Environmental cosmopolitanization 'with Chinese Characteristics': a possible legacy from recent environment policy developments and experimental collaborative projects?
 Time span 2000-2010.

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May 2014

I prefer the edge: the place where countries, communities, allegiances, affinities, and roots bump uncomfortably up against one another- where cosmopolitanism is not so much an identity as the normal condition of life. Such places once abounded. Well into the twentieth century there were many cities comprising multiple communities and languages – often mutually antagonistic, occasionally clashing, but somehow coexisting.

Judt, T 2010, 'Crossings', The New York Review of Books, March 25-April7, vol. LVII, No.5, p.15.

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ABSTRACT

The aim of this study was to discover whether or not engagement in cosmopolitanization processes between China and international environmental organizations, especially the United Nations Environmental Program (UNEP), might have helped remedy the dilemmas posed by China's environmental predicament in the decade 2000-2010. I chose Ulrich Beck's concept of cosmopolitanization processes in risk societies to examine the 'spacial and temporal dimensions' (Goldstein, 1989:537) of the Chinese environmental arena in this decade. China's environmental crises were multifarious and often catastrophic in their effects on local populations. The central government needed funding, environmental expertise and technology. Exchanges with organizations like UNEP were frequently adversarial. There were historical, economic and political reasons for this state of affairs. National and international issues influenced the authoritarian central government to decide that national concerns would take precedence in international environmental agreements. However, despite these and other international exchange difficulties, the Chinese government accepted the United Nation's program of Sustainable Development and attempted to implement it because the program might benefit the environment but still permit maintenance of economic growth. Implementation of environmental projects was always fraught with formidable impediments but policy developments did begin to include cosmopolitanization possibilities in a series of experimental environmental projects which, despite often negative evaluations, did introduce collaborative ventures involving international assistance. Citizen participation in local environmental projects was a central concern in this study, but despite policy exhortations to promote their involvement, actual participation was limited to groups of officials and particular environmental organizations. It was obvious that had public participation existed in practice the collaborative projects would have encouraged stronger cosmopolitan exchanges. Nonetheless, by about 2012 there was some evidence of an opening up that improved engagement with international environmental regimes and this change, while not transformational, could encourage more useful cosmopolitan relationships during the 21st conference in Paris in 2015.

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May 2014

ACKNOWLEDGEMENTS

Welcome to the Anthropocene Epoch

'Thus we find ourselves in the Anthropocene. Today, even if the population were to decline substantially or land use to become far more efficient, the extent, duration and intensity of human activity has altered the terrestrial biosphere sufficiently to leave an unambiguous geological record differing substantially from that of any prior epoch. Earth's biodiversity, biogeochemistry and evolution are now profoundly reshaped by us – and therefore are in our hands' (Ellis, 2011:2).

CHAPTER 1: INTRODUCTION

The question my study sought to answer was whether or not, as a result of certain cosmopolitanization processes in the Chinese environmental arena, some embryonic, rather fragile, but very pragmatic Chinese adjustments were being nurtured through various forms of international collaborations with people from other cultural backgrounds at both local and state level. These opportunities for cooperation with foreigners occurred during environmental projects that were intended to provide the essential funding, technologies and specialized expertise to resolve China's environmental dilemmas. While it was unlikely that these engagements would influence the emergence of any strong, organizational, political opposition intent on transformation of the central authoritarian government, they might exert some restraint on outbursts of virulent nationalism in international environmental conventions. However, there would still be a need to maintain China's notion of itself as having legitimacy in international environmental regimes and not lose face or power at home.

A central focus of this dissertation was the overwhelming number of Chinese incidents involving large-scale environmental degradation, some of which appeared to be intractable, during the decade 2000-2010. The Chinese central government was aware of these problems and was concerned to manage the social and economic effects of environmental damage. There was also an evolving understanding of global climate change at government level, but China's accommodation of international environmental regulation and its acceptance of the norms embedded in regime requirements, like those developed by the United Nations Environment Programme, was limited and wary. This response was maintained despite the fact

that it was crucial that China accept foreign assistance to deal with increasing environmental crises.

I chose Ulrich Beck's concept of 'cosmopolitanization' as a methodological focus. Avery Goldstein claimed that research studies of Chinese politics tended to display problems with conceptual and theoretical frameworks and difficulties caused by a lack of credible data (1989:517). Goldstein acknowledged the 'distinct' quality of Chinese political realities so that the task of identifying and explaining events often resulted in accounts that appeared to be so uniquely Chinese as to elude interrogation, and were very complex even for Chinese writers. He asserted that what was essential to give meaning to the research was a theoretically informed focus because there was always a need to ask 'what theories best explain phenomena within certain spatial and temporal dimensions' (1989:537).

The concept of cosmopolitanization was a central issue for my study but there were a number of related subjects where the German sociologist's work was also relevant. Beck's publications were available in China. Between 1986 and 2012 the German publishing house Suhrkamp Verlag sold the Chinese translation rights to seven of Beck's publications. Jarvis described Beck as a being 'one of the foremost sociologists of the last few decades, single-handedly promoting the concept of risk and risk research' (2007:23). A number of environmental risk management narratives written about China as a risk society did acknowledge the influence of Beck's work (Cantelli *et al* 2010; Connell 2013; He 2012; Ho *et al* 2011; Lin Yenchun 2007; Suttmeier 2011; Tilt 2009 & 2013; Van Gennip 2005; Wishnick 2005 & 2013). A special issue of the *China Quarterly* in June 2013 examined Chinese 'risk perceptions' associated with environmental and toxic food problems. Most of these commentators agreed with Suttmeier that 'one can legitimately speak of contemporary China as part of today's "risk society" '(2011:26), so that environmental governance became the 'management of risk and the crises that emanate from them' (ibid). It did seem that following the Fourth Climate Assessment

Report from the Intergovernmental Panel on Climate Change (IPCC) in 2007 there was a surge of academic focus in the examination of China as a risk society.

Beck's interest in the concept 'risk', which he developed over some twenty-five years, did recognize that risk hazards like climate change and environmental disasters were perceived as risks according to the time and site of their realization and were understood and acted upon by both those who were experiencing the effects directly in local communities, and by government agencies in initiating processes of risk management. Neither central government administration nor local government agencies were prepared for those environmental disasters resulting from rapid economic expansion where 'managing risk requires hard choices, given that the very development process that creates risk for society is viewed as a priority for state security' (Wishnick, 2013:175). Risk management involved the allocation of responsibility and education programs intended to persuade people to adopt different patterns of harvesting and consuming by using centrally controlled mechanisms and local experiments. Tilt (2013) drew attention to the ways in which risk, uncertainty and individualization became intertwined in his rural Chinese village following the 1980's reform program where 'untying the villager from the collective, untying the economy from the central plan and untying the individual from his natal community' emphasized self reliance and personal liability in matters like health problems caused by environmental toxicity. Individualization was encouraged in this new version of socialism. Tilt concluded that these reforms had the effect of some rural citizens developing notions of entitlement to individual rights and a belief in the value of self-reliance, rather than reliance on government. It was possible that the government's policy expectations included the hope that the emphasis on individualization might become an insurance against collective protest.

There were several other issues in addition to cosmopolitanization and risk connected with China and its environmental problems in ways where Beck's work provided some explanation. Peter Ho and his colleagues argued that emerging risk societies like China were not undergoing a replication of previous environmental risk periods

in its history partly because of the intervention of global capitalism. In China such hazards could indeed be 'undetected by direct human perception, (and could) cause irreversible harm and transcend generations and the boundaries of nation-states' (2011:3). The writers' disquiet was caused by the transnational biotechnology commercial operations of Monsanto into rural subsistence farming in China. These writers were drawing on Beck's risk theory to examine a new form of environmental risk. There was also the example of the environmental protests that were becoming a serious source of anxiety for local and national law and order institutions as they became larger and more media savvy. Beck's idea concerning reflexivity and increasing political awareness as a response to risk experiences could be explored in the growth of such protests and the increasingly violent responses to protest. Some form of reflexive realization, and consequent action following personal experiences of environmental disaster or even the threat of environmental damage, may have influenced these challenges which were mainly directed against local authorities.

Then there was the emergence of groups of experts with specialized technological or scientific knowledge about climate change and environmental management in situations where local administrators had very limited expertise and public participation was often actively discouraged. Under conditions of environmental disasters or enduring the effects of climate change, as Doyle and Chaturvedi pointed out, people became cast 'within the shadow of a global enemy – climate – something which cannot be seen or touched by most, but can only be interpreted and understood by a scientific and economic elite' (2010: 520). Beck did consider the multiple uncertainties that could frame policy development under these circumstances (Cantelli *et al.* 2010:2). Beck was also interested in whether or not coping with risk decisions during policy generation facilitated the adoption of new institutional and normative frameworks (2012c). Thiers (2003) asked, within the Chinese risk society, who were the populations whose opinions mattered most in relation to risk perceptions? How important was the emerging middle class in this conversation?

There was also the problem posed by Beck in his explorations of the contradictions embedded in technological production. Such contradictions were obvious in the Chinese government's pleas to gain access to international technological assistance to resolve environmental problems that were frequently actually caused by the Chinese government's own promotion of unregulated industrial technology in the pursuit of both social harmony and relentless economic growth. At the same time new green industries, particularly those in renewable energy projects, made Chinese technology very profitable in an international market and seemed to open possibilities for Chinese technological innovation, even in the face of accusations of technological fraud.

Finally there was Beck's interest in the ways in which people and governments managed to live and cope with risk, providing nation states acknowledged their responsibility to develop risk management strategies that included the involvement of their citizens. China, despite its authoritarian and secretive governance, was aware that its situation of vast environmental destruction meant that the central government could not cope with its problems alone. Beck described a form of cosmoplitanization as 'unfolding, involuntary, unnoticed, powerfully and aggressively below the surface, behind the facades of existing national spaces, sovereign territories and etiquettes' (2012c:4). China was part of such a cosmopolitanization process. Beck realized that his arguments needed expansive and intricate data from actual site evidence to explicate 'the collective essence of a global society ill at ease' (Jarvis, 2007:1). He saw cosmopolitanization as a 'perspective for research, a political reality and a normative theory' (2012c:11). By 2013 Beck and his research team stressed the need for 'an empirical reorientation towards "cosmopolitanization" as the social force' (2013:1).

Beck continually reworked his concepts, like the position and power of the nation state in relation to environmental degradation, but he paid particular attention to his concept of 'cosmopolitanization'. By 2012 there was a detailed case study from actual site evidence and using Beck's development of the concept that examined the

cosmopolitanization of science in stem cell governance in China, developed by Joy Yueyue Zhang.

Climate change and environmental degradation were perceived to be global priorities in international environmental regimes and there was recognition that cosmopolitanization processes were inevitable in confrontations with the risks and realities of global climate change and in gaining access to international environmental aid. Ecological crisis was one of the empirical signs selected by Ulrich Beck as an indicator of an increasing cosmopolitanization within global environmental concerns.

> Ecological crisis: Development in the (stratospheric) ozone layer, development of world climate, development of worldwide fish resources, development of cross-border air and water pollution, development of attitudes to local, national and global world crises, environmental legislation, environmental jurisdiction, environmental markets, environmental jobs (Beck, 2008:80).

Beck saw the material processes that shaped cosmopolitanization as being related to meanings attached to the concept of humanity and such processes imposed 'an enmeshment with the global Other' (2012:311). These experiences were not always welcomed but they could result in the recognition of a common humanity. Beck asserted that when there were encounters with global risks like climate change, there was also the creation of 'cosmopolitan moments of world openness' which permitted a cosmopolitanization that should be perceived as an 'ethical political medium of societal transformation that is based on the principle of world openness; and this principle of world openness is associated with the notion of global politics' (ibid).

Beck's development of the term 'cosmopolitanization' provided an avenue for this study to explore processes that occurred in China in this decade when people were confronted with environmental crises and underwent exchanges with foreign others who, in some cases, profoundly disturbed their notions of culturally appropriate conduct. Such exposure to diversity was not always in social and work relations with foreigners but sometimes resulted from encountering the cultural diversity within

their own country. When such challenges occurred in international conventions, those who were the chosen representatives of China may have found that enforced cosmopolitanization was not a pleasant process because it permeated 'the major fields of communication, interaction and social and political praxes' (Beck, 2011:3), and this was particularly obvious in the international environmental regimes involved in global climate change.

The nature of global climate change was such that its effects were experienced across territorial boundaries, but they were experienced differently and more drastically within particular boundaries. Less developed countries, with high levels of poverty, suffered more unrelenting and extreme consequences arising from environmental crises than was the case in countries that had engaged in advanced industrialization for much longer periods of time and had smaller groups of people living in comparative poverty (Doyle & McEachern, 2008; Harris, 2003; Stern, 2010). In the global debate concerning responsibility, it was the heavily industrialized countries in the North that were perceived as having equity obligations in terms of assisting less affluent states in their campaigns to reduce environmental damage. While there were obvious interconnections between social and economic issues and the threats posed by climate change, there were also complex political links at local, national, regional and international levels. Clemons and Schimmelbusch added to this complexity by including 'the need to co-ordinate activities among numerous companies, numerous national governments, numerous trading blocs and numerous populations' (2007:1). According to Giddens, it was at the international level that there had been 'very little in the way of concrete results', mainly because there were 'no politics of climate change' that would result in coordinated action at any level (2009:4).

In 2001 Esty and Ivanora published a study that examined the possible causes of a failure in the 'current global environmental management system' (2001:4) to deal with problems like pollution across boundaries and shared natural resources. They acknowledged that environmental projects did require an enhanced framework of policy development and implementation strategies at local, national and regional

levels, but stressed the need for a 'comprehensive, effective and integrated approach to environmental governance' (ibid: 6) of global dimensions. Esty and Ivanora approached their management focus by outlining specific concerns and concentrating mainly on agencies connected to United Nations' institutions. Firstly, they noted a lack of united action in terms of collaboration among nations. The next structural difficulty was the huge number of United Nations institutions assigned to environmental duties. There were, for example, 20 United Nations groups that focused on water projects. In addition, there were over 500 multilateral environmental treaties with all the secretariats attached to them. The research conclusion was that this state of affairs produced many dispersed directives that were frequently overlapping and sometimes contradictory, decisions that lacked authority, and had uncertain levels of funding, and projects without reliable safety precautions or consistency in their data collecting and evaluation requirements. Esty and Ivanora recommended a Global Environmental Organization 'to manage ecological interdependence' (ibid: 20).

Ten years later Biermann also advocated establishing one organization to replace the numerous existing groups for the following reasons:

> The community of international organizations and programs in earth systems governance is highly fragmented, with most major international agencies running their own environmental programs along with several hundred larger or smaller secretariats, with little effective co-ordination. In addition each system of governance is not accountable to one international bureaucracy that is solely devoted to supporting international governance processes in this area. (2011:5)

Mandle in 2006 had supported the notion of a Global Environmental Organization in order to assist in the development of environmental contracts at both bilateral and multinational levels. He also expressed concern as to whether it would have sufficient enforcement powers.

Regardless of the obvious problems inherent in the existing international environmental organizations, some observers continued to claim that elements of

cosmopolitanization were important in the development of environmental cooperation across state boundaries.

Even Andrew Hurrell (2010), who was highly critical of the current system, had hopes of a worthy collaboration across cultural borders. Hurrell maintained that current Western political theory was inadequate in terms of failing to include some conception of humanity in relation to the natural environment. He expressed security concerns about the tensions that could arise from environmental problems that were sometimes linked with global markets. Hurrell also drew attention to issues that made international environmental negotiations seem likely to reach doubtful agreements, because they lacked adequate systems of evaluation. He cited soft enforcement powers, short term and expedient political planning and a frequent failure to include recent complex scientific contributions in debates. In his development of a possible new agenda to confront these problems, Hurrell acknowledged some element of romanticism in the rhetoric of 'a cosmopolitan moral consciousness' and the plausibility of a global cosmopolitan community. Nevertheless, he was drawn to the notion of 'sharing a world, the essential interconnectedness and interdependence of the global environment' (2010:147).

Chinese environmental disasters were experienced by people living in local areas that were sometimes very isolated from each other and from state support, let alone from international assistance. Booth questioned whether the local could be cosmopolitanized but decided that since there were cosmopolitan institutions already in existence, global norms could be applied and even re-worked to suit local conditions. He doubted whether perfect global harmony would ever be possible, but that perhaps a 'ramshackle polity' (2010:343) was. The problem with global norms, of course, was that they were not necessarily cosmopolitan constructions. They frequently sounded 'like the concerns of white, Western, wealthy males' (Smith, 2010:11).

In Mandle's vision of a 'realistic utopia' where there would be a sharing among many cultures, the main responsibility for observing and protecting basic human rights in decisions about issues like environmental policies was the function of the political structures that were available to that society. When there was a failure to protect, 'the weight of the duties shifts in a more cosmopolitan direction' (2006:148). Duties of global justice were owed across borders, because everyone was entitled to environmental justice and everyone must respect this right.

There tended to be agreement among most of these commentators that there was a need for international environmental organizations that supported a common international environmental rights discourse which provided norms of acceptable behaviour, standards of regulation and useful exemplars.

Whatever the future of international environmental regimes, or the form of environmental cosmopolitanization that might emerge from this decade in China, it would have 'Chinese characteristics' no matter how much there was exposure to diverse cultural norms. The phrase arose from a speech given by Deng Xiaoping in 1984 in which he declared that the nation's socialism would have a 'specifically Chinese character'. Regular Internet searches from 2011 to 2013 using the key words 'Chinese Characteristics' revealed subjects like terrorism, hegemony, colonialism, carbon trading, Thatcherism, cyberspace, democracy, and love, all of which apparently exhibited distinct Chinese characteristics. This study made use of books like *Capitalism with Chinese Characteristics* and *Protest with Chinese Characteristics*. These writings were drawing on shared perceptions of Chinese cultural exceptionality.

While culture is a somewhat slippery concept, it is generally defined as the processes through which we allocate meaning to the world around us. Anthropologist Sally Engle claimed that culture as a construct was usefully malleable.

> Cultures consist of repertoires of ideas and practices that are not homogenous but
> continually changing because of the contradictions among them or because new ideas
> and institutions are adopted by members. They typically incorporate contested values

and practices. Cultures are not contained within stable borders but are open to new ideas and are permeable to influences from other cultural systems. Cultural discourses legitimate or challenge authority. (2006:11)

Engle described how influences from other cultural systems could both erode and intensify nationalistic versions of a culture or they could even encourage the development of new and different ideas and practices. Culture was not the basis of unchanging specific national identities, and there was potential space within the concept for the incorporation of increasingly cosmopolitan cultural practices.

There were culture-based perspectives that did open up both the possibility of intensified nationalism and cosmopolitanization. The first was the ways in which nature was perceived in Chinese traditions; the second was the tradition located in environmental protest strategies; and the third was the representations of cultural 'humiliation' and 'victimhood' that influenced foreign policy and did affect international environmental negotiations.

Tilt (2009) described a western research study outlined by the anthropologist Robert Weller in 2006 which had reached a conclusion that, although these rural people had taken part in a considerable environmental educational program, they had little consciousness of environmental matters. Tilt saw this conclusion as arising from a failure to consider Chinese appreciation of a cosmology and philosophy grounded in history and traditional norms, where there was no separation between nature and daily living. In Tilt's opinion there was often a 'disjuncture between an abstract Western notion of "environmental consciousness" which has been shaped by global elites and discourses that take the human-nature dichotomy as a given' (2009:106).

Tilt's main focus was rural China, but such folk based traditions did permeate Chinese society even among the expanding urban middle class and such customs were strengthened by yet another revival of Confucianism, this time sponsored by the communist government, and almost certainly for propaganda purposes (Mc Gregor, 2010). Every school child received a copy of the Analects and it was reprinted for

sale every year. Li Tianchen asserted that 'the Confucian view holds humans to be a part of nature and that they should respect and act in accordance with the laws of nature' (2003:4). The revival of Confucianism in the ideological vacuum following Mao's death was politically endorsed because this guide to living contained frequent exhortations for people to live in harmony and order during a time of considerable social unrest. The revival was also selected because it was seen to provide an historical gravitas to help validate political legitimacy.

There were good reasons for the promotion of 'social harmony' since social unrest in China was common during the period of this study (Hay, 2008). Protests arose from matters like the deprivations caused by poverty, corruption among local officials and land theft, but there were large numbers of instances of public disorder that centred around environmental issues. In 2005 there were some 51,000 mainly rural disputes related mostly to problems of pollution (Hay, 2008:5). Some were small-scale village outbreaks, but Ramzy noted that one day in November 2009 hundreds of middle class city residents in Guangzhou staged a street demonstration against an incinerator in their neighbourhood. This was an almost classic case of a 'not in my backyard' protest. Lum (2006) described how four serious protests in 2005, involving many thousands of people, were actually recorded in government statistics.

Both Tilt (2009) and Ho-fung Hung (2011) noted examples of 'rightful resistance' where ritualistic traditions with considerable history were still being employed to gain official attention and redress from local and central government administrations. Hung gave an account of the petitioning of an emperor as a process that was theatrical and involved 'dramatic displays of desolation' (2011:1). He also noted that well into the 2000s long rows of kneeling and weeping petitioners were observed waiting outside the Beijing office of national petitions.

Tilt and Hung agreed that, providing righteous or rightful resistance was small scale and localized, it was likely to gain official attention and sometimes resolution, but

Tilt emphasized that obvious rebellion aimed at the central administration was extremely dangerous.

Like Tilt, Hung questioned the persistent western assumption that even righteous Chinese protests were replicas of western experience. He claimed that Eurocentric perceptions of protest were divergent from distinct Chinese concepts related to rights and justice. The Chinese approach to political authority was to use pragmatic strategies that employed the government's own statements to justify their claims. Nevertheless, there had been an increase in aggressive demonstrations that were perceived as dangerous and were suppressed with violence (Hay, 2008).

There was a long history of Confucian adherence to a discourse of rights that included the role of rulers having to acknowledge a chain of entitlements throughout their hierarchical authority and an obligation to provide benevolent protection to all under their authority. Hung stated that in contemporary China, unlike 'Western conceptions of rights, the Chinese conceptions emphasize livelihood over liberty and collective subsistence over individual freedom' (2011:196). Environmental cosmopolitanization was highly dependent on a discourse of universal environmental rights down to the level of a subsistence need for clean water as a right of all humanity. But there was a disconnection between 'collective' as local community and 'universal' as all people in all nations.

Hung and Tilt described emerging changes in protest repertoires that included improved access to a judicial system sympathetic to environmental complaints, and assistance from lawyers who specialized in environmental prosecutions, interventions by human rights organizations, an increasing number of national and international NGOs, some leniency in the capacity of media outlets to include environmental degradation stories and, particularly, the increased use of social communication technologies to exchange environmental information and protest narratives with local and international audiences. Thus most environmental protests, unlike some western social movements, did not stress the need for confrontation with

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state ideology and might never conceive this form of protest as serving an oppositional purpose. Environmental activists who had undertaken such forms of resistance placed themselves in great danger. Nevertheless, what Hung called the 'new hybridized traditions' (2011:199) that became available in protest repertoires would open up cultural space for other considerations which might encourage environmental cosmopolitanization.

Finally there was the troubled cultural history that indicated engagement with foreigners in global environmental negotiations could prove difficult for some Chinese officials. To understand how this situation arose requires a very brief history of particular events. The medieval Chinese of the Middle Kingdom flourished technologically, economically and culturally. This era is often cited as cosmopolitan because there were many travellers and traders moving out of China well beyond China's borders, and into China from other countries. This was followed by Mongol rule that was eventually overthrown and imperial rule reinstated. The invasion demonstrated what could happen if foreigners prevailed and the trauma of that period seemed to bring about a 'convalescent' interval of almost 400 years of withdrawal and reticent recovery. Then between 1839 and 1949 there was The Hundred Years of Humiliation.

Kaufman (2010) listed the experiences that shaped memories of humiliation and 'victimhood'. There was a series of military and diplomatic defeats by western and Japanese foreigners that led to the granting of concessions within Chinese territory. Independence rebellions began in Mongolia and Tibet. The Japanese moved into Manchuria. Frequent domestic uprisings challenged the Qing rulers to quell the inroads of barbarians. The Japanese began moving south. A civil war erupted. Imperial certainties disappeared as there was loss of face to disrespectful foreigners. Finally, the treaty following the second world war failed to support China against the Japanese incursions mainly because of a prior agreement between the USA and Japan.

There was no reconciliation process to acknowledge the pain of these events. Therefore it was not surprising that Kaufman was able to include this quotation from President Hu Jintao in a 2004 speech to military administrators, as an example of a continuing fear of foreign aggression.

> Western hostile forces have not given up the wild ambition of trying to subjugate us, intensifying the political strategy of Westernizing and dividing up China. (2010:12)

Other writers (Callahan, 2004; Renwick and Qing, 1999; Wang, 2008) were of the opinion that a maintenance, and even a celebration of, humiliation became an enshrinement of 'victimhood' that was patriotic and provided a shared belief focus in building a national consensus. This retention of hostility also constructed the aggressive Other. This construction may well have been the objective of nationalistic high ranking officials in the CCP when they made this collection of fears part of the 1991 Central Propaganda Department's role in developing patriotism. There were novels, music, poetry, paintings, statues, films, songs, parks, museums and school textbooks incorporating presentations of The Hundred Years of Humiliation. And, as Zheng Wang commented, this was 'not merely a recounting of national history' (2008:800) because there was a still living group of parents and grandparents with their own victim stories.

These writers also drew attention to the ways in which this example of a comparatively recent cultural Chinese characteristic had influenced aspects of foreign policy to the point that national sovereignty was a central focus. Aspects of exchanges with foreigners, who were sometimes unaware of such sensitivities, were perceived as slights to Chinese identity and Chinese rights to respect and equality. When this occurred, there tended to be an image of Chinese exceptional status among foreigners that China was 'isolationist, withdrawn, or obstructionist' (Kaufman, 2010:11).

Nevertheless, observers cited in this section agreed that since about 2003 there had developed another version of international negotiations that stressed a need for a 'new diplomacy' which advocated co-operation and resisted the humiliation

narrative. China wanted to have a central position in international organizations. Still, anti-foreign sentiments persisted in some circumstances so that the development of an environmental cosmopolitanization continued to be threatened by inconsistent and contradictory messages.

Examination of one United Nations conference in 2009 revealed the kinds of paradoxical behaviours which Chinese representatives seemed unable to moderate.

The United Nations Copenhagen Climate Change Conference in December 2009 was a focus of high expectations for most participants. However, responses from some commentators from developed areas (Broder, 2009; Flannery, 2010; Moellendorf, 2010; Stern, 2010) described the following problems: unsatisfactory, chaotic organization, inexperienced leadership, pointless meetings, botched compromises, disappointing progress, non-binding decisions, vague funding mechanisms for less developed countries, and uncertain outcomes. Moellnedorf noted that there was 'something of an air of desperation' about the agreement and the efforts of the BASIC group (Brazil, South Africa, India and China) as they engaged in multilateral negotiations even to the last minute of the conference. Despite these and other anxieties, Moellendorf saw United Nations processes as the route likely to gain the greatest agreement among almost 200 counties in comparison with other international alternatives. Generally, these four observers were concerned about the lack of a concrete treaty with the enforcement powers of international law to move the agreements beyond guidelines for voluntary national implementation. Nevertheless there were pledges of carbon reduction under the Copenhagen Accord and there were appendices outlining mitigation agreements and commitments for environmental monitoring and evaluation, as well as progress towards funding and technological assistance from the developed countries to the less developed.

China's contribution to the Accord was seen by some to be essential to conference success. Well before the conference met in December, the Australian Broadcasting Corporation (ABC) and the British Broadcasting Corporation (BBC) had adopted the

following program headings: 'Hopes rest on China to save Copenhagen climate deal' (ABC, 2009:1) and 'China vows climate change action' (BBC, 2009:1).

Chinese expectations and descriptions of Copenhagen provided an interesting window into that country's international environmental debates and aspirations. A central feature of these narratives was the frequently repeated phrase 'common but differentiated responsibilities' taken from the Kyoto Protocol which acknowledged the greater historical responsibilities of developed countries.

Early in December 2009 the Chinese ambassador to Brunei Darussalam, Tong Xiaoling, in an interview for the Brunei Times entitled 'China's role in the Copenhagen Climate Change Conference and position on addressing Climate Change', made this very clear statement concerning historical responsibilities.

> From 1750 to now, more than 80% of the accumulated CO2 emissions in the atmosphere has been from developed countries, which is the root cause of climate change facing us today. In this sense, developing countries are victims. Therefore the developed countries should take historical responsibilities on climate change (2009:10).

This response used the notion of China as victim to make a claim for special consideration, but in this interview ambassador Tong also slipped into a universal cosmopolitan mode of expression to support the notion that the 'international community' should act 'to protect the common interests of the whole humanity' and to proclaim that China would join this community in 'sustainable development for the world' (ibid: 8-9). Tong was a diplomat skilled in prudent linguistics and she had more than likely developed this form of communication to help lubricate transnational and international conversations about global environmental issues. There was a contrast between the cosmopolitan voice of a common humanity and global integration and the warning that stressed responsibilities and obligations of particular countries.

Premier Wen Jiabao's summit speech at the Copenhagen conference outlined in detail China's impressive domestic efforts to deal with climate change and that

country's intention to continue with further improvements, but the speech returned implacably to 'common but differentiated responsibilities'. According to Wen Jiabao, China had a population of 150 million people living below the United Nations' standard poverty line. China's emissions were described as arising from efforts to meet survival needs, rather than simply increasing consumption, and therefore developed countries had an 'inescapable moral obligation' (2009:4) to do more to reduce emissions and to provide funding and technical assistance to China. At the same time he stressed the need for strong international co-operation and practical outcomes so that people could have some optimism about the process. While a cosmopolitan 'moral consciousness' can be interpreted as mainly producing soothing, idealistic platitudes, when there is potential for a global tragedy of the commons, any strategy that encouraged international co-operation and reduced outbursts of extreme nationalism, had value. It could be that some version of Chinese cosmopolitanization, at least in rhetoric, could have assisted in the development of what Mary Kaldor described as 'zones of civility' (2006:146) in the often polarized space of global environmental conferences.

Chinese journalists Zhao Cheng, Tian Fan and Wei Dongze noted that the international media may have presented 'readings of the Copenhagen conference' that were different from the Chinese account, but they nevertheless believed that China had made 'the utmost efforts with maximum sincerity, and played an important and constructive role to this end' (2009:8); as a consequence of this role in international co-operation, a 'message of confidence and hope was sent out to the whole world' (ibid:8). They also commented on intense disagreements and poor communication efforts by the United States, misguided public conversations by the leaders of other countries, and some 'finger pointing' (ibid:7) at China. But the overall impression in this article was a sense of acute national pride and a perception of China moving to a more central position in the global context as a result of this conference. Both news agencies employing these journalists were media outlets for the Chinese Communist Party and so their comments reflected both its sensitivities and aspirations.

When the conference had finished, some western newspaper articles carried headlines that were highly critical of China's role in Copenhagen. For example: Lynas in *The Guardian* (2009) 'How do I know China wrecked the Copenhagen deal? I was there.'; Taylor in *The Australian* (2009) 'China's climate stonewall'; and Agence France-Press (2009) 'Britain blames China over "farcical" climate talks'. An unnamed article in the Economist newspaper, along with comment by the American journalist John Broder, claimed that Chinese objections during the conference had concentrated on requirements for an external monitoring of China's emission levels and a reluctance, shared by most less developed countries, to support any legally binding commitments, and asserted that these issues had interrupted and delayed negotiations. Eventually China made concessions in relation to the first objection and its pollution reduction pledge was so considerable that some doubted its feasibility (Flannery, 2010: 249).

There were obvious organizational as well as many other instrumental and nationalistic problems in this conference, but cosmopolitan messages were being utilized by Chinese delegates in public statements as though they had some exchange value. Nevertheless, it might seem that the United Nations, even though it was the most significant centre for international environmental institutions available at this point in time, had limited influence in a milieu where a shared politics of climate change did not appear to be contributing to the main debate. Peter Hass had been a consultant to the United Nations Environmental Program and, in his analysis of the benefits and inadequacies of UN environmental conferences, he acknowledged all the problems observed by participants. However, he also listed the following as potentially effective attributes (2002:83-86).

- **Agenda setting** that has a capacity to promote national interest in new environmental issues of global importance.

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- **Popularizing issues** that raises consciousness and provides an educational perspective for national administrations and a wider public.

- **The generation of new information** that locates challenges and opens discussion among countries concerning their environmental problems, the policies which they may be considering, and which problems are of most interest to political coalitions.

- **Providing general alerts and early warning systems** so that there was an impetus to develop a global environmental monitoring system.

- **Galvanizing administrative reforms** so that specialized national administrations can be reformed or created.

- **Adopting new norms, certifying new doctrinal consensus and setting global standards.** Doctrinal conflicts do emerge in global conferences, but Hass believed that the United Nations Conference on the Human Environment (UNCHE) did develop 'new principles of soft law that have been interpreted and applied by international lawyers to inform a generation of international environmental lawyers' (2008:85).

- **Promoting mass involvement of new actors,** particularly those from non-government organizations who engage in international environmental negotiations and whose interests may encompass local, national, and global environmental issues.

These attributes were recognizable as characteristics of cosmopolitanization in international environmental regimes. Principles of soft international law were premised on universal principles of equity, responsibilities and rights. All people were entitled to be treated fairly in environmental agreements, all people had a responsibility to maintain and protect the environment, and all people had a right to a clean, healthy environment. The environmental value system embedded in most

cosmopolitan debates rested on a consensus that there was a global obligation to protect the environment because there was a shared responsibility within a common humanity that was dependent on that environment. Adopting new norms would be greatly assisted by developing some level of cosmopolitan understanding.

Even accepting the beneficial potential of United Nations environmental conferences, as seen by Hass, the question remained as to whether or not this organization could undertake regulatory functions in constructing legally binding treaties, in monitoring and evaluating treaty commitments or dealing with defections from such pledges.

The introductory themes in this chapter provided a preface to both the difficulties posed by any examination of a Chinese version of cosmopolitanization and the potential global, national and local value of Chinese cosmopolitan environmental exchanges .

The themes explored in further chapters include a brief examination of environmental degradation in this decade which clearly indicated the incontrovertible necessity for international assistance. Then there is an introduction to the concept of global risk and Beck's analysis of risk management connected to the responsibilities of nation states and international agencies. The following four chapters trace the ways in which the central government developed environmental policies that did acknowledge nation state and global involvement in the risk repercussions of climate change. There was policy recognition that China needed access to international environmental expertise, technology and financial assistance.

A number of environmental projects were established with the help of a variety of international environmental agencies and participants from several countries outside China. The projects made use of Chinese experimental implementation strategies and sometimes incorporated western style problem-solving techniques. This arrangement could have encouraged a cosmopolitan moment that might spread to the development

of a zone of civility in exchanges with international environmental regimes. Certainly there were instances of cosmopolitanization between the foreigners and particular Chinese project participants but the development of a rooted cosmopolitanization within the Chinese project communities was very fragile and largely unrecorded. Responsibility for this problem lay mainly with the unwillingness of both the central and local government administration to give active support to the notion that it was the right of the local people to be involved in planning and decision-making during the project. Therefore the very people whose lives were most at risk from environmental degradation were those who were least involved in the problem-solving. Under these conditions environmental cosmopolitanization was bound to be limited and tenuous for most Chinese participants.

Daniel Drezner noted that in the tension between compliance, in relation to international agreements, and capacity to comply, 'Compliance matters, but so does the degree of difficulty' (2007:13). And the degree of environmental difficulty for China during the time span of this study was, and remained, extraordinary.

CHAPTER 2: CHINESE ENVIRONMENTAL CRISES

China's development and environmental practices have also made the country one of the world's leading contributors to regional and global environmental problems, including acid rain, ozone depletion, global climate change, and biodiversity loss. (Economy, 2003:1)

In 2010 Danhong Zhang was concerned about the lack of damage insurance programs in China as the incidence of natural disasters increased. Zhang selected earthquakes, tornadoes, floods, droughts and rising sea levels as examples of climate extremes in China that were becoming more extreme because of climate change. In 2007 both the Intergovernmental Panel on Climate Change (IPCC) and the United Nations Framework Convention on Climate Change (UNFCCC) agreed that climate system data analysis showed the system was warming and that global greenhouse gas emissions were a cause of change. The IPCC Fourth Assessment Report on Climate Change included the following definitions.

Definitions of climate change

> Climate change in IPCC usage refers to a change in the state of the climate that can be identified (e.g. using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. It refers to any change in climate over time whether due to natural variability or as a result of human activity. This usage differs from that of the United Nations Framework Convention on Climate Change (UNFCCC), where climate change refers to a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods. (2007:30)

This chapter is mainly concerned to provide a portrayal of those environmental catastrophes that many Chinese recognized as being linked with human activities that were a part of their daily lives. Some, like air pollution and desertification, were also related to climate change warming through carbon dioxide emissions and erratic rainfall patterns. However, the environmental problems being experienced in local communities were more obviously recognized as risk circumstances where people were aware of the source location.

A brief examination of environmental dilemmas in China during this decade revealed that China was in great need of international assistance. Every one of the examples in this litany of environmental disasters had some impact on the environments of other regions or countries. These examples also indicated that environmental policy developments were risk management strategies under conditions where implementation stages were frequently failures. Nevertheless, despite the seeming isolation from environmental cosmopolitanization, there were instances where international interventions by foreigners and some domestic perspectives were introducing cosmopolitanization processes.

To some extent the vastness, the diversity of climates, the varied elevation levels and the expanding population resulted in the country suffering considerable environmental damage for many decades prior to 2000. According to Harvey (2005), an acceleration of environmental degradation was guaranteed by China's swift engagement with neoliberal global capitalism in the 70s. By the late 1970s there had been an obvious loss of agricultural land caused by environmental degradation. By 2000, at the beginning of this study, Edmonds (2006) noted that 90 per cent of all residential urban garbage was buried in landfills and there were some 7000 of these in the vicinity of Beijing alone. Untreated hazardous waste had reached a level of 2 million tons. Acid rain from China had fallen on Vietnam, Japan and Korea. Sulphur dioxide emissions were among the worst in the world, and there were water shortages in most large cities. Several hundred village people had attacked police for two days when they were being prevented form diverting a leak from a nearby dam into their irrigation channels in order to save their crops. By 2006 the situation was much worse.

It is inadequate to describe Chinese environmental problems in this decade as examples of degradation; very often a more accurate description would be 'environmental disasters'. It was also the escalating scale of these disasters that demanded attention. For example, despite valiant attempts to mitigate water pollution, there were an estimated 800 million cases of diarrhea recorded in 2007,

mostly caused by polluted water (Fardon, 2007). There were also certain problems with Chinese statistical data. Environmental information was often likely to have negative results reduced, and positive ones inflated. Edmonds (2006), Saich (2008) and Gerth (2010) agreed that official statistics should always be acknowledged as estimates rather than as accurate data. Gerth described a period between 2003 and 2006 when the National Bureau of Statistics did not measure environmental costs because it was not possible to evaluate whether or not natural resources had increased or decreased in value. Gerth concluded that since information concerning economic statistics was the basis for performance assessments, there was a 'long history of local officials falsifying them' (2010:195).

In this chapter there will be a brief examination of some of the most serious examples of Chinese environmental issues in the decade 2000 to 2010. Such examples demonstrated the destructiveness of the environmental domestic damage and provided a basis for investigating the claim that, no matter how sophisticated the environmental policy issued from a central government ministry became in this period, China was an environmental global threat.

Air Pollution

In 2000 Strizzi and Stranks drew attention to dangerous indoor rural air quality where heating and cooking were dependent on coal burning, and town and village enterprises used untreated coal and had outdated technologies to deal with the consequent air pollution. The following year a World Bank report estimated that 16 Chinese cities were among the 20 of the world's most polluted. In 2002 the State Environmental Protection Administration (SEPA) reported that in 200 of 300 large cities, air quality was well below the safety levels set by the World Health Organisation (WHO) (Roumasset *et al*, 2007). In 2006 even SEPA admitted that this was an environmentally grim year (Fardon, 2007).

Early in 2000, about 80 per cent of all energy in China came from coal. By 2010 coal still produced an estimated 68.7 per cent of total energy supplies and almost every week another coal-dependent power plant was developed (Gerth, 2010). Increased

car ownership added to the existing high levels of suspended particles from coal and industrial dust. In addition, rising desertification caused air to be polluted by suphur dioxide, nitrogen oxide and carbon dioxide. A report from the Organisation for Economic Co-operation and Development (OECD) released in 2007 estimated that there were 200 million Chinese suffering from respiratory diseases. Kan's 2009 study of health problems noted increased chronic pulmonary problems and lung cancer, and he included the WHO data on the rising number of annual premature deaths caused by air pollution.

Sheehan and Sun (2008) made the following observations. Firstly, China's energy consumption almost doubled between 2000 and 2007 and this was caused in part by China's 2001 entry into the World Trade Organisation (WTO) which dramatically increased export product demand. In this time the emphasis on heavy industry increased. Finally, the largest of the Chinese greenhouses gases, carbon dioxide, became a significant issue in global climate conversations as Chinese emissions increased so that by 2006 China's carbon dioxide emissions were the largest in the world. During this decade China had developed admirable, if inadequate, renewable energy projects and other hydro-electric and nuclear sources of energy, but it was coal that remained its major source of energy and it was the carbon emissions that drew international scrutiny.

Desertification

Large areas of China had gradually become desert over hundreds of years, but by 2005 degraded land had increased to one quarter of all the territories. The reasons for this differed from region to region but, according to Edmonds (2006), generally the causes were deforestation, increasingly erratic rainfall, over-cultivation and over-grazing, erosion from wind and water, a decreasing level of aquifer water, and disappearing rivers and lakes. In this process so much top soil was lost that viable agricultural land was severely reduced. At least three other countries shared desertification consequences in 2001 when Gobi dust stormed through Beijing and

kept moving across the North Pacific and on to Japan, Korea and the United States (Song & Woo, 2008).

Deforestation

Karl Gerth (2010) was convinced that increasing consumerism contributed to the loss of large areas of Chinese forest. As people's income improved, the use of disposable products increased. Gerth used the example of tens of billions of disposable wooden chopsticks produced annually in China. Nevertheless, the most damaging forest industry was paper production using little chemical recovery so that silica poured out in the waste water. By 2007 China was the second largest consumer and producer of paper in the world and began to import pulp using companies like Asia Pulp and Paper (APP) which had a history of clearing rain forest in Indonesia and illegal logging (Lang, 2007).

In 2003 a number of afforestation projects were undertaken and many encountered what came to be called the 'Implementation Gap'. This problem was particularly obvious when there were attempts to convert farms into forest areas. Compounding convoluted bureaucratic arrangements and insufficient staff and funding, there were problems of land tenure resulting from decollectivisation which was intended to return collective ownership to private property (Song and Cannon, 2011). However, the main difficulty stemmed from local farmers continuing to cut down trees in order to grow cash crops. Despite compensation programs, farmers knew that they needed a cash income. They were not being paid to look after the trees, they did not own the trees, and the saplings died.

A project in Qing village, Yunnan, claimed that everyone involved would 'cooperate in planning, decision making and implementation' (Jiang Jia and Zhu Hai Jiao, 2003:38).

What happened next was a story about international connections aiding a compliance with central government policy. Professor Lu Ying from the Rural Development

Research Centre in Yunnan University read a book by an Englishman called Robert Chambers that described a process called Participatory Rural Appraisal. This process was based on information Chambers had drawn from a 1968 book by Paulo Freire called *The Pedagogy of the Oppressed*. A program of 'empowerment' taught people how to examine their own practices and decide what they wanted to change and how they would do this. In the 70s these action research techniques were often incorporated into international research projects.

Lu Ying contacted Chambers who wrote a proposal on behalf of the Research Centre to the Ford Foundation requesting financial support so that Chambers could introduce participatory approaches in Yunnan. By this time both the United Nations environmental policies (UNEP, 2004) and those being developed by SEPA were supporting the notion of 'community participation', at least in principle. In Qing village the project began to move into actions that were effectively implementing policy. Twelve sponsors began donating aid to the twenty-four afforestation projects. Nine of the donors were international organizations like the Asian Development Bank and the International Fund for Agricultural Development, and the rest was given as direct aid from Germany, Holland and Britain.

Later the report writers began to have concerns about the project. How would they evaluate the techniques and the outcomes? Conversion of cropland had actually led to food scarcity. What would happen to these farmers when the subsidies ended?

The central government's environment policies had already caused millions of eco-refugees to move to cities. By 2010, allowing for census irregularities, China's rural population was estimated to have reached 900 million and they were still migrating to the cities.

While Participating Rural Appraisal did lead to practice change, the process had severe limitations. It did nothing to influence SEPA's top down decision-making bureaucracy, it could not change power structures in the local administration and, in

reality, it strengthened the existing authority arrangements. Desertification, pollution, deforestation and afforestation severely reduced the amount of arable land so that by 2011 China was growing crops in Africa, Brazil, Argentina and the Phillipines, and there were warnings that China was developing "colonial" relationships through its interest in agricultural resources outside Chinese territory (Rubinstein, 2009:1).

Water Pollution and Scarcity

The central government began paying attention to levels of water pollution in the early 1970s. This early pollution focus occurred because, unlike most other forms of environmental degradation, the impact on health was almost immediate and the source was obvious. By 2000 the lack of safe fresh water, and an increasing number of pollution based illnesses, indicated that previous efforts to mitigate this approaching crisis had provided only limited success.

Again the problem did vary across regions depending upon rainfall patterns and where water resources were located, but there was agreement among analysts (Edmonds, 2006; Strizzi and Stranks, 2000; Qinglian He, 2006) as to what was making fresh and salt water toxic. Rivers, lakes, irrigation water, coastal sea water and wetlands were being degraded by pesticides, untreated organic and industrial wastes, saltwater backflow, reduced aquifers, noxious gases from decomposing algae, increasing amounts of nitrogen ammonia, and there were also heavy metal pollutants. This meant that by 2008 two thirds of the people in rural China could not expect local water to be safe to drink, and one third had no choice but to use contaminated water (Kan, 2009). In four hundred cities, reliably clean fresh water was becoming very scarce by 2004 (Song and Woo, 2008). Reduced availability of fresh water caused by changing climate patterns and a growing population certainly contributed to water crises, but poor farming practices, largely untreated sewerage, and mostly unprocessed industrial waste water flowing from paper dyeing, textile and food factories and from oil mining and chemical plants, turned rivers and lakes into poisonous sources of water (Li Xiaofan, 2006).

Qinglian He (2006) maintained that by this date about a quarter of the Chinese population was drinking contaminated water. Gerth (2010) included an estimate that between six and seven hundred million people who depended on Yangzi river water were drinking water containing untreated animal and human waste. In 2009 Kan reported increasing occurrences of cholera, hepatitis, diarrhoea and digestive cancers.

These were, and remained, the most significant environmental degradation problems in China, but they were not the only ones. Solid waste disposal was a nightmare not only because land fill sites could not accommodate growing urban garbage, but also because China began importing seventy per cent of all foreign produced electronic waste in order to start a processing industry (Kan, 2009).

Loss of Biodiversity

Wild life protection and nature conservation policies did exist in this decade, but in some areas it was these projects which were the least well maintained, were being badly funded, and had rarely enforced laws. Edmonds (2006) was of the opinion that some ten species were almost extinct by 1980. He also commented that particular animals and even plants 'became favoured for protection because of their public image among foreign populations' (2006:137). The politics of rescuing particular endangered species was partly based on interesting, if somewhat irrational, foibles. People's perceptions of animals did influence decisions about rescue and breeding programs when loss of, or damage to, habitat made a rapid slide towards extinction probable. For example, the panda bear was an attractive and passive, cuddly-looking animal. To maintain the numbers of this animal, the Chinese government provided large reserves of habitat and captive programs of care and reproductive research (WWF: 2011). Outside China there are now twenty-one similar programs in which pandas are on loan for a considerable annual rent.

Another almost extinct animal, the Yangtze crocodile, was not at all attractive but was saved by John Thorbajarnson, who had a personal fascination with reptiles and made the virtual disappearance of *alligator sinensis* part of a public campaign and

supported captive breeding programs in China (Goodall, 2008). His work did receive considerable Chinese attention because the Yangtze crocodile was actually one of the nine mythical Chinese dragons and was very auspicious because it was said to control weather, so that its continuing existence was believed to be particularly important during a time of extreme climate events. However, neither of these animals was likely to be successfully re-introduced to its wild habitat because those environments could no longer sustain them.

Finally, China did have Wildlife Protection Laws but seemed not to extend protection to animals outside China since the smuggling of body parts from internationally protected animals continued (Gerth, 2010).

Urbanization

An issue that did escalate urban environmental damage and energy consumption was the forced migration of millions of rural eco-refugees into towns and cities. In 2006 Qinglian He forecast a movement of about 186 million people from western regions and other 'ecologically vulnerable' (2006:2) areas towards provinces and cities that would not be able to support such an influx. He estimated that by 2011 about 200 million would have migrated to urban residential locations. This estimation proved to be far too low. The more dense a population becomes in urban centres, the more critical water, air, and sewage problems become and the more levels of energy consumption increase.

Another aspect of this migration was that, in order to house its people, China became the producer of almost half the world's cement, well known for increasing the use of coal-fired energy, the output of CO_2 and of heavy metals such as thallium, cadmium, mercury and lead (Gerth, 2010).

Such urban problems were also exacerbated by the rise of the middle class. Fang and Yang reported that in 2008 the twenty per cent whose income placed them among the richest, earned forty six times more than those who were the poorest. The impact of

this group on environmental concerns was at least twofold. Energy consumption was boosted by increased use of air conditioning, and their expanding car ownership intensified environmental stress. However, Wassestrom's assessment was that

people were generally doing quite well in material terms, living in communities that are prospering and modernizing, are sometimes taking to the streets to call for more transparent governance, cleaner air and water, a safer environment for themselves and their children, and a government more willing to listen to their concerns. (2011: 4)

In 2009 Wen Jiaboa reminded the Copenhagen conference that China's population of people in poverty numbered 150 million people. In reality, that estimate was far too low. Most of the Chinese population was poor and the frantic pace of development and industrialization was encouraged by a government focused on social harmony, very fearful of social unrest, and unwilling to give up 'its historical goal of lifting its people out of poverty' (Sheehan and Sun, 2008:393).

It was the scale of the damage in these limited categories of environmental damage that influenced writers such as Garnaut, Jotzo and Howes to assert that 'if China does not participate, or only participates marginally, in the global mitigation effort' (2008:186), other countries would be forced to realize that without China's cooperation, any efforts which they might make would not provide any solution to global climate change risks. China did want to be part of the international environmental community but seemed unable to enter wholeheartedly into negotiations with foreigners that would involve compromises which they believed would threaten national sovereignty; consequently the collaborative relationships with foreigners so necessary in the international exchanges were largely absent.

However, a number of sources of environmental cosmopolitanization had begun to occur quite early in the decade, precisely because China needed funding, technology and expertise and had become aware that information about what was happening to the environment inside China was now internationally available via publications like the 2001 World Bank Report. Foreign nation states had begun to offer direct environmental aid. International sponsors like the Ford Foundation and other

international organizations including the Organization for Economic Cooperation and Development (OECD), the World Trade Organization (WTO) and the World Health Organization (WHO), had demonstrated an interest in China's environmental predicament. Foreign experts like Robert Chambers and John Thorbajarnson gave environmental advice in a non-threatening way. Environmental industries came into existence so that electronic waste processing, renewable energy and the panda industry became new sources of entrepreneurial value outside the more usual global trading products. Agricultural resourcing from other countries involved economic and legal arrangements with foreign governments.

There were other changes occurring that would have environmental and international ramifications. The huge rural environmental migrations to cities encouraged the rapid urbanization that Brenda Yeoh and Weigian Lin saw as creating 'cities as cradles of cosmopolitanism' (2012:209). Another change was the emergence of a growing middle class and a small very wealthy elite. Some of these people, or their children, would be the future academics, scientists, civil engineers and NGOs working to protect the environment. They would have cosmopolitanized futures and undertake tertiary-education, often in the United States, become fluent in English, continue to travel widely, and establish long-lasting relationships with foreigners. They would also buy cars and air conditioners and when there were pollution emergencies they would have access to protest strategies far more powerful than petitions.

Nevertheless, although these were very interesting developments, there was little evidence of environmental damage alleviation and, as Giddens commented, this state of affairs constituted 'only one set of worries among others' (2009:12) for policy makers in all countries. In China there were indeed other worries.

CHAPTER 3: RISK AND THE COSMOPOLITAN MOMENT?

This chapter explores Beck's development of threatening risk circumstances and their social and political effects in connection with possible ecological catastrophe. His analysis included considerations of risk management strategies at both local and international levels, the importance of risk experts in management decisions and the potential for change and even transformation offered by the experience of an expanding social and political awareness made possible through exposure to actual risk and coexisting comopolitanization processes in a time of a multiplicity of internal risk threats within China and when China itself was perceived as a security risk by some external observers.

Since the early 1980s Ulrich Beck had been exploring notions of risk society in a global context and proposing the possibility of a 'cosmopolitan moment' emerging from this context. He saw an increasing diversity of risk issues within a global risk society and a specific and significant probability of global catastrophe arising from ecological risks generated by climate change and environmental degradation. Nevertheless he believed that this, and other devastating threats, could provide 'a moment of hope, of unbelievable opportunities – a cosmopolitan moment' (2008:6).

Beck was particularly concerned to examine non-traditional risks that he assumed were unlikely to involve militaristic challenges, like the 'unintended environmental and health consequences of economic and technological decisions' (Wishnick, 2005:12). Certainly Beck did contribute to the social construction of risk fear as described by Furedi (2007), by stressing increasing hazards, uncertainty, unpredictability, ubiquity and anticipated catastrophe in global risk threats. Like Nicholas Stern (2010), who observed that risk denial concerning climate change involved ignoring the existence of two hundred years of critical science supporting its existence, Beck wanted to accentuate the reality of risk because he knew that even obvious risk could be downplayed or denied. Beck noted that insurance industries were dependent on calculating risks, and that they were paying attention to environmental research results and keeping track of climate related events. Global statistical analysis conducted by Munich Re of the 950 most recent 'natural'

catastrophes in 2011 revealed that more than 90 per cent were weather related (Dunckley & Morris, 2011). The same re-insurance giant noted that in China 'massive floods are due to the advance of climate change' (Munich Re, 2011:1).

Beck understood that heightened awareness of risk threats, often made real by the actual experience of environmental crises, moved inexorably towards issues of management at all levels from local communities to international organizations. In China Guobin Yang believed that the experience of environmental disasters

> strengthened the awareness, both among government leaders and ordinary citizens, that risks are becoming a part of life and that managing risks requires more effective, accountable and transparent institutions. In such a risk society, information disclosure and citizen participation becomes essential for effective and rapid state response. (2009:50)

The Chinese central government's engagement with environmental risk management did involve tentative steps in these directions, but Guobin Yang observed that the first response was to issue a new set of regulations concerned with the control of any form of citizen association that might incur the risk of social disorder. Some risk management tasks had a higher priority than others. Ordinary Chinese citizens may well have had a strengthened awareness of environmental threats in their daily lives but Tilt reported a response that he named 'strategic risk repression' (2010:103). Central government appointed environmental inspectors who did close down some factories when they obviously damaged the health of local townspeople and villagers. In some cases, even when there were illnesses caused by pollution, people saw the factory closures as a greater threat to their well-being than pollution when they lost jobs as a result of these closures. Maintaining livelihood was deeply embedded in Chinese traditions.

The inspectors from the District Environmental Protection Bureau were among the first of the specialist experts to appear in risk management exercises in China. Scientific expertise was essential in the detecting, monitoring and analysis of environmental risks. Bauman maintained that globally, risk experts could respond to threats of hazard in ways that guaranteed that such specialists became 'an important branch of the professional world' (1993:207) because they were part of a very profitable, growing industry. Beck asserted that all those involved in international policy development, strategic surveys and security

planning were necessarily implicated in the assessment of risk and the management of risk by interventions into risk circumstances. Were ordinary citizens included in the knowledge systems that were the province of experts? Rosa (2006) claimed that most ordinary citizens would never have contact with the risk specialists and would be unlikely to be able to make judgements about their knowledge or exert any control over their actions. In China, however, there were cases of environmental experts, including many foreign ones, living and working with ordinary citizens for extended periods of time on local environmental projects where reaching mutual understanding was essential to the project.

Beck was of the opinion that mutual understanding could be greatly enhanced through the practice of reflexivity. Beck expanded the 17th century meaning of individual reflexive thinking that seeks to turn the thinker's attention to the operation of the mind itself, to situations where individuals could become observers of the knowledge they have of their own actions within a wider context than their own thoughts. In this respect the concept moved into forms of social reflexivity, allowing monitoring of social practices so that those practices could be altered if the knowledge gained made change appear to be a reasonable decision. As a result of such reflexive comprehensions citizens enduring a failure by government to resolve environmental risks might begin to demand improved state capacities and functions. The knowledge that informed this decision may not be entirely reliable in all cases since the knowledge gained in this process could be uncertain, but uncertainty was always part of risk management. Even so, reformative action did require a base of reflexivity.

By 2011 Beck was placing considerable emphasis on the potential for reflexivity in relation to issues like climate change not just at local or national levels but also globally because of the extraordinary global expansion of available knowledge-sharing in late modernity not just because of increased global travelling but through all mass media, especially via the Internet and the use of mobile phones. At every level an expanding awareness of risk could provide access to a realistic comprehension of specific threats that then became open to interrogation and management opportunities.

According to Beck, anticipated catastrophe implied opportunity. In terms of this study, a central concept developed by Beck was the relationship he saw existing between the occurrence of threatening risk issues and the appearance of opportunity in the 'cosmopolitan moment'. Beck felt confident that the contradiction embedded in the global risk society was the presence of self-induced devastation providing the chance to make globally beneficial change. He saw this opportunity as arising from a recognition that risk was acknowledged as moving away from the 'walls of nation state borders and egotisms' (2008:4) towards an opening up beyond a concentration on state priorities, to develop some notion of a wider responsibility, and increased interconnectedness with 'others' – a cosmopolitan moment in fact. Expectations of this nature would mean that China would need to make more positive commitments to international environmental regimes.

Beck acknowledged that cosmopolitanism had a troubled history of being labelled as belonging to the interests of elites, imperialists, idealists and particularly predatory capitalists, but generally unrelated to the every day realities of most people's lives and therefore part of a continuing exploitation of ordinary people. Nevertheless, Beck persisted with the concept that 'a dense network of transnational interdependencies' (2008:7) was possible. Critics like David Harvey, who was always suspicious of fragile concepts framed as universal moral abstractions, remained convinced that cosmopolitanism was 'nothing other than an ethical and humanitarian mask for hegemonic liberal practices of class domination and financial and militaristic imperialism' (2009:84). It seemed that cosmopolitan assumptions in relation to political ordering was yet another area of uncertainty.

By 2011 Beck had begun making adjustments to his work on the cosmopolitan moment. The imperative towards cosmopolitanism driven by the necessity to survive through cooperation, remained as the focus for self-interested engagement with others, but the notion of cosmopolitanization was introduced as a more realistic and utilitarian term because it involved a reflexive interrogation of a process in action, a movement towards an evolution of a cosmopolitan form that could be 'diverse and contradictory' (2011:1352)

and might even irritate further nationalism in some cases. Fundamental to the process of cosmopolitanization was the importance of global communication. It is not until people

> begin to communicate with one another about the problematic consequences of decisions that they wake up. It is communication that shakes them out of their complacency and makes them worry. It shakes them out of their indifference, creating a public sphere and a potential community of action. (2011:1350)

In this version, nation states were not left out of cosmopolitanization because the universalism of having to care for all human kind was moved to egotistical survival concerns but it retained universal norms of 'causal responsibility and justice' (ibid:1357). A different form of political action would emerge through cosmopolitanization.

Most importantly Beck stressed that the reality of cosmopolitanization would at first be obvious in the family household, the workplace, 'the village, the banal, everyday cosmopolitanization of foodstuffs; and lastly the cosmopolitanization of art, science, religion, etc' (2011: 3).

Many responses to Beck's work stressed his examination of risk (Bulkeley, 2001; Clapton, 2008; Dean, 2006; Giddens, 2009; Rutherford, 1999) and recognized his considerable contribution to the framing of risk analysis in late modernity. Some considered the possibility of a particular limitation to his perspective, and it was one which he, himself, discussed in a Shanghai conference when he acknowledged 'a profound European bias in my argument' (2009:17). In the case of China, Beck believed that national self-interest had led to the development of cosmopolitan exchanges. He saw the growth of an urban middle class and the international interactions between NGOs and intellectuals as promoting transnational cooperation.

There was a tendency in some responses to claim that if discrete states in a global risk society were no longer of international importance, how come the significance of states had not degenerated in international relations? Such comments were made before Beck's more recent work, where he frequently affirmed the significance of states in cosmopolitization processes. Clapton was concerned that western nation states, like the USA, had taken control of global definitions of risk and management recommendations in

ways that refused to tolerate diversity and imposed a particular version of liberal values and democratic politics on those they perceived to be global or national security risks.

Bulkeley and Dean both noted some vagueness and even ambiguity in Beck's political considerations, and it did take some willing suspension of disbelief to accept a vision of reflexivity that could greatly influence new forms of global and domestic political action.

In this story of risk, prority has been given to environmental risks and the various security tangents that emerged in several representations. Kanishka Jayasuriya began deciphering the ways in which global security discussions appeared to permeate 'every sphere of life – ranging from finance to the environment' (2001:2) leading up to the security obsession following September 11. Jayasuriya commented that efforts to deal with risk management had moved away from the individual insurance level to the management of whole populations. His conclusion was that transnational problems had become 'disembedded from the politics of power and interests and situated within the anti-political framework of security and risk' (ibid:3). Further he was concerned to draw attention to the possibility that this state of affairs could interfere with the development of a global rule of law and governance that was cosmopolitan and democratic. Ten years later Jayasuriya was still of the opinion that 'global governance is directed more towards regulating and managing risk within global society' (2011: 4).

Did the possible transformation guided by reflexivity and within the processes of regulation and risk management require analysis of actual circumstances to reduce the doubts about Beck's capacity to produce less vague and more specific descriptions of political reformation? The problem arose partly because a full examination of this process and cosmopolitanization practices did, as Giddens (2009) commented, require a context.

In the development of the notion of a risk society there was a considerable lexicon attached to the concept 'risk'. Terms like danger, peril, hazard, fear, menace, threat, jeopardy, uncertainty, vulnerability, insurance, crisis, catastrophe, responsibility, and blame appeared frequently in the accounts of those who explored aspects of the risk

society. But the word that appeared most frequently when there was discussion about China as a risk society was the word 'threat'. China was both threatened and posed a threat. There was concern that diverse domestic risks, as demonstrated by the increasing incidence of social disorder, including those related to environmental degradation, would eventually lead to internal chaos and the possibility of civil war. Another threat was the risk-laden ways in which China intervened in the nearby region and beyond as a result of its environmental predicaments. There were also interesting deviations into the risk construction of traditional security threats to outsiders emanating from China, and towards China as the object of security threats. This was followed by a further risk slide into threats against human security, which led inevitably to the threat to human rights within China for foreigners and Chinese citizens. The interpretation of China as a risk society did seem to depend on how risk was defined and by whom.

Other representations (Garnaut, 2010; Angang Hu; 2011 Cheng Li, 2011; Myers & Sorman, 2008) focused on risk issues that were judged as likely to intensify internal social unrest such as the increasing levels of unemployment, particularly youth unemployment and especially the inability of those graduating from tertiary education to gain employment commensurate with their qualifications, or indeed any employment at all. Those in employment were becoming more and more inclined to strike for better wages and improved working conditions. Inadequate health and safety provisions in factories and mines were protest issues for many workers. Severe poverty was multiplying among some groups while others were making use of party connections, or simply benefiting from a market economy, to become very wealthy in the Chinese context. In addition, there were the growing welfare needs among those requiring public health assistance, affordable housing and education, as well as the increasing demographic challenge posed by an aging population.

While these commentators did not emphasize ethnic outbreaks in places like Tibet and Xinjiang, they were named as risk centres of civil unrest. Of more concentrated concern were the political risk issues caused by corruption, party nepotism, government interventions against freedom of speech in the media and internet censorship, campaigns

against rights activists of all persuasions, the illegal meddling in the functioning of the law and court system, the control and obstruction of the work of lawyers and NGOs, and the frequent and illegal engagement in land disputes so that those most in need were most damaged. A great deal of the risk management undertaken by the Chinese government was directed towards controlling actual or potential social unrest within China.

Environmental risk management as portrayed in China's climate change documents during this decade did focus on the increasing occurrence of weather and climate disasters as climate change events. Early policy documents were rather vague and ambiguous, but while annual reports like *China's Policies and Actions for Addressing Climate Change* (2012) tended to concentrate on the achievement of positive results, they were very specific, especially towards the latter half of the decade, about the need for key government action to resolve issues like controlling greenhouse emissions. The same issues of risk management were often repeated over time. They involved the need to eliminate industries that had high energy and pollution problems, to reduce fossil fuel consumption, to promote carbon sinks and water-saving technologies, to produce an improved environmental legal system and clean drinking water and, by 2012, the need for environmental educational programs that encouraged 'low-carbon lifestyle choices in eating habits, housing, transport and tourism' (2012:23). Mainly it was very obvious that even early in the decade the central government did have an understanding of environmental risks but seemed unwilling to face the reality of the problems that were occurring during implementation.

Particular populations suffered implementation problems more than others according to Yu Jianrong, whose academic and activist interest focused upon the social inequality and the discrimination practised against Chinese rural citizens, and who saw 'frequent social conflict' (2007:3) as inevitable. He was of the opinion that the central government's decentralization of administration was not only beset by corruption but was also cumbersome and incompetent in the most remote and vast locations where people had serious grievances.

The central consideration for the Chinese government in this assessment of a set of risk situations was the potential for a breakdown of central government followed by the threat of civil war. Certainly there had been an increasing number of 'large scale mass riots' (Garnaut, 2010:2) during this decade. In relation to environmental disturbances there had been frequent protests, demonstrations and some violent episodes, but there were also many civil disorder eruptions arising from other sources of public anger. The Chinese regime was seen by Myers and Sorman as being driven by 'a fear of the people' (2008: 6). Cheng Li maintained that the regime was 'sitting atop a simmering volcano of mass social unrest ready to explode' (2011:1).

The possibility that China was a risk society because it was on the brink of civil war was certainly a threat that the central government took seriously because during this decade there was such a strong ideological emphasis on the necessity for a harmonious society and because so many of the government's actions concentrated on surveillance and control. It was likely that some form of political reflexivity arising from fear did take place at central government level, but it appeared to lead to outbursts of heightened paranoia, increasing secrecy and moments of extreme nationalism. The situation did not appear to encourage a cosmopolitan moment. Rather it indicated that China's reluctance to collaborate internationally was mirrored in the responses exhibited by some nation-states towards China.

Certainly some government decisions had an environmental impact on other countries that increased their anxiety about China rather than their willingness to cooperate. The escalating internal threat of environmental degradation has been examined in other sections of this study, as have elements such as dust storms, acid rain, and carbon emissions that moved well beyond state boundaries. Chinese efforts to deal with resource scarcity also had wider international effects. Other cross boundary developments resulted from China's desperate attempts to gain fresh water sources and to reduce the reliance on coal by expanding hydro-electricity projects. These developments threatened the well-being of five regional river settlements. In the first example, the Shan Women's Action Network released a report in 2010 describing how the Chinese Long Jiang hydropower dam caused

villagers along the river in the Mao valley in Burma to have reduced access to water for daily living, lost incomes from ferry trade, and frequent daily fluctuations in water levels which led to severe erosion of river banks. In another case, despite denying the existence of a hydropower Tibetan dam in 2009, satellite images showed that construction was well under way in an area of Tibet that was active seismically and in a particularly fragile ecosystem. In addition, it was from here that the Brahmaputra moved fertile sediment into the flood plains of Bangladesh and north-east India. This movement would be impeded by the dam (Redazione-Lun, 2010). Another river, the Mekong, also rose in Tibet and flowed through Yunnan Province in China and then through the Mekong River Basin to Myanmar, Thailand, Laos, Cambodia, and Vietnam to the South China Sea. Chinese hydropower projects had been established and there were also plans to use explosives to make the river navigable to the sea for the transport of goods to and from China. These projects damaged the fishing and daily livelihood needs of about 75 million people.

In every case regional governments complained that the United Nations' 1997 Transboundary Watercourses Conventions were being flouted by the Chinese government. China's actions caused risk to others and signaled China as a threat to its immediate neighbours, particularly since there were plans to build many more dams. In the process of attempting to manage the risks of its desperate energy problems and reduce carbon emissions that had domestic and international consequences, China, again, was not likely to recognize an emerging cosmopolitan moment. But there were opportunities for a version of cosmopolitan engagement in establishing and maintaining joint monitoring schemes of the kind agreed to between China and Russia following a 2005 Chinese chemical spill into the Songhua River. While China remained outside the Mekong River Commission, there were occasions for participation in meetings and there were some agreements concerning a reduction of the scale of China's river intentions so that by 2007 there were some provisions for the sharing of China's flood forecast data.

China's transboundary river negotiations were extremely cautious responses to the risk management requirements posed by the regional complaints. In fact, the complaints from neighbouring Asian states were not especially forceful since China was perceived by all as

the most powerful state in the region. Also very little attention was paid by any nation state to the pressing need for the development of an appropriate regional legal framework to support the UN transnational water conventions. Thus a valuable cosmopolitan opportunity was ignored by all. Such events did indicate that Giddens' comment about the lack of a global environmental politics was probably correct.

In previous discussions of international assessments of the global threat emerging from Chinese environmental crises, there was a concentration on ecological perspectives and the shared risk of climate change, but there were also other narratives, mainly originating from American sources, and the focus began moving towards another interpretation of risk. In 2002 Doyle and McEachern reported the appearance of commentary that linked the concepts of environment, development and security. Then, in 2005, an American, Elizabeth Wishnick, discussed China as a Risk Society in relation to what she saw as the militarization of environmental subjects such as China's aggressive pursuit of energy resources involving giving support to dictatorships that condoned human rights abuse of their own citizens. By 2011, Ratner had noted the provision of arms to the failed states Sudan, Zimbabwe, and the Congo.

This conversation continued throughout the decade and beyond. The writer, Richard Bush, began his article by conceding that for many years there was a shared responsibility for the management of risk because the US and China were the world's main greenhouse gas emitters and therefore that they should cooperate because otherwise 'global warming will continue to endanger the planet' (2011:2) While acknowledging China's participation in international organizations, its partial acceptance of 'global norms' and its assurances of peaceful intentions, the rest of the article indicated a continuing anxiety. China was perceived to have a 'very conservative approach to risk' (ibid: 3) and showed 'doubtful commitment to the common good' (ibid: 6) so that interactions between the United States and China were 'problematic and fostered a growing distrust' (ibid:8). These comments failed to take into account the fact that the United States' global climate change record had not been particularly expansive or inclusive. Part of the global environmental debate began

to move from the problem of climate change to a focus on China's growing military power as there was a shift towards mainstream security.

In 2007 the United States Military Advisory Board published a report titled *National Security and the Threat of Climate Change* that stressed a directive to incorporate climate change risks into national security planning. Climate change was inevitable and would be catastrophic and likely to lead to political turbulence and radical ideologies. In the same report a former American ambassador to China warned that US advice on environmental mitigation policies would be interpreted 'as a way to stop them from continuing economic growth' (2007: 25). Peter Hass warned that, while it was reasonable to consider the possibility that environmental degradation could provoke international conflict, 'if you frame the problem of environmental degradation as a security issue, you put Realists in charge of making environmental policy' (2008:3). It did seem that within a very short period of time the conversation had deviated from environmental security issues into traditional security considerations. In the Brookings Institution (2011) a panel that included Hu Angang, Cheng Li and Nicholas Lardy discussed the ways in which China was becoming a New Type of Superpower. Perhaps China, during the previous decade, had developed the potential to become a threatening superpower and to take over the United States as the global superpower.

Friedberg, who had been security advisor to vice-president Cheney, presented an assessment of 'Hegemony with Chinese Characteristics'. He claimed that China was already practising elements of regional hegemony through the implementation of particular policies involving

> resolving disputes over territory and resources according to its preferences; coercing or persuading others to accede to its wishes on issues ranging from trade and investment to alliance and third party basing arrangements to the treatment of ethnic Chinese populations. (2011:2)

Friedberg expanded the hegemonic concern to include what he perceived as a subdued but increasingly vehement contest between the United States and the People's Republic of China for control of East Asia and to the possession of world-wide power. In this account China was again viewed as having the capacity to destabilize an existing system of

international relations. It was true that in addition to regional environmental problems, China had been exerting claims in the South China Sea that had offended countries with neighbouring coastlines and had been belligerent in relations with Japan and South Korea (Potter, 2011).

Nonetheless, David Bell was anxious to warn western observers that clumsy and stereotypical versions of Chinese behaviour in international relationships were often based on a failure to understand Chinese issues. Bell also pointed out that there were 'crazy people in both the United States and China who seem to be planning, if not hoping, for war between the two countries' (2008:xxviii).

One survey, involving a group of 25 Chinese parliamentarians, civil servants and security experts, collected information on national threat perception and produced responses where most participants emphasized the over-riding importance of non-traditional security threats, like man-made environmental crises. There were also threat perceptions concerning likely conventional warfare with the United States, Japan and Taiwan, though these were named less frequently (Odgaard, 2007).

Was there any formal international interest in the security implications of climate change? In mid 2011 Germany made a proposal to the United Nations Security Council to discuss the place of climate change within the global security agenda. This led to an agreement that there were 'possible security implications' but there were many United Nations agencies with specific climate change responsibilities and the issue should not be politicized through the Council's international security agenda. Susan Rice, the US Permanent Representative to the UN, voiced her disappointment at the Council's failure 'to keep pace with the emerging threats of the 21st century' (2011:2) arguing that the Security Council should have taken immediate action 'on the understanding that climate change exacerbates risks and the dynamics of conflict' (*ibid*: 1).

Yet another western detour (Chandler, 2008; Gasper, 2009; Joshi, 2007; Smith, 2001) in the risk conversation had moved to frame environmental risks as risks to human security.

This non-traditional presentation of security moved very early to redefine the definitions of environmental security within traditional militaristic state-centred terms. The intention often was to place environmental security within a more expansive framework of inclusive, multiple insecurities endangering human life, and reduce the interventions of state sovereignty claims in the management of multiple risks to a version based on individual human needs that required collective, co-operative, human-centred recognition. This slide from environmental security threats to conventional security threats and then to a multiplicity of human security dangers actually increased the number of global threats to include concerns like poverty and starvation, economic recessions and pandemic diseases as well as climate change and environmental degradation. Faced with such a profusion of risks, China's isolation from international conventions requirements was understandable.

Anwar (2003) believed that a concept of 'human security' could be accepted by many Asian governments as having practical requirements that could be added into national security policies without being perceived as requiring much surveillance. Khagam, Clark and Raad (2003), however, maintained that environmental threats to human security still implied violent conflict arising from issues like resource scarcity, pollution and environmental migrations. These writers preferred the term 'sustainable human security' (2003:290) which would concentrate on those environmental topics 'regarded by many governments as politically safe, and provide an entry point for individuals and communities to participate in decisions about their own security and development, even in the most restrictive political regimes' (ibid: 295). And, indeed, this was the environmental policy choice of the central Chinese government because even though this decision increased the number of international norms in policy statements, it was seen as an application that posed few political risks.

Even so, both 'human security' and 'sustainable security' caused a further slippage in the security narratives because the rhetoric of both contained considerations of human rights. Both paradigms located security in the right of each person to survive, to have a reliable livelihood, enjoy empowerment in their community, gain access to necessary knowledge,

feel freedom from fear and, in general, the right to be provided with 'security of human beings against threats to their basic needs' (Gasper, 2009:16).

Anwar reminded his readers that the focus on the individual in this interpretation of security was a very western concept that was unlikely to have a high priority in many Asian countries where collective rights were valued and there was 'a tendency to relegate human rights and security to secondary importance' (2003:536). Formal declarations, like China's own constitution and the 2004 National People's Congress statement, contained the comment that the government guaranteed and respected human rights. China was also a signatory to the UN Universal Declaration of Human Rights. For all that, when liberal Chinese scholars published Charter 08 demanding human rights surety, one of the Charter's co-ordinators, Liu Xiaobo, was illegally detained, charged with 'inciting subversion of state power' and then sentenced to 11 years imprisonment (Zhang Zuhua, 2009:1). In the Charter, 'environmental protection' was named as a human right. So were demands for a focus on human rights in China seen as serious security threats by the central government?

Even the most apparently benign of these diverse representations of security were constructed as warnings of approaching danger and sometimes the risks were presented as extremely hazardous. Was there evidence of reflexivity encouraging or influencing cosmopolitanization? Did this phenomenon provide examples of a series of contradictory responses to a socially constructed creation of fear 'through the constant amplification of the risks facing humanity' (Furedi, 2007:8) or might it foster inertia?

When Christian Caryl summed up Chinese transnational and international relationships at the end of the decade, he surmised that 'China's international reputation has reached a new low' (2010:4). Caryl also saw those who claimed that some powerful members in the Chinese political ranks to be cosmopolitans who were paying 'fawning tributes to the government' (ibid: 6). Nicholas Stern, who had spent considerable time working with Chinese officials on environmental issues, maintained that this experience caused him to endorse strongly their careful analyses and intense pragmatism in environmental planning.

The decision-makers in China.are keenly aware of the potential effects of climate change on their future and on their pivotal role in reaching international agreement. (2010:205)

Mol proposed diplomatic caution when conducting international environmental exchanges with countries like China where authoritarian governments engaged in 'limited responses to international agreements, organizations and institutions' (2006: 38). Mol's argument outlined the ways in which there tended to be a one way series of recommendations concerning environmental institutionalization. For example, his advice to international environmental agents was that they should be careful when offering directions on how to establish specific bureaucratic departments for particular environmental issues, because these directives were based almost entirely on western industrial models. Mol drew attention to Chinese cultural characteristics involving a mask of informality that often hid highly structured but tacit codes governing rules of cultural engagement and regulation of social norms and actions within institutions. Mol's cautionary advice was echoed by Cheng Li's counsel to western China analysts to 'acquire the intellectual ability to live with complexity, tolerate ambiguity, and expect uncertainty' (2011: 1). Despite these and other forewarnings, observers like Wishnick (2005), Mol (2006), and White (2011) described how China, in this decade, became a member of international organizations that required co-operation and acceptance of regional and global regulation like ASEAN and WTO. The most optimistic opinions, however, were those related to international and transnational environmental economical interests. A number of foreign companies gained access to Chinese approval through successfully marketing acceptable environmental consultancies and industries.

There were other pressures emerging during this decade. In becoming one of the world's largest exporting companies, Chinese products began to be subjected to international environmental regulations on standards and practices. There were numerous, and sometimes prolonged, projects involving outside countries in the establishment of environmental university courses and research and development programs. Many locations of environmental degradation throughout China had direct experience of globally based environmental NGOs where, again, a project could last for many months. In addition to foreign visitors, many English speaking Chinese academics and students and some

environmental administrators spent time in overseas institutions. With the growth of the numbers of courses in Chinese environmental law, a number of foreign environmental law experts were invited to conduct legal training programs for new groups of Chinese environmental lawyers. International conferences that concentrated on specific issues like energy and fresh water problems proliferated in this decade, and one of the most interesting, which involved the European Union and China, was held in London in 2006. The main topic was Climate Change and Energy. The format concentrated on avoidance of blame and the use of careful diplomatic language within a framework of common dilemmas and interdependence. The EU had developed a considerable, if somewhat uneven, trade with China, but the conference resolved to 'move beyond widespread anxieties based on exaggerated fears of Chinese competition in a globalized economy' (Darkin, 2007: 4). One of the objectives achieved in this conference was the establishment of a project that would develop energy and development opportunities on a large scale for both governments. Early joint research and co-operative planning would be funded by the EU. Climate change was recognized as an opportunity. This conference took into account characteristic Chinese sensitivities but did not avoid difficult topics like intellectual property rights and, most importantly, offered the possibility of positive investment of time and money.

A particular Chinese voice in this decade was that of Pan Yue who was deputy director of SEPA by 2006 and was held in high esteem outside China on the basis of his environmental credentials. Pan Yue did issue warnings of advancing uncontrollable environmental disasters, and he also acknowledged the righteous anger of environmental protestors. He called for improved political transparency and increased public participation in environmental matters. Following two dreadful years of frequent and serious pollution events in 2005 and 2006, Pan Yue called for an alliance of developing countries to reduce the increasing environmental inequality by attacking the predations of the global economic system that supported rich consumers and left the poor to endure pollution. This opinion was reported in several western media outlets, probably because many environmentally concerned western citizens agreed with his viewpoint.

Some of the processes in these interactions could be described as necessary for the development of cosmopolitanization, particularly in relation to Beck's emphasis on the necessity for global communication and instances of co-operation in a 'community of action'. However there remained Gidden's proviso that extensive examination did require a detailed context. Cosmopolitanization could, for example, emerge from China's incorporation of western notions of environmental sustainability as a major policy focus. A more detailed exploration of a local context in attempts to deal with environmental degradation could reveal the ways in which the 'implementation gap' made cosmopolitanization less realizable.

CHAPTER 4: EXAMPLES OF ENVIRONMENTAL POLICY DEVELOPMENT 2000 – 2010

Chinese environmental and climate change policies were centred around risk management concerns arising from a multiplicity of anxieties. This chapter selects issues from the decade 2000-2010 that illustrate strong governmental interest in environmental reforms and climate change, a desire to be perceived as rightful actors in international environmental organizations and to be considered as justified in their demands for international assistance. According to Mol, globalization was a major factor in defining environmental perspectives, but he was also of the opinion that there existed 'specific local conditions, national priorities, domestic historical trajectories, state market relations and power balances, among other things, that will determine environmental governance and reform practices and institutions' (2006:31). Analysis of risk factors in specific locations and examples of attempts to interpret, let alone manage, such concerns could reveal some influential issues in Chinese environmental governance and in the contested arena of actual implementation practices. This section of the study concentrates on an examination of some aspects of environmental risk management as they appeared in policy developments and in selected implementation projects. Both subtle and obvious cosmopolitanization processes permeated this decade, mainly as a result of China becoming a signatory to the United Nation's 'sustainable development' proposition and this decision did, to some extent, shape the structure of both policy and implementation. Other developments, like the policy experiments to reform the environmental justice system, involved cosmopolitanization events that introduced the people most likely to be open to international influences, like lawyers, magistrates and NGOs, to specific elements in the rule of environmental law system.

By 2000 the scale and disastrous nature of environmental risk elements in China were far more threatening domestically and internationally than in any other equivalent industrialized economy. Arthur Mol was a sociologist who specialized in

environmental issues and developed a research interest in environmental reform in China in 2000. In 2011 Mol, Guizhen He and Lei Zhang published an article titled '*Environmental Risk Management in China*' which gave a brief history of environmental policy development from the 1990s to 2010. It was the authors' opinion that early management systems were rarely effective because they did little to overcome damage caused by even comparatively simple pollution problems. The later environmental risk management policies did establish a system that included a risk response program and a policy with a prevention focus, but these too were limited and disjointed in practical terms.

Late in the decade there appeared to be some promise of improvement in policy development and implementation when the State Environmental Protection Administration (SEPA) was promoted to ministry level in 2008 to become the Ministry of Environmental Protection (MEP). There was an expectation that this elevation would increase environmental policy status, and provide stronger access to authoritative power and more adequate resources. MEP did seek to improve the environmental database, force public disclosure of pollution incidents and legislate for all stock exchange listed companies to provide environmental credentials. By 2010 Mol and Lei Zhang noted that, despite what appeared to be more compelling enforcement policies in environmental risk management, the system was still 'reactive rather than proactive, compartmentalized rather than integrated, with a lack of comprehensive assessment of risks and a lack of integration of various policy efforts and resources' (2011:1). References to these and other problems abounded in accounts of policy developments.

Actual policy documents continually emphasized the importance of climate change as a significant global issue. The need to conserve resources and both to mitigate and adapt to climate change was seen as essential, and was repeated frequently despite considerable evidence of implementation failure. To accomplish such goals, policy documents emphasized that China needed to develop training in environmental technology, to expand public participation and education in

environmental issues, and to engage in co-operative dialogue internationally. In 2005 China announced that it was about to implement the United Nations Environmentally Sustainable Development Program. But the 2009 MEP *Report on the State of the Environment in China* dealt with all the usual issues again and then had to acknowledge continuing problems like water pollution and severe environmental challenges in rural areas; it made no comment about biodiversity progress or information concerning carbon emission reduction.

In fact during the decade under investigation positive and worthwhile environmental reforms did take place. China was the first developing country to establish a National Climate Change Program. Even in 2001 hundreds of polluting factories were closed down, or moved away from cities, and air quality did improve for a short time. By 2007 China was establishing climate change research centres and opening up media control to permit public information about pollution 'accidents'. There was a reduction in coal consumption and clean coal projects were undertaken. There was considerable encouragement of photo-voltaic generation, solar heating, wind turbines and hydro power. Huge numbers of trees were planted in efforts to stave off desertification. Environmental incentives, as well as improved enforcement strategies, 'green' taxation and insurance programs, were developed. Improved farming techniques and the introduction of organic farming methodologies reduced the use of fertilizers and pesticides. Many projects were established to deal with water pollution and sewerage problems. Stringent and cruel campaigns did begin to slow population growth. Policy statements became more specific and had a sharper focus. Environmental legislation became less ambiguous and bureaucratic structures improved. There was an acknowledgement that international assistance was necessary and a large number of internationally funded environmental projects received central government approval in this period. So why did the 2009 MEP Report conclude that the overall environmental situation was still so desperate?

There were a number of very complex reasons for this situation, at least one of which was the overwhelming size of the task. Also attention needs to be paid to the fact that, although Five Year Plans had the highest political priority in central government planning, it was not until the 12th Five Year Plan (2011) that climate change was significantly emphasized.

The main impediment to many reform intentions remained in what came to be called 'the implementation gap'. From the beginning of the decade environmental policy statements had begun to stress the responsibilities of central government and those of provincial and local governments. The central government would guide and the local government would undertake measures that would suit local conditions. In reality, despite central environmental policy emphases, both central and local priority was allocated to economic growth, rather than environmental protection. Environmental equipment and practices cost time, labour and money. Local officials needed the factories to maintain local employment and local government revenue. Unemployment could cause social disorder. Frequently there were social links between the local party officials and factory owners. There were cases of a sabotage of pollution legislation by discharging waste into water at night, or by only activating equipment designed to reduce pollution when the owners knew the exact inspection date, or by diverting waste well down stream from the factory. Even when new regulations tied local officials' work assessments to reduction targets, they often felt no strong obligation to comply so that when, for example, their district failed to reach targets set for energy usage, they closed down local power stations and caused whole district blackouts until the required level was reached. New constructions continued to be built without submitting environmental impact information. When fines were imposed, they were frequently so low that it was cheaper to pay the fine than install environmental equipment.

There were other problems. Very often local Environmental Protection Bureaus were staffed by a small group of people who had very little knowledge of environmental matters, whose technical knowledge of matters like monitoring and

data collection was very limited, and whose authority status and incomes were likely to be well below those in the provincial government in a country where people were very conscious of status within hierarchies. Also, in dealing with local environmental problems, EPB staff had to enter into the labyrinthine environmental bureaucratic system with the many separate but related departments that dealt with environmental risk management in China. Added to these problems was the central injunction to maintain local economic development at any cost. This situation continued after MEP was established and some departments with similar purposes were actually merged. In terms of implementing environmental law, there were not likely to be many recourses to judicial responses. In addition, those on the receiving end of a pollution 'accident' clean up, and those people whose living space became the focus of a mitigation or adaptation project, rarely gained information about what was being planned or what their role was unless they became involved in projects that had an educational focus and employed both Chinese and international environmental NGOs. Finally, successful or unsuccessful implementation in many cases depended on whether a particular province was one of the more affluent ones. Central funding of local environmental administration was generally inadequate and local bribery and corruption was common. While central government spending on environmental projects did expand over the decade according to Five Year Plan statements, increased military spending was a more obvious budgetary concern (Farndon, 2007:110).

At the end of this decade at least three significant environmental concerns remained seemingly beyond remedy: the major source of energy was still coal; water pollution was continuing to cause serious health issues; and biodiversity projects had little ecological impact.

This brief evaluation of the decade's environmental risk management program should be examined within the wider policy framework of the national 'sustainable development' strategy. China had paid considerable attention to the 1987 Brundtland Report because it acknowledged that the prosperity of developing

nations was dependent on economic growth. However, it also claimed that meeting the current needs of citizens should not prejudice the capacity of future citizens to fulfill their needs. Then the 1992 UN Earth Summit in Rio produced a set of principles intended to guide the production of national plans to deal with development that would be environmentally protective but would also permit economic growth.

China was a signatory to Agenda 21 which included a requirement to build 'a new global partnership for Sustainable Development' (UN Division for Sustainable Development, 1992:2). By 2002 the UN Johannesburg World Summit on Sustainable Development had linked economic development, environmental protection *and* social development. Social concerns focused on any violation of human rights or other harm that could pose a threat to sustainable development. The list was very long.

When China incorporated 'sustainable development' into government environmental policy it was an example of cosmopolitanization processes at government level being influenced by 'the global other' (Beck, 2011:2). Given a history of resisting United Nation's policy recommendations, there had to be reasons, other than a valuing of such foreign guidance, that were particularly enticing for the Chinese government at this time of high levels of environmental and other social and economic risks. Local implementation of environmental policies had included foreign assistance for some time, often because sponsors were essential and such donor groups insisted on forms of conditionality in return for funds, and access to technology and events like training programs for Chinese participants. These obligations were actually sets of cosmopolitanization processes that would not have been included in Chinese policy documents without external pressures and that would need supportive circumstances. Ease of communication was imperative. This could mean access to a local dialect, ability to speak mandarin or, in many cases, a shared capacity to speak English. Special knowledge was needed about cultural history, traditions and expectations at the specific

implementation site. Sponsor conditions often included the inclusion in the project of all those whose lives were being affected by the environmental crisis. Cosmopolitanization processes were particularly nourished when project implementation was understood to be problem solving that should involve all participants. There had to be an overt and positive support for implementation success from every government department and official attached to the environmental administration of the district and to the one, or possibly the several, environmental problem(s) attached to this site. All visiting experts, including the Chinese ones, should be prepared to stay on site until there was evidence of an environmental solution. Embedding these conditions in an environmental implementation project had some potential for the development of various cosmopolitanization insights for all the participants, including the foreign ones, in any location in China

Almost immediately after the Brundtland Report, the term 'sustainable development' gained popular global currency. Many environmental groups used the term to promote their concerns. Businesses either incorporated it into mission statements or used it to justify some inevitable but reduced and limited environmental damage in profitable enterprises. Nevertheless there were questions about 'meaning'. 'Sustain' has a linguistic history from the 11th century where its meaning was closely related to the reliable maintenance of the provision of food so that it would always remain at a level to support life. The meaning stressed continuity of particular conditions, not change. 'Development', on the other hand, was very much aligned with notions of 19th century knowledge of evolution and the occurrence of gradual but continual change. These meanings are based on western linguistic history but they do appear to be contradictory. A number of writers (Luke,1999; Doyle, 2001; Tilt, 2010; Drexhage and Murphy, 2010) began describing the concept of 'sustainable development' as vague, ambiguous, vacuous, amorphous, and elusive. For Luke, the discourse attached to 'sustainability' alone was especially fascinating because it posed so many questions and answered so few

and when teamed with 'development', the entire concept seemed extremely puzzling.

> As a social goal, sustainability is fraught with unresolved questions. Sustainable for how long: a generation, one century, a millennium, ten millennia? Sustainable at what level of human appropriation: individual households, local villages, major cities, entire nations, global economies? Sustainable for whom: all humans alive now, all living beings living at this time, all living beings that will ever live? Sustainable under what conditions: contemporary transnational capitalism, low–impact hunter-and-gather societies, some future space-faring global empire? Sustainable development of what: personal income, social complexity, gross national product, material frugality, individual consumption, ecological biodiversity? (Luke, 2006:140)

Did development have any conceptual relationship with environmental protection? Very early in 2001, Tim Doyle connected the agenda with ideological and political intentions to manage environmental problems effectively and efficiently so that technology, education, and economics could be organized into political developmental policies and programs focused on the control of populations. There always had been security concerns related to environmental risk management.

Banerjee (2003) was of the opinion that the concept of sustainable development arose from a western obsession with the economic management of resources and that its imposition on less developed countries was a 'form of colonization of space and sites' (2003:143) which made it difficult for people in these countries to maintain independent perceptions of their own preferences. Banerjee noted that the move to include another notion of 'global sustainability' opened up space for interventions by supranational organizations and other donor agencies that introduced an emphasis on the values of free market mechanisms and democratic participation while, in fact, imposing 'ethnocentric, capitalist notions of managerial efficiency that simply reproduce earlier articulations of centralized capitalism in the guise of "sustainable capitalism" (2003:173).

Beder (2000) drew attention to the ways in which corporations, while indicating a tenacious disposition for self-regulation in relation to environmental problems, moved very quickly to claim a responsible stance towards environmental clean ups but not necessarily the prevention of such damage in the first place. Beder, who had an interesting civil engineering background, was also concerned with what she saw as an over-emphasis on technological solutions to situations of environmental degradation. Agenda 21 did define environmental technologies as those connected with environmental protection that would result in the reduction of waste, increased recycling, reduction of pollution and best usage of resources. It required not only end-of-pipe technologies but also cleaner production methods. Beder believed that technology might not be the most effective response to extreme environmental degradation and that there needed to be radical changes to existing technological systems and an avoidance of short term, low cost fixes. Towards the end of the decade China did engage in the mass production of renewable energy products that reduced costs and made these innovations available to more people, but Beder also emphasized the need to educate people to become reduced energy consumers.

Allied to this faith in technological miracles was the emergence of a new range of environmental experts whose expertise was directed towards sustainable development. There were designers and producers of 'green technology', developers of environmental insurance schemes, environmental accountants, new academic disciplines of environmental economics and sustainability science and health experts who developed studies of human ecology's relationship with environmental ecology.

But by 2010 evaluations of sustainable developments showed that internationally, not just in China, the implementation of such developments had been 'largely unsuccessful' (Drexhage and Murphy, 2010:12) and that there had been 'a serious implementation deficit' (Carnegie Council, 2011:21).

Drexhage and Murphy claimed that the reason for there being 'no fundamental change' (2010:13) emerging from the program was partly because of what they saw as a 'disconnection from real-world policy' (ibid:13). In September 2011 the Carnegie Council held a Sustainability Forum that posed the question, 'What are the limitations and benefits of the sustainability approach?' Early in the forum there was general agreement among the speakers that the rubric of 'sustainability' had considerable problems and had been 'co-opted by the polluter-industrial system' (2011:2). There were contributions which considered that the very vagueness of the term was actually useful because it could be connected to any action or type of regime and, because of this general applicability, 'it must be always substantively specified and operationalized in particular applications and contexts' (ibid:3). Continuing economic development was the Chinese central government's mantra and the concept of 'sustainability' could be seen to support this view rather than environmental protection.

China did pay more attention to environmental matters in the decade 2000 to 2010. Nevertheless attempts to specify substantively and put into operation the UN sustainable development program when the central government's priority remained rapid economic growth and when environmental concerns were viewed as slowing this essential growth, meant that successful, wide-ranging implementation was unlikely. Between 2003 and 2007 documents released by the State Council and the National Development and Reform Commission (NDRC) on the topic *A Program for Action on Sustainable Development in China in the Early 21ˢᵗ Century*, listed some 14 barriers which included the range of environmental, economic, social, demographic, regional, legislative, and bureaucratic 'challenges' to implementation already discussed in this study. Assessing the progress of the sustainable development project in China still depended a great deal on very uncertain information and, for this reason, detailed, reliable evaluations seemed to be unavailable. Since China-wide generalizations would probably provide a doubtful basis for close analysis of implementation, this study will include comments from

two observers and a brief summary of an ethnographical study of one form of implementation.

Minqi Li, a Chinese academic who, after imprisonment, moved to America, believed that sustainable development would not happen because the government could not accept a program that it could not afford politically. He saw dependence on fossil fuel for energy consumption as continuing because other renewable sources had inadequate potential. In addition, Minqi Li believed that there could be no global version of sustainable development because 'environmental sustainability cannot be achieved within the framework of modern capitalism promoting perpetual economic growth' (2009:1058). China was promoting exactly this.

Brubaker highlighted the continuing reports that, despite sustainable development projects, the environment in China was still deteriorating. He doubted that there was any general acceptance of a need for 'sustainable development' because he suspected that sustainability 'for most Chinese meant simply having enough to eat' (2011:1). Global concerns about carbon emissions and saving the environment did not seem, to most Chinese people, to be tangible issues. For these reasons Brubaker concluded that top down environmental policy directives would not gain much immediate attention from the majority of Chinese citizens.

Even so, there were aspects of the actual implementation of the sustainable development policy that did gain immediate, pragmatic and personal attention. Between 2001 and 2006 Bryan Tilt and his family lived in Futian township in Sichuan province for some seven months while he undertook ethnographical fieldwork. Futian was both a rural and an industrial township where environmental degradation was severe and was very obviously causing various illnesses among the local people who understood quite clearly the industrial source of their suffering but who gained their livelihoods from the factories. Tilt's study of this community during these years provided a detailed account of what happened when the local Environmental Protection Bureau began closing the worst of the smaller polluting

factories in the district in an effort to comply with an environmental agenda based on sustainable development policy. What this form of implementation failed to take into account was that 85 per cent of Futian's annual revenue came from these factories. Consequently not only did growing unemployment cause social and personal problems for the community, but also the money used to build and maintain local services like schools and roads was no longer available. The subsidy allocated to compensate loss did not cover the annual requirements and the town also had considerable debt arising from its investments in the closed down factories. Attempts to raise money through increased taxation were very much resented.

Tilt acknowledged other problems of ambiguous laws and policy briefs, lack of necessary knowledge and technologies in local government as well as limited staffing and funding, and the over-riding intense drive to grow the economy, but he maintained that the closure of many thousands of small factories across China during the time of his fieldwork revealed extreme contradictions in the sustainable development program precisely because the concept was so malleable.

> The closure of Futian's factories highlighted the contested meanings of sustainable development, with different levels of government advocating wholly different models of sustainability based variously on preserving ecological integrity, promoting community development, and retaining vital industrial revenue. (2010:150)

Bryan Tilt's study focused on a rural township where people were not well-educated and local factory work was the main source of income. Another account of reform undertaken during the government's sustainable development agenda involved environmentally-concerned, highly educated, urban professionals, mostly from middle class backgrounds. This implementation model was based on a system with a long history of Chinese relations between central and regional areas. One dramatic example took place between 1978 and 1989 when Deng Xiaoping was developing plans for a rural reform policy following outbreaks of rural disorder. Naughton (2008) described how Deng converted instances of illegal, individual

entrepreneurship in a number of provinces that had developed during Mao's compulsory collective self-sufficiency, into 'experiments' that could be incorporated as templates into central reform policy developments.

In commentaries on problems encountered in the implementation of sustainable development both SEPA and MEP had located obstacles in the judicial system in relation to environmental protection and environmental damage. Environmental lawyers began examining 'experiments' that had been undertaken in the hope of expanding the capacities of environmental courts and developing a form of environmental public interest litigation (EPIL) whereby a case could be introduced into such courts, not only by the injured party, but by any private person or by the court itself. There were examples of such experiments in several provinces. Alex Wang and Gao Jie examined aspects of these experiments in order to evaluate their usefulness in achieving modifications of existing legal policy. They were concerned that 'the legal authority of these environmental courts is uncertain, and the innovative rules appear to conflict with existing law' (2010:44). By 2005 almost nothing had been achieved at the more formal level of environmental litigation. In a second article in 2011 these two writers noted that the development of sets of environmental public interest litigation rules had been produced in a number of courts and that there had been some cases of EPIL prosecutions. In a few courts these cases had been initiated not only by environmental authorities but also by environmental NGOs. International assistance was part of the experiments. In 2006 the U.S.-China Partnership for Environmental Law (PEL) launched a program of collaborative projects to train law students, academics, lawyers and environmental regulators and lawmakers in workshops and seminars given by environmental law specialists to examine international law best practice. They also incorporated environmental law clinics to discuss real cases dealing with illegal practices. Some of the topics undertaken during the partnership projects included tort liability, public interest litigation, pollution penalties and environmental courts.

Wang and Jie Gao concluded that in these 'experiments' application of environmental law became more consistent, judges' environmental court expertise improved, and that there were examples of increased enforcement and deterrence. In interviews with lawyers Lin Yanmei and Hyeon-Ju Rhon, there was a perception that individual courts should develop their own procedures to deal with local circumstances, but that they should also act prudently to avoid central government attention when such innovations had not received the necessary permission. Nevertheless, they agreed that local experimentation had considerable value because

> ….this kind of incremental reform, often starting with local experimentation, is consistent with legal development in other areas and has proven to be more effective in many cases than efforts that seek to transform huge swathes of the system at once. (Hyeon-Ju, 2010:2)

This discussion did also include reference to continuing evidential problems associated with unreliable assessments of the causes of environmental damage or information concerning any scientific monitoring or data collection. Nonetheless, this account of the possibility of local 'experimentation' influencing adjustments to policy, while having distinct 'Chinese characteristics', did permit some optimism, at least in this area.

Jonathon Harris had predicted that a sustainable development process would have to be 'democratized, decentralized, (and) pluralistic' and that it would have to 'balance wealth-creation with wealth-distribution' (2000:17). The concept of 'sustainable development', especially following the Johannesburg Declaration on Sustainable Development, provided a liberal, mainly western, but definitely cosmopolitan, product constructed by the United Nations, and this trend was obvious in the reports released from the late 80s onward.

When China signed Agenda 21, a particular strand of cosmopolitanization was set in train in the domestic environmental program. The Chinese central government was well aware of the social costs of continuing degradation and there was also a growing awareness of the financial penalties, particularly in terms of increasing

health costs and loss of food production. By 1987 most efforts to deal with environmental problems had accomplished little and so, for a number of reasons, there was a heightened awareness of the need for international environmental assistance. Economic growth had to be maintained to fulfill promises to millions of Chinese to help them to become prosperous. Agenda 21 seemed to show an understanding of the poverty concerns of less developed countries and therefore a need for continuing economic development. And at last there seemed to be a genuine recognition that such countries needed funds, information and aid with technologies.

Almost immediately after signing Agenda 21, China's expectations of promised assistance became available in the form of foreign investments and aid programs. The UN sustainable development framework encouraged a number of significant international financial benefactors. These included the World Bank, the Asian Development Bank, the United Nations Development Program, the European Commission, and the US Assistance Programs in China. There were also many projects that were funded by single country environmental protection government aid programs and non government agencies like the American Brookings Institution.

In addition there were numerous entrepreneurial ventures concerned to establish profitable endeavours, especially in relation to environmental science and technologies. There was a strong belief among many Chinese environmental administrators that science, and particularly western technology, would provide solutions to most environmental predicaments. This expectation may have increased as more trained scientists and engineers began to be employed in the environmental bureaucracy but, in fact, the United Nations reports on sustainable development frequently emphasized the essential importance of such specialized expertise.

In these same reports the pre-eminence of international co-operation was stressed repeatedly, as was the 'strong political will and commitment of China's central government to environmental protection' (Xin Qiu and Hong Li, 2009:1). These two analysts also referred to the model used in the construction of the new Ministry of Environmental Protection (MEP) as one recommended in a paper produced by the Organization for Economic Co-operation and Development (OECD) titled *A Model for Environmental Administration in Developing Countries*. The reports drew attention to a range of international convention agreements which had included consent to the implementation of agreements in areas like biodiversity, waste, including radio-active waste, nuclear safety and spent fuel management. An interesting aspect of all these issues was that the most emphatic reforms were developed mainly in the last two years of the decade under examination, when it did seem that a number of environmental problems remained apparently intractable.

As has been noted there had been formal risk management concerns for some time that had focused on weaknesses in Chinese judicial institutions and the training of lawyers in environmental law. Central governments had permitted some experimental innovation in regional environmental courts but this was certainly an area where international assistance was needed. Thomas Lum's US Congress Research Service report on assistance programs in China described how one funding program was allocated to support the rule of law reforms. Between 2006 and 2011 the US-China Partnership for Environmental Law funded the training of Chinese law professionals in partnership with Chinese universities. The concept of the 'rule of law' had its origins in Anglo-Saxon legal customs and became embedded in American legal culture. Very basically, the rule of law consists of a legal system which claims that all citizens, including those in power, are equal before the law. Rachel Kleinfeld's 2005 definition of the principles supporting the rule of law cited an expectation that it would also be efficient and predictable, protect human rights, employ laws arising from a constitution which had been processed through popular consent, and would be based on a judicial system that

was respected. Given these requirements how could a United States' version of the rule of law be transferred immaculately into China?

China had been westernizing its legislative system for some time, mainly under pressure from international market forces and the World Trade Organization legal requirements, but by 2005 Horsley commented that judicial corruption was rife, the use of torture was common and the criminal justice system was harsh and arbitrary. Those receiving judicial appointments were often drawn from lists of military retirees until reforms established by 2004 began to insist on some form of university degree and then the successful undertaking of a national bar exam. During this decade there was a huge expansion of academic law schools in universities, often staffed by academics who had studied law in universities outside China. In most cases this was in American universities. All but one of the lawyers cited in this chapter had spent considerable time in American law schools. In this decade environmental legal aid offices were established and journalists were encouraged to publish articles about environmental disasters and any subsequent law cases.

Horsley came to the conclusion that despite the fact that efforts to introduce the rule of law into authoritarian China 'presents yet another paradox' (2006:107), there had been a shift towards a recognition of 'the benefits of moving toward a greater rule of law for its own legitimacy and "governing capacity" for China's economic development, and for the establishment of a "harmonious society" '(ibid: 107). This shift may have been incremental and very dependent on the work of a brave few, but Horsley did see the possibility of a 'rule of law with Chinese characteristics' (ibid: 95). However, it was obvious by the end of the decade that, while the environmental system showed some improvement, the criminal justice system showed little rule of law reform.

Another related issue was also one which provided stronger environmental protection: this was environmental insurance. SEPA had been impressed by the fact

that less developed countries like India had undertaken environmental insurance schemes. In 2008 SEPA began pilot insurance programs in areas where there were hazardous chemicals producing toxic waste. The proposition was attractive for a number of reasons. Those who were victims would be compensated, thus reducing the likelihood of social disorder and, to protect their financial interests, insurance companies would adopt a supervisory role with their clients that could bypass local protectionism. In 2010 MEP brought a tort liability law, which was a very western legal system, into action. Under tort law a company that knowingly or unknowingly caused environmental damage would be liable to prosecution, even if the emissions were within the regulatory limits. Tort systems of this kind can limit the risks undertaken by insurance companies.

Cosmopolitanization was necessary for any nation state attempting to deal with environmental crises and advancing climate change, but for China it was crucial. The events described in this chapter did indicate that distinctly Chinese, very incremental and somewhat haphazard changes did occur in China in this decade, mainly as a result of the signing of the international convention of Agenda 21. What needs to be examined now is whether or not a more significant transformation was possible as a result of voluntary, deliberate and long-term environmental interventions by local and foreign non-government organizations (NGOs). Cosmopolitanization was a process that was 'relational – rather than simply cognitive' (Tarrow, 2005:32).

`CHAPTER 5: PARTICIPATION

Who were the participants in the environmental arena and how were they connected to environmental endeavors and to each other? This chapter provides examples from a variety of participation circumstances including policy efforts to encourage local participation, rural and urban participation and participation in mass protests. In addition to these situations there was the advent of Non Government Organizations (NGOs), specialist academics, environmental experts and individual activists who congregated around very similar environmental principles but generally functioned independently of each other, except for occasional cooperation in particular protest events.

Participation in most environmental endeavours had relational possibilities for knowledgeable, expert participants, if only because of shared ideological concerns. Participation in such enterprises, when they took place in one's own village, township or city suburb, had a potential for relational engagement. Local participation that included people from 'outside' would inevitably introduce forms of relational communication that could encourage cosmopolitanization processes.

Sydney Tarrow's academic interests were political science and sociolology. In 2005 the distinction he drew between relational and cognitive understandings of cosmopolitanization processes grew out of his interest in the possibility of rooted cosmopolitans emerging from local settings where there would be relational connections within these settings and extensions of relational connections with other countries and international organizations. He believed there could be a development of shared perceptions across these connections that conveyed relational meaning not only of the various social groups they interacted with, but also of those that made relations of power obvious. Environmental projects involving international collaborations could provide relational possibilities because '(i)t is through people's relations to significant others that cosmopolitan attitudes are shaped, and this takes us to the concept of "rooted cosmopolitanism" '(Tarrow, 2012:185).

Anne Mische (2011) questioned how much relational meaning-making and action might be prevailed upon by institutional power. David Harvey was very suspicious of the 'cascading interests in theories of relationality' (2009:280). He saw relational perspectives that gave primacy to lived experience acted out in relational interactions as concentrating on a self-absorbed, narcissistic domain that ignored the existence of inequalities. While he acknowledged the likelihood that significant insights could be gained from relational perspectives, he nevertheless believed that 'they remain politically irrelevant until they can be reconnected to the way human beings relate and conduct their lives through material practices' (ibid:281). Beck asserted that cosmopolitanization must 'be understood as a relational process, in which on the one hand, the connection between cosmopolitan changes and movements, and on the other, the resistances and blockades triggered by them, are analysed together' (2002:81).

Tarrow's recommendations for relational studies in China emphasized the need for exploring a range of differing relational interactions in several locations and recognizing that available data and survey material could be of doubtful quality. Tarrow supported the development of sociological studies of everyday interactions within neighbourhoods and villages. He warned that any studies undertaken would receive close scrutiny from local officials. Tarrow also acknowledged that because of the extraordinary diversity of local settings across and within regions in China, arriving at a generalized analysis might not be possible. Tarrow's research aspirations presumed local citizen participation. In the case of the Chinese environmental projects, Beck's perception of actual resistance and blockades was amply demonstrated by the reluctance to include local people in the impact assessments or planning or any other aspect of the projects, despite central government policies recommending their inclusion. How could there be neighbourhoods with rooted cosmopolitanism arising from environmental cosmopolitanization when the people of the neighbourhood did not participate?

Guobin Yang's Internet study of environmental activists examined a particular network of people participating in political and personal exchanges and perceiving this behaviour as a right that they were entitled to act upon, and he judged this voluntary relational association as potentially transformative.

There were certainly some considerable internal and external pressures for the Chinese government to begin an environmental 'public participation' campaign. Implementation problems had shown that more effort had to be exerted to include local participants, particularly in rural areas. In addition, there were the increasing numbers of environmental public protest demonstrations where, in some cases, thousands of people were involved and there was sometimes violence. This was not only a sign of social instability but also an embarrassment when international media reported such events. Also, many of the environmental projects could only be undertaken with the help of international donors' funding and expertise. Institutions like the World Bank had sponsorship conditions which included both an obligation to employ public participation in decision-making and also citizens' rights to information. The need for public participation had been cited in a number of official policy statements including the 2003 Environmental Assessment Impact ruling (Yang & Calhoun, 2008), but participation had actually occurred very rarely and had mostly involved experts, academics and government officials.

However, there were examples of local participation in protests. A quite famous one was the Nu River campaign in Yunnan Province. The government's hydroelectric program for the river was originally to build 13 dams, many in areas that had gained environmental World Heritage status. There were also dangers from earthquakes because part of the river valley was a seismic fault zone. Public objections began in 2003. Chen (2010) described the network of NGOs from Green Earth Volunteers, Green Watershed, Friends of Nature and Global Village Beijing, in co-operation with journalists, scientists and two government officials from SEPA (one of whom was Pan Yue), as well a number of local people who had been threatened with resettlement away from areas where their families had lived for generations. This

was a highly organized group of people, not a noisy protest by a group of discontented farmers. A widely publicized dispute between the hydroelectric corporation that had the dam contract and the environmental protestors, received international scrutiny and provided considerable international support for the protestors. Consequently, the whole dam project was suspended twice between 2004 and 2009. While this form of participation was not what the government desired, it did clearly indicate that public trust and engagement in projects was important. The Nu River event involved the participation of locals, environmental experts, NGOs and, most importantly, journalists who had provided extensive international media attention. It provided a cosmopolitanization of protest strategies. It made the power of the central government to control people's lives overt, especially when years later, early in 2012, local residents reported that work on tunnels and roads had recommenced along the river. It revealed the government's lack of interest in indigenous rights. No attempt had been made to consult with the numerous ethnic minority groups living along the watershed. Katy Yan, who reported these events, claimed that the central government was not likely to grant these thirteen different ethnic groups 'the rights of indigenous people to prior consultation and consent' (2012:2). It could not become an example of rooted cosmopolitanism. Protest was not maintained when local desperation seemed placated.

Another participation commentary by Wang Xiqin focused on public participation in the socio-economic effects of the impact assessment in an environmental project involving river flow in Jiangsu Province. In this case local people, mainly from low socio-economic backgrounds, were invited to participate in conferences, attend public hearing meetings and take part in training and educational activities. There were frequent media bulletins and publicity events. Government officials were required to undertake river management implementation workshops and were expected to take part in demonstrations of improvements in the river system. Organization of the public participation program relied mainly on employees from a number of specific government departments. The work of this group included gaining public reactions to the project via phone calls or emails. This report did not

describe any other form of gaining participant feedback and it concluded that participation actually involved very few people and responses were generally 'passive' (2010:8). While it is difficult to discover the reasons why local people were so reluctant to participate, it could have been that organization by local government officials meant that they resisted attending the meetings or making opinions public. Possibilities for any form of cosmopolitanization processes could not flourish under these conditions.

Jamie Horsley's account of public participation in large cities like Beijing and Shanghai showed that, although both situations did involve assistance from environmentalists and legal experts, the residents who attended public hearings generally came well-informed about matters of concern. In the case of Beijing's Yuanminyuan lakes, where the lakes had been lined with plastic, the Parks management described reduced water levels and admitted trying to increase park income by deepening the lakes for boating. Those who attended the public meetings stressed that using plastic to reduce seepage was an ecologically dangerous action but that, more importantly, there had been no environmental impact assessment undertaken and consequently the project was illegal. In the Shanghai case which occurred two years later, there was an even more sophisticated response in that local residents from the area where a new chemical plant was due to be constructed attended a public hearing and presented evidence that would prevent the proposal gaining legitimacy in any environmental impact assessment.

In 2009 Ella Chou used her Harvard law blog to describe hundreds of middle-class protestors marching to city hall to protest lack of consultation concerning the Pan Yu plan for a large incinerator in a residential area where they lived. Ella Chou drew on twitter descriptions of the event which included printing shops on the route offering free copying services, and people offering food and drink to the marchers who were chanting 'Respect Public Opinion' (2009:1).

In these examples it did appear that class, education and urban location were socio-economic status markers which supported diverse forms of public participation. But gaining confidence seemed also to be a learning process during this decade as the more knowledgeable learned how to exercise their right to participate. Nevertheless, positive experiences of participation activities and outcomes were not numerous. What impeded more institutionalized acceptance and implementation of this policy was the boundaries that remained embedded in the guidelines. Moorman & Zhang Ge (2006), Horsley (2010) and Zhang Jingjing (2011) highlighted a number of such limitations. For example, the 2006 exhortation to make public participation in decision-making actual was the most emphatic attempt thus far to approach what was finally understood to be an important government issue, but the guidelines did not specifically deal with participation in environmental policy decisions. In addition public interest litigation remained neglected so that while the public could make formal complaints in cases of environmental damage, they were not encouraged to sue the polluters for compensation. Another inhibiting factor was a lack of adequate funding, and there were unclear instructions about responsibility for funding. Public hearings, employing experts to run educational and training seminars and workshops and publicity campaigns, cost money; but there were situations where there was no (or at best little) international funding available. In many cases transparency requirements revealed a paucity of reliable information. When the participation program was left solely in the hands of local officials, there seemed to be little enthusiasm for the task.

In 2010 a group of five researchers (Jing Du *et al*.) conducted a survey of *Characteristics of Public Participation* among an interview group that included officials in charge of organizing public participation programs, and a number of academics who had been studying participation and comments from participants. The research group also included reports that were the result of their own personal observations of participation activities and events. The results of this study showed that actual participation by the public was little short of farcical. For example, there was very little consultation with local people either prior to the project being

undertaken or during its implementation, and there was no follow-up to ascertain post project satisfaction. Recorded public perspectives were so brief as to be almost meaningless. Available data was sometimes withheld by local factories on grounds of commercial confidentiality and, when it was provided, it was often data from self-monitoring practices that were likely to be fraudulent. When the participants did provide detailed information about their local environmental situation and their personal opinions about projects, this information was rarely adequately recorded. According to the researchers, this disregard stemmed from the attitudes of a number of local government officials towards local people because their opinions had no 'scientific legitimacy' (2010:190) and were therefore not useful. For these reasons these participation organizers saw the requirement to provide information as having little significance. Not only did they perceive public participation as not useful, but there was also an opinion that encouraging effective participation would seriously slow the pace of the project timetable. This was an example of an active discouragement of the people's right to participate. Cosmopolitanization processes were the privilege of the educated and environmentally knowledgeable who were learning an international protest repertoire.

Horsley commented on other aspects of this policy that further weakened the 'open government' claim, in that 'regulations do not require public disclosure of the explanation of how the public's opinions were handled or stipulate such matters as to who can participate when hearings are open to the general public and whether the hearing record should be made publicly available' (2010:6). Weakly framed policy statements that were inclined to depend on vague generalities and ambiguities could be identified as a deliberate government strategy to maintain secrecy and control while providing a token appearance of increasing liberalization and the incorporation of internationally approved western norms into environmental enterprises. Nonetheless, there were important individuals like Pan Yue, and an increasing number of government approved environmental associations, as well as the government's own desire to reduce socially disturbing environmental protests, that strongly supported this policy reform. As has been noted elsewhere in this study,

Chinese environmental policy developments in this decade were often expressions of contradictory motivations.

If the policy itself was likely to prevent the possibility of an environmental governance being more open to the inclusion of a participating public, were other factors made more possible by this policy? If relational communities were, to some extent, products of 'internalized norms' (Wellman, 1999:95), was the introduction of 'public participation' as a western, normative innovation into Chinese communities likely to provide a changed perception of their capacity to influence the structures of power even in their own communities? The problem was that the case studies included in this chapter provided no record of what local people did and said in their experience of participation in the policy implementation and, according to the Jing Du research team, this would have been the situation in most implementation circumstances. There were examples of people taking 'participation' as an existing right in their organization of protest, but even here there were only rare media interviews and video records.

Was there a cosmopolitanization effect arising from the addition of an internationally supported norm of 'public participation' into Chinese environmental policy? Kanishka Jayasuriya did not consider that the promotion of western, and particularly American, cultural values like 'participation' was a particularly liberal or democratic crusade, and therefore was certainly not a benign form of cosmopolitanization, because the manifest intention of such campaigns was to bypass the political processes necessary in reforming governance and encourage 'better technocratic policy outcomes' (2005:36) which would solve any management problems and produce consensus. What it appeared to produce was less an instrumental solution to various managerial risk concerns but more a 'public participation' with Chinese characteristics, where participation flourished in protest. Perhaps there was another element in the context of environmental activity that would carry a much stronger cosmopolitanization message. Were the harbingers of rooted cosmopolitanization located in the membership of a variety of non-government organizations, or among

grassroots, and sometimes, maverick activists, and especially, some very determined academics? Were these people the rooted cosmopolitans?

In Beck's *Cosmopolitan Manifesto* (2010), global risks included environmental crises. He stressed that no matter how confronting such challenges might be to anxieties about the need for regulation, security and certitude, on the world stage of risk 'the citizen must still think and act within the categories of the national state' (2010:228). Nevertheless, the state was not an adequate concept within which to explore the existence of cosmopolitanization processes; there must also be the local.

> Every human being is rooted (beheimatet) by birth in two worlds, in two communities: in the cosmos (namely, nature) and in the polis (namely, the city/state). To be more precise, every individual is rooted in one cosmos, but simultaneously in different cities, territories, ethnicities, hierarchies, nations, religions, and so on. (Beck, 2003:16)

Both Tarrow and Beck emphasized the importance of the local in this changing and uncertain world, but in cosmopolitanization processes there 'must be encounters with both foreign people and their practices' (Hiro Saito, 2011:125). It seemed that there were very limited opportunities for most local people to be involved in such encounters. Were there Chinese networks of people whose education, socio-economic backgrounds and environmental concerns would help them be capable of dealing with environmental challenges and collaborations with people who were culturally different?

There was a wide range of environmental groupings that included registered non-governmental organizations (NGOs), government organized NGOs (GONGOs), non-registered NGOs, international NGOs (INGOs), transnational NGOs (TNGOs), environmental activists, student environmental associations and Internet linked environmental groups. These groups did present as very complex and interacting networks composed of people active in both general and specific environmental causes. Wellman believed that Internet networks provide a space where 'boundaries are more permeable, interactions are with diverse others, linkages switch between multiple networks and hierarchies are both flatter and more complexly structured' (2002:1). The question is, of course, how would such associations survive in an

authoritarian state? Nonetheless, Beck had great hopes for the cosmopolitanization promise of transnational networks because of the existence of 'experimental forms of organization and the expression of a cosmopolitan common sense' (2010:228). Both Chinese and foreign environmental NGO groups had to develop survival techniques within the authoritarian state that posed no threat to the state. The state needed NGO assistance but could exert control mechanisms if it perceived threat.

Some voices began to claim that such NGO groups indicated the emergence of a Chinese civil society (Zhang Ye, 2003; Yangfe Sun and Dingxin Zhao, 2008; Teets, 2009; Jia Xijin, 2012). The World Bank (2010) definition located civil society in the existence and activities of a wide diversity of non-government and not-for–profit organizations where an array of interests and values could be expressed in public life. Many such freedoms and political capacities did not exist in China during this decade.

A number of writers who supported some version of an emerging civil society paid particular attention to what Bryan Tilt called the 'environmental civil society' as the site of processes, actions and strategies that did provide some evidence to support a claim to a Chinese version of an embryonic civil society, at least in relation to an environmental crisis that impelled and influenced this relationship. To explore this and other related issues, this chapter will examine the growth and variety of environmental groupings, the conditions which gave them permission to function under government imposed limitations, and the government's cautious self-interest in tolerating any form of environmental organization not directly affiliated with a government department. To some extent it was the usual policy of inviting in with one hand and fending off with the other. It was also a story of learning clever strategies and developing survival skills, and in some cases it was a story of persistent and obsessive courage. Scholte warned against romanticizing such groups and pointed out that they were often elitist and mono-cultural in membership, not especially equitable in terms of gender or age, frequently undemocratic in their administration, weakly structured in their preference for self-regulation rather than

transparent accountability, and sometimes of suspect legitimacy in the claims they made in order to garner public support (2002: 296-299). Some aspects of these characteristics could have been very useful for Chinese environmental NGOs and potentially made it possible for them to pursue a version of cosmopolitanization.

While the central government had developed some acceptance of NGOs in the 1980s, consent was limited mainly to those organizations that offered social welfare assistance and did not challenge government policies or raise sensitive human rights issues. To maintain control, the State Council and the Central Committee insisted that NGOs could only gain official and legal registration by agreeing to administrative surveillance from an approved government department and giving assent to compliance with a number of regulations.

There were other forms of registration that were less restrictive. For example, the Hong Kong office of Greenpeace was registered under Hong Kong business law. There were student associations that avoided registration by claiming community affiliations. Some NGOs were described as social organizations attached to government agencies and became government organized non-government organizations (GONGOs). In this decade Guobin Yang described a number of formats that supported Bryan Tilt's claim that in China 'individuals and organizations at the margins always have strategies for getting what they need from the political system' (2010: 126).

 The NGO associations were very diverse in the focus of their activities. Some were very location-specific and had short-term arrangements existing only until there was some acceptable response to a local environmental problem. Others were determined to deal with serious long-standing environmental degradation predicaments that could require long term and intense expert assistance for several years. Other environmental activists used NGO strategies but were not registered in any form because their activities were mainly Internet web-based and depended almost entirely

on volunteerism. It was impossible to estimate the actual number of environmental NGOs in this decade, but it was probably several thousand.

The first formalized environmental non-government organization in China was the group called Friends of Nature (FON) which was sanctioned by the central government in 1994. The founder was an historian named Professor Liang Congjie, who came from an intellectual family background and was socially focused on the need for the enforcement of environmental law. FON has remained one of the most significant environmental NGOs in China and some observers attribute its survival to Liang Congjie's policy of avoidance of direct confrontation with the central government (Jewell, 2009; Larson, 2010). Certainly there was good reason for caution since less than a year after the founding of FON the central government became concerned about the growth of all forms of registered and unregistered NGOs and was afraid that this might provide 'a political sphere where intellectuals, workers and peasants could meet to stir up additional unrest' (Doyle & McEachern, 2008: 131). Consequently between 1995 and 1997 there was a government imposed suspension on the registration of new NGOs. Congjie did acknowledge that his decision to establish FON had been influenced by information in Greenpeace television documentaries, but later he noted the government's response to Greenpeace's more provocative projects in China and he paid attention to the jailing of outspoken environmental activists. Consequently FON tended to place its energies in safe ventures, for example, the protection of endangered animals like the golden monkey and the Tibetan antelope, drawing attention to increasing deforestation of old growth forest, tree planting, and a very successful environmental education program, especially for children in rural areas.

The Chinese government did appreciate the unpaid work done by experts in the FON membership which had always included environmental specialist scientists and technological experts, lawyers who worked in environmental law, and journalists and other media experts whose work was valuable in raising environmental consciousness among a wider audience. Some of the work undertaken by FON was

done by volunteers from less well educated backgrounds, but the main volunteer group came from large numbers of young urban student volunteers, some of whom moved from gaining experience in FON to leadership in other environmental NGOs. All environmental NGOs were financially dependent on donated money and actual paid staff membership was limited to a very small group of workers. Generally this meant that environmental NGOs actually saved the government money. In addition the central government had a considerable history of propaganda production to support policy and implementation and the government's environmental administration did understand how important it was for there to be an effective China-wide environmental education program. It was aware that various forms of media could provide accessible information and policy intentions to rural as well as urban audiences, especially in those provinces where local government officials had not been particularly cooperative. Encouraging NGOs in media enterprises did carry some risk in situations of environmental resistance, such as in dam construction, but it also gave opportunities for venting local anger without obvious social unrest.

 From its inception FON had always been very media savvy. The Internet was used for mobilizing workers and recruiting volunteers, mainly through emails, but it could also be used to publicize videos and special events like conferences, workshops, and photography exhibitions. Environmental information could be developed for television programs, newspapers like the *China Youth Daily* and programs for the Central People's radio station. Their media planning took into account the need to use spoken language and visual images for people with limited literacy. None of these tactics attempted to politicize environmental issues.

Guobin Yang endorsed FON's skill in raising consciousness via media productions, but he also believed that this group was introducing institutional mechanisms into its functions so that there was 'an emphasis on value-guided commitment, volunteerism and non-hierarchical relationships both within and between organizations' (2004: 8). FON had taken risks in supporting the Nu River dam construction resistance movement, but in the process it had developed relationships with other Chinese

NGOs like the Green Earth Volunteers and the transnational South East Asia Rivers Network. Yang was convinced that within the community of FON membership, and in its connections with other local, national and international environmental groups, there was an emerging relational appreciation that did not previously exist because 'what is most relevant here is the shared memories and experiences, and moreover, the common political learning process' (ibid:8).

By 2012 the FON website claimed a membership of more than 10,000. Its mission statement included the right of every individual to 'safe and clean natural resources' and to the 'development and nurture of a civil society' (2012:1). Such value declarations did support government policy intentions, despite being asserted as individual rights. FON had also been the recipient of several national and international environmental awards, which probably helped give some degree of security from government interventions.

Despite gaining funds from local, national and international sources and despite becoming one of the most established and trusted of the Chinese environmental NGOs, FON always needed better funding. The second NGO example concentrates on an NGO that had worked not just to support policy but to change policy in the politically delicate arena of financing the needs of environmental groups.

Yu Xiaogang, founder and director of Green Watershed, had an academic background in watershed management and the social effects of constructing hydroelectric systems. So the problems caused by a dam project around Lashi Lake in Yunnan caused this group to become involved in helping local communities to establish profitable enterprises following damage to their livelihoods and to teach local water management techniques. However, between 2002 and 2011 Green Watershed activities focused on plans to change a banking system that did not support the funding of environmental projects and persisted in extending credit to polluting companies like Luliang Chemicals which had been dumping toxic chromium slag in or near water for several years, despite being prosecuted for this

behaviour (Wang Haotong, 2012). The ventures undertaken by Green Watershed in its pursuit of environmentally supportive bank practices were directed towards providing research data about international ethical banking regulations, examples of environmentally concerned financial policies from other countries, workshops for other Chinese NGOs dealing with the ways they could finance their work, establishing international partnerships with NGOs like the Global Environmental Research Institute and Oxfam America to help deal with the development of green financial policies, and practices within an international framework. Finally Green Watershed joined the Dutch based Bank Track group and began publishing domestic bank records outlining their environmental financial practices in a process of naming and shaming. The Green Watershed website did provide considerable and detailed research information as a data-base for other NGOs and for interested academics. Journalist, Wang Haotong, doubted whether the Chinese banking system, with a long history of refusing 'to subscribe to international environmental norms' (2012: 3), would accept any obligation to incorporate any regulatory environmental framework. Nevertheless, he had some optimism for emerging guidelines for preferential lending.

In addition to the local Chinese NGOs, there were the foreigners. According to Guobin Yang and Calhoon (2007), transnational NGOs were usually engaged in very specific environmental issues in China. One example would be neighbouring states affected by upstream dam construction which would challenge Chinese hydroelectric planning through river networks of NGOs. Lei Xie (2011) cited a number of bilateral cooperation projects with countries like Japan, Germany, Italy, Norway, and Britain. These programs concentrated on those environmental issues that impacted on both regional and global environments so that emission reduction measures received considerable attention. Towards the end of the decade China's global climate change policies did encourage emission reduction and this issue will be discussed later.

International NGOs were foreign environmental groups that had a global organization, like Greenpeace and Conservation International, and those linked with

United Nations environmental associations. Certainly Fengshi Wu (2005) claimed that many of these organizations began working only in those areas like forestry, and animal and plant protection, that they deemed safe from government intervention. Then there were the influential international financial sources noted by Lei Xie (2011) as funding providers from the Asian Development Bank, the United Nations Development Program, the World Bank and the Food and Agriculture Organization. These funding provisions were always accompanied by implementation guidelines, outlining the receiver's obligations to the provider. There were also Foundations like the Global Greengrants Fund and the Ford Foundation which were sometimes very focused on a particular project, like renewable energy, but also on more general funding through acceptable routes like the GONGOs, partly because foreign currency could not be legally transferred into unregistered NGOs. All donor institutions employed representatives whose role was to examine whether or not those receiving foundation money were incorporating the foundation's values in their programs. The elements of conditionality were significant in that they did influence the framing of policies so that the cosmopolitanization of policy recommendations and the inclusion of an international environmental rights discourse came to be reflected in central government documents.

There were a number of foreign university-based organizations that also fostered environmental undertakings in China and employed young people, often students, in their enterprises. Finally there was a rather less obvious group of young foreigners who seemed, on the basis of personal ideals, to gravitate towards environmental projects.

As early as 2005 Jin Hong, Xiumi Guo and Marinova drew attention to ways in which the various environmental seminars, workshops, training courses and conferences made use of yet another international industry of environmental experts who could speak about the environmental degradation taking place in their own western, developed countries, a situation which existed as a global concern, and how

difficult it was to deal with the resulting problems. Chinese environmentalists took heart from this information.

Given that these environmental foreigners were only a small part of the entire NGO industry in China during this decade, many provincial governments, as well as Beijing, may indeed have worried about the wisdom of permitting this invasion.

The following story about one young foreigner who worked for a US sponsored Beijing registered NGO, the Innovative Centre for Energy and Transportation (ICCT), might indicate why such anxieties were often balanced against the value of many NGO workers. David Vance Wagner had an academic history of a combination of engineering and environmental science acquired at Stanford and Tsinghua universities. He was fluent in mandarin chinese. His environmental work in China involved the development of clean, low carbon vehicle policies and clean fuel as part of the duties of a national vehicle emission policy research centre under the care of the Ministry of Environmental Protection. He saw himself as 'positioned directly at the intersection of international dialogue on China's environment and local project implementation' (2012: 2). He was very clear that his role in China was as a guest facilitator who was both an adviser and a partner in situations where Chinese colleagues and others had shown very positive approval of his work and personal gratitude for his efforts on their behalf. He was impressed by their capacity to understand his research and then revise and adapt it to suit their conditions. He did comment on negative responses from some international experts who claimed that providing assistance to Chinese projects was a waste of time because Chinese people were not receptive to advice, and the existing environmental crisis was so overwhelming that the government was unable to deal with it. David Wagner was a popular conference speaker in China and internationally and his reports written in Chinese were highly valued. Given the extraordinary complexity of Chinese bureaucracy, I particularly liked his Chinese Government Map for National Energy and Environmental Policy (2011) because, with the help of others, he produced a colour-coded map that sorted the 68 different government institutions in this policy

area and provided their website locations, as well as indicating the many lines of authority within and across these institutions and their specific policy requirements. One of the constant problems in Chinese environmental projects was working out exactly which government departments had to be consulted.

David Wagner lived and worked in Beijing for at least seven years and by 2011 he was a senior researcher with the ICCT heavy-duty vehicles team and urged foreign graduate students to apply for jobs in China. Was David Wagner an unusual foreign NGO in terms of his academic qualifications, his specific areas of environmental expertise, his capacities as a Chinese speaker and writer and, above all, his optimism? Again it is not possible to give reliable numbers of young volunteers, but information from institutions like Brookings and Carnegie do indicate that many were graduate students, usually from civil engineering backgrounds, but also having environmental qualifications. The Hauser Centre for Non-profit Organizations, located at Harvard University, for example, arranged jobs for American graduates as environmental NGOs in China (Yongmei Shen, 2009). A number were Chinese speakers, sometimes because they were from diaspora Chinese backgrounds. Nevertheless, some accounts (Hsia and White, 2002) reported foreign NGO problems like paternalism, a tendency to demonize the Chinese government, insistence on reports in English and setting unrealistic time lines, when long-term assistance was required.

It is possible that the most important attribute David Wagner shared with many Chinese and foreign NGOs was his academic record. In 2012 Caney asked what kinds of contributions academics could make towards problems of climate change and its links with poverty. His conclusion was that the most influential contributions included research knowledge that was useful in policy development, information presented to vulnerable groups in a form that they could use to combat their own disadvantage, encouragement of interdisciplinary cooperation, inclusion of a normative framework of the human right to life, food, water and health, and consideration of the needs of local academics.

What forms of academic shared knowledge were available during this decade? One form, which was rarely acknowledged, was the frequent citation of each other's work both in Chinese authored English language research papers and in the writing published by foreign academics about Chinese environmental programs. White, Wellman and Nazur (2004) asked whether there was some form of interpersonal relationship as well as academic interests between citers and citees so that there was a 'searching for information across amorphous boundaries and in shifting sets of work relationships, inside and outside of organizations' (ibid:125). They also noted that conference attendance strengthened the academic and personal need to have contact and to socialize with people whose work was deemed important. This need may have been especially necessary in a relatively new academic area like environmental studies. In citations there were often referrals to the work of foreign environmental scholars that acknowledged the value of workshops and conferences. For example, Peter Ho named Arthur Mol as someone who was prepared to comment on his draft material and Mol's contribution in a stimulating conference on environmental activism of which Peter Ho had 'many happy memories' (2001:893). Guobin Yang's 2010 article *Brokering Environment and Health in China* also praised the work done by Mol in a 2008 Hong Kong workshop.

Foreign and Chinese university academics were able to construct a shared knowledge space within the boundaries of environmental concerns, but in this decade many foreign and Chinese university students were also making connections with each other, partly because by 2010 most Chinese universities were offering some form of environmental studies. At least 12 universities in the United States had direct links with Chinese environmental developments and there were Japanese, Canadian, Swedish, British and Dutch universities with similar environmental interests and student exchange programs. Environmental science websites showed that, in the main, Chinese students' study backgrounds were in civil engineering, but some student courses were very specialized in areas like forestry, urban environmental architecture, biodiversity conservation, oceanography, eco-tourism and

environmental law. In universities like Qingdao Technological University it is possible to trace a movement from engineering to scientific environmental research and then on to advanced administration of environmental projects, accompanied by the development of international links with 15 foreign universities (Wikipedia, 2012). The exchanges between Chinese environmental NGOs who were often university graduates, and who had experience of international shared research projects and the foreign NGOs from mostly western environmental institutions, would not have been a one-way exercise of delivering valuable advice to passive recipients. Neilsen emphasized the ways in which those engaged in environmental development projects should be viewed as instigating negotiated practices (2005:33). For example, there were occasions when all those working on a project could not agree, either with each other or with local officials, and compromises had to be negotiated across and within cultural perceptions of efficient procedures. These events demonstrated the reality of cosmopolitanization processes.

In addition to the international and academic nature of NGO activities in China, there were thousands of Chinese (and some foreign) environmental volunteers who were mainly university students because, as Sun and Dingxin discovered, by 2008 almost every Chinese university had 'at least one environmental group' (2008: 146). These organizations held regular environmental forums involving up to 60 universities to train student environmental leaders and help establish university-based student networks (Yingrui Liang, 2006: 1).

These student green groups frequently established on-campus projects like recycling but they also volunteered in projects like the protection of endangered species, wetland work, and tree planting. Lu Hongyan (2003) recognized that as students graduated there were considerable student membership changes, but she also pointed to events like the 2000 Sichuan University decision to make an environmental course a required study for all undergraduates. A generation of young Chinese graduates would have information that had not been available to their parents.

One of the most interesting of the Chinese universities was Tsinghua University in Beijing which, according to its website, began life as a school to prepare young people for study in American universities and in the early 90s had become a university with a strong civil engineering course that moved towards environmental engineering. By 2011 it had established a School of Environment, expanded its student exchange into an international system, initiated energy research centres with overseas power systems, built partnerships with multinational corporations, opened up a Brookings Institution centre to support Brookings' scholars in China, and set up an NGO research centre.

There was potential for quite influential forms of cosmopolitanization to be nourished in this group of Chinese and foreign NGOs, environmental activists and experts and supportive scholars. Peter Hass described such groups as epistemic communities where there was 'a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area' (1992:3). Hass (1992), Hurrell (1995) and Hayden (2010) all agreed that such communities had certain characteristics in that there was a capacity to accumulate specific and shared ideas and a discourse of expert knowledge within a particular framework of values and the means to organize the movement of these forms of information through their access to sophisticated forms of communication technology and their personal co-operation across national boundaries and in international forums.

There was also a shared intention that this set of characteristics should, particularly in the case of environmental epistemic communities, have practical effects in raising consciousness, publicizing issues and events, focusing on policy and implementation developments and encouraging a commitment to scientific and reliable monitoring, research and evaluation. The work and influence of environmental epistemic communities might sometimes have appeared somewhat haphazard and chaotic, but the emphasis on action frequently brought them to both state and international attention, as was the case during the resistance to the Nu River dams. It is possible

that this kind of public work by the epistemic communities in China did encourage institutionalized organization within the environmental NGO groups and this may well have been useful to the continuing success of some Chinese environmental NGOs.

According Guobin Yang, individuals, like those in the Chinese environmental epistemic communities, became more cosmopolitan and at the same time 'rooted in society and among the people' (2007:16), because environmental issues were both rooted in the experience of local everyday life as well as being a cause of international disquiet. As Tarrow asserted, such groups have experienced cosmopolitanization within 'their *relational* links to their own societies, to other countries and to international institutions' (2005:1).

Nevertheless, there was little evidence of an environmental social movement in this narrative but there were some examples of Beck's reflexivity possibly influencing challenges and accommodations. When local citizens refused to attend educational programs or to connect with environmental impact assessment requirements, it was likely that they knew exactly how power relations in their area functioned and were refusing to cooperate with demands where they knew their opinions would not be valued or acted upon. In those cases where there were outright protests it was obvious that there was an awareness of the actual sources of environmental damage and the failure of government interventions. This reflexivity was also an educational process where many learned the business of organizing and maintaining an enlarged and more sophisticated protest repertoire. Both the environmental NGOs and the epistemic groups quickly developed reflexive modes that protected their membership to some degree while continuing to exert some influence on the development of both policy and implementation practices. They could accomplish this accommodation because their knowledge and expertise and their acceptance within Chinese communities and sometimes international recognition, made them a valuable and almost inconspicuous arm of a government intent on advancing social harmony.

While this section has paid particular attention to the scholarly nature of the epistemic communities in China, there had also been a range of environmental project examples which indicated that the special circumstances of actual environmental projects posed distinct difficulties when dealing with the local. There were also international interventions like those employed in the Learning By Doing implementation strategies, the intense international concern generated by the Lake Tai project and the international assistance during certain emission reduction projects that provided yet another window into the complexity of environmental cosmopolitanization in this decade.

CHAPTER 6: EXPERIMENTS IN ENVIRONMENTAL PROBLEM SOLVING

This chapter provides contexts that demonstrated a variety of environmental problem solving strategies in a diversity of locations where Chinese environmental projects incorporated some form of western approaches into the implementation of policy, or were responding to 'outsider' NGO recommendations, or receiving very direct assistance from foreigners or, in some cases, were experiencing all three interventions.

A number of the cosmopolitanization processes encountered in environmental projects were actively encouraged by the central and provincial governments. This involved incorporating ways of thinking about environmental crises as problems to be solved. Case studies of Chinese problem solving examples were limited in detail, but did show that what was available was actually a form of research into actions that took place during problem solving. In 2012 Jayasuriya commented that research activity should focus on key contemporary efforts in Asia to use problem solving strategies in areas like climate change. The work of Paulo Freire, John Dewey and Ebenezer Howard encouraged increasing willingness on the part of some provincial environmental agents to incorporate western designs into particular environmental projects in experimental forms of problem solving. According to Sabel and Zeitlin, while power relations may appear to be located in centralized hierarchical formations, 'power relations and other such obstructions are diffused throughout society' (2012:18). Paradoxically in the most authoritarian regimes, such as the Chinese central government during this decade, there was evidence of many different sources of power, even in small villages. Sabel and Zeitlin were of the opinion that in situations of uncertainty like those posed by climate change and environmental crises, 'precise policy goals and methods of achieving them cannot be determined *ex ante*, but must instead be discovered in the course of problem solving' (2012:2).

Dewey's (1859-1952) construction of education concentrated on experiential involvement in problem solving where the social context of the learner provided real problems so that the learner needed to investigate, gather data, reflect on what was revealed, evaluate and make appropriate changes. Such educational experiences were best undertaken in the learner's own harmonious local community culture, where prior knowledge could be easily connected with new learning to solve problems because in this community there would be a shared concern to collaborate with each other. According to Yajun Chen, Dewey's philosophies were well-known in China, mainly because between 1919 and 1921 John Dewey lived and worked in China. He also travelled extensively and gave many lectures, several of which were published and widely distributed across China.

Government support for Dewey's educational philosophy declined rapidly in the 1950s since its American liberalism and anti-revolutionary tenets were not appreciated by the Maoist government. Despite this serious rejection for some thirty years, the 'opening up' policies developed by Deng Xiaoping encouraged a return to interest in western schools of thought in the 1980s. Yajun Chen was interested in the similarities and differences between Dewey's teachings and those of Confucius. These links became a focus of attention for some scholars and the revival of Confucius made Dewey's work more acceptable to the Chinese government; consequently Chinese language editions of all 38 volumes of Dewey's Collected Works were accepted for publication in 2012 (Chen, 2010:3). While there was a continuing interest in Dewey's educational philosophy, it did seem that, as in most adaptations from a different culture, Dewey's contribution was modified in practice, given the continuing absence of public participation.

Mei Wu Hoyt also supported the notion that it was Dewey's philosophy of citizen education that was most influential in China, especially because it advocated that 'by learning by doing, you will actually know' (2006:20). In addition, she found Dewey's representations of democracy equally interesting in their support of

tolerance among diverse groups, the emphasis on participation and interaction in decision-making, and the encouragement of consensus. Wu Hoyt acknowledged the ways in which Chinese teachers and scholars 'adapted Dewey's theories to Chinese conditions – a pragmatic approach that worked' (2006: 20).

In an earlier section of this study there was an example of 'learning by doing' in Qing village in Yunnan using the process called Participatory Rural Appraisal developed by Robert Chambers and based on work done by the Brazilian educator Paulo Freire which was incorporated into action research methodology, as were parts of Dewey's findings. Aphonse Ferandes (2005) emphasized the similarities in their approaches to education in relation to problem solving in real life situations and using experiential learning.

The Qing village project was failing because the Chinese management of the project had alienated the villagers. When Nielsen (2005) was researching 'Cultural encounters among Chinese environmental NGOs and recipient communities', he discovered that urban educated Chinese NGOs often encountered rural cultures that were so different in language and social and ethnic customs that it was like meeting with foreigners. Sometimes this feeling was mutual because the recipients were inclined to feel subdued or even hostile, and they were wary of NGO assistance. Despite these responses, Nielsen was of the opinion that farmers did believe in the customary order of authoritarian hierarchy and did admire those who were well-educated.

He provided an example of a situation where an NGO was trying to persuade a farmer to return to more traditional farming methods rather than using chemical pesticides, some of which had been made illegal in Europe and the USA. The farmer was very upset by this advice because previous well-educated, urban government advisors had told him that chemical farming was scientific and modern, took less time, saved money, and the pesticides were supplied by state-owned companies. These factors made chemical farming very attractive to the farmer who

particularly wanted to be considered modern and scientific rather than outdated and ignorant. Under these circumstances Nielsen advised NGOs to develop constructions of environmental management that would be meaningful to this farmer, to continually maintain interactions that recognized the farmer's existing skills and knowledge, and to engage in practical negotiations with him about what needed to be done. This was the Dewey framework for problem solving.

Various versions of 'learning by doing' problem solving strategies were being utilized by international organizations in Chinese environmental programs. The 'Participatory Monitoring and Evaluation' (PME) methodology used in China drew on research frameworks, which were influenced by the work of both Freire and Dewey. PME was the methodology employed by the Cooperative for Assistance and Relief Everywhere (CARE), the Canadian International Development Research Centre (IDRC), and the World Bank, as a necessary process in assisting local people to be active participants in problem solving. The United Nations Educational Scientific and Cultural organization (UNESCO) supported the Shangri-la Institute for Sustainable Communities (SISC) in the promotion of Chinese educational programs where the SISC reported that there was encouragement of 'the process of learning by doing so that a tangible change in mindsets and behaviour will impact the policy–making of government, which promotes wider public participation in long-term environmental protection' (2009: 2).

The IDRC 'learning by doing' projects in Yunnan and Guizhou, which were funded by the Canadian government and private foundations, concentrated on environmental and agricultural problems. The 2003 report edited by R Vernooy, Sun Qiu and Xu Jianchu was unusual because there were very detailed descriptions of action research methodology which emphasized the practical partnership between the researchers, the local farmers and local government officials.

This is the story of the Xiaozhai project in Guizhou. The research team included specialist researchers from foreign and Chinese agricultural science backgrounds,

Chinese government environmental experts who specialized in areas like hydrology, rural reconstruction, forestry and biodiversity, as well as foreign PME training experts. The process did require intensive interaction over a prolonged contact period between the research team and the local people. During this time there was constant data collecting and evaluation as part of the experiential learning program where the emphasis was placed on the importance of continually talking to each other, with the help of translators, and using television programs to track and explain the progress of the project. One local described the experience as 'joyful because we made new friends and had good times together' (2003:xii).

The researchers noted that every village presented a different economic, geographical and, especially, a different political context so that arriving at a neat 'one size fits all' prototype was not possible. They gave the example of what seemed like the relatively simple problem of the leaking pipes in Xiaozhai village that caused household water capacity to be reduced. Since the main purpose of the project was concerned with the locals learning to work together to produce an efficient and fair water management program, the leaking pipes also constituted a research problem. The current water manager disclosed that he had frequently reported this problem to the village elder. The manager told the research team that most villagers would not pay their water fee because of the leaking pipes and consequently he had not received any pay for the last six months. He also told them that, in addition to anger over the failure to repair the pipes, they would not pay their water dues because the mill owner (who was the village leader's brother) used a great deal of village water and would not pay his water contract fee. Another brother was the local communist party secretary so that the whole family was very powerful locally.

The team called a village meeting but no-one attended. The research team interviewed people in ten random households and people voiced most of these causes for dissatisfaction, as well as another concern, namely that they did not know what the water fee money was being used for. Then the team chose a number

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of township elders, none of whom were members of the water management group, made all the collected data about this problem available to them and asked them to consider solutions to the issues raised by the data. The township representatives decided that the villagers first needed information about what the water fee money was being used for. The community participatory evaluation indicated a poor rating for Xiaozhai in 2001, even though 14 villagers turned up for the evaluation meeting. Nevertheless, the original focus of doing the installation and management needed to provide reliable amounts of potable water had gained village support. Further, agreement had been reached on the fee for maintenance and management, and regulations based on local rules had been settled, despite the challenging political context.

This case study did demonstrate the importance and complexity of local power relations functioning without reference to the central government. While the project did solve some aspects of the problem there was no protracted follow up recorded. It could have provided a model of problem solving that villagers could return to when needed, but it was unlikely to have the effect of rooted cosmopolitanism if there was not a continuing relationship with the research team.

There were some examples of large city involvement in 'learning by doing projects' but it did seem that the action research model probably was more successful in small communities. There was one example of such a proposal described by Professor C S Kiang for a US China Long Term Low Carbon City Initiative in five Chinese cities and five US cities. Professor Kiang recommended using a system approach with particular characteristics. All project groups should have representatives from government agencies, local communities, businesses, NGOs and research and educational institutions. Processes of collaborative learning would provide a 'learning by doing' framework. The proposal claimed that not only would this program assist the cities in terms of employment and economic benefits, but would also become 'a global model, one which China would demonstrate to the world the unique value of her culture, skill, knowledge and partnership' (2009:5).

By 2012 there were at least six low carbon cities using a variety of strategies to bring about successful emissions reductions (Yifei Li, 2012:34).

In addition to Freire and Dewey and their contributions to the action research design, another set of foreign ideas emerged from the work of Ebenezer Howard's 19th century garden city concept. During the late Victorian industrial revolution there developed large, crowded, unhealthy, cities following a considerable rural migration in England. There was a tendency to believe that working class people living in urban slums would be 'healthier, more orderly and more productive' (Hoskins, 1994:2) if they had regular access to nature in the form of public parks and gardens. Howard's 1902 edition of his book *Garden Cities of Tomorrow* began what came to be called the Garden City Movement. He did initiate the building of two garden cities in England, but even at this early stage his most ideal model underwent considerable modifications, mainly because of funding problems. Freestone (2006) drew attention to similar garden city experiments being undertaken in America, Japan, Australia and the Philippines between the 1930s and 1990s. Freestone also noted a number of garden city designs appearing in China from about 2001 that emphasized green open space. Some resulted from the employment of American architects while others were built within gated communities for wealthy Chinese citizens. The International Federation of Parks and Recreational Administration cited with approval the development of garden city communities in China. Later new suburbs in Beijing and Shanghai began using garden city planning styles. These urban planning innovations mainly happened in those cities that were most cosmopolitan in terms of international trading and tourism. Freestone's conclusion was that if 'one country in the world could actually attempt the building of a complete contemporary version of Howard's social city, it is China' (Freestone, 2006:6).

Howard's ideas did in fact influence garden city planning, especially following the Sustainable Urban Development Conference in Beijing in 2006. Dr Maurits van Rooijen from the University of Westminister delivered a paper titled 'A Garden

City System for 21st century China'. Dr van Rooijen had been a resident in Ebenezer Howard's prototype garden city, Letchwork, for more than a decade and did believe that a system of Howard- type garden cities would be a desirable outcome for China. He recognized that reproducing Howard's exact vision was no longer possible, given increasing car traffic, energy problems, environmental degradation and the huge population. There would need to be a re-interpretation of the original concept, but he felt that Chinese creativity and skill would 'be able to generate a variation to the original concept which is feasible and desirable for 21st century China, yet stays faithful to that original vision' (2006:2). To help conference participants, he recommended assistance from his British, Japanese and Australian colleagues who could provide information about the original vision and the various modern renditions of it, and present case studies of successes and problems in the construction of garden city urbanization.

In 2011 Aoxue Yang wrote a dissertation about the attempt in 2009 to incorporate Howard's garden city planning into Chengdu in Sichuan province. The intention was that, following 50 years of continual work, this city would become a World's Modern Garden City which would be green and environmentally protective. Chengdu had considerable water pollution, and a large influx of migrant rural workers, so that by the 2010 census the population was over 14 million. Howard's largest population number was only 58, 000 within a central hub city which would be surrounded by smaller satellite areas with about 30,000 people in each suburb. Even in this expanded model, Howard still maintained the necessity for all residents to have some level of involvement in decision-making and evaluation. Chengdu planners knew that there had to be adaptations to suit their conditions and that it would be a long process.

Aoxue's concluding recommendations made allowance for the fact that this huge project was still in its early stages, but she was concerned that thus far little attention had been paid to the serious need for improved environmental protection, particularly in relation to water, and there was a need for improvement in

sustainable development methods. Her main recommendation centred on the inclusion of public participation, especially among low income groups, in the development of the policy because the local government 'did not listen to the public during policy-making, and made decisions on behalf of the public without consultation, which resulted in the loss of rights' (2011:54). Another recommendation was based on the large number of different government agencies involved in both policy and implementation that were functioning without any centralized guidance. Her advice was that there should be a specialized team that would supervise the necessary adaptation changes that emerged during the project. Despite these emerging problems, Aoxue remained optimistic about the eventual outcome, that Chengdu would become a Garden City which could be a model for eco-city development in China.

 The June 2012 Report of the Board of Management Meeting of Letchworth Garden City in England recorded that in 2011 a Chinese delegation interested in Garden City planning had visited Letchworth and, as a result, Philip Ross, who had been mayor of Letchworth between 2007 and 2009, and John Lewis, who was the current Chief Executive of the city, went to Chengdu as part of a program to discuss 'Planning Ecological and Pleasant Cities'. There was a maintenance of this project for more than 6 years, and other garden city projects based on Ebeneza Howard's ideas continued into the next decade. The time span alone was significant and some form of cosmopolitanization among those who were involved was probably occurring as a result, but the garden city model from England was actually being developed with Chinese characteristics, including the failure to encourage public participation in the whole process.

In the same year that Aoxue Yang completed her dissertation, an English newspaper story outlined a Chinese proposal to merge nine cities in the Pearl River Delta to produce a mega city with a population of about 42 million people.

The kinds of experimental and experiential activities that emerged from the ideas explored in this chapter did draw on Chinese skills in ways that nurtured a capacity to deal with environmental problems by continually monitoring, reflecting, evaluating and readjusting on the basis of a variety of forms of learning by doing. In the process there was a diffusion of norms that appeared not to arouse confrontation to the point where continuing a project with a better understanding of what was needed was obstructed by government agencies. Sabel and Zeitlin claimed that 'experimentalist governance processes, though not intrinsically democratic in themselves, have a potentially democratizing destabilization effect on domestic politics' (2012:11).

What happened in many of these projects was a kind of subdued and almost unconscious form of cosmopolitanization, but it seemed in most situations to be very effective as an environmental strategy. The Chengdu project indicated that the scale of the environmental intention was an important issue. The previous case studies examined small to medium scale environmental projects, but to understand the full range of China's many environmental problems the following example of a very large scale, and seemingly refractory pollution situation, required a detailed consideration of that situation.

There was an environmentally disastrous problem in China, involving large scale fresh water pollution, which did necessitate overt, expert and long term international assistance. Cosmopolitanization processes via large scale interventions drew on a variety of environmental strategies and had the potential to encourage transnational cooperation because countries like Australia were also confronted by threats to fresh water resources.

Notwithstanding the fact that Lake Taihu was a popular tourist destination, pollution had been a serious problem since the early 80s and possibly even a decade earlier. Previous attempts, prior to 2000, to deal with annual outbreaks of toxic blue-green algae had failed. This lake's apparently intractable predicament was

repeated in many of the fresh water lakes in China, especially where there was a growing migration to lakeside urban areas that had inadequate sewage and waste water treatment works, where particular industries like chemical plants, printing, dyeing and pharmaceutical factories had been established on or near the lake borders, where there were climate changes associated with erratic rainfall and rising temperatures, where aquaculture was increasing within the lake, and where pesticides and fertilizers resulting from expanding agriculture had begun to seep into the lake. In addition to these difficulties, common in many Chinese large fresh water lake areas, Taihu was the third largest fresh water lake in China but had an average depth of only about 2 metres, so that warmer weather and reduced rainfall, combined with considerable sedimentary nutrient, caused algal growth that was spectacular and gained substantial national and international media attention. Such problems should not be made public. Secrecy was important, especially since continual failure to solve the algal pollution looked like a revelation of government incompetence. Central government discomfort at these embarrassing revelations was further exacerbated by the public media work of at least two renowned environmental activists, Ma Jun and Wu Lihong.

The lake had three provincial boundaries, Jiangsu, Zhejiang and Anhui. Each province had its own Environmental Protection Bureau. When the lake was not beset by eutrophication, it was a nationally famous tourist area of great natural beauty and a long cultural history. It was a favourite holiday area for recreational boating and fishing. It also contained busy cargo shipping lanes for transporting local agricultural and industrial products. Urban populations in three large cities, Chagzhou, Wuxi and Suzhou, used the lake water for drinking, cooking and cleaning and supported the majority of the estimated population of between 30 and 40 million people who depended on Taihu water. Sometimes water became too contaminated to drink. Then there were examples of liver failure, viral hepatitis, gastrointestinal disorders and some forms of cancer which showed that the water was a health hazard.

Publications by writers like Albers *et al* 2008; Khan 2007; and Ma Jun 2007 and organizations like the World Bank (2007), drew attention to other significant factors like the lake's location in the Yangtze delta where a man-made canal connected the lake to the Yangtze river, but the river flow was insufficient to flush away sediment build up and, in fact, added further river pollutants.

These, and other environmentally related problems, had the effect of making projects to remediate the lake water a kind of bureaucratic nightmare, involving at least ten different government departments at central, provincial and municipal levels, because, in addition to the usual water and environmental agencies, there were those connected to urban-rural development, transport, agriculture, fisheries, and tourism, all with varying responsibilities in the water management of Lake Taihu.

The dilemmas associated with annual algal break-outs and continually polluted water had been recognized by the central ministry of water resources in the 80s, but policy seemed to address itself mainly to flood control in the Taihu basin. Then, in 1997, there developed a national project to clean the water problems in lake Taihu and two large lakes and three main rivers as part of the concerns of the Ninth Five-Year plan. By 2002 there had been little improvement in all six locations and the Tenth Five-Year Plan put pressure on provinces to attend to problems caused by urban sewage, rural agricultural run-off and untreated industrial discharge, because the consequent pollution resulting from negligence was their fault and the responsibility to fix these problems was also theirs. By 2005 Zunxuan Chen commented that provincial water management had failed to deal with persistent eutrophication because of a 'lack of capacity on the part of the regulators, corruption, provincial in-fighting, and close collaboration between local governments, Environmental Protection Bureaus and factory officials' (2005:334). Provincial water regulations that emphasized maintenance of legal standards and the need for cooperation in monitoring and inspections were issued but, as Chen noted, there were the usual obstacles to implementing the legislation. There seemed

to be little knowledge of what environmental standards were required, certain topics like domestic waste water were not dealt with at all, and there was the customary lack of attention to public participation. Despite the pollution levels at various monitoring points showing transboundary pollution downstream, this issue was ignored. Since directive sanctions were not available, Chen believed that this environmental legal process was, in practice, a series of recommendations rather than a legal system.

It was obvious that many Taihu rescue efforts had been amateurish, ineffective, and occasionally corrupt. Lake Taihu required government intervention on a scale to equal the problem.

Then there was the 2007 Wuxi disaster. There had been little rain, and very warm spring weather produced huge amounts of blue-green algae. Unusually strong prevailing winds moved algae into a current artificially caused by the diversion of the Yangtze river water into the lake. This current moved algae into the intake pipe of the Wuxi water plant that provided fresh water for more than 2 million people in Wuxi City. Tap water was putrid for 5 days and in the lake plants and fish died. Wu Lihong, who had been issuing public environmental warnings about the lake for some 12 years, photographed the whole calamity, wrote articles for international media and was interviewed on TV. Then he was arrested and spent 3 years in prison. A month after his release from jail, *The China Digital Times* reported him taking foreign journalists to where factory pipes were still putting untreated discharge into the lake. It was not easy being green in China. Once again the Chinese government had an international audience, this time not only publicizing further examples of their extreme incompetence, but also for unlawfully punishing Wu Lihong's legitimate right to protest.

Quite quickly increased government and international funding became available for Lake Taihu pilot environmental projects.

After examining "Environmental Law with Chinese Characteristics', Orts had come to the conclusion that the approaching Chinese environmental disasters were 'of global scope' (2003:564) and proposed a combination of international specialized expertise in collaborative projects with China. According to Orts, China desperately needed international nation-state environmental assistance and resources, access to expert knowledge, experienced NGOs and private businesses whose interests were connected to environmental projects. Chen, whose concerns were environmental legal perspectives, also promoted learning from the successful experiences of other nations in order to discover effective legal and scientific means to tackle pollution problems (2005:341).

By 2007 fresh water scarcity did have a global scope. In this year Ban Ki Moon warned that '(w)ater scarcity threatens economic and social gains and is a potent fuel for wars and conflict' (2007:1). He saw international cooperation as an essential solution. Fresh water was becoming globally scarce as a result of increasing industrial and human consumption and the global effects of climate change (Stern, 2009). By 2010 writers like Solomon cautioned that since only 2.5 per cent of the world's water was fresh, 'a water famine could outstrip the food famine' (2010:1). A report from the UN University Institute for Water named water as 'A Global Security Issue' (2011). As the conversation moved towards providing water security within the next 30 years, there were forecasts of water becoming 'a source of political and economic instability, and food and energy shortages' (Anderson, 2012:2). The UN predictions were that by 2025, 23 countries would be experiencing fresh water scarcity. Fresh water was in dire need of global risk management.

This detailed introduction to the Lake Taihu case study of partnership collaborations provides necessary background information about the complex circumstances under which various nation states would experience Taihu projects in this decade.

The pilot projects established between nation states and China were experimental enterprises undertaken as a form of assessment prior to a possible full-scale operation. Sometimes pilot projects seemed to morph quietly into complete projects. In contrast to the previous 'learning by doing' strategy, this project adopted approaches that emphasized the necessity of specific technologies in conjunction with collaborative interventions by a number of specialized environmental experts, as well as environmental business consultants and entrepreneurs, many of whom would often be required to be available on site over an extended period of sometimes five to ten years. These projects were often described as partnership collaborations which would include sub-national governmental agencies, non-profit organizations, private firms and universities. This collection of wide-ranging assistance, especially from the private businesses, would have appealed to pragmatic notions of being able to draw on diverse sources of expertise. The cooperative emphasis was intended to provide positive results, particularly for these stakeholders. Very little formal emphasis was placed on public participation. Funding bodies always included some Chinese government financial agencies, but also the usual international and national sources.

There were a number of Lake Taihu partnership arrangements that nation states like France, the Netherlands, Demark, Finland, the United States, Australia and Japan entered into with Chinese partners. This section will include brief examinations of some projects and a selection of the most common issues cited in the project evaluations. Such evaluations sometimes included descriptions of the relationships between the various participants, many of whom did have the characteristics of the epistemic group described in a previous section. There seemed to be potential for cosmopolitanization processes to occur.

The 2001-2005 Japanese collaborative venture was one of the earliest of these cooperative pilot projects in the lake Taihu district. The pilot intention was to provide the technology required for domestic waste-water treatment, to test various types of domestic treatment tanks and then arrange for the sale of appropriate tanks.

In 1998 China had asked Japan for help with technical issues. The Japan International Cooperation Agency (JICA) was created as a state supported agency with the particular task of assisting in areas of economic, judicial and administrative systems in developing countries during the risks posed by globalization and climate change. JICA was very clear that this process should promote self-help. Their mission statement claimed that the organization should 'promote public-private partnerships, pooling the experience, technologies, and resources of local governments, universities, non-government organizations, and other actors' (2012:2).

The partnership in the Lake Taihu pilot, titled 'Water Environment Restoration Pilot Project in Taihu Lake', was administered from 7 different SEPA central state agencies in Beijing, researchers and provincial agencies in Nanjing, and further local municipal bodies like the Environment Monitoring Station in Wuxi. There were 44 environmental technical experts, 7 of whom stayed with the project for 6 years, and 23 trainees in the Japanese group. Another group, independent of those involved in the project, was allocated several weeks to produce an evaluation, and the resulting publication was far more detailed than the versions other international groups made available in any public form.

 One problem was the tanks. There were difficulties at every stage: during customs clearance, transporting them across land, and during installation. The Japanese tanks rusted because they were not made of stainless steel. Japanese costing estimates had failed to take into account local capacities to pay. The tanks were not easy for local people to install or maintain. Then there was the reduced enthusiasm to exchange some research information because the Japanese researchers feared intellectual property violations and expressed doubts about the research competence of some Chinese researchers. The most severe criticism was leveled against a Chinese management structure involving many different and competing agencies and where the Lake Taihu Basin Administration was not even included in the implementation stage.

Nevertheless, despite the obvious frustration between the partners, JICA agreed to extend the project time to 2007 to give time for the tank provisions to be improved. Relations between the research partners made progress. The project developed guidelines on video and in CDs in Chinese, and produced web-sites and newsletters that publicized the project and provided instructions for the installation and maintenance of the tanks. By 2010 further evaluation concluded that the practical technologies developed during the project would be 'widely recognized by the people of the communities in the target area' (2010:1). At no point did Japanese evaluation reports claim that a reduction of eutrophication in the lake had been achieved by this project.

As early as 1999 the Netherlands Ministry of Water and the Chinese Ministry of Water Resources decided that their cooperation should be focused on knowledge transfer through the Delft Cluster to include three Chinese universities and four Chinese government water resource agencies and to concentrate collaboration on exchanges of water resources engineering. By 2003 symposium membership included organizations from the Taihu Lake Basin Authority.

Delft University of Technology undertook a collaborative project in 2008 titled 'Sustainable Water Use for Taihu'. University staff, Chinese volunteer NGOs and the two water ministries examined all the main Taihu water problems and then provided a future action plan with policy decisions to be implemented during 10 year intervals over a period of 42 years to the year 2050. In this plan there would eventually be sustainable water use for agriculture, cities, industry and aquaculture for the whole basin. Various Chinese research and development institutions, universities and river basin groups spent time in the Netherlands gaining increased research skills and exploring their own research problems. As a result of the participation of so many Chinese volunteers from five well-established NGO environmental organizations, the Delft Cluster became convinced that the solution to lake Taihu's complex and long-standing environmental crises was long-term

action planning, administrative reform, increased public participation and the provision of formal government support for NGO staff and volunteers as advisers to government agencies, collaborators in environmental projects and providers of education for public participation within projects. The Delft project is still in place and so are many of the problems, but the way this project was organized and maintained did provide the circumstances most likely to produce some form of local, rooted cosmopolitanization. The whole program needed a record that would document the emergence of this possibility.

The reports from the Australia-China Environmental Development Program (ACEDP) established in 2007 showed real concern about the problems of managing fresh water resources and its first focus was water management. In this case the collaborating partner saw the utility of working with a country that had environmental difficulties similar to its own. A group of Australian and Chinese agencies began a project concerned with methods of pollution and algal control, in conjunction with an environmental consulting company named Earth Systems which had successfully tendered for project implementation. This company was to examine the existing control methods, the management strategies being used and the relevant policy developments. Earth Systems would also provide delivery of environmental products and services so that, for example, a water treatment system could be leased or purchased from them by private Chinese businesses or by government agencies.

One of their first discoveries was that pollution prevention and control had 7 different zones of administration, that water resources were divided into 2 levels and 11 zones, and that for each of the 28 zones there was a separate administration.

Between 2007 and 2011 ACEDP Lake Taihu projects ranged from introducing a new pollution monitoring system, and ways of dealing with non-point agricultural pollution, waste-water treatment, water management models, algal reduction, and environmental governance. A close research relationship was established with the

Nanjing Institute of Geology and Limnology and the Nanjing Institute Of Environmental Science, so that many of their activities involved study tours, training programs, conferences and workshops. By 2012, 23 projects were at various points of implementation. Projects often had time spans of 1 to 3 years. At least one project had the unusual priority of 'public participation' and the production of a training manual to improve participation in an attempt to assess the social, as well as the environmental, impact from a project that was intended to reduce water pollution.

One of the American projects was part of a 10 year energy and environment cooperation framework undertaken within the US-China Eco-Partnership Program. Collaboration offered the opportunity for an American group of academics whose interests were focused on the possibility of testing a particular technology. So again all the partners had something to gain from the collaboration. The enterprise began in the Environment Research Centre of the University of Utah where a Dr Hong developed a process called Heightened Ozonation Treatment (HOT) to clean contaminated soil. In Wuxi there had been closure of a number of chemical and other polluting factories which had failed to provide adequate treatment of waste water and, despite repeated warnings, had persisted in discharging untreated waste into the lake. Closures had revealed contaminated soil on these industrial sites.

There was a Chinese agreement to cooperate in a pilot project on one site to test this technology, but the university wanted there to be an organizing group that would have the role of establishing the rules of collaboration. A decision was reached to employ the Shanghai based Honde LLC Chinese Environmental Clean-up Company. The company would retain the licensing rights to the technology if the demonstration pilot project was successful. Since there was a possibility that this technology could be used in the control of a number of pollutants in algae or sewage, for example, Honde could see considerable future profitable prospects. The university would retain intellectual property rights to the technology.

The role of Honde was interesting. This environmental company had already developed a reputation among Chinese officials and academics over a number of years and was perceived as trustworthy and able to inform the Utah research group about local Chinese needs. It employed people who studied the development of Chinese policies and the government concerns that framed them, so that this information could be made available to both sets of partners in this project. Understanding how the Chinese system was supposed to be regulated, and gaining some idea of why it so rarely functioned according to regulation, could provide a framework for understanding the provincial system and how these power relations functioned at the local level. It did become obvious in some collaborations that some of the on-site problems were the result of local administrative lack of environmental capacities and an absence of regulatory organization. This kind of knowledge was essential for the cultural and political aspects of collaboration and therefore also for the successful promotion of cosmopolitanization processes.

The original research was completed in 2008, the contract with Honde began in 2009 and by October 2010, after 3 months of testing the technological equipment on one site in Wuxi, the remediated soil showed a reduction of contamination to the level required in Chinese national standards. For a relatively small pilot project this time span could seem rather extended, but there was an agreement that slow and careful lead-up preparation was almost a cultural requirement. During this time, with some guidance from Honde, the Utah Taihu Institute of Environmental Research (UTIER) had become the non-profit arm of three American universities in order to provide a unified effort from academics, government officials, and business leaders to introduce Utah technology into China. Another innovation was the establishment of the 7Revolution Energy Technology Fund as an investment company to promote commercialization.

The Utah-Qinghai Eco-Partnership and the Wuxi Soil Remediation Report had claimed that the 'project would require pioneering a new working model for US-

China joint collaboration, IP protection, technology transfer, and policy implementation' (2010:1).

Certainly this project did appear to be the most sophisticated version of the collaborative partnership strategy. The arrangements in this eco-partnership were, to some extent, facilitated by the existence of at least 6 other projects in the US-China program and the commitment to 10 years of collaboration. There was also the quite limited scope of the Wuxi demonstration pilot project which meant that it was not difficult to track the progress of the experiment. Then there was the fact that this project occurred towards the end of the decade under examination when evaluations of several collaborative models had already been published. By this time Honde was well established and the facilitating and organizing role allocated to this Chinese environmental company became crucial to the project's success.

However, despite the intention to protect intellectual property in the project and the increasing number of Chinese IP laws and regulations, thousands of IP infringements were made public in China every year during this decade. Furthermore, although the report outlining the extensive Utah-Qinghai involvement in a number of projects did include discussion of student and other exchanges between the partner groups, even in the outline of partnerships in the 'green towns' proposal for 2012 there was no inclusion of public participation. This form of collaboration meant that the main conversation remained with the epistemic community so that the narrative stayed with the experts. These were not the conditions likely to support rooted cosmopolitanization.

Throughout this study complaints about difficulties posed by environmental projects, whether or not there were collaborative partnerships, remained remarkably similar. Chinese data was often described as contradictory and unreliable with implications of deliberate manipulation to provide more positive results. Public participation in the collaborative projects was rarely mentioned in evaluations. It did seem that this aspect of community involvement was seen by project managers

to be the work of Chinese officials and not part of the collaboration agreement. Complaints about administrative structures received the most stringent opprobrium as uncoordinated, inefficient, and lacking communication opportunities, and as having unclear lines of responsibility, fragmented and contradictory management arrangements, poor enforcement of rules or standards, and erratic inspections, monitoring and planning. There were also some comments concerning the role of environmental NGOs as being meanly funded and needing increased positive recognition of their work and value.

The Taihu saga was not an isolated event. In 2011 Dongzi Jia submitted a Master's dissertation that examined 'Lake Governance and Growing Cities: The Case of Lake Dian and Kunming, China'. Her Dianchi Lake study explored why, after two substantial Dianchi Management Programs between 1996 and 2010, water quality had not improved. The project problems that Dongzi discovered were almost the same as the evaluation complaints from the Lake Taihu projects. The Lake Taihu dilemma of how to deal with so many sources of pollution and actually make a difference to water quality was repeated in most of the larger lakes for the whole decade of 2000-2010 and beyond.

In contrast to the Taihu evaluation complaints, attention should be paid to the wide range of different methods of remediation and reform employed in the Lake Taihu area. Tons of algae were physically removed from the lake. Continual dredging was employed to lower the nutrient-rich sediment that was feeding the algae. Chemical additions to Lake Taihu did kill some algae. Algae eating silver carp were introduced to some sections of the lake. Drip irrigation and reductions in chemical fertilizers and pesticides improved agricultural pollution seepage into the lake. River water was diverted into lake water with the intention of diluting nutrient levels. There were several attempts to strengthen the powers of the Lake Taihu Basin Administration. Improvements were made to data collection and storage, and analyses of the composition of pollutants did become more exact. A variety of technologies did improve sewage and all forms of waste water treatment plants.

Many repeat-offending polluting factories were closed. Drug usage by aquaculture farmers was made illegal and numerous fish farms were shut down. Some local officials were prosecuted for corruption, but the most interesting judicial event was the Wuxi court case. This was the first Chinese environmental civil lawsuit and was filed by the All-China Environmental Federation (ACEF) which was a central government supported GONGO. The ACEF case was initiated by the repeated reports of 80 local householders against the Jiangyin Port Container Company for failing to undertake any form of environmental impact assessment and causing serious air, noise and water pollution. In 2009 a court-ordered investigation provided evidence supporting the complaints and the case was settled through mediation.

Nevertheless, despite all these efforts, in the summers of 2010, 2011 and 2012 Lake Taihu water was still testing at only a grade IV level of water safety where grade V water was deemed undrinkable and, according to the 2012 Ministry of Environmental Protection Report, many sections of the lake were in a state of intermediate eutrophication.

The collaborative partnership model did have several elements that would have encouraged cosmopolitanization processes. The length of time involved in many projects meant that partner relationships were often described as interesting and agreeable, and continued after project completion, even when sometimes early aspects of the cooperation were difficult. Certainly the non-Chinese partners often came to a better and more sympathetic understanding about the scale, complexity, and apparently intractable nature of the problems of water pollution in Lake Taihu and elsewhere in China. International media representations of the Lake Taihu pollution had emphasized governmental deficiencies, which were a reality, but the central government had tried to provide remedial policies. Where there were study tour exchanges demonstrating to Chinese participants that other countries had similar fresh water and pollution problems, the Chinese partners noted the results of climate change in relation to water as a global problem. The addition of private

businesses to projects supported a growing Chinese environmental industry and endorsed Chinese economic ambitions. Language problems seemed less obvious in these projects, partly because so many researchers and engineers on both sides of the partnership were bilingual. The decision in some projects to tender for environmental companies with offices established in China to provide liaison and organizational facilities for the project was a very effective source of cosmopolitan interchanges. In some ways describing every on-site remediation exercise project as a pilot was very sensible because the actual 'learning by doing' aspect often did prove to be a 'testing out', an experiment that needed to be followed by adjustments. The process saved face for all concerned and the modifications following the experiment were more likely to be appropriate for the local community. Even so, the cosmopolitan narrative of these experiments tended to remain the property of an elite few. Community involvement appeared to be largely absent. Public participation could have enlightened visiting experts as to the realities of local power relations and the possibilities for rooted cosmopolitanization could have been enhanced.

There were low carbon collaborations where Chinese industries were often more advanced than those in the countries offering assistance. Did this rather more balanced intersection of interests nurture a different form of cosmopolitanization?

7: EXPERIMENTS IN THE ENVIRONMENTAL MARKETPLACE

At first glance it might seem that many examples in this chapter are repetitions of experimental 'learning by doing' projects where acknowledging Chinese skills and knowledge should have been the basis of Chinese and foreign collaborations so that some more effective form of cosmopolitanization could be forged among the participants. However, the collaborations in this section were firmly located in an unfamiliar global low carbon energy market, not in a local village or urban community. Did entry into the global low carbon market nurture cosmopolitanization processes?

That there were globally endorsed rules in this 'free' market, which had emerged to focus on energy as an environmental issue, seemed to surprise some Chinese traders. Matters like technology transfer and intellectual property rules became central in most of the collaborative partnerships. The conversation moved at a considerable distance away from discussions of public participation and remained lodged in narratives of economic development. This scenario seemed removed from notions of any nurturing or embedding of cosmoplitanization processes, and yet there were observers who in 2010 expressed some optimism for a uniquely Chinese process which was uneven, uncertain, and limited in participation but was, nevertheless, a cosmopolitan form 'to be understood as a specifically socio-historical configuration' (Tyfield & Urry, 2010:276).

Like fresh water scarcity, greenhouse gas emissions were also a global concern because the emissions were directly related to climate change.

As has been noted in previous chapters, China's national electricity grid relied mainly on power generated from coal combustion for the decade 2000-2010 and there was likely to be an on-going increase in burning coal for energy production. Firstly, China's extraordinary economic growth depended on heavy industry and manufacturing enterprises requiring expanding, though frequently inefficient, use of

coal based energy. Migration to urban areas grew rapidly during this period and the extensive urbanization caused larger energy demands from residents. Vehicle usage in these cities also grew rapidly, adding to air pollution. According to the Global Carbon Capture and Storage Institute (2012), cities produce 90% of total emissions. In 2002 Alford *et al.* undertook research in a Chinese rural location and discovered that, despite cases of severe respiratory problems in the study group, there seemed to be little knowledge about their own air quality. The connection between air quality and climate change was also not available to them. In the previous chapter, water pollution and scarcity of clean water appeared to be more directly understood, even among people who were functionally illiterate. Studies of respiratory diseases published by the World Bank and the OECD had shown high levels of asthma, chronically reduced lung capacity, lung cancer and other coal related illnesses (Wang Mingyuan, 2008). By 2006, 16 out of 20 cities with the world's worst air pollution were in China.

Rising coal dependency, to the point where China was having to import coal, increased energy demand and health problems related to frequently dangerous air quality were issues linked to reliable information that energy demand in the decade under examination had virtually doubled by the year 2007 (Zhang, 2010). In this year China became the world's largest emitter of greenhouse gases. Per capita energy use remained comparatively low but there was an expectation that per capita levels would continue to escalate so that electricity consumption would begin to double again by 2020 (Buijs, 2012).

2007 also produced the Intergovernmental Panel on Climate Change (IPCC) 'Fourth Assessment Report' where evidence from global average ocean and air temperatures, rising sea levels, melt from ice and snow, and the increasing intensity of cyclones in the North Atlantic, showed that the climate system was indisputably warming. The report located the causes of these changes in human activities.

> Global atmospheric concentrations of CO_2, methane (CH_4) and nitrous oxide (N_2O) have increased markedly as a result of human activities since 1750 and now far exceed

pre-industrial values determined from ice cores spanning many thousands of years. (Pachauri & Reisinger, 2007:1)

Recommendations in this report stressed the need for early increased investment and commercialization of low-emissions technologies, and encouragement of technology transfers. Reference to the 18th century and industrialization did support China's frequent citation of western responsibility for saving the world's environment. Nonetheless, international information revealing the level of China's emissions and China's own responses in both the 11th and the 12th Five Year Plans, which emphasized the need for low carbon energy conservation, did indicate that the Chinese central government understood that China would need to play 'an increasingly important role in the geopolitics of energy as well as climate change mitigation' (Lewis, 2013:168).

During this decade various versions of renewable energy policies had already been developed in some 118 countries. The somewhat inconsistent desire, given the occasionally uncooperative behaviours in UN environmental conferences, to be included in the international environmental community would also have had some influence on emerging Chinese low-carbon policies. Since CO_2 stays in the atmosphere for at least 50 years and annual emissions were continuing to grow and, in addition, China was already producing about a quarter of all global emissions, these considerations were therefore 'a critical factor in the world's chances of keeping global warming below 2^0C (Han Guoyi *et al*., 2012:1). Dealing with greenhouse gases was becoming an environmental risk management crisis in China and globally. Policy developments and experimental projects reflected the central government's concern.

The following section provides a brief outline of selected policy considerations and a limited representation of some projects. Evaluations of projects did repeat some of the problems outlined in previous assessments. However, the joint venture collaborative partnerships renewable energy enterprises that developed a considerable export market, and the international technology transfer arrangements,

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were presented as being significantly different from other environmental programs. The international renewable energy market was a new global market for all countries and such geoeconomic pressures could introduce an environmental cosmopolitanization through technology and trade. A number of projects did not begin to be operational until late in the decade, or as in the case of carbon trading experiments, were still in the design stage until 2013-2014.

A number of accounts (Buijs, 2012; Lewis, 2013; Price *et al.*, 2011; Scotney *et al.*, 2012; Tyfield, Jun Jin & Rooker, 2009; Tyfield & Wilsdon, 2009) noted that low-carbon emissions reduction policies were generous in their support of a variety of environmental reforms from about 2007 onward. There had been an Energy Conservation Law passed in 1997, but it provided no legal framework or enforcement directives, and targets were ambiguous, so local officials tended to ignore it. By 2002 energy policy was still unclear and electricity prices did not reflect costs, but there were some financial incentives available for the production of appliances that reached standards of lower electricity requirements. This government policy to change consumption patterns was intended to promote public participation in the reduced use of energy in their own households.

However, by 2007 there began a series of closures of small businesses like cement, iron and steel factories and coal power plants that were inefficient energy users and pollution emitters. Local administration centres began to receive better funding and increased staffing and their accountability in energy data collection became a mandated obligation which included an independent verification and where failure led to punishment. Government subsidies were provided for hydropower, oil, gas, biofuels, clean coal systems, carbon capture, utilization and storage, wind and solar enterprises and forestation. Hybrid and electrical vehicle designs were supported and fast train public transport was built. Research and Development institutions received funding for science, engineering and environmental studies. This was an indication that the central government had finally accepted that the expanding

dependency on foreign services in these fields had prevented innovations with Chinese capacities.

In fact, by 2002, there had been an average annual reduction in consumption of energy by about 5% and Scotney *et al.* (2012) drew attention to an energy intensity reduction of 19% between 2005 and 2010; however China's per capita energy usage and absolute emissions kept rising.

In the implementation stage, experimental projects again became the responsibility of local governments. Long term planning had included the eventual development of a national low-carbon economy. Zhang observed that it was 'impossible for the central government to operate single-handedly in pursuit of nationwide energy savings' (2010:5). The range of small pilot projects and even large-scale demonstration models in this environmental program was extraordinary. It included products like solar water heaters and panels, testing of biomass and biofuels, shale gas, geothermal energy, emission reduction technologies, refitting large buildings to reduce energy consumption, electric bike and vehicle enterprises, bio-gas digesters, methane recovery, utilization and storage from coal mines, and mass produced, low cost wind turbines and solar power installations. Whole cities were expected to become low-carbon areas, and the plan was to have 276 eco-cities by 2011. Even more ambitious was the decision to begin carbon credit trading and developing three exchange hubs for trading by 2013-2014 (Turner, 2012). Buijz maintained that policy implementation through projects demonstrated 'pragmatism and willingness to experiment, by means of pilot projects, best practices, learning-by-doing' (2012:86), and it was true that this form of environmental risk management did suit Chinese conditions. Even so, the evaluation reports tended to reveal that incremental learning did not necessarily mean that the problems revealed again and again during the decade 2000-2010 were being remedied and they continued to obstruct even the best environmental policies.

One of these problems was the failure to keep detailed accurate records. The Price *et al.* (2011) assessment report on energy saving and emission reduction in ten key projects claimed that evaluation was almost impossible because there was 'no systematic program for gathering data about energy use' (2011:14). Targets were poorly defined and unreliably monitored. Third party review was absent. Zhang's comments on the low-carbon zones described a situation where local officials were told to 'figure it out for themselves' (2012: 2). Boyd cited a manager from a British construction firm who had been involved in low-carbon pilots as saying that,

> "(a) lot of the activity in China is frankly smoke and mirrors. They come up with high concepts but, having got something approved as ' low-carbon' or 'eco-city', what gets delivered often has little or no reflection of those aspirations – it's bog-standard commercial delivery." (Allen Kell in Boyd, 2011:2)

Eco-cities did seem to attract negative assessments. Hald's 2009 evaluation report included the 2003 demonstration eco-village of Huangbaiyu where there had been an American architect and where quite clear targets were set for 370 households built from energy saving bricks and heating and cooking arrangements. Three years later there were only 42 houses and most did not fulfill the eco requirements. Costs expanded and government-promised subsidies did not appear. The farmer villagers had not been consulted. They told assessors that what they had needed was health care, especially for the elderly, improved educational facilities and paid work. The new houses had no space for storing grain or rearing animals. Hald concluded that there had been 'no system of accountability to the population' (2009: 62). The Stockholm Environmental Institute (2012) summarized the causes of most implementation concerns in this program as being unclear targets, inadequate supporting legislation and regulations, widespread corruption, little organized accountability and inefficient bureaucracies.

What needs to be remembered is that there were no templates for national low-carbon emission reduction ventures. In 2010 Tyfield, Jun Jin and Rooker were right to draw attention to the fact that 'no country yet has a low-carbon society, nor does any single country have the innovation capacity to affect low-carbon transition alone' (2010:33).

The Chinese central government understood that this particular set of policies required international collaboration. Firstly, China's global emission status could not be ignored and was inexorably becoming worse. Secondly, there were countries within the European Union that had already been undertaking some low-carbon initiatives. Thirdly, as Tyfield and Urry observed in their 2010 examination of international collaborative issues, there was an 'almost ubiquitous techno-fetishism in Chinese policy and popular discourse' (2010:283). By 2011 at least 20 countries were involved in low-carbon projects in China and 8 of these were EU countries (European Commission, 2012). Most of the international support was made available at the local level in the pilot projects and provided training and technical experience. There were also low-carbon enterprises of a different order because, as Buijs recognized, in China 'climate policy (was) being framed as industrial or economic policy: targets are expressed in terms of green growth, a green economy and the creation of green jobs' (2012:90). China wanted export opportunities (Connor, 2012) in the emerging global environment market for renewable energy products. China was already the world's second largest exporter of products like computers, toys, household goods and clothing and so international trading was well established, but a low-carbon economy offered an almost new global market.

In 2008 Yasheng Huang described China's private sector as lacking maturity, having considerable quality problems in its export products, reducing costs by unprincipled means, and being hampered by a bureaucracy that was self-serving. As a market economy China was 'in transition to a genuinely efficient form of capitalism' (2008:285). Two years after the publication of Huang's 'Capitalism with Chinese Characteristics', China became the world's largest trader in wind power in the renewable energy market, was also the most advanced producer of solar photovoltaic modules, and had developed the highest level of small-hydro power (Buijs, 2012). The renewable energy market was predicted by the U.S. Energy Information Centre to double in consumption by 2035. In the low-carbon economy, technology transfer was essential to Chinese manufacture and it was in

the field of technology and innovation that Tyfield and Urry explored the notion of a cosmopolitanization with Chinese characteristics.

A brief account of the importance of technology transfer in the domestic and international wind power industry, combined with the rules established by international bodies like the World Trade Organization that were attempting to control global trade in the renewable energy market, indicated that some forms of cosmopolitanization were gained through experiences in global capitalism. For example, Lisa Rofel noted that a city like Shanghai had a cosmopolitan existence well before 1949 that 'was built out of the transformation of the world economy by industrial capitalism' (2012:445). This cosmopolitanization had introduced Western liberal ideas of development, progress, governance and bourgeois democracy which had to be removed in the socialist revolution. Global renewable energy capitalism introduced China to the interesting combinations of contradictions in free trade, protectionism and international trade regulations that tended to appear with new trading products.

When there was a shift from importing wind turbines to local manufacturing in China, there were joint ventures with state-owned companies that had been involved in component construction and with state-owned power stations. Chinese staff were often trained in overseas countries. Lewis outlined agreements that were entered into to transfer not only manufacturing technology but also design transfer in exchange for a fee. The majority equity share had to be Chinese and joint ventures were encouraged to employ Chinese managers. The local content requirement was 70%. Lewis showed that there was some evidence of international partners withholding the most recent designs and making available ones which they knew would soon be outdated. There were issues connected with the quality of turbines and in China connections with power grids were slow and problematic (Buijs, 2012). Mass production and low costs moved towards an over-supply in the market. Dan Xie (2013) argued that this was partly caused by Chinese inexperience in the management of the new energy industries. There were fraud scandals at the

local government level as they struggled to provide maintenance funding for projects. By 2011 there was a court case concerned with intellectual property theft of an American turbine design, and international disputes lodged with the World Trade Organization connected to the Chinese government subsidies allocated to wind power manufacture and installation which were perceived as obstructions in global 'free' trade exchanges (Lewis, 2013). An agreement was reached with the Chinese. Confronting international regulations that even the most authoritarian state could not control was a cosmopolitan lesson, and so was the understanding that protectionist behaviours occurred in most of the nations regulated by the WTO.

Another international mechanism, the United Nations Clean Development Mechanism (CDM), was designed specifically to give financial assistance and encourage investment in new projects to reduce greenhouse gas emissions in developing countries. China was the largest recipient of this finance. CDM had strict rules concerning keeping reliable carbon data records, following international standards and third party verification. Finance was only made available subject to proof that the project would not have existed without CDM assistance (Scotney *et al.*, 2012). The Certified Emission Reductions Credits gained from these projects could be traded in the international carbon market. China was accused of failing to comply with the additionality requirements. However, undertaking verification of whether or not reductions were real was probably not possible in any country.

Did accommodating China within these international management instruments actually show that these organizations needed some regulation adjustments?

One could argue, as did Tyfield and Urry (2010), that one of the necessary components in the course of cosmopolitanization is the recognition of zones of uncertainty as well as a capacity to learn from these situations and therefore engagement with neo-liberalism as the 'dominant global orthodoxy articulated and acted upon within most corporations, many universities, most state bodies and especially international organizations such as the World Trade Organization' (2010:

278) and the recognition that this did involve the risk-taking that was part of the cosmopolitanization process. On the other hand, the learning that emerged from the renewable energy experience could be described as causing considerable loss of trust and civility among all the participants. Both Tyfield and Urry argued that presenting China as developing increasing cosmopolitan characteristics might pose analytical problems if interpretation depended on 'employing the existing conceptual resources of Euro-American heritage' (2010:285). Sprinkled throughout many of the foreign evaluation reports examined in this study were frequent sections that provided entrepreneurial instructions highlighting 'Chinese characteristics'.

There were Chinese publications intended to help foreigners identify business opportunities in the energy market. Junfeng Li's (2011) advice in '*How to do Business in China*' advocated employing a Chinese policy advisor, especially in dealings with local government. He issued warnings about technology transfer, the need to provide outside service and maintenance facilities, and the necessity of a Chinese partner. These recommendations were useful pieces of business information and part of this area of cosmopolitanization was centred around entrepreneurial skills in global cosmopolitan capitalism. Li also provided cultural advice on appropriate decisions and politeness by recommending frequent and extended periods of residence in China, spending money and time on events, exhibitions and conferences, always being prepared to take part in long negotiations, being willing to offer help with product globalization, as much as possible employing local staff and, above all, remaining patient.

Certainly various forms of cosmopolitan exchanges were occurring during this venture into a low carbon economy, mainly in order to smooth the path of entrepreneurial profit.

For all that, the Tyfield and Urry research, based on case studies and interviews with a group of Chinese researchers who had been involved in the low-carbon

projects that had included international collaboration, did explore a cosmopolitanization process with wider implications. This group was a collection of people who had personal histories of living and working with other nationalities and cultures which involved travel, access to international and transnational environmental institutions, conferences and overseas communications, as part of their work. Many were bilingual and most had studied in universities outside China. They were an epistemic group. Tyfield and Urry came to the conclusion that participation in the collaborative projects expanded an existing tendency towards being open to connectivity with foreigners. This enabled the Chinese research group to engage in discussion in ways that may well have been unacceptable in their own culture. For example, they observed that it was acceptable among the international researchers to develop and communicate critical opinions, even in situations where this might be perceived as challenging hierarchical order and status. An earlier discussion paper by Tyfield and Wilson (2009) had noted that during collaboration Chinese researchers not only developed culturally unusual relationships with Chinese and foreign entrepreneurs, but sometimes equally unusual associations with members of other departments within their own universities. The researchers interviewed in the study group had commented on experiencing 'fellow feeling and openness to foreigners' (2009:28) that had developed from their experience of international collaboration. Nevertheless, there were topics, like Tibet, that could not be discussed because they believed that outsiders' comments always misinterpreted China's motives. While the usual nationalistic defensiveness was often reduced in such conversations, Tyfield and Urry were surprised by the strength of nationalistic pride among the Chinese researchers in a situation where there was an emphasis on the global climate change need for low-carbon research and a drastic reduction of greenhouse gas emissions. For the Chinese researchers the highest priority remained the national project, 'even among senior researchers committed to the importance of mitigating global climate change' (2010:282). The national project in all international partnership collaborations was always the development of Chinese economic opportunities and markets, and solutions for domestic environmental problems.

Tyfield, Jun Jin and Rooker (2010) undertook case studies and interviews partly to examine what could be done to improve international collaborations so that the tension between the global environmental needs and the domestic compulsions might be eased. They recommended that Chinese international collaborative partnerships should begin to concentrate on projects that would develop innovative, inexpensive, low level technologies under Chinese management that could be designed and produced in small to medium enterprises located in the provinces. Installation, servicing and maintenance would not need a high level of technological expertise. Tyfield and Jun Jin expanded the notion of innovation of this kind becoming a social process so that the users of the technology, as well as the producers, would be involved in an innovation using 'complex and iterative interactions' (2010:2). These writers were convinced that by embedding international collaborations in local communities, there could be a form of international cooperation that would be invaluable in global efforts to deal with climate change and it would help develop an ethic of cosmopolitan innovation.

Nevertheless, there was an acknowledgement that, at the time of their writing, despite some evidence of 'a specifically Chinese cosmopolitanism', its existence was limited and fragile, constrained by neoliberalism in international trade, and by a slow and reluctant political transition towards opening up to foreign influence, while maintaining an intention to control most aspects of people's lives.

If the projects provided this embryonic form of cosmopolitanization for those whose backgrounds were privileged in relation to most other Chinese, did they have value, cosmopolitan or otherwise, for those who were not in the epistemic group? The environmental experimental projects did permit local adjustments during processes of problem solving and since local environmental problems were often very specific to particular areas in the vast Chinese landscape, these procedures were yet another example of environmental risk management procedures which

could be incorporated eventually into national rule-making by the central government.

International collaboration in environmental experiments occurred throughout the decade 2000-2010, but Heilmann and Perry argued that these were not events that emerged from post Maoist China. They were actually practices encouraged during that period in addition to 'selective borrowing from foreign organizational and regulatory practices' (2011: 3). Heilmann particularly drew attention to Dewey's contribution of learning through practical action which Mao drew on in experimental projects in farming and education. Because Dewey's methodology was perceived as being scientific, Heilmann claimed that it was an influential philosophy for many Chinese activists and political scholars for some time because, in addition to being scientific, it was intensely practical in terms of problem solving.

Heilmann and Perry saw localized experiments as governance strategies built into policy making so that there could be a 'process of ceaseless change, tension management, continual experimentation and ad-hoc adjustment' (ibid:3). Despite the continual uncertainty fostered by such multiple intentions and practices, systematic and stable central control was maintained, while local officials had to deal with poor funding and staffing and occasional supervisory interventions from Beijing. Heilmann and Perry added that perpetual uncertainty was likely to cause some collective objections so that it was necessary for structured bureaucratic ideological foundations, in order to consolidate consent and cooperation. They also came to the conclusion that in these experiments, '(i)ntensive tinkering can take place in non-democracies so long as rulers are willing to encourage the decentralized generation of new knowledge' (ibid: 9). Intensive tinkering provided almost immediate feedback on the success or otherwise of those elements in the experiment intended to solve problems. In addition, experiments provided few opportunities to challenge central government policies, and ultimate responsibility was in the hands of local officials. Heilmann noted these benefits in the central

government's experimental program. Local bureaucracies could be held to account when experiments failed and there could be accusations of corruption and inefficiency from the central government but no acknowledgement of any central government responsibility.

There is no doubt that the environmental experiments were often sites of environmental cosomopolitanization processes and in many cases this was useful to the central government and to particular individuals who were actually involved in the projects. The central government was certainly aware of the global importance of climate change and its role in international environmental exchanges. It was less obvious whether or not the majority of the Chinese people had this awareness. It should be noted, however, that during this decade other forms of cosmopolitanization were flourishing in China because although the government was slow to accept the inevitable influence of the cosmopolitan, many Chinese were not.

CHAPTER: 8 COSMOPOLITANIZATION

The methodological approach in my study drew on a number of concepts developed by Ulrich Beck which were Eurocentric in origin but did prove to be useful in that they provided a theoretical framework that helped 'explain phenomena within certain special and temporal dimensions' (Goldstein, 1989:537) in China during this decade. This study concentrated on the notion of cosmopolitanization as being socially processual in a progression towards cosmopolitan environmental involvement and responsibility. Beck's definition of cosmopolitanization included meanings related to '*internal* globalization, globalization *from within* the national societies. This transforms everyday consciousness and identities significantly. Issues of global concern are becoming part of the every day local experiences and the "moral life worlds" of the people' (2002:17). Beck believed that experiencing cosmopolitanization processes contributed to people's reflexive comprehensions and that this promoted a more critical understanding of people's own lives and the uncertainties of their existence. He was concerned that while this transformation could shift aspects of people's environmental frame of reference, there might not be a consciousness of their own global responsibility but rather a maintenance of inertia, even in the face of an increasing knowledge of risks. International references to any national responsibility could result in extreme nationalism, especially in relation to directives from international regimes to deal with climate change and in situations of environmental degradation.

Tarrow was right in 2005 when he said that because of strict surveillance by the central government there was likely to be a paucity of Chinese environmental case studies available for research into the possible existence of rooted cosmopolitanism. My interest was the cosmopolitanization possibilities that lay in the variety of collaborative environmental ventures undertaken with foreign assistance, but most of the published evaluations were lacking the kind of close detail available in the work done by Bryan Tilt, Zhang Yueyue and Tyfield and Urry.

In this study I wanted to focus on those elements in the narrative where there was conversation about the kinds of cosmopolitan exchanges which permitted examination indicating whether or not what is happening "relates and connects individuals, groups and societies in new ways, thereby changing the very position and function of the 'self' and the 'other' " (Beck & Grande, 2010:18). Were there changes in government planning procedures, policy developments and interactions with international environmental institutions that seemed to have been at least partially shaped by cosmopolitanization processes?

There will be some evaluation of China's engagement with international environmental regimes during 2000-2010. This will be connected to an exploration of the adoption of the international environmental discourse that occurred in central government policy publications and which did inform the experimental projects at subnational level. The level of climate change awareness among Chinese citizens was often a result of international obligations to funding organizations and the requirements of international environmental programs, as well as the work with foreigners in environmental projects. When increased awareness of causes of environmental crises was translated into citizen protest, there was frequently international acknowledgement and encouragement of their struggles. There was also the growing contact between foreigners and Chinese academics, engineers, students, NGOs and activists so that there were periods of connectivity that were sometimes quite lengthy and which were possibly the most influential in promoting cosmopolitanization processes.

The first chapter of this study considered China's role as a member of the United Nations Environmental Programme, especially in 2009, a date almost at the end of the decade being examined. The question was whether or not cosmopolitanization processes during this decade had some effect on China's engagement in international environmental regimes?

In 1999 Luke claimed that for state regimes to develop environmental sustainability planning, substantial changes would have to take place because 'existing national

governments are slow to respond, selfishly nationalistic in their response, financially incapable of responding, or unable to compel those responsible for ecological damage to respond to their directives' (1999:138). This description, Luke believed, was accurate not just for one country, for example China, but for all the nation state members. Luke's conclusion was that under these circumstances, international bodies must intervene. Such bodies should be able to demand specific values and actions from their membership.

Lorraine Elliot linked 'the cosmopolitan project' to a program that involved a 'recognition of equal obligation across borders, compensatory burden-sharing and a politics of consent' (2002:2). She judged the United Nations to be the official representation of global environmental governance, and she named certain characteristics, like willing participation, consultation, ethical concern, transparency, accountability and expertise, as necessary attributes for all participants. These elements were deemed indispensable, but she had not observed them as being present in the nation states' approach to necessary commitments within international conferences.

Certainly China would have liked a global image that encompassed many of these capabilities. In a study of selected comments from a number of weekly news magazines intended for foreign readership, Wang Hongying (2003) examined changes in perceptions of China's national image between 1954 and 2002 to discover whether or not a recent national image building exercise undertaken by the Chinese government in order to clarify 'sensitive' issues, like Chinese perceptions of human rights and an examination of environmental subjects so that foreigners would understand them, and whether or not this image building was the best response to negative prejudices and rumours. The strongest image which this study revealed showed China being perceived as a victim of foreign aggression, despite being a peace-loving, developing country. Using the same time line and the Roper Centre for Public Opinion Research, Wang showed that American opinions of China stressed hegemonic behaviours, not peace-loving ones, an unwillingness to be internationally cooperative, and a tendency to be obstructionist and authoritarian.

Such perceptions were unlikely to enhance China's reputation in international regimes, but in 2005 Men Honghua was optimistic about China's capacity to 'learn to play by the rules' within international institutions. He believed that there had actually been a gradual improvement in interactions since 1945 when China had been one of the first four participants in the establishment of the United Nations. Thereafter, Men commented, it had been China's economic interests that had influenced their role in the World Bank, the International Monetary Fund and the World Trade Organization. While Men conceded that adapting to learning the rules might have been very gradual, he positively endorsed future Chinese participation in international conventions. He saw this gradual acceptance as being based, to some degree, on a desire to gain a more dominant role in international systems, and even to try 'to be a shaper of international environmental and human rights institutions' (2005:13), while still protecting its own national interests.

When Ida Bjorkum (2005) also examined China's role in the international politics of climate change, she explored the persistence of the 'historical responsibility' debate and wondered whether maintaining this argument was actually a form of avoidance. Her concerns centred around specific considerations. Had the Chinese experienced a contestation between the emerging environmental crises and the necessary economic priorities? Was there anxiety in relation to the need to protect sovereignty, while having a perception of being victimized? Consequently was there a tendency among the Chinese membership to accomplish 'low cost commitments with high image benefits' (2005:71)? However Bjorkum did feel confident that as more frequent and disastrous climate change events took place in China, this visibility would cause ordinary people to demonstrate their awareness of the dangers and demand that the central government pay attention to climate change.

By the time of the 2009 UN Copenhagen Climate Change Conference, China's position in the international politics of climate change was crucial. As noted in chapter 1, China's contribution was perceived by many of the participants as being obstructionist to the point of sabotaging the entire international climate change system. Kaldor's 'zone of civility', which she believed to be essential in international negotiations, was absent. The

language used by some observers of Chinese behaviours in this international regime included descriptions of the Chinese being reluctant to negotiate, frequently defensive and isolationist, and providing ambivalent and paradoxical responses that displayed a victim mentality. So where was the cosmopolitan cooperation in working out solutions to a global risk? (It should be reiterated at this point that many narratives have commented that there was always an element of disorganized frenzy and very poor catering in these UN conferences, so that many participants tended to become cranky after the first day.)

Katherine Combes (2011) sought to clarify China's behaviour in international regimes, including the environmental ones. It was her opinion that China's constructive participation was essential in the United Nations Environmental Programme. Combes acknowledged a paradoxical history of Chinese agreements in environmental protection legislation and regulation, and its persistence in refusing enforcement of any kind of control mechanisms, international surveillance or policies requiring exact targets and a maintenance of suspicion, defensiveness and a 'victim mentality (2011:19). Combes' most significant criticism, and one which had become quite common by 2011, was that the historical responsibilities claim was no longer valid since, by this time, China was the world's foremost polluter.

Between December 3 and 11 in 2012, the Brookings Institution followed the operations of the Doha 18th Annual UN Conference of Parties on Climate Change when the most recent estimates on greenhouse emissions had been particularly alarming. By December 4 Timmons Roberts commented that Doha negotiations were made difficult because there were conditions that were 'dizzyingly complex, with seven different negotiating tracks and a lack of clarity about rules' (2012:2). Given the Chinese propensity to bureaucratic complexity and ambiguous protocols, one might presume some comfortable amiability. The Brookings Report from Hultman and Langley described 'the almost comically languid pace of negotiations' (2012:3). At the end of Doha, Roberts asserted that there had been futility in such conferences for the last 20 years because funding continued to be inadequate, real agreement was minimal and the conclusion seemed to be that climate change was a domestic problem, not a global one. But, he noted that Chinese participants

had seemed willing to consider reduction targets. Had negative commentaries from Copenhagen had some effect on the Chinese willingness to negotiate?

It was more likely that the diplomacy practised by Christina Figueres exerted some influence. Christina Figueres, the Executive Secretary of the United Nations Framework Convention on Climate Change, acknowledged China as a significant world leader in the energy revolution when she addressed the China High Level Forum at the opening of Doha. She recognized China's huge population, limited resources and considerable environmental problems and commented on the need for the private sector and international corporations to take part in climate change procedures. She also praised China for the priority the government gave to environmental issues and claimed that a 'sustainable clean energy future' (2012:1) would inevitably provide outstanding benefits for the Chinese economy. She especially commended the environmental projects displayed in the Chinese Pavilion. This was an unusual recognition of China's entitlement to dignity and respect. Another pleasing outcome was that China had signed a memorandum with ten developing countries to produce products that were low emission and energy efficient, so that benefits to the economy were already appearing.

Despite the disappointing evaluations of UN environmental conferences and China's role in international negotiations, it did seem that, given certain encouragements, and notwithstanding the dilemma of a poverty population of about 600 million people that demanded a continuing emphasis on economic development, China was incrementally learning to play by the rules. It was becoming more possible for a series of new global agreements concerning an international diversity of targets based on equitable prescriptions to emerge by the 21st Paris conference in 2015. Perhaps there could be some attention paid to equally recalcitrant behaviours from the United States in previous conferences. National policy recognition in conferences would make the incredible environmental problems in China more obvious and expose the efforts made in environmental projects to deal with domestic crises. The Chinese experience showed that individual national initiatives delivered at subnational levels needed international assistance to help reinforce policy developments. Part of the cosmopolitanization

processes that were essential concepts in the United Nations Environmental Programme could have been to understand that China was the canary in the coal mine of climate change and practical international solutions could be tested out in procedures of learning by doing as they were in many of the collaborative projects, so that there could be international benefits from the experiments.

The brief time line of 2000-2012 in this examination of China's engagement in international environmental conferences showed some elements of a cultural adjustment to particular aspects of regime requirements, but did not indicate any significant change in the overriding adherence to an almost obsessional nationalism in response to certain directives for international interventions into domestic environmental issues. There was difficulty in accepting a global responsibility to undertake international directives but there was also a realization that certain national interests, like access to funding, expertise and technology, would be supported by an acceptance and developing practices linked to those directives. This did not mean that international environmental agreements were not very influential in the development of Chinese environmental policies where the inclusion of international environmental discourse was a source of cosmoplitanization processes at work in national politics.

There were numerous sources of international environmental discourse. For example, there were all the providers of environmental funding like the World Bank, the private foundation donors like the Ford Foundation and the Blacksmith Institute, national government aid organizations like AusAID and the European Union and other international environmental groups like Greenpeace. Every donor system or collaborative project partnership included obligatory requirements in their contributions that were formulated in the language of accountability. When such obligations were described as 'legal rights' and were linked to United Nations conventions, there was considerable pressure on those countries receiving aid and funding to acknowledge and act on their instructions and often to reproduce this international environmental discourse in government policy statements and other political publications. A number of United Nations Environment Programmes produced conventions like Agenda 21, the Aarhus

convention and the Clean Development Programme that became the basis of many environmental policies and projects in China in the decade 2000-2010.

Despite incorporating an international 'rights' discourse within national environmental policy developments, actual project planning design and implementation frequently failed to acknowledge these international requirements in project practices. Those project evaluations submitted by particular participants in collaborative projects to the international donors did note such omissions.

While there were a number of negative issues cited repeatedly in project evaluations that observers judged to be impeding progress in many environmental projects, the one that seemed to incite extreme frustration was the vast and shambolic bureaucratic system, but the second most frequently noted problem was the lack of participation by the very people whose lives were being most damaged by the environment in which they lived. This was an issue which seemed more fraught with obtuse contradictions than many of the other problematic features. The central government gradually produced policy exhortations emphasizing the responsibilities of citizens as public participants in environmental programs. Local administrators appeared not only to ignore these policy instructions but frequently actively discouraged public participation. NGO groups and other activist organizations became very adept at developing educational workshops and conferences intended to encourage involvement and provide useful knowledge in easily accessible formats to community members. Still citizens often seemed resistant to active involvement. Yet when they did voice concerns about the decisions made during projects it was obvious that had attention been paid to their disquiet some projects could have been saved from failure.

Developing capacities for collaborative participation was in fact a fundamental issue in the story of cosmopolitanization at local, national and international levels of environmental problem solving.

The development of rooted cosmopolitanization was dependent on an international environmental norm that local people should have the right to be involved in all aspects of environmental projects dealing with environmental problems where they lived. It was possible to trace the progress of an environmental issue like 'public participation', particularly in the Chinese Environmental Impact Assessment (EIA) developments, to discern how a norm like 'public participation', which was unlikely to appeal to an authoritarian government, gradually worked its way into government documents as a citizen's right by law.

Notwithstanding the influential connections with United Nations programs, one of the earliest acknowledgements by the Chinese central government's environmental administration of donor requirements in EIA recommended public participation. Consequently the 1993 Circular on Strengthening EIA Management of Construction Projects Financed by International Finance Organizations included Section VII which said:

> Public participation is important in EIA process and its purpose is to consider and compensate affected people or social groups. There should be a special section in EIA reports to describe participation with each International Finance Organization (IFO) lending project. Public participation can be induced in the phases of preparation, review and approval, and in the phase of review and approval of EIA reports.
>
> (1993:3)

Certainly this Circular gave very clear instructions concerning report writing.

In the 1990s most funding organizations like the World Bank, the Asian Development Bank and the Organization for Economic Cooperation and Development had well developed policies concerning public participation. The World Bank as an agency affiliated with the United Nations gave very clear instructions concerning the need to involve all those whose lives could be affected, as well as local NGOs, in the assessment, planning design and implementation because the Bank believed project success was partly contingent on public involvement. Their 1999 *Environmental Assessment Sourcebook* made the role of public consultation and the maintenance of continuous recorded interactions so significant that there was a recommendation that culturally aware anthropologists or sociologists should be employed in data collection.

In 1992 the OECD Guidelines for Good Practices for Environmental Impact Assessment of Development Projects outlined the need for the participation of both women and men connected with EIA project locations because their input could result in an improved project. In the same year United Nations Agenda 21 inserted Principle 10 to emphasize the necessity for an informed and participating citizenship. The UN 1998 Aarhus Convention used Article 6 to stress the need for public participation in decision-making. In 2000 a combined UN and Economic Commission for Europe provided an *Implementation Guide for the Aarhus Convention* that included a section on public participation. A group composed of the Friends of the Earth, Greenpeace, Justice and Environment and the European Environment Bureau also drew attention to the Aarhus article 6 on public participation as requiring the attention of national governments.

Did this proliferation of international information concerning an entitlement by law for public participation in international environmental discourse influence China's policy development?

By 1994 principle 10 was a component of China's Agenda 21, and in 1989 the public participation article 6 from the Aarhus convention had also been incorporated into policy statements as a legal requirement. As chapter 5 outlined, implementation of this issue was in fact extremely inadequate. Environmental protest incidents began to increase with participants often demanding their rights to information and involvement. In response to social unrest, SEPA expanded EIA requirements in 2006 in the *Interim Measures on Public Participation in the EIA Process* so that any person likely to be affected by a project had a right to information and consultation in situations where a project must include acknowledgement of likely social impact. Pan Yue emphasized that this new regulation meant that public participation was a people's right by law. In 2007 the National Development and Reform Commission, as part of China's National Climate Change Programme, accentuated the need for environmental consciousness raising to improve public awareness and the obligation to provide information concerning environmental problems and government policies.

Inclusion in government publications did not necessarily mean that public participation was widely encouraged in the EIA process or during projects in this decade, despite continuing revisions to guidelines like the *Revised Guidelines for Environmental Impact Assessment Regulation HJ2.1* in 2011 that again required 'ongoing stakeholder consultation throughout the EIA process' where stakeholders included 'members of the public that may be affected directly or indirectly' (Xiao *et al*. 2012:1).

Regardless of the limited impact on actual practice of the notion of 'public participation', the decision to include such international environmental discourse in Chinese documents was probably a pragmatic one. Nevertheless, there was the possibility of other consequences, and certainly that was the intention of the producers of much of the international discourse.

Sills (2002) claimed that it was the role of the United Nations to form global norms. This work involved '(c)reating new norms, refining existing ones and elaborating the regimes created to enforce and sustain them' (2002:39). The UNEP Division of Environmental Law and Conventions (2009), in addition to its role in providing information about legislation and judicial rulings and the provision of practitioner training, described their work as defining international norms which would involve developing environmental legal rights and obligations. Sills was of the opinion that, far from honouring this UN goal of global uniformity, sovereign nations often ignored it in practice and that there was very little monitoring of this failure in compliance.

When Heggelund and Backer (2007) examined 'the extent to which international (UN) institutions have contributed to increased environmental awareness and institution building in China' (2007:417), they decided that a 'marginal awareness of implementation requirements' (ibid:423) had occurred and that there had been little concern in terms of global environmental problems but a concentration on local and national needs. However Heggelund and Backer also noted that UN assistance to domestic institutions like SEPA and skill training programmes for personnel were having

a positive effect, and that Chinese complaints about insufficient funding and UN personnel and a need for international environmental experts who were culturally empathic, were justified.

By 2012 Xiao *et al.* commented that 'Chinese EIA regulations (were) becoming increasingly aligned with international standards' (2012:1). It did seem that the language of government environmental documents was gradually becoming less vague and ambiguous, but that this change was still not reflected in the implementation stage of many projects. In 2010 Jamie Horsley noted another example of policy pronouncements on 'the people's "right to know" as a democratic right' (2010:8) so that access to information became more possible through new regulations. Horsley pointed out that almost the first groups of people to take advantage of this were the environmental agencies who were highly organized and immediately began programs training people how to make use of the regulations for environmental information.

There was the promise of an increasing alignment with international environmental criteria in the development of a flourishing cosmopolitan Chinese epistemic community. Peter Hass' 1992 article on the relationship between international coordination and the work of state-based epistemic communities maintained that these communities would be essential for states confronted with the uncertainty, complexity and interdependencies in issues like environmental dilemmas because they could use their expert knowledge and skills of analysis and negotiation to encourage new ways of thinking and even new forms of behaviour. There would be a diffusion of this knowledge through transnational contacts to an international membership where solidarity was based on a 'cosmopolitan belief' (1992:20) in the capacity to improve people's lives. Hass did warn that epistemic paradigms were always influenced by social conditioning so that they were always provisional interpretations.

The Chinese environmental epistemic community did have elite participants who were scientists, academics and engineers, but there was also a wider membership of journalists, an emerging group of green entrepreneurs, NGOs, student groups and even some

government administrators like Pan Yue, who did have similar environmental values and commitments and could provide useful knowledge. Government policy generation did draw on the more elite members of the epistemic community but as NGOs began to attend international environmental conventions their contributions were also acknowledged. In addition to the epistemic community there were the significant foreigners like John Dewey, Ebenezer Howard, Arthur Mol and David Wagner whose direct and indirect support in a number of environmental programs was both surprising and generously given, and was recognized by Chinese observers.

The environmental epistemic community was cosmopolitan in that many in the group had been involved in exchanges with foreigners and with other cultures. In some cases they had spent considerable time in foreign collaborations as part of Chinese environmental projects, so that there was a local neighbourhood contact. It was likely that connectivity and mutuality was affected by ease of communication and levels of education.

There were factors that eased cosmopolitanization. Baogan He and Kevin Brown (2012) reviewed the 2008 data from the Asia-Europe Survey of nine Asian countries to discover those characteristics that were most likely to encourage cosmopolitan relationships. They found that high ratings were given to those who were younger, better educated, proficient in English, had several international connections and frequently viewed foreign television. A cosmopolitan lifestyle was also an important factor. This was the group most likely to have an awareness of global issues like the effects of climate change.

While there appeared to be a number of diverse and influential sources of environmental cosmopolitanization occurring in this decade, there was limited information concerning rooted cosmopolitanization of the kind defined by Beck (2003) and Tarrow (2005). The epistemic community was one that both maintained 'their relational links to their own societies, to other countries and to international institutions' (Tarrow, 2005:1). There may have been other examples among the many experimental environmental collaborative projects, but there were not many case studies where authors had chosen to record cosmopolitan exchanges among the participants.

In 2012 Ulrich Beck was awarded a European Research Council (ERC) grant to undertake a 'planned study of social and political consequences of climate change' (2012:1), because so little existing research had examined 'the relations based on class, inequality and power structures' (ibid:1) that were being reconstructed as a result of climate change. Beck's study was intended to focus on world cities in China, Korea and Europe as possible risk communities. A number of questions were posed as important aspects of the proposal. They located the possibilities of changes in 'concepts, structures, configurations and institutions' (2012:2). This involved explorations of social groupings and hierarchical arrangements, approaches to problem solving, inputs from the emerging class of experts, the importance of the growing middle class, the possible contingent outcomes of changes, and how people behaved when there was increasing ambiguity and uncertainty. One of the leadership roles in the ERC research plan was made available to David Tyfield to research low carbon innovation over a period of five years.

In 2012 the China Centre for Climate Change Information undertook a telephone survey of over four thousand people living in both rural and urban areas to gain information concerning awareness of climate change. 94% of this group said they had gained most of their information from television, but 93% also said they knew climate change was happening in China because of their own personal experience. 55% believed that climate change was mostly the result of human activity and 89% felt it was the government's responsibility to fix the problem. There was no question concerning the importance of dealing with awareness of climate change as a global problem. Nevertheless, it did seem that for these respondents there was both a personal awareness and a comparatively wide understanding of the major issues. In this year there had also been a popular TV documentary, *Warm and Cold We Share Together*, that emphasized the global impact of climate change with examples from other countries. Case studies showed that when Chinese environmental groups visited other countries, they were often impressed by the evidence of climate change damage, even in wealthy countries like the United States.

All of these issues did indicate an increasingly optimistic possibility of particular groups becoming more environmentally knowledgeable through directly and indirectly experienced cosmopolitanization processes and that this expanded comprehension may well have influenced increasingly righteous resistance and an expansion of environmental protest repertoires.

 In previous chapters there were several examples of public environmental protests, while the more private traditional petitioning was still being retained.   Environmental degradation and failure to protect the environment continued to be an addition to circumstances of rural poverty and were common causes of rural protest, but gradually there were some examples of protest among middle class, urban residents. Despite central government efforts to control such outbursts and some improvements in environmental governance, short lived mobilizations of small protest groups began to give way to large scale and sometimes violent confrontations towards the end of the decade. Lin Yen-chun (2007) referred to Beck's reflexive stage to comment on the inevitability of citizen protest responses to environmental threats when there was a socially constructed pursuit of development which was given greater importance than solving things like pollution problems in the air and water, and when government capacity to deal with the environmental crises often proved to be unreliable. Consequently citizen reflexive response to this situation was to become increasingly critical of the failure to implement government policies.

By 2008 Ma Tianjie's article on large-scale unrest and mass incidents in rural areas dealt with examples of environmental disturbances reaching the government's level IV and involving more than a thousand people. Petitions to the Ministry of Environmental Protection expanded to over 300, 000 items between 2006 and 2010 but, as Feng Jie and Wang Tao (2012) commented, in the same period there were less than 1% of the disputes arising from environmental incidents decided in the judicial system, and only 980 prosecutions arising from environmental impact assessment illegalities. Then between 2010 and 2011 serious eruptions of environmental protest increased by 120%, and the Dalian chemical plant protest in 2011 involved some twelve thousand people.

International media coverage of major protest episodes was an embarrassment to both local and central governments and there were arrests and acts of local police violence. A report to the 18th National Party of Congress recommended 'establishing a robust system for assessing the risk to social stability arising from major policy decisions' (Feng & Wang, 2012:5). Environmental NGOs, who sometimes helped organize protests with the help of mobile phones and Internet sites, and often had knowledge of protest movements in other countries, claimed that there had been a failure to encourage public participation in projects and in local decision-making that had exacerbated local anger. Environmental activists took photos and made video films of protest activities that they then made more widely available through the Internet and local and international media. It was becoming less possible for the central government to control media information and this was certainly part of the cosmopolitanization process that could expose China to unwelcome international attention and cause some national tension in relation to environmental governance.

Local citizens who took part in protests understood the dangers posed to their personal safety by such behaviours, but their reflexive response was still to challenge governmental authority. Protest groups and NGOs began using a discourse of entitlement and their environmental rights as citizens. Matsuzawa (2012) stated that the workshops organized by NGOs as part of their educational programmes provided information to local people about their state citizenship environmental and legal rights which most people had not been aware of.

Social instability called into question the existence of the harmonious society and damaged China's desired international image of peaceful order, so that there were powerful incentives being exerted from a variety of international sources, not only to promote public participation more forcefully in policy statements, but also to have it implemented, especially in rural areas. Cosmopolitanization processes could have been responsible for such pressure and could have been persuasive in the selection of environmental corruption at local government level as a focus in consequent government

planning. Of more concern is Cheng Li's (2013) account of an increase in government funding to maintain social stability by force that exceeded funding for national defense.

Maintenance of an image of China as a nation of co-operative, peaceful and consensual citizens was an essential platform in governmental presentations of China, both nationally and internationally.

Did environmental cosmopolitanization in the decade 2000-2010 have discernable 'Chinese Characteristics'? Lisa Hoffman claimed that 'environmentalism in Chinese government documents may be said to have "Chinese Characteristics" (2009:109). For example, management of nature was a Confucian principle and therefore it was appropriate for there to be a view that the environment was an object of government control. Collaborative projects introduced international environmental interventions under the banner of sustainability that supported the Chinese government's policies of maintaining economic development as a high priority. The protection of the environment had value in relation to market mechanisms and new forms of entrepreneurship. Environmental projects provided employment, new forms of technology and revenue without disturbing the multiplicity and diversity of government environmental authorities. Promotion of environmental causes drew attention to China's standing in international institutions. In addition to Hoffman's conclusions, there were the examples of Chinese characteristics arising from traditional cultural values in matters like the importance of order and hierarchical status, the need to support systems of respect and the nature of saving face, that were sources of some cultural surprise to western participants in collaborative projects.

Did the environmental cosmopolitanization processes produce a widespread solidarity of shared environmental unanimity? Robert Fine was confident that this was 'yet another universal notion without a reality focus' (2012:380), but he did grant that its relationship within a discourse of rights could provide a starting point for a reference to reality, if rights were incorporated into policy and law, as indeed they were in China. Solidarity was obvious in the values supported by the environmental epistemic community, but it

still had a somewhat fragile existence even in the most encouraging examples of environmental cosmopolitanization. Nevertheless, while transformation had not occurred, there was the potential in China for there to be a very gradual but real improvement in government environmental policy and implementation. In spite of warnings issued by Rao about the dark side of cosmopolitanism and its role in the 'maintenance of western hegemony' (2010:42), China would be unlikely to acquiesce to international systems as a 'lesser actor' (ibid). On the other hand, in its encounters with global capitalism, for example in the renewable energy ventures, Chinese entrepreneurs did experience the global meta-power of capitalism. In his 2005 interview with Ratanen, Beck commented that '(c)apitalism tears down all national boundaries and jumbles together the "native" with the "foreign" ' (2005:252).

The imprint of other generators of cosmopolitanization should also receive some recognition because such processes were discernable throughout China in this decade. The one most obviously linked with environmental concerns was the incredible growth of inbound eco-tourism. In 2010 Buckley estimated that about 20 million international tourists were choosing to visit areas because of their ecological interests. His evaluation of this growing enterprise was that infrastructure related to resort areas was consequently greatly improved, local people gained employment, and tour guide training was a valuable environmental education for this group and their community. Local people knew they gained a great deal from the international tourists and therefore took time to understand them. He also commented that government protection for ecologically popular sites received increased attention. Even so, he was critical of other tourist impacts on both communities and ecology in terms of consumption of scarce food and energy resources, and a tendency to be careless in their interactions with the environment and to leave waste materials behind.

By the end of the decade there was an increased government interest in international education generally and both Ministry of Education documents and academic papers began to emphasize the value of education internationally. The 2010 *Outline of China's National Plan for Medium and Long-term Education Reform and Development* devoted

an entire chapter to international cooperation to 'enhance the nation's global position, influence and competitiveness in the field of education' (2010:34), and asserted that educational exchanges would assist Chinese and foreign students in understanding different cultures. Educational exchanges were often an important part of the backgrounds of the environmental epistemic community. In 2009 Hou Zixin and Liu Qinghua produced an account of how university education should emphasize internationalization and international understanding because this was necessary to train 'citizens of the world' (2009:2). They stressed that this focus on tertiary education would not prevent the maintenance of nationalistic citizenship but could provide a political response to globalization, and they drew on Beck to support this recommendation because he had suggested that education in the knowledge-based society would 'make the educational process aim at a cultivation of critical abilities, such as social ability, team capacity, conflict resolving ability, cultural understanding, etc' (2009:3). A year later Liu Bao-cun published a paper titled *Education for International Understanding for Cosmopolitan Citizenship in a Globalized World*. This publication accentuated the need for increased learning to understand how 'local actions (were) linked to international outcomes' (2010:1-2) in a globalization 'of increasing interdependence, interconnectedness and cultural diversity' (ibid:1).

In the following section I want to deal briefly with a wide range of other interesting foreign interventions into Chinese lives and culture during this time. Beck tended to describe many of these influences as banal cosmopolitanization, but these were multitudinous effects being directly experienced every day by millions of Chinese, especially in the large trading cities and, less directly, via television which was the media most consumed by Chinese people. This learning was not banal but a significant cosmopolitanization in that foreign cultures were being invited in.

More obvious and more wide-spread cosmopolitanization via introduced cultural and lifestyle directions developed through exposure to foreign music, pop star celebrities, dance, opera, television soap operas from Mexico and Brazil, clothing fashions, the ubiquitous McDonald's fast food, a growth in the local film industry as a popular

overseas product, Chinese artists, poets, novelists and play writers who developed international audiences, the use of the Internet as a publishing venue for Chinese literature, and an increasing access to English in everyday spoken and written language exchanges. There were, of course, the limitations resulting from endless surveillance, censorship, embargoes and suppressions but, as Alexander Huang (2009) noted, by the end of this decade, there had been some two centuries, even allowing for the occasional interruptions, of international cultural exchanges.

When Zha Jianying published *China Pop* in 1995, she claimed that the group most likely to establish cultural networks and friendships would be young, educated and committed to seeking out consumer products that would suit their emerging cosmopolitan ambitions. She saw them as experiencing 'new opportunities, new dreams and to some extent, a new atmosphere and new mindsets' (1995:2002). While Zha acknowledged some sympathy with such young utopian desires, she perceived many different forms of intense consumerism as the subjects of their enthusiasm.

> Once the door to the West opened, even a government notorious for control could not keep up with the number of things and thoughts flooding the country. Foucault and Lacan slipped in, along with Sydney Sheldon and Madonna. Rambo was a hit, as was Hong Kong pornography, though with no publicity. Milton Friedman and Lee Iaccoca arrived with the stock market and foreign cars; Holiday Inn came with Deutsche Bank. Kentucky Fried Chicken opened, with air conditioning, on a street south-west of Tiananmen Square.   (1995:43)

Zha's young people seemed not to have a dream of a different political future, and she interpreted this as a possibly continuing cultural reliance on traditional hierarchical power, but for Callahan the energy of the growing international interconnectivity was not aroused by consumerism as much as by a search for a Chinese identity in dreams of the future. He based this conclusion on the work undertaken by people he described as public intellectuals who were concerned to examine those Chinese concepts that might provide identity inventions for the 21st century. Callahan's philosophers, film-makers and artists furnished him with a set of impressions which indicated both approval of China as a leader in encouraging harmonious world peace and supported an image of an ethics based on order and powerful government. At the same time, China promoted a world order

gained by bringing regulation to chaos through conquest and surrender so that barbarian impulses could be quelled for the 'greater good of a universal empire' (2009:5). This interesting presentation of future Chinese concepts of identity based on 'patriotic cosmopolitanism' depended on a reading of Chinese exceptionalism that would include culturally traditional political patterns, but would also present China as providing solutions to global barbarity.

Related to the desire to provide these solutions on the global stage was the concern to have China's traditional place in the world of science resurrected, but by 2000 science had developed international regulations that were obligatory if research results were to be accredited as valid. When Zhang Yueyue wrote about *The Cosmopolitanization of Science: Stem Cell Governance in China* (2012), she claimed that stem cell research centres developed in local Chinese project organizations had to be affiliated within these international networks where knowledge was informed by western data sources and where Asian life science research was a comparative newcomer that was showing some promise.

Zhang described the very gradual emergence of Beck's reflexivity as the international researchers negotiated their way to reach some accommodation with what she called Chinese particularities (rather than characteristics). The foreign research colleagues knew that the Chinese 'particularities' had to be tolerated, as did their own. Cultural accommodation was essential. The process was fraught with uncertainties and risks in relation to global requirements for stem cell research to be structured around rules of validation, uniformity, reliability and authenticity, at a time when some applications of stem cell therapy were still providing very ambiguous results. Over almost the whole decade 2000-2010 of this study, Zhang traced a very cautious development of trust and an increasing responsiveness to the notion that the importance of the research was central and there had to be a shared capacity to collaborate. The adjustments were aided by the fact that so many of the Chinese researchers had trained abroad and maintained international connections.

This chapter explored the range of cosmopolitanization processes available during this decade and each one would have had some effect on the lives of many Chinese people. Zhang defined the cosmopolitanization of science as a term that 'denotes an evolving dialogical activity carried out by stakeholders at all levels which often simultaneously cut across different conventional (team, institutional, regional, and nation state) borders' (2012:2). Was there a similar cosmopolitanization of environmental knowledge in China?

CONCLUSION

My study began with the question as to whether or not, as a result of a series of cosmopolitan influences in the Chinese environmental arena, for example the co-operative collaborations during international exchanges that provided access to crucial information in areas of environmental mitigation and adaptation, adequate funding and technological expertise, would produce the environmental assistance China so urgently needed.

My study focused on the possible emergence of beneficial cosmopolitanization processes resulting from collaboration between Chinese and international participants in their efforts to remediate serious environmental destruction in China. I considered the question to be a critically significant one in relation to the scale of environmental destruction being experienced in China in the decade 2000-2010. The question was whether particular cosmopolitanization processes experienced at both local and state levels during the various different experimental international collaborations with people from a variety of cultural backgrounds, influenced Chinese responses to foreign interventions in attempts to resolve environmental problems? At local levels could there be a fostering of some form of rooted cosmopolitanism that could continue to assist local communities in environmental problem solving? At state government level the international environmental requirements that partially framed the existence of the experimental projects posed the question as to whether the Chinese central government could be persuaded that there were strong pragmatic reasons, as well as their desire for international validation, to incorporate the international mandates into state environmental policy documents?

In the decade 2000-2010 it was essential, both for China and international environmentalism, that China become able not only to enter a zone of civility with other

countries and international environmental institutions, but also to gain abundant and reliable environmental support from them.

The reasons for this circumstance were many and diverse. There were wide-spread and seemingly intractable environmental disasters on a horrifying scale in China. Other countries had experienced acid rain and air pollution from Chinese sources and China had refused to acknowledge responsibility for down-stream damage caused by Chinese projects in cross-border river systems. China desperately needed international environmental expertise, funding, technology and help with policy developments and project implementations in undertakings that were often huge risk management exercises. Chinese environmental risk issues were interpreted as threatening international environmental security by some nations. During this decade international environmental science reports were becoming less uncertain in their predictions of a global 'tragedy of the commons' and China did pay attention to this information.

Despite awareness of the importance of international cooperation and considerable pressures to adopt international regulations and norms, there were a number of factors which did inhibit rapid or substantial acquiescence to environmental cosmopolitanization.

The 'hundred years of humiliation' had made Chinese politicians and party officials very wary of western powers and their claims to the values embedded in democratic governance and the importance of individual human rights. The Chinese central government was fully aware of China's status as a rising power in the global capitalist economy and did want acknowledgement of its international significance, and so China was very sensitive about its sovereign rights in matters like the requirement for external surveillance which might, for example, challenge the veracity of Chinese environmental data. In international environmental conventions there was a sense of losing face when confronted by unreasonable and interventionist international requirements. In fairness to China, other nations also complained of organizational and other problems, and results were often disappointing for most observers and participants.

There were factors that acknowledged the need for international cooperation.

In domestic environmental governance there was an adoption of international norms in the development of policy and official government documents, even with a difficult topic like 'public participation'. Some western norms like 'sustainable development' were readily acceptable in Chinese traditions because it incorporated the Confucian principle of the importance of livelihood. Almost certainly the assimilation of a discourse of environmental norms was mainly influenced by the need for international financial and technological support.

The environmental epistemic community was the group most likely to exert environmental cosmopolitanization with some authority and for its influence to be accepted by the central government and environmental administration because of its knowledge base and because it posed no threat to government control. On the other hand, the environmental protest groups did pose a threat precisely because they damaged the image of social harmony and because they were beginning to demand western rights and entitlements. The protest groups had local, personal and definitive knowledge about environmental crises and began to draw on cosmopolitanization processes offered by NGOs and access to environmental international communications systems. Protest thrived on mobile phones, the Internet and TV documentaries.

The collaborative environmental experiments supported in principle by the central government invited the foreigners in; they were exercises in cosmopolitanization for both the Chinese and the foreign participants and did sometimes develop into strong, long-lasting relationships that would have been subtle but useful additions to international environmental connections. Did environmental cosmopolitanization in the experiments accomplish any alleviation of environmental risk within China? In fact many of the environmental experiments were courageous and innovative ventures into the largely unknown field of environmental risk management in situations that were in dire need of problem solving. While they frequently revealed circumstances that were obstructionist, they also often involved rapid adjustments in planning to accommodate local conditions.

What must be emphasized in this conclusion is that in many situations there were no templates that could provide guidance in the environmental experiments. They were, indeed, experiments and these experiments might in the future provide patterns for resolving environmental problems in other countries.

Was there evidence to support the emergence of a beneficial environmental cosmopolitanization arising from collaborations with international participants in the local programs that encouraged the growth of trust and consensus in the international conventions? There was a disheartening inventory of issues that hampered collaborative participation in problem solving. A great many of these problems arose from examples of bureaucratic inefficiencies and administrative corruption but there were also instances of cultural misconceptions and failure to recognize sensitivities.

Junfeng Li's (2011) advice to foreign entrepreneurs was apposite for all the foreign participants in environmental projects when he directed foreigners to visit often and live in the project location for extended periods, employ Chinese brokers in long negotiations and, above all, remain patient. Junfeng's recommendations included a requirement to acknowledge and pay respectful attention to the cultural attributes of the people they were working with. Zhang's evaluation of the multicultural scientists working together over a period of 10 years in stem cell research concluded that they were finally able to accommodate their various particularities when they could accept the paramount importance of the research purpose. Throughout my study there were very obvious circumstances that nurtured beneficial elements of cosmopolitanization in the national and local environmental arena in those cases where all or most of the participants reached working agreements on the paramount importance of the task.

There was evidence from policy documents and some case studies in this decade that elements of international environmental discourse were influencing a cosmopolitanization of policy development and some aspects of a number of the environmental projects. In the projects there were local relationships developed that certainly involved cosmopolitanization processes. Change was happening but it was not

transformational. Change was frequently thwarted by circumstances beyond the power of the participants, or so sparsely located that it could not be maintained and frequently so lacking in continuous government support that any claim to the existence of a tenable form of rooted cosmopolitanism could not be justified. Notwithstanding this interpretation of extreme fragility within the environmental arena, there were individual and group examples of extraordinary courage and persistence.

My conclusion became focused on the notion that all participants, not only the foreigners, needed to develop practices that helped them come to terms with the existence of multiple histories, cultures and the persistence of differing political obligations that have been shaped partly by history and culture. Prior to any specific environmental problem solving, all participants needed some knowledge of culturally appropriate modes of negotiation and interaction. Further it was manifestly obvious that such practices should be replicated within international environmental regimes. Consider the manner of Christina Figueres' careful Doha acknowledgements of China's extreme environmental problems, the impressive China pavilion exhibitions displaying China's environmental concerns and her belief in a 'sustainable clean energy future' (2012:1) for China.

In other directions China was actually absorbing cosmopolitanization through venues like global capitalism, increasing tourism and cultural exchanges, and life-style adaptations. William Callahan commented that there were many Chinas and many possible Chinese futures so that predictions about how Chinese and other people might engage with each other posed more questions than answers. One of his questions was 'What if China and the world can actually get along within a new cosmopolitan world that promotes equality and social justice both domestically and internationally?' (2012:52)

In the arena of climate change, cosmopolitanization was not just an important or interesting accommodation to international influences but a crucial element in China's survival and a global caution about the nature of the expanding risk.

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