). These "paths" also imply a temporal element since we take in more than just single moments but also the complex changes that are constantly occurring within the environment through which we move. This is precisely why living organisms can be quite sensitive to a range of changes within their environment allowing us to perceive more than one aspect of the environment at a time. Our perception is rather a holistic collection of sensory information and we often make comparisons of changes in the environment from one aspect to another²⁰. Additionally, Gibson argues that these different aspects of the environment provide organisms with "affordances" that are unique to their own experience in the world (i.e. the oceans provide humans and fish the affordance of swimming, but also provide fish the affordance of breathing). In other words affordances are what the environment "provides or furnishes, either for good or ill"²¹ (Gibson 1986: 127). It is through affordances that we are able to perceive change

²⁰ Therefore, perception is centered in "the passage from place to place, and in histories of movement and changing horizons along the way" (Ingold 2000:227).

²¹ As Gibson notes, the idea that what the environment affords us is beneficial or injurious is never easy to determine, but "if their meanings are pinned down to biological and behavioral facts the danger of confusion can be minimized" (1986: 137). While Douglas and Wildavsky (1982) did not engage with perception of the environment from this phenomenological perspective, they would later argue that how a certain aspect of the environment is perceived as good or bad is culturally mediated.

in the environment. For instance, air provides humans with the affordance of breathing oxygen and we perceive a change in this affordance if the air in a given space is contaminated with pollutants.

The comparative nature of perception does not have to be limited to the phenomenological experience of moving through the environment. Today, we are constantly receiving images and information about the environment that extends far beyond the space through which we typically move in our everyday life. In other words, the comparative nature of our perception of the environment is a combination of our experience of the affordances the environment around us provides and a collection of semiotic messages that helps us evaluate those affordances²². Many previous studies of environmental perception have attempted to estimate these processes of evaluation. Early attempts to capture this process would often isolate one aspect of change within the environment, such as an increase in levels of air pollution. Crowe found that the tangible visual stimulus that individuals perceived as environmental change often led to their covering up of certain concerns, such as how air pollution would impact their health (1968).

For this reason, beginning in the 1970s, social science began to place a greater focus on the perception of environmental risk. For instance, Douglas and Wildavsky (1982) showed that the rise of sectarian opposition in U.S. politics led to greater social concern over environmental risk in the post-war era. In another tradition, Ulrich Beck argued that concern over risk is a hallmark feature of modernity ushering in an age of reflexivity for all except scientists (1992). Beck contrasts class and risk positions, saying

²² Duranti (2015) in fact likens language to Gibbons affordances, saying that different symbols “afford” us different meanings.

that perception of economic risk is obvious since “losing one’s job...is evident to everyone affected” while perception of environmental risk is opaque because “people's endangerment are fundamentally dependent on external knowledge” (1992: 53). While the idea that environmental risk can only be known through external knowledge may be important for understanding certain changes within European society, in this thesis I am careful not to take this for granted because the idea of risk “builds upon underlying social models of agency, causality, and responsibility” (Jasanoff 1999:140). Thus, throughout the thesis I am interested in exploring Chinese social models found within the ideology of the state and the everyday lives of Chengdu residents that interact with their perception of the environment.

Furthermore it is not entirely clear that risk is the appropriate way to interpret the way my informants perceive the influence of the environment on their lives. After all there are other aspects of the environment that residents of Chengdu may perceive as important to their life that do not cause them harm, such as greenery in their housing estate courtyard making them feel at home. Joshua Reno (2011) argues that in order to move beyond social studies of risk, we need to provide better explanations about the evidence related to environmental change that is then used to support environmental action. In this study, I focus primarily on how my informants evaluate different aspects of the environment that they perceive to have an influence on their life. It is at the nexus of the evaluative nature of perception structured by social discourse that I consider how environmental actions come to take place.

Action

Beginning in the late 1970s anthropology began to focus more on what Ortner has described as practice (2006), however, following Goodwin (2000), I prefer to use the term action²³. Giddens describes action as “a stream of actual or contemplated causal interventions of corporeal beings in the ongoing process of events-in-the-world” (1979:55). Giddens also places an undue emphasis on intentionality, since to him it is the intention of actions taken by individuals that is central to the formation of meaning. As Wittgenstein explained, intentions are dependent on situational context (1953). Thus, it is better to think of meaning as being dependent on the actions of individuals that occur across an “intentional continuum” because “it allows for ideology to play a role at the metadiscursive level²⁴” (Duranti 2015:39). This thesis looks precisely at how environmental ideology influences the way individuals interact with their environment but provides room for an understanding that in certain cases the intentionality of that actor may not be what others around the actor find to be meaningful. Since I am also interested in how such actions come to reproduce environmental ideologies, I also pay attention to the way these meaningful actions sediment into discursive structures over time. Of course, it is not always possible to completely capture the flow of action since these structures may stretch further back in time than I can accurately discover.

While historical contextualization is crucial for understanding the link between action and ideology, this thesis is more concerned with the way power relations between

²³ Using action instead of practice also connects my project more closely to the concerns within linguistic anthropology regarding the intersubjective nature of speech acts that Duranti argues forms the core of social interaction (2015).

²⁴ By following Duranti’s line of thought here, we can then “...distinguish between forms of social organization that recognize the “intentions” of some social actors - in particular social roles within particular social occasions - but not of others” (2015:39).

groups influence social interaction related to environmental decision making. William's interpretation of hegemonic power as structuring social interaction while simultaneously never capable of completely controlling every individual's actions (1977) explains why creativity can occur. Social creativity is often precisely a form of resistance to the domination of one group over another, but such creativity can result in "new ideals of equality, new forms of hierarchy or, often, a complicated mix of both"(Graeber 2013: 4). Thus, new actions within society are always at risk of being appropriated by ideological discourses, such as those created by the state.

This is equally true of the global environmental movement. Early analyses of environmentalism focused primarily on its split into the conservative and preservationist dichotomy (Milton 1996: 74-78). This ideological dichotomy was reified into social practice, with conservationists eventually becoming appropriated into the sustainable development discourse (Goodland 1995) and preservationists becoming radicalized into what some now call Deep Ecology (Taylor 2010). Norton (1991), has argued that empirical evidence showed multiple interpretations of environmentalism influencing many different ways of interacting with the non-human world. As environmentalism is integrated into different socio-political contexts, we can see that local residents' use of environmental ideology to explain their interaction with the environment exhibits continuities and discontinuities with the Euro-American context from which environmentalism originated (Gupta 1998). Moreover, we know that different cultures, including China, have had their own way of understanding and managing the environment, most of which are far older than Euro-American environmentalism (Anderson 1996). Therefore, in the thesis I pay attention to the ways that people

consume and conserve natural resources as well as mitigate environmental problems, but also the way the state becomes involved as a manager of such actions. I agree with Larson (2011) that while environmental anthropology has recently placed more emphasis on radical ontological differences around the world thereby giving little attention to environmental policy, there is only so much that can be gained from such research. Paying attention to the phenomenological aspects of how my informants perceive their environment so as to better understand their actions is important, but it is equally important to take seriously the way environmental policy comes to influence environmental perception and action.

The relationship between perception and action is quite complex because we can discuss the connection at different scales. For instance, the relationship can be considered dynamically coupled through mechanical interaction with the environment and information processed through the senses (optic, acoustic, haptic and olfactory), but also emergent in the sense that an individual can learn from their perception of and interaction with the environment over time in a way that makes their behavior appear self-organized (Warren 2006). Warren's emphasis on emergent behavior coupled with sensory perception moves us away from assumptions that all behavior is premised solely on either reactions in the nervous system, internal representations or instinctual reactions to changes in the environment. Unfortunately, much of this research is still premised on the micro-level of human-environment interaction, such as raising one's arm into the air. As with Giddens (1979), research at this micro-level places an undue emphasis on the concern for intentionality. Instead we have to pay attention to how higher orders of complexity are found within the perception-action relationship, most of which is

accomplished through social learning throughout one's life (Ingold 2000). Higher orders of adaptive learning and emergent behavior also require a set of shared symbols or signs that can be recalled by individuals (Bateson 1973, Rappaport 1999). After all, the tweaking of the perception-action relationship cannot always happen at the precise moment when the perceptual-motor mappings occur. In the context of this dissertation, I argue that it is ideology that provides perception and action the set of symbols needed in order for an individual or social groups to organize their perception of and actions towards the environment.

Ideology

While discourse does draw from language, which is thought to be infinite in context, by borrowing an idea from Appadurai (2013) we will see that ideology exists not to serve language and discourse but to limit its infinitude²⁵. This thesis builds upon the conceptualization of ideology as put forth by Geertz, Giddens and Zizek. Geertz first defined ideology as a form of symbolic action based on the “construction and manipulation of symbol systems, which are employed as models of other systems, physical, organic, social, psychological, and so forth” (1973: 214). Geertz, however, was intent on establishing a dichotomy between science and ideology. Giddens argued that the “emotive” nature of the symbolic system that composes an ideology influences the actions of individuals at a level that goes beyond science (1979: 192-193). His point is not that there are no differences between science and other ways of understanding the world, but rather that ideology is an important element to take into consideration when

²⁵ The original quote by Appadurai was “design exists not to serve fashion, but to limit its infinitude” (2013:262). In that particular chapter he actually argues that fashion is quite similar to language in that it technically draws from “an indefinite multiplicity of possible contexts”. I think he surprisingly misses the relationship between ideology and design, which was already well established by Sahlins (1976).

explaining the different understandings that exist between cultures or even within cultures. The idea of culture is more implicit in Giddens' writings, but in this thesis I find culture to emerge from the constantly changing behaviors, knowledge and materials of a given group of people. I agree with Geertz that ideology draws its symbolic system from these three aspects of culture, but also see Giddens' point that the way ideology uses these symbols to limit social discourse comes to influence our politics as much as our science, including our understanding of the environment, in culturally unique ways. However, the sharing of ideological symbols can, of course, occur between cultures and it is also possible that an ideology will not be interpreted exactly the same way by all individuals within a given culture. Ideology often draws from cultural symbols in ambiguous ways, so that while it may be capable of limiting social discourse, it cannot prevent the possibility of creative interpretations of those symbols by individuals. As we will see later on in the thesis, this helps explain why certain aspects of Ecological Civilization will appear to be "Chinese" but also how the ideology could be interpreted in different ways by individuals with different social backgrounds.

Giddens also argued that there are front and back regions of social interaction, where some symbolic elements of ideology are made public and others kept hidden (1979:190-191). He argues that there are two methodological approaches to uncovering these regions, the first being analysis of strategic action and the second institutional analysis. Strategic action is best analyzed through the discussions and decisions made by informants making it closely connected to the action element of environment consciousness. Institutional analysis is more complicated because it includes the way the symbolic order influences lived experience, or perception of the environment, as well as

the way that the structural asymmetry of institutional resources influences the behavior of different social groups.

Zizek (1989) has looked more closely at the mechanics of this supposedly hidden region of symbolic action²⁶. He argues that social actors can use ideology to manipulate the way individuals interpret changes in the world that are able to reproduce and strengthen the actor's position in society through everyday interaction with other people. Yet he also notes that while those being manipulated may actually be aware of this manipulation, they continue to behave as if they did not know they are being manipulated, or what he calls the "ideological fantasy" (ibid:34). However, this thesis also follows Zizek's interpretation that social manipulation is not an inherent feature of ideology²⁷. The limiting of social discourse by ideological symbols does not necessarily require the intention of a social actor²⁸, thus it is not so easy to say that people indulge in "ideological fantasy" due to the intentional manipulation of an individual or social group. To understand why people indulge in such "ideological fantasies" it is also important to engage with Wolf's argument (1999:8) that we must ground our theoretical framework in communicative acts of continuity and discontinuity that are discovered and analyzed via ethnographic inquiry within a given culture. It is through these communicative acts that we can better understand why a given ideological system is capable of resonating with a variety of social groups (Glaeser 2011). This idea of ideological resonance

²⁶ For instance, he argues that in its most basic sense ideology has often been considered "a social reality whose very existence implies its non-knowledge of its participants as to its existence" (Zizek 1989: 16).

²⁷ See also Williams (1976:154-157) for an explanation of the dual interpretation of ideology as false consciousness and as a "set of ideas which arise from a given set of material interests" (ibid: 156).

²⁸ As mentioned above, intentionality is best understood along a continuum of social action rather than the binary of intentional versus unintentional action (Duranti 2015).

becomes particularly important in Chapter 8 when I compare the interpretations of Ecological Civilization between the state and residents I interviewed in Chengdu.

Finally, while the theorists discussed above have provided us with a fine foundation for interpreting the semiotic dynamics of ideology, empirically there is a need to critically analyze the discursive features of texts and talk to show how environmental ideology influences everyday social interaction. Here I join Maynard's (2013) thinking that critical discourse analysis (CDA) provides a wide-array of methodological tools for collecting and analyzing ideology, which will be reviewed more fully in Chapter 3. However, I do find the trend of CDA researchers to give ideological content a negative connotation is due to a lack of emphasis on integrating their analysis within the lived experience of their informants that linguistic anthropology finds so crucial to the interpretation of symbolic action (Duranti 2004, Goodwin 2000).

While environmental ideology is the focus of this dissertation, the ideological content analyzed within this thesis is never completely isolated from the other ideological changes that are constantly taking place within China²⁹. Therefore, I will also examine the way class-based, developmental and urban ideologies play a role in the formation of environmental ideology in China. Defining environmental ideology requires us to closely examine the relationship between people and the non-human world, often described broadly as “the environment”. I argue that the environment takes on meaning to an individual, but only in a social and intersubjective context³⁰. In other

²⁹ As Blommaert correctly argues “rather than single ‘ideologies’ (such as, for example, ‘socialism’), we have to look at combinations, complexes of ideological elements often seemingly incongruous with one another, but brought in action—‘articulated’ or ‘entextualised’—as a single ‘ideology’” (2005:175).

³⁰ This an extension of Ingold's argument that “*my* environment is the world as it exists and takes on meaning in relation to me, and in that sense it came into existence and undergoes development with me and around me” (2000). Ingold's emphasis on “*my*” curiously ignores the intersubjective processes that occur within society but also between society and the non-human world.

words, while the environment we live within is always in the making, it is made in a specific form precisely because of the social interaction that occurs through a shared semiotic system³¹, or what I describe as environmental ideology.

The ideology of social class has a strong influence on the formation of environmental consciousness among my informants in Chengdu. In China, the idea of class has been complicated by the general erosion of typical Marxist ways of identifying class, namely the social inequality between the capitalists, who own the means of production, and the workers, who have to sell their labor to the capitalists (Wright 2005). Thus, in this thesis I interpret social class to be a relationship between the role individuals play within the production of goods (i.e. their employment) as well as a process of distinction through their consumption of various goods and lifestyles (Bourdieu 1984). Living a so-called environmentally-friendly lifestyle is closely connected with maintaining one's social capital but that could be a discourse that is utilized in different ways for each social class (Buttel and Flinn 1978). As Cho (2013) argues, we should not limit our analyses to class struggle over the means of production in China but rather examine the way class tension emerges in multiple ways, including how it influences the way people perceive or act upon their environment. Additionally, this thesis will pay close attention to how the way people engage with their environment reinforces social inequality and class formation.

A developmental ideology influences social discourse about evolution, civilization and economics in China. It is assumed that as time progresses human

³¹ However, the making of an environment is absolutely not dependent upon human action as seen in the study of biosemiotics (Sebok 2001). While the beaver or the honeybee may very well have knowledge and a plan in their head while they interact with their environment to construct their home (Ingold 1988), I believe that the semiotic realms are so different for non-human actors that it could be worthwhile to then call this aspect of their environmental consciousness something other than ideology.

evolution, civilization and economics are always moving towards something better, which facilitated an obsession with economic growth. The way development relates to civilization makes this ideology culturally salient in China³² and beginning with the end of the Qing Dynasty it has acquired a more linear interpretation that draws heavily from Neo-Darwinian evolutionary theory. The developmental ideology is also closely connected to ideas about human quality, or *suzhi* (Kipnis 2006, Anagnost 2004), which is sometimes interpreted as the level of education an individual has attained. Moreover, if a way of perceiving or acting upon the environment could be interpreted as “backward” or “problematic” within the context of developmental ideology, it could be thought of as working against the accumulation of social capital. This would make the environmental ideology that supports such ways of perceiving or acting upon the environment appear to be obsolete or old fashioned.

Urban ideology in China draws from a typical city-countryside oppositional discourse that was common within early forms of urban studies (cf. Park, Burgess and McKenzie 1967). Williams (1973) argued that such a discourse had to be historically contextualized and Skinner (1971) explained that for China the city was never imagined as distinctly separate from the countryside until quite recently. Smith (2010) argues that in their exploitation of resources the productive forces of capitalism often funnels those resources towards urban centers, further separating the social relations of humans from the non-human world and establishing what he describes as “second-nature”.

Wachsmuth (2014) argues that processes that establish the idea of “second-nature” in

³² Wang Mingming (2009) has appropriately tied it to the Chinese concept of *jiaohua* (教化), an equally developmental process of acculturation of those who originally did not share the cultural features of the Central Plains. While there is still a normative assumption that *jiaohua* is good, because of the cyclical nature of time that structured much of ancient cosmology beginning with Zhou Dynasty, it may not be appropriate to think of this “developmental” ideology as necessarily linear.

our lives also reproduce the urban-rural dichotomy that capital requires in order to continue its exploitation of resources by making it appear that the concentration of resources from the rural to the urban is “natural” and “normal”. Capitalism may not be the only driving force creating “second-nature” in China, but the normalization of exploiting the non-human world for the benefit of urban centers will be analyzed and discussed in later chapters.

Urban and developmental ideologies in China have emerged together through the idea that urbanization is a “good” and “proper” evolutionary step that will lead us towards more “civilized” urban behavioral patterns. As we will see, the current form of environmental ideology in China has also emerged in reaction to historical changes in the class-based, urban and developmental ideologies. Together, the Chinese state draws from these four ideologies to shape Ren Zhongping’s claim that the Party is constructing an Ecological Civilization but we will see in Chapter 3 that such a claim is very uni-dimensional in its ideological focus. By then highlighting how Ecological Civilization is interpreted by my informants, in Chapter 8 I will show how an environmental consciousness is emerging through the perceptions and actions of the Chinese people in a different way than how the Party imagines it.

Energy, Power and Environment

While class-based and environmental ideologies will continue to be central throughout the rest of this thesis, in the last half of this chapter I would like to examine the way different ideas about development and the city have come to be historically sedimented within environmental ideology. I begin with the former by drawing from Timothy Mitchell’s (2011) recent historiography that describes how democracy in

Europe emerged in the 19th century due to the organizational opportunity provided to unions by the physical characteristics of coal. The solid nature of coal provided union members the ability to shut down the railroad and conveyer belts that transported coal, giving the unions the ability to force the owners of the means of production to acquiesce to their demands including allowing state-sanctioned democratic elections. Mitchell then argues that the viscous nature of oil, the dominant form of energy during the 20th century, in contrast to the solidness of coal, allowed the processing of oil to be automated or handled by a smaller number of specialists and technicians. This in turn allowed elite corporate interests, or the owners of the means of production, to control the source of energy in a way that places limitations on the cooperative nature of state-sanctioned democracy. While I appreciate this recent revival of research on what Boyer (2014) calls “energopower”, in the following section I intend to show how the relationship between a particular developmental ideology and the harvest of energy has come to develop a state-centric power structure that may be unique to China.

While coal had been used for centuries in China to power various industrial processes (Golas and Needham 1999), it was not until the end of the Qing Dynasty that it received any kind of attention from the imperial court (Carlson 1971). During the Republican Era coal and oil as sources of energy came to be used by the general populace and even then both were primarily consumed by an urban population (Thomson 2003). For the most part coal was used for cooking or generating the little electricity used in Chinese cities for lighting, radios and small appliances. Many of the earliest coal mines were initially heavily capitalized by foreign entrepreneurs who established an administrative level, called the Baotou (contractor), between the owners

and labors. Laborers faced a corrupt bureaucratic system and a linguistic barrier in their attempts to negotiation for worker's rights (Wang Kung-ping 1947). Thus, in the early 20th century, initial attempts to organize coal miners around class identity were far from successful.

One exception was the Anyuan Mine that became the core training ground for the Communist Party of China. As Perry (2012) notes, it was in Anyuan that Mao Zedong, Liu Shaoqi and Li Lisan were able to effectively utilize a political semiology to draw workers to their cause. One of these semiological features was the dialectical relationship between *Wen* (文, cultural power) and *Wu* (武, military power), which were traditionally thought of as the cornerstone of political power and authority. Chinese laborers were attracted to the way Party leaders were able to integrate a socialist ideology with Chinese practices of literary study and martial arts establishing a militant discipline within their ranks. When the Anyuan Commune was destroyed, it was this latter practice that became a dominant force within the Party as thousands of Anyuan miners signed up to be the first recruits of the Red Army. As Perry (2007) has argued elsewhere, this military structure was dominant not only during this revolutionary period, but was equally important during the process of state-making long after 1949.

During the socialist transition, access to energy resources was controlled by the militias and Red Army. Specialization developed as the means to excavate, process and transport coal and oil were given over to the workers (Thomsen 2003), but the mode of organization and distribution of these energy resources remained embedded within a strict hierarchy that reflects its military origins. This military hierarchy also crept into the organization of the economy and society as a whole. Mao's twist on the Soviet use

of the law of priority growth of the producer goods department (or department 1), shows how early PRC developmental ideologies were closely linked to the prioritization of heavy industry, with an emphasis on the high coal consuming industry of steel production³³ (Pairault 1988). This resulted in the hierarchical relationship between the different economic sectors giving priority to heavy industry, light industry and agriculture in that order. Production quotas were established for heavy industry forcing the other two sectors to match their own production levels to support the development of heavy industry. In other words, the military hierarchy that ensured China's unification under the CCP simultaneously ensured that the newly born nation would need to form alliances with the industrial bourgeoisie at the expense of both workers and agriculturalists (Pairault 1988). Thus, the CCP's transition from a supposed peasant revolution to a state-making entity, also forced rural development to become subordinate to industrial and urban concerns (Perry 2007). In this way, the military hierarchy spread throughout China and reached the countryside through the discourses of the Great Leap Forward (GLF).

Of course, the spread of this hierarchy was not totalizing and impacted different regions of China in a variety of ways (Yang 1998). Some cadres exhibited extremism when translating ideology into action, while other regions took a slightly more cautious path in implementing the policies of the GLF³⁴. While the industrial and urban centers

³³ Such decisions led Shapiro (2001) to make the claim that Mao engaged in a war against nature. A more nuanced argument would recognize that this was a systematic and ideologically grounded change that can hardly be the responsibility of a single individual. Vaclav Smil (1984) at least provided a more systematic account of the environmental destruction that occurred in support of "department 1" but he rarely examined the political repercussions of such actions.

³⁴ The movement of Guizhou coal to Panzhihua steel mills during the GLF would represent an industrial example of extremism (Shapiro 2001:149-159, Tilt 2010:Chapter 2). In contrast, the Shanghai Factory Strikes would be an example of outright resistance to the pre-Reform Era ideological *passé* (Perry 2007:Chapter 4).

of China were strongly influenced by this military hierarchy, the countryside exhibited what at first seemed to be a more heterarchical structure. Land in the countryside was redistributed and agricultural production continued as a collective-based decision-making process, only now the collective was a production brigade or commune incorporating hundreds of households or in the case of the communes even multiple villages³⁵. This grassroots organization of agricultural production did not necessarily develop in opposition to the military hierarchy described above, but rather it developed around that structure. This more grassroots discourse is crucial because it is what provided the fissure within the military hierarchy that allowed for the Reform and Opening to begin.

The decentralized nature of agricultural production was one factor that led to changes in China's political structure. Early decentralized marketing experiments, such as those promoted by Zhao Ziyang when he was Party Secretary of Sichuan Province from 1975-1980, later developed into the nationwide agricultural policy called the Household Responsibility System (Ash 2001) providing the initial opening for reformists to make an adjustment to the dominant military hierarchy. This pattern of decentralization quickly spread from the agricultural sector into the light and heavy industries. The most important example was the privatization of the coal industry that stimulated the opening of thousands of small mining operations throughout the country that helped fuel China's rapidly increasing energy demands but placed intense pressure on the large state-owned coal mines (Su 2002). Another example includes the rapid expansion of the automobile industry into hundreds of production companies. It was the

³⁵ Also see Skinner (1965b) for his explanation of how China was changing spatially, economically and ideologically during this period.

injection of foreign capital in the 1990s that initiated the integration of standards and systematics into the production process and ensured the relative affordability of domestically built cars (Gan 2003). This coupled with the patterns of urbanization described in the following section and intense automotive marketing schemes, entrenched the idea of the necessity of a household car into Chinese consumption habits³⁶. Decentralization and capitalization also became common in important sectors such as banking, real estate and light industrial enterprises, turning China into the primary producer of commodities for the global capitalist system.

Eventually decentralization found its way into the energy sector through electricity production. While coal-fired power plants, the dominant producer of electricity up to the present, linked the electrical grid to the military hierarchy described above, even during the Maoist Era, hydropower slowly began to emerge as a form of decentralized electricity production. Most early hydropower plants were small-scale and primarily the byproduct of flood control mechanisms or designed to satisfy the energy needs of an individual factory or commune. Thus, these factories or other areas of the country that were electrified by hydropower were able to accumulate their own set of social power that was not as dependent on the military hierarchy. During the Reform Era, hydropower projects were scaled up, allowing the engineers and technicians to expand their influence beyond small locales. Today, the Generate in the West, Send to the East Scheme is a perfect example of how the electrical grid continues to depend on the military hierarchy, with high-voltage power lines carrying the bulk of the power away from where it was generated (Magee 2006, Tilt 2015). Moreover, following the rise of

³⁶ In Chapter 5, I will examine the practice of driving more closely as well as the social capital that comes with owning a car.

the Red Engineers to the upper echelons of the Party (Andreas 2009), the nation began to reformulate its energy politics to mimic this “electrical grid” structure that we see today.

A grid structure exhibits unique traits both in its physical features and in the way it transmits ideology. In contrast to the radial nature of a military hierarchy with energy emanating from a core source (i.e. industrial centers and cities) that generally loses efficiency as it moves out towards the rural periphery, electrical energy transmitted across a grid moves horizontally retaining the same efficiency of power regardless if it is near the source or thousands of kilometers away³⁷. The decentralization of political power at the beginning of the Reform Era tended to mimic this grid like system. The neighborhood management committees that emerged in the cities in 1980s were meant to be a decentralized institution of political power with a small amount of control and responsibility over a given populace that even introduced limited democratic procedures (Lu 2006). At the same time, these committees were always interconnected with the military hierarchy through various channels, such as the security apparatus, the media, the work unit, the school and the clinic. In other words, the grid provides an illusion of equal access to social power much as a supposedly liberal market system claims to level the playing field between economic actors (Mitchell 2011). Naturally, China’s elite, including the Red Engineers, had access to higher levels in the hierarchy allowing them to appropriate power for themselves. Moreover, they could use their power to place their

³⁷ It requires energy to move coal from one point to another thereby decreasing the level of efficiency as logistical chains move further away from the source of processing. There is also an issue of quality of coal. The best quality of coal was used to fire power plants to generate electricity that at least in the early Reform Era was primarily used to power urban or periurban regions of China. The remainder of the coal, which included more impurities, was then distributed to households to be used for cooking and heating. While electrical wires do see a bit of loss over a given distance, it is still far more efficient than the logistic chains for transporting coal. Additionally, with electricity there is no loss of quality over distance.

trusted associates in control of state enterprises or provide private enterprises of their choosing with much needed access to government support (Huang 2008). One way of appropriating the developmental ideology for stimulating further economic growth was to connect the idea to national rejuvenation, which became central to Party ideology beginning with the Jiang Zemin regime (Yan 2001). During the 1990s and early 2000s the developmental ideology became closely aligned with a civilizational discourse that firmly propped up the belief that continued economic growth by any means was an imperative. The nationalist tones of this discourse are now constantly transmitted across the television and more recently the internet. It has become further embedded as China becomes less reliant on foreign investment and stimulates its economy through domestic consumption of products made by its state-owned enterprises (Osburg 2013b).

Although consumerism has been driven by this developmental ideology, also beginning in the 1990s was a shift in concern from quantity to quality of production. This can be seen in the concern for food safety (Yan 2015), the obsession of brand names among the middle class (Osburg 2013a), and even in the Party's own rhetoric about quality of life that has trickled down into social discourse (Tilt 2011). This has also driven the rise of an environmental ideology in China that has focused on issues of conservation, efficiency and recycling, or what some people in Chengdu often describe as "being environmentally-friendly", an idea I will unpack further in Chapter 6. Conservation, for instance, often argues for the preservation of forestlands that are seen as a necessary buffer against flooding³⁸. The issue of conservation is often supported by international environmental NGOs with their own political agenda (Hathaway 2013). Efficiency is mainly focused on reducing one's "footprint" or the amount of energy or

³⁸ Although see Schmitt 2014a, Trac 2013 and Schmidt 2011 for critiques of this discourse.

other natural resources that we consume in our lives. For instance, the rising importance of Environmental Impact Assessments (EIAs) (Tilt 2015:110-116) has encouraged industries not to be wasteful in their production processes. There are also more simple household practices of efficiency that are common for many families, such as with reducing one's daily water usage, which will be discussed more in Chapter 7. Finally recycling is a reaction to the growing concern with the excessive amount of material consumption found throughout China. Many of these movements are also established in connection with NIMBY protests since few are interested in having garbage incinerators or waste dumps located near their homes (Johnson 2013).

I would argue that this shift in values is quite similar to the discourse and practices that emerged among rural cultivators at the beginning of the Reform Era. China's environmental movement has emerged as a reaction to the developmental ideology that formed the grid and military structure, which was focused on the quantity of economic growth. Many urban environmentalists in China are now promoting concepts like permaculture, urban horticulture or CSAs (Klein 2015), topics I will return to in Chapter 6. Additionally many of the NIMBY protests and the rise in public concern over environmental health, including the issue of reducing air pollution, are reactions to the pollution caused by a carbon-dependent society but also over the social and environmental impacts of hydropower (Mertha 2008). Additionally, technological advances in renewable energies are helping to stimulate a newly emerging structure of social power. Solar power is unique in that it can be harnessed in multiple ways from heating up water heaters to generating electricity. Biogas digesters are scattered across

the Chengdu Plain providing villages with access to an energy source for cooking that can be generated using biological waste collected around the farm (Chen et al. 2010).

While these forms of renewable energy provide citizens the potential to separate itself from the hierarchical nature of China's energy grid, we should also be aware that wind power primarily generates electricity for the grid or it could be used to pump downstream water back up into reservoirs. Moreover, nearly all large-scale solar and wind power projects are primarily the result of combined private and state investments. Thus, even within what are considered to be the more environmentally-friendly of energy sources we can still see the state beginning to enforce its control by drawing these projects into the grid and military structure of power. Moreover, in terms of environmental governance the Chinese state has placed a strong emphasis on the use of economic tools to promote the concept of ecosystem services. Ouyang et al. have suggested that such tools are beneficial to the Chinese environment and society (2016), although the results of this research are problematic because they did not clearly define social equity (Zinda et al. 2016). As we will see in Chapter 3, the new state ideology of Ecological Civilization strongly emphasizes the ability of economic development to be paired with environmental protection while downplaying or even ignoring the importance of social equality. This too is the result of social concerns for environmental quality becoming embedded within the grid and military hierarchy that is unable to abandon the uni-dimensional dominance of economic development.

In this brief summary of China's contemporary history of energy production I have attempted to highlight the way the state's primary focus on development has driven the formation of this military structure of power and its appropriation of the grid

structure. What will be discussed in the thesis is how this uni-dimensional focus on economic development by the state has attempted to similarly appropriate an environmental ideology that would resonate more closely with ideas about renewable energy, recycling, conservation, and quality over quantity. The Chinese state is now attempting to integrate an environmental perspective into their ideological *mise en place*, through the “Construction of an Ecological Civilization” ideology but we will also need to examine how this integrates within other ideological concerns in China, such as urbanization.

The Urban Development of Chengdu

As Stapleton (2000) explains, much of Chengdu’s urban ideology developed during the Republican Era, when high ranking city administrators argued that in order for proper urbanization to take place more had to change than just the physical architectural features. Far more important was the introduction of “civilized” urban behavior, such as not defecating in the street or begging in public, which was enforced by newly established regiments of police officers. The police force added a militant aspect to the imaginary of what urban civilization should look like in Chengdu and helps explain why many of the early urban policies of the People’s Republic of China (PRC) resonated with residents of the city.

In contrast to other areas of China, the People’s Liberation Army (PLA) marched directly into Chengdu around December 30th, 1949 without much of a challenge. By early 1950, factories were appropriated by the PLA and businesses were basically going broke due to extremely high taxes. Public works programs, such as repairing roads, riverways and water mains in the city as well as constructing irrigation ditches and

railroads in the countryside, helped relieve extreme inflation, lack of food and widespread unemployment (Skinner 1951). The city was intended to continue as a central place for the collection and redistribution of agricultural goods. The appropriation of the education system (Skinner 1950) also allowed the new government to groom students who could help them further propagandize their message to the masses.

Following the Korean War, emphasis was placed on increasing the speed of industrialization in Chengdu. In the north end of Chengdu, which hosted a major railroad station, the government began to construct a number of heavy and light industrial factories alleviating some of the concerns with unemployment but also drastically changing the spatial structure of the city. More factories were also constructed in the eastern suburbs of the city. Chengdu was meant to be developed into the core of the Third Front, or the Western region of China that could continue to support the military in the event of an attack from U.S. allied forces along the East coast. Then, with the severing of Sino-Soviet ties in the early 1960s, this Third Front gained even greater importance due to the possibility of attack from Russia through Northwest China.

During the 1960s the urban structure of Chengdu transformed significantly. The major North-South axis of Renmin Road and the East-West axis of Zongfu Road and Shudu Road were constructed directly through the Imperial Palace district, intersecting with major points like Chunxi Road, Provincial Government Buildings, the train station, Huaxi Medical School and Hospital, and most importantly the People's Park. A massive

nuclear fallout shelter was constructed underneath the People's Park³⁹ that could host people both from the city and beyond. The widening of the main thoroughfares required the covering of multiple streams that had previously flowed through the city thereby changing the mobility of residents and the way they perceived their urban environment in fundamental ways. The peak of this urban renewal and military preparedness occurred among urban residents who remained in the city during the Cultural Revolution with many taking part in the construction process. Some of my informants recalled with sadness the cutting down of great oak trees in the center of the city in order to widen the streets and put up the statue of Mao that still stands there today. For long-term residents of Chengdu this period of time was not just emblematic of the passing of one system of urban organization to another but simultaneously also the transition into a new ideological structure.

Towards the end of the Cultural Revolution a new mode of urbanization also began to take place. The construction of the 1st Ring Road in the 1970s incorporated Chengdu's older suburbs into the city proper. On either side of the 1st Ring Road urban architecture began springing up in between rural fields along with further expansion of state-owned industrial factories in the North and East. This industrial expansion helped spur the construction of the 2nd Ring Road, which was finished by the beginning of the Reform Era. One key section of this ring ran from the North train station to Niushikou in the Southeast section of the city where newly established light industrial enterprises were developing as economic reforms began to settle into place. Initially, these wide thoroughfares and circular routes were designed primarily to support the logistics

³⁹ Actually there were many of these shelters in the city, although this is the only one I am aware of that is still technically in operation.

industry rather than for private automobiles. In the 1980s and 90s, private automobile ownership in Chengdu was extremely rare and most people rode buses or bicycles. Moreover, many people lived in work unit housing or 單位住宿⁴⁰ thereby mixing ideas of home and workplace, meaning that regular transportation was unnecessary. Even taxis were extremely rare. One taxi driver I interviewed explained that he was part of the second class of the most famous driving school in Chengdu in 1992. He, like most of his classmates, had just been laid off from a state-owned factory, but they were given a subsidy to attend a newly opened private driving school in the city. He claimed to have kept in contact with most of his classmates and nearly all of the graduates of 1992 were still driving taxis after all these years. Most taxi drivers will also tell you that the 1990s were the golden years of Chengdu for automobile drivers. Even in 2003, when I first arrived in Chengdu, the streets were completely packed with bicycles and I never experienced a traffic jam in the city until years later.

During the early Reform Era, many of China's key urban planners were sent abroad to think of new innovative ways to design China's urban landscapes. Some urban planners I interviewed have bemoaned the fact that the first place most urban planners traveled to was Los Angeles. Following the widespread student protests that marked the close of the 1980s, Chinese urban planners, the security apparatus and economists were pressed to establish plans for how to better organize urban society to ensure stability. For urban planners the key to this was to spread out elements of the populace who might incite social unrest (i.e. students, laid off workers, criminals, etc.) across urban space (Wallace 2014). In other words there was an incentive to promote urban sprawl. For

⁴⁰ For an evolution of the 單位 as a work unit and social structure see Bray (2005).

urban planners this meant intensely urbanizing the suburban regions of cities and building residential communities around major nodes such as universities, international convention centers, transportation hubs and shopping centers. This also meant that for those employed in industrial factories, commercial offices or government work units the distance to travel back home every day would increase dramatically. Rather than further developing reliable and fast public transport, on the European model, Chengdu followed much of China by focusing on the construction of automobile infrastructure. This is precisely the Los Angeles model described by Gonzalez as the key culprit of rising levels of air pollution (2005)⁴¹. From the perspective of the economists this meant an increased domestic consumption and a quickly expanding urban real-estate market, all of which meant that Chinese production would help ensure local growth rather than becoming further dependent on an export driven economic cycle.

These spatial changes also influenced the material, social and ideological nature of the home. The evolution of the housing estate is crucial for understanding the findings of the household survey I conducted in Chengdu that I will discuss in Chapters 8 and 9. In 1987, Chengdu unveiled some of the city's very first private housing estates just outside of Sichuan University. These private homes were gated communities overseen by a property management company. In those days management was relegated to hiring a security officer to manage the gate, a team of sanitation workers who swept the premises and took care of the community's garbage, as well as a property manager who was in charge of the housing estate's finances and communication between the residents and the local governing body, the neighborhood management committee or 社

⁴¹ This sad fact is not lost on China's urban planners as clearly outlined by Wu Liangyong, the so called master planner of the PRC (Johnson 2015).

區管理委員會。The neighborhood management committee would require each of the housing estates to form their own housing estate committees often composed of long-standing party members, some of whom may have recently retired and had extra time to help organize residents for various activities. These housing estate committees might also be in charge of hiring or removing a property manager if resident complaints became persistent. It should also be noted that many of the early housing estates were far too small to afford a true property management team. Most would employ a couple from the countryside with the husband watching the gate and the wife taking care of the housing estate's sanitation and garbage. Both were paid minimal wages and provided a small room near the gate.

As old work unit offices moved to various newly constructed buildings in the city and a rising percentage of the population came to be employed outside of the state sector, work unit housing came to be replaced by this gated housing estate model. Moreover, many of the even older pre-1949 housing units, such as tiled-roof homes or 瓦房⁴², were destroyed to make room for housing estates and other commercial real-estate projects. Many of the previous residents of these older homes were then forced to move into these newer housing estates along with villagers whose homes and land were being appropriated due to Chengdu's sprawling expansion into rural areas. This first generation of housing estates in Chengdu was primarily constructed in the 1990s. It required a complex web of personal relationships between real-estate developers, government officials and even organized crime (Osburg 2013a) to destroy these older

⁴² This was an architectural style popular before 1949. 瓦 is roof tile while 房 is just house. Most were single or at most two story buildings with a wood frame, tiled roof and walls made from bamboo and mud.

communities, to move the residents, and then to build these new gated housing estates on the empty lots.

Entering into the early 2000's the housing estate model took a new turn and along with it attracted a new kind of resident. Similar to Beijing (Tomba 2004), most long-term residents of Chengdu made their money on the housing market. Many of the "old Chengdu" families now often own three or more properties in the city. Over the past 30 years what local Chengdu families came to value was not simply whether one had a good job but far more important was household ownership. The process of real-estate accumulation, required that each of the newly opened housing estates had to be that much more "modern" and "high-class" than the last making them also more expensive. Nearly all of the housing estates constructed between 2000-2008 were gated large-scale communities encompassing multiple buildings and built up primarily around the 2nd Ring Road or beyond towards the 3rd Ring Road. These estates were almost always managed by a corporate property management team responsible for the upkeep of the elevators for buildings more than seven stories tall as well as swimming pools, playgrounds and small automobile parking garages. Many of these new estates also included well-manicured landscapes and would hire a team of workers responsible for taking care of the trees and shrubbery as well as the general sanitation of the premises. For ease of reference in the rest of the dissertation I will refer to these as the managed housing estates.

In 2006, following the opening of the International Convention Center, a new housing estate model was established in Huayang, a southern suburb, beyond the 4th Ring Road. Here high-rise apartment buildings dominated the landscape, most standing

nearly 30 stories tall and often designed with supposedly “unique” architectural features such as wave-shaped free-form balconies or two-story loft bedrooms. Another common model of these kinds of housing estates would be individual two or three story homes, called villas or 別墅. These kinds of residential complexes as a whole are often called “high-end housing estates” but I prefer to use the English translation luxury housing estates⁴³. They are always managed by a corporate property management team often connected to the real-estate development company. Luxury housing estates often boasted an automobile parking spot for each of the households and some estates have integrated “smart technology⁴⁴” into their design. One social consequence that emerged with the evolution of the housing estate is the greater alienation of residents from their community. There is no longer a need or even desire for residents to know their neighbors as conflicts and problems are generally handled by the property management team. For instance in my friend Zhou Lei’s new apartment, which should be considered a luxury housing estate, it was discovered that the remodelers had not properly installed the water main, resulting in the flooding of his and the next-door neighbor’s apartment. For more than a year Zhou Lei never even met his neighbor face to face. The entire situation was handled with the property manager acting as a liaison and bank transfers using their smart phones.

⁴³I think it would be a mistake to describe these as low-class, middle-class or high-class housing estates. I worry that despite the translation of “high-end” being more equivalent to 高檔小區, it still might misconstrue their social structure to the reader since social class is not solely defined by the housing estate in which one resides.

⁴⁴ One of the housing estates that I will describe below has even billed itself as the first “smart housing estate”, or 智能小區, in Western China.

More recently, another commodity became crucial to the family: the automobile. The number of Chengdu car owners now has outpaced even that of Shanghai⁴⁵ leading to extreme forms of gridlock. In reaction to the sudden surge in automobile ownership, the Chengdu city government initiated a number of massive infrastructural projects that I describe more in Chapter 5. The importance of vehicle ownership is an additional driver for encouraging residents of the city to purchase apartments in newer luxury housing estates that have dedicated parking spaces.

The shifting notions of what it means to be urban and the governance of the urban landscape in Chengdu has certainly had an important influence on the environmental consciousness of residents. While early processes of urbanization were integrated into military strategy, by the time of the Reform Era, new concerns regarding economic development led to changes in the structure of work and home that have played a role in defining the way residents came to interact with their environment. The rise of an environmental ideology among local residents is also related to a desire to see urbanization proceed but with greater emphasis on quality instead of quantity. The coming chapters of the thesis will analyze the emergence of an environmental consciousness in Chengdu through the perceptions and actions of local residents, but it is also important for us to realize that environmental ideology in China has arisen through the historical sedimentation of developmentalism and urbanization. How I operationalize the study of environmental consciousness is the focus of the following section.

⁴⁵ It seems Chengdu car owners are less picky about purchasing expensive brand vehicles and more concerned with just owning a car. As I will show in Chapter 5, this is not true for all car owners in Chengdu.

Studying an Environmental Consciousness

Because ideology, perception and action can be analyzed using various kinds of data, empirical research into the nature of environmental consciousness requires that I draw from more than one methodology. Overlap across the different methodologies will allow for triangulation of my data providing my arguments with a greater degree of validity. Some of my methodology will be described in more detail in other parts of the thesis. Below I would like to summarize the three basic methodologies used in the thesis: 1) ethnography, 2) the multi-stage development of a survey instrument and 3) a discourse analysis framework.

Ethnography:

Much of the data in my research dealing with perceptions of and interaction with the environment was collected ethnographically. In order to better understand how Chengdu people live with a variety of environmental issues on a day-to-day basis, I conducted unstructured interviews with urban residents. Many of my initial informants were long-term friends who in turn introduced me to others. I believe it is important at this point to explain though my own position as a white male American and how this influenced my initial ethnographic research. First, because I am not native to China, there are certain concepts that are difficult to comprehend no matter how fluent I am in Mandarin or even the local Chengdu dialect⁴⁶. While living in Chengdu for seven years, though, I have engaged in many activities unrelated to scholarly pursuits making it easier for me to relate with my informants in how they perceive and deal with environmental issues on an everyday basis.

⁴⁶ I am very comfortable listening to the radio, watching TV, reading newspapers and novels without the help of a dictionary and I regularly taught courses in Chinese on anthropology, sociology and history while in Chengdu.

Starting in 2003, I came to Chengdu to study Chinese language at Sichuan University as an exchange student, thus many of my closest informants are college educated individuals who tend to be fairly cosmopolitan when compared with the general population. Over the years, living in multiple neighborhoods throughout the city has helped me develop long-term friendships with people that are unconnected to the university system in Chengdu. At times, my American identity can make such informants wary about discussing sensitive topics with me. For this reason I have never in any of my interviews used a recording device unless asked to do so by an informant. Even though all of my informants were well aware of my research interests, recording devices make people very nervous in China and can seriously hamper natural conversation. It was not unusual for me to rush to the nearest teahouse or even shopping mall after an interview to sit down for half-an-hour or more and quickly write extensive fieldnotes.

Additionally, because I have lived in Chengdu for such a long-time, some of my closest informants do not recognize me solely as an academic. For instance, since my initial arrival in Chengdu in 2003 I have always been engaged in activism for improving the environment and social equality. Two early projects that encouraged Chengdu businesses to collect a fee for plastic bags and calculated carbon footprints provided me connections with other environmental activists and local NGO workers. Additionally, beginning in 2008 I became active in Chengdu's restaurant and bar scene⁴⁷, helping establish Chengdu's first craft brewery around 2010 and culminating in the opening of my own cocktail lounge in 2015. Through these experiences I was able to dramatically

⁴⁷ I worked in the food service industry in the United States for nearly nine years, beginning when I was 15 years old.

expand my social network to include friends in the service, media and real-estate industries.

Many of those I initially interviewed about environmental consciousness were long-term friends, such as those introduced in Chapter 1 like Qi Daina, Li Huicheng, Yang Zhengxian and Zhou Lei, whose stories I reference repeatedly throughout the dissertation. In total I interviewed more than 40 of my friends and framed our discussions so that they were broadly related to ecology, allowing them a bit more freedom to guide the conversation toward issues that they found most relevant. Because these interviews were conducted with long-term friends, they helped me come to a deeper understanding about the way people compare different kinds of environmental problems against each other. These interviews also provided me data of a higher level of validity that shows how Chengdu residents perceive the different affordances of the environment (Gibson 1986) as well as how environmental ideology structures the way my friends act upon on the environment.

It was specifically through these interviews that I began to realize I was not able to entirely capture the way environmental consciousness emerged and changed throughout society in Chengdu. The social background of my informants was limited due to my own specific experiences in Chengdu, preventing me from properly understanding the way environmental consciousness was connected to social class. For this reason I felt that conducting a more systematic social survey in a number of housing estates in the city would provide a crucial context to my ethnographic narrative.

Social Surveys:

These social surveys were developed in collaboration with two NGOs and various local government agencies in Chengdu to promote the concept of an “Ecological Housing Estate” (生態小區). The Ecological Housing Estate projects are primarily about installing infrastructure, such as recycling bins, rainwater storage and composting bins, within older housing estates that would support a more environmentally-friendly lifestyle. As I will discuss further in Chapter 4, many of these projects are funded and designed by foundations established by real-estate corporations and implemented through a collaboration between local NGOs and government agencies. Similar projects had already been implemented in various housing estates throughout Chengdu but with varying degrees of success. During meetings we conducted with the local government, it was initially agreed that a better understanding of environmental consciousness would result in well-rounded project designs that would be beneficial to the NGOs, the local government and most importantly to local residents. While we encouraged local residents, government officials and NGO practitioners to collaborate together during our research, the level of interest varied from one housing estate to another⁴⁸.

These surveys were designed and implemented along with four undergraduate students at Sichuan University⁴⁹. Three of the four were required to do fieldwork for their senior graduating project related to urbanization trends in Chengdu and when they learned about my study of the Ecological Housing Estates they were happy to participate. It was not an easy task as they all had courses to attend to during the week, which meant

⁴⁸ As I show in Chapter 4, we also came to discover that the foundation’s requirements severely hampered the ability of local NGOs and government agencies to make changes to the design based on our findings.

⁴⁹ One young man has a background in Civil Engineering and the other three young ladies are studying Urban Planning.

our surveys were conducted at irregular intervals from September to December 2014. I then conducted follow up interviews and participant observation in the housing estates up to July 20th, 2015. We designed the survey project to include three steps: 1) Freelisting, 2) Semi-structured Interviews, and 3) a Household Survey. I will summarize these methods below and provide greater detail of the methodology in chapters where survey results are discussed more closely. First I will introduce the housing estates where we conducted our survey.

a. Housing Estates

Seven housing estates, located in Chengdu's Jinjiang District, were selected based on their varied socio-economic background and spatial design. Moreover, they were selected as a means of representing the evolution of Chengdu's housing estate market. Thus, following the typology developed in this chapter, four gated housing estates, two managed housing estates and one luxury housing estate formed the basis for our fieldsites. These were chosen from two different street management offices⁵⁰, or 街道辦, that were partnering with the two NGOs with whom we were also collaborating: Friends of Chengdu and Global Trees.

⁵⁰ Urban districts like Jinjiang are separated into street management offices that are then separated into neighborhood management committees, which is the smallest unit of urban governance. Technically housing estates are required to form resident committees, or 居民委員會. However, in our study we discovered that housing estate management companies might actually slow down the formation of resident committees because residents believe the management companies are capable of handling any problem that the housing estate might face. For an in depth treatment of the hierarchical spatial arrangements in Chinese cities see Abramson (2006) and Tomba (2014).

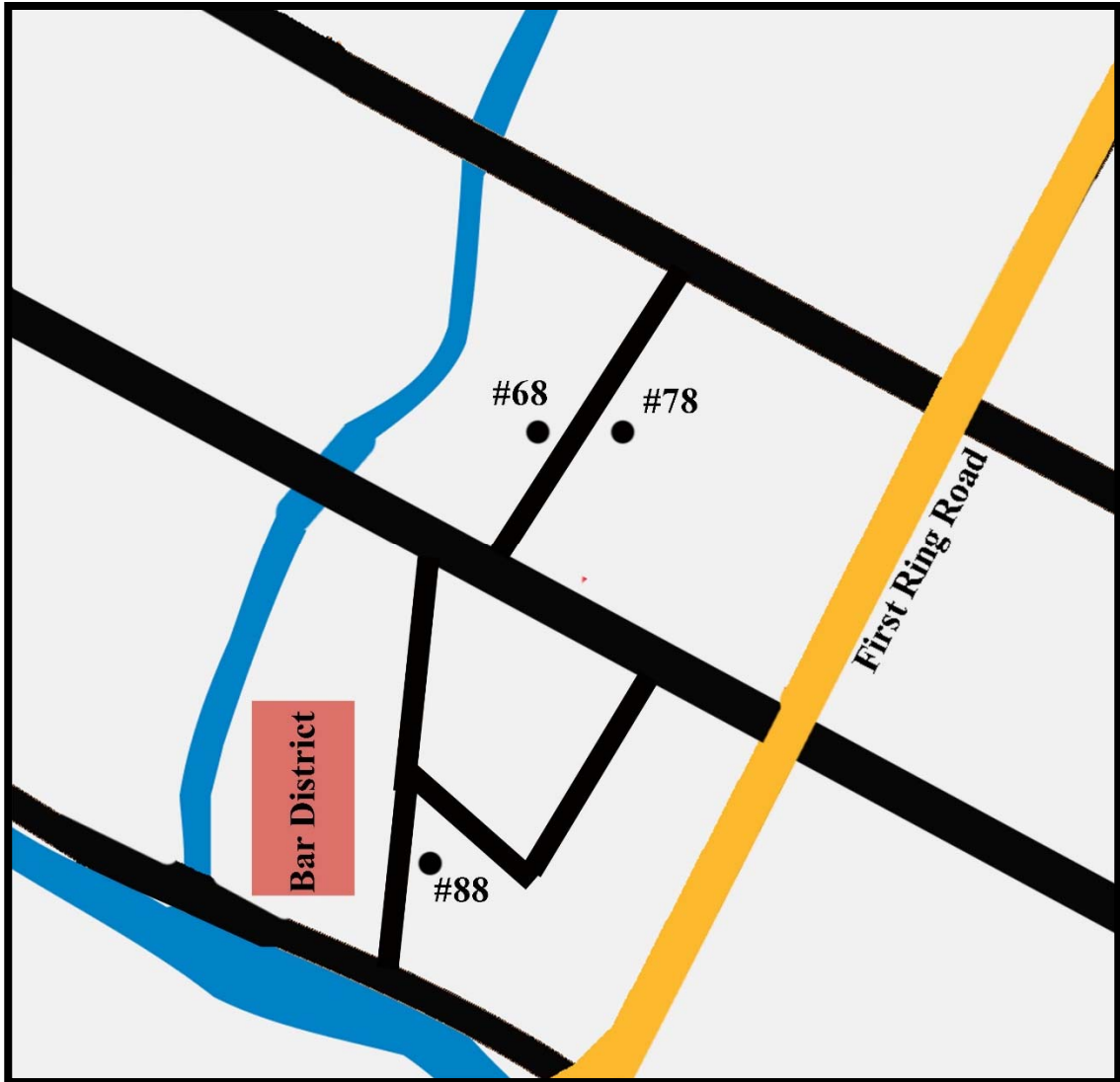


Figure 2.1 Map of Distiller's Well Street Management Office

Three of the gated housing estates, Housing Estates #88, #78 and #68⁵¹, reside within the 1st Ring Road in the Distiller's Well Street Management Office, which is in an older section of the city. The Distiller's Well is so named because it was originally the site of one of Chengdu's famous 白酒 liquor brands. The factory closed down in the

⁵¹ These are pseudonyms. I have considered using names instead of numbers. However, I believe it is important to continue to use numbers because that is how they are demarcated by local residents. Using the address number instead of the name of a gated community is a reflection of the social capital associated with living in these housing estates. Therefore, to give them a name would remove this feature from the narrative and obscure the way naming of place acts as a daily reminder of class within Chengdu.

1990s and has been converted into an alcohol museum. Before 2013, a single neighborhood management committee was responsible for all three of these housing estates. With the recent implementation of the grid-based urban governance system, that office was split into four neighborhood management committees. Our research team had interaction with two of those offices. #78 is unique in that its neighborhood management committee was located within the actual housing estate⁵². #78 has been used by both the Distiller's Well Street Management Office and the Jinjiang District as a showpiece for "a modern harmonious neighborhood management committee". #78 was built in 1997 and includes local Chengdu residents who were resettled from their homes and others who purchased their apartments directly. In contrast, #88 and #68 were built in the late 1980s as housing for residents of the Distiller's Well whose tiled-roof homes were appropriated to make room for commercial and government buildings. Today, even many of the gated housing estates from Distiller's Well that were built in the 1980s have already been replaced with high-rise office buildings and luxury housing estates; #88 and #68 are a rare exception. All three housing estates have fairly high tenancy rates, ranging from 30% at #78 to well over 60% at #68. The location of these housing estates near the downtown district, along a subway line and main thoroughfare make them an ideal location for young renters working in the financial and commercial districts or even as dormitories for rural migrants working on real-estate development construction sites.

Initially we were introduced to these housing estates through Friends of Chengdu, a local social work NGO. During the Sichuan Earthquake, Friends of Chengdu received

⁵² Most committee offices are located outside of a housing estate often in a commercial space along a roadside.

a great deal of financial support from the city of Chengdu for reconstruction purposes throughout Sichuan. Since that time they have essentially become a welfare extension office for the Chengdu Municipal government. In 2012-2013, the Chengdu government encouraged them to begin developing environmentally-friendly projects for urban residents. This brought them to implement their first Ecological Housing Estate project with a grant from the Green Housing Foundation, which primarily receives their funding from a parent real-estate development corporation⁵³. During the original grant period the project was only implemented in #78. Friends of Chengdu then requested that we survey three housing estates to help them apply for an additional 2014 grant that would be implemented in 2015. During our survey, residents of #78 were by far the most welcoming of all, mostly due to the fact that we established a good rapport with the neighborhood management committee and Party Secretary Wang, who residents looked on favorably. In fact, Secretary Wang even helped us get in contact with residents outside of her own jurisdiction, which was important since the other neighborhood management committee responsible for #88 and #68 showed little interest in helping us. This may also be because #88 and #68 were considered to be “problem” housing estates by the local officials of Distiller’s Well. Most officials I talked to said they found it “difficult” to work in these two housing estates because residents lacked a certain level of “*suzhi*” or quality (Kipnis 2006, Anagnost 2004).

⁵³ I discuss the relationship between the NGOs, the Green Housing Foundation and the real-estate firm at length in Chapter 4.



Figure 2.2 Dragon Boat Road Street Management Office

The four other housing estates included in our survey reside within the Dragon Boat Road Street Management Office, which is located just inside the 2nd Ring Road. Here we implemented surveys in the massive Tiramisu luxury housing estate complex, which is governed by the River Willow neighborhood management committee office. The River Willow office had just opened only a year before we began our surveys, being separated in 2013 from the River Heart neighborhood management committee office

discussed below. Tiramisu is a very unique housing estate, not just for Chengdu, but for all of Southwest China. It claims to be the very first Smart housing estate in the Southwest, which includes a geothermal heating and cooling system, a digitalized water, electric and gas metering system and a facility that separates drinking water from potable water, the latter of which is recycled as much as possible before being emptied into the Chengdu sewage system. Additionally the location boasts a parking spot for each of the 2150 units. According to one of the housing estate committee members most of the residents are actually from Sichuan's satellite cities. Purchasing an apartment in Tiramisu was thought to be a good investment and it provided residents with the opportunity to shift their household residency, or 户口, to Chengdu. In some cases, the houses are actually registered in the names of young children so that they will be able to change their residency to Chengdu and attend a local elementary school. Thus, some of the residents of this housing estate own large factories and wealthy businesses outside of Chengdu.

The fifth housing estate, #8, is a gated housing estate established in 1988 whose residents include retired factory workers and residents of a village whose homes and land were appropriated. There are a small number of residents who have also recently purchased second-hand homes in #8 but according to local residents they represent a minority. There is essentially no functional housing estate resident committee in #8, but there is a family that has taken responsibility over security, sanitation and general upkeep of the grounds. For all intents and purposes, when residents have conflicts, which would arise quite often from what I observed, they look to the River Heart neighborhood management committee office, and in particular Party Secretary Ye, for

guidance and support. However, in my experience, cadres at the River Heart office are wary of getting mixed up in #8's affairs, which is likely related to the "problem housing estate" label that has been placed upon #8. Housing estates, such as #8, #68 and #88, were labeled as a "problem" primarily because government officials and NGO workers perceived them to have little community organization and were made up of poor residents. This labeling is the result of the class-based ideology discussed above and I will discuss how such labels come to influence environmental consciousness at length later in the thesis.

The River Heart office also introduced us to two managed housing estates, the Riverside and Eastern Star housing estates. Riverside is a large 900+ household complex built in 2002 that faces the South Fu River and is home to a number of university staff, mid-level government officials and a number of young to mid-life professionals. Most of the apartments include three bedrooms meaning that it is not uncommon for three generations to live in a single household. Eastern Star was built in 2003 and hosts about 200 households. Many of Eastern Star's residents ran successful small businesses during the 1980's and 1990s and have recently retired to these homes. In some cases they had purchased this home for their children and moved in with them after their older apartment was appropriated by the government or their grandchildren were born. Eastern Star is quite unique because the residents had removed their housing estate management company and took over the job themselves, which I explore further in Chapter 6. The main organizer of the current beautification activities is Mr. Yao, now the head of the resident committee.

We were introduced to all four of these housing estates through the NGO Global Trees who are quite famous in Chengdu for their very successful environmental education programs. Global Trees, is also part of a very famous international network of NGOs. While they utilize their international ties as a form of social capital to promote their projects and apply for local funds, they are actually independently registered as a local NGO and receive no funds from overseas⁵⁴, which is one reason they applied for funds from the Green Housing Foundation to support an Ecological Housing Estate project. Before that, though, Global Trees first established a project in Riverside in 2012 that focused on food safety and urban agriculture practices. By 2015, the project had fallen into disrepair; the rain catchment system was broken and only one or two families (out of dozens) were still growing vegetables. Lin Lan, the member of Global Trees who introduced us to all four housing estates, admitted that this had been her first project and she had not returned to Riverside in two years. This is because she became much more engaged with residents at Eastern Star, which resulted in the more successful Ecological Housing Estate project that will be discussed in later chapters.

b. Social Survey Design

Previous surveys that have collected data about various aspects of environmental consciousness in China have tended to populate their surveys with questions based on a literature review or according to a predetermined understanding of different levels of environmental consciousness (cf. Yan 2008; Harris 2006, 2008). In both cases the assumption that the “expert” knows best is imposed in the survey design process. In this

⁵⁴ From what I am told this is true of all Global Trees programs around the world. There is no central fundraising office. However, the founder does travel around the world to help individual chapters implement fund-raising campaigns among local donors.

case we tried to minimize this assumption as much as possible by utilizing the freelisting method to help us populate our survey with questions that would not seem foreign or out of place to the communities we were surveying. After all, we wanted to learn more about what they knew, not test their knowledge of an expert defined concept.

To accomplish this we still had to base our freelists on four cultural domains we felt important to the design of an Ecological Housing Estate Project: ecology, comfort, built environment and luxury housing estates⁵⁵. We began our freelist exercises in the four housing estates located in the Dragon Boat Street Management Office in late September 2014. In total, we asked 41 respondents to complete all four lists. Following Bernard (2006), rather than attempting to assemble a random sample of respondents, we interviewed residents who were willing to talk to us for a few minutes. We interviewed 20 male and 21 female residents to avoid a gender bias in the data. Additionally, the freelists were conducted during a weekend so we were able to speak to residents of all ages. I should note that while conducting multiple freelists with the same respondent is not unheard of (Gatewood 1984; Flores, Millstein and Eyre 1998; Ryan, Nolan and Yoder 2000), it could be possible that some of the results exhibit a kind of overlapping bias. To control for such a bias as much as we could, residents were asked to complete each of their four freelists on a different sheet of blank A4 paper. Results from the freelists were compiled into a .txt format and then imported into Visual AnthroPAC 1.0-Freelists for analysis (see Appendix B).

⁵⁵ These are 生態、舒適、居住環境 and 高檔小區 in Chinese. The last was chosen because according to our ethnographic experience we found that many residents of Chengdu assumed that all luxury housing estates were environmentally-friendly. We wanted to know if environmentally-friendly concepts would then emerge through a freelist of this nature as well as what makes them different from other housing estates.

Some of the highly ranked items discovered in the freelisting exercise were integrated into a semi-structured interview protocol as well as the final survey tool. In Mid-October 2014, before finalizing our survey questions, we conducted 77 semi-structured interviews in all seven of the housing estates that included 11-12⁵⁶ questions. The results of some of these questions that will be discussed in Chapters 5 and 6.

To implement our social survey we returned to all seven of the housing estates for a third and final stage of interviews. First we spent two days in late October pretesting and adjusting our survey instrument at the #5 housing estate in the River Heart neighborhood, a location we did not intend to include in our analysis (Bernard 2006). This also gave us a bit of practice in using the survey tool before we began our actual interviews. Over the next two months we conducted 245 household interviews. The topics of the survey that will be discussed in the dissertation are as follows:

- 1) Socio-Economic Background
- 2) Intra-city Transport
- 3) Ownership of Vehicles and Climate Control Electronics
- 4) Scaled Environmental Perception Questions
- 5) Media
- 6) Environmental Consciousness (open-ended)

The detailed methodology and analysis of the survey's quantitative results will be discussed in Chapters 5, 6, 7 and 8.

⁵⁶ The protocol included a contingency flow where people from two housing estates might be asked an additional question about their participation with housing estate improvement activities.

Discourse Analysis Framework

In this thesis, I draw primarily from the field of functional grammar (Halliday 2004) and critical discourse analysis (CDA) (Fairclough 2003) to establish a linguistic interpretation of the ideological features within the official interpretation of Ecological Civilization. A selection of key theoretical and policy documents developed by the Central Government as a foundation for Ecological Civilization will be analyzed according to their style, voice, word choice and grammatical structure to show how as a genre chain such documents come to frame dialogues, arguments and narratives regarding the “appropriate” way citizens of China should perceive and interact with the environment. Additionally these documents will be analyzed for semantic content from which a set of themes will emerge that connect across the official interpretation of Ecological Civilization. Details regarding the systematic analysis of these documents will be discussed in detail at the beginning of Chapter 3.

Additionally, the qualitative data collected from our social survey will be analyzed for themes according to an inductive grounded theory methodology (Bernard 2006: 493-494). Answers to qualitative questions were coded *in vivo*, meaning that I established these semantic themes based directly on the words and concepts my informants used to answer the qualitative questions in the survey. The most important of these qualitative questions for the thesis asked respondents to provide their own definition of Ecological Civilization. The semantic themes that emerged from the analysis of the local interpretation of Ecological Civilization were then compared with the semantic themes that emerged from the analysis of the official interpretation of Ecological Civilization. The details of how I implement the analysis of the local

interpretation of Ecological Civilization and their comparison with the official interpretation will be discussed in Chapter 8. It should be noted that because the surveys were verbal rather than textual, an analytical method other than CDA was necessary to analyze the semantic content of the responses to our survey questions. However, as I will show in Chapter 8, this does not prevent us from discovering important continuities and discontinuities when making comparisons across the two sets of semantic content related to Ecological Civilization. Moreover, a comparison between the official and local interpretation of Ecological Civilization helps us better understand the extent of the state's control over the rise of an environmental consciousness in China.

Chapter 3: The Rise of an Ecological Civilization Ideology

Ecology includes the existing conditions and relationships between different organisms and between organisms and their environment, also called the natural ecology. Natural ecology has a self-perpetuating developmental order. Human society has changed this order by bringing natural ecology within the scope of what humanity can manipulate; this has formed civilization. Ecological Civilization is about humans adhering to the harmonious development of people, nature and society as well as the material and spiritual achievements obtained through this objective order.
Pan Yue (2006a)

The above statement made by ex-Vice-Minister of Environmental Protection Pan Yue, is one of the most precise ways to define Ecological Civilization as it is understood by the CCP. The precursor for integrating Ecological Civilization into Party ideology began shortly after with the Earth Summit in Rio of 1992 when the CCP began to engage with the idea of sustainability. By 2003 the concept of sustainable development had already become a foundational element for President Hu Jintao's Scientific Development Concept (Mol 2006). As I will show below, Ecological Civilization is an attempt by the CCP to place the concept of sustainability within a more culturally salient environmental ideology. However, by integrating Ecological Civilization within the broader Party ideological canon, significant divergences can be seen between Ecological Civilization and sustainability.

From a global perspective, Goodland (1995) has argued for a focus on the interconnections between social, economic and environmental sustainability. In China, Ecological Civilization finds social sustainability not within a stable civil society, as does Goodland, but within the harmony of different social actors following a path laid down by the CCP. Economic sustainability in an Ecological Civilization would focus on a concern for balancing different forms of capital as long as it ensures economic growth,

which the Party firmly believes forms the basis for a stable society and clean environment. While this emphasis on economic growth might contradict Goodland's understanding of environmental sustainability, an Ecological Civilization is still concerned with "protecting the sources of raw materials for human needs and ensuring the sinks for human wastes" (1995:3). The reason for this emphasis on economic growth lies in the excessive emphasis of a developmental ideology that has been promoted by the military structure of power and held the Party together for nearly a century. This chapter, though, is only partially concerned with a genealogy. The primary focus will be to uncover the discursive features of the ideology so that later on in the thesis we can consider how the ideology draws from and influences the way different groups of people engage with the non-human world in China at the discursive level.

Within the literature there is a well-established pedigree of policy analysis related to environmental concerns in China, much of which is influenced by the analytical framework put forth by Ecological Modernization (Mol 2006). However, most of this literature only ends up reifying the Chinese state's discursive practices by placing a heavy emphasis on promoting environmental protection that supports economic development⁵⁷. In this chapter, I draw primarily from the field of functional grammar (Halliday and Matthiessen 2004) and critical discourse analysis (CDA) (Fairclough 2003) to establish a linguistic interpretation of the ideological features of Ecological Civilization. Below, I follow two steps in an analysis of a selection of key

⁵⁷ Gonzalez (2005) and Hajer (1995) provide a similar critique of Ecological Modernization. Li and Lang (2010) have also demonstrated how the MEP's short-term implementation of the Green GDP may have fit with Ecological Modernization norms about how environmental governance should be implemented, but it ignored the way a focus on economic development within the state resulted in government agencies deprioritizing regulatory measures for protecting the environment.

theoretical and policy documents developed by the Central Government as a foundation for Ecological Civilization.

In the first section of this chapter, while explaining the origins and theoretical foundation of Ecological Civilization, I will also examine the style, voice, word choice and grammatical structure of this material to show how the state frames dialogues, arguments and narratives regarding the “appropriate” way citizens of China should perceive and interact with the environment. Much of this analysis follows Fairclough’s understanding of how ideology is bound together through various linguistic features of what he describes as genre chains, or networks of texts “linking together social events in different social practices... facilitating the enhanced capacity for ‘action at a distance’... and therefore facilitating the exercise of power” (2003:31).

Following Silverstein (1993, 1996), I argue that the nature of ideology is complex because many of the linguistic features that I will discuss below have either become embedded within or were even appropriated from the language of how people engage with their environment on an everyday basis in China. Glaeser (2011:53) shows that validation of an ideology by an interlocutor occurs through the recognition of the ideology’s authoritative nature, corroboration of the actions these ideologies guide us towards and the level of resonance the ideology shares with pre-existing understandings. One way we can examine whether or not the Ecological Civilization ideology has achieved a certain level of validation, thereby making it capable of exercising power throughout Chinese society, is by examining the level of semantic resonance that is shared between the official interpretation found within these texts and local interpretations provided by my informants. Thus, in the second part of this chapter, I

draw from the Hallidayian understanding of clauses being structured by the Theme, or the sematic point of departure for a clause, and the Rheme, the remainder of the clause in which the Theme is developed (Halliday and Matthiessen 2004:65-107), to analyse a selection of government documents central to the Ecological Civilization ideology. As I will show, a set of semantic themes found within the official interpretation of Ecological Civilization will emerge from this analysis. As we will see throughout the rest of the thesis, these semantic themes intersect with the lives of Chengdu residents in a variety of ways.

Moreover, this stage of the analysis is crucial because after reviewing the way residents of Chengdu perceive and act upon their environment, I will then in Chapter 8 analyse the local interpretations of Ecological Civilization by respondents to our household survey. The semantic themes that emerge from that analysis will then be contrasted with those discussed in this chapter, to determine to what extent semantic resonance is shared between the official and local interpretations of the Ecological Civilization ideology. Before we approach this comparison it is necessary to first understand what exactly an Ecological Civilization is according to the Chinese state.

Origins

Perhaps to give the ideology more universal appeal, the origin of the term Ecological Civilization is not explicit within the Central Government policy documents or even some of the early Party theoretical papers. Some scholars trace the concept back to Professor Ye Qianji of Southwest University in Chongqing, who has been influential

in the promotion of “ecological agriculture⁵⁸” throughout his life⁵⁹. Professor Ye is a member of the China Democratic League and once spent time as an agronomist in Cornell before 1949. The mention of “Ecological Civilization” in his work seems quite cursory, but draws from a common unilinear evolutionary understanding of human progression from barbarism, savagery up to civilization. In the first stage humans were supposedly ignorant of their relationship with nature while in the second stage humans viewed themselves in competition with nature and made themselves lords over the non-human world. In Professor Ye’s framework Civilization only arrives when humans learn that they co-exist in a harmonious relationship with nature. For Professor Ye, the ecological crises he saw forming in China even in the late 1980s were proof of this lack of “civilization” and that Ecological Civilization could only to be realized in the 21st century (1988:333-334).

It is not entirely clear how such a discourse might have jumped from academia into the world of Party ideology⁶⁰. About a decade after Ye Qianji’s writings on Ecological Civilization were published, the concept began to appear in the People’s Daily. At first, Ecological Civilization did reflect a concern within the Party for promoting ecological agriculture although the article never mentioned Ye Qianji by

⁵⁸ From my reading of Ye Qianji’s work (1988), I believe there are differences between his conception of the term 生態農業 and agroecology, which is why I use a more direct translation here. For instance, a primary definition of “ecological agriculture” for Ye was to “ensure a stable balance of shifts in energy and material recycling within an ecological system over the long-term. This system would maximize biodiversity, biomass and productivity.” (1988:50). One other hallmark of Ye’s work was to utilize the relationship between ecology, technology and economics to formulate agricultural plans. Most agroecologists tend to also stress that society and culture play important roles in such agricultural plans (Gliessman 1990, Altieri 1995), but there are examples of agroecology studies that draw from this emphasis on economics, including those related to agricultural production in China (Wen and Pimentel 1990).

⁵⁹ See for instance the following website from 2013 commemorating Ye Qianji’s 104th birthday and specifically pointing out his contribution to the Construction of an Ecological Civilization <http://www.mmcschw.org/web/detail.asp?id=1207>,

⁶⁰ Although see Liu (1999) who later established an important Ecological Civilization think tank. See Chapter 4.

name (Wang 1997)⁶¹. This article used Ecological Civilization as an adjective phrase to describe a type of sustainable development making it the first attempt by the Party to combine the global concept of sustainable development (Brundtland et al. 1987) with Ecological Civilization and thereby providing sustainable development with a context more suited to the PRC. By this I mean that it was only by placing sustainable development within a unilinear evolutionary context such as Ecological Civilization that the Party was able to ensure that sustainable development could properly integrate within the rest of the CCP ideological canon.

In 1999, Ecological Civilization was taken out of its agriculturalist context in a front page article of the People's Daily to describe policies in the coastal city of Yantai, which included hiring a Singaporean urban planner to create a balanced development guideline. This required the removal of a number of heavy industries from the city center and reforming the energy sector to burn less coal in exchange for using more "clean energy sources" such as oil, gas and electricity with the explicit goal of "purify the water, purify the soil and purify the air" (Jiang and Liu 1999). This trifecta of air, water and soil reappears throughout the Ecological Civilization ideology. This particular article also highlighted the "circular economy" features of their plan that ensured they could efficiently utilize resources to support economic growth without the intense levels of pollution seen in the past.

In 2002, another front page article appeared (People's Daily 2002), but this time it primarily described a model village that Hainan Province used to establish themselves as an "ecological province". The crucial twist for this article is that the model village

⁶¹ The primary focus of the article examines three specific projects: greening projects, anti-desertification projects and water projects. Most of these focused on battling the problem of soil erosion along the Yellow River in Northern China.

was directly engaged in promoting the “Three Represents” and discovered difficulty in doing so without specifically confronting the “messy, dirty, low-quality” (or 亂、髒、差) aspects of development. At this fairly early point Ecological Civilization is already engaging directly with Party canon such as the Three Represents, which was the primary ideological framework for promoting economic reform during the Jiang Zemin Era (Dickson 2007). Nevertheless, it was not until 2008 that Ecological Civilization came to regularly describe an ideological focus for the party within the pages of the People’s Daily.

In the intervening years the concept matured most notably through the writing of Pan Yue⁶² who established key concepts and set the foundation for Ecological Civilization to be integrated within the broader corpus of Party ideology. One of Pan Yue’s earliest articles (2003) was published in *Green Leaf* (綠葉), the theoretical journal of the MEP. Although the article focuses on environmental politics in “Western” Civilization, Pan Yue takes a temporal approach similar to Ye Qianli where he contrasts a historical shift from Agricultural to Industrial Civilization⁶³. According to Pan, during this transition, industry stimulated rapid technological advancement and economic development that raised the quality of life. However, at the same time, the West:

used up natural resources around the world at an alarming rate, emitted a large amount of pollution that nature was unable to absorb, destroyed the natural cycles and equilibrium of the global ecological system thereby

⁶² At the time Pan Yue was the Vice-Director of Environmental Protection and saw the transition of the agency into the Ministry of Environmental Protection (MEP). As of March 2016 he has been transferred to become the Dean of the Institute of Social Science Research.

⁶³ In this early article Pan Yue separates Industrial Civilization into two types. He uses the adjective 傳統 (traditional) to describe the first period of industrial civilization (i.e. 傳統工業文明, Traditional Industrial Civilization) and then ecological (生態) as a contrasting adjective to describe the second period of industrialization. As far as I am aware, this is the only place that 生態工業文明 (Ecological Industrial Civilization) appears in any high-level theoretical piece, therefore in the main text I will use only Agricultural, Industrial and Ecological Civilization for continuity.

deteriorating the relationship between humans and nature that has created severe environmental crises threatening the further development of human existence. (Pan 2003: 6)

According to Pan Yue, it is also this collapse of global ecology that has led to a reflective criticism of Industrial Civilization and the rise of a new “Environmental Culture” around the world that has culminated in Ecological Civilization. There is also a unique tension between Agricultural Civilization and Ecological Civilization as well. As Pan Yue argues (2003) it is the circular nature of a “traditional” agricultural economy that guided the kind of human-nature relationships that an Ecological Civilization also requires for promoting a “circular economy”. Despite this foundational element that draws from a rural cultural logic of circularity, as I will show below, a fairly blatant urban bias emerges as Ecological Civilization becomes further integrated into the formation of policy. In this new ideological formation, human-nature and human-human relationships are harmonious, ensuring that humans continue to have “the right to enjoy a material lifestyle, freedom and happiness”, while recognizing that such a “right is constrained within the limits permitted by the carrying capacity of the environment” (2003:6)⁶⁴.

While China is influenced by this global culture of environmentalism, Pan Yue argues most of the principles of Ecological Civilization can be found within “traditional” Chinese culture, most notably in Confucian, Daoist and Buddhist thought, but some are even traced back to the Xia, Zhou and Qin Dynasty’s authoritarian restrictions on hunting, fishing and logging during specific times of the year. This becomes particularly evident when he explains that the nature of law and morality are drawn directly from the

⁶⁴ In this early article Pan Yue also cautions us from incorrectly assuming that science and technology will solve these constraint problems, but this idea does not appear in latter formations of the ideology.

Confucian notion of 道德 and the Daoist notion of 道法. 道德 he claims are “human ethical principles manifested through the Laws of Nature established by Heaven”, while 道法 are “socio-legal principles manifested through the Laws of Nature established by Heaven” (Pan 2003: 10). In other words, ethical principles guide the work of environmental administrators and those who are managed by those administrators should be aware of and act according to the Law of Nature. Legal principles provide reason to enforce punitive actions when the Law of Nature is broken and causes harm to a group of people. Very similar language emerges in the idea of rights and responsibilities found throughout the Ecological Civilization ideology and has very specific implications for China’s recently established Environmental Law as will become clear in the second half of this chapter. Moreover, the historical legacy of Ecological Civilization ensures that the ethical and socio-legal principles that become central to environmental policy and management are embedded within symbols of timelessness and universality that Daoism and Confucianism represents in China.

A large temporal jump is then made into the arguments Marx and Engels made regarding human-nature relationships. For instance, Engels’ statement in *Dialectics of Nature* “Let us not, however, flatter ourselves overmuch on account of our human victories over nature. For each such victory nature takes its revenge on us” (Marx and Engels 1987:460-61) finds its way into nearly every theoretical discussion of Ecological Civilization⁶⁵. In another article by Pan Yue these Marxist connections become even more pronounced where he extends the quotation of Engels:

⁶⁵ For instance, Pan Yue’s previous boss Zhou Shengxian (2008) also used this quote in another theoretical formation of Ecological Civilization.

But the more this progresses the more will men not only feel but also know their oneness with nature, and the more impossible will become the senseless and unnatural idea of a contrast between mind and matter, man and nature, soul and body, such as arose after the decline of classical antiquity in Europe and obtained its highest elaboration in Christianity. (2006a:17-18)⁶⁶

Here we can see an explicit example of Pan Yue through the voice of Engels rejecting the nature/culture dichotomy arguing instead for a historical materialist understanding of culture as an embodiment of nature. A commonly referenced Marx quote, also found in this article by Pan Yue (2006a), comes from the *Economic and Philosophical Manuscripts of 1844*

...communism therefore as the complete return of man to himself as a *social* (i.e., human) being, a return which has become conscious, and accomplished within the entire wealth of previous development. This communism, as fully-developed naturalism equals humanism, and as fully-developed humanism equals naturalism; it is the *genuine* resolution of the conflict between man and nature and between man and man the true resolution of the strife between existence and essence, between objectification and self-confirmation, between freedom and necessity, between the individual and the species. (Marx and Engels 1974:102-103, original emphasis)

Utilizing quotes from Marx and Engels not only lends legitimacy to the theoretical foundations that Pan Yue wishes to emphasize but the quotations gain an indexical quality that ties these documents together.

Here by indexical quotations I am referring to the fact that in party documents the words of Marx or even Confucius point the reader not necessarily towards the meaning of the words, but towards the legitimacy of the document as representing Party

⁶⁶ The Chinese rendition of this quote completely drops any mention of Europe or Christianity. The translation of Engels found in Pan Yue's article and other theoretical formations of Ecological Civilization tends to come from the 1995 version of 馬克思恩格斯全集 (Marx and Engels 1995: 384). Although Pan Yue does not include a proper citation the same quote was used and clearly cited by Sun Yinsheng (2008). The English translation used here comes from Marx and Engels (1987:462).

ideology⁶⁷. Quotations become an index in the sense that when they are used in other Ecological Civilization documents they denote that there is a connection, or a genre chain (Fairclough 2003), to these theoretical foundations. This allows, for instance, policy statements intending to stimulate social action to appear to be grounded within a historical legacy tracing back to Marx and even the Xia Dynasty. This historical legacy provides a powerful discursive cover for Ecological Civilization making it risky or, more importantly, illogical, to question the ideology and the policies based on its ideals⁶⁸.

Quotations that exhibit this indexical structure are not limited to historical references. Pan Yue's (2006a) theoretical foundation also provides a sense of newness to Ecological Civilization giving the ideology a revolutionary connotation that helps to integrate it within Party ideology, which has always been framed as exhibiting a perpetually revolutionary quality⁶⁹. As we will see, that revolutionary quality is dominated by and in some cases even negated by the need for "coordination" and "harmony" within the political system. Ultimately, Pan Yue ties Ecological Civilization to the core ideologies established by both Jiang Zemin and Hu Jintao. The former is often cited as saying that "Sustainable Development needs to continue to increase, the ecological environment must improve; there will be a marked increase in the efficient

⁶⁷ As Blommaert explains, "Indexicality is one of the points where the social and cultural order enters language and communicative behavior." (2005:172).

⁶⁸ While the intended audience of this discursive construction may be government cadres, the fact is that such a historical legacy has also come to influence the way Ecological Civilization is presented to the public as well. At multiple times in my research I would often hear people explain to me the rules for hunting and cutting firewood developed in antiquity as examples of a historical Chinese environmental consciousness. Moreover, some of my NGO informants draw from Daoist and Buddhist discourses for a cultural logic to support their environmental actions. For an additional example see Hale (2013: Chapter 6). However, Marx and Engels are rarely invoked except by high-level government officials like Pan Yue or academics working in think tanks, see Chapter 4 for examples of the later.

⁶⁹ Pan Yue (2006b) also engages with ideas of participation and transparency in his theoretical foundation of Ecological Civilization that opens up the conceptual space for the kind of thinking that is more commonly found in the environmental discourses presented by some academic circles and NGOs.

use of resources, promotion of the harmonious existence between humans and nature, and encouragement for all of society to walk the road of civilization through production development, a rich life, a good ecology⁷⁰ (Jiang 2002) while the latter is cited as saying that “development is centered on the economic construct; economics, politics and culture interact to coordinate development, which is to promote the harmonization of humans and nature within sustainable development⁷¹”. While these quotations appear to be nothing more than rhetorical nonsense, they signal the intention to integrate Ecological Civilization into the Party canon, particularly with the Three Represents and Scientific Development. It becomes necessary for Ecological Civilization to then refer back to the party canon simply by referencing them at the beginning of a policy document⁷². Pan Yue (2003, 2006a) often embeds the Three Represents and Scientific Development within Ecological Civilization in an ambiguous way, but the theoretical foundation written by previous Minister of Environmental Protection Zhou Shengxian (2008) takes on a more serious tone providing the enforcement of Ecological Civilization policy an air of legitimacy that it needs to take action against polluters.

There are also a number of semantic features that commonly appear within Ecological Civilization, such as the use of color. “If we say that Agricultural Civilization is a “Yellow” Civilization, Industrial Civilization is a “Black Civilization”,

⁷⁰Jiang was using a typical discursive device in the last line of this phrase by using the character 生 to denote three different aspects of civilization: 生產 (production), 生活 (life) and 生態 (ecology). This makes it particularly awkward to translate into English but makes perfect sense in the preferred discursive style of a CCP cadre. This quote came from Jiang’s report to the 16th Chinese National People’s Congress which mentioned little about environmental issues; it was the last time Ecological Civilization would be given such short shrift by a standing chairman.

⁷¹ See Pan (2003:11) for an example of how these quotes are integrated into his theoretical foundation of Ecological Civilization. It is not entirely clear from which speech this particular phrase emerged, but it has become part of the canon surrounding the establishment of Hu Jintao’s Scientific Development concept, see Han (2012).

⁷² Thus, in policy documents the phrase “Three Represents” and “Scientific Development” takes on an indexical quality and are almost always presented in the very first article of a policy.

then Ecological Civilization is a “Green Civilization” (Pan 2006:16)⁷³. Here “Yellow” is meant to symbolize the color of the loess and evokes connotations of the “Culture of the Central Plain” where Chinese Civilization is thought to have originated. Thus, the ideology once again highlights the tension that there is something “good” to be found in China’s agricultural past, but only as a means to move us into a better future. “Black” is meant to evoke images of coal and polluting factories, thereby making industrialization the problem that can only be solved by transitioning to an Ecological Civilization. “Green” brings to mind healthy plant life and I would also argue that the gloss for green (綠) brings to mind that which is new and progressive⁷⁴. Much as it is elsewhere in the world, “green” is often used by environmentalists to symbolize their activities and the very popular concept of greenery (綠化) is used to describe the landscaping of urban environments, which I describe more in Chapter 7.

Zhou Shengxian expands on the color metaphor but focuses on the tension between Ecological Civilization and Industrial Civilization:

When we do not pursue the higher realm of an Ecological Civilization, but simply pursue economic growth, this explains the seriousness of the environment’s ecological condition, which is the result of the fact that most people have yet to enjoy the fruits of Industrial Civilization. Moreover, the cost of Industrial Civilization has already led us down a path to ruin. Therefore, we must emphasize Scientific Development and lay stress on development’s holistic, sustainable and *coordinating* nature. This has already transcended Industrial Civilization; it is a requirement of an Ecological Civilization. (2008:14, my emphasis)

As we will see the more important concept within the Ecological Civilization framework as it moves into the realm of policy is “coordination” (協調). According to the Party,

⁷³ These glosses are 黃色文明、黑色文明、綠色文明

⁷⁴ After all a more classical gloss like 青 could very well have been used, but this brings to mind classical poetry and ancient philosophy.

coordination is central for establishing “harmony” (和諧) between the conflicting aspects of economic development and ecological stability. Both “harmony” and “coordination” were central ideological themes during the Hu Jintao era, culminating in the previous Chairman’s Construction of a Harmonious Society ideology (Joshi 2012).

Zhou Shengxian also argued that:

Today the harmony between humans and nature that we say we are pursuing, absolutely is not about returning to the harmony of a primitive society, but rather it is on the foundation of the full speed development of productive forces, fast-paced growth of social wealth, and an obvious improvement in people’s quality of life, that we will pursue and establish a new, higher level of harmony that is more adaptive and a perfect match [for society]. (2008: 12-13)

We can see how this interpretation of Ecological Civilization places a great deal of emphasis on the centrality of economic development that contrasts with the more steadfast rejection of Industrial Civilization proposed by Pan Yue.

However, Pan Yue’s writing is not entirely focused on environmental protection even at the expense of economic development. The historical sedimentation of the developmental ideology within the Party and everyday social life that I outlined in Chapter 2 would make that unlikely. For Pan Yue to integrate economic development into his formulation of Ecological Civilization requires some syntactic hurdles. For instance after stressing the dichotomy between nature and humans commonly seen in Western philosophy, he argues that:

Ecological Civilization believes that not only humans have subjectivity, nature also has a subjectivity; not only people have value, nature also has value; not only people have agency, nature also has agency; not only humans depend on nature, all living things depend on nature. (2006:16)

The “not only...also” (不僅...也) syntactic structure in this sentence is commonly seen in dialectal arguments found in Party ideology and in this case gives the reader the

impression that neither humans nor nature are given dominance within an Ecological Civilization. However, such a structure cannot be sustained within Party ideology and he has to shift his grammatical structure in a following sentence:

Ecological Civilization is a social formation that has completely unified the nature of humanity and ecology. This kind of unification is not submission of ecology within humanity, nor is it the submission of humanity within ecology. In today's language, the premise of a people oriented principle of ecological harmony is overall development for everyone. (Pan 2006:16)

Here “not only...also” shifts to “is not...nor is” (不是...也不是) and the resulting formation is a synthesis of the previous dialectic, although it would be difficult to argue such a synthesis points towards an eco-centric ideology as some have interpreted (e.g., Gare 2010, Magdoff 2011). Pan Yue actually contradicts himself because in the final sentence Ecological Civilization is precisely a submission of ecology within humanity to ensure overall development *for all humans*, not for the benefit of ecology as a whole. Thus, the keywords in Pan Yue's work are “harmony” and “people oriented”, the latter of which was also a prominent element within the Hu Jintao era ideological canon (Joshi 2012).

Another syntactic structure that is more commonly found within all Party ideological documents are shifts in modality (Fairclough 2003). For instance, while Dynon (2008) is correct that Pan Yue had argued that Ecological Civilization is more important than material, spiritual and political civilization, consider the following two examples of modal shifts⁷⁵:

1) Ecological Civilization can only be Socialist.

⁷⁵ See Fairclough (2003:165) for a summary of the relationship between modality and ideology. Modality takes various forms within discourse and as Verschueren explained “it involves the many ways in which attitudes can be expressed towards the ‘pure’ reference-and-predication content of an utterance, signaling factuality, degrees of certainty or doubt, vagueness, possibility, necessity, and even permission and obligation” (1999:129).

2) Ecological Civilization should become the foundation for a Socialist civilizational system. (Pan 2006a:18)⁷⁶

Here the verbal shifts from “can only be” (只能是) to “should become” (應成為) exhibit the author’s commitment to the truth of the relationship between Ecological Civilization and Socialism. For Party members it would be quite clear that Ecological Civilization is a part of a Socialist system. However, it is more difficult to commit to a statement that Ecological Civilization is the foundation of Socialism, particularly a “Socialism with Chinese Characteristics” arguing for promoting a Harmonious Society that combines economic, political, cultural, social and ecological civilizational constructs⁷⁷.

Another common syntactic feature is the transformation of either subjects or predicated nouns into obscure categories or in some cases leaving them missing from the sentence structure altogether. For instance Zhou Shengxian states that:

In the process of pursuing personal benefit, humans once intentionally and unintentionally destroyed the harmony of development. The wisdom of correcting one’s own mistakes is often lost due to the inducement of present benefit. Moving further along this mistaken path sends one into an unprecedented crisis. (2008:15)

Here the subject of this critique is left ambiguous as “humans” (人類) and it is rare that any party document would state exactly which group of humans “destroyed the harmony

⁷⁶ These clauses appear directly before the quote that Dynon (2008: 107) is referring to above, although he cites Pan Yue through another author. It is most likely Dynon was not aware of the kinds of tensions and contradictions I am highlighting here.

⁷⁷ Moreover, it is not a coincidence that these five features are always arranged in this order with Ecological Civilization at the end. Dynon (2008) and Liu (2013) are correct that the other four “civilizational constructs” did precede the integration of Ecological Civilization within the party canon. However, all of the other four glosses within the 五位一体 system have dropped the word “civilization”, only Ecological Civilization is allowed to keep that distinction. I believe there are two reasons for this: 1) the concept of “ecology” entered party ideology through the discursive feature of “civilization”, while the other four were earlier connected to party ideology in various ways, 2) if the Party was to drop the sematic element of “civilization” from the gloss, it would make it very difficult for the concept to retain its anthropocentric perspective.

of development”. The reader is meant to believe that we all were once responsible for such behavior sending individuals “into an unprecedented crisis”. It is also important to note that it is the “self/one” (自己) and not society that is sent into crisis, drawing a connection between the disastrous effects perpetrated by the ambiguous “humans” upon the very specific “self”. He then turns the next sentence into one about “us” (我們):

Then, when we break through the benefit barrier and come to recognize the accumulative unlimited vitality of harmony, through purifying wisdom [we] become more resolute and turn it towards guiding the behavior of social development.

There are two important features to take away from this syntactic relationship. One is that the “we” is all inclusive so that it appears that everyone in society is equally responsible for breaking this “benefit barrier”. However, in the second clause the pronoun structure is implicit, thereby not specifying who would be responsible for “guiding the behavior of social development”. Such formations are important for structuring what later become discussions of participation in an Ecological Civilization. In this case, regardless if some groups of individuals are more susceptible to “pursuing personal benefit” than others, it is the responsibility of everyone in society to change this behavior. More importantly it is left ambiguous as to who gets to use “wisdom” to guide social behavior. Of course, following Party tradition both the “we”, “humans” and even the unspecified pronoun would be interpreted as “the Masses” and through consensus, or at least the Party’s imagination of consensus (Perry 2015), it is always true that “the Masses” are represented by the appropriate Party members who guide social behavior.

Many of these different linguistic features of the Ecological Civilization ideology are integrated within a hegemonic hierarchy. By hegemonic I mean to say that,

despite many of the arguments being couched within a typically dialectal structure, there are specific ways ideology provides signals to the reader that one element is more important than the others. In fact much of this hierarchy I have explained at length already. For instance, that which is new is primary to that which is old. This temporal hierarchy naturally supports the unilinear progression of the civilizations. Thus, despite learning from some features of Agricultural Civilization and Classical Chinese thought, it is Ecological Civilization and the works of China's present leaders that will provide solutions to the current environmental problems in China. This progression also leads to a bias within the ideology that portrays agriculturalists as backward and the source of many types of pollution, often leading to unfair emphasis on controlling the environmental action of agriculturalists in the creation of policy. For instance, as I will show in Chapter 4, Sichuan has air pollution regulations that place heavy fines on farmers for burning their fields but have no regulations that spell out specific fines to be levied against coal-fired power plants that do not properly run the scrubbers on their smokestacks.

This also produces a spatial hierarchy that overlays the temporal, so that the rural regions of China are viewed as uncivilized, periurban regions are considered to be the home of polluting industries and even a hierarchy between core and peripheral cities can be seen⁷⁸. A broader spatial connection between China and globalization is even more

⁷⁸Spatial relations are not necessarily conceived as linear like the temporal features. For instance, some locations are described as relatively untouched by human influence. Their pristineness is proof that "nature" truly exists and requires a very paternalistic form of preservation. Those who live near these areas are more often than not ethnic minorities who are often praised for their deep connection with nature but also paternalistically portrayed as in need of protecting or in need of development, which is expertly described by Yeh (2013). These aspects are also exhibited in the tourism practices of those included in our social surveys and my own ethnographic research. However, due to issues of space, I have decided to discuss these issues elsewhere. For the purposes of the dissertation, the importance of the spatial argument is best highlighted in the rural/urban dichotomy that is central to the Ecological Civilization ideology.

conflicted within the ideology. At one level, Ecological Civilization is portrayed as being part of a global environmentalist awakening and an opportunity for Chinese to utilize the best environmental practices from around the world. At another level, it is described as a unique historical formation that has emerged in China alone and is a crucial feature of the “Great Rejuvenation of the Chinese Nation”⁷⁹. In this way, Ecological Civilization is often strongly contrasted with “Western” capitalism and environmentalism. As Pan Yue notes “The West lost the opportunity to develop an Ecological Civilization. A lost opportunity for the West provided the Chinese Nation with an opportunity of a transcending style of development” (2006a: 17).

By highlighting these semiotic, semantic and syntactic features found in the theoretical foundation of Ecological Civilization, I have accomplished two goals. First, is to show that, through a close reading of the foundational texts, Ecological Civilization has been integrated into Party ideology by incorporating indexical quotations of leaders and philosophers as well as culturally salient symbols that provide the ideology with a sense of appeal for a Chinese audience, but also that it serves to distract that audience from the hierarchical elements of the ideology that, just like all CCP ideology, continues to privilege economic development over environmental protection and focus the blame of China’s environmental problems away from urban lifestyles and onto periurban industrial workers and rural farmers. This close reading is important not only because it challenges Ren Zhongping’s framing of Ecological Civilization discussed in Chapter 1 as somehow revolutionizing China’s mode of environmental governance, but also it calls into question some of the commentary from beyond China that has seemed to

⁷⁹ Xi Jinping has said this on multiple occasions but none more forcefully than at the 2013 Annual Ecological Civilization International Conference at Guiyang (Xi 2013).

uncritically echo the Party in its promotion of the ideology (e.g., Magdoff 2011, Gare 2010)⁸⁰. Moreover, if Foster (2015) is correct that public discontent with the environmental problems China now faces “has been followed up by massive government efforts in the area of planning, production, and technological development” all under the banner of Ecological Civilization, then it is important to examine this “massive government effort” more closely.

Through this close reading of the theoretical foundation of Ecological Civilization, I have achieved a second goal in establishing a framework for analyzing policy documents as well as social discourse. Within this framework I include 1) modal shifts, 2) obscuring or accentuating subjects and objects, 3) dialectal grammar, 4) semantic themes (colors, old/new, discord/harmony, economic/environmental, air/water/soil), 5) indexical quotes (Classical Chinese, Marx, Chinese Leaders), 6) unilinear progression of civilizations, 7) hierarchical system. In the following section we will see that these linguistic features shift, expand or even lose relevance as the ideology becomes compressed in a way that allows it to structure Central Government policy. Through the idea of ideological compression I am extending on the idea of indexical quotations. When we turn to the way policy is created in the name of the Ecological Civilization ideology, we will see that much of the content described within the theoretical foundation is reduced or compressed, because it is assumed that the reader of

⁸⁰ These scholarly engagements have also resulted in multiple international conferences including the Seizing an Alternative: Toward an Ecological Civilization conference (<https://www.ctr4process.org/whitehead2015/>) that was held in Pomona, California in 2015, drawing some of the biggest names in environmental circles, such as Bill McKibben, Vandana Shiva, and Herman Daly. To my knowledge the conference was not intended to critically reflect on this state promoted ideology and how it is influencing environmental consciousness or even environmental governance in China. Instead the phrase was used as a catch-all to promote a number of ideas ranging from Ecological Economics and Environmental Justice to Whiteheadian Philosophy. There is nothing particularly wrong with this, except that it is not necessarily compatible with the way the Chinese state itself is promoting the ideology.

a given policy already understands that content and it is unnecessary to explain the relationship between theory and policy or the normative reasons for structuring environmental governance in a particular way. From this compression emerges some clear semantic patterns, or what I describe as semantic themes. Moreover, these semantic themes are dominated by a single ideological dimension that has been obfuscated within the theoretical foundation: the unquestionable need to promote environmental protection but only as a means of furthering economic development.

Central Government Documents

The first mention of Ecological Civilization by a Party Chairman comes from Hu Jintao's presentation of the 12th Five Year Guideline in March 2011 where it was integrated into the "Five in One" ideological structure, or the Economic, Political, Cultural, Social and Ecological Civilization Constructs. However, for most of the Hu Jintao era, it was not Ecological Civilization but rather Green or Sustainable Development that were more central to party ideology. About 18 months later, during the first plenary of the 18th National Congress leading to the transfer of power from Hu Jintao to Xi Jinping, Ecological Civilization replaced Green Development as the guiding ideological principle for the Party's environmental policies. Moreover, it was this change that led to the Central Government establishing a number of key documents under the Ecological Civilization banner over the following three years, five of which I will analyze below. The basic information for these documents can be seen in Figure 3.1.

Name	Shortned Name	Chinese Name	Publication Date	Issuing Bureau	Citation
Air Pollution Prevention Action Plan	APPAP	大氣污染防治行動計劃	2013/9/10	中共中央國務院	China State Council 2013
Environmental Protection Law	EPL	中華人民共和國環境保護法	2014/4/25	第十二屆全國人民代表大會常務委員會第八次會議	NPC 2014
Water Pollution Prevention Action Plan	WPPAP	水污染防治行動計劃	2015/4/2	中共中央國務院	China State Council 2015a
A Suggestion for Speeding Up the Advancement of an Ecological Civilization Construct	Suggestion	關於加快推進生態文明建設的意見	2015/4/25	中共中央國務院	China State Council 2015b
General Scheme for the Reform of the Ecological Civilization System	General Scheme	生態文明體制改革總體方案	2015/9/21	中共中央國務院	China State Council 2015c

Figure 3.1 Five Key Ecological Civilization Documents

The Environmental Protection Law (EPL) was recently updated by the People’s National Congress from the original 1989 version. Within this new draft, Ecological Civilization plays a primary ideological role. The articles within the new law were debated for many years prior to its acceptance in 2014 and these articles influenced the drafting of the other policy documents discussed here. The EPL’s intended audience was for state workers and owners of private enterprises but also the general public, which will become more apparent below. The Air Pollution Prevention Action Plan (APPAP) and Water Pollution Prevention Action Plan (WPPAP) do not have legal standing, but they do include a number of specific features that are intended to influence the direction policy on these two topics will take in the future⁸¹. The intended audience for these documents is more reduced than the EPL and is concentrated mainly on getting the attention of fairly high-level cadres in the MEP and various Provincial-level EPAs.

The “A Suggestion for Speeding up the Advancement of an Ecological Civilization Construct” (Suggestion) and the “General Scheme for the Reform of the Ecological Civilization System” (General Scheme) documents are broad policy

⁸¹ Unfortunately the Soil Pollution Prevention Action Plan was not released during the course of this study, which is why I do not include it here.

directives that provide Ecological Civilization with a number of key concepts, many of which were drawn from the EPL. It is better to think of the Suggestion document as a bridge between the very vague EPL and the refined General Scheme. The latter was published by the State Council but with direct involvement from the Economic and Ecological Civilization Specialized Group (EECSG), a subsidiary of the Deepening Reform Leadership Small Group (DRLSG). This specialized group was organized in 2013 in an attempt to stimulate creative but practical ideas for implementing an ambitious reform program during Xi Jinping's tenure (Naughton 2014). The EECSG is focused on integrating environmental policy within economic planning, but according to an interview in March 2014 with Yang Weimin, the spokesperson for the DRLSG, of the seven duties on their agenda only the last item on their list had anything to do with environmental policy (Zhang and An 2014). Nevertheless, Suggestions was released by the State Council a year after the establishment of the EECSG in order to collect ideas from similarly structured specialty groups at lower levels of the government⁸². The information that was collected supposedly helped support the development of the General Scheme, which in turn is a framework for structuring the environmental policy found within the 13th Five Year Guideline⁸³. Thus, the Suggestions and General Scheme are intended primarily to provide guidance to Party members regarding the direction the Central Government intends to take with regard to environmental governance, the

⁸² Unfortunately, information about these groups at the local level is very limited, but see Cui (2015). In one extreme case, the name of the city which organized a similar Small Group was not written anywhere in the document. See http://www.yqfgw.gov.cn/art/2014/7/24/art_19469_488198.html Initially, my computer could not load the banner for the city government logo making the document appear as if it could have been from any city government body in the PRC. However, it does include the name of a Vice-Secretary, Yang Quansheng, which led me to discover the page was created by the Development and Reform Commission of Yangquan City in Shaanxi.

⁸³ The 13th Five Year Guideline was not released until March 2016.

documents do potentially have implications for policy that could impact all members of society in the PRC.

These five documents were chosen for two reasons. First, because they were the most important documents related to environmental policy created by the Central Government during the period of my fieldwork. Thus, the topics discussed below that are shared across the documents demonstrate a level of continuity within the Ecological Civilization ideology, at least in how it was interpreted by the state, over that two year period⁸⁴. Second, I chose two documents with specific agendas (the APPAP and WPPAP) and three that were more general in their focus towards environmental policy. In this way I hoped to uncover patterns across the ideology regardless of the document's degree of specificity, stated goal or intended audience. Therefore, the selection of these documents was meant to support the analysis of to what extent the features in the theoretical foundation discussed above could be found throughout recent Central Government environmental policy.

All five documents share a number of continuities and discontinuities with the seven linguistic features found in the discourse analysis framework described in the previous section. For instance, they integrate indexical citations of Party canon associated with recent leaders. The General Scheme does this by stating that the document is organized according to Deng Xiaoping Thought, the Three Represents and an Outlook on Scientific Development. The Suggestion on the other hand highlights the

⁸⁴ There is also an important temporal element here to consider with regard to the surveys I conducted and the analysis of the local interpretations of Ecological Civilization that I discuss in Chapter 8. After all, as I discussed at the beginning of this chapter, if I want to determine whether there is semantic resonance between the official and local interpretations of Ecological Civilization, it would not make sense to analyze documents too far in the past, nor too far into the future. The APPAP and the General Scheme were published almost exactly one year before and one year after I began my survey, which is an arbitrary but necessary temporal limit for this analysis.

phrase “People-Centered Development” and “Harmonious Society” as a means of referencing Hu Jintao. Newly added indexical quotes have been added as well. For instance, the awkwardly translated clause “the China Dream⁸⁵ of the Great Rejuvenation of the Chinese Nation” appears in the Suggestion, while the General Scheme claims to “deeply engage with the spirit of Xi Jinping’s series of important speeches⁸⁶”. These are both examples that designate these Ecological Civilization documents as belonging to Xi Jinping’s ideological contribution to the Party canon. There are some indexical pieces missing from these documents, such as quotes from Ancient Chinese thought and Marx. Moreover, the EPL does not integrate any indexical quotes from previous leaders into its structure, which could be because it is considered a foundational legal document and therefore interpreted as being less ideological⁸⁷.

Some may say that the EPL does not read like law as understood in regions of the world that proscribe to a Roman legal heritage⁸⁸. For instance, the use of the modal verb “shall” (應當) appears with high regularity, making the document read more like a

⁸⁵ The China Dream is Xi Jinping’s primary contribution to the party ideology. See Zheng and Gore (2015:2)

⁸⁶ This is a reference to a number of select quotations from Xi Jinping that Party cadres are now asked to memorize. Many can be found in a book he recently published (Xi 2014).

⁸⁷ However, it most certainly is not non-ideological. If we look at changes to environmental law over time, there is an indexical quality within Article 1 of China’s various environmental laws. For instance in the version of the Air Pollution Prevention Law (APPL) from 2000 (NPC 2000) Article 1 says that the law will “promote the sustainable development of the economy and society” but the Water Pollution and Prevention Law from 2008 (NPC 2008) says that the law will “promote the overall coordination of the sustainable development of the economy and society”. The phrase “overall coordination” is an indexical phrase referring to the Hu Jintao era that has now been dropped from the new EPL and APPL (NPC 2015). Article 1 in these two more recent legal frameworks now includes the phrase “will advance the Ecological Civilization Construct”.

⁸⁸ This was pointed out by Alford and Shen (1998) quite some time ago.

policy prescription than a law that can be enforced⁸⁹. In the case of environmental health we see a rather soft semantic structure for a legal document with minimal contextualization in the 39th Article of the EPL:

The State *shall* establish and improve environment and health monitoring, investigation and risk assessment institutions; *encourage* and *organize* research on environmental quality impacts to public health, and *adopt* measures to prevent and control diseases related to environmental pollution.

While not examples of modalities, we can see how establishing an environmental law that *encourages* and *organizes* research and *adopts* measures related to public health seems far off the mark compared to some of the far stricter language found in the other documents described below. Stronger modalities can be found within the EPL, such as some of the language associated with agricultural production: “It *is prohibited* to apply solid waste and wastewater that do not conform to standards on agricultural use and environmental protection to farmland.” As I will show below, an urban bias has continued throughout the Ecological Civilization ideology into policy formation thereby influencing the choice of modality used within the EPL.

The Suggestion uses a similar strict modality to give the impression that the document should be interpreted as a succinct blueprint for Ecological Civilization that requires coordination with economic development. Or as the document claims: “Socio-economic development *must* be established on the foundation of a highly efficient and recycled use of resources and a strict protection of the ecological environment”

⁸⁹ For examples within the Chinese policy structure and legal code beyond the Ecological Civilization ideological sphere which exhibit modalities that are far more committed to the veracity of the statements they modify, see material related to the anti-corruption campaign, in particular the regulations for taking disciplinary action within the CPP (CCDI 2014). As Professor Dai Yanjun of the Party School argued: “[We need to] make discipline more refined, more concrete, thereby allowing Party members to have a clear-cut adherence to discipline. These changes cannot be experienced without including the idea of ‘strictness’”(Xinhua 2016). Chinese ideology clearly exhibits modal shifts and it is used when it suits the dominant political body’s specific purpose, although this is common within any ideological structure.

(*emphasis added*). In fact while the modality “must” is often used throughout the Suggestion, in contrast to the EPL nowhere in the Suggestion does the modality “shall” appear at all. The necessity modality (Fairclough 2003:165) is also found in the Suggestion, for instance: “All county towns and key townships *need* to have the capability of processing wastewater and garbage as well as improve construction, circulation and management”. The second clause of the sentence is ambiguous, but the first clause provides a specific demand targeted at a specific spatial scale (i.e. county towns and key townships). Spatial issues, particularly those focused on zoning, have become a central theme for policy connected to the Ecological Civilization ideology that I discuss more fully below.

Another example of a modality shift in Suggestion is found in the use of a “restrictive” tone:

Establish an environmental protection management system to *strictly* supervise the emission of all pollutants. Perfect the pollution emission permit institution, *ban* the emission of pollutants that are unpermitted, in excess of standards or in excess of total controlled amounts. According to the law, the illegal emission of pollution, the creation or possible creation of severe pollution, *must* result in the shutting down and impounding of the polluting equipment. (*emphasis added*)

In stark contrast to the vagueness of the EPL, Suggestion provides a number of modalities that are intent on making the reader believe that policy should be absolute in the management of environmental problems. The state appears reluctant to allow a legal structure to dominate the Ecological Civilization ideology, but rather prefers to control environmental issues through its own institutionalization of environmental protection practices. To a certain extent this emphasis on strict management is shared with the theoretical foundation provided by Zhou Shengxian. Here we can see that the strictness

found within the use of modalities in documents like the Suggestion allows the Central Government to focus environmental policy in a direction that fits the states more uni-directional concern with ensuring that economic development is unimpeded by these policies.

While there are also discontinuities seen between the theoretical foundation, discussed above, and these five policy documents, a closer examination will help us understand that discontinuity is also a result of this more single-minded approach to environmental governance found within the policy documents. For instance, these documents also do not spend any time explaining the linear progression of Agricultural, Industrial and Ecological Civilization. Policy documents are focused on the present. The Suggestion discusses “a transition to a new style of economic development” but the previous “style” is left ambiguous. However, this progression is implicitly integrated in many of these documents. For instance, considering that the foundational documents placed such a strong critique upon Industrialization, it is surprising that while agriculture is highlighted with regular specificity in the EPL, no other industries receive a similar treatment. This reflects an urban bias in the Central Government; a bias which ensures that agriculture is considered a backward practice that must be brought into an Ecological Civilization by integrating new forms of technology⁹⁰ in order to stimulate greater levels of economic development.

Similarly, the symbolic use of colors is also dramatically reduced in the policy documents. It appears that green becomes the only color worth mentioning. This is particularly true for both the Suggestion and General Scheme where ideas such as Green

⁹⁰ This can also be seen in the recent calls by the Chinese State Council to speed up the modernization of the agricultural system (Chinese State Council 2015d).

Development or Green Lifestyles are given prominence, although these ideas are never fully explained⁹¹. A more extreme example appears in the Suggestions, which calls for promoting Green Mining, whereas mining had been described as “black” in the theoretical foundation of Ecological Civilization. This “transformation” of industrial production is a result of the inability, or perhaps the unwillingness, of high-level cadres to use the Ecological Civilization ideology to challenge the developmental ideology described in Chapter 2. Instead, a form of fairly blatant greenwashing is occurring so that even State-Owned Mining Enterprises can claim to be contributing to the “Construction of an Ecological Civilization” as long as they move towards “being more green”. What that movement would entail, however, is left ambiguous in this document.

There are examples within these five documents where we can see concessions must have been made. Thus, it would be unfair and inaccurate to paint the entire Ecological Civilization ideology as a form of green washing. For instance, the power given to Environmental Impact Assessment (EIA) by the EPL to limit economic development in order to protect environmental quality⁹² is an example where environmental protection is given precedence within the ideology. Moreover, the 1st Article of both the APPAP and the WPPAP are precisely focused on controlling industry⁹³. We could interpret this to mean that while the responsibility of being more sustainable is placed more on the individual when it comes to rural farmers upholding environmental law, the responsibility of making industrial production more sustainable is placed on the shoulders of cadres in local environmental protection bureaus who are

⁹¹ Although see MEP (2015) for a fuller treatment. Unfortunately, this document was released too late to be included in this study.

⁹² EIA has its own legal structure (NPC 2002) which has been well analyzed by Tilt (2015:110-116).

⁹³ The WPPAP identifies very specific forms of industrial production as its target for controlling pollution, while the APPAP is far more focused on the energy sector, in particular coal-fired power plants.

supposed to be enforcing the principles of the APPAP and the WPPAP. In other words, these documents may also reflect the degree to which the state is attempting to create policy that would have more resonance with a variety of social actors. Because the intended audience of the EPL is for the general public, it appears to be more multi-dimensional, while Suggestions and the General Scheme are far more focused on guiding environmental policy towards a single goal of ensuring continued economic development.

While the theoretical foundation of Ecological Civilization focused primarily upon the thematic relationship between economic development and environmental protection, a closer semantic analysis of these five documents shows that a simple dichotomy is not as evident when the ideology moved into the realm of policy. As I said above the more multi-dimensional EPL was an early document that had a great deal of influence on the formation of later policy documents. The fact that the EPL was negotiated within the Central Government for many years before its publication (Zhang et al. 2013) helps explain how themes other than just environmental protection and economic development came to be shared across the Ecological Civilization policy documents. In fact, I discovered that this dichotomy has expanded into six different key themes, including Quality, Transparency, Economics, Spatial, Protection, and Responsibility, which organize the structure of policy documents. Here I draw from the Hallidayian understanding that we can see the semantic structuring of sentence clauses according to the Theme and the Rheme⁹⁴ (Halliday and Matthiessen 2004:65-107) to

⁹⁴ As defined at the beginning of this Chapter the Theme is the semantic point of departure for a clause, and the Rheme is the remainder of the clause in which the Theme is developed. Following the practice of functional grammar analysis, I capitalize Theme and Rheme when discussing these analytical concepts below.

highlight how these themes emerge within Ecological Civilization policy documents, particularly the APPAP, WPPAP and Suggestions⁹⁵.

The first theme, Quality, includes features quite common to environmental ideologies around the world, providing guidelines for scientifically determined standards of environmental quality, monitoring methodologies for testing that quality at a given moment and assessment measures for determining how future development projects might influence that quality. An example of how this is structured semantically within the Ecological Civilization ideology can be seen in the first sentence of the 22nd Article of the APPAP, “Perfect the laws and regulations of [air quality] standards”, which is a Theme, and the following three sentences within the article, which act as the Rheme. The ideas contained within the Rheme, such as “strengthening the power to assign punishment for illegal behavior [towards the environment]”, are thought to be dependent upon establishing good standards for environmental quality.

The second theme, Transparency, includes features that require regular reporting of environmental problems to the public. One Theme related to Transparency in multiple documents includes the clause “The people’s government at a set time needs to announce” and followed by a Rheme, which for the WPPAP would be “information related to water pollution quality” (33rd Article) or “information related to air pollution quality” within the APPAP (25th Article). The Transparency theme not only provides citizens with the right to environmental information but also the right to engage in supervision over the environment as a form of participation in an Ecological Civilization. For example, a clause in the 31st Article of the Suggestion, “Establish a complete system of reporting, hearing witnesses, obtaining public consensus and allowing public

⁹⁵ I conduct a similar analysis in Schmitt (Under Review) on the EPL and General Scheme.

supervision” is a Theme that is meant to be interpreted as a necessary component to the subsequent Rheme: “for the construction of a social action system in which all citizens may participate”. However, there is nothing that particularly connects this sentence to environmental issues; it could be found in any government document and such ambiguity benefits the state because it provides them the appearance of providing social actors more power without specifying how such power can be placed into action. The last sentence of the 31st Article is most revealing in this sense, as it encourages the participation of NGOs as long as the state can ensure the “healthy and orderly development of social organizations”. In other words the state recognizes the importance of Transparency in constructing an Ecological Civilization, but only as long as the state can control the discourse in a way they deem “healthy and orderly”.

I argue that this is due to the most dominant theme found within the Ecological Civilization documents, Economics, which is primarily focused on establishing funds, compensation mechanisms, asset management systems, financial exchanges and insurance packages for protecting the environment. A most telling example comes from the 22nd Article of the Suggestions where the Theme of “Stable price, tax and financial policy” is necessary for the Rheme “will stimulate and guide various subjects to actively throw themselves into the construction of an Ecological Civilization” to be realized. Thus, these documents make it appear that the Economic theme is necessary for the construction of a stable Ecological Civilization. Moreover, the importance of the Economic theme spills over into other issues within policy. For instance, the concern for scientific and technological development found in the 11th and 12th Articles of the WPPAP is paired with the need for “environmental commodity development” found in

the 13th Article. The underlying logic is that without encouraging the marketization of environmental products and services, there will be nothing to stimulate the discovery of cutting edge science to help protect the environment. This kind of circular logic helps generate legitimacy for the dominance of the Economic theme.

The fourth theme, Spatial, provides the central government with the authority to bound off and zone territory, manage transboundary environmental issues and control the planning of space throughout the nation. The use of space has to vary depending upon the physical nature of the environmental concern under consideration. For instance within the APPAP, the 1st Article tends to emphasize the importance of regional collaboration, notably because the nature of air pollution makes it difficult to confirm a source of pollution. In contrast, the WPPAP begins with a focus on concentrating industrial production in certain areas so that pollution can be easily pinpointed and prevented from impacting other regions that might be more vulnerable to such pollution (i.e. residential housing estates). Ecological Civilization policy must also take into account the relationship between development plans and the limits of the ecological environment. In the 6th Article of the WPPAP we can see a persistent rural-urban dichotomy, where the Theme “Strict management of the urban planning blue line⁹⁶” forces the Rheme “should retain a certain water-to-land ratio within the scale of an urban planning region” to be dependent upon it. We should note that this is not called a rural planning “blue line”, a name that might make the appropriate governing agency focus their attention on the impact an expanding urban region can have on a neighboring rural socio-ecological system. Rather than considering the fact that the local ecology might be best adapted to a rural economy, the urban planning blue line simply requires

⁹⁶ Technically speaking this line is supposed to demarcate a limitation to urban development.

that once the city expands into a new region a “certain water-to-land ratio” is maintained regardless of how that ratio was balanced when it was demarcated as “rural”. This again represents the distinct urban bias and assumption that urbanization will result in sustainable development found throughout the Ecological Civilization ideology.

Protection, as the fifth theme, of the environment tends to read more like guidelines for officials and particularly within the Suggestions it unites many different kinds of environmental issues together under a single theme. For instance the 14th Article begins with a broad Theme of “Protect and Restore the Natural Ecological System” and the following paragraph is a Rheme of different issues, including soil quality, forests, waterways and biodiversity, which make up this theme of Protection. Then in the 15th article, Suggestions takes up the concern of preventative treatment for the air, water and soil that cannot be “protected” from pollution. In other words there is an implicit statement that pollution is inevitable and these guidelines are established to minimize that impact. Surprisingly, even in the context of the APPAP⁹⁷, preventative action primarily means using economic tools to reduce the use of private vehicles that increase levels of air pollution (see the 3rd and 21st Article). Much of the rest of the policy is concerned with using technology to treat air pollution as it is emitted from factories and power plants. Treatment and prevention are both couched in terms of environmental protection. This semantic shift is important for covering up the implicit assumption that urban expansion and economic development is necessary and good economic policy and environmental technology can ensure that it continues. This interpretation of environmental protection as technological treatment is all too similar to Los Angeles’s historic experience with the problem of air pollution (Gonzalez 2005).

⁹⁷ Prevention is even in the title!

Different from the Los Angeles experience, though, is the fact that one could interpret these policy documents as saying that responsibility for protecting the environment is vested within the state alone.

This final theme of Responsibility shows this to be true but only up to a point. For instance, within the 27th Article of the APPAP the state has called for air quality to become part of the cadre evaluation system. Within Ecological Civilization, Responsibility towards the environment is distributed differently according to the identity of a social actor. For instance within the 34th Article of the APPAP it says: “Firms are a responsible subject for air pollution treatment” and this Theme is then set off by a number of Rhemes including “...to ensure that the firm meets the emissions standards or even obtains ‘zero emissions’”. The fact that firms are only responsible for treatment once again exhibits how economic actors are not expected to engage in actions of protection or prevention, since the idea of zero emissions is understood as basically impossible to the point that in the Rheme the idea has to be included within scare quotes.

In reviewing the six themes above, I believe readers familiar with environmental politics outside of China will find recognizable topics related to discussions of sustainable development around the world. However, this last theme of Responsibility represents something uniquely Chinese. This is even more plainly seen in the way Responsibility is assigned by the EPL in Article 6:

Local people’s governments at various levels shall be *responsible* for the environmental quality within areas under their jurisdiction.

Development projects shall prevent and reduce environmental pollution and ecological destruction, and shall *bear the liability* for the damage caused by them in accordance with the law.

Citizens shall enhance environmental protection consciousness, adopt a low-carbon and energy-saving lifestyle, and conscientiously *fulfill the obligation* of environmental protection.

On the surface it may seem as if responsibility for individuals is left in a fairly ambiguous sphere of idealism. A more critical interpretation though will highlight the fact that, first, development projects, which here include projects implemented by government agencies or state- and privately-owned companies, only have to “bear the liability” of their actions against the environment. This is not only a very passive way to encourage development projects to engage with environmental practice, but because the EPL does not allow the awarding of punitive damages to individuals⁹⁸, it is not even much of a threat. Second, making the government *responsible* (in a very active voice) for environmental quality provides the state with a legal mandate for environmental authoritarianism (Beeson 2010, Gilley 2012). It may also give them added pressure, but no one other than the Party has the authority to actually hold government officials accountable for being lax in their responsibility to protect the environment⁹⁹. To a certain extent, this unique interpretation of responsibility is a reflection of authoritarianism that emerged through the military hierarchy of power in China.

Environmental policy has a great impact on economic processes, particularly within the energy sector that, procedurally and technologically speaking, is gravely in need of serious reform. Such changes are a threat to the materialist base of the military and grid power structures, which have driven ideological development in China in the

⁹⁸ The People’s Supreme Court (2015) clarified the EPL regarding how litigation could be pursued against a company or agency by reaffirming that the court will not hear cases where a company or agency created an environmental problem that negatively impacted an individual citizen. All environmental cases are collective in nature, must be brought to court only by an officially registered NGO and any financial remuneration pursued must be used for environmental restoration.

⁹⁹ This was further reinforced by the “Eight Rules” issued by Central Commission for Discipline Inspection (CCDI 2014) and the very recent speech by Pan Yue (2015) regarding the curbing of corruption by enforcing the legal responsibilities of cadres to the People (i.e. the Party).

past and continue to do so now. This hierarchical mindset is seen in the design of institutions of environmental protection and in the language that is used within the Ecological Civilization ideology, including the way modalities structure the importance of economics over the environment, how the urban is superior to the rural, or how the indexical quotes of current Chinese leaders are foregrounded while those by Marx and Chinese philosophy gradually recede. This is also a process of ideological compression, where the theoretical foundation that influenced the development of the ideology becomes taken for granted as a known truth that is assumed to be unrelated to the implementation of the policy. From this perspective, an Ecological Civilization that has integrated the themes described above and has come to include detailed discussions of green lifestyles (MEP 2015), public participation (Pan 2006b), government oversight (CCDI 2014, Pan 2015) and ecological limits to growth (Pan 2006c) may simply be an attempt to pacify growing environmental concerns among the public that are viewed as a threat to the Party's legitimacy to rule. Even when the thematic structure of the policy documents analyzed above begin to engage with multiple topics, I was able to show above that they are superseded by the underlying uni-dimensional focus of the state's insistence that environmental policy should exist in order to ensure further economic development.

The more important question is how does the ideology of an Ecological Civilization resonate with citizens in the PRC. Which individuals are willing to accept a position of fulfilling obligations to the environment that the state defines despite having no influence over the state's self-defined responsibilities? Additionally, changing one's consciousness and lifestyle to a more "green" way of being, is no small task, and yet in

this framing it is the individual and the individual alone who is responsible making such changes. Of course, that in itself is not entirely true. As we know, the Party deeply engages in practices that can shift social consciousness (Sorace In Press) and there are multiple ways that Ecological Civilization is being used in this manner. The Ecological Housing Estate Projects in Chengdu, which I describe in the following chapters, are excellent examples of how this has been developed at the local level. Moreover, CCP officials and the owners of enterprises are also individual citizens meaning that “fulfilling the obligation to environmental protection” applies to them as well. Whether they think it does or not is another matter. What I want to explore in the following chapter is how four sets of particular social actors (Officials, NGO workers, Scientists, and Journalists), who are engaged in the development of this ideology, react to it and help to ensure its dissemination.

Chapter 4: Spreading the (Green) Word

Erect a unified principle for development and protection where the strategic thought of development as a hard truth is preserved; where development must be green development, circular development, low-carbon development; where the relationship between development and protection is balanced. Realize the internal unity and mutual advancement of development and protection by controlling the strength of opening up development according to the location of a major function zone and adjusting the spatial structure to leave behind a Perfect Home of blue skies, green land and clear water for future generations.
(Chinese State Council 2015c)

There is an interesting symbolic shift found within the General Scheme as the Ecological Civilization ideology is no longer related to “Beautiful China” (美麗中國), a popular phrase during the Hu Jintao era connected to calls for sustainable development, but rather has been replaced by the phrase “Perfect Home” (美好家園). The attempt to ground the ideology within a more personal context has emerged through the establishment of the Civilization Network (文明網) connecting the various provincial Civilization Offices (文明辦公室) around the country, which are then responsible for setting up similar Civilization Office institutions down to the urban district and rural county level. Symbolically grounding the Ecological Civilization ideology into the housing estate or household is a key attempt by the state to help build resonance for the ideology in the everyday lives of the Chinese People. During my own research I found that extending this civilizing process down to the local level is something officials feel very strongly about even if they have to collaborate with non-party members or NGOs to achieve such a goal; a collaboration that I will explore more in this chapter.

During my research I conducted a specific set of unstructured interviews with residents of Chengdu from a particular professional background, who I describe as the

discourse makers¹⁰⁰, to gain insight into the way Ecological Civilization moves through Chinese society. These included interviews with officials from various environmental bureaus, representatives of local and foreign NGOs, environmental scientists, as well as reporters and editors from various media companies¹⁰¹. As my friends Qi Daina, Yang Zhengxian and Li Huicheng, who I introduced in Chapter 1, are also discourse makers, they were key to helping me make contact with others in their professional network that I was able to interview. Thus, I utilized snowball sampling during my fieldwork to increase my interaction with each of these four groups for a total of 10 informants per group (N=40). These discussions focused on how different kinds of environmental knowledge are produced, how this knowledge influences policy development and implementation, how such knowledge is disseminated to the general public and how it is fostered into a kind of social practice. While each of these informants comes from a specific socioeconomic background that supports their ability to be discourse makers, they too have their own perceptions of and interactions with the environment, which are just as important as any of my other informants discussed in the thesis. In this chapter, I will discuss my interviews with the discourse makers and also examine articles, documents, videos and images I have collected from the Chinese bureaucracy, NGOs, academia, and the media to highlight how Ecological Civilization and other environmental issues weave into social discourse beyond the Central Government.

¹⁰⁰ Hajer (1995) might have called them a discourse coalition, but I believe “coalition” makes them sound far too cooperative.

¹⁰¹ One major gap is that I did not do more research on environmental education in Chengdu. I participated in one environmental education course sponsored by an NGO, which was very insightful for understanding the kinds of topics (i.e. environmental pollution, energy efficiency, recycling etc.) that are integrated within environmental education programs. I also interviewed many university educators who teach courses about the environment and ecology. However, further ethnographic research on how the environment is discussed in a classroom at various levels of education would be a very important addition to this study.

A good example of how discourse makers work together to place the Ecological Civilization ideology into the social discourse in order to influence the actions of Chengdu residents is through the concept of an Ecological Housing Estate. A conversation with a close friend in the real-estate industry helped me realize just how widespread this concept was becoming in China. While acting as a consultant during the design of Chengdu's first brewpub in 2014, I became close with one of the investors who was also the Vice-President of Sales at the Chengdu branch of a large Guangzhou-based real-estate firm¹⁰². After a frustrating evening dealing with the brewpub, Zeng Hao was driving me home and asked about the new direction of my dissertation. When I started talking about the idea of Ecological Housing Estates he became very excited.

That is a direction our entire industry is heading. Of course, not all of the housing estates are doing a very good job, but the best example is in the Crystal Willow Housing Estate near the Funan River. They have done an excellent job developing the greenery in the interior courtyard, provide infrastructure for garbage recycling, installed electronics that are all energy efficient and a number of water conservation technologies. As our competitor they are setting the bar for future real-estate development projects in Chengdu. I would highly recommend you have a look¹⁰³.

While Zeng Hao's company was in the midst of designing newer housing estates that were already incorporating some of the "Ecological Housing Estate" ideas into their designs, what I also discovered during my fieldwork is that real-estate companies were using an alternative method to promote such ideas in older housing estates as well.

In fact, foundations established by real-estate companies are some of the regular borrowers of the Ecological Civilization ideology. The ideology is used to justify the

¹⁰² Zeng Hao was young to be a VP and his wife, Shen Jie had just given birth to their first son. Shen Jie is of the Yi Minority and grew up in the same county where I had engaged in development work for more than a decade, a connection that made the three of us fast friends.

¹⁰³ Unfortunately, due to a lack of connections, I was never able to survey or explore the Crystal Willow Housing Estate. However, the ideas Zeng Hao described are quite similar to those found in Tiramisu.

funding of Ecological Housing Estate projects by the foundations to bolster the environmental image of real-estate companies with the public. These foundations also depend on establishing strong connections with local government, NGOs, academics and the media in order to implement their projects. The Green Housing Foundation, which funded projects implemented by the two NGOs I described in Chapter 2, Global Trees and Friends of Chengdu, was established primarily to support the image that the All-Knowing Real-Estate Corporation¹⁰⁴ wished to present to its customers. Moreover, in defining what an Ecological Housing Estate is, the Green Housing Foundation actually invited a number of academic “experts” to provide ideological support for their projects. As one “expert” from the Institute of Environmental Protection at the Ministry of Agriculture explained:

On a “people oriented¹⁰⁵” foundation, Ecological Housing Estates provide residents with a comfortable, healthy and civilized living environment while at the same time realizing resource conservation and social harmony within the comfort of one’s home. Traditional community is the foundation for the establishment of an Ecological Housing Estate, but Ecological Housing Estates are the improvement and development of the traditional community in an era of Ecological Civilization.

Within the “expert’s” definition there is a tension between a romanticized interpretation of the past being more environmentally-friendly (i.e. traditional community) that society cannot return to but can draw from to support projects like Ecological Housing Estates. In Chapters 6 and 7, I will look more closely at the details of Ecological Housing Estate projects implemented in Chengdu by Global Trees and Friends of Chengdu. In this chapter I will draw more generally from a number of examples, including some related to Ecological Housing Estates, to show how the discourse makers have interpreted and

¹⁰⁴ In order to protect the identity of the NGOs I collaborated with I have used pseudonyms here as well, but the original name of the real-estate firm really does have a similar hubris to it.

¹⁰⁵ This is the 以人為本 ideology that was popular during the Hu Jintao era as discussed in Chapter 3.

manipulated the Ecological Civilization ideology as they present it to the broader Chinese public.

Bureaucracy and Ecological Civilization

One of the primary ways that the various “Civilizational Constructs” (Dynon 2008) were disseminated into the local populace is through the local Civilization Offices as part of the national Civilization Network mentioned above. The Civilization Network is managed out of the Ministry of Propaganda but has established offices all the way down to the county level across China. Cadres within the Civilization Network bureaucracy are encouraged to closely study the way Xi Jinping and other provincial leaders use ideological material related to Civilization in their writing and speeches¹⁰⁶. For this reason, when integrated into local usage, Ecological Civilization itself also becomes a kind of indexical quote as discussed above, starting a second process of ideological compression within the local government. Below I examine the ambiguity that is a result of this ideological compression and how local cadres interpret Ecological Civilization. This ambiguity makes it difficult for lower level cadres to satisfy the expectation among Party leaders that they will come up with solutions to China’s environmental problems at the local level and find ways to put Ecological Civilization into practice.

One example of where this ambiguity can be seen is on the Chengdu City Civilization Office website, a platform for disseminating the ideological propaganda related to the “Civilizational Constructs”, which focuses its attention on reporting various investigations and meetings. Nearly all of the reports are related to activities

¹⁰⁶ See the Civilization Network website for examples: <http://hnxc.wenming.cn/bzzt/xjpsay/>

undertaken in the suburbs and rural counties of Chengdu¹⁰⁷. Some of the reports include investigations into the level of “civilization”, including level of Ecological Civilization, achieved by the city according to indicators designed by some of China’s leading academic scholars¹⁰⁸. One “investigation” was done by riding bicycles from the main office in Chengdu out to the Xindu District office about 18 km away. The Xindu office then introduced their superiors to some of the local housing estates. One of the recommendations made by the superiors was to “utilize various means and methods to strengthen their propaganda activities of the Core Socialist Values using public service advertising¹⁰⁹” (Zheng 2015). Ecological Civilization features prominently in many of these public service advertisements, encouraging people to conserve water and electricity, as well as more ambiguous calls for the harmonizing of humans with their surrounding environment, often paired with idealized images of pristine rural landscapes (See Figure 4.1).

¹⁰⁷ For examples see the Chengdu Civilization Office website: <http://sc.wenming.cn/zbsc/cd/>. Very few of the reports listed were specifically related to the central urban districts where I conducted most of my research. However, I was surprised to find one report about an event I had attended in March of 2015 that was promoting Green Lifestyles and was organized by Global Trees.

¹⁰⁸ For an example of the Ecological Civilization Index see Lian (2014). Chengdu ranks 17th out of 35 cities according to this index.

¹⁰⁹ Public service advertising or 公益廣告 are posters that are pasted on nearly every empty wall throughout China. The most famous of these propaganda posters in Sichuan originate from a *nianhua* (年畫) factory in Mianzhu County about 30 km north of Chengdu. For more on that factory see Harrell (2011).



Figure 4.1 A Typical Public Service Announcement Promoting Ecological Civilization. The caption reads: Construct an Ecological Civilization; Share in Emerald Waters and Blue Skies

Another topic that is made synonymous with Ecological Civilization at the local level and found prominently within such propaganda activities is public hygiene. Posters encouraging people not to spit or waste food are plastered upon the walls of restaurants,

particularly cheaper restaurants with a minimal amount of decor. As the owner of my favorite dumpling restaurant near my home by the People's Park explained: "They [the Civilization Office] just tell us that they are going to hang them up and generally do not ask for our opinion about where they should be located. We are told that having them in the restaurant is necessary to do our part to promote public hygiene." Soft environmental authoritarianism such as this is ignored by most patrons, especially in restaurants where flavor and speed are far more important than ambiance. Most of my friends in Sichuan enjoy an eating environment where they do not have to think so much about whether or not they are being "hygienic". Thus, people I talked to in Chengdu would describe these posters as a kind of background noise¹¹⁰. Cadres explained to me that they are unsure that the posters have a useful effect, but feel it is something they can do to satisfy the expectations of their superiors. While I agree with the cadres that it would be difficult to determine to what extent the residents of these neighborhoods and customers of these restaurants are affected by these posters¹¹¹, it is likely that this "background noise" does interact with the media articles or discussions with Environmental NGO workers where residents might also come across Ecological Civilization and other topics about the environment.

A more subversive means of placing a civilizational ideology into practice can be seen in the Chengdu Civilization Office's recently revealed "Snapshot¹¹²" program.

¹¹⁰ When I would mention the posters, most of my friends would say something like, 就在那儿 or more directly translated "they are just there" which has an implicit meaning that the posters are just background noise for them.

¹¹¹ This was not something I tested for during my study.

¹¹² The Chinese is *suishoupai* (隨手拍) which might directly translate as "shooting a picture at any moment with the touch of a button". It was first unveiled in early 2013 and has since grown throughout the city. http://cd.wenming.cn/wmjdbgt/201510/t20151027_2081880.shtml

Snapshot encourages everyday citizens to use their smartphones to post pictures to the program's official website of

- 1) Civilized behavior of *laborers and volunteers*, exhibiting civilized new fashion¹¹³ and sending out positive energy
- 2) Uncivilized behavior from a *minority* of urbanites, this includes dirty environments, jaywalking, walking across lawns, running red lights, spitting carelessly, littering by motor vehicle passengers, improper parking of motor vehicles, wastes from businesses, and general disrespect for public order. (Li Liguang 2013, *emphasis added*)

The language of the website is structured to make us believe that the program wishes to find “model citizens” and use various propaganda channels to promote their activities. Moreover, they have singled out “laborers and volunteers” sending a signal that these two groups are important as models for the rest of society¹¹⁴. The program also acts as a means of informing local officials of problems they most likely need to deal with in order to achieve their cadre responsibility agreements. By combining a time and location with one's picture, a citizen with a smartphone could actually be helping cadres do their job (Yang 2015). Naturally, uncivilized behavior is described as performed by the “minority” of urban residents as if to down play that a problem exists. As Secretary Wang from the Distiller's Well Office explained to me, admitting that there is a civilizational problem in your community could be interpreted as admitting that one is not doing their job.

While talking with Secretary Wang, who is responsible for the #78 housing estate within the Distiller's Well Street Management Office, it became clear that she feels pressure from her superiors to “clean up” the housing estates for which she is responsible.

¹¹³ There is a semantic quality to *xinfengshang* 新風尚 that is difficult to translate into English. “New fashion” just does not capture the kind of revolutionary spirit found in the term.

¹¹⁴ Naturally both also have historical precedent for being model citizens. See Perry (2007).

We are constantly asked what our plans are for meeting our environmental responsibility agreements. When we ask “well what does that mean exactly” we are told that it is our job to be creative and come up with solutions. But if we do not even know what, for instance, an “Ecological Housing Estate” is supposed to be then how can we come up with solutions.

This general frustration comes from the high degree of ambiguity found within the Ecological Civilization ideology as it becomes compressed from a theoretical foundation to a set of national level policies and then into what is expected to be a set of local practices. Often officials at the urban district level will latch on to an idea like Ecological Housing Estate because it echoes Party ideology and places the impetus for change on the officials underneath them. However, Secretary Wang is not completely ignorant; she has her own ideas of what kind of environment she would like to see in the housing estates she governs:

Yes of course we understand the basic premise. I do not want to see garbage lying around. I hope that we can have better landscaping and cleaner air. More important, though, is how do we encourage residents to take an active role in building up this kind of living environment. That is also the question my superiors want to know.

Moreover, according to Secretary Wang, her superiors expect her to come up with the answer. This issue of needing to answer to her superiors highlights the kind of hierarchical power in Chinese society that I have been trying to stress is present throughout state promoted ideologies.

One day while in preparation to implement our surveys, I stumbled onto a similar situation where the Secretary of the Dragon Boat Road Street Management Office informed the River Willow Neighborhood Management Committee that they would have to build a database of all the residents living under their jurisdiction. The cadres of River Willow were certainly frustrated by such an impossible task, but at the

same time because the directive came directly from a superior in the Street Management Office they felt there was nothing to do but follow it as best they could. A few days later, Secretary Ye from the nearby River Heart Neighborhood Management Office told me their office also was contributing to the database that was needed to refine the Chengdu Urban-Rural Development Plan and for allocating funds for various household registration (户口) reform projects that were still under negotiation. She also told me that being more familiar with the residents within the grid network where they worked was an important step to promoting good policy, including environmental policy.

Of course Secretary Ye, who has thirty years of experience in the government, seemed less perturbed by the added stress. In the midst of all this she still found time to organize the shooting of a documentary at Eastern Star regarding the housing estate's successfully implemented Ecological Housing Estate project, particularly their recycling and urban agriculture practices. One thing the director of the film wanted to emphasize was showing residents in action by having them break apart recycled material and having them build it back up again into something useful. He also created multiple shots of Secretary Ye "discussing" the project with the residents. The film crew seemed wary about integrating too much about the position Global Trees played in the success of the project. This is not too surprising, though, as ultimately this film was also meant to stimulate action among other neighborhood management committees in Chengdu and beyond. During the filming process I came to understand better that the media would rather highlight the efforts of the local government to promote Ecological Housing Estates rather than that of the NGOs when they craft their messages about Ecological Civilization. While this is undoubtedly to help paint the Party in a better light, it is also

to make other Neighborhood Management Committees feel as if they too can stimulate such projects on their own without the help of an NGO.

I was fortunate¹¹⁵ to watch the filming process, but also saw how Secretary Ye interacted with another very young official, Mr. Zhang, from the Dragon Boat Road Street Management Office who was there to receive the film crew. In fact, Mr. Zhang was there to learn from Secretary Ye about how an Ecological Housing Estate had developed at Eastern Star. While she admitted a good deal of influence came through their collaboration with Global Trees, her office supported the effort by providing space and funds for educational and training workshops that focused on urban agriculture, recycling and general environmental knowledge. The office would collect and disseminate information about Ecological Civilization, but much of the material I saw was simply propaganda about aspiring to live in a cleaner urban environment and lacked concrete directions or definitions that would guide residents' actions. Off camera, Secretary Ye admitted that in many ways allowing Eastern Star to develop an Ecological Housing Estate with minimal interference from the state is probably what allowed it to succeed. I am not sure how much of this Mr. Zhang absorbed, but seeing that he works for the Dragon Boat Road Street Management Office the exchange with Secretary Ye shows that the grid structure I described in Chapter 2 does provide an opportunity for ideas tied to Ecological Civilization to flow from the bottom-up.

In fact, many of the conceptual and innovative ideas and projects that fit within the Ecological Civilization ideology still originate at lower levels where lateral collaboration can occur between government agencies. A good example comes from Qi

¹¹⁵ Depending on how you look at it I also awkwardly ended up getting roped into the filming as their "foreign volunteer".

Daina, whose primary job at the Sichuan Provincial Environmental Impact Assessment Center is validating EIAs conducted at the provincial level. Because she is also an airborne particulate specialist, in May 2014 she was asked by the Sichuan Provincial EPA to provide feedback on the 4th Draft of the Sichuan Province Atmospheric Particulate Pollution Prevention Method¹¹⁶ (Sichuan Province People’s Congress 2015). Since Daina was encouraged to provide input from the perspective of a researcher she recommended that the Province look at California’s SCAQMD air pollution model as a system for governing transregional air pollution sources (SCAQMD 2013). Of course, lateral collaboration does not mean the ideas Daina suggested ended up in the final negotiated draft. For instance, where the 68th Article of the 4th draft provided technological solutions to deal with farmers annual burning of grain stalks¹¹⁷, Daina suggested that the Province also use a subsidy to help encourage famers to transition towards utilizing these technological means. The final publicized version of the Method actually ignored this suggestion entirely. In the 25th Article of the Method they incorporated some strong language regarding the supervision and investigation of burning grain stalks within a certain region¹¹⁸ and in the 42nd Article made burning within that region a criminal offense subject to a fine of up to 200 RMB. In contrast, the 7th Article only asks coal-fired power plants and steel factories in Sichuan to “abide by the National regulations” such as by installing scrubbing technology to reduce pollution

¹¹⁶ This is the local version of the APPAP that was analyzed in Chapter 3.

¹¹⁷ This included using technology to turn the grain stalks into animal feed, fertilizer, energy or construction materials.

¹¹⁸ Of course this region is left ambiguous meaning that local government can choose when and where to investigate and then engage in the enforcement of fines.

levels, but there is no specific fine that would be levied against such factories if they did not comply¹¹⁹.

In other words, there seems to be a preference for using strong authoritarian measures to govern agricultural pollution and a more negotiated or consensus based mode of governance to deal with industrial pollution, particularly if it is connected with the energy sector. Just before Daina was provided the 4th draft to make these comments, Sichuan Province established a special Small Group specifically focused on Air Pollution Governance to negotiate the details of the policy before it was released for implementation (Dong 2014)¹²⁰. The final draft was not released until March 2015 and not implemented until May 2015, highlighting the length of time needed for negotiation and consensus before a policy can be implemented at the Provincial level. Thus, once the Ecological Civilization ideology leaves the realm of the Central Government, the ambiguity of the ideology also makes it difficult to make compromises between different social actors so that Ecological Civilization can be placed into practice.

NGOs and Environmental Practice

Another story from Qi Daina is also useful to highlight how the boundaries of the four social groups I am discussing in this chapter are fluid and regularly allow for interaction. While Daina works for a state-owned¹²¹ company, she is also occasionally asked to present her air pollution research as a scientist and collaborates regularly with

¹¹⁹ The 35th Article of the Method does provide for fines to be levied according to the National Law. The 108th Article of the APPL (NPC 2015) does allow for fines of between 20,000 and 200,000 RMB to be leveled against steel factories, but there are no penalties that can be enforced upon coal-fired power plants. After all, the 42nd Article of the APPL says that the government “encourages” coal-fired power plants to install such technology; but it does not actually require them to do so.

¹²⁰ Seeing that the composition of this Small Group was made up of leaders of nearly every key agency in the province, it is likely that negotiating the final policy was not easy.

¹²¹ EIA approval centers, like the one where Qi Daina works, have only recently begun the process of privatization, for more see Sun (2014).

NGOs. For instance, one of the largest projects she has been involved with was a collaboration between the Sichuan Environmental Protection Bureau and one of the largest internationally-recognized environmental NGOs. The operating goal of the project was to reduce greenhouse gases and particulate matter¹²² across multiple cities in Sichuan with the hope that their findings could be used for developing more comprehensive guidelines to be implemented into the 13th Five Year Guideline. While the bulk of the money was supposed to come from government sources, some funds were to be provided by the multinational NGO and would include additional knowledge transfer from partners who have experience in such co-benefit projects. This project would have been the first of its kind as China has yet to closely integrate their policies that regulate greenhouse gases and particulate matter¹²³, although it remains to be seen if this particular project will even be implemented as it has been repeatedly stalled due to complex bureaucratic issues within the NGO.

NGOs working in China not only have to deal with their own internal bureaucratic issues, but must constantly negotiate bureaucratic obstacles between the NGO and the government. The local environmental organization Wildgrass that I introduced in Chapter 1, has always been very small and tried to avoid having too much interaction with the government. After some of their projects were successfully implemented during the Wenchuan Earthquake recovery period, they became more popular making it more difficult to work independently. In 2014, the local government

¹²² Often described as co-benefit climate change policy, see Zapata, Muller and Kleeman (2013) for a detailed example in California and Aunan et al. (2006) for suggestions about how to implement such policy in China.

¹²³ Currently, policy governing particulate matter is developed and enforced by the MEP while policy governing greenhouse gases is developed and enforced by the National Development and Reform Commission. The two issues have been kept fairly separate, but the recently released 13th 5-Year Guideline (Chinese State Council 2016) does show signs of greater collaboration between these two agencies so that the policies could be developed together.

where they were registered encouraged them to upgrade their status from an AAA rated social organization to a AAAA rating. Yang Zhengxian, the founder of the organization, showed little interest in the upgrade, but it would look better to the local district if they could register one more AAAA organization, particularly an environmental organization. With such a rating and more than five years of experience as an environmental organization, technically Wildgrass could satisfy the requirements within the EPL to bring environmental lawsuits to court. This way the District government can explain that despite having a number of qualified local environmental NGOs, the number of cases brought to court is minimal. Yang Zhengxian has never been interested in engaging in environmental legal disputes, but to the government that is a moot point. Yang Zhengxian told me he is not even sure what exactly Wildgrass did, other than improve their accounting measures, to gain an additional A rating. They did receive a very nice wooden plaque from the district. The government would much rather that Wildgrass achieve the highest AAAAA rating, but doing so would require that they integrate a Party Secretary into their organizational structure, something the organization is unwilling to do.

In contrast, this is precisely what Friends of Chengdu has done and explains why they are considered the social work branch of the Chengdu City government. Friends of Chengdu's relationship with the government provides them with multiple opportunities to access funding. While government funds are important they are almost always tied to projects that would help various agencies meet their cadre responsibility goals. It is not surprising then to see organizations like Friends of Chengdu use language to describe their environmental projects similar to language found in the Ecological Civilization

ideology. For instance to introduce their Ecological Housing Estate project one document described their activities as:

...establishing a platform for neighborhood residents to participate in environmental management, and creating a neighborhood environmental management style with special characteristics. We also plan to use a sustainable development style to penetrate into to the public and private lives of neighborhood residents to realize the harmonious association between humans and nature.

While their calls for sustainable development and harmony between humans and nature are similar to some of Pan Yue's theoretical foundations of Ecological Civilization discussed in Chapter 3, there is a heavier emphasis on social participation, which is Friends of Chengdu's specialty. By emphasizing the need for social participation they are justifying their importance for helping Ecological Civilization penetrate into the public and private lives of Chengdu residents. Because an NGO has an identity that is considered separate from the government, residents who are suspicious of government projects might be more willing to engage with social workers from Friends of Chengdu. This means that the ability of NGOs to engage with residents in a way that local government cannot is valued by government officials because they see it as a means of placing ideologies like Ecological Civilization into public practice.

However, as we saw with Wildgrass, not all social organizations are interested in following the ideology so closely. While Global Trees is not an AAAAAA rated NGO, they are officially registered through a connection with the Chengdu EPA. They describe their projects and practices using a less formal tone:

These programs do not just cultivate environmental devotion within innumerable children, young adults and other social groups thereby increasing the environmental consciousness and level of social participation among neighborhood residents. They also receive wide attention and

positive reviews from the public encouraging even more people to actively engage in projects that improve the environment.

While the style of their promotions may be distinct from that of Friends of Chengdu, there are examples where they still utilize aspects of state ideology. For instance, a sign posted by Global Trees within Eastern Star states: “Separate wet and dry [Garbage]; Resource recycling; We all share in the construction of an Ecological Civilization” (Figure 4.2).



Figure 4.2 Sign Posted by Global Trees in Eastern Star Housing Estate

There is no requirement for Global Trees to post such signs. This was a form of propaganda they had designed on their own. Thus, a fairly independent organization like Global Trees also believes that the compression of Ecological Civilization into a slogan

can resonate with residents in a positive way. In this context, I would argue that a Global Trees project is not attempting to necessarily promote the uni-dimensional focus of the official interpretation of Ecological Civilization ideology (i.e. economic development). Instead those working for Global Trees recognize that at the local level Ecological Civilization can be interpreted in multiple ways, including some interpretations that support their own projects, which often touch on multiple issues. Their idealized version of the Ecological Housing Estate projects engages with ideas about food safety, water conservation, garbage recycling, environmental awareness and local participation. While their ideas seem good on paper, to government agencies they might also appear more experimental and agencies with limited funds are not always in a position to support experimental projects¹²⁴.

This is why NGO projects are often in need of finding funding from private donors or foundations, such as the Green Housing Foundation described at the beginning of this chapter. These foundations are primarily interested in hot topics that fit their own agenda, which is often set by the real-estate firms that supply them with money. For instance, the Green Housing Foundation is less interested in funding educational outreach programs, which might teach people the principles of multi-cropping and selecting appropriate plant species for different seasons, and more interested in infrastructure projects, such as building composters and rainwater collectors. The application for applying to the Green Housing Foundation asks the NGO to include information about the target Housing Estate's landscaping, water and energy conservation infrastructure, garbage and recycling facilities, and public activities

¹²⁴ One of the Wildgrass projects described in Chapter 7 is an exception. There government officials wanted to take a chance on an experimental urban agriculture project.

facilities. There was no request for the applying organization to first enquire into how residents view already existing environmental problems within their housing estate or the kinds of actions residents take to deal with those problems. As Chen Xi, the founder of the Chengdu Chapter of Global Trees, explained to me, significant limitations are placed upon NGOs who wish to tie their educational and infrastructure goals together because foundations are so focused on developing “hardware¹²⁵” that is legible and easily accounted for within the minds of the real-estate executives who fund the foundation. Thus, the foundation is also guided by a uni-dimensional interpretation of Ecological Civilization that focuses on economic development because of the vested interests of the real-estate company, interests which are similar to those of the Central Government. For this reason, the NGOs end up putting the official interpretation of Ecological Civilization into practice because of the limitations placed upon them by these foundations.

Academic Study in an Ecological Civilization

NGOs do not necessarily want to ignore the way residents of these housing estates perceive or act upon their environment. In fact, some NGOs also try to tie their projects to the activities of academics who are motivated to engage in applied research. Our own household surveys were in fact an attempt to do just that: to fill in the gaps that the Green Housing Foundation was less interested in funding. This becomes complicated though because academics often expect to be compensated for their contributions. We, for instance, were at least hoping to have our printing and meals covered by the funds coming from the Green Housing Foundation.

¹²⁵ The metaphor of hardware, meaning objects like recycling bins, and software, meaning educational or promotional activities, was used by NGO members to describe these different aspects of their projects.

There are other instances when academics become indispensable to NGO projects. In 2013, I was contacted by a colleague from Greenpeace to help them locate a scientist who could support their study on air pollution in the Pearl River Delta region. They needed someone who could provide them with access to a laboratory that could analyze air samples they were collecting and integrate the analysis into a final product that would support recommendations for reducing air pollution in the region. Many academics, however, are reluctant to participate in Greenpeace projects because they also utilize analyzed data to focus attention on poor environmental management practices or the way government agencies prioritize economic development at the expense of the environment. Participating in such projects can make it more difficult for scientists to find government supported funding for their research in the future. In the case of the Pearl River Delta project, one Professor in Guangzhou had originally promised to participate but stopped answering the organization's e-mails when it became clear to him that the project was too politically sensitive. I then recommended the organization contact Qi Daina, but because she would still need laboratory access it was not a good fit. She tried to recommend other colleagues in the field, but none were willing to work with Greenpeace.

University pedagogy and campus life are areas where experimental practices are generally welcome. During 2014-2015 there was a strong push to develop Sichuan University into an Ecological Campus, although it was not quite clear what that meant. In early March 2014, a post-doc in the Department of Environmental Sciences, Dr. Zhang, was encouraged by her boss, Professor Luo, to contact me for help in designing a

campus wide environmental consciousness survey¹²⁶. At the time they had already begun an application for funds to support the project from a famous German think-tank. Professor Luo also wanted us to collaborate with four undergraduate students and train them how to implement the survey. In order to receive the funds we, along with a number of NGOs also participating in the project, needed to attend a number of training workshops supported by the think-tank. We had designed the only applied academic project and were supposed to act as a knowledge support group for the other NGOs, some of which had very practical projects working with individual housing estates or whole villages in Chengdu.

Unfortunately, on the day we began the workshops, Professor Luo informed us that we would not be allowed to design our own survey because he had returned from the University of Michigan with a massive 30+ page Ecological Campus survey that he intended to implement at Sichuan University. Our job at that point was merely to translate it and implement it. This became unworkable for everyone involved and the survey project gradually disappeared. I believe the example with Professor Luo is important because it highlights two relationships within Chinese academia that influence the further development of pragmatism in Ecological Civilization: hierarchy and competition. Despite Dr. Zhang being the leader of the project and having her own ideas about how to manage the project, it was difficult for her to refuse Professor Luo as her boss and superior. Additionally, because such a project was applied in nature, the only source of funds available was from an international organization. The competition over such funds is quite high and forces academics interested in applied research to adjust their plans to the demands of international organizations.

¹²⁶ My methodology for the survey used here was first conceived during the beginning of that project.

It is important to place the concerns of academics into context. When I first began designing the methodology for the environmental consciousness surveys I also approached other environmental scientists at Sichuan University regarding applying for financial support. I was recommended to talk to a Professor Ma whose specialty was dealing with soil erosion in rural communities but he had recently become interested in tying economic and sociological analysis into his environmental research program. As he explained to me,

The problem is not a lack of money; in fact China has a surprising amount of funding available for scientific research. The problem is that the focus is on theoretical and not applied research. For the most part it is theoretical research that is publishable within the high-ranking journals. The Natural Science Foundation of China is only going to fund research that it knows is publishable and frankly Professors need to publish in order to keep their jobs. This is a problem that is in great need of reform, but at the moment we have to search for other places for applied research funds, often times by collaborating with government projects or international foundations.

In other words, while academics like Professor Ma agree that environmental research is essentially worthless if it does not have an applied aspect, applied research applications rarely received funding by state-sponsored scientific foundations. This explains why applied academics would also look to NGOs or foundations for sources of funding for their projects, but this money is far more limited than what the state provides for more theoretically-based research.

For this reason research that is directly related to Ecological Civilization tends to be reflections upon or extensions of the theoretical foundation described in Chapter 3. A good number of these Ecological Civilization scholars and think tanks are directly funded by China's National Social Science Foundation. For instance, Zhang Lemin at Shandong University is an example of a scholar who has tried to further integrate the

theories of Marx and Engels within the theoretical foundation of Ecological Civilization that echoes many of the indexical quotations found in Pan Yue and Zhou Shengxian's work (2013, 2014). The Institution of Ecological Civilization, founded by Liu Xiangrong¹²⁷ at Hunan Normal University, could be thought of as a think tank for further developing Ecological Civilization within Party ideology.

A similar think tank was established by Kong Fande at the Environmental Management College of China (EMCC), one of the country's top institutions for training environmental officials at all levels of the government. Through the EMCC, Professor Kong published a comment reflecting on Ren Zhongping's article "The Chinese Awakening of an Ecological Civilization", discussed in Chapter 1, as a way of clarifying the importance of Ecological Civilization for environmental managers, so that they would know that the Party expects them to ensure economic development in China will continue as long as it does not harm the environment (2013). The EMCC is rare within the Chinese academy in that they actually do publish some material with an applied angle, although mostly these articles recommend technical solutions to environmental problems (See Wang Y. 2013). One unique article by Wang Zheng (2013) argues for helping rural communities draw from local cultural knowledge to engage in environmental protection. However, this kind of academic research does not appear to dominate the discourse within the academy¹²⁸. In other words, applied academic

¹²⁷ Professor Liu is one of the earliest scholars who wrote on the topic of Ecological Civilization (1999, 2013). As far as I can tell though he began publishing works on Ecological Civilization after the idea had started to appear in the People's Daily in the late 90s.

¹²⁸ For instance, all of the articles from the EMCC think-tank I have discussed were published in 2013, the same year as an article by Liu Xiangrong (2013) which echoed many of the ideas Pan Yue (2003) had suggested nearly a decade before. According to China National Knowledge Infrastructure's database, none of the articles from the EMCC think-tank have been cited by other scholars while Liu Xiangrong's article has been cited six times.

research related to Ecological Civilization is not impossible, but it is unlikely to have as much impact or relevance within academic circles.

A more peripheral think-tank would be the Institute for Postmodern Development of China, run by Wang Zhihe who was trained in Whiteheadian philosophy at Claremont College. For a number of years Professor Wang has been organizing an international conference on Ecological Civilization, which has tended to focus on the integration of Ancient Chinese thought within the Ecological Civilization ideology¹²⁹. Of course, as described in Chapter 3, Ancient Chinese philosophy was de-emphasized after the Ecological Civilization ideology was used to structure policy. It is not yet clear to what extent the work of these researchers has moved beyond their conferences and classrooms. The media, though, is very aware of Professor Wang's work and even Xinhua, the state-owned media mouthpiece of the government, has helped to promote his theoretical teachings at the Harbin Polytechnic University (Xue 2015). Thus, in some of the academic work described above, such as that of Professors Kong Fande and Wang Zhihe, we can also see how a tight relationship between official ideology, academia and the media aims to provide Ecological Civilization with further legitimacy in society.

Transmitting an Ecological Civilization

Although the Ecological Civilization ideology is transmitted to the public across different types of media, it is through television that it gains the widest viewership. The state-owned CCTV, for instance, tends to stick to an official script of how the state defines Ecological Civilization. This is most readily seen through the evening news

¹²⁹ For an interesting NPR interview with Wang Zhihe see <http://www.jesusjazzbuddhism.org/institute-for-postmodern-development-of-china-npr-interview.html>

broadcast that was held during the release of the Suggestion document discussed in Chapter 3¹³⁰. Most of the report was simply a recitation of the document's contents that fit directly within the themes analyzed in Chapter 3, but there are also some important differences. For instance, the issue of access to environmental information and social participation related to the Transparency and Responsibility themes were not mentioned at all by the newscast. Thus, it appears that the media tends to trim down the thematic aspects of the ideology that are unrelated to the state's uni-dimensional concern with economic development. As we will see in Chapter 8, this has implications for the way resonance occurs between the official interpretation of Ecological Civilization and the local interpretation of some social groups that we interviewed during our surveys.

The state also utilizes a number of topical newspapers that directly engage with Ecological Civilization. The most prominent being the China Environment News (CEN), the mouthpiece of the MEP, which is responsible for setting the agenda for what is important to EPAs at different levels of the government. It is primarily read by cadres, although I also know some academics and environmental NGO workers who follow the publication quite closely¹³¹. An example of a representative article from the newspaper (Tong 2014) reported on the "Top Ten Ecological Civilization Events", which included reports that described soon to be released regulations, information about policy development within the Central Government, and the difference between a Chinese Ecological Civilization and environmental ideology in the rest of the world. CEN compresses much of the content analyzed in Chapter 3 into soundbites to catch the

¹³⁰ http://news.cntv.cn/2015/03/24/VIDE1427195523922193.shtml?utm_so

¹³¹ There are probably very few individuals other than government officials and NGO workers who would subscribe to the CEN Official WeChat Account or bother to read the website. The actual printed version is not sold and is only distributed to EPAs across the country.

attention of cadres. The paper also offers the opportunity for local level environmental agencies to showcase their activities through a national media outlet. One example comes from the Sichuan Province Environmental Protection Bureau signaling to the MEP through an article in CEN that they were going to begin severely enforcing the national regulations related to water quality (Wang X. 2015). There is very little additional content within such a piece since there are no attempts to quantify or qualify how the Bureau was enforcing the regulations but rather just repeated what the WPPAP expects of them¹³².

China Energy News (CEnN) would be an example of another topical news agency that engages with the Ecological Civilization ideology and is quite similar to CEN in that it represents the interests of the Department of Energy. Due to the privatization of the extraction and production of energy during the Reform Era, this news agency publishes news articles about Ecological Civilization that are more connected to financial investment. One example provides a list of 54 energy projects that have official approval from the National Development and Reform Commission (NDRC) to receive public capital investments¹³³ (Zhao 2014). The original policy approved by the NDRC actually supported around 80 infrastructure projects (NDRC 2014), but CEnN removed mention of the transportation and information projects and focused only on the projects related to Clean Energy, Natural Gas, Oil, Coal and Coal Gasification. Thirty of the Clean Energy projects are actually small solar power projects

¹³² In fact the publication of the WPPAP only two weeks before the publication of this article is undoubtedly what stimulated the Sichuan Provincial Environmental Protection Bureau to file the report with CEN.

¹³³ The Chinese is 社會資本, but this is referring to the ability to use private funds to support what are typically wholly state-owned enterprises. Investments can be made under the identity of a partner or as a single investor.

that are not even given a name, while the large projects are related to hydropower and expansions in two windfarms. While Ecological Civilization technologies are now paired together with Industrial Civilization technologies in media reports, the main thrust of the reporting on this policy is to highlight the continued expansion of the carbon-based energy industries.

Another goal of CEnN is to improve the Energy industry's reputation for environmental safety. One article (Zhang M. 2014), written primarily through the voice of an expert, Professor Cao Xianghong, stated that a key challenge for the petroleum industry is dealing with the social fear of the PX chemical I discussed in Chapter 1. To explain the level of danger found in PX production Professor Cao, who was once the chief engineer for Sinopec Corporation, uses a metaphor to explain his thinking to the reporter:

PX projects are like a zoo, where dangerous animals are locked up in cages. Such as it is, the zoo still poses a danger to children and yet they have become a playground for children. The production of any chemical has a certain risk, but risk is not equal to accidents. In the process of producing PX, not only can we safely control risk, but moreover, when compared to the production process of other chemicals the risk is even smaller.

By equating a PX plant with a zoo, Professor Cao is attempting to speak to the concern many residents of Chengdu feel for the health and safety of their children in relation to the PX plant directly upstream of the city. Of course, once again, because CEnN is a party paper, it will not be read by many residents of Chengdu. Rather such an article is meant to be read by cadres who can place such a metaphor into the public discourse as a means of defending the siting of the PX plant. In other words, while the Pengzhou PX plant is indeed upstream of Chengdu, the danger it poses to one's children is no greater than a day at the zoo. Of course this overlooks a crucial difference in that we generally

do not bring our children to the zoo every day, and once the PX plant begins operation there is a chance for an accident to occur at any given moment. It is this kind of long-term foreboding that I found weighed on the minds of residents in Chengdu. As we can see, CEnN is utilizing the authority of Professor Cao to ensure that concern for environmental protection is minimized so that the economic benefit that can be generated by a PX plant can continue without critical reflection.

The important place media plays in disseminating Ecological Civilization happens at the local level as well. Perhaps more than the government officials, NGO workers and academics discussed in this chapter, journalists tend to compress the Ecological Civilization ideology within their reports in order to suit the purpose of the local context. By this I mean that local media tends to increase the level of specificity and narrative in their reporting and leave the concept of Ecological Civilization quite ambiguous. This is how topics closely related to environmental issues and the Ecological Civilization ideology are turned into easily consumed stories.

For instance, in February 2014, the West China Dushi Post reported a story about lawyer Lin Bo in Nanchong, a city about 200 km east of Chengdu, who was very upset with the local air quality and applied for the transparent release of air pollution data in the region (Liu 2014). The local Environmental Protection Agency informed the officer in charge of collecting this data, Zhang Ziquan, and he decided to meet with Lin Bo. He explained that technically the data was only required by law to be released after Jan. 1st, 2015. Their monitoring facilities were installed in late October of 2013 but had only been running for a little over a month at the time of the news report. According to Zhang Ziquan the precision of the data was not yet ready to be released to the public. A

shift in the narrative can then be found in Lin Bo's feedback: "Regarding both the timing and the attitude [of the response], I am extremely satisfied...As a citizen, requiring the government to release information to the public is placing your rights in action." This was then paired with Zhang Ziquan's response: "This is a good thing, I welcome this kind of behavior. Moreover, I am happy to reply" (Liu 2014).

While it is plainly obvious that environmental information was not released to Lin Bo, this "exchange" would be viewed by some readers as an example of a "harmonious society" dealing with conflict and contradiction within the environment. Li Huicheng, my friend who worked as an editor for Chengdu's largest newspaper, explained to me that it would be impossible to frame this report in any other way, even if animosity did persist between Zhang and Lin. Thus, while local media is in a much better position to place concrete narratives about Ecological Civilization into the realm of public discourse, they are also at pains to find such stories because in fact conflict and contradiction are not always resolved but they cannot report on such cases. Moreover, stories that have the potential to highlight the incompatibility between environmental protection and economic development are also unreportable because it would challenge the uni-dimensionality of the state promoted interpretation of Ecological Civilization.

A good example of an issue that was unreportable occurred on February 2nd, 2015. In the last week of January, one of the major shopping centers in Chengdu, the IFS, held a promotional event where people filled little plastic shaped homes full of cheap candy over a large area outside the main entry way of the shopping center. It was an advertising scheme timed with the opening of an international recognized candy store

at the IFS. The goal was to make a “candy carpet” with images that could be seen from some of the stores with a prime location in the shopping center (See Figure 4.3).

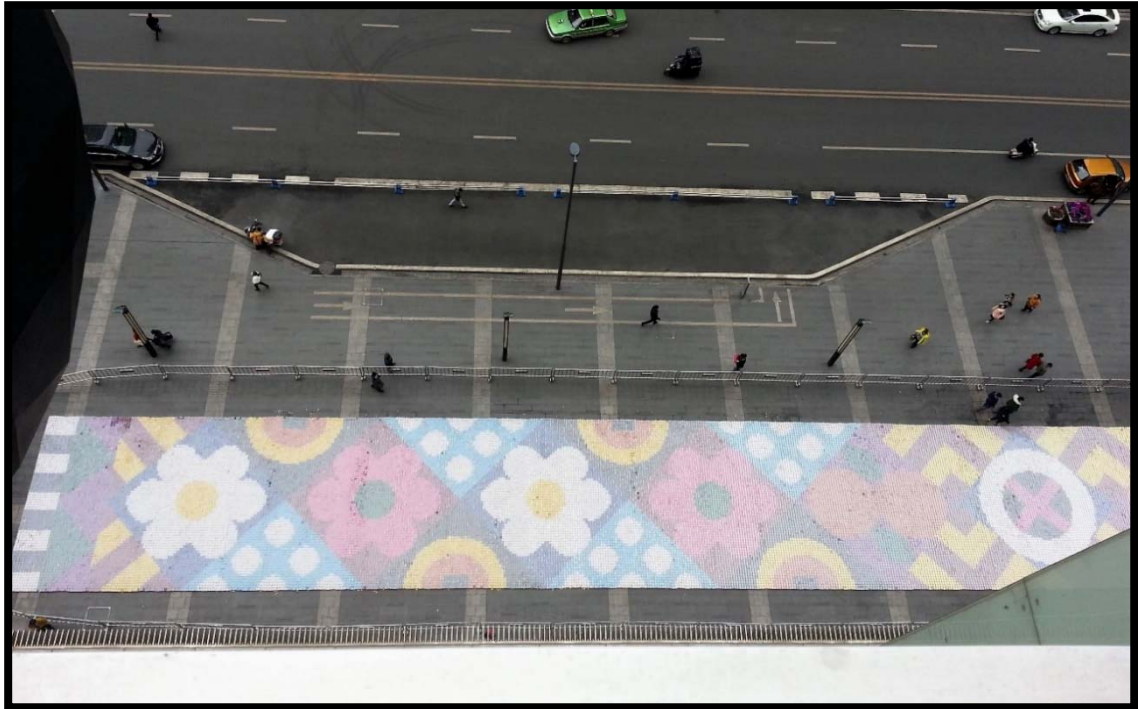


Figure 4.3 The Candy Carpet along the Sidewalk below Chengdu’s IFS

When asked what would be done with the candy, I was told by one of the young workers helping to dismantle the “carpet” that the IFS management intended to “gift it to the poor children of rural Sichuan”. The candy sat outside the shopping center for about four days, initially baking in the sun on the first day then being drenched in the cold winter rain for another three days. Apparently once the candy was all collected IFS management decided that the candy was inedible. On February 2nd, pictures of the candy stuffed into garbage bags in a basement of the IFS started to appear on the Moments¹³⁴ of Chengdu’s better known environmentalists, including Chen Xi and Lin Lan from Global Trees. Their hope was that the candy could be processed into a form of organic

¹³⁴ This is a feature in WeChat that is quite similar to the Wall feature in Facebook.

fertilizer but many of their colleagues felt this would be exceedingly difficult. A second idea was to turn it into some kind of feed for pig farmers in the nearby Chengdu region. Apparently, the cost to the IFS to implement this kind of disposal was more than the managers were willing to shoulder.

Initially, Li Huicheng was interested in developing an article on the candy. The environmentalists were also trying to put pressure on the IFS management to come clean and work with them to find a way to dispose of the candy appropriately and a story by Li Huicheng could have helped their cause. After the second day of the garbage just sitting in the basement it seemed the situation would not be easily resolved as IFS refused to pay for the proper clean up. As the narrative began to show sure signs of conflict and with IFS being a major advertiser in Chengdu, Li Huicheng was informed by his superiors that it would not be possible to publish an article on the issue. Eventually, even Global Trees had to scale back their online critique and the candy was supposedly taken to an incinerator outside of the city. Thus, similar to the inability of NGOs to promote environmental education while developing their Ecological Housing Estate projects discussed above, the power of large corporate and state interests is also what makes it quite difficult for collaboration to occur between the media and NGOs.

A rare challenge to corporate and state interests through the media can be seen in Chai Jing's *Under the Dome*, a documentary released on February 28th 2015 detailing the obsession of economic development promoted by the financial, energy, real-estate and automotive industries that have resulted in China's air pollution crisis. As an investigative journalist known for broaching controversial issues in China, Chai began to collaborate with friends in the NGO world to focus on the creation of this film. The

film's content, form and means of transmission were completely unique compared with the way most environmental issues and certainly Ecological Civilization had previously been presented to the public. The video was released on the internet and specifically used WeChat as its primary means of transmission. The documentary readily mimicked the style of a TedTalk lecture format with the visualizations of Al Gore's *An Inconvenient Truth*, all of which are formats that are uncommon within Chinese media. The key message of the film provided a somewhat doomsday-esque political message: air pollution is killing Chinese citizens but Environmental Protection agencies do not possess the power to over-rule political decisions made by agencies promoting excessive rates of economic development. Moreover, it was the way this message was presented, primarily through interviews where Chai Jing posed hard-hitting questions to high ranking officials and CEOs of state-owned enterprises, that made the film stand out.

For our purposes here, a brief excerpt of the film is worth looking at in length because it brings together issues of political power structured by the energy sector's obsession with economic growth and the inability of the MEP to resolve the situation. Chai Jing's interview with Professor Cao Xianghong, who along with being Sinopec's previous chief engineer also happens to be the head of the Fuel Standards Commission (石油標準委員會), best highlights the contradictions that prevent the MEP from influencing the improvement of fuel standards in China to reduce the problem of air pollution.

Chai Jing (CJ): People from the petroleum industry occupy the largest representation [on the fuel standards commission], perhaps this would harm the public interest of citizens?

Cao Xianghong (CX): Frankly speaking, an organization that is setting a petroleum product standard should not be looking for a person who doesn't understand the refining industry to set the standard.

CJ: So people in the MEP don't understand?

CX: MEP...I feel that they don't understand.

...

CJ: Would you be willing to release everything [the committee] has done or the costs of improving the standard to allow everyone to judge?

CX: Right now, society naturally has a kind of lack of trust towards Sinopec, PetroChina and these kinds of enterprises.

CJ: Where do you [polite form] think this kind of lack of trust comes from?

CX: Every issue has a positive and negative aspect¹³⁵, as long as there is a negative aspect it gets blown out of proportion, the more it gets described the worse it looks. From this perspective it is probably better not to say anything [about the fuel standards] at all.

...

CJ: Why can't we improve the standard a bit and use it to force the upgrade of oil products?

CX: The matter of oil products is about safety, if you don't do it right it could create a real mess, it is not as if Mr. Cat and Mr. Dog can just come in and start selling.

CJ: He [Mr. Cat and Mr. Dog] certainly would think "Why does Sinopec and PetroChina get to make money then?" Everyone can make money.

CX: Yes, everyone can earn money, so I support deepening the reform and taking further steps to open up. If the state decides it wants to move forward with this kind of reform, then the state¹³⁶ had better go do some research, probably there will be some kind of risk. [55:38]

There are a few things that need to be pointed out within this dialogue. Through Cao Xianghong's answers we can see that he believes the Fuel Standards Committee and even the entire petroleum industry stands above the rest of society. For instance, when he talks about every issue having a negative and positive aspect, he uses a favored expression of party cadres that references the dialectal method, which has a very pretentious tone in the way he uses it in the interview. According to Professor Cao, it is not the MEP that understands safe levels of pollution, but the committee does. Moreover, trapped in a kind of circular logic, the committee claims it cannot trust society with

¹³⁵ Cao Xianghong uses a very intriguing way to express this idea. A direct translation would be "Most of us do not speak using a dialectical method", a favored expression of party cadres and academics.

¹³⁶ It should be noted that Cao Xianghong uses the phrase *naniguojia* 那你國家 which might directly be translated "then you state" which sounds very odd for an official to say. The politically correct phrase is *woguo* 我國 or "our country".

information about improving the standards because society does not trust the committee. Perhaps the most egregious point made by Cao Xianghong is that the state should be wary about implementing reform because they have yet to do their “research” and there are “risks”. The air of hubris almost makes this final statement a kind of veiled threat. For instance, when he refers to the state in the final clause above, he uses the phrase 那你國家, or “then you, the state”, which has a very different tone than the more politically correct phrase 我國, or “our country”. This further exemplifies the way he views his position above both society and the state to the point that he does not have to address either in a more deferential or even neutral way.

A lecture I attended in Hong Kong by Mr. Jean-Pascal Tricoire, Chairman and CEO of Schneider Electric, might help shed some light onto Professor Cao’s responses. Mr. Tricoire has prided himself on the ability of Schneider Electric to be at the forefront of integrating Smart Grid Technology into electrical grids around the globe, including China. During Q&A an audience member asked what the barriers were to further integration of such technology. His answer and interpretation of the energy sector helps explain both his pride in Schneider Electric and the attitude of Cao Xianghong towards Chai Jing’s line of questioning:

The main challenge is just the inherent conservativeness of those in control of the energy sector. Look, you have to understand why that conservativeness exists. When the energy supply breaks down, all hell breaks loose and everyone places the responsibility, both social and economic, squarely on the shoulders of those in control of the energy sector. It is amazing we don’t have more problems in energy distribution, but the main reason we don’t is that change happens slowly because the current system is perceived as working and if it is working then those in control will be reluctant to change. The result is deep-seated conservatism.

In fact, according to Mitchell (2011), this conservatism, founded on a fear of losing control of society and the economy, is integrated within the neoliberal political ideology that emerged along with the rise of the global oil market. Mitchell argues that neoliberal politics are a response to the social chaos that could be caused when coal markets were interrupted by demands from striking workers¹³⁷. To a certain extent this is also Cao Xianghong's point: upsetting the current energy structure simply to improve air quality could have drastic social and economic repercussions. With the energy sector at the core of China's military structure of power, Cao Xianghong and the Fuel Standards Committee might interpret the encroachment of Ecological Civilization as a threat to social stability. With Chai Jing's documentary receiving 250 million views within two days it is no wonder that the Ministry of Propaganda on March 3rd issued a requirement to all media outlets and online platforms to censor both the video and any reports related to it or Chai Jing¹³⁸. It had revealed too much about the state's inner workings. This led to the breakdown of the ideological structure that encourages people in their everyday lives to continue to behave *as if* they did not already know that environmental protection is always second to economic development. When Chai Jing clearly explained the threat air pollution posed to the health of citizens and that government officials felt solutions to the problem were too "risky", citizens began to realize that continuing to follow along with the *as if* conditionals, which Zizek says are at the heart of any ideology (1989), had become a threat to their own existence thereby

¹³⁷ I raise again the point that the material characteristics of these two sources of energy only helped structure this obsession with social control to a certain extent. Conservatism and the need for social control developed with an equivalent rapaciousness in China's coal industry after 1949 and has never receded, much as I explain in Chapter 2.

¹³⁸ The film was also censored due to the timing of its release just a week before the Two Sessions of the People's National Congress being held in Beijing. For a detailed explanation see: <http://chinadigitaltimes.net/2015/03/translation-chai-jing-got-chop/>

stimulating social change. Moreover, to many I talked to, censoring the video only gave it more legitimacy.

For instance, on March 6th, Chen Xi invited me to a dinner with a group of Environmental NGO colleagues in Chengdu, where we had a long discussion regarding the timing of the release of this documentary. Everyone felt the film was purposefully released days before the Two Sessions of the People's National Congress (often just called the 兩會) would begin because then the Ministry of Propaganda would be forced to censor the video within a very short period of time, thereby minimizing the possibility that the film might create social upheaval. Regardless of whether this is true or not, the censoring of the film placed environmental activists in a complicated predicament. In four days Chai Jing had brought an environmental issue to the national stage, something activists themselves had been unable to accomplish since the founding of China's first environmental NGO, Friends of Nature, in 1994.

To not take advantage of the moment would be a terrible waste and many scheduled lectures and educational activities within a week of the film's release. A lecture by Qi Daina was for that reason purposely scheduled during this time, even if it was potentially quite risky to do so. During that lecture, with a critical atmosphere in the air, the audience was quite open about their concern that smog was seriously damaging their health. One participant even noted: "Smog scares us even more than SARS. Of course SARS was awful, but we are much more worried about smog because we feel like we are even more unable to find a solution to this air pollution problem." In other words, to some air pollution represented a key issue that had made them feel quite apathetic when it comes to the environmental problems they face in their everyday lives.

Another group in the audience was quite eager to link Chai Jing and air pollution to the construction of the PX plants and poor governance as a way of expressing what they see as a need for environmental activism. In fact, one of the participants during the Q&A session wanted Daina to focus entirely on the impact PX plants have on air pollution levels in Chengdu. Even after Qi Daina explained that these plants are generally quite safe and utilize a great deal of technology to reduce their emissions, the participant then claimed that he had evidence to the contrary and was in the midst of bringing a lawsuit against the government.

Actually this last example highlights the problem the discourse creators face when trying to extend the Ecological Civilization discourse into the rest of society. Residents of Chengdu are not just empty shells to be filled with ideas about “civilized” environmental behavior or the proper way to interpret the problem of air pollution. They approach these problems through their own experiences of both damaging and protecting the environment. As we will see in the coming chapters, my informants in Chengdu would all readily admit that they do act in ways that damages the environment but they would also recognize some of their behavior as a benefit to the environment, or what I will describe in Chapter 6 as “being environmentally-friendly”. They may not always put the latter in academic terms like “sustainability”, but, when asked, they do explain that their actions are part of an idea like Ecological Civilization. When I return to the discussion about local interpretations of Ecological Civilization in Chapter 8, we will see that the state’s uni-dimensional way of interpreting the Ecological Civilization ideology as primarily one that supports economic development is not shared by all residents of Chengdu. They also have a hard time believing that their individual actions

could explain the awful environmental conditions faced by urban residents and many hold the state responsible for the situation. At the same time, it is important to recognize that the way people perceive and act upon the environment is organized according to a variety of reasons. It is important to examine those perceptions and actions in detail before we can properly analyze the way the Ecological Civilization ideology is influencing the environmental consciousness of residents in Chengdu. Moreover, some of those actions do have a negative impact on the environment, but they are related to behaviors that residents are perhaps unwilling to give up for important sociological reasons, which I will discuss in the following chapter.

Chapter 5: The Graying of Chengdu

In the previous two chapters I examined the emergence of the Ecological Civilization ideology and how it moved from the Central Government into social discourse through the work of local officials, NGO workers, academics and journalists. In concluding Chapter 4 I tried to stress that the entrance of the Ecological Civilization ideology into society did not happen in a vacuum. In some cases the stories and data I intend to discuss in these later chapters are related to the perception of and actions towards the environment that began before residents of Chengdu were familiar with the term Ecological Civilization.

Specifically, the following three chapters will examine some of the important environmental perceptions and actions in Chengdu that emerged from my ethnographic and survey data. For instance, during the freelist exercise we implemented while preparing our survey tool, we discovered that many of the topics discussed in the following chapters were also the most frequent responses when we asked residents to list different elements of ecology (Table B.1). I also interpret each of the highly ranked items in the ecology freelist as an element of the environment that residents perceive as having an influence on their life. The highly ranked items that become central to the thesis include: food safety, air quality, water quality, soil quality, greenery, garbage, transportation, and noise. Referring back to Gibson (1986), much of my ethnographic analysis described in the following two chapters will aim at explaining the affordances some of these highly ranked items provide to my informants.

For instance, we can examine how one item, air quality, sits within the rest of the ecology freelist. First of all we should note that it is not the most frequently mentioned

element of ecology, coming in at number five (27% of respondents listed it), nor is it the highest in average ranking (usually about the third item respondents listed). Examining the other most frequently listed elements of ecology helps explain why concern for air quality has still become so prevalent in Chengdu. For instance, plant life, while separated into a number of different items, would be the most common item associated with ecology. Garbage and sanitation also seem to be important for a number of residents. While these might seem straightforward, it is the listing of environment and environmental protection that link these together. When asked to clarify what they meant by environment, residents would often explain that they were describing the grasses and flowers or more specifically the plant life within their living environment. In other cases environment is often paired with sanitation. In fact, environmental sanitation is a set phrase often found within government propaganda. As we saw in Chapter 3, the phrase “environmental protection” is also a set phrase found within government propaganda and during the freelist exercise some people explained that it is crucial for developing a “harmonious society”. Thus, it should also be no surprise that harmony (和諧), was also mentioned quite regularly as an element of ecology. As I explained in Chapter 3, the idea of “constructing a harmonious society” is the primary contribution the previous president, Hu Jintao, made to the Chinese Communist ideological canon (Joshi 2012). Many residents explained to me that they connect with idea of social harmony because it is a reflection of the desire to preserve a harmonious household. In fact, I would argue many of these high frequency elements of ecology find their way onto our freelists because they are either inputs that the household needs (water, plants, food) or outputs they need to deal with (garbage, sanitation). Thus, by returning to the

reason why Chengdu residents are so concerned with air quality, we can interpret clean air as just one more crucial ecological element that the household needs to thrive and be harmonious.

Before finalizing our survey questions we also conducted 77 semi-structured interviews with a series of questions based on our freelist results. In the following two chapters, I will occasionally explore answers to the following two questions:

- 1) What kinds of behavior have a good/bad influence on the environment?
- 2) In what way does greenery have a good/bad influence on the environment?

A number of responses to the first question were quite similar to those found in the ecology freelist. This is what helped us to finalize a few of the scaled and open-ended questions found within the household survey discussed in Chapter 7.

In total we conducted 245 household interviews, each of which required 25-45 minutes to complete¹³⁹. While our survey collected socio-economic and demographic data of all those living in the household, meaning a flat within the housing estate, much of the data analysed in the thesis is based on responses from the household member we directly interviewed. Unfortunately random sampling was not possible as we could not obtain a sampling frame from any of the seven housing estates¹⁴⁰. Moreover, because the architectural structure, security protocols and our own relationship with each of the housing estates differed, we were forced to accordingly adjust our sampling procedures.

¹³⁹ With the length of the interview being this long we felt it was important to compensate our informants in a meager way. A close friend provided me coupons to her karaoke club and another friend provided coupons to his newly opened crawfish restaurant. Respondents were only informed about the coupons after the interview was finished. Unfortunately (depending on how you look at it), word spread fast and some informants were stimulated to participate in the survey because they heard from other residents that we had coupons.

¹⁴⁰ Only the Public Security Bureau has a truly up-to-date sampling frame for each of the housing estates as management companies and housing estate resident committees only know which household is being rented, but not who is actually doing the renting.

At Eastern Star, #78 and #68 we were able to rely on our relationship with a few very proactive residents who helped introduce us to a large proportion of our respondents. In other cases, we based ourselves near the front gate of the housing estate and would ask residents if they would be willing to participate in our survey as they walked by. This method was essential at #8 and #88 where the local government were not able to introduce us to any residents because they considered these to be “problem” housing estates, meaning that the officials never made much of an effort to get to know the residents living in these housing estates. Thus, a combination of snowball and street-intercept sampling was used in the bulk of our surveying.

In Riverside we were able to canvas the entire complex in the company of the housing estate security guards¹⁴¹. In this case we were able to structure our sample so that we could spread our interviews throughout the complex. Initially we were told by the Tiramisu housing estate management company that they would also allow us to canvas their complex. Unfortunately, the week before we went to conduct the interviews, the management company entered into a dispute with a resident who had been going door-to-door selling products. They were concerned that our interviews would further anger residents who were frustrated with being bothered by strangers. At Tiramisu we were only allowed to place tables and chairs within the reception halls below each of the five buildings, resulting in a form of street-intercept sampling. While we had initially intended to sample an equal number of households from each of the three housing estate types (Table 5.1), in the end we decided that it was more important to oversample #78

¹⁴¹ There is a possibility that the presence of the security guards influenced some of the responses to the survey. However, we all felt that it actually made residents feel more comfortable and more willing to provide answers because at least there was a familiar individual participating in the exchange rather than just a single stranger.

because of its large size and because of its unique position as a gated housing estate that is also a model housing estate.

Housing Estate Type	Housing Estate Name	Sample Size
Gated	#8	31
	#68	18
	#78	52
	#88	12
Managed	Eastern Star	12
	Riverside	51
Luxury	Tiramisu	69
Total		245

Table 5.1 Sample Size by Housing Estate

Thus, the data analyzed here is not drawn from a random sample of the Chengdu population. However, as Manion (1995) has argued, non-probability samples are common in social studies of China and are still generalizable to the broader population when the research questions are focused on relationships between variables. In this study I am primarily concerned with the relationship between variables of environmental ideology, perception, and action rather than trying to demonstrate that the levels of each variable are representative of China. Additionally, the sample does include residents from a range of different social groups found in Chengdu. For instance, our sample includes a wide-range of education levels from those residents who are illiterate to those who had been awarded doctoral degrees. There is a slightly perceptible gender bias in the sample showing men having higher levels of education than women (Table 5.2). The large number of residents holding a high school degree or higher is indicative of the social capital that is associated with a high level of education in China. According to the 2010 census in China, we can see that the level of education of our

sample is slightly higher than average for the Jinjiang District (Table 5.3). This is due to the fact that residents of managed and luxury housing estates tend to have higher levels of education, while the education level of residents living in gated housing estates are more representative of the Jinjiang District (Table 5.4). Additionally, the residents we interviewed came from a number of different employment backgrounds (Table 5.5).

Level of Education Attained	Male		Female	
	Count	%	Count	%
No Education	1	1%	1	1%
Elementary	4	3%	8	7%
Junior Middle School	18	14%	26	23%
Upper High School	20	16%	21	18%
Vocational School	3	2%	8	7%
Junior College	27	21%	13	11%
University	39	31%	34	30%
Masters Student	12	10%	2	2%
Ph.D.	2	2%	1	1%
Total	126	100%	114	100%

Table 5.2 Frequency and Percentage of Male and Female Residents who had Attained a Certain Level of Education

Level of Education Attained	Male	Female
Never attended school	1%	4%
Literacy program	1%	2%
Primary school	21%	21%
Lower middle school	35%	31%
Upper middle school	18%	18%
Vocational school	6%	7%
Junior college	9%	9%
University	8%	8%
Graduate school	1%	0%

Table 5.3 Percentage of Male and Female Residents of Jinjiang District who had Attained a Certain Level of Education

(Source: 2010 Chinese Census)

Level of Education Attained	Gated		Managed & Luxury	
	Count	%	Count	%
No Education	1	1%	1	1%
Elementary	9	8%	3	2%
Junior Middle School	35	31%	9	7%
Upper High School	22	20%	19	15%
Vocational School	5	4%	6	5%
Junior College	18	16%	22	17%
University	20	18%	53	41%
Masters Student	2	2%	12	9%
Ph.D.	0	0%	3	2%
Total	112	100.0%	128	100.0%

Table 5.4 Frequency and Percentage of Gated vs. Managed-Luxury Housing Estate Residents who Attained a Given Level of Education

Employment Background	Frequency	Percent
Construction	10	4%
Factory Work	44	18%
Business, Corporate	45	18%
Military, Security	5	2%
Education, Research	16	7%
Government	12	5%
Service	25	10%
Medical	13	5%
Media	6	2%
IT	10	4%
State-Owned Enterprise	11	4%
Self-Employed, Small Business	19	8%
Food Service	9	4%
Total	225	92%

Table 5.5 Frequency and Percentage of Residents according to Employment Background

This socio-economic background is important for helping me introduce ideas of social class that become central to my argument in the following chapters. As we will see, class-based ideology also plays a role in guiding the way my informants perceive and act upon the environment, often in ways that are very different from the expectations of the state and their promotion of the Ecological Civilization ideology. In the following few chapters I will primarily focus how residents of Chengdu are engaged with their urban environment in both detrimental and beneficial ways. In this chapter I will contextualize the topics of automobile usage, consumerism, food preparation and urbanization within a more nuanced ethnographic narrative. These are aspects that my informants recognized as being detrimental to the environment. As I will show below,

even though residents of Chengdu recognize that these topics exacerbate various environmental problems, they still find that such behavior is important to their everyday lives for a number of practical and social reasons. This helps explain why they may be unwilling or unable to simply adapt their lives to what they are told is a more environmentally-friendly lifestyle, which I will discuss further in the following chapter.

Driving Habits

In thirteen years of living and traveling to Chengdu, nothing has astounded me as much as the city's shift towards a dependence on the private automobile. In 2003, I knew one very wealthy family who owned their own car but I still only rode in it once. By the time I began my fieldwork a decade later, many of my closest friends owned their own vehicles. China's love affair with the car is a relatively recent phenomenon (Zhang Jun 2016, Williams and Non 2016) but, as I mentioned in Chapter 2, it has been exacerbated by a specific mode of urban planning modeled after Los Angeles. I was often told by some friends in Chengdu that it was not important what kind of car one owns as long as you have one. They also believed that this attitude could explain why Chengdu has so many cars on the road. It is not uncommon to hear taxis drivers complain about the level of traffic seen in Chengdu with disgruntled comments like, "every idiot with two hands decided to get a driver's license starting about ten years ago". I would often hear taxi drivers say that it is the lack of experience of these new drivers that creates gridlock. Many of the automobile drivers I know best are relatively inexperienced. For instance, Zhou Lei and Qi Daina, who are over 30, only received their driver's license within the past 5-6 years because they were suddenly in a strong enough economic position to purchase a vehicle. Those who are under thirty, such as Li

Huicheng and Li Jie, often decided to take their driver’s license exam right after high school or college, which is becoming the norm. I will review their stories below, but I first want to establish a general picture of driving habits in Chengdu by looking at some results found in our social survey.

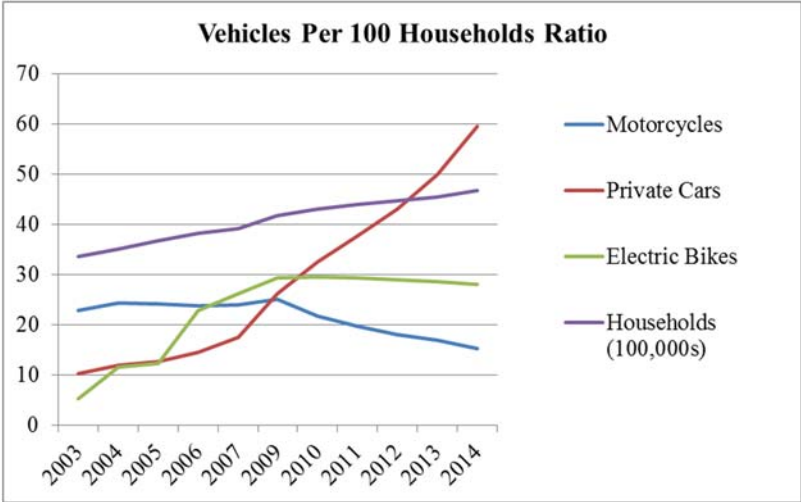


Figure 5.1 Vehicle per Household Ratio 2003-2014¹⁴²

¹⁴² Source: Chengdu Nianjian (2015:624, 605; 2014:605; 2013:661, 682; 2012: 576, 555; 2011: 556, 532; 2010: 515; 2008: 429; 2007: 461, 442; 2006: 461; 2005: 419, 408; 2004: 400)

			Car Owner	
			No	Yes
Housing Estate	Eastern Star	Count	5	7
		%	42%	58%
	Tiramisu	Count	22	47
		%	32%	68%
	#8	Count	20	11
		%	65%	35%
	Riverside View	Count	10	41
		%	20%	80%
	#68	Count	12	6
		%	67%	33%
	#78	Count	32	20
		%	62%	38%
#88	Count	10	2	
	%	83%	17%	
Total		Count	111	134
		%	45%	55%

Table 5.6 Frequency and Percentage of Car Ownership by Housing Estate

As I explained in Chapter 2, private car ownership in Chengdu is a fairly new phenomenon that began in the late 90s. Chengdu City government statistics do not clearly separate private vehicles from “other” vehicles until 2003¹⁴³. As can be seen from Figure 5.1, while the number of households in Chengdu has been increasing at a fairly steady but slow pace, after 2007 the number of private cars per household began to increase rapidly¹⁴⁴. By 2014 the ratio had increased to 60 private cars per hundred households, which fits closely with the findings from our survey that 54.7 % of households already own an automobile. However, it is important to notice the

¹⁴³ After which the “other” category is separated into Motorcycles, Private Cars and Electric Bicycles. I will return to talk more about Electric Bicycles in Chapter 6, but only three of our informants owned motorcycles. This is because motorcycles with engines larger than 125 cubic centimeters were banned from being used inside the 2nd Ring Road in the mid-2000s. This also accounts for the decline in motorcycles seen in Figure 5.2.

¹⁴⁴ The rate of change between 2007 and 2009 looks much greater than it is because Chengdu City did not publish statistics on the number of vehicles owned in 2008.

distribution of car ownership across the housing estates. The percentage of car owners in the Eastern Star, Riverside View and Tiramisu housing estates is much higher than the other four gated housing estates (Table 5.6). Considering that only Tiramisu provides a dedicated parking spot for each of the households, the percentage of car owners in Eastern Star and Riverside View does seem quite remarkable. One day while conducting surveys in Riverside View, Mr. He, a housing estate security guard explained to me:

In total we only offer 120 spots of underground parking, on the surface we have another 400 spots that are first come first serve but much of that is curbside parking that wasn't included in the original design. 15 years ago who would have assumed that so many people would purchase cars so quickly. Now, many residents end up having to find parking outside of the complex and walk many blocks to get home.

With all the traffic jams and frustration of dealing with a lack of parking, one might wonder why people in Chengdu would inconvenience their lives by buying a car.

Looking at car ownership in Southern China, Zhang (2016) has argued that purchasing a car is tied to class identity in China and, as I will explain below, this is equally true for Chengdu residents.

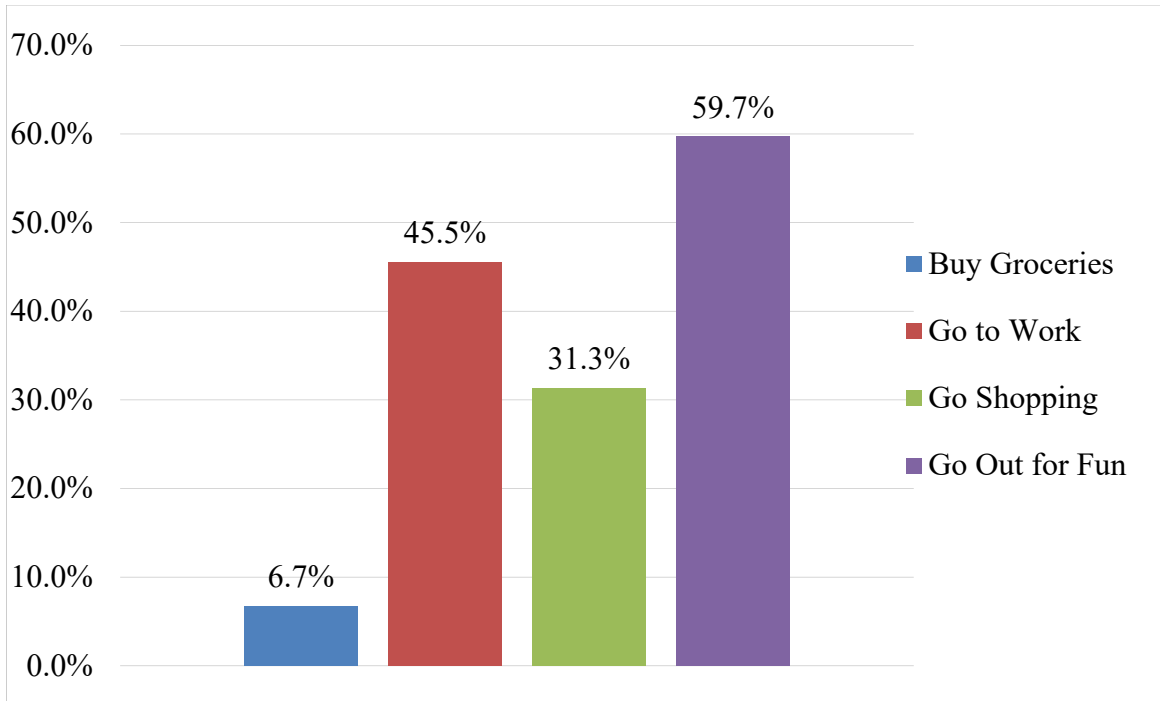


Figure 5.2 How Residents Use Their Car

			Car Owner		Total
			No	Yes	
Young Children	None	Count	88	80	168
		%	52%	48%	
	Has	Count	23	54	77
		%	30%	70%	
Total		Count	111	134	245

Table 5.7 Frequency and Percentage of Households with Young Children and Cars (Chi-Square, $p < 0.001$)

It is also important to consider how people are using their cars. For instance, of the 134 car owners that we interviewed, very few residents (6.7%) are driving their cars to go buy groceries and only 45.5% of households actually use a car to drive to work (See Figure 5.2). The majority of households (59.7%) are driving their car when they go out for fun. Therefore, from the survey data we can conclude that despite the large number of cars in Chengdu, it would appear that car owners are not necessarily driving

their vehicle every day, but more likely during their leisure time. Unfortunately, one thing the survey did not capture is the number of households who use their car to pick-up children from school, which, knowing my friends who have children, is the primary purpose of owning their car. Just to explore this further, of the 77 households which have young children (less than 18 years of age), only 29.9% are carless homes (See Table 5.7). A story from Li Huicheng described below will show that this statistical relationship has a social explanation and is one of the reasons that car ownership has increased in Chengdu so rapidly.

Unfortunately because urban planners never expected car ownership to increase so fast, gridlock is a part of everyday life in Chengdu and is thought to be a major contributor to the city's PM 2.5 concentrations over a given time period (Li Lingyi 2013)¹⁴⁵. While the calculation of PM 2.5 contributions by different sources is still disputed in Chengdu (Tao et al 2014), many of the people I talked to felt there is a strong connection between car exhaust and air pollution. An interview with Grandma Jiang from #8 housing estate only emphasized this point. When the interview turned towards the topic of vehicle exhaust, she looked at me with a serious glint in her eye and said: "This is the most disgusting of all!" Intrigued, I asked her to explain:

People should be separated from such pollution. The main way to do that is to have cars moving about on a separate level from those of us that walk to get around. This is why underground parking garages and raised roadways are so important. We shouldn't be breathing this stuff. But right now there are just too many cars in Chengdu. There is no way for such urban designs to keep up with the number of people who want to purchase a car.

Housing Estate #8 has one of the lowest rates of car ownership in our survey and yet there are enough cars that Grandma Jiang wishes they would not bother her on a daily

¹⁴⁵ For a study that claims the automobile to be a significant contributor to PM 10 levels in Chengdu see Yin et al (2015).

basis. While Grandma Jiang is well aware of the difference between an idealized model, such as separating those who drive from those on foot, and putting that model into practice, she is also making an important point that future transportation planning could separate drivers and walkers, which would have benefits to the health of urban residents. Roadside pollution has been documented to pose a high risk to the health of residents who live nearby major thoroughfares of a city (Han and Naeher 2006). While raised roadways and underground parking garages may not help reduce the overall problem of air pollution in Chengdu, it at least separates residents from roadside pollution. In older neighborhoods that do not have these infrastructural features, the only way to prevent human exposure to vehicle exhaust would be to ban cars within such neighborhoods. While Grandma Jiang would certainly be happy with such a measure, this is not the kind of authoritarian measure the state would take because it is viewed as having negative repercussions for economic development in China.

One reason cars have become so prevalent in Chengdu is the vehicle subsidy provided by employers. Many government agencies encourage employees to purchase a new car¹⁴⁶ by providing a subsidy. The car models are generally pre-determined, many being small- to medium-sized domestically¹⁴⁷ produced vehicles. Many of these subsidies are added to sweeten up employee contracts, whose salaries would otherwise seem quite low, but there are also time limitations regarding when the subsidy must be used. For instance, Qi Daina had to purchase a car within two years of signing her original work contract or forfeit the subsidy.

¹⁴⁶ I have never heard of a subsidy being given for an employee to purchase a used car.

¹⁴⁷ Because there are a number of joint venture automobile companies now in China (Gan 2003), this does not exclude the purchase of foreign brands such as Ford or Volkswagen. The subsidy is not applicable to the purchase of imported vehicles.

Actually I am quite scared to drive in Chengdu, people are crazy drivers here. But it seems silly not to take advantage of the subsidy. It's like wasting free money. Plus my parents really want me to drive the car to E'mei Shan¹⁴⁸ so I can take them to the countryside to see their family. They are starting to get too old to keep taking the bus and finding private cars to take them is expensive.

Actually the cost of hiring a private car in a 3rd Tier City like E'Mei Shan is still fairly cheap and certainly one that Daina can afford. I found that it is important to her parents that she drives them to see her family. It is a way of telling her aunts and uncles that she is now successful enough to purchase a car and drive her parents around when she comes home. In many ways this provides a feeling of security for the family. This is important to Daina despite the fact that as an aerosol scientist she knows far too well that she is contributing to the further production of air pollution.

As I discovered through many of my interviews, car purchases in general are influenced by concerns for the family. An SUV in Chengdu is far from necessary, and considering the problem of parking one could say they are even impractical, unless one spends a good deal of time traveling to and from the mountains of Western Sichuan. During an exchange with my friend Li Huicheng, I discovered that when it comes to making a decision about what kind of car to purchase, concerns for the family might be more important than practical issues. When Li Huicheng came to pick me up at the airport one day in a brand new Volkswagen SUV I was stunned.

Me: What happened to the [Ford] Focus?

Li Huicheng (LHC): I still own it, but my mother tends to drive it around now.

Me: Does the new SUV use a lot of gas? Are you and Tiantian [his wife] planning to take more trips up into the mountains?

LHC: It does not use as much gas as some might think. I primarily just drive from home to work and back. Each month I spend around 500 RMB on gas, which is only one-hundred more than I spent while driving the Focus. We

¹⁴⁸ A city about 150 km south of Chengdu

will not be able to go up into the mountains much now with the new baby, so this SUV is really just for getting around in town.

Me: Will it be difficult to find parking? Why do you need such a big car?

LHC: Yes, dealing with parking is not easy. But the baby seat takes up a huge amount of space. If we want to go anywhere as a family [including his parents] then the Focus would never have enough room. We also need to pack a stroller, baby clothes, diapers, bottles...honestly, I never imagined it would require that much stuff to take care of a baby. Even the space of the SUV feels cramped. Also, the Focus never made me feel safe. There are a lot of bad drivers and a lot of large construction trucks in Chengdu. I just feel like the SUV is sturdier (更结实).

Security is important when it comes to the family and for Li Huicheng the problem is not necessarily the car but rather other drivers. In his youth it was fine to drive around in a smaller Ford Focus but now that he is a father everything has changed and the sturdier SUV becomes a symbol of safety for the family.

Another kind of social transition related to the purchase of a vehicle can be seen in Zhou Lei's driving experience. It took Zhou Lei nearly four years to earn enough money to purchase his first car with his parent's help. While Zhang Lili, Zhou Lei's girlfriend at the time, never told me so explicitly, the fact that he purchased a car was probably something that solidified their relationship. Back in those days Lili was studying journalism in the most prestigious school in Chengdu for that major and everyday a line of men in their cars would be waiting outside the school to pick up their girlfriends. The fact that Lili had to ride a bus or, what was far more likely, take a taxi because Zhou Lei did not have a car was a mark against her social status¹⁴⁹. Zhou Lei's first car, purchased in late 2009, was a pretty basic Toyota. Not long after he purchased the car, Lili started to bring up the question of marriage. She felt that Zhou Lei's job as a real-estate salesman was somewhat beneath her, which made him feel inadequate. So he

¹⁴⁹ This may make her seem superficial, and yet, as I have learned from Lili over the past seven years, the training of young newscasters is a cutthroat business in China that is highly dependent on social and sexual capital. This is a topic seriously in need of a good ethnographic study!

decided to take a much more glamorous job as a travel guide for Chengdu's ultra-rich. While he was often away on trips overseas during this time he started to earn a great deal of money and, more importantly, established himself within a powerful web of elite *guanxi* connections (Osburg 2013a). In order to maintain those connections it was necessary to purchase a new car.

My new Mercedes is a requirement for the job. I just cannot show up to business meetings with clients in a Toyota. It makes me look far too "low"¹⁵⁰. These guys all drive Jaguars and Maseratis; how can I get their attention and their business unless I can match their style.

Actually Zhou Lei's story draws on issues of affection for Lili but also the excitement of leading a glamorous lifestyle for about three years among Chengdu's elite. These experiences guided him towards the idea that car ownership was a "necessity" to maintaining his way of life.

While the car has come to be an important part of my friends' everyday lives that is connected to issues of family, love and career, I never heard any of them deny that driving a car is bad for the environment. When air pollution in Chengdu would reach unsafe levels Li Huicheng would admit to me that he knew his SUV was only contributing to the problem, but at the same time he felt that there was no reasonable alternative that could safely and conveniently help him move his family around the city. Li Huicheng could ride the bus in to work and on every Wednesday, when the city prevented license plates ending in 7 from entering the city¹⁵¹, he would do just that. Of course, Wednesday was the only day Li Huicheng would ever ride the bus, thus there is

¹⁵⁰ This is a fascinating Sichuanese dialectal term, which essentially means poor taste, but because it does not really have a standard character associated with it, it is not uncommon to see people actually write out the English word "low" to represent this idea. It is quite often used in the context of implying that one is of a "low class".

¹⁵¹ The regulation in Chengdu to limit traffic states that vehicles ending in a 0 and 5 cannot drive past the 2nd Ring Road on Monday, 1 and 6 on Tuesday, 2 and 7 on Wednesday, and so on.

also an element of just enjoying the convenience of owning a car. As I will discuss in Chapter 6, people do recognize alternatives, but they will only consider those alternatives seriously if it does not interfere with other aspects of their life, like establishing social capital or protecting the family.

In other words, with regards to the driving habits of residents in Chengdu, we can see how the car has become embedded within the social life of living in the city. The state, which recognizes the automobile and its supporting infrastructure as a crucial commodity for stimulating further economic development, is also reluctant to control car traffic. Only when Chengdu's AQI levels approach 300 or higher, will the city strictly enforce driving restrictions to reduce air pollution. Despite the negative health impacts associated with air pollution, some residents I talked to were resentful of the idea that the state could close down the roads. They perceived their own contribution to the problem as minor when contrasted with the contribution of coal-burning power plants and industrial factories and felt the state should focus their efforts on reducing pollution from those sources. When the automobile is thought to be essential for moving one's family safely around the city or maintaining one's social class, it becomes difficult for residents to recognize that their driving habits do contribute to the accumulation of air pollution. It is the social embeddedness of the automobile that similarly makes it difficult to encourage residents to consider a more sustainable mode of transport.

Consumerism

While the automobile is recognized by many as contributing to the graying of Chengdu, it is really only one form of consumption that exhibits this polluting trait. Here I would like to briefly describe three forms of consumerism, in the form of

clothing, electronics and pre-packaged foods, which many I talked to consider to be the primary sources of garbage in Chengdu.

As Osburg (2013a) has argued the different kinds of clothing and fashion accessories one wears are essential to maintaining one's *guanxi* connections, similar to the way Zhou Lei described the need for an automobile above. My friend Li Jie's shoe collection is a case in point. One evening in February 2014, while enjoying a nice meal together with her sister, we started to discuss her trip to Japan. Her sister started to recommend a pair of boots and went rummaging into a closet making a great deal of noise. I followed after to see what all the noise was about to discover a closet (actually it was more like a small storage room!) completely filled from floor to ceiling with shoe boxes. Both women laughed at the expression on my face but Li Jie admitted that they had a problem:

Li Jie (LJ): I cannot help myself. When I see a new pair of shoes that I know matches one of my outfits I have to buy it.

Me: And I assume you plan to buy more in Japan?

LJ: Of course, in fact I will probably purchase a second suitcase for shoes alone [laughs]¹⁵².

Me: Do you really need so many shoes? What happens when you do not wear them anymore?

LJ: Generally, I throw them out, but as you can see I rarely do that. I know it is not good for the environment to have so many clothes but I do not know what else to do with them.

Me: And I suppose no one would purchase them as secondhand?

LJ: Definitely not! That's gross!

Generally speaking, secondhand or recycled clothing is not considered socially acceptable in China¹⁵³. I think it is important to highlight Li Jie's perception of clothing as being detrimental to the environment despite the fact that she continues to purchase

¹⁵² As I mentioned in Chapter 1, Li Jie actually ended up using that new suitcase to pack an expensive air purifier back to Sichuan, but the empty spaces of the suitcase were still filled with shoes.

¹⁵³ This is changing slowly in Chengdu; in late 2015 a Korean-American expat started collaborating with local NGOs to form a secondhand clothing store.

what she herself admits is an excessive amount of clothing. She would often explain to me that each of her outfits makes her look professional and feel more confident when she goes to business meetings. This is particularly important to her because she is still considered fairly young (26) to be running such a successful hot-pot business and she is often required to interact with people who are many years her senior. Since she has fairly regular interaction with the same group of people (for instance food suppliers, real-estate developers, and her board of directors), showing up to a meeting wearing a new dress and pair of high-heels is also important for making her interlocutors feel that she is fashionable and well-organized. These considerations make it difficult for her to also focus on the environmental impact of owning so many articles of clothing.

Perhaps even more than clothing, the consumption of electronics is also a crucial tool in managing one's social image and *guanxi* connections. The drive to purchase the newest iPhone or Samsung is related to how people position themselves socially, but doing so is very subtle. Rarely would I see someone blatantly bragging about purchasing their new iPhone 6 unless they were being ironic. In fact, while I was in the field there was a certain amount of cynicism related to the social capital provided to owners of an iPhone 6. This cynicism emerged because the iPhone 6 was not initially released in China at the same time as the rest of the world, leading to a number of consumers paying exorbitant amounts of money to have one shipped to them from Hong Kong by a friend. This is why the iPhone 6 was originally called *liu shen* 六肾 or the "six kidney", meaning you would need to sell a kidney in order to purchase one. Of course, the iPhone 6 is only an example of a larger issue.

Zhou Lei, for instance, had to purchase an iPhone 6 during a trip to Hong Kong for himself and Lili to maintain their image with Chengdu elites, but this was not the first time he had made a purchase of electronics for social reasons. A drawer beneath the TV in Zhou Lei's apartment across from the People's Park was filled with used smartphones and cell phones, the oldest model of which was likely purchased in 2009. Each year as a new cellphone emerged with more advanced features, both Zhou Lei and Lili felt that it was important to keep up with the times to preserve their image as being fashionable. When I asked why he kept them in the draw he simply said: "I have no idea what else to do with them. I hear that the batteries are really bad for the environment, so I think perhaps it's just safer to keep them in the drawer until I figure out the best way to dispose of them." I can understand his hesitation as I too have never found anyone that understands the proper way to dispose of electronics in China. In most cases when they are thrown into the garbage they will eventually end up in recycling centers in Guangdong that use extremely noxious chemicals to breakdown the items creating a hazard to both the surrounding environment as well as those working at such sites (Chi et al. 2011, Kirby and Lora-Wainwright 2015).

While residents of Chengdu are fairly aware of the environmental impact of clothing and electronics, it is true that only a select few are as perceptive of the impact caused by pre-packaged foods. Moreover, pre-packaged foods are a slightly more complicated example of consumerism because some of these foodstuffs are just a quick and practical way to consume calories. For instance, individually wrapped gelatin packets and muffins or bottles of soft drinks and reconstituted juices, are often purchased in convenience stores and generally consumed very quickly in the morning

while people are on their way to work. Ten years ago, it was not uncommon for me to find that the plastic encasing the food or drink would often just be left on the ground but today it more often than not makes it into a garbage bin. Residents of Chengdu rarely pay attention to whether they are tossing their trash into a recyclable or non-recyclable bin¹⁵⁴.

Either way, those who work a more standard day job, like my friend Liu Sisi who was a secretary for a software company in Chengdu, often feel like they do not have the time in the morning to make breakfast. As Sisi explained:

Due to the unpredictability of the traffic, it is hard to know how long it will take me to get to work. If there is a traffic accident it could be at least an hour. Just to be safe, rather than making rice porridge at home every morning, it really is just easier to pick something up from Wowo [a convenience store chain].

While it is true that Sisi could just wake up earlier and make herself a meal, most people I know in Chengdu, would far rather sleep late and spend the evening eating good food with friends, as I will discuss below.

Other than the concern for packaging, another environmental issue that some processed food companies are starting to face is the public perception of genetically modified organisms (GMOs)¹⁵⁵. For instance, beginning in early 2015, Zhou Lei started working with his new girlfriend, whose family owns a chili pepper sauce factory, to rebrand a type of hot sauce into something more appealing to younger consumers.

Nearly all of the oil they use in their sauces comes from genetically modified soybeans

¹⁵⁴ As I will discuss Chapter 7, this is not necessarily a sign that people in Chengdu do not recycle at all.

¹⁵⁵ Following academic research on this topic in China, it is hard to understand how the public perception of GMOs is trending in China. See Huang et al (2006) for evidence that people are willing to consume GMOs and Ho, Vermeer and Zhao (2006) for evidence that they are not. The fact that the issue is inconclusive is another example of the multi-dimensional nature of environmental issues in China, but as I will show in Chapter 7 and 8 the social class of our respondents also plays a key explanatory role when it comes to food safety. Veeck, Veeck and Zhao (2015) also argue that closer attention needs to be paid to spatial and socio-economic factors when attempting to explain such trends in China.

imported from Brazil or the U.S. One day Zhou Lei called me asking if I could help him find scientific articles showing that consumption of these soybeans was safe and popular articles describing Americans and Europeans regularly eating GMO oils. I explained to him that it would be difficult to find such articles because the science was still quite inconclusive and that the EU had banned GMOs altogether. When I suggested that they consider using oils from a non-GMO source he explained, “You can’t! All of the oil providers we have contact with only make their oil from these kinds of soybeans. Perhaps it is just best not to say anything about it at all.” Despite the fact that GMOs for human consumption are technically banned from being grown in China, food processors also do not require any kind of labeling regarding whether or not a foodstuff has GMO material within it. Since China began to strongly promote the production of wheat, nearly all soybeans, which are typically genetically modified strains, are now imported from abroad. In the end, food processors really do not have much of a choice in this matter.

While the different consumptive practice I have described above are all recognized as having negative impacts to the environment, in each instance there are specific reasons why it becomes difficult to discontinue such practices. For instance, if there are no requirements to label Zhou Lei’s product as containing GMOs, then he will continue to use GMO soybean oil for fear that importing his own non-GMO soybean oil would be so expensive that it would harm the hot sauce’s competitiveness in the market. Li Jie will not give up purchasing new outfits because she feels a fashionable edge is important when she goes into business meetings. In other words, the idea of promoting environmentally-friendly behavior as long as it supports economic development is not

solely an environmental ideology promoted by the Chinese state. While some of these voices come from business owners who do hold a higher position in society, working class residents, like Liu Sisi, also feel that in the morning it is important to just get to work and be productive, even if that means having to eat a plastic wrapped breakfast. Here I would like to begin to introduce the idea that most of the time in Chengdu when we see consumerism perceived as being more important than environmental concerns, such ideas tend primarily to come from the state or from the upper class of society. Only in a few rare cases will the state and the media use Ecological Civilization to critique forms of economic activity. The air pollution caused by the cooking of Sichuanese food is a prime example.

Sichuanese Restaurants

It is hard to think of another more commonly recognized Sichuanese cultural trait other than its exquisite culinary tradition. Food is a major focus of social life in Chengdu and it is surprising that it has not stimulated a more thorough ethnographic study¹⁵⁶. People take great pride in being able to make rich flavorful dishes, some of the intensely spicy variety, but they also enjoy treating their friends and/or family to a meal outside the home. Banqueting has become deeply embedded in the maintenance of *guanxi* for government officials and business owners (Osburg 2013a, Harmon 2009). There is even a kind of assumption that eating Sichuanese hotpot¹⁵⁷ is what makes someone a local Chengdu resident.

In recent years, there have been a number of scandals regarding food safety in Sichuan. The issue of *digouyou* (地溝油), or the oil used in hotpot that was skimmed off

¹⁵⁶ However, see Dunlop (2001) for more on this topic.

¹⁵⁷ 四川火鍋, a pot of oil, water and spices in which raw vegetables and meat is cooked by the customers themselves. Most local residents would argue that the spicier the hotpot the better.

the top of the city's sewers, drew the most controversy. Some would even joke that this was the special ingredient that keeps customers coming back for more¹⁵⁸. Once these stories broke in 2012, most of the restaurants began serving packets of oil in vacuum sealed bags, which were poured into the pot in front of the customers so they could see its level of purity. Li Jie explained to me that the spent oil is now primarily given to pig farmers who mix it with their feed. Multiple times I tried to convince Li Jie that it was possible to recycle the oil and turn it into a form of biodiesel, which could power their transport vehicles. She agreed that it was a more environmentally-friendly solution since it would allow them to stop using gasoline to move their supplies around the city¹⁵⁹, but putting such a process into operation would be a huge investment of time and money that her board of directors felt was not worth the effort.

There is also a rising concern that hotpot and various kinds of barbecue (BBQ) restaurants are a serious source of air pollution, which has even been extended to all Sichuanese food in general. In 2013, the issue even became a hot topic in Chengdu's media circles (Zhang Yanlu 2013, Yang 2013). As Li Jie would argue there's really not that much you can do about this with hotpot.

We have a number of exhaust vents installed over all of our tables and those run through a filter before being pumped outside. There is not a perfect solution to the air pollution we create. You could use electric heat but the temperature is hard to control and takes a long time to heat up. Most customers do not have the patience to wait for their food to heat up.

¹⁵⁸ Another famous rumor is that opium was a crucial spice in hotpot giving customers a euphoric feeling and making them dependent on eating hotpot. Li Jie claims she cannot confirm nor deny the rumor, but is emphatic that the secret recipe for her product definitely does not include the "spice".

¹⁵⁹ By 2015 their chain included five hotpot restaurants in Chengdu, with more than 20 franchise restaurants throughout China. All of the restaurants are required to use the secret recipe of chili oil that was prepared daily in a central kitchen in Chengdu.

The contribution BBQ makes towards air pollution is even more obvious but also more difficult to manage. According to many of my friends, and personally I have to agree, the flavor of electric barbecues does not have the same recognition of excellence as those that use coal or charcoal. In fact, at my friend Liu Er's BBQ restaurant, a kind of rustic townhouse located just on the edge of the 3rd Ring Road, they actually purchase homemade charcoal as their fuel source. The production of charcoal is technically illegal and Liu Er has to purchase it discreetly from his rural hometown about 250 km south of Chengdu. When I asked Liu Er's Uncle, who is primarily in charge of keeping the coals hot each night, about the legality of the charcoal he said:

Uncle Liu: We know that it is illegal, but the price is good and the flavor is better.

Me: Do you worry that breathing this smoke might be bad for your health?

Uncle Liu: I think it is ok. After all, I breathe this stuff every day. There are plenty of things that are bad for your health. I'm not worried about this all that much.

In 2014, I helped Liu Er and a group of friends open a brewpub that also served barbecue cooked by a young man from Leshan, who had run a street side BBQ cart for many years before working at the brewpub. One day while he was cooking in kitchen I asked him if he worried about the smoke coming off the charcoal to which he, pointing to a cigarette pressed to his lips, exclaimed, "I do not see how it could be any worse than this". Generally speaking, most of the restaurateurs and kitchen staff that I have talked to tend to be far more concerned with providing quality food to their customers than about environmental health. Competition in the restaurant scene is fierce in Chengdu and getting the flavor right is high on everyone's list, even if that means subjecting oneself to high levels of ambient air pollution.

Perhaps because there is such a large market for dining out, restaurants in Chengdu are hardly confined to commercial spaces. Most restaurants are found on the first floor of housing estates facing the street. Few if any luxury housing estates allow restaurants to be built on their premises¹⁶⁰. Luxury housing estates find it is better to prevent such restaurants from moving in because they know how lax enforcement of the law is when it comes to treating air pollutants from restaurant exhaust fans. This has forced most restaurants to open outside of gated housing estates. The classic example is found in #78 where the entire first floor of the housing estate is ringed with restaurants facing the street. All of these restaurants, except for the noodle shops, perpetually send a thick cloud of oily smoke out of the restaurant through exhaust fans. Since kitchens are generally found in the back of the restaurant this means that the exhaust is pumped into the courtyard of the housing estate. Chimneys that extend to the roof are essentially non-existent in such housing estates as installing them would amount to a high cost for a small restaurant. Thus, most residents with a window that faces into the courtyard keep it perpetually closed. Not surprisingly, when residents of #78 heard we were conducting a survey on environmental issues, many came to plead with us that something had to be done about the restaurants.

At the same time, Chengdu residents can be fiercely protective over their ability to get good local cuisine. When the local news reported experts describing Sichuanese food as a contributor to air pollution in Chengdu (Zhang Yanlu 2013, Yang 2013), many of my friends reacted with either anger or nonchalance. As one friend explained, “If being impacted by air pollution is what it takes to eat good food, then I believe it is well

¹⁶⁰ Tiramisu did have a few although they were forced to install major filtration systems for their exhaust vents which were pumped up to the roof rather than expelling into the air at the 2nd or 3rd floor which was common for restaurants in gated housing estates, such as #78 described below..

worth the cost. After all, there are other means by which the government can reduce the problem of air pollution.” For many, the cost of tradition apparently seems worth risking one’s health, but there are those who disagree. Qi Daina, for instance, refuses to eat barbecue and constantly berates her father for eating anything that has even the slightest bit of blackened crust on it. She is sure that when we eat such blackened material, regardless if it is cooked with charcoal or electricity, the toxins contained within will most certainly result in some form of stomach cancer. Here, Daina is drawing from her own perception of the environment, which is heavily influenced by her training as an environmental scientist. In contrast, when most people in Chengdu defend the pollution created by cooking Sichuanese food, they are drawing from a lived experience of loving spicy, oily food and the social interaction enmeshed within such a meal.

I argue, though, that the state and the media purposely chose to focus their discursive attention on the environmental health problems associated with restaurants because of how easily they tend to slip through the local government’s regulatory apparatus¹⁶¹. Li Jie’s restaurants work hard to stay up to code by installing filtration systems that would cut down on the particulate matter they emit into the atmosphere of the city. However, most of the restaurants in Chengdu are more like Liu Er’s BBQ joint and are able to use illegal measures like cooking with charcoal because they are too small for the state to spend resources on properly inspecting such restaurants. Creating a discourse that tries to accuse these small restaurants of damaging the health of local residents by creating air pollution is an attempt to get the restaurants to comply with code and follow the law. Due to the popularity of sharing food with friends in Chengdu,

¹⁶¹ Also interesting to note that the local government and media are doing this despite the fact that in my analysis of the semantic themes of the official interpretation of Ecological Civilization, there was almost no mention of human health or sanitation within the policy documents I analyzed.

we should not expect such practices will change dramatically in a short period of time. Still, greater attention to ventilation and filtration could be hugely beneficial both for restaurant workers and residents living above such establishments. Another reason the media has focused on restaurants is to distract readers from the negative impacts of industrial production. As we saw in Chapter 3, the Ecological Civilization ideology does not want to challenge industrial production because of how it is perceived by the state as an integral part of economic development. Critiquing the contribution industrial production makes towards air pollution would be counter-productive because the state has no intention of enforcing its regulations on steel plants with the same degree of severity that it does with regulating restaurants. A similar lack of enforcement of regulations can also be seen in the rapid speed of urbanization in Chengdu.

Urbanization

Today, urbanization in Chengdu is dominated by a small group of real-estate developers, such as the All-Knowing Real-Estate Corporation that supports the Green Housing Foundation described in Chapter 4. While in the field, I often would teach students studying urban planning how to integrate social surveys into their design projects. Professor Shi would help organize these classes. In the past, she had worked with her husband in an urban planning bureau in one of Chengdu's suburbs for many years and only became a Professor after she gave birth to her daughter. One day she was driving me home through a suburban area where the roads were in disrepair to the point that it was even difficult for her SUV to maneuver through the potholes and large chunks of broken pavement. The experience led us to discuss from an urban planning

perspective why the streets outside of Chengdu were not better managed. As she explained:

The real-estate companies really control urban development. They first determine which piece of land they want the city government to “auction” and often begin construction before the Urban Planning Bureau has finalized their design for extending public infrastructure into the new neighborhood. This is why you see so many new complexes surrounded by terrible roads. Instead of waiting for us to tell them what kind of neighborhood they should design that would make sense for the local landscape and public infrastructure, it is the real-estate companies that end up driving our designs. It is a completely backward system.

While to a certain extent her explanation may seem fairly state-centric, she also told me that the problem is the speed at which housing estates are completed that makes it so difficult for the planners to keep up. Whole neighborhoods can be demolished and rebuilt in not much more than 12 months. That is not enough time for Urban Planning and Transportation Bureaus to allocate the necessary resources for public services that would support both the construction process and then long-term residency.

Moreover, the amount of architectural rubble that has been created from destroying the previously existing built environment is quite large. From an environmental perspective, this should raise a number of questions regarding what is being done with the waste materials from these construction projects. Occasionally, Li Huicheng, my friend who is an editor at a newspaper in Chengdu, will still be asked to write a few special reports aside from tending to his editorial duties. Once he was asked by the Chengdu Public Security Bureau and EPA to participate in an investigation of a group of construction trucks and determine where the waste they were transporting from a construction site would end up. It turned out that the trucks were unloading into one of the main river ways of Chengdu in the late hours of the night. Originally the whole

purpose in having Huicheng participate was for him to write an article about what was happening. After a week of following the police to conduct the investigation, it was also discovered that the real-estate development company had received “approval” from someone very high up in the Chengdu Public Security Bureau to engage in such dumping practices. The investigation was hushed up and Huicheng was asked to forget about the entire project.

Of course, the truck drivers themselves are not unaware of the damage they are causing to the environment. My own conversation with truck drivers showed that they knew that their actions were contributing to air and water pollution. Their work at night helps us better understand the predicament they are facing. Hauling rubble is quite possibly the most dangerous profession in Chengdu of which I am aware. Trucks are only allowed to enter the city between the hours of 11 p.m. and 6 a.m. and the amount of money they receive is based on their total haulage. In order to ensure a high enough payment, they purposely overload their trucks sometimes 2-3 times beyond the legal weight limit. With such heavy loads it becomes exceedingly wasteful to stop for any red lights in the city. Each time they have to start an overloaded truck from zero it costs them more than 10 RMB in fuel and of course it reduces the number of trips they can make back and forth from the city to the dump site (Ruan 2014). Moreover, it is nearly impossible to actually make the vehicles slowdown within a short distance without tipping over the truck. The trucks simply reach a top speed of 60 km/h and stop for nothing. While most in the city have condemned them as the “Crazy Truck Drivers”, they are trapped within a system that is skewed against them.

The real-estate developers also will not pay the drivers more money to encourage them to drive safely. According to Li Huicheng, it is easier and cheaper for the developers to pay the reduced night patrols at the local police station to look the other way¹⁶². In other words, the police also have little incentive to enforce traffic laws during the evening. Beyond the possible corrupt connections between the developers and the Public Security Bureau, Huicheng explained that the government has performed their own calculations and choose to depend on insurance companies to settle the details:

Each year there are only a handful of accidents and a family will be paid about 100,000 RMB by a state-owned insurance company for each individual killed. The total cost for an insurance company to pay these families each year is less than the amount it would cost a city government to train a proper night patrol of traffic officers and pay their yearly salaries. In the mind of a government official it makes better fiscal sense to keep the trucks moving.

As with many environmental and safety issues, this cost benefit analysis is of course based on the assumption that a life, human or non-human, can be measured according to monetary instruments. Thus, in the minds of some in Chengdu, not only is damaging the environment thought to be a worthwhile sacrifice for continued urbanization, but even human life itself. From this example, we can see just how powerful an urban ideology has become in China to make such sacrifices appear acceptable for some residents of the city.

By far one of the most rapid periods of urbanization in Chengdu occurred after it was made known that Chengdu would host the June 2013 Fortune Global Forum¹⁶³. The then Mayor of Chengdu, Ge Honglin, put the city into infrastructure construction overdrive. While the No. 1 Subway line had only been operating for three years and No.

¹⁶² Which may not be true; it could be that the reduced night patrol just means it is less likely a driver would be caught.

¹⁶³ <http://www.fortuneconferences.com/global-forum-2013/>

2 was set to open in early 2013, he decided to simultaneously send five other subway lines into construction ahead of schedule. At the same time, Mayor Ge implemented the construction of a second story addition to the 2nd Ring Road and demanded that the entire project be completed before the opening of the Global Forum. This gave construction crews less than 18 months to complete the task forcing them to shut down the entire 2nd Ring Road all at once. For many I talked to about this construction period it was perceived as an experience of extreme frustration and chaos due to the dust choked air and gridlock throughout the city. I personally only had to suffer through a single month of the construction in July 2012 but it is by far my least pleasant time spent in Chengdu. In October 2013 just after the work was finished, a young owner of a hair salon, which was a block away from the 2nd Ring Road, told me that during the construction his salon had nearly filed for bankruptcy. Dust from the construction vehicles had coated everything in the salon making it impossible to keep clean. Most customers had no desire to walk in neighborhoods with the polluted air. The project was indeed finished by the beginning of the Global Forum but “to ensure security” during the event multiple roads throughout the city were sealed off from public traffic, *including* the onramp connecting the People’s Road South and the 2nd Ring Road. Thus, it is important to keep in mind that the costs and benefits of urbanization in China are not always shared equally among all the residents of the city.

Not long after the Global Forum, another of Chengdu’s megaprojects was “unveiled” to the public: The Global Center. Unveiled requires quotations here: The Global Center is the world’s largest freestanding structure (Moore 2013)! Located just along the edge of the 4th Ring Road, the Global Center includes, a massive shopping

mall, a four story Korean Department Store and Supermarket, a branch of the Intercontinental Hotel and an artificial beach with a wave pool, a glass roof that creates the impression that Chengdu always has blue skies and a 150 m long screen that flashes pictures of tropical sunsets to people swimming in the wave pool. That is only one-half of the building; much of the rest is designated as commercial office space. It received its own subway stop and an underground tunnel was constructed specifically so that urban drivers could have an express means of arriving there from just outside the 2nd Ring Road without having to go through traffic and stop lights on the surface. Originally the Global Center was timed to open as the host of the Global Forum, until the mastermind behind the project, real-estate developer/gangster Deng Hong, disappeared in March 2013¹⁶⁴. The construction of the Global Center was meant to be the cornerstone of Chengdu's other urbanization megaproject: the Tianfu New District 天府新區. The Tianfu New District, which primarily encompasses areas of Southern Chengdu, would incorporate huge tracts of urban landscape across multiple counties and well established city districts, into a large, supposedly far more advanced, system of urban governance and planning. The plan itself boasted not just to provide high-tech information and transportation infrastructure to draw in international corporations, but also claims ecological superiority to any other urban environment in West China.

A large number of people are already living in this supposedly “new” district¹⁶⁵, but many of these residents are recent arrivals to Chengdu living in the luxury housing estates that have grown up around the New Century Convention Center near the core of

¹⁶⁴ While hard to determine from Moore's (2013) article, Deng Hong actually disappeared in March 2013 and it was not made public knowledge that he had been caught up within the anti-corruption campaign until September, long after the Global Forum.

¹⁶⁵ The original rural residents have been relocated into urban apartment settings, but some argue that the city needs to do a much better job helping them deal with the adjustment (Zhao 2016).

the Tianfu New District. Most residents of Chengdu realize that there are very few of these large “New Districts” being established in China and there is a hope Tianfu New District will eventually host the only Free Trade District in Western China. Those who live in the district are excited about the commercial development that is already under construction, because commercial services aimed at supporting the residential population in this part of Chengdu have always been scarce. Many of my friends own apartments in the New District but they commute regularly into the city for work or just to spend time with friends and go shopping. Some might even keep an old family house in the city (rather than sell it) or stay with their parents/grandparents on the weekends. Residents of the New District feel that once the numerous commercial shopping centers currently being built begin to open, they will not have to travel into “old” Chengdu as often. For many, the area is starting to feel more like a place to live rather than a place to simply “own an apartment”.

In the media, though, we can see what might be thought of as blind praise for the New District. There is a tremendous amount of hype regarding its “ecological” features, such as the wetlands and various “rural” landscapes for quick getaways “outside” the city. Various kinds of media have attempted to utilize this “ecological” discourse when describing the future of the Tianfu New District. For instance, in March 2015, I visited a very popular art gallery to attend the opening of a “documentary” that was supposedly about air pollution in Chengdu and its impact on residents. It turned out to be a promotional video for the new Chengdu Contemporary Arts Center and Chengdu Library, which are going to be constructed in the New District right next door to the Global Center. While the film portrayed central Chengdu as polluted and dilapidated,

comparatively the New District was shown to be full of technical advancements in architectural structure, which would protect urban residents from being exposed to pollution by connecting buildings through underground tunnels filled with filtered air. Thus, the New District is often represented and perceived to be the future of Chengdu but it is a future that mitigates rather than solves urban environmental problems.

Of course, there are also a number of voices that are quite negative in their description of the New District. For instance, the previous head of the Chengdu Urban River Association told me they had tried multiple times to encourage the city to reconsider their plans for the wetlands but to no avail. There are a number of problems with the water becoming stagnant, creating high concentrations of pollutants and very irregular patterns of behavior in migratory birds¹⁶⁶. In early 2014, Yang Zhengxian also became very frustrated with the Chengdu High-Tech District government offices because they were unwilling to make any decisions on a small urban agriculture project he was supposed to implement for the government until it was official that the High-Tech District would be integrated into the Tianfu New District. The inability of the government to determine even the basic dimensions of the New District prevented the bureaucracy from making decisions even about small government supported projects. Thus, while the New District might offer a vision for an urban environment that stimulates environmental action, those on the ground felt that placing such a vision into practice was weighted down by the sheer size of the New District's bureaucracy.

This, in fact, is part of the problem with creating a state-promoted environmental ideology, such as Ecological Civilization. Because the state is made up of a massive

¹⁶⁶ In fact just as I am writing this today (September 2015) a number of posts on WeChat's Moments, show hundreds of dead fish floating in one of the lakes in the New District.

bureaucracy, which for many years has become accustomed to focusing their decision-making powers on promoting economic development, it would require a great deal of political effort to re-focus the bureaucracy. Of course, this difficulty is not entirely unique to the state. Even the individuals and households discussed in this Chapter have multiple reasons why it is quite difficult for them to adapt their life to a more environmentally-friendly lifestyle. Actions that are recognized by local residents as being bad for the environment, like driving a car to work every day, purchasing new electronics every year or not properly filtering the smoke from your BBQ grill, are important to people because of the convenience, the social capital or the pleasure they provide to their lives. Moreover, in some cases the environmental impact of some actions such as consuming GMO hot sauce or dumping construction rubble in the river, are problems that lay beyond the control of individual urban residents. From my analysis of the Ecological Civilization ideology in Chapter 3, I argued that the state was intent on changing the environmental perceptions and actions of citizens as long as it did not have a negative impact on economic development. This would also explain why media articles have come out so strongly against BBQ and Sichuanese food restaurants rather than being critical of the PX plant in Pengzhou described in previous chapters or the rapid rise of urbanization described here. Moreover, we do not see media or government policy trying to convince consumers to stop driving their cars or encourage them to purchase fewer consumer goods.

One argument I believe the stories from this chapter could support is that even if the state were to take these problems more seriously, it is not entirely clear that would be enough to change all of the graying behavior in Chengdu. The social capital that is

now associated with driving a car for instance cannot be changed simply by changing an economic or environmental policy. Changing the social embeddedness of certain graying behaviors requires a broad degree of social re-imagination, but the state seems uninterested in promoting such a change. Undoubtedly, this lack of interest by the state is due to an assumption that such change entails a great deal of risk to the political legitimacy of the Party. I would argue that the state has determined that the political upheaval that could result from forcing people to sacrifice economic development in order to prioritize environmental protection is far greater than the upheaval that is caused by dissatisfaction from China's rapidly degrading environment. The stories presented in this chapter show that there are socially relevant reasons that citizens of China have not embraced more environmentally-friendly ways of living. Nevertheless, we still need to recognize that a re-imagination is happening, with or without the state, but as I will show in the next chapter, there are also social reasons for why "greening" Chengdu is not that easy to put into practice for everyone.

Chapter 6: The Greening of Chengdu

Following the previous chapter, I now want to examine some of the actions my informants take that they recognize as being environmentally-friendly or 很環保. The word 環保 is the result of a shortening of the word 環境保護 or environmental protection. Here I would like to also point out that in Chinese, there is a semantic overlap between “protecting the environment” (保護環境) and environmental protection (環境保護) that is differentiated by an important syntactic shift from a verb phrase to a noun phrase. The latter is more formal and often thought of as the institutional means of preventing environmental degradation. This was the phrase more commonly found within the documents I analyzed in Chapter 3. The former phrase is something that anyone can do; meaning that “protecting the environment” is not constrained to the activities of NGOs or the state. In recent years, the word 環保 has taken on an even more colloquial meaning. Today the phrase can be used as an adjective, as in 很環保 (directly translated as “very environmental protection”) meaning that an individual exhibits behavior that is related to a grassroots environmental ideology, which I translate here as “being environmentally-friendly”. As I will show in this chapter, in some contexts it can also be used to describe someone as being either old-fashioned or thrifty¹⁶⁷.

While my goal in this chapter is to provide a contextualization of public transportation, recycling, urban agriculture, and the use of urban green spaces, I also want to explain why residents of Chengdu may find that such activities are not always

¹⁶⁷ However, “being environmentally-friendly” does not necessarily have the same negative undertones as say the word “tree-hugger” would in the present day United States.

convenient or socially acceptable. For instance, the discussion about what is socially acceptable is often related to what kinds of environmental practices help a resident accumulate and display greater amounts of social capital. While I will be examining these issues primarily through an ethnographic context in this chapter, the relationship between social class and environmental consciousness will also be important in my analysis of our social survey data discussed at length in Chapter 7.

The next two chapters will describe two interpretations of the difficulty of engaging in environmental action that appear to be somewhat contradictory. The first is that engaging in some environmental practices is perceived by Chengdu residents to be old-fashioned. The second is that some Chengdu residents perceive environmental action to be something in which only residents of the middle class or higher are engaged. As I will demonstrate more precisely in Chapter 7, the latter is a discourse, commonly found within academic literature on environmental consciousness in China, that even influences the way my informants in the local government and NGOs perceive their work with local community members. The former is more commonly expressed by younger residents who see some of these environmental practices as a step backward from the conveniences offered by urban lifestyles. This creates a bit of confusion for residents because on the one hand they do not want to be seen as old fashioned but on the other they are encouraged to aspire towards upward social mobility. In this chapter I argue that this double-bind is the result of a developmental ideology that, as explained in the previous chapters, is found not only within the state but is exhibited throughout society. Some in China would not look favorably upon the conservative elements of being environmentally-friendly in Chengdu. This tension then places some residents in

an awkward position that can often make them quite apathetic when it comes to being environmentally-friendly. In the spirit of the double-bind (Bateson 1973: 203), though, this chapter is also about the creative ways that people are deciding that it is important to ride public transport, recycle their wastes, grow their own food in the city or learn to share their urban green spaces. Moreover, it is through some of these stories that we can begin to see additional dimensions to an interpretation of Ecological Civilization in China, albeit dimensions which are still susceptible to developmental, class-based and urban ideologies.

Alternative Transportation

As I mentioned in the previous chapter, car ownership is a fairly recent but now very common aspect of urban living in Chengdu. Of course it is not the only way people get around. As described in Chapter 5, owning a car does not necessarily mean that households use their car on a daily basis. Walking, taking the bus, riding a bike and, more recently, an electric bike are the key alternative modes of transport that Chengdu residents use to move around the city to achieve various goals¹⁶⁸.

Of course, walking is not necessarily associated with achieving any kind of goal. Taking a walk each night after dinner is very common and most explained to me that it helps with digestion. Generally speaking each household has its walking route throughout the neighborhood, but people will readily meander off course to make a specific purchase or browse a recently opened place of business. This kind of walking is so taken for granted that residents we interviewed did not even consider it a kind of “fun”; an evening walk is just something that a household does. This is also how people

¹⁶⁸ Our survey also covered motorcycles and those who rode the subway system, but in order to keep the argument more concise I only analyze these four modes of transport here.

become familiar with their surroundings as moving through the neighborhood allows them to perceive the affordances offered by the urban environment, quite similar to Ingold's description of hunting parties moving through the forest (2000). Of course, when I would accompany a friend home to their parent's house for dinner, many of my friends would roll their eyes when their parents would suggest a walk in the neighborhood after the meal, as if to suggest that the walk was a necessary nuisance to appease their parents.

Once we leave the space of the local neighborhood, though, a resident's level of familiarity with the city decreases dramatically. In my experience, residents of Chengdu are fairly familiar with the path they take to get to work each day, which is often along a given bus route. Yet, if you were to ask someone which bus route to take to get to a part of the city beyond their home and work, you will often receive a blank stare. Chengdu's bus system is not all that complex, but I found that younger residents in particular do not associate a certain region of the city with a bus route. Thus, today, younger residents are dependent on the internet to find which bus it is they need to ride from one end of the city to another. Most people I talked to viewed the bus as a more environmentally-friendly way to get around the city, but they also felt that it was inconvenient. Buses can be packed with people during the daytime to the extent that even Chengdu residents, who I have always found to be even less concerned with personal space than other cities in China, find the bus system to be uncomfortable. People in Chengdu may realize the environmental benefits of riding the bus but they generally ride the bus out of necessity rather than out of some moral obligation to the environment.

By looking at a few of the other ways that residents from our household survey travel around the city we can also get a better sense of the mobility of Chengdu residents. For instance, 86% of the individuals we interviewed (Figure 6.1) walk to go buy groceries most likely because travel to the nearest vegetable market is easily accessible on foot. Moreover, traveling to such markets using a vehicle means that you will have to pay for parking¹⁶⁹. In contrast, only 17.5% of respondents said that they walk to work. This is a fairly remarkable number if we consider that only 30 years ago most residents lived within their work unit, meaning that the majority of residents would walk to work. While it is true that it is more common today for household members to work for completely different employers, the city's rapid expansion and poor planning has also contributed to the separation of places of work and home by unwalkable distances, much as I described in Chapter 2. Moreover, when we asked residents in our semi-structured surveys about what aspects they considered important in finding a new home, only three respondents said they considered the location of their job an important factor. Far more important to most respondents was the environment of the housing estate and its location in the city, by which most meant purchasing a home in the South part of Chengdu, which is more prestigious and has access to better social services, such as good schools and hospitals. There is no guarantee that one's place of work would be near these dense residential districts in South Chengdu, which explains why so few can walk to work.

¹⁶⁹ Even bicycle owners rarely ride to the market, although a slightly higher percentage of electric bike owners do ride to buy groceries. I will explain why below.

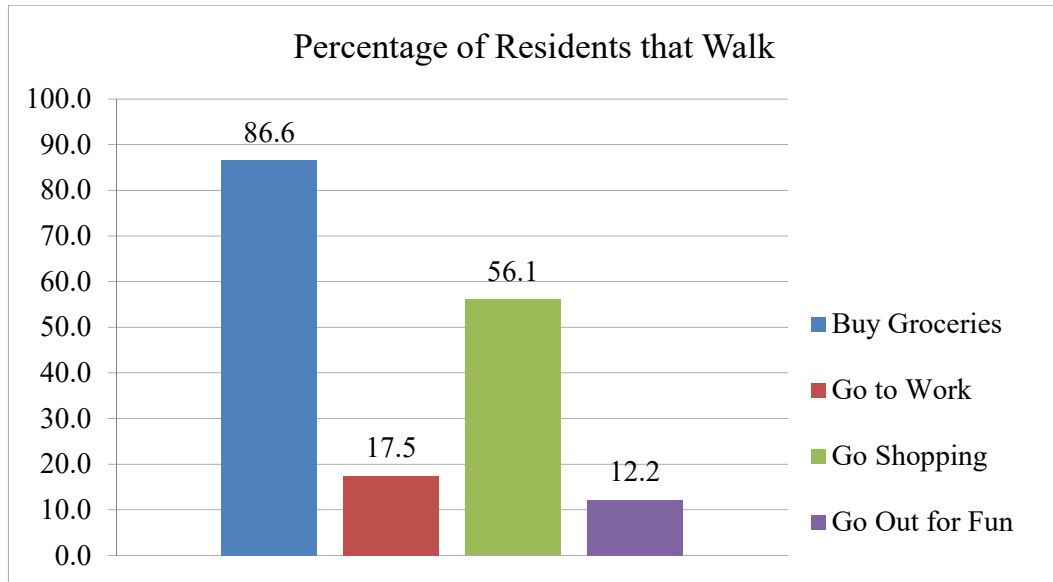


Figure 6.1 Walking around Chengdu

Other than by personal car we also see that 35% of households take buses to work (Figure 6.2). Because of the road closures to cars with a license plate ending in a certain number on alternating days, travel to work by car and by bus are certainly not mutually exclusive. Buses, though, are useful for getting around to a number of places in the city. 41% of respondents take the bus to go shopping, which is not surprising considering that most of the shopping malls in Chengdu are located along major thoroughfares and bus routes. Another 60% of respondents said that they take the bus to go out for fun. Here “fun¹⁷⁰” could include traveling to a park across town or even going out for a movie. Thus, the bus is very important to residents if they can plan their trip to go shopping or have fun without being in a big hurry to get from one place to another.

¹⁷⁰ The word we used for this part of the survey, 遊玩, inherently implies a sense of travel but is very distinct from the concept of tourism, 旅遊, in that by engaging in the former one would go to a place for fun that is near the home and definitely not stay overnight at a hotel. We made this distinction because we also had a whole series of questions that were more specifically related to tourism and provided us responses about locations far beyond the home and in some cases did entail staying for many days in a hotel.

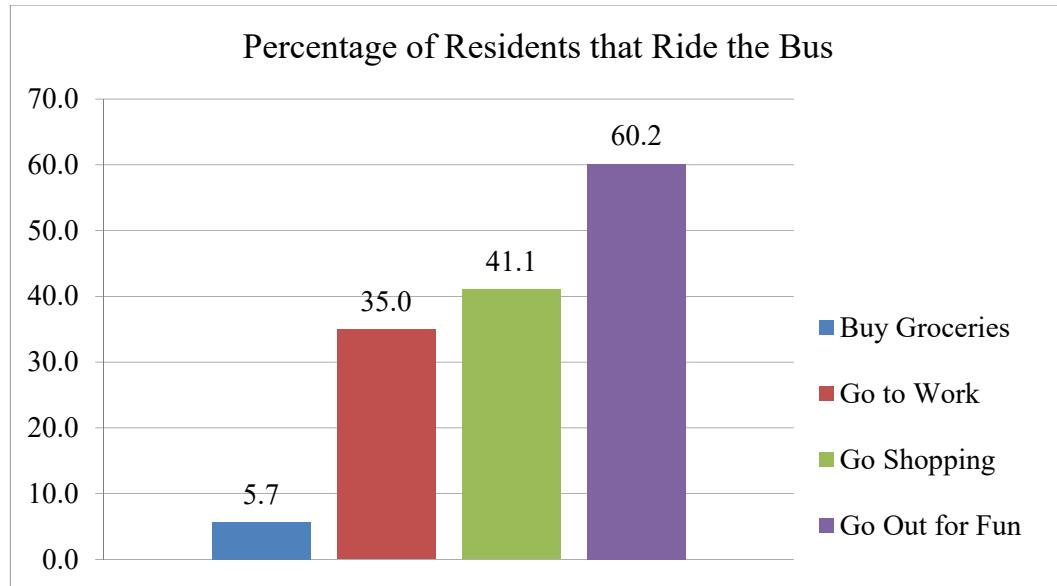


Figure 6.2 Riding the Bus in Chengdu

Riding a bicycle or an electric bike are two other ways that people move around the city. A very intriguing pattern between these two modes of travel can be seen from our survey. Both methods are used primarily to buy groceries and travel to work, and to a lesser extent to go shopping and go out for fun. Despite the fact that more households own bicycles than electric bikes, residents who own electric bikes are three times more likely to ride them than those who own bicycles (contrast Figure 6.3 with 6.4). In both cases residents appear to use electric bikes and bicycles primarily for travel that is closer to home and work. The reason we see such a large difference between electric bike and bicycle usage is related to the social capital that each of these modes of transportation provides to the rider.

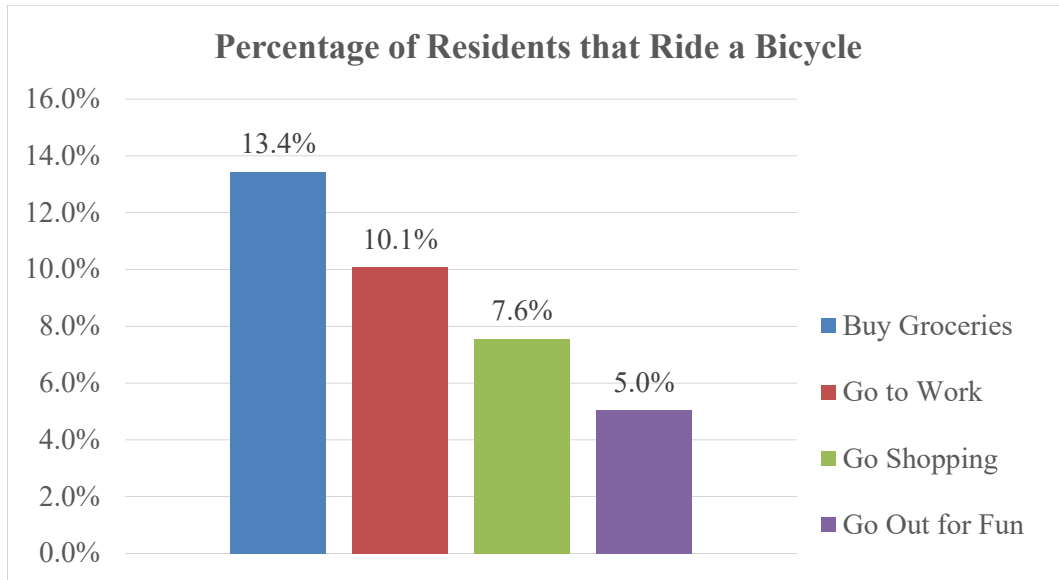


Figure 6.3 Riding a Bicycle around Chengdu

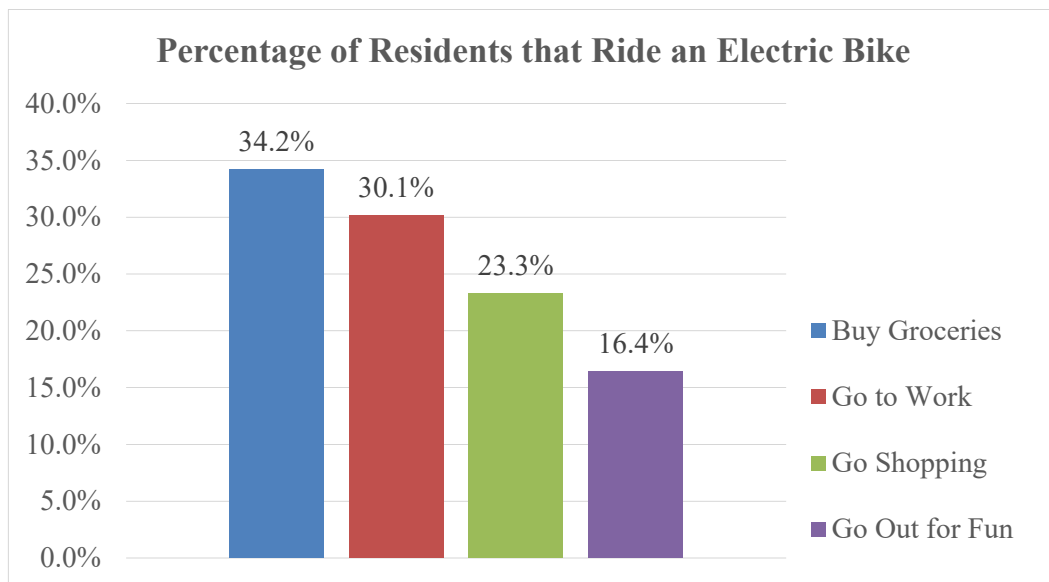


Figure 6.4 Riding an Electric Bike around Chengdu

When we were conducting surveys in Riverside View we came across a number of parking areas where residents had chained up their bicycles, but nearly all of them were completely rusted and in disrepair. Only in one housing estate, #78, did we interview a resident who was riding a bicycle. On that particular day, Uncle Zhang, was

waiting for a friend at the front gate of the housing estate on a fairly nice mountain bike.

When we asked where he was going he said:

Ah, the weather is just too beautiful, I love going out to bike around the city on a day like today. We might take our time getting out to Sanshengxiang 三聖鄉 [about 10 km away] or we might just ride along the river. Riding a bicycle has an element of freedom to it. Reminds me of old days when everyone in the city rode a bicycle and wasn't so stressed out from sitting in their car dealing with traffic. Plus, it's better for your health!

Thus, for Uncle Zhang the idea of riding a bicycle around town had a very nostalgic sense to it. Some recognized that bicycles are also the most environmentally-friendly form of transportation seeing that they are powered by one's own pedaling. Like Uncle Zhang, a minority of residents saw bicycling as a good form of exercise as well as an alternative to driving a car or riding the bus. In most conversations we discovered residents had neglected their bicycles because they had been replaced by either an automobile or an electric bike. In a few instances during an interview we even came across residents who would say something like, "I nearly forgot about it, but yes it is chained up in the parking area".

Electric bikes are important to many residents because of their speed and a certain kind of convenience. Although the batteries of many electric bikes are limited to a 20-40 km travel radius, they generally can travel faster than a regular bicycle and the user will not be tired from pedaling once they reach their destination. When Zhou Lei quit his well-paying job as a tour guide he decided it was time to spend less time driving his Mercedes, primarily to save money:

I do not have to worry about picking up customers anymore, so I thought this electric bike would be a good investment. Plus, it is still pretty convenient. This model can just plug-in in my parking garage and it is charged within a few hours. I hear these are more environmentally-friendly too but I wonder about what happens after the battery breaks. I do not really

know what to do with the battery at that point. So, I purchased an extra one just in case there is a problem.

As we can see, Zhou Lei has given his vehicles a kind of ranking depending on how he needs to maintain his social capital. Now that he does not have to engage with Chengdu's social elites he feels more comfortable riding on an electric bike to take care of his errands and move about the city. A bicycle, though, is another degree below the electric bike in that it is out of date and good primarily for exercise or relaxation. In order to really get things done in the city one is more likely to use their electric bike because it makes them feel more connected to the speed of urban life. The electric bike may also appear to be more environmentally-friendly than a car, but, as Zhou Lei rightly points out, it is not clear how the batteries are disposed of when they break.

With regard to transportation we can see that while walking and riding a bicycle are considered very environmentally-friendly these are also activities of nostalgia or something that you do when you get old. Riding the bus is more of a necessity for those who do not own a car or electric bike, but it is definitely not considered convenient because buses are often filled to capacity throughout the day. In terms of social capital, riding an electric bike is not as prestigious as owning a car, but there is a recognition by Zhou Lei and others I talked to that it is a more environmentally-friendly mode of transport. In other words, there is a tension with nearly all four of these alternative modes of transport that allows individuals to recognize them as being better for the environment, often in contrast to driving a car, but also somewhat socially awkward. That said we can see that while Uncle Zhang enjoys bike riding for the nostalgia it is also related to the fact that slowing down to ride a bike allows one to better enjoy the environment in which they live.

Waste Recycling and Separation

The high speed of urbanization in Chengdu was also paired with the decentralization of a number of important public services. One of the most crucial of such services was the collection and processing of sludge, sometimes called *xishui* in Chengdu¹⁷¹. It should be remembered that urban centers in China were always a source of fertilizer for peri-urban farmers. Feces and other organic household wastes were collected in buckets by households and picked up by a sludge hauler who then sold the waste to farmers. This became a government service after 1949. With the construction of modern sewage systems in the 1980s, feces as a source of fertilizer slowly began to disappear. However, some aspect of this practice remained until the 1990s as sludge also included the leftover cooking oil and food slop that households collected and generally was kept separate from the feces buckets. Sludge collectors also sold this as fertilizer to farmers but in the 1990s the collectors were privatized into sanitation management companies 衛生管理團. These companies are now primarily responsible for keeping the streets of Chengdu clean through the collection and sorting of solid waste, activities which are subsidized by the government to a certain extent but also supported by the collection of fees from households and businesses. Then around 1998, sludge collection was written out of the subsidy budget of the sanitation management companies and today most households simply pour the oil and liquid leftovers down the drain, while more solid food wastes end up in the trash.

A conversation I had with Secretary Wang at #78 revealed her frustration with the current environmental conditions in Chengdu's housing estates and how some residents

¹⁷¹ This is not a standard term, but the characters are 稀水, it is possible this is a Sichuanese word for 爛泥.

viewed these sludge collection services as an older method for recycling wastes that is no longer available. As I explained in Chapter 5, Secretary Wang felt that her superiors had no idea what was meant by an “Ecological Housing Estate”, but knew that it was something they needed in their portfolio to show that they were finding creative ways to satisfy the environmental component of their cadre evaluations. One day, Secretary Wang called me to her office hoping I could give her advice on this topic. What she really wanted was someone to just listen to her struggles with being environmentally-friendly:

Secretary Wang: I consider myself to be environmentally-friendly; I refuse to drink from plastic bottles and I recycle as much as I can. Surprisingly, I find people often laugh at me for this kind of behavior.

Me: Why would they laugh at you?

SW: For instance, when I tell my family I want to eat less meat or that we need to make sure to save our batteries and dispose of them properly, they think I am crazy. A few years ago, I took these issues very seriously and tried to teach my friends that some of their practices were wrong, but it actually caused a number of fights to erupt with family and friends. So I have decided to just ignore them. I cannot force them to be environmentally-friendly, I can only lead by example, so that’s what I do.

Me: Should the government also lead by example?

SW: If you take the ecological housing estate project as an example, the real problem is that they [her superiors] will not listen to me. First of all, I am just a neighborhood secretary, but more over I am a woman. Any project I propose that costs them money, they just will not listen to me. For instance, why do we no longer have sludge haulers? Many years ago the government completely cut the budget for dealing with sludge, which was a great source of fertilizer. Today most households just dump it down the drain. If I suggested to them [her superiors] that they should bring back the sludge haulers, I would be laughed at and encouraged to quit my job.

According to Secretary Wang, projects that require high levels of maintenance or a regular supply of paid labor were the kinds of projects being cut from local government budgets. Suggestions for projects with long-term running budgets were unwelcome because the beneficial results from such activities may not even be apparent until after

the secretary's superior had already moved on to a new position. This is a result of the flow of people that move along the grid structure of power, with cadres constantly swapping positions. Moreover, the constant flow of cadres results in attempts to adapt policies created at the top of the military structure of power with a miniscule budget and an expectation that low-level cadres like Secretary Wang will turn such policies into concrete practices in a local community.

Of course, this is why recycling projects tend to receive more positive attention from government officials. Although waste management and recycling companies were also privatized in the 1990s, there is a reason why the government continued to subsidize the recycling of metals, glass or plastics and not sludge. While farmers were given a substitute input in the form of chemical fertilizers, factories that recycle metals, glass and plastic are still dependent on such inputs from consumers. Of course, some forms of recycling are far from perfect. The example Secretary Wang scrutinized was batteries:

I can place the battery collection point in the housing estate as they are quite common throughout Chengdu. However, and I ask this as a concerned mother and not as a government official, do you know what happens to the batteries after they are collected? I certainly do not. I am not sure what I should tell residents about this collection point if they ask me about it.

In fact, few people know what happens to the batteries after they leave the collection point. Friends working for NGOs and the Environmental Protection Agency explained to me that the batteries collected in Chengdu would be sent to a municipal waste collection site. While they are not recycled at the waste collection site, they are supposedly kept in a safe location, although no one could tell me what that means or where that location would be. Moreover, there is really no information about this

process anywhere on the battery collection points I have seen in Chengdu. Most of these collection points are just pasted with advertisements. It is pretty easy to understand Secretary Wang's frustration with such attempts at environmental action, particularly when she herself is interested in doing something that, as she put it, "really makes a difference."

Not all recycling projects are just a version of greenwashing. For instance, the Green Earth Organization, another local Chengdu NGO, runs a very successful project that collects paper, glass, plastics, even wood from old furniture and sells them to a number of recycling companies in Chengdu¹⁷². The interesting nature of this project is its level of organization. Whereas most recycling is done by individuals sorting through local waste collection sites, the Green Earth Organization encourages participating housing estates to sort their material first by tossing it into designated containers (See Figure 6.5).

¹⁷² It should be noted that one of the recycling companies was involved in the founding of the Green Earth Organization.



Figure 6.5 Recycling Bins Provided by the Green Earth Organization¹⁷³

One Saturday a month the Green Earth Organization also spends a day within the housing estate loading a truck with the contents of that container and any of the larger

¹⁷³ The caption on the poster just beneath the bin on the left reads: Every time you place something inside, it always has value. A second sticker placed over the top of that poster reads: For a shared environment, household garbage is restricted from being placed inside. The phrase “household garbage”, or 生活垃圾, is slightly confusing. For the Green Earth Organization, the phrase is referring to non-recyclables like fruit peels and leftover food, but as I will explain more clearly in Chapter 7, residents are more likely to use the word 厨房垃圾, or kitchen garbage, to classify this group of waste. I believe this is an example of the NGO not doing a very good job of interacting with the communities where they work.

objects, such as furniture, residents bring to them on that day. Of course, participation in such a project requires a discipline that is reproduced in the way residents view and interact with the material objects they bring into their home. By this I mean that residents have to recognize that some of the materials they bring into their home are recyclable and they often need discipline to sort that material into specifically designated bins in their home after they have used the material. As I will show in Chapter 7, there are a variety of ways that households decide to separate these materials. This kind of discipline is not readily practiced by all residents. On more than one occasion when I opened a Green Earth recycling container, I discovered an apple or whole dinner stuck in the chute of the recycling bin seen above. For this reason Green Earth volunteers utilize similar linguistic features found in the Ecological Civilization ideology discussed in Chapter 3 that residents in their recycling practices. For instance, the caption above the recycling bin reads: “Changing the world does not mean a minority of people doing a lot, but rather everyone doing a little.” This kind of language is not dissimilar from the way the state tries to make residents feel responsible for taking care of their environment on an individual level.

This example of environmental ideology guiding the proper practice of recycling is even more apparent among residents of Eastern Star. The ideas promoted by Global Trees resonated with an already existing set of environmental practices in the housing estate, with recycling being the most prominent. In 2012, when Eastern Star fired their original housing estate management company and took over the management of the premises themselves, the first order of business was to make the public space an area where residents could feel comfortable again. Mr. Yao, the chair of the resident

committee, and a few other older residents spent more than a year digging fountains, building benches and reconstructing a beautiful courtyard (See Figures 6.6 and 6.7).



Figure 6.6 Courtyard with Fencing and Benches made from Recycled Materials

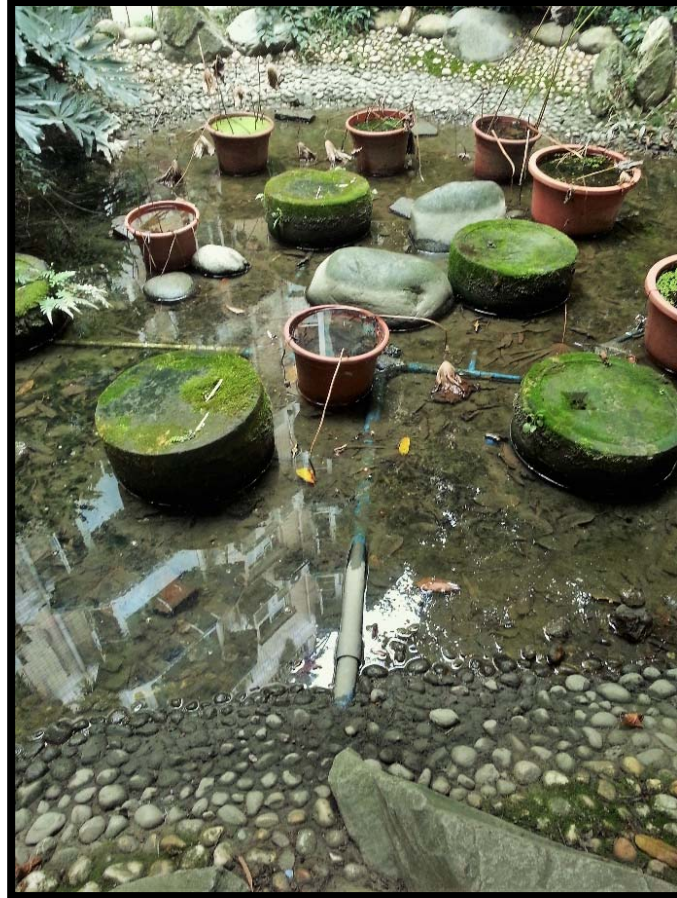


Figure 6.7 Pond and Fountain in Eastern Star's Courtyard

At that time, residents of Eastern Star would travel to waste collection sites in the city to pick out tile, wood and other construction materials to supply their projects back at home. Seeing that some households of Eastern Star were at first unwilling to provide a large sum of money to support these reconstruction projects, to a certain extent the residents of Eastern Star were also engaging in recycling construction materials in an attempt to save money. In 2013, Global Trees introduced an environmental ideology to Eastern Star through the Ecological Housing Estate project, which helped residents reinterpret their interest in recycling as a kind of environmental action that could be recognized as being environmentally-friendly. The strong resonance established between the Ecological Housing Estate projects promoted by Global Trees and residents' already

existing recycling practices made it easier for residents to accept other aspects of the Ecological Housing Estate project. This included utilizing some of the housing estate's public space to grow organic crops in addition to the landscaped trees and flowers they had already planted. A compost collection site was established through the project to help produce organic fertilizer but residents on their own creatively used recycled wood to design and construct fences around the crop planters. Within three years the entire public space had completely transformed. The ground of the courtyard even included little circles with Chinese characters representing the zodiac made from recycled tiles (Figure 6.8) and just beside that was a bulletin board that included poetic descriptions of the zodiacs as an educational tool for the young children growing up there.



Figure 6.8 Tiled Courtyard in Eastern Star

The local government and NGOs such as Global Trees tend to describe the concept of Ecological Housing Estates as having a universal appeal that residents from all walks of life aspire to but I would argue this is an imagined universalism. First, Eastern Star is also a managed housing estate where residents are not facing the same socio-economic pressures typically found among residents living in gated housing estates, such as #8, which was right across the street. Few of these environmental projects, such as Green Earth's recycling containers, are found in these gated housing estates. When asked why #8 had not been chosen as the first to host an Ecological Housing Estate project in 2013, both Secretary Ye and Lin Lan of The Global Trees described #8 as a "problem" housing estate and expressed doubt that they would be able to include the housing estate in the 2014 application even after learning more about the housing estate from our research. The "problematic" nature of #8 made both the neighborhood management committee and the NGOs nervous about starting projects there. They were afraid that it would be a waste of time and resources. However, if we think back to Grandma Jiang's comment about car exhaust from Chapter 5, we can see such preconceptions are quite unfounded. Residents from #8, like Grandma Jiang, are perfectly aware of the environmental problems that already exist in their housing estate and of the importance of living in a more environmentally-friendly neighborhood. The difference lies in the fact that environmental actions taken in #8 and in Eastern Star do not occur on an even playing field, since residents in #8 have less social capital and resources when compared with Eastern Star. Similarly, the Green Earth recycling service supports environmental actions found in housing estates like #78, while #68

simply has a row of trash cans where all material is heaped together regardless of whether it can be recycled or not (See Figure 6.9).



Figure 6.9 Garbage Cans for Housing Estate #68

As I will show in Chapter 7, even something as simple as having recycling cans in the housing estate does appear to have an influence on the way households separate their garbage. The wide array of recycling infrastructure found in Eastern Star (See Figure 6.10), in addition to that supplied by the Green Earth program, reinforces the way residents think about how they could re-use a piece of material to remodel their courtyard or compost their leftover food so that it creates a fertilizer for their organic vegetables. The act of recycling encourages individuals to think about how each type of material has a different impact on the environment, meaning that each piece of used material also has to be disposed of or recycled in its own way in order to reduce that impact on the environment.



Figure 6.10 Bins for Collecting “Wet” Garbage in Eastern Star¹⁷⁴

This recycling mindset, which stimulated the projects developed by The Green Earth Organization and Global Trees, while certainly beneficial for the environment, did not simultaneously stimulate ideas about how that benefit could be evenly shared throughout society. As I noted in Chapter 4, there is an element of institutional resources at play here. Those who are funding projects like the Ecological Housing Estates are more interested in supporting infrastructural projects than conceptualizing ways to ensure such projects could be implemented in any housing estate environment regardless of the social class of the residents living there. Infrastructural projects were quite successful in managed housing estates, such as Eastern Star and Riverside View, where a small NGO is in a better position to organize a successful project.

¹⁷⁴ Materials collected in these bins will then be added to the larger compost bin for the whole housing estate. I describe the idea of wet vs. dry garbage more clearly in Chapter 7.

Challenges were not just found in the gated housing estates. The large size and lack of shared public space within luxury housing estates, such as Tiramisu, resulted in little social interaction between residents making them also a daunting location to implement an environmental project for both NGOs and the local government. Still, both groups expressed far more confidence in their ability to influence residents of luxury housing estates than in places like #8, #68 and #88. At the time, Friends of Chengdu had not attempted to conduct projects in a luxury housing estate, but Green Earth's recycling containers were prominent within Tiramisu¹⁷⁵. Moreover, the whole reason Global Trees introduced us to Tiramisu was because they hoped to implement future projects there. Much to the delight of Global Trees, we also found that the concern with being environmentally-friendly was important to Tiramisu residents, seen most prominently in their rooftop farming practices.

Growing Crops in All the Right Places

During our interviews with residents of Tiramisu we found that most of them felt quite isolated from each other, but a surprising conversation with Miss Li, the vice-chairperson of the resident committee, made me realize that isolation did not necessarily mean residents were uninterested in engaging in environmental actions. Originally, I had intended to interview Miss Li about her relationship with Tiramisu's management company. She explained that their original management company had been removed about a year before, but because they had never formed a resident committee, it was really the River Willow neighborhood management committee that was responsible for organizing the housing estate management company's removal and finding a

¹⁷⁵ During the past two years of fieldwork, I found Green Earth recycling containers in many of Chengdu's managed and luxury housing estates that I visited but found the only gated housing estate that hosted one was #78, which undoubtedly is because of #78's status as a model housing estate.

replacement. This experience is what stimulated residents like Miss Li to become more active in promoting social participation within Tiramisu and it was she who actually brought up environmental activism as an example. According to her, the most promising social participation project was their rooftop garden, which I was able to visit on a number of occasions. Miss Li felt that one of the main problems with the rooftop garden project was that it was difficult to build social participation among the younger residents. Interviews with the younger residents revealed that they felt such projects were dirty or reminded them of the countryside, where some of them may have even been born. As mentioned in Chapter 2, many of the residents of Tiramisu had very recently moved to Chengdu from smaller cities and rural counties meaning that it may be important for them to keep up an impression that they are already very urban in their social practices. Thus, most of the residents who were actively working in the rooftop garden were from an older generation.

Most of the urban farming at Tiramisu took place on the rooftops above the 35th and 40th stories of the six high-rise apartment buildings in the complex. On each of the rooftops about a dozen households were planting crops, for a total of over 50 households. They would collect wood frames, Styrofoam, ceramic and plastic containers, or even an old ceramic sink, to make planters for their crops (See Figure 6.11).



Figure 6.11 Containers and Equipment Used for Rooftop Gardening at Tiramisu

Then they used a number of thin pieces of bamboo or wood to act as trellis supports for corn and vine crops. Composting containers were found for each household where they would keep their kitchen waste and recycle it into the soil. I did discover that some households were also using chemical fertilizer but they refused to use pesticides of any kind. As Miss Li said:

That is precisely why we are doing this. We do not want to eat food that has so many chemicals on it. But we also do not quite know what we are doing. Some of us grew food in the countryside, where we generally learned to use

chemical fertilizer. We could use some help regarding how to perfect our composting techniques.

During a conversation with Lin Lan at the Global Trees office, I suggested that rooftop farming could be a great opportunity for the NGO to organize a project in the housing estate. Global Trees felt that this was beyond their ability. Their primary focus was recycling and they were reluctant to delve into a new set of environmental practices in a new housing estate, even though, according to Miss Li, that is what the older local residents who were interested in being more environmentally-friendly desired from such a collaboration. According to Lin Lan it is necessary for their projects to remain focused on topics like recycling in order for them to be successful and ensure that they will be able to continue to receive funding from the supporting foundations discussed in Chapter 5, even if such a project runs against the wishes of the communities with whom they work.

Unfortunately, there is a possibility that in designing an environmental project residents do not necessarily want, the project may quickly become obsolete. For instance, the Ecological Housing Estate Project in #78 that was designed and supported by Friends of Chengdu included a composting and urban agriculture project on the rooftop of the bicycle parking garage. While the composter¹⁷⁶ always seemed to be fairly full, during the multiple days we conducted surveys and interviews there, I never once saw anyone actually working the soil. It was also unclear who was responsible for each plot and how the foodstuff was meant to be divided up. Shi Zhimin, our main contact with Friends of Chengdu always said: “well it is divided up among everyone.” After talking

¹⁷⁶ It was made of plastic, meaning the oxygen levels needed to complete the composting process were never high enough resulting in less than successful composting compared to some of the projects described below.

with Auntie Liu, who was responsible for organizing a number of activities in #78, I came to realize that Shi Zhimin was not very clear about how the garden was being used.

As Auntie Liu said:

Actually it is very difficult to keep the urban agriculture project running. Very few of us know how to grow crops. To be honest, it is mainly those of us who are closest to the neighborhood management committee who keep the garden tended. Of course, we also tend to be the residents who eat from it.

These collective urban agriculture projects are difficult to maintain unless the majority of the community is willing to commit a certain amount of time to weeding and recycling compost. Shi Zhimin's comment that the work and the crops are divided among all the residents was undoubtedly an attempt to make the NGO look good, but, in fact, cooperation among housing estate residents was limited to a select few. In particular, upkeep of the composter was something most residents in #78 were unwilling to do¹⁷⁷.

When it came to urban agriculture, though, by far the most successful projects I have participated in were developed by Yang Zhengxian and Wildgrass. As I mentioned in Chapter 1, Yang Zhengxian and I have been working together on rural organic agriculture projects since the Sichuan Earthquake in 2008. At some point in 2011 he suddenly came to the conclusion that the solution to environmental problems related to agricultural production was not to be found in the countryside. Yang Zhengxian felt that most urban residents had absolutely no idea what organic, environmentally-friendly food was or how it was grown/raised. For Yang Zhengxian, biodiversity was always the key to his agricultural solutions, regardless if they were at the scale of the household or the

¹⁷⁷ In Riverside View, the residents actually tore down the composter arguing that the smell was unbearable. They then moved it to a location where it basically was left unused.

village. Biodiversity was not simply a scientific concept for Yang Zhengxian. In many ways the concept of variety was important to him as a philosophy of life and for actually putting his projects into practice¹⁷⁸. I would hesitate to describe Yang Zhengxian as religious although I do believe that it is in his nature to be deeply reflective about his actions in the world and how they are connected to other ecological processes. In some cases Yang Zhengxian's meticulous nature would result in him taking days to accomplish fairly mundane tasks like write a two page project proposal.

In some ways, there was a benefit to Yang Zhengxian's painstaking thought process as he could be very holistic at times. For instance, one of his early urban agriculture projects was to collaborate with a number of kindergartens or elementary schools to have children and teachers growing their own food on campus. Wildgrass worked to redesign the school grounds to include a large garden, a rainwater collection system used for irrigation and a very efficient composting system¹⁷⁹. In order to ensure that the original soil was free of toxic substances they even trucked a large amount of earth from the countryside to the schools. Nevertheless, Yang Zhengxian was aware that the material infrastructure was not enough. He argued that to make the project successful it was crucial that the teachers plant their own plots and learn to enjoy the process of growing one's own food. From what I can tell and from the general praise these projects received from teachers, the schools have been very successful primarily because the teachers really do enjoy growing and eating what they perceive as clean food. At the time Yang Zhengxian also wanted to make the project more socially

¹⁷⁸ Yang Zhengxian is deeply influenced by the philosophy of Jiddu Krishnamurti (1991) who spent a good deal of his life arguing for the importance of diversity and social practice in everyday life.

¹⁷⁹ This one made from wood allowing the necessary amount of oxygen into the container to ensure the complete composting of the organic material within it.

significant beyond the school. So the next step was requiring parents to come learn to work with their children in the gardens as well and by doing so to learn more about what organic agriculture truly means. In other words, Yang Zhengxian was able to integrate his ideas about environmentally-friendly, organic food with social practice in a way that moved beyond the institutional confines of a school and into an experience shared by the whole family. I would argue that the integration of the family is precisely why the project resonated so clearly with participants. By making urban agriculture a family enterprise that revolved around education, something that all families take seriously in China, Yang Zhengxian made the practice of growing one's own food something that the household could accept into their lives regardless of the extra time it required of participants. While the amount of food an individual household could grow at the school was limited, once parents understood the principles behind growing organic food, they would constantly ask Yang Zhengxian for advice about how to grow food in their home or purchase organic food from the farms surrounding Chengdu.

This is a good example of how the “being environmentally-friendly” ideology promoted by Yang Zhengxian was integrated with the action of growing food in the school and residents' perception of what organic food afforded their family. This environmental consciousness associated with food safety had far ranging consequences for organic farming in Chengdu. Once parents understood the difference between what they were buying in the supermarket and what was being grown at their child's school, a demand for organic food increased within those communities. This increase in demand was made obvious to me when one of Chengdu's largest suppliers of organic food complained to me that she was never able to keep a steady supply of vegetables after

Yang Zhengxian's educational projects had been implemented¹⁸⁰. In 2013, in order to help these parents find a more stable supply of organic foods, he agreed to apply for a fairly large grant provided by the Poverty Alleviation Foundation of China. The project was fairly experimental, because his goal was to connect these urban households directly with rural farmers who had the knowledge of and were interested in growing organic crops.

In the summer of 2014 the project was in full swing and Ma Juan, the youngest member of Wildgrass, was responsible for bringing the urban families up to the village so that negotiation between the consumers and producers could begin allowing the villagers to determine what they would plant for the urban households. Interestingly, the urban residents were not brought to the village houses at all. Instead an area of bamboo was cut near the fields and a huge pit was dug with a series of chairs and tables made from bamboo set up around the pit purposely giving it a rustic feel. I asked Ma Juan why they had spent so much time preparing this area:

Ma Juan (MJ): It would not have been a good idea to bring them to the houses.

Me: Why not?

MJ: The houses are far too dirty, the urban residents would never be able to use the bathrooms there.

Me: Then how do you encourage urban residents to become more aware of rural life and agricultural production?

MJ: That is why we built this near the fields so that they could inspect them and learn more about how their food is grown. Plus this design looks like the way the countryside should be. The countryside should not have brick and concrete buildings.

¹⁸⁰ I should stress that the influence of these projects was not felt citywide but rather was relegated to those living in a few luxury housing estates that were nearby the schools that collaborated with Yang Zhengxian. Thus, these households also had the financial means and time to engage with the organic agriculture discourse. The housing estates in question were extremely large, 2000+ households, and the local organic agriculture market was not quite prepared for that demand.

Here we can see that Wildgrass had to play into the idea of the “rural” that embodies the urban imagination of the Chinese countryside. A great deal of effort went into ensuring the comfort of the urban residents, because as Yang Zhengxian would argue, it is not the villagers who need convincing but these consumers. Thus, a kind of front stage/back stage relationship is needed in order to make urban consumers believe that the food they are purchasing is indeed clean and wholesome. Only through a certain rustic image of village life, ironically mediated by a level of comfort only found in the city, will urban consumers feel confident that the food they are purchasing is worth their time, effort and money. These conditions, though, are not necessary for all urban consumers. In fact, a large number of urban residents in Chengdu have only quite recently migrated from small Sichuanese cities or even the rural countryside itself. This group of consumers is far more familiar with the everyday aspects of agricultural production and rural life. While helping Wildgrass with one of their other urban agriculture projects, I was able to have more interaction with this group of residents who had recently moved to Chengdu from the countryside and were also growing their own food, which I will discuss more below.

After word about the success of the school projects began to spread, local government offices began to ask Yang Zhengxian for assistance in developing urban agriculture projects as a kind of social service to the community. The Oceanside neighborhood management committee even provided Yang Zhengxian with an office and a large rooftop to establish an urban agriculture project. The goal was to have local residents learn to plant crops at the office and then develop their own permaculture

projects at home. I remember asking Yang Zhengxian why the government would want to support a project like this anyway and he replied:

Stability (维稳)! The government is very aware of the social concern for environmental problems. One of the most prominent is food security. If we can teach people to farm for themselves in the city then they will not have to worry that what they are eating is poisonous. Moreover, if the government is the one showcasing such a project, it makes residents who would normally be critical of the government for allowing food safety atrocities to take place, feel like the government is finally doing their job. This is the process of ensuring social stability through environmental practices.

In many ways what Yang Zhengxian described to me was part of the conclusion I came to in Chapter 5. The government is definitely aware that environmental concerns are a destabilizing force and, according to Foster (2015), this is one of the reasons the Party developed the Ecological Civilization ideology. As I have argued though, the Party has structured Ecological Civilization in a way that only allows environmental protection to be used as a measure that would ensure continued economic development rather than as a tool to limit the economy. Yang Zhengxian's comment about environmental practices promoted by the state are a way of making people "feel like the government is finally doing their job" is to a certain extent exactly what the state hopes an Ecological Civilization will accomplish. Yang Zhengxian's response here is critical of the state but there was also an element of frustration in his explanation. To a certain extent he realizes that his own projects are being appropriated by the state to promote stability and at the same time realizes that promoting environmentally-friendly behavior in the way the state deems appropriate could be quite futile. After all, he knows there are many people in China who think more like he does, meaning that economic development is not nearly as important to them as protecting the environment. Moreover, Yang Zhengxian is perhaps more aware than most working for NGOs that people do not

necessarily need his help or that of the state in order to engage in more environmentally-friendly practices.

In fact, it was specifically in the area around the Oceanside neighborhood management committee office that we discovered a large number of consumers who did not require help from NGOs or the government to practice urban agriculture. This part of Chengdu had only been urbanized in the past eight years or less so a great deal of the land in Oceanside was still under construction. One area just on the outskirts of a luxury housing estate was a field of rubble where a village had been demolished to make way for new development. The neighborhood management committee officials told us that this land was somehow in the name of Deng Xiaoping's daughter and it was to be set aside to construct a hospital. The village had been demolished nearly five years ago and it was unclear why the hospital had yet to be built. Regardless, the way that the new residents in the luxury housing estates of Oceanside had come to use the empty land is quite fascinating. Many of the residents were now farming along the banks of a small river that ran through a newly constructed park and all the way back to the old village site, about 3 km total in length.

As I would come to learn from many of those farming in this area, concern with food safety was an important reason for growing their own crops. For instance, one day while walking through the park I asked an older man, Mr. Zheng, if he had permission to farm the land:

Mr. Zheng (MZ): [Nervously] No, not really, but we've been doing this for the last few years and no one has said anything. I think the park is happy we are doing it.

Me: How do you know where your land begins and another's begins? Do you have an agreement with the other residents?

MZ: An agreement? No, why would we need that? It is more like first come first serve. We just farm what we can. To be honest we do this for fun. We are not trying to make money on this, no one here is.

Me: So you do this for fun?

MZ: We also come out here to get some exercise and then of course the food is safer because we grow it ourselves. You never know what you are eating if you purchase it from the market.

The idea that urban agriculture was a kind of leisure and provided the household with clean food was a comment I heard repeatedly among these abandoned construction plot farmers. Most of them were fairly recent residents of Chengdu. A number of them were living in the luxury housing estates with family members who worked in the city. Many of the urban farmers were female and they primarily acted as the nanny of the family. However, there were also residents who were even coming from other parts of the city to farm in this area. One discussion with Miss Shao who was tilling the limited top soil she could find in the demolished village, struck me as being far more important for an understanding of what “being environmentally-friendly” means in Chengdu.

Me: So you live with your family in an Oceanside housing estate?

Miss Shao (MS): Oh, no, actually we live in Niuwang Miao.

Me: That is quite far away.

MS: Yes I take the subway most of the way and then walk over. I leave most of my tools here in the shed.

Me: How did you find out about this place?

MS: I have a friend that has been planting crops here for two years. She lives close by.

Me: So you come here to grow your own crops?

MS: Absolutely, the problem is that you just do not know what you are buying in the grocery store these days. Out here I know exactly what inputs I am using. I try to use as little chemical fertilizer as possible and I absolutely refuse to use pesticides of any kind. So our family can really relax because we know exactly what it is we are eating.

Me: Do you ever worry that your crops will be stolen? How do you know which land is yours?

MS: Well people do steal sometimes. But, generally speaking, I feel like I can trust people out here. I do not know everyone, but I have come to know a few and they all seem like good people.

Me: Have you been learning how to farm from them as well?

MS: Well no, I spent some time in the countryside during the Cultural Revolution. To be honest, working here is like remembering little parts of my past.

This nostalgia for the Cultural Revolution where Miss Shao learned to farm is important because it adds a crucial, historical sediment to her own actions that are associated with being environmentally-friendly. This nostalgia for the countryside was also expressed by Miss Li from Tiramisu and was a common voice I heard from many older informants I interviewed. I find it striking that these individuals were able to work together within these abandoned construction plots and the park based entirely on informal and completely unregulated agreements. In other words there are spaces within the city where the kinds of social relations that would be necessary for a more balanced management of natural resources emerge. Moreover, these spaces do not require a government agency or even an NGO to facilitate such interaction. I also discovered that such social relationships emerge in the way that urban residents use and maintain the green spaces of Chengdu.

An Urban Forest City

Parks are a great place to see the local use of shared natural resources in an urban setting. People in Chengdu are quite proud of their parks and frequent them often. Living directly across the street for 18 months, I would go to the People's Park nearly every day. During conversations I had with park-goers, most would mention the reason they came to the park was to enjoy green spaces and fresh air in the midst of Chengdu's concrete jungle. There are those who enjoy the shade of the trees while sitting on benches watching the badminton players toss the shuttlecock across the 1911 Railroad Movement Monument Square. A corridor of broadleaf trees lines a path that cuts

through the west side of the park, ensuring that the water calligraphy laid down by elderly gentlemen will last just a bit longer than if it was written in the beating sun. Willows also crucial provide for a cool but slightly humid atmosphere in the tea houses around the Boating Lake. Vines wrap around the pillars of buildings and dangle from the roofs of pavilions shading those who are playing Go 圍棋 or Chinese Chess 象棋 beneath them. Bushes and shrubs are used to establish barriers between the park's winding paths and areas of undergrowth, which are less maintained by park staff. In contrast, the grassy lawns speckled throughout the park are fairly well maintained with short grass allowing park-goers to have a lazy nap in the sun. There is a level of relaxation found within the green spaces of the park that is rare to find elsewhere in the city.

The People's Park is perhaps unique in that for many years these green spaces have not only been used for relaxation but also for quite possibly some of the most boisterous entertainment found in the city. This includes *guangchang wu* (广场舞), karaoke, ethnic minority dance performances, live music performances, salsa and polka classes, plays, art exhibits, local food fairs during the holidays, mahjong and card playing and the matching making market, just to list a few. Some of the live music and ethnic minority dance performances would also incorporate the singing of patriotic songs that date back to the Cultural Revolution. A list of songs was often laid out on tables so that audience members could request songs from their past.

For those unfamiliar with the People's Park this cacophony of sounds and activities seems like pure nonsense. I was quite surprised one day to hear a good friend describe the performances in a very negative light:

These performances are nothing more than unproductive self-aggrandizement. Most of these people were part of the Red Guards (紅衛兵) during the Cultural Revolution. Just like my father, they traveled around the country beginning in 1966 and all of it was paid for by the Party. For the rest of their lives they felt entitled to receive handouts from the state and now that they are retired they just want to sing and dance like they did in their youth.

I would later come to learn that this is a common critique leveled against the regular parkgoers and it was often described in a manner that would make it seem almost like common knowledge. Indeed, some of the performers of the Cultural Revolution song and dance routines did explain to me that they were sent down youth who had traveled to the countryside during the Cultural Revolution. For them, singing such songs in the park was a way to reflect on that period of their life. However, labeling all of the performers as obnoxious remnants of the Cultural Revolution is most certainly an exaggeration. For instance, one gentleman I interviewed was 82, far too old to have been a sent down youth, who simply came to enjoy the music and, as he put it, “to feel alive”. He preferred the technomusic to the revolutionary songs and would dance with men or women often while wearing a leather jacket that was quite reminiscent of 1950’s American pop culture icons. The point is, that most of the performers and park revelers are older or not employed with typical day jobs, therefore labeling them as “unproductive” in connection with the Cultural Revolution was a way of delegitimizing their use of the park environment or making their activities appear inappropriate and old-fashioned.

Those who were new to the Park or were infrequent visitors often described the boisterous activity as inappropriate, but for those who were more regular visitors the park seems to meld all this activity into a kind of organized chaos. Moreover, I

discovered that the little organization of these activities that does exist is quite independent from Park bureaucracy. As the head manager of the park explained to me:

Years ago we decided to leave it up to park users to manage who had the right to use the various public spaces of the park and when. Most of the singing and dancing activities are arranged through the city's elderly association. The negotiation is done between the various groups who use the facilities and at least in the past five years everything has run fairly smoothly. We do very little beyond maintaining the grounds and hiring security.

The way the elderly associations divided up the park space was primarily according to activity. Those participating in *guangchang wu* were provided the Central Square of the park because of the large number of participants. The ethnic dances, plays and live music performances were allowed to use smaller shady Squares that surrounded the Central Square. Salsa and polka dance groups were provided an open space just inside the Eastern Gate of the Park. Karaoke was spread throughout the park and from what I was able to learn¹⁸¹ their activity in the park was not supported by the elderly associations, but rather were run like small business charging 1-2 RMB per song. Despite the fact that the Karaoke speakers would sometimes drown out the music of the live performances, it still never created conflict between the groups, with each group recognizing the others valid presence in the park. The main point is that while the park space is limited, the different groups were able to negotiate amongst themselves how that space was to be used by each group in a way that prevented conflict, even when one group's performance might distract another group's performance.

In fact, while visiting the park very rarely did I come across conflict. One particular incident involved a man who was delivering foodstuff to the restaurants nearby the Boating Pond who had nearly run over a toddler. The young child was safe,

¹⁸¹ More than any other group, they were the least interested in talking to me. They had a very secretive nature to them which gave me the impression that they were breaking a law of some kind.

but naturally the family was furious by the driver's reckless speed and that a vehicle was allowed inside the park at all. In the end, park security guards were called in to mediate the situation. However, most conflict that I observed was not between park goers as much as it was between the security guards and a few individuals. For instance, I also witnessed security guards remove young students conducting market research on more than one occasion. Generally speaking, the park is a space within the city where conflict between strangers seems quite out of place. It was rare to even see people without a smile on their face or having an argument with family members. It would affect my mood for an entire day if I was unable to enter the park at some point for even just a ten minute walk.

Many of the parkgoers I talked to argued that this was due to the contrast between the built environment of the city and the park. The rest of the city is primarily designed for moving people from one point to another and that flow of bodies does not encourage the kind of sociality found in the park. In contrast, the environment of the park is designed to aggregate people into large clusters, such as the tea houses, the public squares or the Boating Pond, where sociality becomes quite natural. In other cases, the park environment provides winding trails that allows one to have a peaceful walk under a canopy of trees or engage in an intimate conversation with a friend. That mixture of boisterousness with relaxation found in the park is well appreciated by the Sichuanese and occasionally it spills into other parts of the city. A relaxing example might include a set of benches along a thoroughfare that is well shaded by tall trees, which are almost always occupied by a couple of friends chitchatting, while a more boisterous example would include a panhandler performing the entirety of Michael

Jackson's *Smooth Criminal* on a sidewalk along the same street. The latter would certainly draw people's attention but such activity still seems out of place beyond the confines of the park¹⁸². Many parkgoers also told me that it is the plant life within the park, or the greenery, that carves out this kind of positive atmosphere within the urban confines of Chengdu. To a lesser extent, the positive atmosphere of greenery is extended throughout the city with various kinds of landscaping commonly found along street sides and even more prevalent within the designs of the housing estates.

Because of their size and ability to provide shade, for most it might seem as if trees make up the bulk of Chengdu's greenery, but a closer examination reveals a complex network of urban plant life that is maintained by hundreds of Park Maintenance Department staff. For instance, most of the streets of Chengdu are lined on either side with various species of trees. Each tree is numbered by the Urban Forest and Parks Maintenance Department and receives regular care from a crew that comes by to provide water, fertilizer and pesticides. Because the soil in which the trees grow is so shallow it is not uncommon to find them propped up with wooden or in some cases even steel braces (See Figure 6.12).

¹⁸² Moreover, the Urban Management Department, or 城市管理局, do everything they can to prevent performances on the street.



Figure 6.12 Trees being Propped Up along People’s Road South

Additionally, to ward off certain forms of disease, the base of many of these trees are painted with a white substance or wrapped in a special cloth.

It appears that the Urban Forest and Parks Maintenance Department places a great deal of effort on cultivating these trees, to the point that we forget some of the other features they manage such as the long rows of flower planters, stretches of grass or the bushes that in many cases hide metal street dividers. The husbandry industry that has

developed outside of Chengdu, primarily in Pi County, is only a partial source for these plants. As the head of the People's Park informed me:

We have species from all over the country. While some are grown in Pi County, we also make purchases from Guangdong and Yunnan. The Chengdu basin is unique because its climate allows us to grow nearly anything you can imagine. We also try to grow some plants indigenous to Sichuan, but due to aesthetics and cost we may choose other plants from beyond the basin.

Thus, it is important to note that a good portion of the plant life is first grown outside of Sichuan and is chosen for transplantation primarily based on aesthetics and cost.

Most urban residents of Chengdu feel that there is not just a practical need for plant life but that such greenery makes the city look more beautiful as well. However, in some cases it can also be taken to an ugly extreme. Many of the environmental policies in Chengdu are driven by cadre performance assessments including the indicator "percentage of urban forest coverage" (Hu 2007). These performance assessments drive the Parks Maintenance Departments to plant large pine trees in shallow soil requiring the support of steel beams creating a somewhat ghastly urban forest corridor along the People's Road South. Where that road ends within the Tianfu Square stands a massive statue of Chairman Mao, one of the few left in the country with a hand raised in welcome. The stairs directly below Mao's statue are not open to the public but rather are covered in potted flowers to increase the aesthetics surrounding the statue. These flowers have to be recycled quite regularly as the blossoms go out of season. One evening around midnight, I had the chance to come upon the changing of the flowers, where a team of rural migrants were constantly being yelled at by a combination of police and park management officials to hurry up and finish their job. All such jobs must be finished before the coming morning and not only because they would be blocking

traffic but to ensure the aesthetic quality of the image of the flowers paired with Mao's statue. Similarly, just outside my apartment, only two blocks from Mao's statue, a set of grassy patches along the Shudu Main Street, one of Chengdu's main thoroughfares, were transformed twice in 18 months; from grass to a patch of flowers and then back to grass again¹⁸³. Each time this was always done late at night, as was the mowing and watering of the grass. It is only during the night that the very public aesthetic blemishes are corrected so as to extend the atmosphere of greenery that is concentrated in the park into the rest of the city.

The atmosphere created by greenery was also extended into the housing estates through the process of landscaping. In the housing estate, though, people perceive greenery to be slightly more functional. During our semi-structured surveys we asked residents to explain the benefits of planting greenery for the environment. A minority did mention that the aesthetic quality of landscaping would provide them a pleasing feeling. Some said that just seeing the trees in their housing estate would make them feel very happy to come home. Residents of the older housing estates, particularly #68 and #88, were very concerned that there was not enough greenery in their environment. This is understandable considering that their public courtyard was very small, built from concrete and devoid of any landscaping. After all, greenery was also perceived as good for a resident's health. This is perhaps related to the most common saying mentioned by residents from all seven of the housing estates: greenery is thought to purify the air. One resident even said very explicitly: "Greenery is capable of absorbing PM 2.5 and CO₂; it

¹⁸³ I was told each time that the reason for this change had something to do with a visit by a central government official. The flowers were already fully bloomed when they were first planted, but when the next Central Government official arrived the flowers had already wilted away, thus the Park Management Agency were ordered to return the patches back to grass again.

can also absorb car exhaust.” Here residents are not necessarily drawing from a scientific discourse, but rather what they see as general common knowledge. Out of the 76 residents who participated in our semi-structured interviews, 67% mentioned this purifying aspect of greenery. As another resident explained, “Trees breathe in CO₂ and exhale O₂, it removes bad things from the air and replaces it with purified air.” Greenery is perceived as affording residents primarily with a clean and healthy environment and is crucial for helping residents cope with the polluted air in the city¹⁸⁴.

The maintenance of greenery in the housing estates is perhaps slightly less superficial in that there was never a need to make constant seasonal changes in order to fit some kind of year-round aesthetic. Most of the landscaping for housing estates is planned out by the real-estate development company long before any residents arrive. Beyond aesthetics, of course the practical need for shade is a primary concern. I have never heard of a developer purposely planting landscaping that could be used by residents in any secondary manner, such as planting apple trees for food. However, as we discovered in Eastern Star, when residents start to take responsibility for the management of the landscape of their housing estate, they become far more familiar with the greenery surrounding them. One day I invited Ma Juan from Wildgrass to visit Eastern Star with me at Mr. Yao’s request. The housing estate wanted to learn more about urban agriculture from someone with a bit more experience and Ma Juan was happy to help. The first thing we did was wander the complex talking about the already existing plant life, how it could be useful to the residents and what other species could be planted that might provide residents with useful materials or foodstuffs. Mr. Yao was

¹⁸⁴ This finding is actually complicated, because when we asked residents in our broader survey about ways of coping with air pollution, only 18 (7.3%) of respondents mentioned growing plants and primarily they were talking about potted house plants. See Chapter 7.

able to identify all of the species the residents had planted since taking control over the housing estate. There were also a few that the original management company had planted, mainly for aesthetic purposes, the names of which he was unable to remember.

From these examples we can see that the affordances provided by greenery are perceived by residents as they move about their housing estate environment, much as Gibson (1986) had argued. Moreover, when people engage in action that changes their environment, such as by planting their own greenery, those affordances become more important to their daily lives. It is when residents are directly taking part in the manipulation of their environment that it starts to take on meaning and becomes integrated into the way they talk and think about the environment. When others are responsible for taking care of their surroundings, such as when residents of Riverside paid a management company to deal with a housing estate's landscaping, then our environment becomes little more than a perceived background. Such a background still offers affordances, but affordances that are not necessarily anchored into a web of meaning that are central to residents' environmental consciousness.

The previous two chapters drew primarily from participant observation and long-term dialogue with some of my closest friends in Chengdu. The point of these chapters was to show the social context that makes "graying action", if we could call it that, seem necessary and explain why "greening action" can at times be difficult. In some cases graying action might be perceived as being unavoidable, which is how Li Huicheng described his need to drive an SUV to move his family about the city. Similarly greening action might just be inaccessible or out of our own control, such as when the Chengdu city government decided to no longer fund the collection of sludge.

In this chapter I have also tried to introduce the idea that being more environmentally-friendly is associated with behavior of the upper class but also the elderly. On one hand residents are made to feel that taking walks or riding a bike is nostalgic or, as some residents explained their interest in urban agriculture activities, that it reminded them of the Cultural Revolution. Moreover, younger residents did not grow up in a period of time when things like sludge needed to be saved to be used as agricultural fertilizer, thus they view such conservativeness as coming from an underdeveloped and backward historical time period in China. By analyzing the results from our survey in the following chapter, I will show that this developmental ideology does result in fewer younger residents engaging in environmentally-friendly practices like garbage separation.

On the other hand, residents are also made to believe that only residents of a higher social class are environmentally-friendly and environmentalists feel that they should cater towards the norms and expectations held by that social class. Ma Juan and Yang Zhengxian promoted their organic agricultural projects by making sure upper class participants did not view the way rural farmers lived but rather provided them with an idealized “rustic” environment to become more familiar with the way farmers grow their crops. Similarly it was assumed by NGOs like Green Earth and local government officials that the low social class of the residents living in the “problem” housing estates would prevent the successful implementation of recycling practices, which were a key component of the Ecological Housing Estate projects. As I will show in the following chapter, a class-based ideology may indeed guide individuals towards perceiving the

environment as having a certain impact on their life but from the analysis of our survey results we cannot say that only the upper classes engage in environmental actions.

Moreover, it is specifically because people with a range of social backgrounds are being environmentally-friendly, for reasons which are not necessarily similar to the official interpretation of Ecological Civilization, that we can see different dimensions to a local interpretation of Ecological Civilization. For instance, a dimension of simply enjoying the surrounding environment might lead residents to take a bike ride or go dancing in the park. The dimension of health may guide residents to plant more greenery in a housing estate to reduce the impact of air pollution. While I will return to the multidimensional nature of environmental ideology in Chapter 8, the argument I am trying to build upon in this chapter is that both perception of and actions towards the environment are also related to the social situation of our informants in China. While the depth provided by ethnography is important, we also need to know how environmental perception and action emerge in a broader social context. Drawing from our surveys that were meant to support the Ecological Housing Estate projects in Chengdu, it is to this question about how different social groups perceive and act towards their environment that I turn in the following chapter.

Chapter 7: Ecological and Not-So-Ecological Housing Estates

Research within the seven housing estates described in Chapter 2 truly was fortuitous. Just as I was beginning to switch my focus from air pollution to the broader topic of environmental consciousness, Global Trees and Friends of Chengdu were in the midst of implementing Ecological Housing Estate projects. These projects were done in collaboration with local neighborhood management committees, primarily with the support of Secretaries Wang and Ye, who I have introduced in previous chapters. The design of the Ecological Housing Estate projects was largely determined by the requirements from the funding agency, the Green Housing Foundation, which I discussed in Chapter 5. Local participation and input into the original project proposal is generally limited because the foundation (i.e., the All-Knowing Real-state Corporation) has a very specific set of operationalized goals that must be met in order for the proposal to be approved. An example of the goals set by the Green Housing Foundation for their Ecological Housing Estate projects was summarized by an “expert” from the Beijing New Construction Materials Design and Research Institute:

From the perspective of hardware, an Ecological Housing Estate includes ecological buildings, ecological greenery, garbage separation and recycling, water conservation, sewage treatment and recycling, energy conservation and new energy infrastructure.

Thus, as I stressed in Chapter 4, funding for such projects is primarily taken up by the construction of infrastructure, with a minimal focus on increasing residents’ knowledge of their urban environment or helping promote already existing environmental practices.

This unfortunately creates a number of inconsistencies during implementation. For instance, Eastern Star already had an elaborate rainwater catchment system. Thus, the construction of a new rainwater catchment for water conservation was seen as

unnecessary to local residents. Regardless, because the Foundation requires that a rainwater catchment be installed in all of their projects, Global Trees still purchased all the brick and mortar that was needed to construct a new catchment. Naturally, the materials sat in the courtyard of Eastern Star for more than a year as none of the residents were interested in completing that part of the project. In another example residents of Riverside had become so disturbed by the smell of the composter that they moved it to a new location where it went into disuse.

In fact, it was because the NGOs and the neighborhood committees began to realize that there was a disconnect between project design and project implementation that they requested our help to investigate a number of housing estates before they began a new set of projects. Primarily, they wanted to know what kinds of environmentally-friendly practices were already found in these housing estates and what residents felt an Ecological Housing Estate should look like. The interests of the NGOs dovetailed nicely with our own research questions about how environmental consciousness had formed among different social groups in Chengdu. We were able to examine housing estates that had already implemented some version of the Ecological Housing Estate Project (#78, Eastern Star and to a limited extent Riverside) and those that had not (#68, #88, #8 and Tiramisu). Through such a study we could also examine why some of the hardware installed by the projects did or did not work well within certain housing estates. Moreover, because of the breadth of our survey we were also able to examine aspects of environmental perception and action that are not dependent on housing estate infrastructure, such as air pollution. We then presented preliminary results of our work back to the community about three months after we concluded our survey, which also

touched on the issues of garbage separation, water conservation and mitigation of air pollution that are covered in the second half of this chapter.

Of course there is no guarantee that the Green Housing Foundation will take the results of our study seriously. According to Chen Xi, the head of Global Trees in Chengdu, the Green Housing Foundation's strong focus on hardware is common throughout the industry:

[The foundations] need to be able to show their donors, primarily their parent real-estate companies, that the funds have a tangible use. Educational uses tend to be considered an inefficient use of the money. If something concrete does not arise from such a project, it is likely that such a project will not be renewed and we may have a more difficult time applying for funds from that foundation again in the future.

These Foundations, which are owned and dependent upon China's largest real-estate companies, work in a very hierarchical fashion in their management and oversight of the projects implemented by the NGOs. As I have shown in multiple places within the thesis, real-estate companies utilized the grid-structure of power in China to engage with market practices, but they have also become integrated into the military structure of power through their dependence on coal-dominated forms of energy and the developmental ideology that has guided the economy since 1949. Thus, it is not a stretch to argue that the Foundation-NGO relationship has integrated itself within the military and grid structure of power despite the fact that the projects are supposed to foster a more balanced kind of relationship between residents and their environment. The definition of an Ecological Housing Estate provided by the "expert" above notwithstanding, I do not believe it is a coincidence that energy conservation and funds for new energy infrastructure were never part of the projects we studied in Chengdu. Ecological Housing Estate projects focus on recycling wastes, conserving water and

growing urban agriculture, rather than providing residents options for using non-fossil fuel based energy for their transportation and electricity usage or encouraging them to reign in their consumption of various goods that also require a good deal of energy to produce¹⁸⁵. Nevertheless, the following chapter also highlights the way residents of Chengdu strive to improve their urban environment even if they know it may matter little in the grand scheme of things. While the evidence of China's environmental crisis continues to pile up on a daily basis, we should also take note of the small but important steps that households take to reduce their negative impact on the environment and to mitigate the negative impact environmental pollution has on their own health. As we will see, these are the steps that are connected to the multi-dimensional nature of local interpretations of Ecological Civilization that make the uni-dimensional focus of the state, which will only promote environmental protection as long as it does not interfere with economic development, seem disconnected and inadequate.

By building on some of the more ethnographic narratives I established in Chapter 6, in this chapter I will expand the context of my argument by focusing on the environmental perceptions and actions of different social groups within our study of the seven housing estates of Chengdu's Jinjiang District. In particular, in this chapter I show how social class comes to influence the way people perceive different aspects of the environment as having an impact on their life, but in the second half of the chapter I will stress that, contrary to the literature, it is not apparent that social class is the only defining variable for explaining the way our informants were acting upon their urban

¹⁸⁵ Access to a stable supply of energy has become so taken for granted in Chengdu, that it is not recognized as playing a significant role in the discussion of air pollution analyzed below. This is a troubling finding considering that Dupuy, Weston and Hove (2015) have argued that the most essential action that must be taken in order to truly reverse the trend of ever increasing levels of air pollution in China would be the reform of the energy sector.

environment. Thus, in the second half of the chapter I discuss the way age, the housing estate and social class work together to play a role in the way residents separate their garbage, conserve their water and cope with air pollution.

Environmental Perception

In order to better understand the degree to which residents of Chengdu perceived the importance of the environment on their lives, we designed a series of scaled questions based upon a discussion between all of the surveyors after our freelist and semi-structured interviews were collected and had undergone preliminary analysis. In this section of the survey we asked respondents:

Please record the level of influence each of these items has on your quality of life:
Water Quality
Public Transportation
Greenery
Soil Quality
Food Safety
Noise
Air Quality
Garbage

Respondents were provided a five point scale¹⁸⁶ with which to answer this series of questions. Following the discussion of environmental perception discussed in Chapter 2, the point of these questions was to establish a quantitative measure for evaluating the way respondents of different social backgrounds perceive the affordances that different elements of the environment provide to their lives.

In Figure 7.1, we can see that on average residents found most of these elements to have a particularly large influence on their lives. On average, of the eight elements

¹⁸⁶ 1=extremely small, 2=small, 3=neutral, 4=large, and 5=extremely large influence

discussed in our survey, only public transportation (mean=3.86) and soil quality (mean=3.31) scored below the large influence rating.

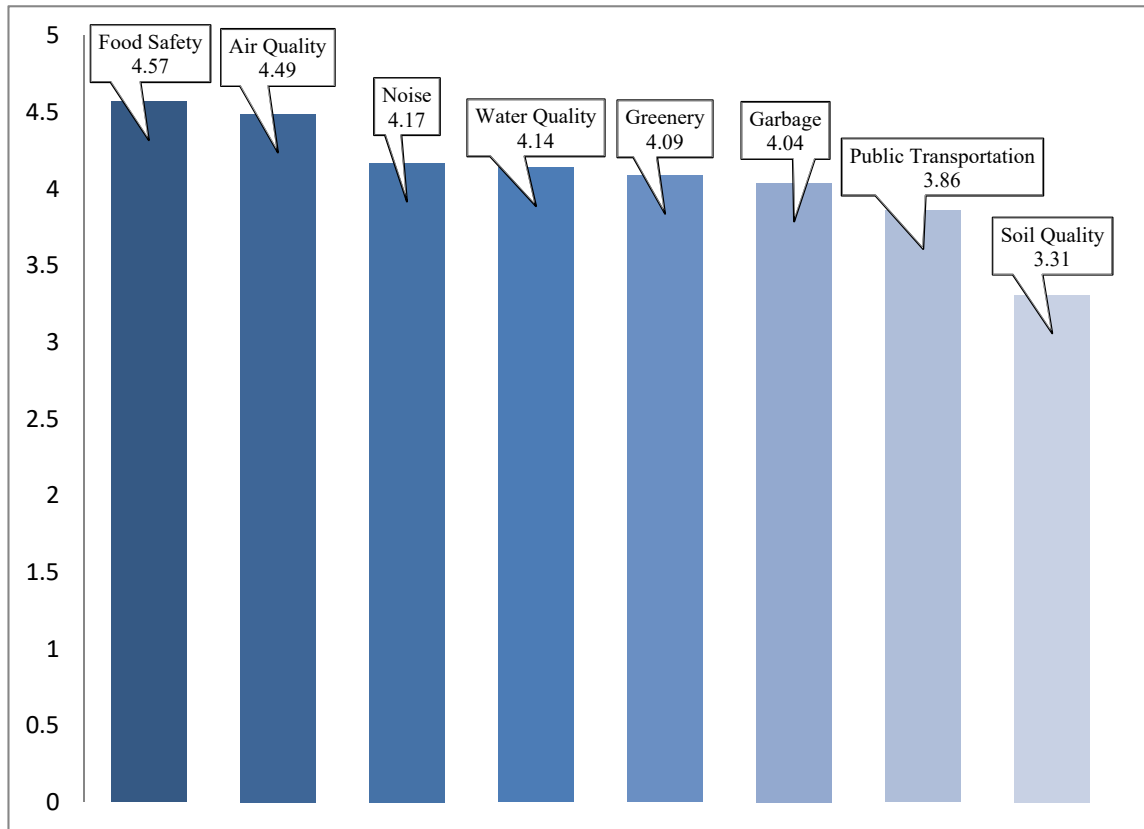


Figure 7.1 Average Responses to Scaled Questions of Environmental Perceptions

However, it is the variation found between each of these elements and between the perceptions of different groups of individuals that can help us understand how perception reinforces the ideology and actions related to environmental consciousness.

As discussed in Chapter 6, the perception of food safety as being problematic in China has been one of the driving forces behind the rise in environmentally-friendly

behavior, and we also found it to be a major concern among our informants¹⁸⁷. For this reason, many residents of Chengdu from a variety of backgrounds are practicing urban agriculture and the demand to eat organic food has greatly increased. This is further reflected by the fact that within our survey on average residents perceived food safety as having the largest influence (4.57) on their life when compared to the other elements of the environment. With the importance of food safety in mind, we should note that on average residents found soil quality to have the lowest impact on their life. In multiple cases during our surveying, respondents would ask us what we meant by soil quality as it was a concept they had not previously put much thought towards. I believe that this reflects Yang Zhengxian's concern that urban residents are too isolated from the rural countryside. Thus, as we saw in Chapter 6, most people are indeed concerned about the food they are eating, but their basic understanding of how food is grown is quite limited. Interaction with soil rarely occurs in the daily life of urban Chinese residents and an othering of rural residents occurs by symbolically associating them with the soil¹⁸⁸. I have argued elsewhere that it is this set of urban values that has been a bane to some of China's past agricultural woes (Schmitt 2014b). In our survey it became apparent that

¹⁸⁷ Again as discussed in Chapter 2, I urge caution in assuming that the word 食品安全, or food safety, only refers to issues of production quality (cf. Yan 2015). The housing estate residents listed this phrase as an element of "ecology" because, at least in Chengdu, it has always been a discourse that has been connected to environmental concerns. This can be seen primarily through the rising importance of organic farming or green foods 綠色食品 (see also Klein 2015). In Chengdu, these environmental concerns predate those more closely related to production quality that emerged during the food scandals of the mid-2000s, such as the baby milk powder scare (Keck 2009). For instance, Ye Qianji (1988), who, as I mentioned in Chapter 3, coined the phrase Ecological Civilization, had been promoting a form of ecological agriculture in Chengdu and Chongqing that was highly critical of green revolution technologies as early as the mid-80s.

¹⁸⁸ Thus, a rather derogatory way of describing someone with a rural background or who exhibits rural behaviors is to say they are 很土 or very "earthy". This has a similar feeling as the common American phrase "red-neck", although 土 does not carry the same racial overtones.

soil quality is clearly kept separate from food safety by urban residents and is perceived as far less of a priority.

This aspect of compartmentalizing different issues can also be seen in the relative lack of concern for public transportation when compared with perceptions of air quality. It is revealing that during our household surveys when we asked how residents would cope with air pollution, which I will discuss later in this chapter, only four mentioned driving their car less. Many vehicle owners I have talked to believe the issues of car traffic and air pollution should be kept separate, often becoming irate when learning that the roads might be closed to their car during high levels of air pollution. After all, in their minds, the issue of air pollution includes other contributing factors beyond just car traffic. Nevertheless, we should also examine the relationship between perceptions of air quality and public transportation according to the different ways that people move about the city, thereby beginning to look more closely at the relationship between perception of and action towards the environment. In this way we can consider how mobility may be related to the way individuals perceive the affordances provided to them by their urban environment and how the compartmentalization of environmental issues may be occurring among some residents but not others.

Table 7.1 contrasts how residents who travel to work by personal car, electric bike, bus and walking on average perceive the influence of air quality and public transportation on their lives. As a way to test if our survey question and analytical tool is appropriate for determining the relationship between different forms of mobility and perception of public transport and air quality, we can first examine the relationship between bus riders and their perception of public transport, which should exhibit a fairly

logical answer. As we would expect, the difference in the way bus riders perceived public transport versus non-bus riders was significantly large (Mean Difference=0.38). Moreover, bus riders perceived public transport to be more important to their lives than non-bus riders, which is the logical conclusion. In contrast, the difference in the way bus riders perceived the influence of air quality on their life was basically the same (Mean Difference=0.03) as those who did not ride the bus to work. Those who walk to work (N=43) exhibited a reversal of those who rode the bus, with a small difference (Mean Difference=0.12) in the way residents who walked to work perceived public transport as having an influence on their life compared with those who did not walk to work and a larger difference (Mean Difference=0.25) between the way the two groups perceived air quality as having an impact on their lives. Moreover, those who walked to work perceived air quality as having a significantly (p -value=.017) higher influence on their life. Despite the fairly large number of people who drive their car to work (N=62), on average the perception of those who drive to work was not that much different than those who did not when it comes to the way they perceive public transport (Mean Difference=0.12) or air quality (Mean Difference=0.186) as having an influence on their lives. In stark contrast, there was a significant difference between those few (N=25) who drove an electric bike to work and those who did not in the way they perceived both public transport (Mean Difference=0.51) and air quality (Mean Difference=0.37). In both instances drivers of electric bikes perceived these elements of the environment to have a lower influence on their life than those who did not drive an electric bike to work.

		Takes X to Work (Y/N)	N	Mean Perception	Mean Difference	Sig. (2-tailed)
Car	Perception of Public Transport	N	183	3.89	0.11	.512
		Y	62	3.77		
	Perception of Air Quality	N	183	4.44	0.19	.114
		Y	62	4.63		
Electric Bike	Perception of Public Transport	N	220	3.91	0.51	.041
		Y	25	3.40		
	Perception of Air Quality	N	220	4.53	0.37	.030
		Y	25	4.16		
Bus	Perception of Public Transport	N	160	3.72	0.38	.015
		Y	85	4.11		
	Perception of Air Quality	N	160	4.50	0.03	.785
		Y	85	4.47		
Walk	Perception of Public Transport	N	201	3.84	0.12	.554
		Y	43	3.95		
	Perception of Air Quality	N	202	4.45	0.25	.017
		Y	43	4.70		

Table 7.1 T-Test Comparison of Mean Perception Air Quality and Public Transport according to Mode of Transport to Work

The responses from electric bike drivers require a bit of explanation. Having an electric bike provides the rider with greater freedom to move along major roadways or even hop up on sidewalks in order to avoid traffic. Thus, for drivers of electric bikes whether or not the city has public transport has a lower influence on their lives than for residents who use a different mode of transportation to get to work. For instance, driving

a car to work means fighting through traffic, a problem which public transport is thought to alleviate, but surprisingly public transportation is still not perceived as being that much more important to those who drive a car to work compared with those who do not.

As discussed in Chapter 5, it is well established by one group of scholars (e.g. Yin et al. 2015) that vehicular emissions are a major contributor to decreasing levels of air quality in Chengdu. Moreover, some residents are similar to Grandma Jiang in that they feel very strongly about car exhaust. The fact that people who drive and ride the bus to work do not perceive air quality as having any greater influence on their life than those who do not use these means of transportation is a reflection of air quality being compartmentalized from urban mobility. Yet this is problematized by those who walk through the city to get to work. Much as Grandma Jiang explained, those who walk through the city have to suffer the “disgusting” nature of roadside vehicle exhaust. Thus, these “slow mobility” residents are perhaps in a better position to perceive the influence air quality has on their life. Finally, we could explain electric bike drivers’ perception of air quality as having a significantly lower influence on their life when compared with those who do not ride an electric bike as following the similar trend of car drivers and bus riders compartmentalizing the issue of mobility and air quality. However, as I will show below, for electric bike riders this is complicated by issues of social class.

For this reason it is very important to examine the differences of perception of the environment across different social groups. First, I need to note the difficulty in determining the relationship between environmental perception and type of employment. While Tilt (2006) has persuasively argued for the importance employment plays in the way residents of a rural township in southern Sichuan perceive the environment, the

employment situation in Chengdu is far more complex. It is not practical to categorize employment in Chengdu into three categories as Tilt did. With the fourteen categories I have established (Table 5.4) I would need a far larger sample size in order to conduct more rigorous quantitative analysis with this particular variable. Nonetheless, employment and rank are important indicators of social class in China and I have integrated these variables into my Social Class Index that is discussed below.

One socioeconomic aspect that is in a better position to explain the variance seen in the way residents perceive the different elements of the environment is level of education. As I have described in previous chapters, many of the government officials and NGOs felt that one reason housing estates like #8, #68 and #88 were not environmentally-friendly was related to the residents' level of education. A Pearson's correlation does show that there is a significant increasing linear relationship between education and the way residents perceive the different elements of the environment (Table 7.2).

		Water Quality	Public Transportation	Greenery	Soil Quality	Food Safety	Noise	Air Quality	Garbage
Education Level	Pearson Correlation	.213	.207	.167	.120	.161	.196	.123	.215
	Sig. (2-tailed)	.001	.001	.009	.065	.013	.002	.056	.001

Table 7.2 Pearson's Correlation of Education and Environmental Perception

In other words, the higher a resident's level of education the more important they perceive these different elements of the environment as having an influence on their life. However, an ANOVA test¹⁸⁹ (Table C.1) confirmed that the only mean responses to each of the elements of the environmental perception questions according to education

¹⁸⁹ For readability of the thesis, I have included the details of my ANOVA tests within Appendix C.

level that was statistically significant was noise (p-value=.02). In other words, while there may be statistical evidence showing that residents with higher levels of education perceive the environment to have a greater influence on their lives, the mean difference in the way people perceive the environment between each of the groups with different education levels is not significantly large. Thus, the argument made by NGOs and local officials that it is the low level of education that makes “problem housing estates” not as environmentally-friendly as other housing estates, is not well supported empirically by the data collected from our surveys with regard to environmental perception.

Similarly, the variation in the perception of the environment questions between the different housing estates is not as extreme as the government officials and NGO workers assume. An ANOVA test (Table C.2) shows that there are only statistically significant differences across the housing estates for the mean perception of water quality, soil quality and noise (p-value=.034, .019 and .044 respectively)¹⁹⁰. Additionally, if we analyze these responses according to housing estates that have already implemented an Ecological Housing Estate project and the other housing estates, we see that the only element where the perceived differences were significant (p-value=.018) was related to greenery (Mean Difference=0.30) (Table 7.3). In other words, with the exception of greenery, it does not appear that the implementation of the Ecological Housing Estate project has had much of an influence on how residents perceive their environment.

¹⁹⁰ While it eludes me why water and soil quality would exhibit significant differences across the housing estates, the differences in the responses to the noise question does follow a logical pattern associated with the location of the housing estate in Chengdu’s urban space. For instance, both Eastern Star and #8 (mean=3.58 and 3.81 respectively) reported that noise did not have a large influence on their life and both housing estates are located in relatively quiet sections of their neighborhood. In contrast, on average Tiramisu (mean=4.42) residents reported the highest levels of concern for noise, most likely because they are positioned right along the always busy 2nd Ring Road.

Ecological vs. Regular Housing Estates		N	Mean Perception	Mean Difference	Sig. (2-tailed)
Water Quality	Regular Housing Estate	130	4.20	0.10	.483
	Ecological Housing Estate	115	4.10		
Public Transportation	Regular Housing Estate	130	3.85	0.01	.970
	Ecological Housing Estate	114	3.86		
Greenery	Regular Housing Estate	130	3.95	0.30	.018
	Ecological Housing Estate	115	4.24		
Soil Quality	Regular Housing Estate	130	3.15	0.33	.055
	Ecological Housing Estate	114	3.47		
Food Safety	Regular Housing Estate	130	4.54	0.06	.573
	Ecological Housing Estate	115	4.60		
Noise	Regular Housing Estate	130	4.22	0.10	.433
	Ecological Housing Estate	115	4.11		
Air Quality	Regular Housing Estate	130	4.42	0.14	.163
	Ecological Housing Estate	115	4.57		
Garbage	Regular Housing Estate	130	4.10	0.13	.341
	Ecological Housing Estate	115	3.97		

Table 7.3 T-Test Comparison of Means of Environmental Perception for Ecological vs. Regular Housing Estates

As I argued in Chapter 2, the real-estate industry in Chengdu has made changes to the design and function of housing estates to create a “keeping up with the Joneses” phenomenon, which resulted in the gated, managed and luxury housing estate typology.

A closer analysis of the mean responses to the environmental perception questions according to the older gated housing estates vs. the newer managed and luxury housing estates reveals an important pattern. On average the older gated housing estates reported lower responses than the managed and luxury housing estates to all of the environmental perception questions (Table 7.4). However, only the way residents perceived water quality, public transportation, soil quality and air quality exhibited significant differences between the gated housing estates and the managed and luxury housing estates (p-value=.019, .023, .011 and .048 respectively). Moreover, it does make sense that there would not be significant differences between the way residents of gated and managed/luxury housing estates perceive the influence greenery, food safety, garbage and noise has on their life. First, as discussed in Chapter 6, urban agricultural projects are springing up in a variety of different housing estates, including the older gated-housing estates like #78 because food safety is an issue that is considered important throughout society, which is why the difference in the way residents of gated and managed/luxury housing estates perceive food safety as having an influence on their life would be small (Mean Difference=0.17). Second, as also discussed in Chapter 6, all housing estates, regardless if they are older or newer, have to provide their residents with some sort of greenery as well as services to deal with garbage meaning that the difference between the way residents of gated and managed/luxury housing estates perceive greenery and garbage as having an influence on their life would also be small (Mean Difference=0.23 and 0.18 respectively). Finally, noise is an issue that is determined by a housing estate's location in the city rather than the type of housing estate. For instance, Tiramisu (mean=4.42), located along the 2nd Ring Road, and #68

(mean=4.28), located just up the street from a bar district, both suffer from noise pollution despite the former being a luxury housing estate and the latter being a gated housing estate.

Gated vs. Manged-Luxury		N	Mean Perception	Mean Difference	Sig. (2-tailed)
Water Quality	Gated	113	3.96	0.35	.019
	Managed & Luxury	132	4.31		
Public Transportation	Gated	113	3.67	0.34	.023
	Managed & Luxury	131	4.02		
Greenery	Gated	113	3.96	0.22	.081
	Managed & Luxury	132	4.19		
Soil Quality	Gated	112	3.06	0.44	.011
	Managed & Luxury	132	3.50		
Food Safety	Gated	113	4.48	0.17	.128
	Managed & Luxury	132	4.64		
Noise	Gated	113	4.09	0.15	.267
	Managed & Luxury	132	4.23		
Air Quality	Gated	113	4.38	0.20	.048
	Managed & Luxury	132	4.58		
Garbage	Gated	113	3.94	0.18	.196
	Managed & Luxury	132	4.12		

Table 7.4 T-Test Comparison of Means of Environmental Perception for Gated vs. Managed and Luxury Housing Estates

While the typology of housing estate is not a perfect predictor of the way residents perceive the influence these different elements of the environment have on their lives, a fairly clear pattern is emerging. Higher levels of social capital associated with the level of education a resident has attained, the housing estate where one lives, or whether one owns a car, all appear to have a degree of influence on how residents in Chengdu perceive their environment. Thus, it is worth examining the influence social class has on perceptions of the environment in a more systematic way. For this reason I have established a quantitative way to describe social class so that it could be analyzed against our quantitative measures of perception. This Social Class Index¹⁹¹ draws from many of the socio-economic elements that have been discussed throughout the thesis (i.e. vehicle ownership, education, birthplace, housing and profession) as well as the variable of household income per person. All of these socio-economic elements contribute to an individual's means of accumulating social capital in order to maintain or perhaps improve their social class. Through this index five socio-economic classes emerge from our household surveys: the Impoverished, Working, Middle, Upper and Semi-Elite classes. I admit that the placing of any kind of label upon these groups is problematic. More importantly, I am missing the crucial element of subjective class identity, or how my informants think about their own class identity relative to others in Chengdu. This is a huge detriment to this study¹⁹². Thus, the variable I present here is only an objective measure of class identity. I would argue, though, that such an objective understanding of

¹⁹¹ For details on the methodology I used to establish this index see Appendix A.

¹⁹² Unfortunately, it was not something I could appropriately ask in a survey. Asking about one's social class in China is a fairly sensitive subject. After all Communist China is supposed to be a classless society. The topic can also remind respondents of the pre-Reform Era where an individual's or their forebear's social class might very well result in persecution or even physical abuse. Subjective class identity is best presented ethnographically, much as Cho (2013) has done so expertly, and I will continue to provide that context where appropriate just as I have in previous chapters. Goodman (2014) has also examined social class in China through an objective lens.

social class can be seen both formally in the way government officials categorize and interact with the housing estates and their residents but also informally in the way residents interact with each other, which I have documented ethnographically in previous chapters.

From a quantitative perspective, an ANOVA test (Table C.3) demonstrates that the differences between the way residents of each of the social classes perceives the different elements of the environment as having an influence on their life is highly significant with the exception of public transportation and air quality (p-value=.370 and .210 respectively). Moreover, this relationship is increasingly linear meaning that the higher a resident’s level of social capital the more important that resident perceives different elements of the environment on their lives (Table 7.5).

		Water Quality	Public Transportation	Greenery	Soil Quality	Food Safety	Noise	Air Quality	Garbage
Class Index	Pearson Correlation	.179	.120	.205	.170	.184	.182	.118	.188
	Sig. (2-tailed)	.009	.079	.003	.013	.007	.008	.085	.006

Table 7.5 Pearson’s Correlation of Social Class and Environmental Perception

Thus, when comparing the way the Impoverished, Working and Middle Classes perceive the environment compared with the Upper and Semi-Elite Classes we see more clearly the significant differences in the responses of residents across all but one of the eight questions (Table 7.6). Only the difference (Mean Difference= 0.17) in the way the lower and upper classes perceive the influence of public transportation over residents’ lives is not significant (p-value=.313). If we return to the discussion above regarding the compartmentalization of air quality and public transportation, we can see that there is good reason for this result. Lower class residents who ride the bus system to work every

day viewed the public transport system as having a large impact on their life and the upper classes who drive their car to work every day also view it as having an influence on their life because they assume it will cut down on traffic congestion.

Impoverished, Working and Middle Classes vs. Upper and Semi-Elite Classes		N	Mean Perception	Mean Difference	Sig. (2-tailed)
Water Quality	Upper Classes	85	4.45	0.53	.001
	Lower Classes	130	3.92		
Public Transportation	Upper Classes	84	3.94	0.17	.313
	Lower Classes	130	3.77		
Greenery	Upper Classes	85	4.26	0.30	.024
	Lower Classes	130	3.96		
Soil Quality	Upper Classes	85	3.65	0.60	.001
	Lower Classes	129	3.05		
Food Safety	Upper Classes	85	4.73	0.26	.028
	Lower Classes	130	4.47		
Noise	Upper Classes	85	4.47	0.45	.001
	Lower Classes	130	4.02		
Air Quality	Upper Classes	85	4.62	0.24	.036
	Lower Classes	130	4.38		
Garbage	Upper Classes	85	4.29	0.45	.003
	Lower Classes	130	3.85		

Table 7.6 T-Test Comparison of Means of Environmental Perception for Lower vs. Upper Social Classes

From the discussion above, we can infer that it is not really the middle class that perceives the environment as having an important influence on their life, but rather the upper class and semi-elite, which is slightly different than the way other scholars have described the rise of environmentalism in China (c.f. Shi et al. 2011). Moreover, those who have accumulated higher levels of social capital are also in a position, much like the discourse makers discussed in Chapter 4, to use their social capital to manipulate environmental ideology to serve their own interests. In this sense, discourse makers,

who perceive the environment as having a high degree of influence on their life, would support an environmental ideology that describes those with high levels of social class as being environmentally-friendly while those from a lower social class would be described as “problematic”. It is on the basis of the theme of Responsibility, such as that discussed in Chapter 3, that a more grassroots environmental ideology like the concept of being “environmentally-friendly” is able to find shared ground with the state promoted ideology of Ecological Civilization. It would appear that both the state and those of a higher social class are interested in passing off responsibility for China’s environmental problems, which could also explain why the discourse makers do not work harder to challenge the Ecological Civilization ideology. It is in their interest to perpetuate it. Before coming to the conclusion that the upper classes in China are using environmental ideology, such as Ecological Civilization, in a way that maintains their dominance over the lower classes, we first need to examine the various environmental actions taking place in the housing estates.

Environmental Actions in the Housing Estates: Garbage, Water, and Air

While the patterns associated with environmental perception discussed above help highlight the underlying social context of being environmentally-friendly in Chengdu, it is equally important to provide a closer examination of the various actions that are connected to those perceptions. Some of this discussion has already been accomplished ethnographically in Chapters 5 and 6, but there I concentrated on the narratives of specific individuals and the way they engage with the urban environment through transportation, waste recycling, food/agriculture and greenery. In this section I want to examine the broader social patterns associated with the way individual

households engage with garbage separation, water conservation and coping with air pollution. The open ended questions of our social survey that touched on these three topics allowed respondents to provide us with a richer understanding of how and why they do or do not take part in these activities. Each of the responses to these questions were coded in vivo and then organized according to themes (Bernard 2006: 493-494).

The first issue, garbage, is a waste produced by the household that some organize according to various classifications before returning the waste to the environment beyond their home. The second, water, is an example of an environmental resource consumed by household members that can be conserved in various ways. The third example, air pollution, is a waste to which individual households contribute but primarily experience and cope with as a cumulative result of the contributions of individual households throughout Chengdu, which makes it an inherently social phenomenon. Thus, this half of the chapter focuses primarily on the way households organize, conserve and cope with living in an urban environment. As we will see, the variation seen within each of these three environmental actions cannot be explained solely by social class but rather each is better explained through a range of social factors.

Garbage Separation

While garbage was perceived on average to have a relatively lower impact (mean=4.04) on one's life in comparison to some of the other elements surveyed, we still discovered that residents of Chengdu have a wide variety of ways to separate their garbage. For instance, in the survey we asked residents to list the different ways they separated their garbage and then coded the results according to 17 different categories (Figure 7.2). First, residents described three different dichotomies for separating garbage:

recyclable and non-recyclable, wet and dry, for resale and not for resale. The three who mentioned the latter category all reside in #78 where I have seen a few households selling various materials such as cardboard and glass bottles to elderly men with three wheeled carts. The wet and dry categories, while fairly self-explanatory, result in different methods of collection and processing. Wet garbage would usually have to be contained in a bucket with a lid and would often include leftover foodstuffs. If a household was engaged in urban agriculture this material could be used as compost. Dry garbage tends to be collected in various waste bins around the house, but depending on the housing estate it all pretty much ends up within the collective garbage disposal system managed by the housing estate staff. Recyclable (N=61) does appear as a category in more households than non-recyclable (N=50), because some households simply feel that recyclable was a category of its own and it was not necessary for it to be paired with its opposite.

This is because the recyclable category might also be paired with an array of different categories such as kitchen, household, bathroom and pet garbage. Only one household mentioned this final category, which could mean that it is not something households tend to think about as a separate category of garbage even if they have pets¹⁹³. From descriptions given to us by respondents, the category of kitchen garbage is quite similar to that of the wet category described above and it is telling that these two

¹⁹³ This may also explain why pets only showed marginal salience in our ecology freelist. However, I have left it here in an effort to be honest about a huge gap in our survey and my ethnography. It was a massive oversight that we asked no questions about pets in the survey despite having a number of questions about plants and greenery. I personally do not find it appropriate to raise animals as pets in urban environments, which is undoubtedly why I ignored this very important issue. It was only after meeting Frédéric Keck and learning about his work that I recognized my mistake and personal bias. We cannot possibly come to understand the urban relationships between the human and non-human if we do not study the world of animals in the city! In some cases they even provide us with signals about future threats to our health and safety. For more see Keck (2015).

categories do not exhibit any overlap. Nor is there overlap between the categories of household and dry garbage. Rather than combining the categories of wet-kitchen and dry-household, I believe it is important to point out that for some households the sensations of wetness and dryness act as a way they describe their garbage, as well as how it influences the way they process such materials. Recycling as a category does have a bit of overlap with all four of these categories (wet, dry, kitchen, household) meaning that these items are meant for some form of processing other than recycling. For instance, in some households the wet and kitchen categories are considered to be destined for the compost heap. The dry and household categories in contrast are most likely destined for the dump as it includes things like the plastic wrappers described in Chapter 5 or the Styrofoam that is used to package shipments from online purchases.

Residents are very aware of the different ways to break down their garbage so that it can be processed before being returned to the environment or utilized in a new form of production. These actions could be performed out of concern for the environment but also because such categories make sense to them in their everyday life. After all many of these household wastes were being categorized in this way long before either Ecological Civilization or the idea of being environmentally-friendly became popular in China. This was the point Secretary Wang was trying to make when she described to me the historical background of *xishui* that I discussed in Chapter 6 and is closely related to the kitchen category that residents described during our interviews. From another perspective we could argue that there is a distinct spatial difference between the kitchen and the rest of the house that also generates the household category. This is also why I find the bathroom garbage category intriguing, because it shows that,

along with the kitchen and household category, the spatial construction of the house can have an influence on the way Chengdu residents relate to the refuse that accumulates in their life.

There is also a very detailed list of categories that are distinguished according to the primary material that makes up the object, including the metal, batteries, plastic, paper and glass categories. It is not surprising that metal is rarely mentioned (N=1), since objects like aluminum cans are not as common in China as say plastic or glass containers. Properly disposing of batteries (N=15) is a fairly persistent headache for those concerned with the environmental impacts of garbage, much as we saw with Secretary Wang's story in Chapter 6. Paper is also somewhat problematic primarily because it accumulates quite quickly especially for households who have young children bringing reams of homework and handouts home every day. It is very telling that there is no overlap between any of these four categories and the category of recycling, which makes sense seeing that respondents explained that these categories exist in their household specifically so that these materials can be recycled. In other words, households who mention these four categories do not organize recyclables into a general category but are much more conscientious about the kinds of materials they bring into their home and how those materials could be processed in specific ways to reduce their impact on the environment.

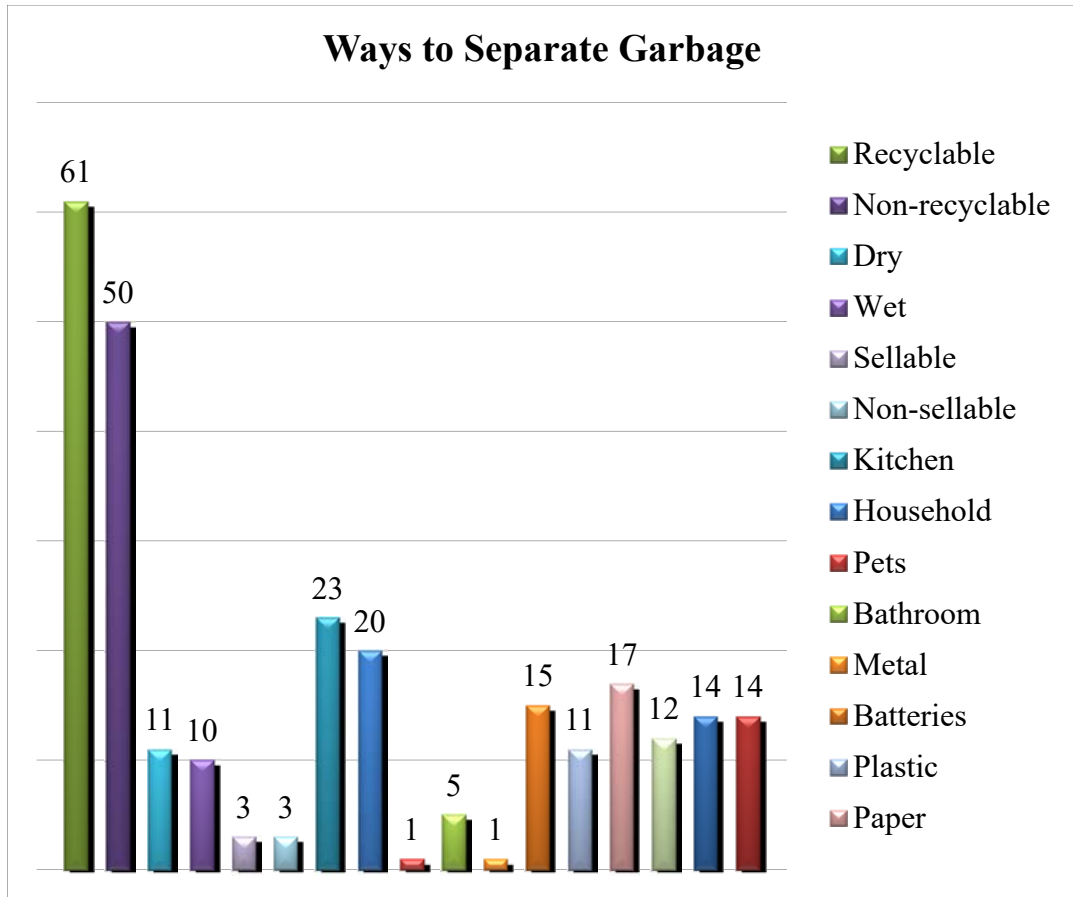


Figure 7.2 Frequency of Garbage Separation Categories

Despite such a wide variety of garbage categories, some fairly important patterns can be made out in relation to this diversity. For instance, the percentage of households who claimed to separate their garbage is determined by the housing estate where they live and not surprisingly most residents (75.0 %) in Eastern Star separate their garbage (Table 7.7). As discussed in Chapter 6, this is due to the fact that Eastern Star has been engaged in recycling for many years. It is also through the placement of dozens of clearly marked collection cans spread throughout Eastern Star that such a wide variety of recycling activities can emerge and be reproduced in daily practice. Most of these garbage cans were sponsored by the Ecological Housing Estate program that Global Trees implemented in Eastern Star.

An opposing situation to Eastern Star would be Tiramisu, which has the lowest percentage (34.8%) of residents who separate their garbage among all of the housing estates we surveyed (Table 7.7). Tiramisu's lack of diversity in garbage separation is understandable considering that the infrastructure is just not available. While conducting our interviews we noticed that very few garbage cans are found in the public spaces of the complex. Instead, there was a team of groundskeepers constantly sweeping and collecting trash that was occasionally left behind by parents preoccupied with their young children. I do not want to insinuate that Tiramisu residents are necessarily litter bugs. On the contrary, I found that the groundskeepers were extremely thorough to the point that one really would not need to be all that concerned about where you put your trash. Additionally, residents were told to simply place their household garbage in a single trash bin located on each floor of the high-rise apartment buildings that would then be collected and sorted by the housing estate management staff.

The housing estates with the highest percentage of residents who are separating their garbage (Eastern Star, Riverside and #78) have also hosted ecological housing estate projects and have recycling collection containers setup by the Green Earth Organization. 75.7% of the households in housing estates which have hosted an Ecological Housing Estate project separate their garbage, while only 44.6% of households in the other housing estates engage in garbage separation (Table 7.8). Additionally, we also asked households to rate how difficult they felt it was to separate their garbage¹⁹⁴. There was a significant (p -value=.005) difference between the way the ecological housing estates described the level of difficulty in separating their garbage compared with residents from other housing estates (Mean Difference=.51, Table 7.9).

¹⁹⁴ On a scale of 1-5, with 1=very problematic 3=neutral and 5=very convenient.

Thus, we could argue that these ecological housing estate projects have been quite successful in promoting the garbage separation portion of their projects and that the infrastructure they provide to housing estates indeed helps to reinforce environmental action within these households.

			Housing Estate						Total	
			Eastern Star	Tiramisu	#8	Riverside	#68	#78		#88
Separate Garbage	Y	Count	9	24	19	37	8	41	7	145
		%	75%	35%	61%	73%	44%	79%	58%	59%
	N	Count	3	45	12	14	10	11	5	100
		%	25%	65%	39%	27%	56%	21%	42%	41%

Table 7.7 Number of Households that Separate their Garbage according to Housing Estate

(Chi-Square, p-value<.0001)

			Ecological Housing Estate		Total
			Regular Housing Estate	Ecological Housing Estate	
Separate Garbage	Y	Count	58	87	145
		%	45%	76%	59%
	N	Count	72	28	100
		%	55%	24%	41%

Table 7.8 Number of Households that Separate their Garbage according to Ecological vs. Regular Housing Estates

(Chi-square, p-value<.0001)

		N	Mean Degree of Difficulty	Mean Difference	Sig. (2-tailed)
Degree of Difficulty	Regular Housing Estate	111	3.65	0.51	.005
	Ecological Housing Estate	102	4.16		

Table 7.9 T-Test of Average Degree of Difficulty in Separating Garbage according to Ecological vs. Other Housing Estates

In terms of social class, there is also a fairly significant linear relationship (Ordinal Chi-square, p-value=.063) showing that the higher a resident's social capital the less likely they were to separate their garbage. Residents who have less economic and social capital to draw from tend to recognize that it is important to separate their garbage in multiple ways either for recycling or other processing purposes (Table 7.10). However, within our sample the percentage of households who do and do not separate their garbage according to the different social classes is not necessarily representative of a larger population. Moreover, when asked to scale how difficult it is for their household to separate their garbage, there was not a significant difference between the way residents of different social classes answered this question (ANOVA, p-value=.464, Table C.4). In other words, social class does not appear to reinforce garbage separation practices as much as the infrastructural support found in the various housing estates described above.

			Class Index					
			Impoverished Class	Working Class	Middle Class	Upper Class	Semi-Elite Class	
Separate Garbage	Y	Count	11	30	43	37	9	130
		%	79%	65%	61%	54%	53%	60%
	N	Count	3	16	27	31	8	85
		%	21%	35%	39%	46%	47%	40%

Table 7.10 Number of Households that Separate their Garbage according to Social Class (Chi-square, p-value=.430)

While social class does not clearly interact with the infrastructure of a housing estate to influence the garbage separation practices of Chengdu residents, the average age of the survey respondent who did separate garbage were on average nine years older than those who did not (p-value<.0001, Table 7.11). Younger residents, particularly those who grew up in the late 80s or 90s are completely unaware that in the past the city actually provided infrastructure for processing many different types of waste, such as the *xishui* described in Chapter 6. Thus, separating these wastes has never been a part of their daily practices. Moreover, as I explained in Chapter 2, many residents of newer luxury housing estates like Tiramisu are quite young. The lack of a lived experience of separating garbage among younger residents is only exacerbated by the lack of recycling infrastructure that might help to reinforce garbage separation practices in housing estates like Tiramisu. This is further corroborated by the fact that the older a resident was at the time of our survey the more convenient they felt it was to separate their garbage (p-value=.027, $r^2=.152$, Table 7.12). Ultimately, while separating garbage appears to be a cross-class activity, it is most familiar to an older generation. Moreover, when this environmental action is reinforced by the proper recycling infrastructure within a housing estate, even younger residents can make a habit out of separating their garbage. This is exemplified by the example of Riverside, a housing estate, where the Green

Earth Organization has been active for a number of years now, with fairly young residents (Avg. Age=45) and a large percentage of residents who separate their garbage (72.5%).

Garbage Separation	N	Mean Age	Mean Difference	Sig. (2-tailed)
Y	145	48	9	.000
N	100	39		

Table 7.11 T-Test Comparison of Mean Age according to Garbage Separation Practices

Correlation		
		Degree of Difficulty in Separating Garbage
Respondent Age	Pearson Correlation	.152
	Sig. (2-tailed)	.027
	N	213

Table 7.12 Pearson’s Correlation of Age and Degree of Difficulty in Separating Garbage

Thus, garbage separation is an example of an environmental action that is not well served by the two problematic associations that people ascribe to what it means to be environmentally-friendly, namely that such practices are high class and old-fashioned. Our survey results help clarify what was discussed in Chapter 6: that the labeling of garbage recycling practices as something that “problem” housing estates do not engage in is incorrect. In fact, 61% of residents from “problem” housing estate #8 separate their garbage, which is much higher than the 34% of residents from luxury housing estate Tiramisu. In other words, if an NGO or local government agency wants to stimulate more residents within a neighborhood or district to separate their garbage the first step is

to move beyond the idea that such practices cannot be stimulated among residents within the so-called “problem” housing estates. The second step would then be to help these housing estates move beyond the old-fashioned label that is associated with garbage recycling. As we saw in this section the Ecological Housing Estate projects were quite successful in stimulating residents to recycle their garbage, regardless of whether that was in a housing estate with a majority of older residents, such as in Eastern Star, or younger residents, such as in Riverside. Providing the recycling bins, or the “hardware”, as my NGO friends called it, for these housing estates is important, but somehow the NGOs must also convince the Foundations who fund their projects that creating some form of educational supplement, or “software”, that could help remove the old-fashioned label from such garbage separation practices is just as crucial to the success of a project. As we will see, the need to remove this label is even more necessary when it comes to further promoting water conservation practices in Chengdu.

Water Conservation

Within our survey we also asked residents to tell us about their water conservation methods. In answering this question residents explained both the way they conserved water and also what they did with the water they conserved. For instance, the most common ways to conserve water included collecting water from the shower, from washing vegetables and fruit, or from washing one’s clothes (Figure 7.3).

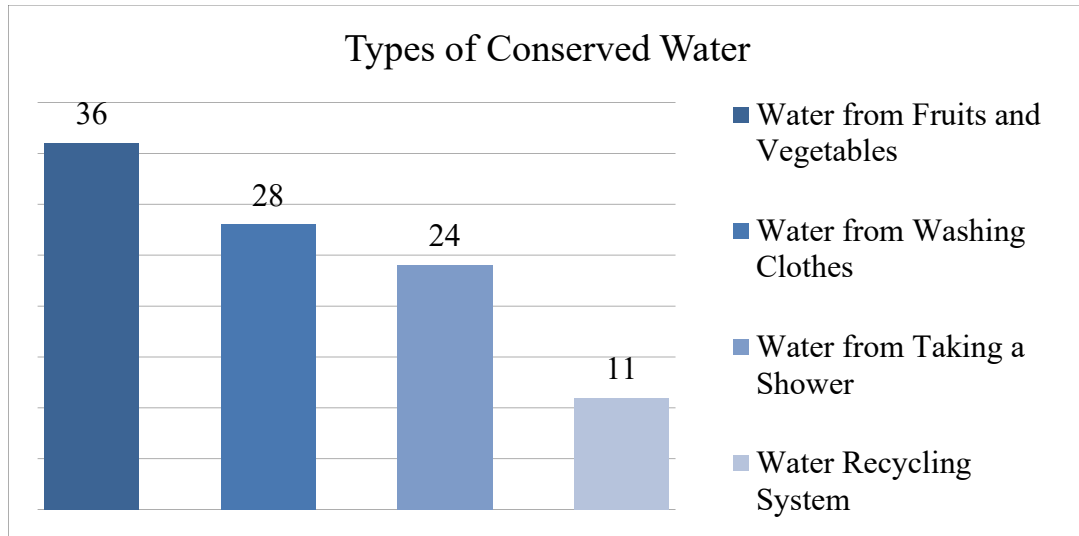


Figure 7.3 Frequency of Types of Conserved Water

Often times a small bowl will be used to soak vegetables or placed under a strainer while washing fruit; the collected water will then be placed in a larger water collection bucket usually kept in the bathroom. While many people do own washing machines today, underwear and towels are often washed separately by hand in small plastic basins. This water will also end up in the larger collection bucket. Finally, many people (including myself) often take a shower with a collection bucket or a small plastic basin left on the floor. All the water that runs out while waiting for the water to warm up before beginning to shower is collected as well as any water that runs off one's body during the shower. A few people also mentioned the recycling of potable water, which in Tiramisu is done through an automated system. Water used in the showers and sinks of Tiramisu goes through a filtration system and then is used to flush the toilets throughout the housing estate before entering the city's wastewater system.

Water collected through the three primary methods was then utilized in three different ways (Figure 7.4). The most likely method was simply to use the shower or clothes washing water to flush a toilet. This is much more practical for the squatter

toilets still common in many Sichuanese homes as they do not have a basin that needs to be refilled with every flush. Most households just leave their water collection bucket in the bathroom next to the toilet, which is quite convenient since most showers are located directly above the toilet¹⁹⁵. This water could also be used to mop the hardwood or tile floors throughout the house. In fact, most of the collection buckets I have seen are also located next to the mop bucket within the bathroom. The final method was to use shower water and kitchen water to water house plants.

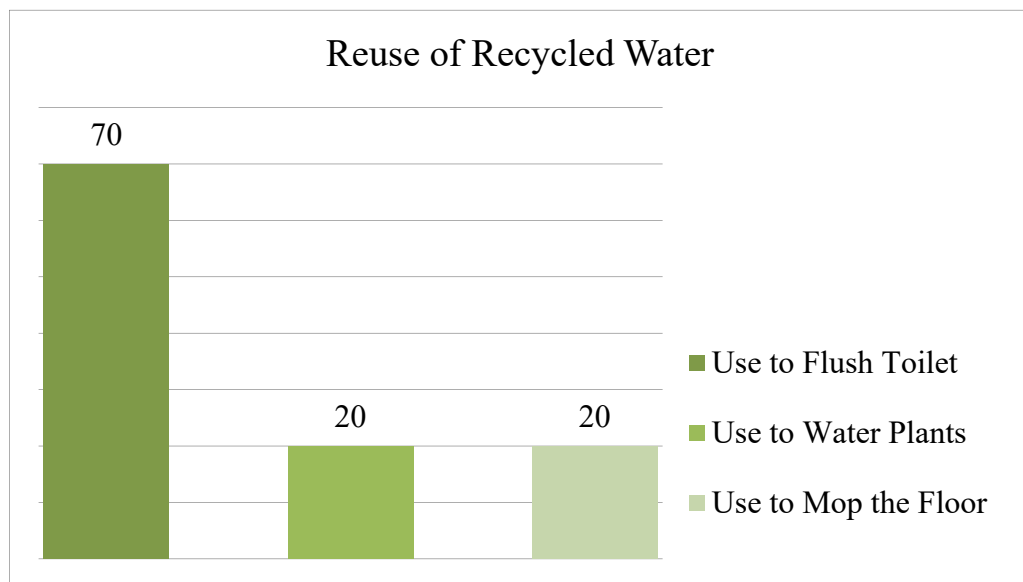


Figure 7.4 Frequency of Reuse of Recycled Water Categories

While which housing estate a respondent lived in helps explain those who do practice water conservation methods and those who do not, the pattern is not similar to what we saw above for garbage separation (Table 7.13). Tiramisu still has the lowest percentage (43.5%) of households who claimed they do not conserve water, while all the

¹⁹⁵ People who live in small apartments also tend to wash their clothes in the bathroom, making dumping that water into the collection bucket quite convenient. Apartments in managed and luxury housing estates are generally designed with a faucet, drain and weather resistant electrical outlet on a balcony where a washing machine will be installed. However, people will often still keep a small basin in the bathroom for washing underwear because they feel a washing machine cannot get them clean.

other housing estates have a strong majority of residents who do have such practices, regardless of whether or not they had participated in an Ecological Housing Estate project. We also asked households whether or not they felt conserving water was difficult, but found that there was a fairly small difference (Mean Difference=0.23) between the way that the Ecological Housing Estates and the other housing estates responded to this question (Table 7.14). Instead we found that it is really the differences between the way that each of the housing estates perceived the difficulty of conserving water that were most statistically significant (ANOVA, p-value=.021, Table C.5). For instance, residents of #68 and #88 felt that conserving water was very convenient (mean=4.67 and 4.42 respectively, Table 7.15), which goes against the expectations that are associated with their label as “problem” housing estates. In contrast, considering that the wastewater recycling system should make conserving water the most convenient in Tiramisu, it is surprising that it was the housing estate where residents felt water conservation was the least convenient (mean=3.44). In other words, water conservation practices could be the result of differences between the housing estates, but in contrast to garbage separation those differences are related to something other than infrastructure.

			Housing Estate						Total	
			Eastern Star	Tiramisu	#8	Riverside	#68	#78		#88
Do not Conserve Water	N	Count	10	30	21	33	11	34	8	147
		%	83%	43%	68%	65%	61%	65%	67%	60%
	Y	Count	2	39	10	18	7	18	4	98
		%	17%	57%	32%	35%	39%	35%	33%	40%

Table 7.13 Number of Households that Conserve Water according to Housing Estate (Chi-square, p-value=.49)

		N	Mean Degree of Difficulty	Mean Difference	Sig. (2-tailed)
Degree of Difficulty in Conserving Water	Regular Housing Estate	116	3.74	0.23	.224
	Ecological Housing Estate	99	3.97		

Table 7.14 T-Test Comparison of Mean Degree of Difficulty for Water Conservation according to Ecological vs. Other Housing Estates

Housing Estate	Degree of Difficulty
Eastern Star	4.50
Tiramisu	3.44
#8	3.73
Riverside	3.87
#68	4.67
#78	3.94
#88	4.42
Total	3.85

Table 7.15 Average Degree of Difficulty in Conserving Water according to Housing Estate

Similar to garbage separation, however, a respondent's social class also has no relationship (Chi-square, p-value=.559) with whether or not a household practiced water conservation. This is not surprising considering that in Chengdu conserving water can be as easy as purchasing a cheap plastic bucket in any wet market. Over the years I have noticed that households in Chengdu with an elderly member most certainly have that bucket in their bathroom, while my younger friends do not. Similarly, the average age of a respondent who claimed that their household practices water conservation is twelve years older (p-value<.0001, Table 7.16) than those who do not conserve. This mentality among the youth is fairly easy to explain. First, we need to realize that older residents are not conserving water strictly because of an environmental ethic, but rather they also

do this to save money. The residents I talked to who practice water conservation did not make a distinction between the benefit such practices provide to the environment in reduced consumption of a resource and the benefit they provide to the household in reduced economic costs. However, younger residents tend to focus more on the economic aspect of this relationship. They do not want to admit they conserve water as it could imply they are so poor that they cannot afford it. Moreover, it is in the example of water conservation that we see the strongest desire by younger residents not to be associated with a kind of conservativeness that makes them seem old-fashioned. For some younger residents, that sense of being old-fashioned may be exactly what that bucket in the bathroom symbolizes. When I first moved into Zhou Lei's older apartment across the street from the People's Park, I invited a number of friends over for a Spring Festival dinner. My friends found it hilarious that I kept a plastic basin underneath the shower to save water describing me as very environmentally-friendly (in the negative, old-fashioned sense) and even more Chinese than they are¹⁹⁶. This has some fairly daunting implications for those trying to promote environmental action among a younger generation in Chengdu; it should be alarming if conserving is interpreted as "uncool" by more than two fifths of our sample.

¹⁹⁶ They also thought it was hilarious that I used a bamboo brush to clean my wok instead of a 3M scrubbing pad. They did not believe me that the scrubbing pad takes all of the oil out of the metal, while the bamboo brush leaves it in making for a better flavored wok. This is the kind of knowledge that is being erased by the introduction of gadgets that supposedly increase convenience or symbolize a kind of cleanliness not found in older lifestyles. The only reason I am aware of the benefit of using a brush over a pad is my years of experience working in restaurants in the U.S. where you would never be allowed to "scrub" a frying pan if you wanted to keep your job!

Do Not Practice Water Conservation	N	Mean Age	Mean Difference	Sig. (2-tailed)
N	147	49	12	.000
Y	98	37		

Table 7.16 T-Test Comparison of Mean Age according to whether or not Households Practice Water Conservation

Moreover, this can help explain the very odd responses coming from Tiramisu regarding water conservation practices. Such responses are the result of a mismatch between the ideology surrounding the so-called Smart design of Tiramisu and the background of the housing estate’s residents. As mentioned in Chapter 2, most residents of Tiramisu are quite young and only recently moved to Chengdu from Sichuan’s 3rd and 4th tier cities. Their reason for purchasing this home had little to do with the function of the supposedly “Smart” systems, but rather the social capital that came from living in a luxury housing estate on the 2nd Ring Road. The fact that it was the only Smart Housing Estate in Southwest China may have been important to them, but the details of what that meant most likely went in one ear and out the other. This would explain why despite the fact that a number of Tiramisu residents did mention the water recycling system, somehow the largest percentage of any housing estate residents who claimed they did not conserve their water at all came from Tiramisu. Thus, water conservation is influenced more by a generational gap than by social class or housing estate infrastructure.

It is the example of Tiramisu that highlights another trend that is perhaps more problematic than simply challenging the two issues discussed above for garbage recycling. Again, if an NGO or local government was interested in promoting water

conservation practices in all housing estates and among all ages, then they do have to challenge some of the requirements put forth by the foundations that fund such projects. However, Tiramisu is an example of a housing estate with young residents who do not even appear to care that they purchased a home that was specifically designed to conserve water. Regardless of the kind of educational activity that an NGO develops, it will be extremely difficult to change the mindset of residents who are so focused on maintaining their social capital that they ignore the fact that their apartment automatically conserves water because it might be construed as being old-fashioned. Moreover, this could also explain why other real-estate companies are in no rush to imitate the Tiramisu design. After all, it was the Chengdu city government that subsidized the construction of Tiramisu. While it would be quite easy to install water recycling technology into all future housing estates, that would also raise the price of the apartment. Young residents moving into Chengdu from 3rd and 4th tier cities of Sichuan, are far more concerned with the social capital they accumulate from purchasing a home on the 2nd Ring Road with an underground parking garage for their car than they are with whether their apartment automatically conserves water. Moreover, these newer residents are also concerned with price and real-estate companies are competing over their money because Chengdu is flooded with real-estate that would fit the needs of most of these consumers. Thus, an interest in stimulating environmental action like water conservation is challenged by a class-based ideology that encourages the accumulation of social capital to ensure social mobility, but also a powerful developmental ideology that drives the way real-estate companies design the

construction of new housing estates. As we will see, these two ideologies also have relevance for the challenge of helping residents cope with air pollution.

Coping with Air Pollution

While garbage is a waste produced and dealt with by the household and water is a resource consumed and conserved by the household, air pollution is an environmental concern that is strikingly different. Air pollution is a cumulative result of the consumption of energy by the household either directly through the use of electricity and fossil fuels or indirectly through the consumption of commodities that require energy in their production process¹⁹⁷. Thus, the benefits of energy are experienced at the individual or household level, while the costs, in the form of air pollution, are a social phenomenon. During my preliminary ethnographic research I discovered that while everyone agreed air pollution was having a serious impact on their day to day lives, most of my informants were at a loss for words when it came to ways of solving the problem of air pollution. As seen in the beginning of this chapter, the residents we surveyed also agreed that air quality had a large influence on their life (Mean=4.49). Additionally, I discovered that the sources of air pollution my informants talked about were those commonly discussed in media discourses, such as heavy industry, coal-fired power plants, automobiles and the burning of fields by farmers. As I mentioned above, when pressed on this topic vehicle owners would often try to separate the connection between automobiles and air pollution, thereby down playing their contribution. This was the only real controversy I discovered that was related to the different contributions to air pollution.

¹⁹⁷ The consumption of various services might also require the use of energy resources that would also contribute to higher levels of air pollution.

Since my informants seemed to agree on the source of air pollution, what became far more interesting to me was what residents knew about air pollution and how they coped with it in their daily lives. As I will discuss below, the variation in what people know about air pollution, is a reflection of their age and social status in Chengdu. This means that if we want to increase residents' level of concern for air pollution so that they might change aspects of their lifestyle and in turn decrease their contribution towards the problem, then we may have to use different educational or organizational approaches that take into account the way different social groups understand and access information about the problem. Finally, asking about coping strategies also reveals a great deal about how apathetic residents of Chengdu are when it comes to dealing with environmental problems. Similar to the way I discussed why it is hard not to contribute to greying Chengdu, such as by driving an SUV in order to keep the family safe, or why it is hard to contribute to a greening of Chengdu, such as by recycling sludge after the state removes support from the sludge collectors, asking people about their air pollution coping strategies reveals why it is difficult for residents to mitigate environmental problems that already exist. An understanding for why it is difficult for residents to think of ways to mitigate this problem also has implications for the expectations residents have that the state will and should find a more effective solution to the problem.

When designing our survey, it was not my desire to make residents feel like we were testing their knowledge of environmental issues like air pollution. Thus, within the survey we asked respondents what information about air pollution they would like to know more about from the media. From their responses we also gain a better

understanding of what kinds of information about air pollution residents have already been exposed to. This was an open-ended question and I organized the answers into ten themes, the frequencies of which can be seen in Figure 7.5.

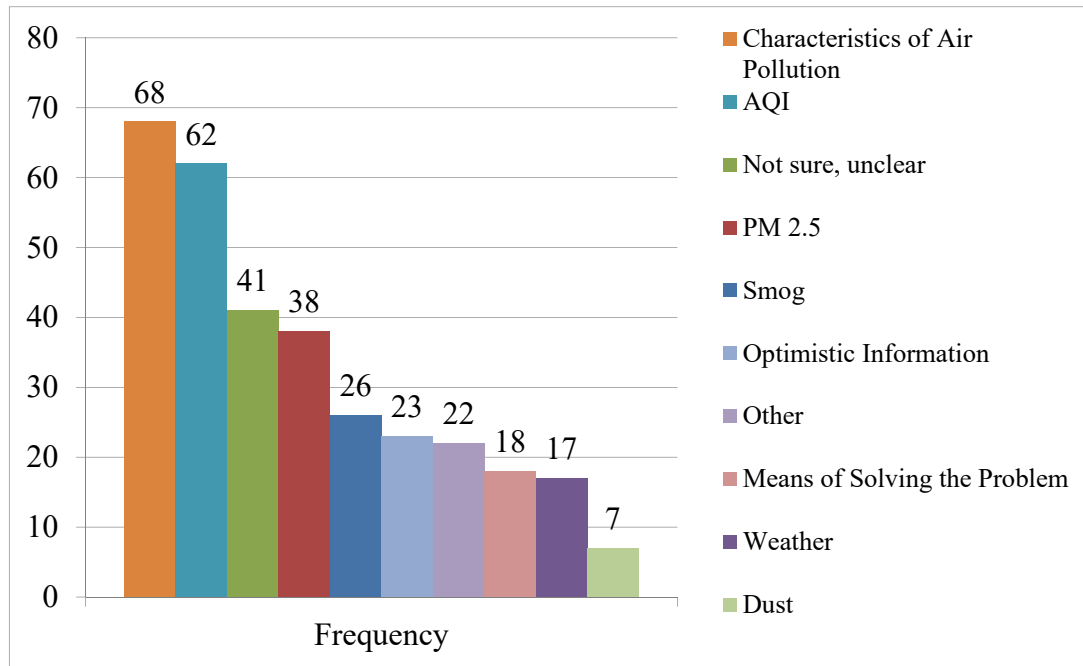


Figure 7.5 Frequencies of What Residents Wanted to Know More about Air Pollution

While the media tends to discuss air pollution primarily in terms of smog or 雾霾 (Svarverud 2014), it was a topic that only 26 respondents wanted to learn more about. The average age of respondents who wanted to know more about smog was a bit higher than those who did not mention this topic (Mean Difference=4) but more significant (p-value=.018) was the number of younger residents (Mean Difference=7) who wanted to know more about PM 2.5 (Table 7.17). These results reflect how smog has dominated the discourse within traditional media sources accessed by residents of all age groups,

while PM 2.5 is a more popular topic on online platforms that are primarily accessed by younger respondents¹⁹⁸.

Air Pollution Themes	Mentioned Theme (Y/N)	N	Age Mean	Mean Difference	Sig. (2-tailed)
Smog	N	219	44	4	.275
	Y	26	48		
PM 2.5	N	207	45	7	.018
	Y	38	38		

Table 7.17 Average Age of Respondent According to Air Pollution Question Themes

The difference between those who are concerned with smog versus PM 2.5 also appears to have a class-based relationship. As I mentioned in Chapter 1, the rise of PM 2.5 levels in China is what most worries public health and atmospheric scientists because of the possibility that these particles could cause asthma or certain forms of cancer. While PM 2.5 has become a popular term within online media, it has not expanded a great deal beyond scientific discussions nor, in my experience, is it the way non-academics discussed air pollution. Our surveys also reflect this in that those with higher levels of social capital were more likely to be interested in learning more about PM 2.5 (Table 7.18). In contrast, those with less social capital were more likely to mention that they were interested in learning about smog, which was the way people outside of academia tended to frame the issue of air pollution (Table 7.19). While I found that atmospheric scientists tend to use the term PM 2.5 in an analytical sense, they do not see the concept of smog as being problematic and often utilize it to try and help stimulate discussions of the problem of air pollution among non-academics. Qi Daina, for instance, often argued that the only true measure of air pollution that concerns our

¹⁹⁸ For more on the media consumption practices of the respondents in our study see Chapter 8.

health is PM 2.5 concentrations. In her mind smog is not really a correct or an incorrect saying, rather she views it as a folk way of describing the phenomenon that she studies. Thus, after the release of Chai Jing’s documentary *Under the Dome*, the title of Qi Daina’s talk that I described in Chapter 4 used the term smog to catch people’s attention, but the content of the talk was focused on helping people understand the dangers of PM 2.5 and what measures were necessary to take once PM 2.5 concentrations rose to a given level. In contrast, Qi Daina told the audience, and regularly explained to me, that the Air Quality Index (AQI) is a worthless number when it comes to considering the impact of air pollution upon one’s health because it is an aggregate of many different types of pollution that have a variety of effects on our body and the environment.

			Class Index					Total
			Impoverished Class	Working Class	Middle Class	Upper Class	Semi-Elite Class	
Want to Know More about PM 2.5	N	Count	13	45	59	52	11	180
		%	93%	98%	84%	76%	65%	84%
	Y	Count	1	1	11	16	6	35
		%	7%	2%	16%	24%	35%	16%

Table 7.18 Number of Households that Want to Know More about PM 2.5 according to Social Class
(Ordinal Chi-square, p-value<.0001)

			Class Index					Total
			Impoverished Class	Working Class	Middle Class	Upper Class	Semi-Elite Class	
Want to Know More about Smog	N	Count	10	40	61	65	15	191
		%	71%	87%	87%	96%	88%	89%
	Y	Count	4	6	9	3	2	24
		%	29%	13%	13%	4%	12%	11%

Table 7.19 Number of Households that Want to Know More about Smog according to Social Class
(Ordinal Chi-square, p-value=.036)

Qi Daina's perspective notwithstanding, we should be aware that AQI was the second most frequently (N=62) mentioned theme that residents said they wanted to learn more about. Even Li Keqiang noted in his Declaration of War against Pollution that AQI has become the way the air pollution discourse intersects with our everyday life (Li 2014). Today many people in China wake up each morning to check their AQI app on their smartphone much in the same way they might check the weather¹⁹⁹. With smartphones now being used by people of all ages in China, this explains why the average age of those who mentioned wanting to learn more about AQI is not much different than those who did not mention it (Mean Difference=1, Table 8.20). While many people have seemed to follow the government's lead in showing a concern for the AQI, the largest number of respondents (N=68) were actually more concerned with learning more about the characteristics of air pollution. By this I mean that residents wanted to know more about the chemical composition and the health impacts related to air pollution with a particular concern for how air pollution might be causing harm to one's family members. The fact that many attached this answer to concern for the family can also help explain why such an answer would be common regardless of a respondent's age (Mean Difference=4, Table 7.20).

¹⁹⁹ In fact the app I first began to use for tracking AQI in Chengdu, was a weather app!

	Mentioned (Y/N)	N	Mean Age	Mean Difference	Sig. (2-tailed)
Mentioned AQI	N	183	44	1	.538
	Y	62	43		
Mentioned Characteristics of Air Pollution	N	177	45	4	.145
	Y	68	41		

Table 7.20 T-Test of Average Age of Respondents who mentioned AQI and Characteristics of Air Pollution

Thus, through an examination of what residents wanted to know more about with regard to air pollution, we can see that in some ways residents have already latched on to terms like AQI that have been promoted by the state but really provide little information that could allow them to interpret the danger air pollution poses to them or their family. Moreover, the high frequency of residents who mentioned that they wanted to know more about the characteristics of air pollution shows this potential danger to be what concerns them the most. Qi Daina's attempt to use the concept of smog to gain people's attention and then provide them more information about PM 2.5 contributes to widening their understanding of the characteristics of air pollution in a way that Daina feels is far more appropriate than the state's use of AQI. Qi Daina's use of smog, which is a common way of framing air pollution by the media, is somewhat similar to the way other environmental activists, like Global Trees and the Green Earth Organization, have utilized Ecological Civilization or Ecological Housing Estates to promote their idea of what it means to be environmentally-friendly. In both instances these activists are trying to legitimize their ideas by connecting them to state promoted environmental ideology and by doing so they are also able to adjust or even add dimensions to the ideology. However, in both instances, what activists must contend with is the level of apathy that many residents feel in the face of environmental issues, which is very apparent with

regard to mitigating the problem of air pollution. As I will show in Chapter 8, apathy among residents is a problem that has widespread implications for stimulating environmental action in China.

First of all, in terms of air pollution, the media has painted a very bleak picture of the situation. In many ways Chai Jing's documentary *Under the Dome*, which I analyzed in Chapter 4, is a distillation of the dismal situation described by the media but also reflects the frustration many residents feel about air pollution in Chengdu. Most feel that rising levels of air pollution are the result of poor governance and the greed of corporations or state-owned enterprises; both of which are issues far beyond the control of everyday citizens. While the situation is quite dire, such imagery can lead to apathy. Such was the attitude of Xiao Chen a friend of mine who was a physics student from Sichuan University. Early on in my research, I distinctly mentioned to him my interest in air pollution but his reply was quite emphatic: "I have no desire to talk about that at all. Please don't ask me anything about it. I don't even like to think about it and I don't see how there is a solution in sight. So please just don't talk about it." I could see his frustration with the topic and never broached the subject with him again.

In a similar way to Xiao Chen, we can see this apathy reflected in the fact that only 18 respondents mentioned that they wanted to learn more information about how to solve the air pollution problem. This is related to a second open-ended question from our survey: what methods are there for coping with air pollution? The most common answer provided by 107 respondents (43.7% of the sample!) was simply "there is no way to cope with it" (Figure 7.6).

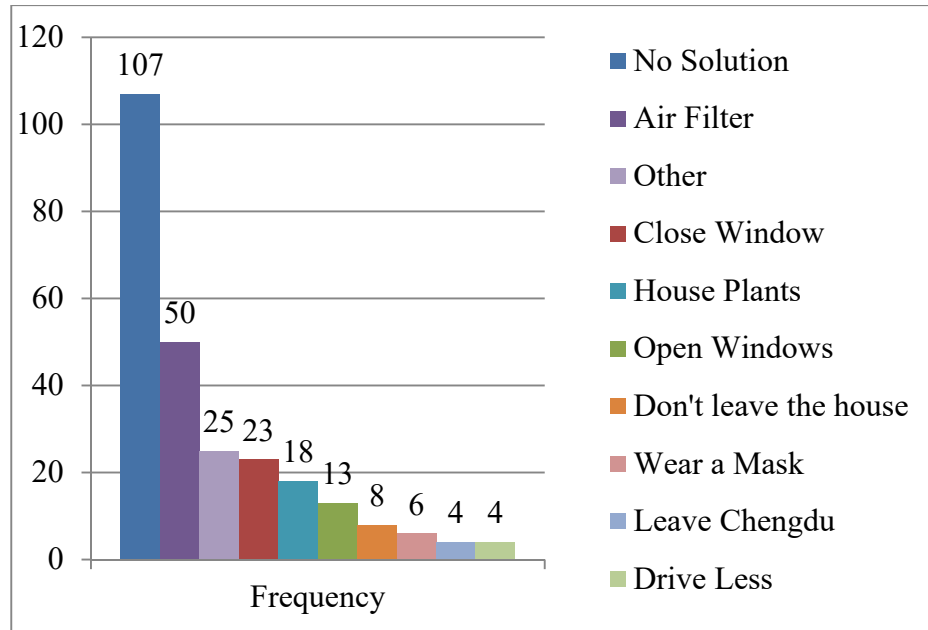


Figure 7.6 Frequencies of Ways Residents Cope with Air Pollution

Moreover, there is only a slight difference in average age between those who felt there was no solution to air pollution and those who provided more specific answers to the question (Mean Difference=3, Table 7.21), meaning that residents of all age cohorts had come to this conclusion. On the surface this might seem as if many residents are simply filled with apathy in the face of the complexity of air pollution, but the details of these responses are important. For instance, in one case a man born in the 1960s said “yes we need to find a way to deal with this problem, but our family just does not have the ability to do so”. Another born in the 1970s argued “the problem has been around for a long time, even if you bring it up now there’s still no way to solve it.” Additionally, there is a pattern between this “no coping method” answer and social class. Nearly half of each social class grouping mentioned this response, with the exception of the Upper Class where only 27.9% provided this response (Table 7.22). Thus, in many cases, poorer families find it difficult to even think about solutions to the problem because the

media often portrays consumption of technology in the form of air purifiers as the primary means of coping with air pollution.

Mentioned No Solution (Y/N)	N	Average Age	Mean Difference	Sig. (2-tailed)
N	139	43	3	.240
Y	106	46		

Table 7.21 T-Test of Average Age of Respondents who mentioned that there is No Solution to the Air Pollution Problem

			Class Index					Total
			Impoverished Class	Working Class	Middle Class	Upper Class	Semi-Elite Class	
Mentioned There is no Way to Cope with Air Pollution	N	Count	7	27	33	49	9	125
		%	50%	59%	47%	72%	53%	58%
	Y	Count	7	19	37	19	8	90
		%	50%	41%	53%	28%	47%	42%

Table 7.22 Number of Households that Mentioned There is No Way to Cope with Air Pollution according to Social Class
(Chi-square, p-value=.050)

In fact, the story of Li Jie purchasing an air purifier during her visit to Japan and packing it into her luggage that I described in Chapter 1 is a sensible solution to the air pollution problem according to her social class. Air purifiers come in a range of prices from the China-brand Xiaomi Air Purifier 2 priced at 650 RMB on Alibaba to the Japanese-built Muji Air Purifier that I saw priced for 10,000 RMB in their Chengdu flagship store. Thus, the cheaper China-made air purifiers are not beyond the means of most households. Regardless, most residents I talked to felt that purchasing a cheaper China-brand was a waste of money because it would have minimal effect on the quality of air in their home. Qi Daina spent 3,000 RMB on a high-end China-made air purifier because she was skeptical of products like that produced by Xiaomi. Our survey

reflected this view that only residents with an Upper Class background or higher were purchasing air purifiers to ward off the problem of air pollution because they could afford the more expensive units (Table 7.23). In the end, Li Jie later admitted to me, she has no clue if the air purifier she purchased in Japan actually works properly and she cannot feel a difference in the air in her apartment when the machine is on, but overall just having the machine running makes her feel safer.

			Class Index					Total
			Impoverished Class	Working Class	Middle Class	Upper Class	Semi-Elite Class	
Air Purifier Owner	Don't Own	Count	14	44	62	48	13	181
		%	100%	96%	89%	71%	76%	84%
Do Own	Do Own	Count	0	2	8	20	4	34
		%	0%	4%	11%	29%	24%	16%

Table 7.23 Number of Households that Own an Air Purifier according to Social Class (Chi-Square, p-value=.001)

From this perspective, we can see that in Chengdu scientific and technological discourses resonate with residents because such discourses help them cope with the significant amount of uncertainty that surrounds the issue of air pollution. However, it is primarily those of a higher social class that are in a position to appreciate the benefits of such technology. In our analysis of the Economic theme of Ecological Civilization in Chapter 3, the state described solutions to environmental problems as dependent on the discovery of new technologies, which are in turn dependent on the proper financialization of environmental technology research. Not only does this place the impetus for solving problems, like air pollution, within the realm of the market and absolves the state from any direct responsibility, such as by promoting the reduction of consumptive behavior in China, but this is a discourse that resonates closely with the technologically saturated and consumption-oriented lives of Upper Class residents like

Li Jie. Moreover, Li Jie, like many Upper Class residents, has strong connections with the state²⁰⁰ and it is in her best interest that the developmental ideology is not questioned by ideas of reducing consumptive behavior even if that were to be a solution to the air pollution problem. After all, if high levels of consumption did not provide urban residents with social capital, it is unlikely people would wait for hours just to enjoy a meal at Li Jie's hotpot chain.

Ultimately, the path I have taken in this chapter has been an attempt to highlight the ways that people of different social backgrounds in Chengdu perceive and act towards their environment. In terms of the former we saw that the more social capital an individual accumulates the more they tend to perceive various elements of the environment as having a higher influence on their life. This understanding of the relationship between social class and perception of the environment helps explain the trend of Upper Class residents of Chengdu pointing to the so-called "problem" housing estates and residents of low social class as the reason environmental issues are so persistent in China. Moreover, Upper Class residents are well connected to or may very well be the discourse makers that are disseminating the Ecological Civilization ideology or promoting the Ecological Housing Estate projects. Thus, they are further embedding the way social class is associated with environmental perception by saying that those of a lower social class cannot be environmentally-friendly and we should not implement projects in such communities because they will fail. Nevertheless, I have argued throughout the thesis that environmental perception is only one part of the issue and that we also have to consider the way people are acting towards their environment.

²⁰⁰ Her own father was the highest ranking official within a government bureau related to information technology.

Thus, in the second half of the chapter I explored the way residents of different social backgrounds acted upon the environment by considering the way they separate their garbage, conserve their water and cope with air pollution. Varied results were found for each example. For instance, the infrastructure found in a given housing estate supports the garbage separation activities of its residents. Age also plays a role because older residents remembered a time when infrastructure for separating garbage was a service provided by the state, making it an environmental action they grew up doing. This is also why older residents found separating garbage to be more convenient than younger residents. Conserving water also was an environmental action that was far more common among and thought of as more convenient by older residents, with younger resident's thinking of such practices as old-fashioned. In neither case did I find evidence that the "problem" housing estate or the Middle Class values discourses could help explain garbage separation or water conservation practices. In other words, while the intersection of an environmental and class ideology may come to influence the way we perceive the environment it is not clear that it has any direct relevance for explaining environmental action, or at least it requires that we do not assume that the lower classes are behaving in ways that are not friendly to the environment.

The second question I discussed about air pollution is about how residents try or do not try to mitigate an environmental problem. It was quite disconcerting that the bulk of the responses claimed there was no way to mitigate this problem and that this was a feeling shared by respondents regardless of age or social class. Moreover, it was primarily the upper classes who mentioned a technological solution like purchasing an air purifier to mitigate the problem of air pollution. The bulk of our informants feel

apathetic about finding a way to mitigate the problem of air pollution because such solutions are primarily portrayed through expensive technological solutions like the air purifier. Here we can also see the way ideology comes to influence the environmental actions of Chengdu residents and explains the importance of asking and analyzing the first question about what else respondents wanted to know about air pollution. This question is more about the way residents interpret environmental ideology as it is transmitted through the media. Here we found that the higher one's social class the more likely they were to pay attention to the way the media talked about air pollution in terms of PM 2.5 and Smog. Moreover, between these two there were age differences, where young internet-savvy residents were more likely to be interested in PM 2.5, while older residents were more interested in learning more about the idea of Smog.

Air pollution is a perfect topic for highlighting the need to take seriously the integration of environmental ideology, perception and action. Just as with garbage separation and water conservation, air pollution is a topic where we cannot simply accuse the lower social classes of not being environmentally active, but it also teaches us that we cannot ignore social class altogether. What the example of air pollution does show us is that the focus on economic development that centers the Ecological Civilization ideology around financial and technical solutions seen in the Economic Theme analyzed in Chapter 3, is one that resonates well with people like Li Jie and other Upper Class residents who see air purifiers as the way to cope with air pollution. In contrast, this does not resonate well with those of the lower classes in China who do not have the means to purchase such technological solutions. It is for this reason that what it means to be environmentally-friendly has taken on a more multi-dimensional nature. For

those of the lower social classes being environmentally-friendly cannot simply be guided by a concern with ensuring economic development that leads to such technological solutions. Instead it means growing your own food, separating your garbage, conserving water or just going to People's Park to breathe "clean air". Moreover, as we saw in the last two chapters, these activities can be organized without direct influence from the state; they may just be something that an individual, a household or a housing estate does. In other cases, they are organized through the NGOs' Ecological Housing Estate projects and while such activities promote environmentally-friendly actions, they may also draw from aspects of the state-promoted Ecological Civilization ideology. Thus, Ecological Civilization has come to overlay with being environmentally-friendly and there are definitely aspects shared between the two that allow Ecological Civilization to resonate more directly with the everyday lives of residents in Chengdu. Nevertheless, as I will show in the next chapter, it is the multi-dimensional nature of being environmentally-friendly that prevents Ecological Civilization from resonating with certain social groups. The key is not just pointing out that these other ideological dimensions exist in China, but that they exist for a good sociological reason. Only by clarifying this social context can we begin to imagine other ideological formations that are not dependent on uni-dimensional explanations that tend to further embed inequities within Chinese society.

Chapter 8: Ecological Civilization, Whose Civilization?

While social diversity has an important influence over the way residents of Chengdu perceive and act upon their urban environment, in this chapter I will explore more systematically how residents of these housing estates are influenced by the state-promoted Ecological Civilization ideology. Thus, after outlining the grassroots idea of what it means to be environmentally-friendly, here I want to return to the semantic themes of Ecological Civilization discussed in Chapter 3, to determine the level of resonance between the official interpretation of Ecological Civilization and the way different social groups in Chengdu describe a more local interpretation. As discussed in Chapter 6 and 7, there is already a connection between Ecological Civilization and being environmentally-friendly, such as through the design of the Ecological Housing Estate projects. Real-estate developers fund such projects through foundations in the name of Ecological Civilization because the emphasis on economic development within the ideology fits their need to be competitive and expand their business. At the same time, Environmental NGOs and local government implement and support such projects because they recognize the importance of being environmentally-friendly to the local community in terms of sustainability and public health. Additionally, more established higher ranking officials want to see such projects succeed because, as Yang Zhengxian explained in Chapter 6, they hope that a successful, government-supported project would increase stability by making it seem that the state is doing its job when it comes to environmental issues. Thus, as Ecological Civilization comes to overlay the way people understand what it means to be environmentally-friendly, we will see continuities and discontinuities in the way local people interpret the Ecological Civilization ideology.

The key, though, is explaining why the official interpretation resonates more closely to the interpretation of some social groups rather than others. This has implications not only for determining whether or not stability really can emerge from a state promoted environmental ideology, but also for determining a more complete understanding of what environmental consciousness in China actually looks like. If NGOs and environmental activists in China want to make citizens more perceptive of their environment and to take greater action in protecting it, then we also need to know how a mix of ideologies are guiding those perceptions and actions in a specific direction.

As I argued in Chapter 4, the media is actively compressing the Ecological Civilization ideology in the process of transmitting it to the public. By this I mean that the specific content of Ecological Civilization, as it relates to the theoretical foundation and the policy documents, is not explained in detail but rather integrated into narratives created by local journalists that emphasize cooperation and ignore conflict, particularly between the state and other social actors. Thus, Ecological Civilization has become a fairly hollow signifier for residents allowing them to fill it with their own interests and concerns related to being environmentally-friendly or, as we will see, other ideas connected to social class, urban living and economic development. I say it is fairly hollow because the thematic elements of Ecological Civilization do appear in the local interpretations and it does retain that indexical quality I described in Chapter 3, meaning that when people read the phrase it guides their thoughts towards the state. This indexical quality provides Ecological Civilization a sense of official legitimacy among local residents that the word “being environmentally-friendly” (很環保) will never have.

In this chapter, I begin by examining some of the news consumption practices common in the housing estates we surveyed. With these news consumption practices in mind, I will then explore the way residents of Chengdu define Ecological Civilization. By comparing these local interpretations of the ideology to the themes discussed in Chapter 3, I will discuss the continuities and discontinuities that emerge through the transmission of Ecological Civilization from the state to the people. More importantly, I will examine a few households from our survey in greater depth to see how these ideological continuities and discontinuities meld together with environmental perceptions and actions in their everyday lives to consider what this means for the formation of an environmental consciousness in Chengdu.

Media and Environmental Discourse

While our survey touched on a number of different media topics and sources²⁰¹, for our purposes here the way respondents look for their news is most important, particularly since 39.6% of our sample ranked news as the media topic in which they tend to be most interested²⁰². More than 66.8% of respondents (Figure 8.1) explained that they watch TV to get access to the news. Chinese families tend to watch the news together and while it often runs in the background during dinner, in my experience it is not uncommon for it to still stimulate discussion. In comparison, newspapers are only read by 25% of respondents as most people consider them old fashioned.

²⁰¹ The survey asked respondents to rank which media topics they consumed the most including health, entertainment, lifestyle, news, sports, profession, finance, and culture/geography. We then asked respondents which forms of media, including newspapers, television, radio, websites, microblogs (Weibo), social media (Weixin), and magazines, they use to access this kind of information.

²⁰² Making it by far the topic in which residents were most interested; only 23.7% of respondents gave health a top ranking making it the second most popular topic.

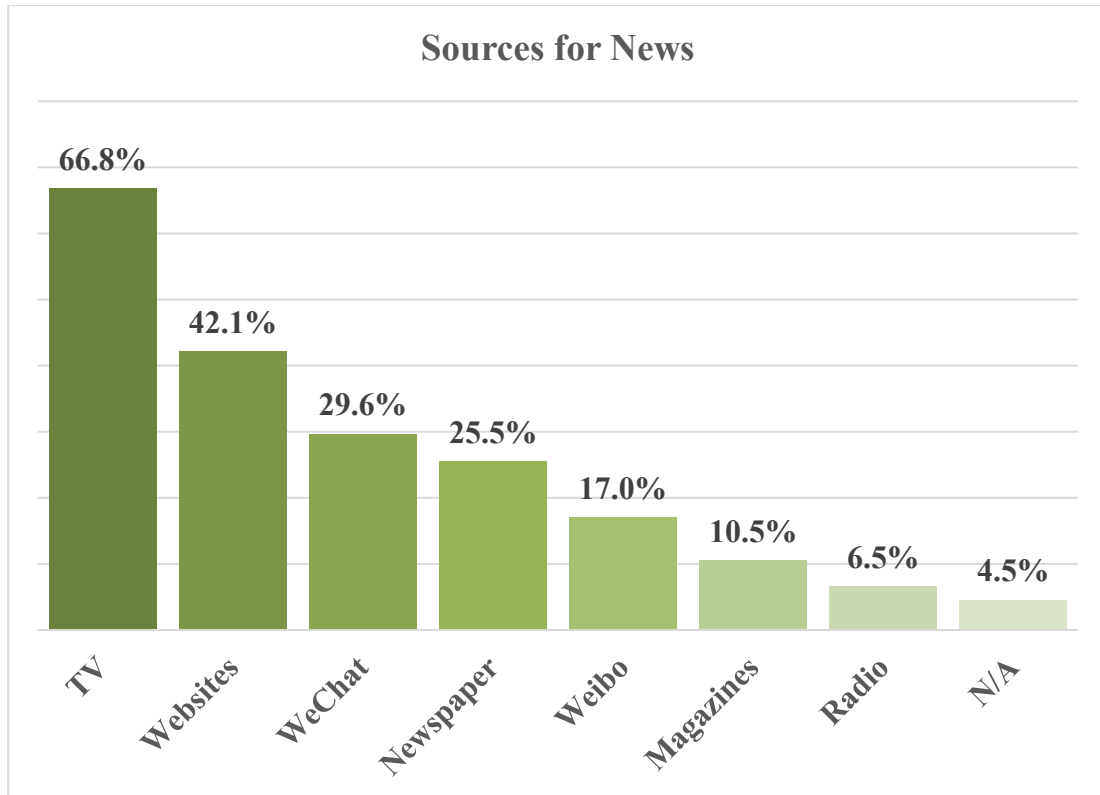


Figure 8.1 Media Consumption Frequency of Housing Estate Residents

In early 2014, Li Huicheng became quite excited when he was picked to become the first departmental manager of the online content at one of Chengdu’s largest newspapers. When we see that 42% of respondents said they also find news stories on the internet²⁰³, we can understand his excitement. The current move by most news outlets is to further develop their content on the Weibo and WeChat platforms, which is where urban middle-class and young consumers spend a great deal of time and money. As Li Huicheng explained to me,

Today newspapers cannot survive without branching into the digital world. The problem, though, is how to make money through these portals. Traditional means of advertising are not adequate and, at the moment, most of the information on these digital mediums is offered for free.

²⁰³ This would include news portals such Xinhua or the People’s Daily Online as well as local Sichuanese news portals.

Regardless, editors and managers are quickly moving in this direction and in order to compete for the attention of readers they have to adapt news stories to a linguistic variety (Duranti 2004:70-71) prevalent on the Chinese web. Examples of this come from digital media's focus on Xi Jinping's appropriation of the phrase "APEC Blue", which internet users created as a satirical critique of China's air pollution policies that forced car traffic and factories in Beijing to shut down so that a blue sky would appear during the APEC meetings. When Xi Jinping appropriated the phrase in a speech meant to encourage strong enforcement of air pollution policy by officials, state media then utilized it in much of their reporting about air pollution that winter (Zheng 2014). The ability of environmental propaganda to adapt to a more internet savvy vernacular has increased the pervasiveness of the environmental discourse, particularly among younger residents of Chengdu.

This becomes quite obvious when we examine the mean age of respondents according to their preferences for accessing the news (Figure 8.2). The three digital media sources tend to resonate with residents who are around 40 years-old, while newspapers, TV and radio are mostly accessed by an older generation. Magazines, still read by the younger crowd in our sample, are a bit of an outlier but they are also the least accessed form of media except for radio²⁰⁴. These are hardly surprising findings. The younger generations in Chengdu have grown up within a digital society²⁰⁵ and while their parents' and grandparent's generation also use such technology they do not feel as proficient with it. In Chapter 7, this generational gap also appeared across many of the environmental perceptions and actions found within the housing estates. As we

²⁰⁴ The radio is primarily accessed by truck and taxi drivers.

²⁰⁵ While not the most free digital society, this is still where the youth turn to for information.

will see below, this generational gap has a degree of influence over the way residents of Chengdu interpret the Ecological Civilization ideology as well.

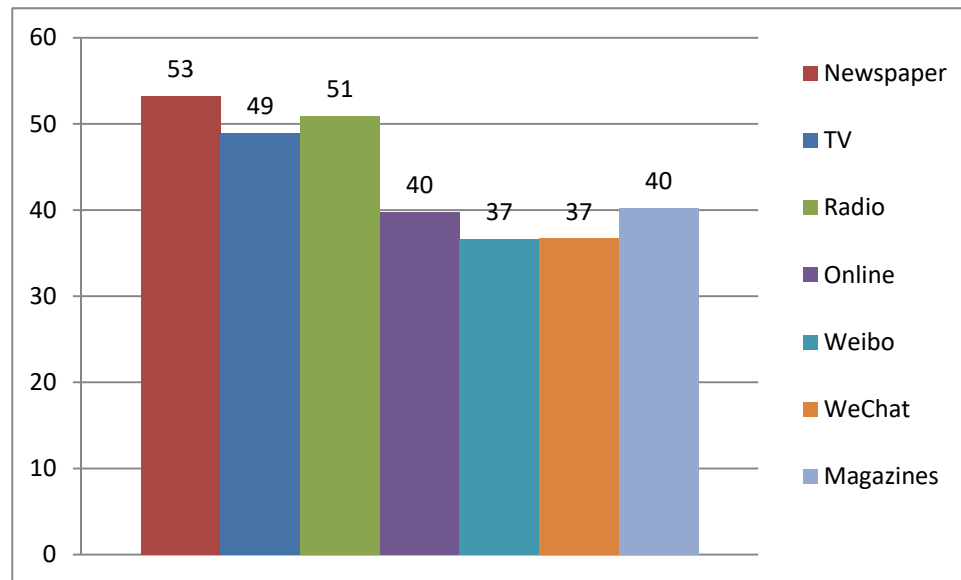


Figure 8.2 Average Age of Residents who Access the News through Various Forms of Media

How People Define Ecological Civilization

The final question of our household survey was very straightforward: What is your own definition of an Ecological Civilization? Here I will examine the key themes that emerged from the answers to these questions according to an inductive grounded theory methodology (Bernard 2006:493-494). This is an iterative process of thoroughly combing these qualitative interpretations of Ecological Civilization to find semantic patterns, or themes, that recur with a regular frequency ($N \geq 3$). Because we interviewed a large number of individuals the possible range of themes was quite broad. Twenty-three distinct themes emerged and following Bernard (2006:496-499) I have combined them into to four theme groups (Figure 8.3). I then coded both the themes and theme groups into dummy variables allowing me to conduct statistical analysis between the themes

and the socio-economic data in my survey. I will first analyze the relationship between these themes and the socio-economic background of the survey respondents and then provide greater nuance for these results when I unpack the themes in the qualitative analysis performed below.

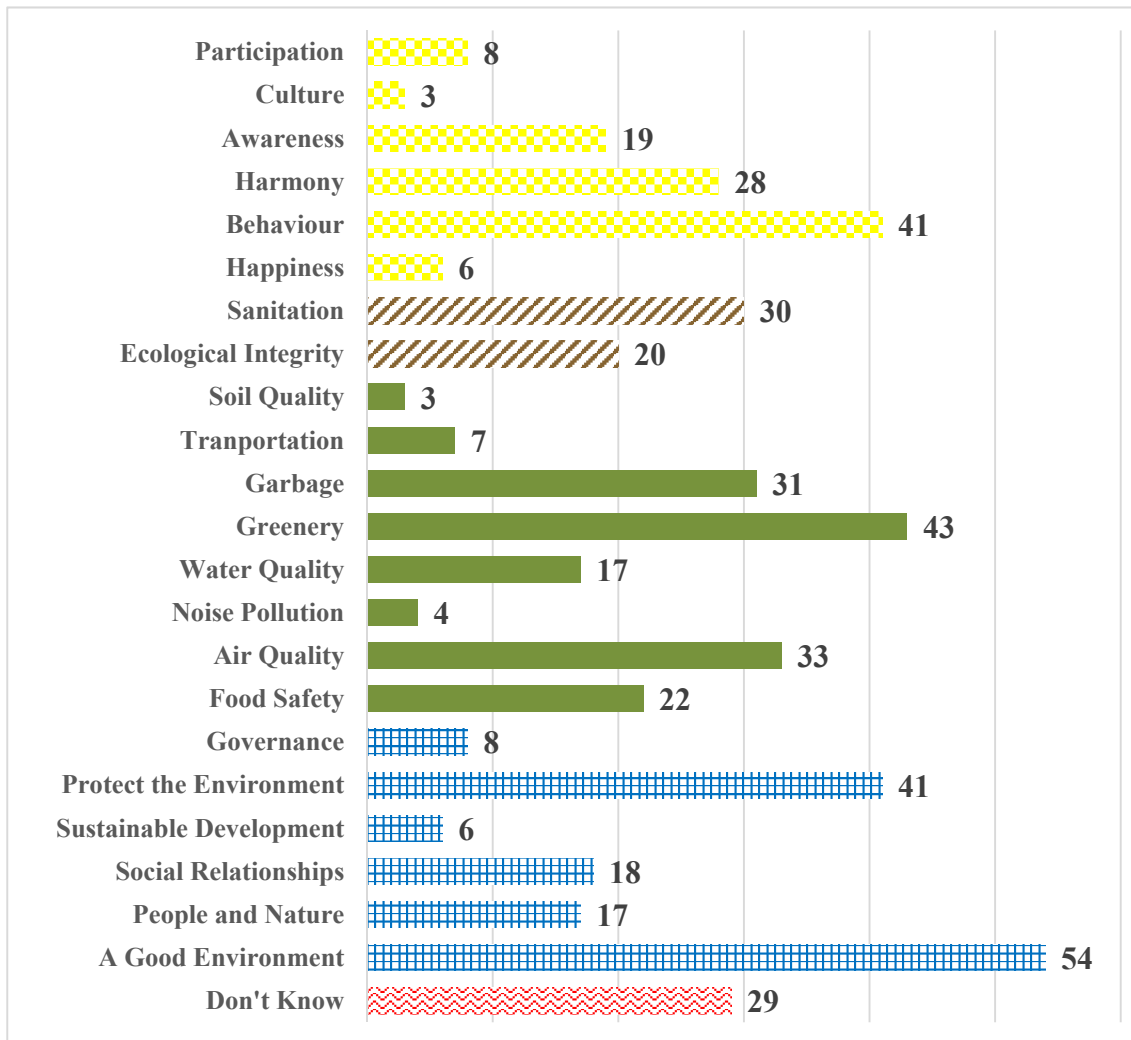


Figure 8.3 Frequencies of Themes from Local Interpretations Ecological Civilization

Due to the large number of themes and relatively small sample size, statistical analysis will be limited to the relationship between the four thematic groups and the respondents' demographic and socio-economic background. The first thematic group

(Checkered-Yellow Highlights) I interpret to be the aspects of Ecological Civilization that relate more directly to the individual (N=90). In other words there are expectations that individuals need a certain level of knowledge and should behave in a specific way in order for an Ecological Civilization to become a reality throughout Chinese society. In contrast to the Individual Group, the Collective Group (Solid-Forest Green, N=122) of themes tends to focus on aspects that integrate relationships in human society or between the human and non-human world. The Health group of themes (Upward Diagonal-Brown, N=49) include broader comments on environmental concerns related to public health and cleanliness through the lens of Ecological Integrity and Sanitation. These themes are contrasted with the Environmental Issues group (Criss-Cross-Dark Blue, N=94), which includes more specific themes related to various elements of the environment that were similarly reflected in the high frequency items of the Ecology freelist discussed in Chapter 5 (see also Table B.1). Finally, 12% of respondents claimed to have no knowledge of Ecological Civilization (Zigzag-Red, N=29), which I will discuss further below.

In the previous chapter we saw that the social class and age of a respondent influenced the kinds of information about air pollution that residents wanted to know more about from the media. For instance, I argued that PM 2.5 was a topic that younger residents were interested in because PM 2.5 is the way digital media frames the issue of air pollution and digital media is primarily accessed by younger residents of Chengdu. Similarly, age is also a prevalent factor for explaining the way different respondents defined Ecological Civilization according to thematic groups. For instance, on average younger respondents view Ecological Civilization in terms of both individual (Mean

Difference=3)²⁰⁶ and collective (Mean Difference=4) themes, while older respondents are more concerned with health (Mean Difference=6) and specific environmental issues (Mean Difference=8) (Table 8.1).

Ecological Civilization Thematic Group	Mention Thematic Group (Y/N)	N	Average Age	Mean Difference	Sig. (2-tailed)
Individual Group	N	155	45	3	.099
	Y	90	42		
Health Group	N	196	43	6	.039
	Y	49	49		
Environmental Issue Group	N	151	41	8	.000
	Y	94	49		
Collective Group	N	123	46	4	.043
	Y	122	42		
Sample Avg.		245	44		

Table 8.1 T-Test of Average Age of Respondents according to Whether or not They Mentioned A Given Ecological Civilization Thematic Group

Gender does have a limited impact on the organization of Ecological Civilization themes, primarily in its relationship with age and the Health thematic group. By separating the average age of residents who mentioned this thematic group according to gender we can see that the average age of men (Mean=43) who interpreted Ecological Civilization to be about sanitation and ecological integrity is the same as those men who did not mention these two themes in their definition. In contrast, women who mentioned the Health thematic group are more than 10 years older on average than those who did not mention these themes (Table 8.2). As Chen has explained in her study of *qigong* practices, elderly women do tend to exhibit a greater concern for health than other segments of the urban population (2005). Thus, here we see an example of the everyday

²⁰⁶ However, the age difference between those who mentioned the Individual Group of themes and those who did not is only significant at a 90% CI.

concerns that women face with regard to environmental issues filling in the empty signifier of Ecological Civilization. This is particularly important because, as we saw in Chapter 3, health is not a semantic theme within the Ecological Civilization policy documents nor was it mentioned by any of the theoretical foundation documents. Additionally, as we saw above older residents tend to define Ecological Civilization in terms of very concrete environmental issues that may have a closer resonance with the Quality theme discussed in Chapter 3. The definition provided by younger residents on the other hand, appears to be more abstractly related to the responsibilities of the individual and the way society acts as a collective to build an Ecological Civilization. While these are just statistical patterns at this point, the relationship between the social background of our respondents²⁰⁷ and the way we can see resonance between the official and local interpretations of Ecological Civilization becomes clearer in the qualitative analysis below.

Mention Health Group	Gender	Mean	N
N	Male	43	106
	Female	42	90
Y	Male	43	23
	Female	54	26

Table 8.2 Average Age of Male and Female Residents According to Whether or Not They Mentioned the Health Thematic Group

(ANOVA, p-value=.033, Table C.6)

Before examining these definitions in a more qualitative format, it is equally important to consider those who were unfamiliar with the ideology. As we saw in Chapter 6, some aspects of being environmentally-friendly could be interpreted as either

²⁰⁷ Because the sample size is too small, statistical analysis does not show that social class has any patterned relationship with how people defined Ecological Civilization. Regardless, in the qualitative analysis below, I will approach these issues more directly.

old-fashioned or high class. Thus, we might assume that those who did not know about Ecological Civilization would be older or of a higher social class. In fact, residents who did not know how to define the ideology were represented by all of the social classes, lived in all of the housing estates, and included both genders. Residents who did not know how to define Ecological Civilization were about 6 years older than those who could define it (Table 8.3), but overall, people unfamiliar with Ecological Civilization come from diverse backgrounds.

Mentioned Ecological Civilization Theme (Y/N)		N	Mean	Mean Difference	Sig. (2-tailed)
Do Not Know	N	202	43	6	.083
	Y	29	49		

Table 8.3 T-Test of Average Age of Respondents according to Whether or not the Respondent Mentioned the Do Not Know Theme

Moreover, the Do Not Know theme interacts with the way respondents perceive the influence of the environment on their lives, meaning that residents who did not know how to define Ecological Civilization also reported significantly lower scores for all of the environmental perception questions asked in household survey that we discussed in Chapter 7 (Table 8.4). Of course, just knowing about Ecological Civilization does not necessarily *cause* a resident to perceive the different elements of the environment as having an increased influence on their life, but these results do show a strong relationship between environmental perception and the Ecological Civilization ideology. As I have documented ethnographically, residents have also drawn from aspects of being environmentally-friendly to explain their relationship with the environment, which perhaps influences the way they perceive the environment. Ecological Civilization could

simply be a newer environmental ideology that is considered to have authority from the state and connects closely with the way they perceive the environment as having an impact on their life. How this occurs qualitatively can also be seen in the detailed way people define Ecological Civilization and how those definitions resonate with the official ideology, as I will show below.

Mentioned Do Not Know Theme (Y/N)	N	Mean Perception	Mean Difference	Sig. (2-tailed)	
Water Quality	N	202	4.28	0.70	.001
	Y	29	3.59		
Public Transportation	N	201	3.98	0.46	.042
	Y	29	3.52		
Greenery	N	202	4.24	0.79	.000
	Y	29	3.45		
Soil Quality	N	201	3.40	0.60	.038
	Y	29	2.79		
Food Safety	N	202	4.69	0.69	.000
	Y	29	4.00		
Noise	N	202	4.25	0.63	.002
	Y	29	3.62		
Air Quality	N	202	4.59	0.46	.002
	Y	29	4.14		
Garbage	N	202	4.21	0.79	.000
	Y	29	3.41		

Table 8.4 T-Test Comparison of Means of Environmental Perception according to Whether or not the Respondent Mentioned the Do Not Know Theme

Interpretations of Ecological Civilization

In this section I would like to accomplish two objectives:

- 1) Reflect on the resonance between these local interpretations and the official Ecological Civilization ideology, in particular by contrasting the Individual, Environmental Issues, Health and Collective thematic groups discussed above with the Spatial, Economic, Transparency, Protection, Quality and Responsibility themes described in Chapter 3.

2) To do this I will also need to unpack the 23 themes that make up the four thematic groups discussed in this chapter in order to better highlight the level of resonance between the semantic content of the official and local interpretations of Ecological Civilization that has emerged since the creation of the term and concept.

I begin by first explaining the way people talked about Ecological Civilization in terms of the Collective (Table 8.5) or as an issue that multiple people need to deal with. The most common theme (N=54) in this group, the Good Environment theme, includes the idea that an Ecological Civilization meant that the environment was expected to be in good shape (1.1)²⁰⁸. In a rare case, one resident reflexively considered how the benefits to the environment could be related to “civilization” (1.2). Here the resident asks us to be aware that for any future “civilized” action taken we need to ask ourselves whether or not it has a benefit to the environment. If, through our evaluation of that action, we come to realize that it does not have a benefit to the environment then it cannot be considered civilized within this ideological frame. This appears to be the level of reflexivity that Pan Yue aspired to in much of his writing that was discussed in Chapter 3 but, perhaps because of the Party’s insistence on prioritizing economic development over protecting the environment, this resident was able to express the idea with more clarity than Pan Yue.

Some residents also mentioned that improving (1.3) or transforming (1.4) our environment were assumed to result in a good environment. While calls for transforming the environment appear anthropocentric, there were nearly an equal number of residents (N=17) who considered People and Nature relationships important

²⁰⁸ In the following section I will refer to various quotes that contribute to the semantic content of each theme using this notation.

as compared with those who stressed the importance of Social Relationships (N=18) in their definition. In Chapter 4, I showed how the official interpretation of Ecological Civilization always connected Human-Nature and Human-Human relationships together, often just before describing their importance for realizing a “Harmonious Society”. This theoretical emphasis on “harmony” was carried into the realm of policy, but concern for the environment was forced to “coordinate” *xietiao* 協調 with concerns for economic development. This was one reason I argued that the Economic theme dominated the other five thematic components within the official ideology. In our survey, despite the People and Nature and Social Relationship themes being mentioned repeatedly, rarely did the themes appear together²⁰⁹ (3.1). The non-human world is also not always considered to be dominated by human concerns such as the economy (6.4) and in some cases there is an explicit critique against that which is “artificial” and in support of that which is “natural” (2.2). A far stronger continuity with the official interpretation can be seen in how both themes show a strong overlap with the theme of Harmony (2.1, 3.1). Harmony is a bridging theme that connects Collective themes about a Good Environment and Social Relationships with the individual²¹⁰. When discussing social relations many respondents said that in an Ecological Civilization it was important to build trust throughout society (3.2) and provide others with help (3.3). While social trust could be implicit within the Transparency theme in the official ideology, within the EPL only the Articles requiring the state be responsible for providing society with environmental information were conceived to build trust between social actors.

²⁰⁹ This overlapping of themes only happened four times in total.

²¹⁰ Thus, it was difficult for me to place the Harmony theme within the Individual thematic group, but I will explain why I did so below.

The following two themes, Sustainable Development and Protect the Environment, seem to also build upon this tension between the social and the individual. In some cases Sustainable Development was simply thrown out by residents as a kind of slogan in their definition of Ecological Civilization (4.1). I did not come across residents who only thought of sustainable development as “sustained development” (c.f. Tilt 2010: 144), but I do interpret residents’ concern for combining quality of life with environmental protection as a locally defined version of sustainable development (4.2). Protecting the Environment also has a slogan like nature to it (5.1). What is more unique about the Protecting the Environment theme is its connection between the Collective and the Individual (5.2) with calls for making a difference by changing one’s self (5.3). As we can see, there are multiple places where the abstract ideas of the Collective and Individual thematic groups intersect at a semantic level, which is likely a reflection of the fact that it was primarily younger residents who mentioned these two thematic groups. Residents’ emphasis upon Protecting the Environment (N=41) rather than on Sustainable Development (N=6) is important when we reflect on how Sustainable Development as a part of the Economic theme in the official interpretation was prioritized over the Protection theme as I described in Chapter 3. While both might be central to the Ecological Civilization ideology, the understanding that Protecting the Environment should be part of everyday governance while Sustainable Development is more of a status of society that guides government policy, can also explain the popularity of the former term. Highlighting Sustainable Development here is important precisely because it is so central to the way the state structures the Ecological Civilization ideology and government policy. Moreover, looking at the background of

those six who mentioned this theme, Sustainable Development appears to resonate particularly with young men of a higher social class. This makes sense when we consider that most of the officials who are engaged in environmental governance and promoting ideas like sustainable development in China are young men with high levels of social capital.

In contrast with Sustainable Development, the Governance theme is primarily made up of critiques of current government policies (6.1, 6.3, 6.4). In some cases, though, these residents are also describing an expectation of what Ecological Civilization should be, such as local government agencies showing greater concern for residents (6.2). The Good Environment theme is also one of expectations, particularly through the transformation of the non-human world (1.3, 1.4) and both themes seem to be holding the state responsible for such actions. In contrast, the Social Relations and Protect the Environment themes exhibit an expectation that society as well as the individual should contribute to the realization of an Ecological Civilization. While the Collective thematic group is primarily discussed by young residents, it is older residents who express these expectations found within the Governance theme that the state will and should take care of the environmental concerns of citizens. After all, in their minds, the state resolved their expectation for an improved quality of life a generation ago. One way to interpret the official ideology discussed in Chapter 3 is that the state is precisely building up Ecological Civilization so that it could integrate an environmental ideology within the militaristic power structure to resolve these social expectations for a cleaner environment, similar to the way that the state integrated the market system in order to resolve concerns about quality of life at the beginning of the Reform Era. The quotes

discussed here reflect the social concern for environmental protection but also a concern that the state may need to let go of its focus on economic development in order to actually satisfy society's expectations for living in a clean environment that is a part of living a high quality of life.

Theme	Notation	Quotes and Key Phrases
A Good Environment	1.1	It is about the environment, the city is just so so, but the countryside is better,
	1.2	It means in terms of the environment if one is acting in a civilized way, does that action have a benefit to the environment.
	1.3	Improve our living environment
	1.4	Everyone should work hard together to transform the environment
People and Nature	2.1	It is about harmony between humans and the environment
	2.2	It means there needs to be fewer intentionally [designed] artificial landscapes, and more ecologically natural environments
Social Relations	3.1	Nature and harmony within social relations
	3.2	It means that the level of trust in social relations needs to increase
	3.3	It means that you don't give other people problems, you should help other people
Sustainable Development	4.1	It means that the living environment is comparatively reasonable, sustainable development
	4.2	It means that we will combine the quality of life with environmental protection.
Protect the Environment	5.1	It means we need to protect the environment, conserve resources, engage in low carbon travel
	5.2	It means that everyone needs to protect the environment, which includes self-respect and self-love
	5.3	Love the environment, start with the small things, start with one's self, you cannot change the habits of every person, it is good to just do the best one can
Governance	6.1	the nation needs to better manage the ecological environment.
	6.2	the neighborhood is more concerned for residents
	6.3	It means [the government] should construct fewer "face" projects
	6.4	It is about the fact that the entire environment is globalized, you cannot depend on localized nations to resolve problems, but at present most people are not aware of this. National-level Policy cannot pursue economic benefit at the cost of destroying the environment.

Table 8.5 Collective Themes

As I mentioned above, it is the older generations that related Ecological Civilization with the more specific Environmental Issues thematic group (Table 8.6). These themes show residents relating Ecological Civilization to specific examples of food safety in terms of using fewer chemicals and even GMOs (7.1); air quality in terms of purifying the air, reducing pollution and having Blue Sky Days (8.2, 8.3); a high level of water quality, particularly drinking water (10.1, 10.2); and reducing our creation of garbage (12.1). Many of the responses within these themes also match some of the ethnographic stories I have described in the thesis. For instance, the desire for a number of residents to see vehicle exhaust reduced (8.1). Additionally, the roof top and school grounds urban farming projects that I discussed in Chapter 6 were given as an example of Ecological Civilization (7.2).

Greenery as a theme is specific in some instances of growing plant life (11.1) but in other instances it has a symbolic quality that shows up across a wide range of answers (11.2). The ability to be a concrete issue as well as a symbolic concept within Ecological Civilization might explain why Greenery also has the second highest frequency (N=43) in residents' definitions. Overall there was a high degree of resonance in the way that the symbolic aspect of "green" was used within both the official interpretation and residents' own interpretation of Ecological Civilization. More tangentially, when we conducted semi-structured interviews, residents mentioned that the reduction of noise pollution was a benefit of well-maintained and well-designed greenery. Thus, while noise pollution was a rare theme (N=4), it is mentioned almost synonymously in connection with greenery (9.1, 9.2), speaking to the fact that many people recognize greenery as a solution to the noise pollution problem. Thus, in some cases there are

relationships between the themes that help keep the thematic group together. The rarity (N=3) of soil quality being mentioned by residents once again reflects the urban bias of our informants. One of the ways soil was used to describe Ecological Civilization was by being placed within the hierarchy of “air, water, soil” (14.1) that was very common in the official interpretation of Ecological Civilization described in Chapter 3.

Transportation is somewhat odd in that it was often discussed in relation to another theme such as Behavior (13.1) or Garbage (13.2) and was never really a theme of its own²¹¹. Looking at resident responses alone it is not very obvious why Transportation did not have a more direct connection to residents’ interpretation of Ecological Civilization. However, I would argue that most in Chengdu seem to agree that even if transportation technology, such as personal cars, are not something residents are willing to give up, there is at least a recognition that it is not contributing to an Ecological Civilization. In fact, throughout all of the responses to this question we always find technology of any kind referred to in the negative or, as with public transportation, as neutral and related to another theme. This lack of emphasis on technology shows a discontinuity with the official ideology that placed a great deal of emphasis on using technology to solve China’s environmental problems. As I mentioned in the closing of Chapter 7, with the media stressing air purifiers as a solution to the air pollution problem, a kind of apathy had emerged among lower class residents of Chengdu who could not afford such technology. In this sense, the state’s focus on technology within the official interpretation of Ecological Civilization does not resonate well with interpretation provided by residents we surveyed.

²¹¹ I hesitated to develop this theme at all, but I have retained it because it was mentioned a number of times (N=7) and for consistency with other chapters in the thesis.

Theme	Notation	Quotes and Key Phrases
Food Safety	7.1	It means there is no pollution, no chemical additives, and no GMOs
	7.2	You can use the roofs of buildings to plant crops and you can turn the landscaped areas of a school campus into a vegetable garden
Air Quality	8.1	It also means car exhaust will be managed and smoking will be prohibited.
	8.2	Purify the air; Clean air
	8.3	Good air quality; More blue sky days
Noise Pollution	9.1	There is no noise pollution and there is good greenery
	9.2	It means we need greenery to reduce noise pollution
Water Quality	10.1	It is about drinking clean water
Greenery	11.1	Ecology is about flowers and grass
	11.2	There is greenery, Ecological Civilization means being green and healthy
Garbage	12.1	Don't create garbage
Transportation	13.1	Need to be civilized, on public transportation you should give up your seat, when people ask for directions should enthusiastically answer and help them
	13.2	Don't throw out garbage along the highways or by the riverside
Soil Quality	14.1	The natural environment (including the air, water and soil) is good

Table 8.6 Environmental Issues Themes

The Health Group (Table 8.7) is made up of fairly ambiguous responses such as those seen within the Ecological Integrity theme that describes a vague problem caused by one or more of the specific Environmental Issues. For instance, when a resident refers to the unspecified “pollution” caused by garbage (15.1). In this sense residents were describing pollution as a kind of “matter out of place” that primarily has an impact

on the integrity of an ecological system and to a lesser extent on the public's health. One resident felt that in an Ecological Civilization we should not have to worry about pollution or its effect on health (15.3)²¹², while another resident felt that pollution of this nature would be well-managed in an Ecological Civilization (15.4), meaning that it would be unable to affect ecological integrity. Whereas Ecological Integrity is focused more on the health of our surrounding environment, the theme of Sanitation is more focused on the health (16.1) and cleanliness (16.2) of the body. We should also be aware that in everyday speech the idea of sanitation or 衛生 is often paired with the concept of environment, so that a sanitary environment 衛生環境 or environmental sanitation 環境衛生 are phrases commonly connected to issues of health by residents. The everyday concern with sanitation and cleanliness would explain why this theme would be a popular topic (N=30) among residents despite the fact that it was rarely mentioned in any of the official Ecological Civilization documents I have analyzed.

As discussed above, the Health group was often mentioned by older women, but when the Health Group is unpacked, we discovered that it was actually men who mentioned the Ecological Integrity theme while older women mentioned the Sanitation theme. In other words younger men are voicing their concerns about ecological damage through the concept of pollution that has an influence on the environment that is external to their selves. This concern for the external world could be interpreted as a form of

²¹² I also categorize general destruction of the environment (15.2) in this category because such responses were rare and semantically both “pollution” 污染 and “destruction” 破壞 of the environment were used in a similarly ambiguous way.

machismo that the male body is somehow “immune” to a polluted environment²¹³. In contrast, older women show a greater concern for cleanliness and hygiene, all of which have important implications for the body. It is not my intention to say that this makes men any less selfish than women in terms of their interpretation of Ecological Civilization. Nevertheless, if we think back to Chapter 3, there I highlighted that policy documents from the Central Government have made issues of bodily health seem quite vague and limited in their relationship to Ecological Civilization. In view of the context associated with the Ecological Integrity theme, this avoidance of public and personal health within the official ideology is likely the result of a male dominated government imposing their own machismo onto the structure of the Ecological Civilization as it is defined by the state. Moreover, such machismo may be intimately linked to the kind of militaristic power structure that has its roots in the early stages of the CCP’s revolution despite their calls for gender equality.

²¹³ See for instance Galt’s discussion regarding the way male farmers may exacerbate their exposure to pesticides because of an idea that they are at less of a risk than women (2013:347-348) and also Johnston and McIvor’s (2004) examination of male industrial workers in Scotland thinking that they were immune to air pollution.

Theme	Notation	Quotes and Key Phrases
Ecological Integrity	15.1	Separate garbage for disposal to reduce pollution
	15.2	It means that there is no destruction [of the environment] and no Three Gorges [hydropower project]
	15.3	No Pollution, No Public Hazards
	15.4	Pollution can be effectively managed
Sanitation	16.1	It means having a happy life and a healthy body
	16.2	It means everyone loves cleanliness and protects environmental sanitation

Table 8.7 Health Themes

The Individual thematic group is turned inward both on the self and on the expected behavior of other individuals within society (Table 8.8). The most basic of these Individual themes is the idea of Happiness brought on through a comfortable environment (17.2). I would argue that these responses about happiness are intimately connected to discourses on quality of life and prosperity (17.1) that, as discussed in Chapter 2, have become important to residents of Chengdu since the Reform Era and have contributed to the idea of being environmentally-friendly. Moreover, this theme was mainly expressed by older residents, who continue to hold on to an expectation of prosperity. Thus, some residents' definitions (19.2) resonate well with the official ideological structure of Ecological Civilization that touches on ensuring further harmony and prosperity of the nation. However, priorities in the way such harmony and balance is obtained may be changing, so that humans should be expected to adapt to their environment rather than the other way around (19.3, 18.4), an idea which I will examine more fully below. I have already mentioned the way Harmony acts as a bridge between the Individual and Collective elements of Ecological Civilization, but for many residents

that is most clearly seen in the behavior of an individual. In other words, residents felt that it is primarily as an autonomous *individual* that one can contribute to the Harmony of an Ecological Civilization (19.1).

Individuals in an Ecological Civilization should also exhibit high quality or *suzhi* (18.1), have good manners (18.3) and obey the law (18.2), which is represented by the Behavior Theme. Many of these behaviors are thought to be the way an individual acts upon society rather than upon the environment. As I mentioned in Chapter 3, this idea resonates well with the Responsibility theme within the official interpretation, because it makes residents feel like they have an obligation to behave in a civilized manner. This idea of civilized manner is often thought to be defined by a higher authority and Ecological Civilization guides residents towards an understanding that the state is that authority. The Behavior Theme also resonates closely with the expectations of the Chengdu Civilization Office and the projects they promote to influence the behavior of residents that I described in Chapter 4.

Some residents also stated that it is through a heightened level of environmental awareness that an individual gains a better appreciation for the harmony of law and social order (19.1, 20.2). This connects to the Awareness Theme found in resident's interpretation of Ecological Civilization, meaning that there should be an awareness of the order that can be found within the complexities of the environment and the way it influences an individual's life²¹⁴. A self-conscious recognition of these relationships by an individual is needed to improve ecological quality and ensure the protection of the environment (20.1). There is an implication here that only through self-cultivation can such awareness emerge in an individual. Thus, some residents felt that being part of an

²¹⁴ In this sense, awareness is more of an emic way of describing environmental perception.

Ecological Civilization is an obligation, which again very closely mirrors the requirement of the EPL for average citizens to be responsible for environmental protection as described in Chapter 3. For some, this awareness of the environment found in local interpretations of an Ecological Civilization may, in a rather ambiguous way, be related to Culture, meaning that different parts of the world would exhibit a different form of Ecological Civilization (21.1), an idea that is not well discussed within the official interpretation of the ideology. Finally, there is also an expectation that individuals must actively participate in protecting the environment (22.2) and one informant explained that this could be done through social programs, not unlike the Ecological Housing Estate projects (22.1). This emphasis on participation does resonate closely with the Responsibility theme of the official interpretation of Ecological Civilization, although this is primarily true only for the EPL where the idea of participation was briefly discussed. As we saw in Chapter 3 the idea of participation was not well promoted within any of the other Ecological Civilization policy documents.

Theme	Notation	Quotes and Key Phrases
Happiness	17.1	Health, happiness and prosperity. It means a high quality of life.
	17.2	We should have a good state of mind, everything should look comfortable
Behavior	18.1	The city [officials] shouldn't just destroy whatever they want by carelessly open factories, every person needs to exhibit a high level of quality
	18.2	Protect the environment, pay attention to personal behavior, observe discipline and obey the law.
	18.3	Everyone protects the environment and everyone is modest and has good manners
	18.4	It is about Green Development. Ecology is a circle and Civilization is within it. If there is a good ecological environment, then the quality of human civilization will come to match it.
Harmony	19.1	Everyone has autonomy and have an environmental consciousness, thus they respect the social order
	19.2	It means that there is peaceful co-existence and [our] nation lives on forever
	19.3	It means there is ecological balance, it doesn't matter if it is good or bad, an equilibrium is necessary, and we should adapt to the environment
Awareness	20.1	It means there is a full recognition of ecology, a self-conscious recognition that ecological quality should be better
	20.2	Everyone has an environmental awareness and social relations are harmonious
Culture	21.1	It is about the relationship between culture, the environment and human geography
Participation	22.1	It means that the people around us have a kind of love towards the environment, and that they actively participate in social enterprises
	22.2	The individual participation rate [in protecting the environment] is high

Table 8.8 Individual Themes

Thus, for the individual there are a number of ways to engage with the Ecological Civilization ideology, be it by disciplining one's own interaction with the non-human world, improving one's understanding of ecology or participating in social efforts to protect the environment. In contrast to the specifics of the Environmental

Issues themes these statements are the way young respondents interpret their interaction with the environment in a more abstract or idealistic fashion. I would argue that this means the official interpretation of the Ecological Civilization ideology is becoming quite successful at finding ways to connect with a younger group of residents who want to take matters into their own hands rather than placing blame and responsibility solely on the state. As we saw in Chapter 3, this is precisely the kind of balance the state wants, namely: 1) the authority to define standards of environmental quality, to enforce those standards at different scales across the nation and to promote economic tools to offset potential threats to environmental quality; 2) the flexibility to place responsibility for protecting the environment on average citizens or business owners while promising, to a lesser extent, to support that responsibility with transparent environmental information and opportunities for direct participation.

Unpacking each of these themes allows us to think about the ways that Ecological Civilization as a state promoted environmental ideology resonates with the everyday lives of residents in Chengdu. As Glaesar (2011) argues, ideological resonance is a key component in the development of validation between the state and other social actors. In Chapter 3, we saw how the state has built up Ecological Civilization as a means of establishing resonance with the Chinese people's interpretation of how the nation should deal with environmental problems. As I argued, much of the official interpretation of Ecological Civilization is structured along a uni-dimensional focus of protecting the environment but only as long as such actions do not impact economic development. The local level interpretations of course exhibit more diversity than that, but there are specific reasons, which are related to the social background of residents,

why the interpretation by one group of people might exhibit more resonance with the state promoted interpretation than another group. I would like to use Table 8.9 to summarize my ideas about how resonance, or in some cases dissonance, is related to the semantic themes found in the local interpretations of Ecological Civilization.

Group	Theme	Resonance with Official Interpretation
Collective	A Good Environment	Some Resonance
	People and Nature	Some Resonance
	Social Relations	Some Resonance
	Sustainable Development	High Level of Resonance
	Protect the Environment	Mixed
	Governance	Dissonance
Environmental Issues	Food Safety	Mixed
	Air Quality	Mixed
	Noise Pollution	Mixed
	Water Quality	Mixed
	Greenery	High Level of Resonance
	Garbage	Mixed
	Transportation	Mixed
	Soil Quality	Some Resonance
Health	Ecological Integrity	Some Resonance
	Sanitation	Dissonance
Individual	Happiness	Mixed
	Behavior	High Level of Resonance
	Harmony	Mixed
	Awareness	High Level of Resonance
	Culture	Mixed
	Participation	Some Resonance

Table 8.9 Summary of Ideological Resonance between the Official and Local Interpretation of Ecological Civilization

Here by dissonance I mean that in some cases, the way residents define Ecological Civilization is almost completely at odds with the official interpretation. For instance, within the Health Group the concern for Sanitation, or the healthiness of the body, was mentioned repeatedly by older women, but is nearly absent from the official

interpretation of Ecological Civilization. In contrast, the Ecological Integrity theme, which was mentioned by younger male respondents, resonated fairly well with the way Ecological Civilization policy documents have focused entirely on ensuring the integrity of our surrounding environment so that it can continue to be exploited for further economic development.

This conflict within the Health Group highlights the way the social background of residents is related to ideological resonance. For instance, we also see that a higher level of resonance, such as in the Sustainable Development, Behavior and Awareness themes, is associated with younger residents, often with higher levels of social capital. This group of residents, who I call the Developmental Group, also tends to appreciate the uni-dimensional influence of a developmental ideology upon the official interpretation of Ecological Civilization because they benefit from such an interpretation, perhaps because they own businesses or work for the state. In contrast, we also see that dissonance or mixed levels of resonance are associated with older residents of a mixed social class background. By mixed levels of resonance, I mean that these residents could appreciate certain aspects of Ecological Civilization, but that is more because they value the idea of being environmentally-friendly than because they necessarily desire to participate in an Ecological Civilization. For this reason, I call this the Environmental Group, whose ideas are generally at odds with those of the Developmental Group. Finally, there is another group, which is generally concerned with themes about the Environmental Issues, whose interpretation does not resonate as well with the official interpretation of Ecological Civilization, but, through the themes of Happiness and Harmony, also have great expectations that the state will find ways to solve these

problems because they are unsure of their own ability to do something meaningful for protecting the environment. This group I describe as the Apathetic Group, who tend to have a slightly lower social class background. In the following section I wish to discuss these groups more clearly by examining the stories of individuals we interviewed during our survey and how their perception of and action towards the environment interacts with their interpretation of Ecological Civilization.

Living in an Ecological Civilization

The anthropological perspective that I have brought to the process of data collection and analysis aids in providing a grounded understanding of the multi-dimensionality that was found within the various definitions of Ecological Civilization seen above. While anthropology can make us aware of the distinctions between state and local ideology that emerge from these multiple dimensions, anthropology can also show how different groups come to exist together despite conflicts that may arise between them in their everyday lives. Anthropologists can provide a voice to those individuals, regardless of whether or not they would consider themselves state actors, to understand how their environmental ideology, perception and action hangs within that multiplicity. By providing some of the stories of Secretaries Ye and Wang as well as the unique position of Qi Daina, I have tried to present the voice of state actors throughout the thesis. In this final section of the chapter I wish to provide depth to the voice of non-state actors found within our survey, some of whom I have even come to know well. Ultimately, it is within this multivocality that ideology, perception and action engage with the non-human world and come to form an environmental consciousness that is shared by the Developmental, Environmental and Apathetic Groups. Although there are

certain differences between each of the groups, I describe their consciousness as shared because, as we will see, an ever-changing social context can lead to a shift in the way an individual relates to environmental consciousness in Chengdu.

Mr. Zhang, a good representative resident of the Developmental Group, defined Ecological Civilization as being “about separating garbage, conserving water, and food safety. But, these are all higher level issues, we still cannot think about them at the moment.” As a 34 year-old resident of Tiramisu making 20K/month working in the corporate sector, Mr. Zhang seems to be fairly representative of the young wealthy male group described in this Chapter. By describing issues associated with Ecological Civilization as being “at a higher level”, he means that they are a secondary concern for him, because what is most important is still the day to day process of making money. Despite this he still separates his garbage according to the kitchen and household categories and owns an air purifier, which he says helps him cope with air pollution. Oddly enough, although he mentions conserving water as an important theme of Ecological Civilization and claims doing so is quite convenient, his household does not practice any methods for conserving water. Of course, this could also be a sign of the fact that many processes in Tiramisu are automated, as described in Chapter 7, so he does not have to think about conserving water since it is simply done for him. I would argue, though, that a lifestyle where environmental concerns are managed and controlled by the state and technology is what he desires. In this way, he can continue to focus on his job, live a consumerist lifestyle and not have to worry about “higher-level” concerns. In this sense he is not much different than say Li Jie, who owns her own business and is

concerned enough about air pollution to purchase an air purifier from Japan, but would probably not go out of her way to make further sacrifices on her lifestyle.

Another perspective from the upper class comes from Yang Xin (5.1²¹⁵) who is 29, has an undergrad education and married a young “*geti hu*” 個體戶, or small business owner, who makes a decent salary that has allowed them to purchase a home in Tiramisu. She is a stay at home mom despite having her mother-in-law living with them. They own two cars and make regular trips to Eastern Sichuan where she grew up, and last year even took a vacation to Thailand! Perhaps because of all this travel she has become aware of her impact on the environment and her interpretation of an Ecological Civilization included the idea of “low carbon travel”. Here we can see how action creates a resonating feedback that provides residents the opportunity to reinterpret an environmental ideology so that it better connects with their own concerns and actions towards the environment. In other words, a feature of the official Ecological Civilization ideology that is not necessarily stressed by the state (low carbon travel) can be made to fit the actions of the individual (regular trips back home or travel abroad). If there were a less intensive way to travel to Eastern Sichuan on a regular basis so that she could take her daughter back home to see family, then most likely she would be the kind of person to engage in such travel. Thus, an environmental ideology like Ecological Civilization can always be reinterpreted by the public, sometimes in ways unintended by the state but that can also lead to positive environmental actions. This is one of the reasons I argue that local governments and NGOs should try their best to understand a community before beginning the design and implementation of a project meant to raise

²¹⁵ The following representative residents also provided important quotations that helped formulate the above discussion about the local interpretations of Ecological Civilization. I include the following notation for reference to those quotations.

environmental consciousness. It is entirely possible that the community is already engaged in environmental practices or has their own ideas about the environment that are sustainable within their local context.

A somewhat different context can be seen in the example of Ms. Zeng (1.1), another resident living in Tiramisu, who is 53 and from a town about 100 km east of Chengdu. She is primarily in Chengdu to take care of her granddaughter and normally works as a migrant worker for an extremely low salary. She has not lived in Chengdu long, but feels that in terms of the environment the countryside is still in better shape, which is why she told us that an Ecological Civilization could only be found in rural China. Her experience resonates closely with the urban farmers I discussed in Chapter 7 who were taking care of the children of family members and living in a luxury housing estate on the outskirts of the city where they were actively growing food for the family on tiny plots of abandoned land or within a public park. With Tiramisu being so close to the center of the city it would be difficult for Ms. Zeng to find such a space to farm unless she could do so on the rooftop, an opportunity she was unaware of at the time. To a certain extent, residents with her background feel a bit overwhelmed by the city and look toward the simpler days of rural life with nostalgia. They are also conflicted with the knowledge that their children could be quite successful in the city. Even if they consider the ecology in the city to be awful, the economic opportunities are far more important to them and so we can see how that hegemonic theme of economic development within state ideology comes to influence the long-term decisions an individual must make regarding living in the city or the countryside. This conflict in turn makes Miss Zeng an example of the Apathetic Group of residents, particularly because

she feels like moving back to a more environmentally-friendly, rural lifestyle would be old-fashioned. Perhaps, though, if Miss Zeng were given the opportunity to place her experience as a farmer in the countryside into a concrete action within the city, such as by engaging in the rooftop farming at Tiramisu, then she might begin to think that it is important to be environmentally-friendly regardless of whether some might consider it old-fashioned. We saw a similar situation in Eastern Star, where residents who were engaged in planting the greenery in their housing estate came to view being environmentally-friendly as important to their life. Thus, these vignettes are important because they show the potential for individuals to move between these three groups at different points in their lifetime. In other words, the opportunity to participate in an environmental action, such as urban agriculture, may come to influence the way environmental ideology, like “being environmentally-friendly”, would resonate with a resident to the point that they would become more similar to those within the Environmental Group.

Ran Tianjun is another transitional case (18.2), although his movement would likely be from the Apathetic into the Developmental Group. Ran Tianjun is a 24 year-old recent college graduate who now makes a pretty decent salary working in an entry level finance position. He and his family are from Bazhong, which is a rural and economically marginal part of Eastern Sichuan. Neither of his parents have an education and have worked as rural migrants in the construction industry for much of their life. Now they rent a house in #68, one of the older gated housing estates, as they save up enough money to buy a house before Tianjun gets ready to marry. Despite their current housing situation, his educational background and salary is quite high, allowing his

family to live a middle-class lifestyle, traveling to a farmhouse restaurant 農家樂 just outside Chengdu quite often for relaxation and riding a new electric bike to work every day. They are a kind of transitional family that did not have the financial resources to move to Chengdu by purchasing a home in a place like Tiramisu, but rather through hard work and Tianjun's education are building a life for themselves within the city. Despite the fact that his grandmother, who also lives with them, was an agriculturalist her whole life, he believes that soil quality has minimal impact on his life and does not recognize the family as having any garbage separation or water saving methods. Instead he is more concerned about air pollution and grows small plants on the balcony of their apartment to mitigate its negative effects on the family. His interpretation of Ecological Civilization places emphasis on personal behavior, discipline and obeying the law, which resonates with his education in finance. For such residents, the Ecological Civilization promoted by the state resonates well and may be replacing more practical ways of engaging with the non-human world, such as saving your garbage and water. Thus, while Tianjun may have come to the city feeling fairly apathetic about his ability to live an environmentally-friendly lifestyle because of the limited means of his family, through his education and new job he has become more influenced by a developmental ideology. This does not mean that he does not engage in any environmental actions at all. It may be that as a young man, similar to my friend Zhou Lei, he just did not want to admit that his family does have water conservation and garbage separation practices because that would seem old-fashioned. Thus, focusing on what he knows about air pollution as a trendy middle-class issue and further socially embedding himself within the Developmental Group of residents is important to him.

In contrast, Chen Jielin of Tiramisu (6.4) is more representative of the Environmentalist Group, which can be confrontational when it comes to the fact that environmental problems in China are undoubtedly the result of economic development. She is a middle-aged (44) research assistant who grew up in Pixian just North of Chengdu. She makes a powerful argument regarding the fact that an Ecological Civilization cannot depend on national governments to resolve environmental problems because very often they are global issues. According to her the key is that state policy cannot destroy the environment to pursue economic benefit. She also voiced many other concerns for China's future, such as the seriousness of air pollution leading her to check the AQI regularly. She is aware of Tiramisu's central air system but says it cannot solve her concerns about air pollution and that the air purifier they have purchased has limited effect. Thus, for her the means to cope with air pollution is not found within technology, or at least not entirely. Ultimately, in her mind an Ecological Civilization requires state intervention at a global scale that prioritizes environmental over economic benefit. Moreover, we can contrast her answer with that of Mr. Zhang, who I described above as a Developmentalist. Both share a number of similarities, same age, social class and housing estate, yet it is interesting to see Miss Chen, as an Environmentalist, argue for the importance of environmental protection over economic development, which contrasts a great deal with Mr. Zhang's answer that he cannot be concerned with such "higher-level" issues at this time.

While I do tend to see Environmentalists as being quite critical of the state, that is not always the case, as we can see from the perspective of Teacher Lin (8.1). A resident from Eastern Star, she is a 78 year-old retired teacher from Chongqing, who,

like Grandma Jiang, was particularly concerned with car exhaust. She and her husband do not own a car because it is difficult to find a parking space in Eastern Star. Moreover, their grandchildren do not live with them meaning they have little need for a vehicle. With regard to media, she is most concerned about finding information from the TV and the internet for improving the health of herself and her family. It is interesting that she mentions using the internet to find such information because when asked about air pollution she also mentioned wanting to learn more about PM 2.5; she was the oldest in our survey who mentioned wanting to learn more about this topic. However, she also said that there should not be a need to mitigate the problem, because in an Ecological Civilization it would simply be managed through good governance. Much as we saw in Chapter 3, this is also the way that the state hopes to solve the problem, but for the state good governance is focused on using economic incentives. Teacher Lin is thinking of officials enforcing penalties and shutting down factories so that pollution and environmental damage are simply things she and other residents will not have to worry about. It may be that, like many of the elderly residents we talked to during our survey, Teacher Lin feels that the state will eventually find a way to resolve this issue much as they did the issue of poverty in China's past.

The definition of Ecological Civilization given by Mr. Yao (18.4), who I have discussed at different times in the thesis, is also worth examining in further detail. He is now 63 and retired from his job as a manager in one of Chengdu's first department stores. Considering he was the most active resident in Eastern Star's Ecological Housing Estate Project, his answer is quite interesting. Working in business his whole life, it is not surprising that Mr. Yao's first comment is related to promoting economic

development, thereby highlighting how some aspects of the Economic theme from the official interpretation of Ecological Civilization can resonate well with residents of Chengdu. On the other hand, his understanding of a good ecological environment fostering civilization is almost the reverse of what Pan Yue tried to argue in his foundational theory of Ecological Civilization. Over the years Mr. Yao has come to appreciate this stronger focus on improving the ecological stability of his surrounding environment. In a life history I conducted with Mr. Yao, I discovered that he yearns for a nostalgic past where he considered Chengdu to be more ecologically wholesome. Thus, his own personal historical experience has made him question the rapid pace of economic development to the point that he feels there should be a better balance between ecology and development. By looking at these transitional cases, we can see how these three groups together make up a shared environmental consciousness. There may be contradictions or conflict between the groups, but those differences are not preventing them from interacting with each other, nor even do the distinctions between the Developmental and Environmental Group prevent individuals from transitioning from one group to another depending on changes in their life.

Moreover, Mr. Yao and other elderly residents connect with the Environmentalist Group through an older way of thinking about and perceiving the environment that allows them to cope with or stimulate action in the face of present day environmental problems. For instance, when asked about how to cope with air pollution Mr. Yao mentioned warming a pan of vinegar in a room and planting more greenery. The former solution is a very old way of dealing with “bad air” that is often linked to

illnesses that impact one's respiratory system²¹⁶. Thus, we can see he draws from an environmental ideology of his youth to perceive air pollution simply as "bad air", and in a sense this "older" coping mechanism is what allows younger residents to describe being environmentally-friendly as old-fashioned. With regard to the latter solution of greenery, this also follows from his answers to the perception questions where he stated that greenery had a higher influence on his life than air quality. As he explained to me, even if the air quality is bad, trees and plants can resolve the issue by filtering the air, so of course greenery is far more important. This explains why he has been so instrumental in redeveloping the public grounds of his housing estate to have more greenery. Living on the ground floor has also made it more practical for him to integrate growing small trees and plants within and around his home.

Through his detailed answers and the stories of the individuals described above, we can see that the state's uni-dimensional promotion of Ecological Civilization is unhelpful because it does not account for social context and drowns out other important ideological dimensions that contribute to the overall environmental consciousness of Chengdu. If the goal of non-state actors is to promote more sustainable urban lifestyles then it is important to understand that these other ideological dimensions have sedimented within Chinese society and also guide environmental perceptions and actions in a specific way. If these other ideological dimensions are at odds with the state's own uni-dimensional interpretation of environmental ideology, it creates the potential for antagonism and discontent to emerge between the state and citizens. Thus, Ecological Civilization may have been integrated into the Party ideological canon with the hope that it would act as a socially "stabilizing" force, similar to the way Yang

²¹⁶ Fuller-Tomson et al. (1997:262) are one of the few who have noted this belief.

Zhengxian described it in Chapter 6. The problem for the state, though, is that there is only so far they can take their formation of Ecological Civilization without undermining the primary goal of promoting economic development that unites most government officials. However, what we have seen above is that while the Party may have created an ideology that resonates with the Developmental group of residents, they are potentially losing legitimacy among the Environmental group. This contradiction is precisely the result of the uni-dimensionality of state ideology as it emerges from the multidimensionality of society.

Weaving Environmental Consciousness

Lloyd describes this multidimensionality found in social phenomena as “different accounts to be given of different aspects or dimensions of a single domain” (2007:6 n2). For this reason I argue that different ideological dimensions resonate with the way residents think of their environment for various but specific sociological reasons. Moreover, these different dimensions of ideology help to reinforce the Developmental, Environmental and Apathetic Groups discussed above. In this sense, Blommaert says that (2005) “...we can conceive of ideological processes in very similar terms as the ones defined for voice. We can see them as operating in and through polycentric and stratified systems, in which different ideologies are at play at different levels and in different ways, but operating in the kind of layered simultaneity.” Table 8.10 helps to organize how I interpret environmental ideology, perception and action working towards a weaving of these different voices that enables the establishment of these three Groups.

Environmental Consciousness Group	Social Class	Age	Perception	Recycle	Conservation	Mitigation	Ecological Civilization	Ideological Layer	View of the State
Apathetic	Impoverished, Working Class, Middle Class	Older	Low-Neutral	Passive	Passive	None	Don't Know, Environmental Issues	Class-based	Authoritarian
Developmental	Upper Class and Semi-Elite	Younger	High-Very High	None	None	Technological	Individual, Collective	Developmental	Cooperative
Environmental	Mixed	Mixed	High-Very High	Active	Active	Alternative	Environmental Issues, Health	Environmental (Environmentally-Friendly)	Antagonistic

Table 8.10 Grouping within an Environmental Consciousness

First, it is important to think of the Environmental Group as being a mix of both social class and age groups. While it is true that the Upper Class and Semi-Elite on average did return very high scores for their environmental perception questions, very few of those with a high social capital actively engaged in recycling, water conservation and coping with air pollution. Additionally, a minority of those Working Class and Middle Class residents, such as Mr. Yao, perceived various elements of the environment as having a high influence on their life and was active in trying to separate their garbage, save water and mitigate the effects of air pollution. Here by active I mean that the Environmental Group was not just drawing from a simple dichotomy, such as Wet and Dry, to separate their garbage, but rather were thinking about how the different materials they were bringing into their home could have secondary uses if recycled properly. I also demonstrated that the Environmental Group was more likely to provide alternative answers for how to mitigate the problem of air pollution, regardless if it was planting more greenery or even warming vinegar. Their interpretation of Ecological Civilization, tended to fall into the Environmental Issues and Health Thematic Groups. Moreover, as we saw above, the official interpretation of Ecological Civilization did not establish a great deal of resonance with the Environmental Group, which is why I describe their view of the state as being antagonistic. I also believe that this level of dissonance was created by the fact that the Environmental Group feels a much stronger influence from the environmentally-friendly form of environmental ideology for various reasons. For instance, those engaged in urban farming, described in Chapter 6, were reminded of the Cultural Revolution, meaning that nostalgia was working together with a belief that growing your own food was more environmentally-friendly. Others, such as the Upper Class parents who participated in Yang Zhengxian's school projects, were as interested

in making it appear that they were high class for eating organic food as they were concerned about the health impacts of chemical fertilizers and pesticides. However, from these examples we can also see that the Environmental Group are still influenced by class ideology and are responsible for reproducing the discourses that make it difficult for the Apathetic Group to feel comfortable being environmentally-friendly.

This is why the Apathetic Group tends to be more passive about their environmental actions and, like Ran Tianjun, they might downplay the fact that they actually did recycle and conserve water. After all, it is much easier to engage in everyday activities like recycling and conserving water because they are inexpensive, low-tech solutions, in contrast to purchasing an air purifier. Moreover, these actions do not require a resident to take time away from their work, which might be the case with urban agriculture. Thus, in many ways it is precisely the Impoverished, Working and Middle Class backgrounds of this group that make them feel apathetic to environmental problems. Many of them answered that they did not have a way to cope with air pollution because on one hand they do not want to seem old-fashioned by admitting that they boil vinegar and that they cannot afford to purchase an air purifier. As we saw, residents with a lower social class do appear to perceive various elements of the environment as having a more neutral influence on their life. This could be related to the fact that Ecological Civilization did not resonate with such residents. Many within the Apathetic Group admitted that they did not know what Ecological Civilization was and as we saw in this chapter such residents reported perceiving different aspects of the environment as having less of an influence on their life than those who were able to provide a definition for the ideology. I believe this is a reflection of the much greater influence a class-based ideology has on the lives of these residents, compared with either

Ecological Civilization or the more grassroots idea of what it means to be environmentally-friendly. That does not mean they are not concerned about environmental problems. Some within this group were able to define Ecological Civilization but are still apathetic about what they can do to help protect the environment because they feel such practices are either old-fashioned or are considered something that only people of a high class can engage in. They may aspire to be more environmentally-friendly, but they also feel as if there is little they can do with their modest means. For this reason, they feel it is necessary that a more Authoritarian state be able to help them deal with these problems, particularly air pollution and food safety, because such issues are beyond their own individual control.

This contrasts quite sharply with the Developmental Group's relationship with the state. First of all, many of these residents are Upper Class and Semi-Elites who often depend on the state's insistence of promoting environmental protection but only as long as it ensures further economic development because their businesses or jobs are dependent on the rapidly growing economy that emerged during the Reform Era. These residents have greatly benefited from the grid-structure of power found in China, which has served to make a developmental ideology become more deeply and widely embedded within Chinese society, because it has provided them with a larger market and greater social power. At the same time, the Developmental Group recognizes the damage rapid economic growth has inflicted upon the environment, which is why they perceive the environment as having a high influence on their life. However, in practice they are the least likely to give up driving their car, purchase fewer clothes or refuse to purchase a home in a luxury housing estate because all of these actions are important for maintaining their level of social capital. In a similar vein, they are unwilling to conserve

water or separate their garbage because that is considered old-fashioned, while they do purchase air purifiers because technological solutions are convenient and make them appear to be more cutting edge than an Environmentalist who would rather use alternative ways to cope with air pollution. Thus, the Developmental Group also recreates the discourses that make the Apathetic Group feel as if there is no solution to environmental problems because they are not of a high enough class and that they should ignore certain aspects of being environmentally-friendly because it is recognized as being old-fashioned like the Environmental Group. When compared with the other two groups of residents, the Ecological Civilization ideology resonates more closely with the Developmental Group. The semantic themes within the local interpretation of Ecological Civilization that were related to the Individual and Collective were primarily the result of the definitions provided by the Developmental Group of residents. Moreover, these are exactly the themes that ensure the Developmental Group are able to maintain their high level of social capital by stressing the need for individual residents to have a high level of *suzhi* and awareness of their environment. Perhaps most importantly, the Developmental Group would rather that Ecological Civilization remain an ideology that focuses on ambiguous terms like Sustainable Development, rather than describing exactly how the state should deal with specific Environmental Issues. This is because they are aware that if the state should shift their gaze towards the more specific Environmental Issues, that their businesses and conspicuous consumption would be hard pressed to retain the status quo.

Thus, the developmental ideology that runs through the Chinese state has allowed a more cooperative relationship to develop between the military hierarchy of the Party and the grid-like structure of the market economy. Many from the Developmental

Group would fit within top-level positions within the state and likely hold management positions within the market economy. The emergence of a grassroots environmental ideology like being environmentally-friendly has risen to challenge the power structure that supports the Developmental Group's social status because it questions the need to prioritize economic development over environmental protection. However, as I have argued at multiple places in the thesis, the Party's establishment of Ecological Civilization has created an environmental ideology that can rival "being environmentally-friendly" and can be integrated within the military hierarchy precisely because it does not directly challenge the primacy of economic development. Additionally, as seen above, Ecological Civilization has taken advantage of some aspects of "being environmentally-friendly" that further embed a class-based ideology in China. We can see that what it means to properly engage with the non-human world is being determined by the state and the Developmental Group as either being high class or old-fashioned. This places lower class residents in a double bind making them apathetic and unable to see a viable solution to their environmental concerns.

The different ways in which these three groups engage with the non-human world as well as with each other together makes up China's rising environmental consciousness. Moreover, despite the different ways they perceive and act up on the environment there is one ideological aspect that I believe ties all three of the groups together: what it means to be urban. In all of our interviews only one respondent, Miss Zeng, mentioned that an Ecological Civilization could only be found in the countryside. The power of the urban ideology is so subtle, that all other respondents just assumed that an Ecological Civilization must be an urban idea. Even those who had recently migrated from the countryside to Chengdu would initially find more in common with the

Apathetic Group, but perhaps, like Ran Tianjun, they would then transition into the Developmental Group. We can also see why Ma Juan, as both someone who grew up in the countryside and is a devoted Environmentalist working with Wildgrass, would find that it was perfectly normal to not bring high-class urban residents to see the way farmers lived in the villages, because it would make the urbanites too uncomfortable. Throughout contemporary history, the rural-urban divide has resulted in some of the strongest social inequities in China and environmental ideology, regardless of whether it is the state promoted Ecological Civilization or the grassroots idea of what it means to be environmentally-friendly, has also been influenced by this social reality.

Overall, the multidimensionality of these ideological layers, such as the environmental, developmental, class-based and urban ideologies I have discussed throughout the thesis, intersect not just at the discursive level but also in the way individuals perceive and act upon the environment. In fact, it is not really an intersection at all. A far better metaphor would be like weaving multiple layers of canvas together and being able to pull each ideological layer in different directions. If one layer is pulled tighter than the rest it creates troughs that move our environmental perception and action in one way or the other. Moreover, environmental perceptions and actions do not have to be guided by these ideological layers in the same way. As we saw, the way residents perceived different elements of the environment was heavily influenced by the pull of a class-based ideology. However, some of the environmental actions of our respondents, such as garbage separation, were influenced more by the infrastructure within their community than by social class. Since this infrastructure was dependent on an environmental and urban ideology that focused on recycling and organizing a certain way of living in the city, we might say that these actions were being pulled more in the

direction of those ideological dimensions than they were by class. Thus, while individuals may perceive and act upon the environment in different ways, it is through multi-dimensionality that we can understand how they combine together into a broader environmental consciousness that is experienced by these three groups of Chengdu residents as a whole.

The crucial point to make in my concluding chapter is that while society exhibits various ideological dimensions and different individuals are attracted to them for the reasons outlined in this chapter, this diversity is an aspect of social structure that cannot be accounted for within a state sanctioned environmental ideology. As Scott (1998) argues, states are far better at providing a singular road map for any kind of ideology, be it environmental, urban, developmental or class-based. It is the need for a singular voice within the state to strengthen its perceived legitimacy that results in its difficulty in engaging with the multivocality that would better mirror the way society actually exists in all of its variety. This multidimensionality is what anthropology has been documenting ethnographically throughout the discipline's history. What I have tried to offer here are empirical examples of how this multidimensionality emerges and is transmitted throughout society, how individuals perceive the many affordances provided by the environment and how there are supposedly an endless number of ways we can act upon our environment.

Of course, it is through the interweaving of ideologies with perception and action that we discover environmental actions are in fact not endless, our ways of perceiving the environment become limited and in different instances some of those ideological dimensions become muted. It is through these limits that we discover an environmental consciousness that allows a diverse society to feel connected to each other even if at

times such connections could be antagonistic and result in the further embedding of social inequities. The problem is that utilizing a uni-dimensional ideology to guide the perceptions and actions of different social actors in a manner that ensures the recreation of the power of the state is precisely what states do. The question remains whether there is a way of integrating these multiple ideological dimensions I have been tracing but in a more fair and equitable way for all citizens of China.

Chapter 9: Conclusion

I have always been astonished by what might be called the *paradox of doxa*—the fact that the order of the world as we find it, with its one-way streets and its no-entry signs, whether literal or figurative, its obligations and its penalties, is broadly respected; that there are not more transgressions and subversions, contraventions and 'follies' (just think of the extraordinary concordance of thousands of dispositions -or wills implied in five minutes' movement of traffic around the Place de la Bastille or Place de la Concorde ...); or, still more surprisingly, that the established order, with its relations of domination, its rights and prerogatives, privileges and injustices, ultimately perpetuates itself so easily, apart from a few historical accidents, and that the most intolerable conditions of existence can so often be perceived as acceptable and even natural.
Pierre Bourdieu (2001:1) *Masculine Domination*

In the quote above, Bourdieu begins a truly activist stance within his theoretical oeuvre that has now and then been at the heart of the anthropological imagination. According to Bourdieu, if we want to stimulate true change that could up-end the social power that perpetuates inequality, then we must dismantle “the processes responsible for this transformation of history into nature, of cultural arbitrariness into the *natural*” (2001:2, his emphasis) while at the same time reestablishing the paradox of doxa that could perpetuate a society with (one would hope) more tolerable conditions of existence. While Bourdieu’s focus within this particular work is upon the reproduction of inequality through the “*dehistoricization* and *eternalization* of the structure of the sexual division” (2001:viii, his emphasis), a truly engaged form of Environmental Anthropology would locate the paradox of doxa within the way different cultures interact with their non-human environment that reproduces a number of social inequalities. Once those social inequalities are highlighted we can then begin to re-imagine a doxa that could reproduce more equitable societal relations not just between individual humans but also with our broader environment. This is perhaps more

concisely put by Robbins use of the axe and seed metaphor to frame his interpretation of political ecology (2004). In that classic piece on the purpose of political ecology, Robbins argues that we should be critical (the axe) in our study of social inequities that are created because of human interaction with the environment, but we also need to move beyond the critique by imagining solutions (the seed) that could create a more equitable society for the future.

Throughout much of this thesis I have swung an axe to examine how environmental ideology, perception and action play out in the lives of Chengdu residents and in doing so have pointed out the way current environmental consciousness in China reproduces or ignores social inequalities. Part of this was as a means of answering the research questions I posed in Chapter 1. First, I wanted to know what is the Ecological Civilization ideology and with which social groups did it resonate? In Chapters 3 and 4, I closely examined the Ecological Civilization ideology and how it found its way into Chinese society. In Chapter 8, I revisited Ecological Civilization through the local interpretations of the ideology defined by residents of seven housing estates in Chengdu that helped me explain with which social groups the official ideology resonated. My second question aimed at determining how different social groups in China perceive and act upon their environment. In Chapters 5 and 6, I examined the different ways that Chengdu residents perceive and act towards the environment, through mobility, consumption, food and urban infrastructure. In Chapter 7, I examined a range of environmental perceptions through the diverse social backgrounds of the residents who participated in our social survey and provided a strong focus on the environmental actions of garbage separation, water conservation and the mitigation of air pollution according to different social groups. My final question was to then examine in what way

are perceptions of and actions towards the environment related to the interpretations of the Ecological Civilization ideology by different social groups. Thus, in the final section of Chapter 8, I examined the way the perception of and actions affecting the environment by residents of different social backgrounds was related to their interpretation of Ecological Civilization, helping me gain a better understanding of how environmental consciousness in Chengdu has emerged and become enwoven with the developmental, class-based and urban ideologies I had also discussed throughout the thesis. In Chapter 1, I also argued that a primary reason for studying environmental consciousness was to understand how it is influencing social inequality and urbanization in a place like Chengdu. In this concluding chapter, I would like to draw from some of my material to consider the ways in which Chengdu residents are also in a position to build upon the environmental consciousness outlined in this thesis but in a way that could make society more equitable by challenging some of the assumptions that are created because of the wide spread acceptance of these developmental, class-based and urban ideologies. Moreover, the planting of such a seed would likely benefit from taking seriously many of the problems that I have highlighted in this thesis.

At a more global scale, the anthropological critique of the nature/culture duality has recently also swung the metaphorical axe in an attempt to break apart the hegemony of Euro-American cultural norms that can lead to an interpretation of humanity's dominance over the non-human world as natural (Viveiros de Castro 2014). In recent years a running debate has erupted regarding the impact humanity has had upon the earth system, now being called the Anthropocene (Steffen et al. 2015). Some have tried to argue in support of such a concept because the idea forces us to examine human history as it relates to the earth system, rather than through evolutionary processes or the

emergence of capitalism (Chakrabarty 2009, 2014). This group of scholars is of the mind that in order to reverse the problem we must undo the nature/culture duality.

As described in Chapter 3, this is also one of the goals in promoting the emergence of the Ecological Civilization ideology within China by providing an environmental ideology that claims to ground itself within ancient Chinese philosophy. From a more critical perspective we could say that the theoretical foundation of Ecological Civilization is precisely a process of *eternalization* making it appear that China was on the right path during its time as an Agricultural Civilization but was derailed when it embraced Industrial Civilization, no doubt due to the nature/culture duality being imposed upon Chinese culture by Western Imperialism²¹⁷. The Ecological Civilization is therefore meant to be interpreted as a kind of redemption from the mistakes of the previous era but guided by the righteousness of the past, making it all that much more difficult to consider how or if it has achieved *harmony* between individuals and their relationship with their environment. Rather than examining the historical particulars and actions that brought China to its current environmental crisis, a grand civilizational progression that resembles a new take on the Great Chain of Being has been expanded to make people believe and behave *as if* Ecological Civilization is the “natural” result of what came before.

The Anthropocene is equally as guilty of eternalizing historical discourses without critically reflecting on the particulars and actions that brought humanity to its current environmental crisis. As Daniel Hartley points out “The temporality of the Anthropocene as a periodizing category is bizarre indeed, shifting as it does between the

²¹⁷ According to the Party, it was most certainly not due to the imposition of a particular strain of Marxism as Pan Yue and others have “proved” with their quotations of Marx and Engels described in Chapter 3.

present, a retroactively posited past and an imagined future” (2015), a shifting that is frightfully similar to the temporality of Ecological Civilization described above. The difference is that the Anthropocene is locked within geological time rather than civilizational time. The question remains up in the air whether our “dirty deeds” as a species should be cut off at the beginning of industrialization in Europe or even further back perhaps with the manipulation of plant species with the introduction of agriculture or even hunting and gathering through the use of fire. Rather than a Great Chain of Being that draws from the past, the Anthropocene simply sets an imaginary line between this current human dominated era and the Holocene. Some anthropologists try to argue that the culture/nature duality is part of Holocene thinking and breaking it down is somehow part of the Anthropocene²¹⁸. Thus, I suppose there is some arbitrary line that they wish to impose that begins with Descartes and ends with Latour, making them equally guilty of establishing a duality between those who do and do not share their interest in discarding modern dualisms²¹⁹.

As I argued in the previous chapter, rather than dualities, indeed a multidimensionality of ideology is at the heart of Chengdu’s environmental consciousness. However, I have also shown throughout my thesis that these dualities, such as the rural-urban dichotomy, exist throughout society regardless of what we as scholars think of them. While it may be easy for us as academics from a bird’s eye view

²¹⁸ Or, as Sanders and Hall (2015) say: “Discard the Modern dualisms. Dwell on the emergent processes of their production. And reimagine worlds as partial and provisional, composed through multiple, heterogeneous entanglements.”

²¹⁹ Or as Sanders and Hall (2015) put it: “At the same time, climate change is leading other anthropologists right back to the Holocene. For them, this is not the time to abandon dualisms nor to theorize partial, emergent, hybrid worlds. Instead, we must entrench and purify the well-known anthropological categories of nature and culture, tradition and the local, and insist on the merits of holism. These anthropologists share theoretical affinities more with Julian Steward and Robert Netting than with, say, Latour or Tsing.”

to point out how these dualities are socially constructed and responsible for reinforcing social inequality, changing that social fact is far from easy. This is equally true of the state, which too often assumes that social change can be accomplished through political coercion and persuasion, which is one explanation for the CCP's integration of Ecological Civilization with Party canon. The political change that has occurred in China just in the past two centuries is quite vast, some of which was supposedly founded on principles of equality and yet still social inequities persist. Perhaps Descola (2013) is correct in saying that before the 19th century the Qing Dynasty promoted an environmental ideology that did not make a distinction between nature and culture. At the time environmental ideology was premised on an ontological understanding of the five elements (五行) as discontinuous processes all connected by flows of *qi* (氣 or energy) that he describes as an analogous structure of nature and culture. Of course, as Marks (1998) and Thornber (2012) have argued, there was a great deal of ambiguity to how this analogous structure of nature and culture could be interpreted. In some cases this ambiguity would still lead to an unsustainable use of natural resources²²⁰. Moreover, after a series of wars and revolutions over nearly a century resulting in the collapse of the Qing Dynasty, eventually an environmental ideology emerged that was primarily bent on serving economic development, where nature was meant to be manipulated to make the Chinese nation into a global force (Shapiro 2001). It is no surprise that a century of war placed such a system into a militaristic structure; even when Mao tried to

²²⁰ As Lloyd (2012) shows, Descola's understanding of this analogous structure is guilty of its own kind of eternalization. At different historical periods the ruling elites could draw from one of various environmental ideologies as they saw fit. This is also why focusing exclusively on ontology we risk misconstruing the way environmental ideology can be used to structure society. Following Descola we might assume that the lack of a true divide between nature and culture would ensure the Chinese Empire was always in balance with its environment. From historical evidence we know that argument does not hold as there are many cases of the Imperial Dynasty wreaking havoc with its natural resources and leaving the peripheral regions to fend for themselves (Harrell Forthcoming, Marks 1998).

reverse the urban/rural relationship during the Cultural Revolution, so that the future of the nation was to be found in the rural countryside, he had to do so using a militant discourse (Perry 2007). By the Reform Era, this dichotomy between nature and culture became even more embedded within the market system resulting in widespread exploitation of natural resources to help China achieve a high-level of civilization through economic development. More than at any time in China's history this process of civilization became centralized within the urban core, thereby establishing one of the primary dichotomies between the urban and the rural that reinforces the asymmetric relationship between economic development and environmental protection.

One of the most ominous interviews I conducted during my research was with a young resident of Tiramisu during our freelist exercise. When he began to list the elements of a Luxury Housing Estate, he looked at me intently and said "It is the responsibility of a Luxury Housing Estate to prevent rural migrants from living in these communities. A Luxury Housing Estate has to preserve a high-level of *suzhi* by ensuring that the appropriate urbanites are allowed to live there. After all, *they* are not supposed to be in the city in the first place." While this resident's perspective may seem unfair to rural residents who wish to move to the city, we should also note that this urban-rural dichotomy is not only performed by urbanites. For instance, Miss Zeng, who was discussed in Chapter 8, also lived in Tiramisu and felt that an Ecological Civilization could only be found in the countryside. This is not the perspective of an urbanite romanticizing the countryside, although that happens as well, but rather of someone who identifies as being rural that sees the city as inherently unfriendly to the environment. In most cases, though, this rural-urban dichotomy is perpetuated by and primarily benefits urban residents. In my own experience of living in Chengdu and the rural countryside of

Sichuan it is quite clear that the urban areas of China have far more social power than the rural. Yang Zhengxian also recognized this imbalance, which is precisely why he felt that to make a difference in China's environment the true challenge was changing the perspective of urbanites.

To a certain extent, this is precisely Bourdieu's point above. Simply critiquing the dichotomy and inequality between the male and female genders, or urban and rural residents, or nature and culture for that matter, is not enough. It is crucial to break down these structures that make such dichotomies appear to be eternal, but simply re-establishing the paradox of doxa with another naturalizing ideology, such as Ecological Civilization, will not solve the problem. Rather it could result in a new inequality or the further entrenchment of an already existing one. While breaking down the nature/culture divide, Ecological Civilization still establishes an asymmetric relationship between environmental and developmental ideology. Although the state is trying to minimize damage to the environment, it continues to prioritize economic development, which undoubtedly will still lead to society continuing to ignore the underlying social problems caused by economic development in the first place. In particular, such an Ecological Civilization will continue to entrench the social inequality that exists between the social classes and between urban and rural residents.

Instead of engaging with these existing social problems, Ecological Civilization ends up blaming environmental destruction upon "problem housing estates" and the rural countryside. As I have tried to show, in many cases this blame is sorely misplaced. While social class may impact the way an individual perceives the influence of the environment on their life, it is not necessarily a determining factor in the environmental actions they take. Below I want to tie these particulars together in a way that could open

a field of activity for “political struggles against all forms of domination” (Bourdieu 2001:4) and encourage those enamored by the Anthropocene to see that a truly Environmental Anthropology should be able to imagine a world that minimizes inequality regardless of whether the ontological foundation of an ideology is premised on the naturalism structure of the nature/culture dichotomy or some other form of relationship with the non-human world. To do so we have to take seriously G.E.R. Lloyd’s (2012) idea that we are constantly tacking back and forth between the multidimensionality of phenomenon, what I described in the previous chapter as the multidimensionality of ideology. Multidimensionality is what keeps us bound within the structures that concerns Bourdieu so much, but also provides us with the cracks to stimulate social change.

In my mind challenging the discourse of the class-based ideology in China is by far the most complex for recreating a doxa that would not entrench or deepen greater social inequality in China. In the thesis I drew from Bourdieu (1984) in my analysis of social class, primarily because my informant’s discussion of “problem” housing estates and the literature’s emphasis on the Middle Class values of environmentalism in China seemed to suggest that the accumulation of social capital is now driving social class formation in China. If we want to establish a new doxa within Chinese society, one of the first steps will be to encourage local government and NGOs not to write off whole housing estates as “problems” that would exclude them from important infrastructural and educational opportunities for improving the environmental conditions of their community. This is inherently an ideological task, because it requires that we abandon the incorrect assumption that environmentalism is only practiced by the middle class. The idea that saving water and recycling garbage is somehow uncool or old fashioned,

has to be challenged and made to be simply part of being a member of a community, just as it was in China only a few decades ago.

Part of this task also requires challenging the foundations and real-estate companies who are funding these projects. As we saw, the legible “hardware” that they wish to see implemented in an Ecological Housing Estate project can have benefits, such as with the garbage separation practices described in Chapter 8. In order for the benefits of living an environmentally-friendly life to be shared equally throughout society, such projects need to be implemented in all of the housing estates, not just the housing estates that NGOs and local government assume will support the successful implementation of a project. NGOs need to be given the leeway to make adjustments, possibly implementing a “software” or more educational component to their project in order for them to be successful in a range of housing estate contexts. We also need to be critical about this situation. After all, there is no incentive for the real-estate companies to make the “problem” housing estates more “livable”. As I discussed in Chapter 2, the economic competition between the real-estate companies has led to a hierarchy of environmental livability from the older housing estates to the newer. Convincing someone who currently lives in #68 that spending millions on a new apartment in a luxury housing estate in the suburbs is much easier if an environmental ideology, like Ecological Civilization, makes #68 appear polluted, dirty and without *suzhi* and the luxury housing estates as healthy, clean and of high social class.

Challenging this will be exceedingly difficult for Chengdu, but also for China as a whole. As I showed in Chapter 2, the integration of the grid and military structure of power in China has meant that the real-estate corporations are also embedded within a power structure that is dominated by the giant car manufactures and steel SOEs not to

mention the state-run oil industry and electrical grid. This marriage between the militant structure of the energy sector and the grid like nature of corporate China means that the economic-based policies that are so prevalent within the Ecological Civilization ideology are unlikely to have a negative impact on the way real-estate corporations are run. The real-estate industry will utilize their *guanxi* and social capital to ensure that they are spared from such policies affecting their bottom line or from reducing the demand for housing estates that are deemed healthy, clean and of high social class. Moreover, because urbanization is embedded within the military structure of power, I do not see any chance or hope that some kind of militant or violent series of environmental protests would have any impact at all on changing such a situation. China has mastered the ability to suppress its population by coercion and force (Wallace 2014, King et al 2016).

Although it is true that non-violent forms of resistance will result in slow and incremental changes, they are likely to be the most effective way to influence environmental change in Chinese politics. Take the urban agriculture projects that Yang Zhengxian started as an example. By implementing such projects in a school and having parents participate, Wildgrass stimulated an entire community to grow their own food or at least stimulated these families to begin purchasing environmentally-friendly food. Yang Zhengxian tried to help these urban residents establish more direct relationships with rural communities. Of course, in the process, he and Ma Juan played into some of the urban and rural assumptions about what is an ideal “countryside” in order to appease these customers, but there are signs of change. Since Yang Zhengxian and Ma Juan’s project in 2014, there are now six villages that have been established specifically for growing organic agriculture in the surrounding Chengdu region. Moreover, all of these

projects are led by urban residents who have sold their home in the city to move into the villages. While I am still skeptical, Ma Juan tells me that the relationship between the recently arrived urban residents and the rural villagers is based on mutual exchange and a hope for equality regardless of each other's background. I also found a similar attitude of sharing and exchange in the relationships between the urban farmers who were cultivating crops within the park by the Oceanside luxury housing estate that I discussed in Chapter 6.

These kinds of emergent social arrangements would not be possible without the increasing importance that residents of Chengdu place upon being environmentally-friendly. Moreover, with the rise of the Ecological Civilization ideology, residents could draw from but were not necessarily dependent upon the state for such a discourse. As Secretary Ye explained, her neighborhood management office did provide a certain amount of guidance to Eastern Star, but she felt the main reason projects in that particular housing estate were so successful is because they emerged from within the community. Overall, it was Mr. Yao's determined level of activism as the chair of the resident committee in Eastern Star that ensured the recycling projects there would really flourish. The fact that Mr. Yao is recognized by other community members as being a resident of the community rather than a state official could make an important difference. Moreover, the level of social interaction within a community can also play an important role. Riverside had at one time also implemented water conservation, recycling and urban agriculture projects in the housing estate, but after two years only the recycling project was still in use. Urban agriculture projects require a certain amount of collaboration between residents, but that had never developed in Riverside and there was no "Mr. Yao" to motivate people. Without the agricultural project there was also no

need to maintain the water conservation project. The recycling project was fairly independent of the other two projects and was maintained by the Green Earth Organization. Thus, NGOs and local government are not necessary for such projects to emerge, but they could have a certain role to play. The funding constraints of the NGOs in particular can even be a detriment to such communities, which is why in 2015 Yang Zhengxian began to refuse to take money from the government or foundations. In his mind, all of these projects are simply using environmental ideology to ensure stability (維穩), and care very little if there is actual *environmentalism*, in an activist sense, taking place.

One of the key bottlenecks for stimulating social change in China, which could allow for a serious challenge to the military structure of power, lies within the discourse makers that I described in Chapter 4. The media ensures that the public is exposed to an environmental ideology, namely Ecological Civilization, that the state wishes to promote. Even if this ideology does not resonate perfectly with local residents, it can be reinforced by projects promoted through the Civilization Offices. Moreover, the neighborhood management offices have become a reification of the grid structure of power by attempting to embed themselves and party ideology into the daily lives of residents. For instance, in Eastern Star after the residents had remodeled the public courtyard of the housing estate using all recycled materials to make a diagram of the twelve Chinese zodiac characters, they also constructed a bulletin board that included the twelve zodiacs with a short poetic explanation of each. When Secretary Ye came to film a documentary about the success of Eastern Star as an Ecological Housing Estate that I described in Chapter 5, she had the zodiac symbols in the bulletin board covered with government

propaganda posters for the film's backdrop. Even after the filming ended the posters remained because as Mr. Yao explained "We want to support the neighborhood management committee anyway we can, it's important to be harmonious, after all." Moreover, the NGOs contribute to an even deeper embedding of the Ecological Housing Estates projects than the state ever could because most residents find the NGOs to be more trustworthy. Interestingly, some of my conversations with Chen Xi, discussed in Chapter 4, made me feel that the NGOs wish that they could achieve greater distance from both the government and the real-estate companies in the implementation of their projects. Of course, that would be a challenge to both the grid-based and military hierarchy structure of power, but currently the hands of most NGOs are tied. I have tried to highlight the stories of Li Huicheng, Qi Daina, Secretaries Wang and Ye, and the NGOs, specifically because we can see that they do have aspirations for improving China's environment, but we can also see them trapped within this hierarchical social system.

The group of discourse makers that I find truly disappointing is the academics. The most disconcerting are those working in the think tanks discussed in Chapter 4, which are primarily responsible for helping the central government fortify their ideological positions by making them appear even more eternal and natural. By uncovering textual quotations from the *Daodejing*, the *Lunyu*, *Capital* or even the work of John Bellamy Foster, these discourse makers provide Ecological Civilization with a historical and universal appeal. While integrating Ecological Civilization with Confucianism and contemporary philosophers such as Whitehead may appear important from an academic perspective, it also has the potential to further bury the fact that economic development is still at the heart of how the party places Ecological

Civilization into practice. I believe it is only a matter of time before Ecological Civilization becomes integrated with the Anthropocene discourse thereby locking the righteousness of Party ideology not only into a civilizational temporality but a geological one as well!

Even very practical research, such as making Sichuan University an ecological campus, becomes strongly limited because of the way that academics feel they have to appeal to a greater theoretical debate. For example, Professor Luo wanted to make comparisons with the University of Michigan survey to write a “publishable paper” rather than to help Sichuan University become more environmentally-friendly. I also sympathize with Professor Ma, who I also discussed in Chapter 4, when he explained that all research depends on state funds that are earmarked for theoretical contributions rather than practical applications. Academics in China are not rewarded for contributions that would stimulate the kind of social change that Bourdieu had in mind. Instead, it is the think tanks within Chinese universities, which are embellishing on the theoretical foundation of Ecological Civilization in ways that help to strengthen the legitimacy of the state, that continue to receive funding and support from the Central Government.

Thus, the state will only promote an ideology that would encourage environmental practices as long as they allow for the continuation of economic development. The state prevents the media from providing information about the environment that could challenge the message it wishes to disseminate to the public. It controls the local government, as best it can, from changing that message about the environment to fit the local context. The state supports foundations that encourage NGO programs to focus on hardware rather than engaging with communities at a reciprocal level. It makes sure that academics focus on abstraction because practical ideas and their

implementation should be the purview of the Party itself and kept within limits to prevent radical change. This is the consciousness that the state wishes to cultivate.

Thus, I would argue that as means of ensuring its legitimacy the state endeavors to control social consciousness. From the perspective of the state this is not done solely by building massive projects (Scott 1998) or trying to get its subjects to focus on a single dominant ideology like nationalism (Anderson 2006) or neoliberalism (Harvey 2005). Rather, as this thesis outlines, the state also tries to control environmental consciousness to ensure that some of the fundamental ways that we think about, perceive and act upon the non-human world also ensure the stability of state power. Moreover, this is done by ensuring that whatever projects and discourses are out there draw from a single voice; that of the state. As I said in the previous chapter this is oppositional to the multidimensional nature of ideology as it plays out within society. The state assumes that a uni-dimensional interpretation of environmental ideology will be the best way to ensure that perceptions and actions of the public will fit a prescribed model of the non-human world making it easier to implement their projects and transmit their discourse. I would argue, though, that the state is rarely successful in this endeavor and almost certainly create social inequities by focusing on a uni-dimensional interpretation of an ideology. These social inequities may cause some, such as the Apathetic Group discussed in the previous chapter, to feel trapped regarding how they act toward the environment, so that they might feel that having an authoritative state to promote environmental governance would be the best solution.

However, as I also argued in the previous chapter, it is possible that once these groups are exposed to an alternative environmental ideology, such as being environmentally-friendly, that better resonates with their own concerns about

environmental problems, they may come to believe that environmental protection should be prioritized over economic development. Using the metaphor of multiple layers of canvas to describe the complexity of environmental consciousness is helpful not just as “a theoretical stab in the dark” but also as a framework for providing alternatives to the monotone of the state to those who want to stimulate change. My own experience tells me that small communities recognize the limitations impressed upon them by the state, but at the same time these communities know that if they are able to connect their concerns for the environment to Ecological Civilization those concerns will gain a certain level of legitimacy in society. Ultimately, the way Yang Zhengxian’s urban agriculture projects have flourished, the way Eastern Star rebuilt their courtyard with waste materials, even the way people just leave a bucket under the shower to save water are little steps that make a difference.

Moreover, they have to be little steps. If at any moment the state feels that a community may have crossed a boundary they will step in to implement control. No example is as clear as that of the residents of Chengdu who regularly go to enjoy the environment of People’s Park. While a clear attempt to escape the polluted atmosphere and hustle of car-crowded streets, those who used to visit People’s Park in the last decade did so also to enjoy the social atmosphere. That social atmosphere of dancing, singing and live performances, which was viewed by many as being unproductive for social development, reached a pinnacle in 2014, particularly with some of the controversy surrounding the popularity of *guangchang wu*. Just before I was preparing to leave the field, in late May 2015, the park authorities shut down all of the performances that included the use of a battery powered PA system. At the time, the authorities claimed that restrictions were put in place in preparation for college entrance

exams 高考. Moreover, I had witnessed something similar occur in 2014. While the typical parkgoers were away for that month, the park authorities began to completely redesign the public spaces of the park in a way that would prevent them from being used for such activities again. Even more imposing, was in early 2016 they implemented a decibel limitation within the park, placing monitors in all of the large squares (Figure 9.1), preventing any kind of boisterous performance from taking place in the future. This is the kind of uni-dimensional atmosphere that the state wishes to impose within an Ecological Civilization. The state desires a quiet, harmonious civilization that does not impose itself upon the non-human world except in achieving its single-minded goal of economic development.



Figure 9.1 Central Square of People's Park with Decibel Meter
(Source: Shao Yuqian)

Appendix A: Social Class Index

At multiple times in my fieldwork I was confronted with the fact that social class plays an important role in defining different kinds of social interaction in Chengdu. For this reason throughout the thesis I have set out to explore how social class influences the emergence of environmental consciousness. In Chapter 7, I use the Social Class Index described in this Appendix to examine the quantitative relationship between social class and environmental perception and action, and to a more limited extent I also explore the intersection of social class and ideology using a mixed methods approach in Chapter 8. The format of the Social Class Index draws from the work of Wright (2005) but is based primarily on my experience as a participant observer in Chengdu; experiences that I have discussed at different places in the thesis. Here I wish to outline the way I constructed this Index and the logic behind it. In total the Social Class Index is an aggregate of six 5-point scaled indices: the Household, Income, Education, Profession, Birthplace and Vehicle Indices.

Household Index

I created this index first based on the three-part typology I described in Chapter 2, namely the gated, managed and luxury housing estates. Moreover, I have placed them in the hierarchy described below not just based on their relative age of construction, but also the way the local government and residents described these housing estates to me in terms of the social capital they provided to the residents who lived there. Moreover, the concept of the “problem” housing estate, specifically #8, #68, and #88, versus the “model” housing estate, #78, was also taken into account in this ranking. Finally, I took into account that within each of these housing estates we talked to both renters and owners. The index reflects the fact that owners are considered to have a higher level of social capital than the renters.

Housing Index	
Rank	Housing Estate
1	#8 #68 #88
2	#78
3	Riverside, Eastern Star
4	Tiramisu
No Rent=+1	

Table A.1 Housing Estate Ranking for Housing Index

Income Index

To create a five-point ranking for an Income Index, I used the Total Household Income per Capita variable. Based on fairly standard interpretations of the relationship between income and social class (White 2014), I used income at the 10%, 25%, 50%, 75% and 90% percentiles as my five cutoff points for my rankings. This resulted in the following ranking:

Income Index			
N	Valid	229	
	Missing	16	
Mean		4181	Rank
Percentiles	10	<2000	1
	25	2000-2999	2
	50	3000-4999	3
	75	5000-7999	4
	90	>8000	5

Table A.2 Total Household Income per Capita Percentiles and Ranking for Income Index

Education Index

As I have noted in the thesis, the level of education attained by a resident of Chengdu is often used to describe their level of social capital. Residents of the “problem” housing estates were often described as having low *suzhi* (or low quality) supposedly due to their low level of education. Level of education is also an important factor for applying to certain jobs in China. In China, social capital truly starts to accumulate to those who attain a level of education above junior middle school, which includes the bulk of my sample (75.8%). Therefore, I structure the Education Index according to the following ranking:

Education Index	
Rank	Level of Education
1	Junior Middle School or Lower
2	High School
3	Community College, Trade School
4	Undergraduate University
5	Masters, Ph.D.

Table A.3 Level of Education Ranking for Education Index

Profession Index

Because Chengdu is the urban center of Sichuan Province, the respondents to our survey are engaged in a great diversity of paid work. Tilt (2006) has shown that employment background had a strong influence on the way people perceived pollution in a small township in Southern Sichuan. Employment diversity is much higher in Chengdu making such an analysis impractical for my study. Moreover, within each job type an individual could hold a different position with a hierarchical ranking. Wright (2005) has demonstrated that different types of employment allow individuals to accumulate varying levels of social capital. My own interpretation of the accumulation of social capital according to different kinds of employment is based on my ethnographic experience, but also on a ranking recently circulated among Chinese academics²²¹. I integrated both the Profession and Position²²² variables from our survey to create the following ranking system:

Employment Index	
Rank	Profession (Position)
1	Factory (Worker), Food Service, Farmers
2	Service Industry, Military, Police, Construction Work
3	Media, Government (Cadre or Worker), Corporation (Manager or Worker), Factory (Manager), SOE (Manager or Worker), Self-Employed/Small Business (Manager or Worker)
4	IT, Medical, Education, Research, Factory (Owner),
5	Small Business (Owner), SOE (Leader or CEO), Government (Leader), Corporation (CEO or Stockholder)

Table A.4 Ranking of Profession and Position for Employment Index

²²¹ See: <http://www.xueqiu.com/6146070786/24688351>, but my own ranking follows the logic presented in this *Zhihu* post <https://www.zhihu.com/question/27269643/answer/35981655>

²²² It should be noted that residents did not consider that all Professions had a hierarchy of Positions. I indicate in parentheses which Professions do.

Birthplace Index

All cities in China tend to exhibit a certain degree of localism and those who are not from Chengdu are at a general disadvantage due to their inability to speak the local dialect and lack of long-term *guanxi* connections. The only group who this does not apply to is foreigners who are often considered to be endowed with a high level of social capital regardless of how long they have lived in Chengdu, but we only interviewed two foreign residents in our study²²³. Residents who were born in other cities of Sichuan have a slightly higher advantage because they often fake their accent and often have family members who are long-term residents of Chengdu. However, even residents who are from other cities in China are in a better position than residents who were born in the countryside, primarily because of the strong anti-rural bias found in the city that I discuss in the thesis but also because practically speaking a rural *hukou* can prevent a resident from access to education, health care and in some cases even certain forms of employment. For that reason I have established the following ranking:

Birthplace Index	
Rank	Birthplace
1	Rural China
2	Other City China
3	Other City Sichuan
4	Chengdu
5	Foreign Country

Table A.5 Ranking of Resident's Birthplace for Birthplace Index

²²³ One man was from Korea and another was born in Thailand but had a UK passport.

Vehicle Index

As discussed in Chapter 6 and Chapter 7, the type of vehicle or the way a resident moves around the city is a material symbol of their level of accumulated social capital (See also Zhang 2016). As explained by Zhou Lei, the car can even act a tool for accumulating more social capital with elites in Chengdu²²⁴. Moreover, we saw in Zhou Lei's example that it was only after he quit his job and was no longer worried about cultivating an image of high social class that he purchased an electric bike. Thus, having a car as the sole means of transportation represents the highest level of social capital. An electric bike is also perceived as being more prestigious than a regular bicycle. Finally, having no personal mode of transport would be perceived as having very little social capital²²⁵. Thus, here I establish the following ranking:

Vehicle Index	
Rank	Vehicle
1	Nothing
2	Bicycle
3	Electric Bike or Electric Bike+Bicycle
4	Electric Bike/Bicycle+Car
5	Car

Table A.6 Ranking of Types of Vehicles for Vehicle Index

²²⁴ If the survey had permitted I would have included make and model of the car, but that was not practical and would have made survey respondents nervous.

²²⁵ Having no personal mode of transport would of course not prevent the resident from being mobile throughout the city as the public transportation system is still very useful. This index is strictly about the relationship between vehicles and social capital.

Analysis

For each household a total index was then created by adding the six indices described above together. This created an initial class index with following frequency results:

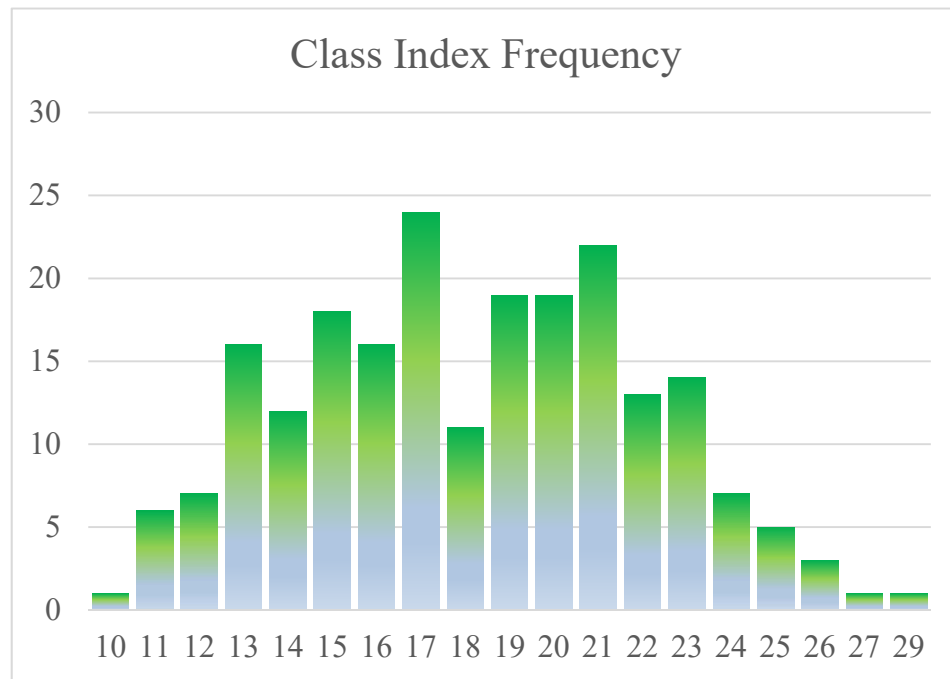


Figure A.1 Initial Class Index Frequencies

This Initial Class Index showed a fairly normal distribution with only three outliers and relatively no skewness.

Skewness	.089
Std. Error of Skewness	.166
Kurtosis	-.663
Std. Error of Kurtosis	.330

Table A.7 Level of Skewness and Kurtosis of the Initial Class Index

In order to create a more manageable index, I condensed the Initial Class Index into five social class groupings accordingly:

Final Class Index		
N	Valid	215
	Missing	30
Initial Class	Final Class Index	
<13	1	Impoverished Class
13-15	2	Working Class
16-19	3	Middle Class
20-23	4	Upper Class
>23	5	Semi-Elite Class

Table A.8 Ranking of Final Class Index

I have specifically used the “Semi-Elite” moniker for the class with the highest level of social capital in our survey because they do not represent what those living in Chengdu would think of as true elites. That group was not included in this study. The Final Class Index, or what I term the Social Class Index in the thesis, exhibited the following frequency results:

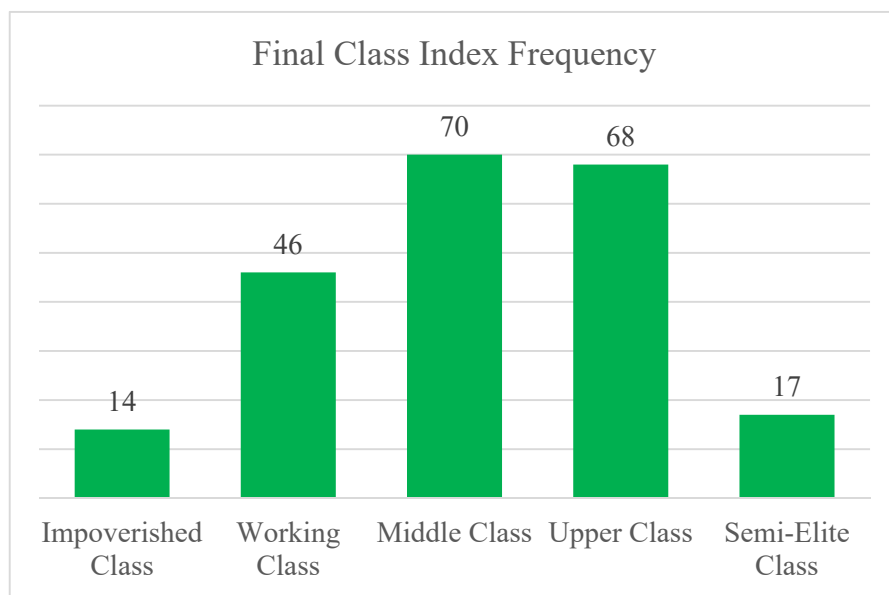


Figure A.2 The Final Class Index Frequencies

Based on ethnographic experience as well as some basic demographic and socio-economic data provided to me by Global Trees and Friends of Chengdu, these frequency results are a good approximation of the social class disparities that exist within the housing estates where we conducted our research. The small number of Impoverished and Semi-Elite are representative of the fact that the communities we conducted research in were not Chengdu's most poverty-stricken or the most affluent. Additionally, while there is a slight skewness (Table A.9) in the sample towards the upper class, this actually is quite representative of the fact that the Jinjiang District is becoming more gentrified, particularly the housing estates in the Dragon Boat Street Management District.

Skewness	-.189
Std. Error of Skewness	.166
Kurtosis	-.598
Std. Error of Kurtosis	.330

Table A.9 Level of Skewness and Kurtosis of the Final Class Index

Problems

There are a number of obvious deficiencies with such an index. First is that I was unable to incorporate a subjective measure of social class, or how residents perceived their own social class. This is a sensitive issue in China and in our survey design we decided it was best not to include a question that would ask residents to define their social class. Another concern would be the labels that I have attached to the five different social groups in the Final Class Index. This admittedly is quite problematic because the labels were primarily chosen based on my own ethnographic experience in these communities. However, I also choose these particular monikers in an effort to engage more directly with the “Middle Class Values” discourse regarding environmental consciousness in China. Too often the idea that only the middle class is capable of having an environmental consciousness is presented as fact in the literature without any empirical basis (Cf. Shi et al. 2011). The entire purpose of creating a Social Class Index is to encourage future research on this topic to provide more concrete evidence of the relationship between social class and environmental consciousness.

Appendix B: Freelist Analysis

	Item		Frequency (%)	Average Rank	Salience
1	垃圾	garbage	40	2.56	0.277
2	綠化	greenery	35	4.07	0.172
3	樹林	trees	35	2.43	0.282
4	環境	environment	30	2.75	0.2
5	空氣	air	27.5	3.18	0.176
6	水	water	20	3.13	0.125
7	花草	flowers	17.5	2.71	0.099
8	衛生	sanitation	17.5	3.71	0.107
9	汽車尾氣	car exhaust	15	3.67	0.085
10	植物	plants	15	2	0.116
11	環保	environmental protection	10	3.25	0.061
12	寵物	pets	10	3	0.057
13	動物	animals	10	3	0.06
14	種植	potted plants	7.5	3	0.052
15	河流	river	7.5	8	0.016
16	山	mountain	7.5	4	0.045
17	回收利用	recycling	7.5	2	0.061
18	節水	water conservation	5	1.5	0.047
19	土壤	soil	5	2.5	0.036
20	濕地	wetlands	5	1.5	0.044
21	食品	food	5	3.5	0.022
22	堆肥	fertilizer	5	2	0.038
23	雨水回收	rain catchment	5	5	0.014
24	和諧	harmony	5	2.5	0.027

Table B.1 Ecology Freelist Analysis

	Item	Frequency (%)	Average Rank	Saliency	
1	環境好	good environment	32.5	2	0.255
2	空氣新鮮	fresh air	25	2	0.204
3	交通	transportation	20	2.38	0.128
4	居住環境	built environment	12.5	2.2	0.096
5	購物	shopping	12.5	3	0.048
6	公園	parks	12.5	2.8	0.09
7	衛生	sanitation	10	2.5	0.063
8	乾淨	cleanliness	7.5	2	0.06
9	鍛煉	exercise	7.5	3.67	0.038
10	心情	emotion	7.5	2.67	0.049
11	人際關係	relations with other people	7.5	2.67	0.043
12	吃飯	eating	7.5	3	0.052
13	樹林	trees	7.5	3	0.042
14	健康	health	7.5	2.67	0.053
15	綠化好	good greenery	7.5	2.33	0.05
16	家庭	home	7.5	3.67	0.037
17	垃圾	dealing with garbage	5	2	0.032
18	工作穩定	stable job	5	5.5	0.012
19	和諧	harmony	5	2.5	0.025
20	旅遊	travel	5	5.5	0.017
21	安全	security	5	2.5	0.028
22	自然	nature	5	1	0.05
23	家具	furniture	5	3	0.032
24	休息	rest	5	2.5	0.027

Table B.2 Comfort Freelist Analysis

	Item		Frequency (%)	Average Rank	Saliense
1	綠化	greenery	37.5	2.47	0.257
2	環境	environment	25	2.5	0.162
3	空氣	air	20	2.38	0.161
4	噪音	noise	17.5	3.29	0.107
5	衛生	sanitation	17.5	2.29	0.128
6	交通	transportation	12.5	3.8	0.079
7	停車	parking	10	5	0.056
8	樹林	trees	10	2.5	0.071
9	就醫	access to medical care	10	3.25	0.048
10	河流	rivers	7.5	2.67	0.051
11	設施	infrastructure	7.5	2.33	0.055
12	購物	shopping	7.5	8	0.019
13	植被	plant life	7.5	2	0.058
14	節約資源	resource conservation	7.5	5	0.031
15	和諧	harmony	7.5	4.33	0.04
16	健身器	workout equipment	7.5	2.33	0.057
17	水	water	7.5	4.33	0.045
18	學校	schools	7.5	3.33	0.053
19	物管	property managers	7.5	1.67	0.058
20	方便	convenience	7.5	3	0.053
21	山	mountain	7.5	3.67	0.038
22	安全	security	5	2	0.033
23	花草	flowers	5	4	0.022
24	安靜	quiet	5	3.5	0.025

Table B.3 Built Environment Freelist Analysis

	Item	Frequency (%)	Average Rank	Salience	
1	物管	property managers	46.2	2	0.351
2	綠化好	greenery	30.8	2.92	0.204
3	環境好	environment	23.1	2	0.185
4	設施齊全	infrastructure	15.4	3.83	0.063
5	配套齊全	complete amenities	10.3	3.5	0.065
6	空氣好	good air quality	10.3	6	0.039
7	居民素質	quality of residents	10.3	2.5	0.062
8	和諧	harmony	7.7	7.33	0.02
9	安全	security	7.7	5.67	0.039
10	停車方便	parking	7.7	5.33	0.028
11	河濱印象	Hebinyinxiang	5.1	2	0.038
12	戶型好	good orientation	5.1	3.5	0.032
13	交通	transportation	5.1	2.5	0.036
14	豪華	fancy	5.1	2.5	0.031
15	游泳池	swimming pool	5.1	6.5	0.016
16	娛樂齊全	complete entertainment	5.1	8	0.009
17	景觀好	good landscape	5.1	5	0.02
18	條件好	high class conditions	5.1	1	0.051
19	有錢	wealth	5.1	1.5	0.045
20	衛生	sanitation	5.1	2	0.042
21	中央空調	central air	5.1	2.5	0.036
22	服務號	good service	5.1	3	0.037
23	保安	security guards	5.1	3.5	0.024
24	別墅	mansions	5.1	3	0.029

Table B.4 Luxury Housing Estate Freelist Analysis

Appendix C: ANOVA Tests

ANOVA Table of Education Level						
		Sum of Squares	df	Mean Square	F	Sig.
Water Quality	Between Groups (Combined)	19.103	8	2.388	1.830	.073
	Within Groups	301.497	231	1.305		
	Total	320.600	239			
Public Transportation	Between Groups (Combined)	17.105	8	2.138	1.563	.137
	Within Groups	314.611	230	1.368		
	Total	331.715	238			
Greenery	Between Groups (Combined)	13.929	8	1.741	1.818	.075
	Within Groups	221.233	231	.958		
	Total	235.163	239			
Soil Quality	Between Groups (Combined)	15.773	8	1.972	1.108	.359
	Within Groups	409.306	230	1.780		
	Total	425.079	238			
Food Safety	Between Groups (Combined)	6.980	8	.873	1.199	.300
	Within Groups	168.082	231	.728		
	Total	175.063	239			
Noise	Between Groups (Combined)	18.613	8	2.327	2.323	.020
	Within Groups	231.383	231	1.002		
	Total	249.996	239			
Air Quality	Between Groups (Combined)	5.379	8	.672	1.031	.413
	Within Groups	150.584	231	.652		
	Total	155.963	239			
Garbage	Between Groups (Combined)	17.182	8	2.148	1.814	.075
	Within Groups	273.480	231	1.184		
	Total	290.663	239			

Table C.1 ANOVA Test of Environmental Perception across Groups of Residents with Different Levels of Education

ANOVA Table According to Housing Estate						
		Sum of Squares	df	Mean Square	F	Sig.
Water Quality	Between Groups (Combined)	18.073	6	3.012	2.317	.034
	Within Groups	309.340	238	1.300		
	Total	327.412	244			
Public Transportation	Between Groups (Combined)	9.412	6	1.569	1.132	.345
	Within Groups	328.567	237	1.386		
	Total	337.980	243			
Greenery	Between Groups (Combined)	10.427	6	1.738	1.824	.095
	Within Groups	226.773	238	.953		
	Total	237.200	244			
Soil Quality	Between Groups (Combined)	26.502	6	4.417	2.587	.019
	Within Groups	404.658	237	1.707		
	Total	431.160	243			
Food Safety	Between Groups (Combined)	4.421	6	.737	1.021	.412
	Within Groups	171.717	238	.722		
	Total	176.139	244			
Noise	Between Groups (Combined)	13.248	6	2.208	2.200	.044
	Within Groups	238.890	238	1.004		
	Total	252.139	244			
Air Quality	Between Groups (Combined)	4.138	6	.690	1.072	.380
	Within Groups	153.087	238	.643		
	Total	157.224	244			
Garbage	Between Groups (Combined)	5.236	6	.873	.713	.640
	Within Groups	291.433	238	1.225		
	Total	296.669	244			

Table C.2 ANOVA Test of Environmental Perception across the Different Housing Estates

ANOVA Table According to Social Class						
		Sum of Squares	df	Mean Square	F	Sig.
Water Quality	Between Groups (Combined)	16.843	4	4.211	3.105	.016
	Within Groups	284.766	210	1.356		
	Total	301.609	214			
Public Transportation	Between Groups (Combined)	6.271	4	1.568	1.074	.370
	Within Groups	305.005	209	1.459		
	Total	311.276	213			
Greenery	Between Groups (Combined)	9.665	4	2.416	2.487	.045
	Within Groups	203.991	210	.971		
	Total	213.656	214			
Soil Quality	Between Groups (Combined)	18.815	4	4.704	2.680	.033
	Within Groups	366.797	209	1.755		
	Total	385.612	213			
Food Safety	Between Groups (Combined)	6.173	4	1.543	2.183	.072
	Within Groups	148.460	210	.707		
	Total	154.633	214			
Noise	Between Groups (Combined)	11.783	4	2.946	3.280	.012
	Within Groups	188.617	210	.898		
	Total	200.400	214			
Air Quality	Between Groups (Combined)	3.974	4	.994	1.494	.205
	Within Groups	139.682	210	.665		
	Total	143.656	214			
Garbage	Between Groups (Combined)	12.428	4	3.107	2.647	.034
	Within Groups	246.456	210	1.174		
	Total	258.884	214			

Table C.3 ANOVA Test of Environmental Perception across Social Class

ANOVA Table						
		Sum of Squares	df	Mean Square	F	Sig.
Degree of Difficulty * Class Index	Between Groups	6.389	4	1.597	.901	.464
	Within Groups	324.249	183	1.772		
	Total	330.638	187			

Table C.4 ANOVA Test of Degree of Difficulty in Separating Garbage across Social Class

ANOVA Table						
		Sum of Squares	df	Mean Square	F	Sig.
Degree of Difficulty *Housing Estate	Between Groups (Combined)	27.564	6	4.594	2.552	.021
	Within Groups	374.371	208	1.800		
	Total	401.935	214			

Table C.5 ANOVA Test of the Differences of the Average Degree of Difficulty in Conserving Water between the Housing Estates

ANOVA Table						
		Sum of Squares	df	Mean Square	F	Sig.
Age * Health Group	Between Groups (Combined)	1302.959	1	1302.959	4.604	.033
	Within Groups	68763.939	243	282.979		
	Total	70066.898	244			

Table C.6 ANOVA Test of Average Age of Male and Female Residents According to Whether or Not They Mentioned the Health Thematic Group

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