

New Partners or Old Brothers? GONGOs in Transnational Environmental Advocacy in China

By Fengshi Wu

Chinese government organized nongovernmental organizations (GONGOs) have been viewed by most China scholars and international agencies simply as extended organs of the government. The GONGO sector in China—particularly in the environmental sphere—is quite diverse in terms of political independence and strength. Moreover, GONGOs are distinctive from the government and NGOs in that they straddle and sometimes bridge the worlds of governmental agencies and NGOs. In this paper, seven brief case studies illustrate the Chinese government's rationales in fostering environmental GONGOs and how in the 1990s these GONGOs developed in ways unforeseen by the government. Specifically, GONGOs have obtained some organizational autonomy from state control and some green GONGOs have opted to cooperate with local environmental NGOs in China. Access to international environmental communities and building organizational capacity are two factors that have contributed most to the increase in GONGO autonomy.



The China Green Light project is a joint initiative by the Chinese State Economic and Trade Commission, UN Development Programme (UNDP), and Global Environment Facility (GEF). All three partners regard this project as an example of "best practice in international cooperation," exceptional in that it enabled China to successfully adopt new energy-efficiency technology in a short period of time.¹ The Beijing Energy Efficiency Center (BECon), registered as nonprofit secondary governmental research institute under the State Development Planning Commission, has played a crucial role in the initiation and implementation of this project.

After participating in seminars at the 1995 UN Women's Conference in Beijing, several officials in the Shaanxi Provincial Women's Federation were inspired to initiate some informal environmental protection activities during their spare time. Their mobilization of stay-at-home mothers to undertake community environmental education work led to the creation of the Shaanxi Mothers Environmental Volunteers Association (MEVA). The reputation of this group has spread well beyond Xi'an and key members of the association have been invited to World Bank seminars and other international meetings organized by the Professional Association for China's Environment, an NGO based in Washington, DC.

Sponsored by the Chinese Aid Committee for the Culturally Disadvantaged and National Working Commission for Children, activists at the Hand-in-Hand Earth Village (an organization affiliated with the Children's

Newspaper) have been working to build up hands-on environmental education facilities and activities in grade schools in Beijing and poverty-afflicted areas around China. Hand-in-Hand received two major environment awards funded by international organizations—the Ford Motor Environmental Protection Award (Ford Motor Company Fund) in 2000 and the Earth Award (Friends of the Earth, Hong Kong) in 2001.

Despite differences in the scope and substance of their successful environmental work, BECon, MEVA, and Hand-in-Hand all can be categorized as a type of organization distinctive from other governmental agencies and societal groups in China—government organized nongovernmental organizations (GONGOs). GONGOs have been viewed by most China scholars and international environmental organizations simply as extended organs of the government. Some China watchers have even inaccurately categorized GONGOs as genuine independent grassroots nongovernmental organizations (NGOs). The GONGO sector in China is quite diverse in terms of political independence and strength, but they are distinctive from the government and NGOs in that they straddle and sometimes bridge the worlds of governmental agencies and NGOs.

Within the environmental sphere in particular, as illustrated by the above examples, many GONGOs are building their capacity through partnerships with international organizations. Moreover, some environmental GONGOs are supporting the

development of a stronger independent green civil society in China. Are they new partners for transnational advocacy NGOs to work with to solve environmental problems in China? Or just old Communist brothers wearing new hats? More information and analysis of the GONGO sector are needed for the international environmental community to establish more sustainable working relationships in China.

Decentralization of administrative and financial power within the government sphere and the opening of China to the world are reforms initiated by Deng Xiaoping that created political and social space for dramatic changes in state-society relations. Most striking has been the formation of many new independent grassroots social organizations in the areas of health, environment, women, elderly, and disabilities.

This changing political landscape also has led to a quiet proliferation of new environmental organizations from within the government itself. Over the past 20 years, a great number of multilateral organizations, transnational environmental NGOs, and official development assistance agencies have been supplying Chinese governmental agencies, the small, yet growing, number of grassroots green NGOs, and environmental GONGOs with funding, information, and technical support. The growing environmental advocacy networks between international organizations and Chinese NGOs and GONGOs have resulted in innovative environmental activities ranging from national policies on greenhouse gas emission control to biogas utilization demonstration projects, from pesticide education in Yunnan to Tibetan antelope anti-poaching campaigns. Little comparative research has been done on the structures and complex patterns of this transnational cooperation with Chinese GONGOs. To fill this gap, this paper examines a group of newly established environmental GONGOs in China.

To understand the significance of these new types of GONGOs, I begin by reviewing theories of two typical views of Chinese GONGOs and then propose a middle-ground perspective on the topic. In the next section I introduce the variety of roles played by GONGOs in China's environmental politics by examining how they are situated in national and local policymaking circles and transnational NGO advocacy partnerships. This is followed by seven brief case studies that help to illustrate the Chinese government's rationales in fostering environmental GONGOs and how in the 1990s these GONGOs developed in ways unforeseen by the government. Specifically, GONGOs have obtained some organizational autonomy from state control and some green GONGOs have opted to cooperate with local

environmental organizations in China. Access to international environment communities and building of organizational capacity has contributed most to the increase in GONGO autonomy. In my research I have found that GONGOs with access to international resources and the means and motivation to strengthen their organization's capacity have become more supportive of the formation of a green civil society in China than GONGOs with less autonomy from the government.

WHAT IS A CHINESE GONGO?

There is no single clear-cut law regulating various types of GONGOs and other quasi-governmental entities in China.² The core criteria differentiating a GONGO from a genuine independent societal group is that the initiative to establish a GONGO is taken by a government agency or institution. An important distinction between GONGOs and government agencies is that GONGOs do not implement projects directly through formal administrative systems but instead function more as research centers or consultants for government agencies. The GONGO sector is very diverse in terms of legal status, policy influences, amount of access to local organizations, and access to international resources (e.g., funding, partnerships, and information). Even the official names to describe them vary. Most GONGOs are registered as *social organizations* (*shehui tuanti*) or *affiliated units* (*guakao danwei*) at the Ministry of Civil Affairs and are professionally sponsored by a governmental agency. However, not all legally registered social organizations in China are GONGOs, some are genuine NGOs.³ Some of the *public enterprises* (*shiyeh danwei*), *semi-affiliated units* (*guapai danwei*), and *double-governed units* (*shuangchong guanli danwei*) are operating under the same rules as GONGOs.⁴ Due to the difficulty of registering as a formal GONGO, some organizations are registered under existing GONGOs as secondary entities. Notably, the number of secondary GONGOs has grown rapidly in the past few years. To add to the confusion in classification, some of these secondary GONGOs function as independent NGOs, while others maintain close links with a government agency.

Bottom-Up Perspective

There is an active debate within recent China policy and political studies literature as to whether the growth of autonomous societal forces in China is a grassroots, bottom-up process or is led by the state.⁵ GONGOs are defined and analyzed differently under these two perspectives. The bottom-up perspective emphasizes the independent power within civil society to mobilize

without (and sometimes against) the control of the state. Utilizing this perspective in an analysis of mass protests and grassroots resistance in China, Elizabeth Perry and Mark Selden suggest that independent social forces have been growing in the latter half of the 1990s.⁶ Tony Saich goes further claiming that emerging civil society organizations are limiting the state's ability to penetrate society.⁷

The depth of the solidarity that exists among the protesters observed by Perry and Selden and the NGOs discussed by Saich, however, should be questioned. Moreover, Chinese social and NGO activists are not always accountable to their constituencies. The lack of solidarity and accountability raise questions of the actual extent of civil society development in China. Even within the environmental field in which NGOs and activists have had some of their most visible achievements and greatest influence on policymaking and public education, it is still too early to conclude there is a strong group identity within the green community.⁸ While there is a growing green civil society in China made up of NGOs and individual activists, scholars often overlook another force, namely GONGOs that also are contributing to the growth of civil society in China. Additionally, some civil society researchers inaccurately categorize Chinese quasi-governmental organizations, such as GONGOs, as independent NGOs.⁹

Top-Down/State-Led Perspective

Civil society development in China also is analyzed as a state-led phenomenon. This perspective argues that over the past several decades the Chinese government and Communist Party have created thousands of organizations—GONGOs—at different administrative levels to serve as support mechanisms for governmental and party structures. Many China analysts have dubbed GONGOs as a form of state or socialist corporatism, in which mass social organizations were created between the state and society to communicate the rationale of government and party policies to the public.¹⁰ In other words GONGOs were established to shape interest group opinions and not to represent societal interests or enable individuals to lobby or act against the state. Thus, GONGOs are seen as organic parts of the government structure connected by a variety of financial, personnel, and operational ties.

An examination of recently established environmental GONGOs in China challenges this state-led model. The major administrative reform of the central and provincial governments in 1998 triggered a boom in the number of GONGOs. These GONGOs were not created simply to

serve as arms of the government, but rather to absorb governmental officials who were laid off during this reform. On 13 August 2000, the Central Communist Party and the State Council both declared principles and timelines for the reform of public enterprises (*shiyedanwei*), which compose a large share of the GONGO sector. A central issue was to urge public enterprises to be more market-oriented. Since 1998 the government and party leadership has been pushing GONGOs to become financially self-sufficient and partially separate from their affiliate government agencies. It is well known among national-level GONGO leaders that in one to three years the budget coming from the government will be slashed to zero.¹¹ In 2002, a new tentative regulation may be passed for nonprofit research institutions as well. The new regulation could adopt different financial, personnel, and organizational requirements than the 1998 amended Regulation of Social Organizations. Current legislation requires a strict two-step registration with governmental agencies for all GONGOs.¹² The pending legislative reform could relax this two-step requirement, which would mean new GONGOs would be easier to create and less closely tied with government agencies.

These looming changes have led those running GONGOs to reevaluate their role in society. Although the state initially established GONGOs primarily to: (1) receive assistance from multilateral, bilateral or international nongovernmental organizations; (2) strengthen technology and information support; or (3) solve new problems, many GONGOs are now developing their own organizational missions and capacities while some even opt to promote NGO development.

A Middle-Ground Perspective

To understand the rapidly changing role played by GONGOs in current environmental politics in China, researchers need to examine the distinctive goals and motivation of the techno-politicians (also known as technocrats) who lead and make up the staff of these GONGOs. The techno-politicians in GONGOs are situated in between the state and society, and as a result they can influence the formation of new collective identities and political coalitions.¹³ Elizabeth Economy's studies on China's environmental diplomacy and compliance with international agreements revealed a dual policy-generating mechanism at work within the Chinese government—the formal institutional side and the informal (but increasingly structured) side in which techno-politicians play a major role. Economy's insights into the informal impacts of individual officials on environmental diplomacy provide a new perspective to

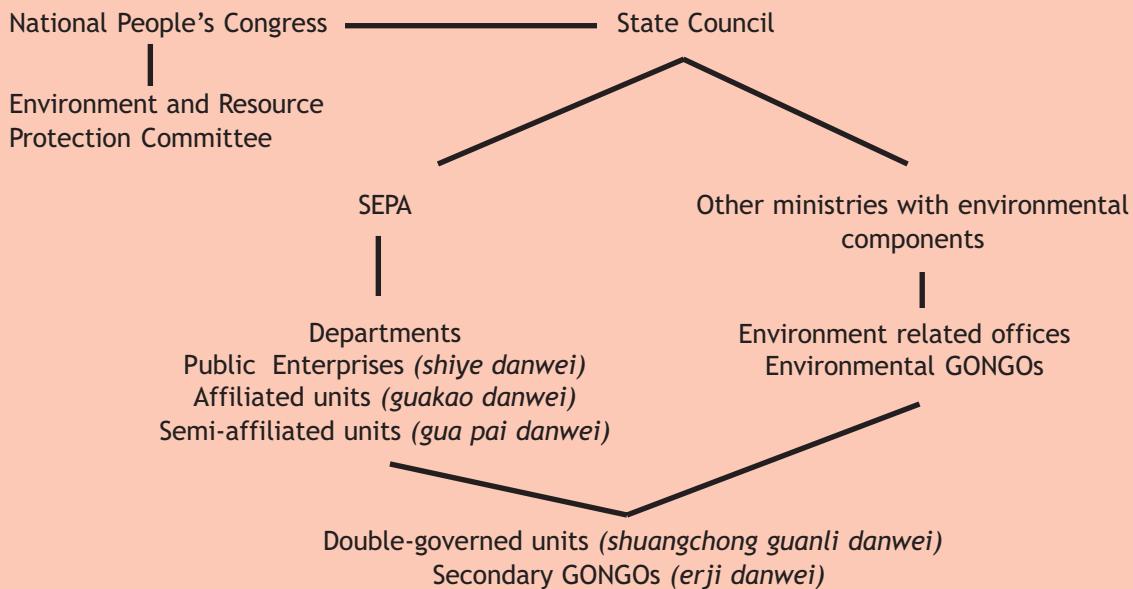
examine the potential power of leaders and staff within GONGOs.¹⁴ Instead of a top-down or bottom-up analysis we need to adopt a middle-ground transformation model focusing on agents within political structures to capture how these GONGOs are empowered and motivated to change their role.

Environmental GONGOs have mushroomed within the national and provincial administrative bodies and attracted numerous retired (or nearly retired) high-level officials, environmental scientists, university scholars, respected practitioners, social celebrities, and international experts as leaders and members. This is especially the case since the administrative reforms of 1998. Because of the less restrictive institutional structure, leaders and staff in GONGOs can enjoy considerable leeway and take full advantage of their expertise, personal connections, and management innovations. GONGOs are therefore becoming a more important, non-state arena for China's environmental politics. Thus, this paper challenges the conventional top-down and bottom-up understanding of GONGOs and highlights the growing independence and diverse roles GONGOs play in linking external and internal actors in China's environment policymaking.

RETHINKING GONGOS IN CHINA'S ENVIRONMENTAL POLITICS

Although there is little literature on Chinese environmental GONGOs, they are pervasive at both national and local levels of environmental policymaking. (See Figure 1) The first national environmental GONGO, the China Environment Science Association (CESA), was founded in 1979, even before the National Environmental Protection Agency (NEPA)—now elevated to the ministry level and known as the State Environmental Protection Administration, SEPA) was granted independent status from the Ministry of Construction in 1984. At the national level, currently, there are three major GONGOs under SEPA: (1) CESA, (2) China Environment Protection Industry Association, and (3) China Environment Fund. Because of the comprehensive nature of environmental issues there are many environment-related offices and GONGOs under the State Planning Commission as well as several other state ministries. In the field of energy efficiency, for example, the State Development Planning Commission oversees the Renewable Energy Center GONGO. Energy GONGOs under the State Economic and Trade Commission (SETC) include: (1) Chinese Renewable Energy Industry

Figure 1. GONGOs in the Chinese Environmental Administrative Structure (National Level)



Sources: *Chinese Environment Protection Institutions and Corporations Index*. (1996); and personal interviews. There are 22 public enterprises and 7 affiliated units under SEPA. In addition there are 30 semi-affiliated and 10 double-affiliated units under SEPA.

Association (CREIA), (2) Energy Saving Center, and (3) China Association of Resources Comprehensive Utilization.

There are many quasi-governmental units functioning as environmental GONGOs that also need to be included in a comprehensive analysis of national-level environmental GONGOs. Examples include:

- The China Environment Science Institute, whose members have presented themselves as nongovernmental representatives at international events and training workshops;¹⁵
- The Center for Environmental Education and Communication under SEPA has been implementing projects, hosting environmental scientists from German NGOs, and networking with international organizations; and,
- The Beijing Energy Efficiency Center is a secondary GONGO under SETC, which has played an important role in developing energy conservation targets and shaping national legislation and plans.

In an almost mirror-like structure, at the provincial level there are three major categories of GONGOs: those that (1) facilitate the interaction between the provincial Environmental Protection Bureaus (EPB) and local communities; (2) work with professional environment groups (in science and technology); or (3) cooperate with environmental technology or energy-efficiency corporations. Some publication and education centers under EPBs also have been moving toward a GONGO working style since the 1990s in order to obtain project contracts and build up more local connections.¹⁶

Environmental GONGOs are performing a variety of supportive functions at both national and provincial levels. GONGOs have their own expertise and are able to contribute to policymaking on particular issues. While they can take advantage of the existing administrative system, they do not have real power over government agencies. Instead, they need to foster their own cooperative working relationships with government agencies, research institutes, and NGOs. Within China's GONGO sector, environmental GONGOs are among the most active in forming transnational advocacy networks across China's

Table 1. Estimates of Transnational Environmental NGO Partnerships in China

Sources	Total Number of Transnational NGOs Working in China	Central Government Partners	Local Government Partners	NGO Partners	GONGO Partners
<i>China Environment Series 3 & 4 Inventories</i> ^a	28	13	15	9	17
<i>China Environment Series 5 Inventory</i> ^a	36	12	21	15	20
<i>China Development Brief</i> ^b and interviews	15	4	8	6	6

^a "The Inventory of Environmental Work in China." *China Environment Series*: Issue 3 (2000), Issue 4 (2001), and Issue 5 (2002). Washington, DC:Woodrow Wilson Center.

^b *China Development Brief*. (2000). *Directory of International NGOs Supporting Work in China*. Hong Kong: China Development Research Services and author interviews with Chinese government, NGO, and GONGO representatives.

borders. Table 1 summarizes transnational environmental NGO partnerships in China from 2000 to 2002 based on the *China Environment Series* “Inventory for Environmental Work in China,” “Directory of International NGOs Supporting Work in China” published by the *China Development Brief*, and personal interviews with transnational NGOs and Chinese GONGOs. These data indicate GONGOs are among the most popular partners, second only to governmental agencies, for international environmental NGOs working in China.

In order to better understand the role GONGOs play in environmental protection in China, and their interactions with the state, transnational NGOs, and local communities, the following section will examine seven national-level GONGOs. Local GONGO politics, while important, are not addressed in this paper.

STATE RATIONALES FOR ESTABLISHING ENVIRONMENTAL GONGOS

The formation and development of seven environmental GONGOs are examined in order to shed light on why they were created by the Chinese government, and to understand the growing autonomy and increasing capacity of the GONGO sector in China. (See Table 2) Even though these seven GONGOs represent only a small portion of all environmental GONGOs in China, they demonstrate the diversity of the sector, which includes foundations, education centers, research institutes, and industry associations. These seven (six of which were established in the 1990s) are among the most active and influential environmental GONGOs because most were created in part by international organizations and all have taken advantage of international partnerships to achieve and expand their missions. These cases strongly suggest that the Chinese central government creates environmental GONGOs to fulfill specific goals, and not to channel and co-opt diverse societal interests, as argued by socialist corporatism theorists. The multiple goals of the Chinese government for creating environmental GONGOs are discussed below.

1) Reacting to the Internationalization of Environmental Protection

The China Environmental Science Association (CESA) was founded in 1979 as a leading consulting team for national policymakers after the deep frustration the Chinese delegation encountered during the 1972 Stockholm UN Conference on the Human Environment. Prime Minister Zhou Enlai, who headed the Chinese delegation to Stockholm, took the initiative to organize

two national environmental meetings after the UN conference. These meetings led the Chinese leadership to: (1) create a National Environmental Protection Agency; (2) initiate national environmental legislation, and—of central interest to this paper; (3) establish CESA, which was set up to cope with the growing internationalization of environmental management and protection.

Since the late 1980s, in response to domestic environmental degradation and natural disasters, new global environmental problems, and the need to comply with a growing number of international environmental regimes, the Chinese government established other environmental GONGOs besides CESA. For example, during the preparations for the 1992 UN Conference on Environment and Development in Rio de Janeiro (Rio Earth Summit), the Ministry of Science and Technology created the Chinese Society for Sustainable Development (CSSD). Another key GONGO created in 1993 right after the Rio Earth Summit was the China Environment Protection Fund (CEPF). Since its creation Qu Geping, the former Minister of the National Environmental Protection Agency and the first Chinese representative to the UN Environmental Programme (UNEP), has chaired this GONGO. Unlike private foundations, CEPF cooperates with SEPA, the National Youth League Committee, and other governmental agencies in order to promote environmental awareness and education as a means of building up the state’s reputation and capacity in environmental protection. To support its work, CEPF actually collects funds from (instead of providing funds to) social organizations and individuals.

2) Obtaining International Assistance

While opening its doors to the global market, the Chinese government also created opportunities for official assistance agencies, private foundations, development banks, and NGOs to work in China. In the environmental sphere, assistance strategies of both donors of official development assistance (ODA) and NGO communities have shifted toward a more grassroots orientation. This shift is due to concerns about the lack of transparency of Chinese government partners and lessons learned from some less-than-rewarding experiences with big government-led construction projects in other parts of the developing world over the past two decades.¹⁷ Thus, in order to obtain more international grants and technical assistance for environmental projects, the Chinese government often must guarantee the participation of non-state organizations in the project’s implementation. Environmental GONGOs have been set up in response

Table 2. Cases of National-level Environmental GONGOs

Full name of GONGOs	Abbreviation	Date Established and Governmental Affiliation
China Environmental Science Association	CESA	1979, State Environmental Protection Administration (SEPA)
China Wildlife Conservation Association	CWCA	1983, Ministry of Forestry (now the State Forestry Bureau)
Chinese Society for Sustainable Development	CSSD	1992, Ministry of Science and Technology
China Environment Protection Fund	CEPF	1993, NEPA (now SEPA)
Beijing Energy Efficiency Center	BECon	1993, Resource Institute of the State Development Planning Commission (SDPC)
Center for Environmental Education and Communication	CEEC	1996, SEPA
Chinese Renewable Energy Industry Association	CREIA	1999, State Economic Trade Commission (SETC), SEPA and UNEP

to this kind of external pressure. In the early 1980s, the great pandas in China were threatened by a sudden bamboo shortage in the southwestern provinces. In response, the Chinese government created the China Wildlife Conservation Association (CWCA) under the supervision of the Ministry of Forestry (now the State Forestry Bureau, SFB) to accept international donations from private foundations and NGOs to save the great panda.¹⁸

3) Benefiting from International Expertise

In 1993, the Beijing Energy Efficiency Center (BECon) was founded as a secondary GONGO under the Resource Institute of SDPC. The main leaders of this organization included Zhou Dadi, director of the Resource Institute, and William Chandler, director of Advanced International Studies at U.S. Pacific Northwest National Laboratory.¹⁹ BECon is a hybrid organization in terms of its indirect affiliation with SDPC and its relatively high autonomy in decision-making. It was formed as a secondary GONGO because of the push from Chandler, whose vision for BECon grew out of his experience directing the establishment of five independent energy-efficiency centers in former communist countries (Ukraine, Romania, Czech Republic, Russia, and Poland).

Similarly, the Chinese Renewable Energy Industry Association (CREIA) was created jointly by international and Chinese government agencies in 1999 to implement the five-year *Capacity Building for the Rapid Commercialization of Renewable Energy in China Project*. This project was initiated by SETC, SEPA, and UNDP, and co-funded by UNDP, UNEP, GEF, and the Australian and Dutch governments. Despite the establishment of a government project office under SETC, the project partners simultaneously created CREIA as a GONGO to explore market opportunities for Chinese renewable energy enterprises and introduce foreign technical and financial measures. (*Editor's Note: For more on CREIA see the 19 July 2001 meeting summary in this issue of the China Environment Series*)

4) Absorbing Former Government Employees

Since the Jiang Zemin-Zhu Rongji regime was consolidated in 1996, the central government has been undergoing extensive administrative reform. Many GONGOs are being created to absorb former governmental officials and staff. Most key officials of GONGOs previously worked for the central government and were appointed or recommended by the government to lead these GONGOs. In addition, GONGOs will form

a consultation committee including former or current national and provincial governmental officials. Most retired officials or former government employees are grateful to take GONGO positions as compensation for demotion or job loss. As an example, China Environmental Science Association (CESA) is composed of the country's most influential environmental experts and techno-politicians. Currently, there are over 3,000 individual members and 16 full-time staff at CESA's national office, all of whom are still considered government employees. Moreover, CESA's Standing Committee (the consultation body) has 25 members, 8

far beyond what the Chinese government ever intended. In this paper, I define GONGO autonomy not only by their independent legal and partially independent financial status, but also their expanding outreach into both local and international communities.²¹

After the 1995 UN Conference on Women in Beijing, for example, the Chinese Environmental Science Association (CESA) became very active in developing women environmental networks. Together with UNDP, CESA implemented a three-year program titled *Women in China's Sustainable Development*. The program deals with capacity building and sustainable development

It is because of the growing self-capacity and support from the outside that environmental GONGOs have come to realize their own organizational missions.

of whom are from central government ministries. This is also the case with China Society for Sustainable Development (CSSD), China Wildlife Conservation Association (CWCA), and China Environment Protection Fund (CEPF). CSSD has a huge consulting body made up of political elites and most of its staff members keep their official government rank and benefits.²⁰

5) Requiring New Services

The Center for Environmental Education and Communication (CEEC) at SEPA is a good example of the trend that the government is creating new GONGOs to supply new technology services and alleviate fiscal burdens on state coffers. CEEC was officially founded in 1996 with the main purpose of expanding public education activities and providing information to SEPA. Their work has included organizing national campaigns for improving environmental curriculum in schools, setting up a specialized public library in environmental research, and creating a comprehensive Web site for SEPA. With a flexible entity such as CEEC, SEPA can maintain its control over public environmental education and propaganda without having to pay all the expenses.

GONGO AUTONOMY: EXPANDING BEYOND THE STATE'S INTENTION

Though all GONGOs have been created by the state to fulfill one or more particular purpose, the evolution in their organizational ideologies, the scope of their activities, and the recognition they have obtained from both domestic and international organizations have gone

education among female political leaders and entrepreneurs at provincial and municipal levels. Recently, the China Environment Protection Fund (CEPF) has become friendly toward grassroots environmental NGOs, helping these small groups gain public recognition and trust. For example, CEPF gives annual awards to individuals who have made extraordinary contributions to China's environment. CEPF also has been active in international events such as the UN's NGO Millennia Forum in 2000. These activities, in turn, effectively have extended CEPF's reach into both domestic and international green communities.

The significant outreach into international and grassroots communities is beyond the mission SEPA set for CESA and CEPF. Both of these GONGOs have offices within SEPA buildings, which helps explain their tendency to follow SEPA's policy lines. While their organizational agendas are still shaped heavily by SEPA, in recent years CESA and CEPF have become increasingly aware of the strength and merits of building working relationships with international and local groups other than their founding government agency.

Some GONGOs, such as BECon and the Chinese Renewable Energy Industry Association (CREIA), have become more independent in decision-making and project implementation, partially because external forces were involved in these organizations from the beginning. Compared to other cases in this study, BECon has always enjoyed higher levels of autonomy in its own priority setting and partnerships than other environmental GONGOs. BECon is an example of a GONGO that has been granted more autonomy as a result of its effective

work—such as introducing new energy-efficiency technology and management techniques that have been used to shape laws and standards, which China desperately needs to guarantee continued energy security.

BECon's ongoing projects include providing SDPC with policy recommendations for formulating China's Tenth Five-Year Plan (2001-2005) and the national Medium to Long Term Strategy on energy efficiency. BECon also partners with the World Bank and GEF for projects on energy conservation promotion, barrier removal for efficiency lights products and systems, and training for various Chinese energy-efficiency organizations to apply for international funds, and many GEF activities. Because BECon's name is well recognized among energy-efficiency communities beyond China, it plays an active role in helping provincial and local energy-efficiency institutions obtain more assistance from international organizations.

As an exceptional GONGO in China, the BECon case illustrates that with advanced expertise and continuous support from the international community, it is possible for GONGOs to develop organizational capacity beyond the state's original design.

The state's original idea behind the establishment of CREIA was to: (1) take advantage of international capital to hasten the development of renewable energy industries; (2) promote the market for renewable energy products; and (3) encourage more corporations to join this market. CREIA's activities, however, have been expanded to include influencing national and provincial renewable energy policies, and building cooperative networks with GEF, the World Bank, the Packard Foundation, and other international donors.²² With its leading role in setting professional standards and norms, and its networks with domestic industries and international actors, it is very possible CREIA will play a crucial role in the self-regulation and monitoring of the renewable energy sector. In a way, CREIA is creating a new interest group in society, rather than solely representing the government's views.

Like BECon and CREIA, the Center for Environmental Education and Communication (CEEC) has achieved more than the state's expectations in the field of promoting public environmental awareness. Its major achievements include: (1) the establishment of the Mobil China Environmental Education Fund; (2) the posting of public awareness billboards in cities; and (3) the creation of the official China environment information Web site.²³ Similarly, CEEC also has helped disseminate information on China's environmental status, social reactions to environmental regulations, and challenges resulting from China's integration into global

environmental governance structures to a broader audience. Members of CEEC have been ceaselessly meeting environmental NGOs in Europe and North America, and actively participating in NGO activities sponsored by the World Bank and other international institutions. The newsletters published by CEEC have been widely read among policymakers and practitioners inside and outside China.²⁴

When examining GONGO connections with societal groups or international organizations it is not always the case that these efforts stem from a GONGO's intention to become independent. The two cases of China Society for Sustainable Development (CSSD) and China Wildlife Conservation Association (CWCA) share a lot of characteristics in terms of their presence at international meetings and partnerships with inter-governmental organizations. Both of these GONGOs benefit from being closely connected with SEPA and sometimes carry the state views to international NGO gatherings. On many occasions, they are sent by the Chinese government to participate in international NGO meetings to collect information. Nevertheless, CWCA also has been partnering with many transnational NGOs, including International Fund for Animal Welfare, International Snow Leopard Trust, and Wildlife Conservation Society on specific projects. While these partnerships with NGOs are not yet fully developed, they can be regarded as signs that CWCA is reaching out to international green groups. Indeed, it is too early to argue that CWCA has abandoned its ties to the government in favor of outside partners.

EXPLORING KEYS TO GONGO AUTONOMY

GONGOs are gaining greater organizational autonomy. Elements most critical to increasing GONGO autonomy are their capacity-building abilities and access to international sources. It is because of the growing self-capacity and support from the outside that environmental GONGOs have come to realize their own organizational missions, negotiate with the state for more self-governance, and facilitate trans-societal cooperation.

Self-capacity Building

Generally speaking, the higher the capacity of a GONGO, the more autonomy it gains. Self-capacity in this paper specifically means the ability to: (1) implement projects; (2) create innovative solutions for problems; and (3) act as an independent force shaping policy. Due to existing connections with government agencies, most environmental GONGOs are able to assist with policy formation to satisfy the government. The challenge for GONGOs is to contribute something extra, to mobilize

sources of support beyond the government, and to maintain and expand their organizations. Freed from many of the constraints inherent within the government hierarchy and faced with the challenge of becoming financially self-sufficient, some environmental GONGOs have been motivated to improve their expertise, expand the scope of their activity, and gradually increase their capacity.

The China Environmental Science Association (CESA) provides one example of a GONGO using its expertise and greater autonomy to reach and train grassroots environmentalists. Even though the majority of CESA's research tasks are determined by SEPA, CESA was able to cooperate directly with UNDP on a project to design special training for female political and social entrepreneurs at the provincial or municipal level. During the project's implementation, CESA could not use administrative orders to reach their goals; instead, they took advantage of good connections with provincial environmental scientist associations and EPBs. Other examples of innovative GONGO initiatives include:

- CREIA's success in creating the Investment Opportunity Facility to serve renewable energy industries and attract international investment;
- CEPF's efforts to involve grassroots green NGOs in national Earth Day celebrations;
- CEEC's partnership with Mobil for the creation of an environmental education foundation;
- BECon's extensive input into the Tenth Five-Year Plan on energy efficiency; and,
- CSSD's effort in translating and promoting the Agenda 21 among the Chinese general public.

International Connections

International access appears to be having a two-fold effect on GONGO autonomy. On one hand, GONGOs are strengthening their self-capacity with information and expertise obtained from networking with international organizations. On the other hand, international access is contributing directly to GONGO autonomy, especially when external organizations were involved from the initial stage of a GONGO's existence. A GONGO can be relatively autonomous when it is established as a result of negotiations or interaction between the state and international organizations. In these cases, GONGOs typically are provided with sufficient funding, technology, and advice from outside China to conduct their activities. Importantly, the Chinese state is not the only supervising institution and the shared power between the Chinese government and external organizations provide these

GONGOs with flexibility. The Chinese government avoids the appearance of overly controlling these GONGOs in order to attract international support. GONGO partnerships with international actors have included:

- UN agencies helped in the creation of CREIA;
- The Rio Earth Summit had a direct influence on the agenda setting of CSSD;
- The U.S. Pacific Northwest National Laboratory assisted in the creation of BECon; and,
- International NGOs, such as German environmental and energy NGOs have worked intimately with CEEC.

If a GONGO ruins its creditability in the eyes of international donors, it may lose its influence domestically. In the case of CWCA's wildlife conservation work, international donors have questioned CWCA's effectiveness and transparency. The scale of international nongovernmental funding for CWCA also has declined because more international environmental NGOs (e.g., International Crane Foundation, Conservation International, The Nature Conservancy, and International Fund for Animal Welfare) have been implementing wildlife conservation projects directly with local Chinese NGOs, who are considered more representative of the local people and governments than CWCA.²⁵

In addition to large-scale international NGO sponsored projects, some smaller international foundations are also bypassing GONGOs and supporting grassroots conservation groups and individual environmental activists in China. For GONGOs to tap into this international funding, they must become more independent from the government. This highlights how international actors also are pushing GONGO autonomy through competitive pressure instead of incentive and direct support.

As Table 3 shows, the GONGO sector is very diverse in terms of capacity and access to international sources. The first tier includes those newly established GONGOs, BECon, CREIA and CEEC, which enjoy both high levels of capacity and international access. More traditional GONGOs, such as CESA, CWCA and CEPF are low in both categories. CSSC is an example of a GONGO that lies in the middle—their capacity, international access, and autonomy levels are moderate. CSSC also does lend some support to the green civil society and possess the ability to become more independent.

The next section explains how the levels of autonomy and capacity, as well as access to international funding appear to influence whether a GONGO is willing to

support independent environmental organizations in China.

GONGOs UTILIZE THEIR AUTONOMY

Not all the environmental GONGOs will pursue a more independent path. However, among national-level environmental GONGOs, a number that have enhanced their capacity and international access have become more open-minded toward Chinese green civil society than the GONGOs that have not innovated or sought international partnerships. Moreover, the second-generation leaders of those more internationalized environmental GONGOs will mostly be recruited from outside the government. The visions and education background of these new leaders will be key to the transformation of their organizations after they have won some organizational autonomy.

Support of Grassroots Groups

Some of the environmental GONGOs with a high level of autonomy are very supportive of grassroots environmental NGOs and even partner with them. For

example, CEEC maintains close relationships with major Chinese environmental education NGOs (e.g., Global Village of Beijing on CCTV environmental education broadcasting). Not surprisingly, some GONGOs, such as BECon, which regularly contacts and trains local-level experts and NGOs, will likely become NGOs or nonprofit independent research institutes in the near future. As legalization of the civil society sector in China progresses, secondary GONGOs, which already accept little financial and technical support from the government will be tempted to move onto an even more independent path. Similarly, GONGOs with strong professional expertise, such as CREIA, will find it more effective to be independent as China's free-market and legal reforms progress.

However, in comparison to BECon, GONGOs such as CESA, CWCA, and CEPF are limited by their organizational goals, greater financial constraints, and lower levels of autonomy. These groups are unable (and perhaps unwilling) to extend their mandate into helping grassroots groups. An urgent challenge for CESA, according its leaders, is dealing with the association's

Table 3. Diversity of Environmental GONGOs

Environmental GONGOs	Level of Autonomy	Causes of Autonomy		Outcomes of Autonomy	
		Self-Capacity	Access to International Sources	Affiliation & Leadership Tendency	Attitudes Toward Independent Grassroots Organizations
China Environmental Science Association; China Wildlife Conservation Association; China Environmental Fund	Low to Moderate	Moderate	Low to Moderate	Remain within the Government	Indifferent to Moderate Interest
China Society for Sustainable Development	Moderate to High	Moderate	Moderate to High	Remain close to Goverment	Moderate Interest
China Renewable Energy Industry Association Beijing Energy Efficiency Center; Center for Environmental Education & Communication	High	High	High	Ready to be independent and innovative leaders	Moderate Interest to Actively Supporting

decreasing influence on SEPA's policymaking as a result of growing competition from other institutions, such as the China Environmental Science Institute, the Sino-Japan Center research departments, and CEEC.²⁶ CESA may need to find a new mission. Because the foremost task for China Environment Protection Fund (CEPF) is to collect funds for environmental protection in China and attract ODA, it is not likely CEPF will lose its special connection and trust with SEPA. In both CEPF and CWCA almost the entire staff is still affiliated with government agencies (SEPA and State Forestry Bureau, respectively), which is another practical obstacle for their independence from the government.

The future of CSSD is still hard to predict. The impacts of the Rio Earth Summit on China have weakened over the past ten years and the implementation of many international conventions has been deadlocked. Given its current loose structure, CSSD needs a core leadership to launch effective projects and stabilize the organization.

Second Generation Leadership

One key factor shaping the future of the GONGO sector is its second generation of leaders. Because the first generation GONGO officials were mostly named by the state, the effects of personnel relationships on GONGO autonomy are twofold. Namely, GONGO leaders face constraints placed upon them by their affiliated governmental agencies, but at the same time, they may also possess some leverage over policy outcomes and protect GONGO independence with their official power. In some cases, such as BECon, the leaders' ability to leverage policymaking and facilitate self-capacity building outweighs the potential constraints of government pressure. The autonomy of organizations such as CEPF, CESA, and CWCA has been limited due to the fact their leaders are former or still high-level governmental officials. However, the second generation GONGO leaders and staff most likely will be recruited from outside the government. Because many of these new leaders attended university in the reform era they very likely will have a different educational background, views, and visions from their predecessors.

For example, with the exception of chief directors, most of the 19 full time and 4 part-time staff members at CEEC are not government employees. Half of BECon's staff members were drawn from outside the government sector and work under contract, while the other half continues to work for the government. Most of the new staff, researchers, and project managers in these two GONGOs have had previous experiences with

transnational NGOs and other international organizations, and therefore have been exposed to new international norms and standards. They tend to be more open to supporting domestic grassroots groups and facilitating trans-societal exchanges. CREIA always has had in residence some international experts, who bring "fresh air" and innovative ideas into the organization and have indirect influences on the upcoming second generation of leaders. Nevertheless, this is not to argue that all GONGOs are changing at the same pace and same manner. Table 3 suggests that GONGOs with higher capacity and international access gain higher autonomy. In turn, greater autonomy tends to create a more independent leadership and enables GONGOs to provide more support to local environmental NGOs.

CONCLUSION: IMPLICATIONS FOR THE ENVIRONMENTAL ADVOCACY COMMUNITY

Neither the state-led nor the bottom-up model of state-society relations is sufficient to capture the dynamism of GONGOs in Chinese environmental politics. Although they were creations of the state, increasingly, environmental GONGOs are pursuing organizational goals beyond the state's original expectations. The research presented here suggests that the extensive networks and partnerships with international organizations have enabled many GONGOs to gain a certain degree of autonomy from the state.

This article offered but a glimpse into the multifaceted nature of the environmental GONGO sector in China. Given the growth in their number and capacity, whether they strive to be independent or remain partially co-opted by the government, GONGOs are serving both the state and civil society—sometimes even acting as a bridge between government agencies and grassroots organizations. GONGOs also are assisting government agencies by acting as policy consultants, service providers, or communication facilitators with international organizations. Simultaneously, some environmental GONGOs are empowering grassroots groups by sharing their expertise and facilitating access to international support. Their "moral support" (i.e., inviting NGOs to national ceremonies) has been crucial in helping the general public to identify with the role of NGOs in China's environmental protection field, legitimizing the work of NGOs, and facilitating mutual trust building between the public and NGOs.

Their self-capacity building efforts and increased access to international sources are increasing GONGO independence from state control. Findings from this paper also suggest that the more autonomous the GONGO

sector becomes, the more likely it will facilitate the growth of a green civil society in China in two ways. First, given the freedom in decision-making and project design, newly established GONGOs, such as BECon, are playing active matchmaker roles between domestic NGOs and international donors. Moreover, many environmental GONGOs are beginning to resemble independent NGOs. Secondly, the second-generation leaders of those more autonomous GONGOs have not been recruited directly from government agencies. Instead, they have been exposed to grassroots activism and advocacy. The path they choose for their GONGOs should be even more independent and more driven to build up their capacity than the previous generation.

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ENDNOTES

¹“Best Practice of International Cooperation and China Green Lighting Promotion Project,” presentation by China Green Light Project Management Office at *International Energy Agency-China Seminar on Energy Efficiency Standards and Labeling*, Beijing, 6-7 Nov. 2001. [On-line]. Available: http://meteor.iea.org/conferences/conferpdf/china/Hong_l.pdf

² Most GONGOs are only partially funded by the government. In some cases, personnel of these entities are government employees, but without official rankings.

³ For an informative essay on NGO development in China see: Nick Young. (Ed.), (2001). *250 Chinese NGOs: Civil society in the making*. Hong Kong: China Development Brief.

⁴ Public enterprises mainly refer to news media, publishing, advanced research (e.g., National Academy of Science), and public education institutions. Semi-affiliated units are comprised of even more diverse groups of entities ranging from monitoring and assessment, to standard setting institutions. Double-governed units are under the supervision of more than one governmental agency. Secondary GONGOs have even less financial or personnel connections with the government.

⁵ Frolic, Michael. (1997). “State-led civil society.” In Timothy Brook and Michael Frolic. (Eds.), *Civil society in China*. Armonk, New York: M.E. Sharpe.

⁶ Perry, Elizabeth and Mark Selden. (Eds.). (2001). *Chinese*

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⁷ Saich, Tony. (2000). “Negotiating the state: The development of social organizations in China.” *The China Quarterly*, Vol.161: 125-141.

⁸ I make this argument based upon numerous interviews and discussions with not only Chinese environmentalists, but also with many independent researchers and practitioners inside and outside China. See also Turner, Jennifer and Fengshi Wu. (Eds.). (2002). *Green NGO and environmental journalist forum: A meeting of environmentalists in Mainland China, Hong Kong, and Taiwan*. Washington, D.C.: Woodrow Wilson Center.

⁹ For example, the term social organization (e.g., NGO) is used in a loose way in Saich’s paper in that his case studies include a national-level GONGO (China Family Planning Association), a member-based NGO (Friends of Nature) and an informal activist network (the magazine *Rural Women Knowing All*). The important differences among these organizations were not noted.

¹⁰ Phillip Schmitter popularized the idea of state corporatism in *The New Corporatism* (Frederick B. Pike and Thomas Stritch. (Eds.). (1974). London: University of Notre Dame Press) and has been frequently applied by China scholars when addressing the state-society relations question. See also Unger, Jonathan, and Anita Chan. (1996). “Corporatism in China: A developmental state in an East Asian context?” In Barret McCormick and Jonathan Unger. (Eds.), *China after socialism: In the footsteps of East Europe or East Asia?* Armonk, New York: M.E.Sharpe, pages 95-129.

¹¹ Interviews with GONGO leaders and SEPA officials in summer 2000.

¹² The first step is to register with the Ministry of Civil Affairs and second step to register with a professional government agency.

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¹⁴ Economy, Elizabeth. (1997). “Chinese policy-making and global climate change: Two-front diplomacy and the international community.” In Miranda Schreurs and Elizabeth Economy. (Eds.), *The internationalization of environmental protection*. Cambridge: Cambridge University Press. Economy, Elizabeth. (1998). *China's environmental diplomacy. China and the world*. Boulder, Colorado: Westview Press.

¹⁵ Interview with Jin Jiaman from the CESI in summer 2000. Jin was invited by ECOLOGIA (a U.S. NGO), for a study tour of American environmental NGOs in 1994. Later, she and Wang Yongchen started a grassroots green NGO in Beijing, the Green Earth Volunteers.

¹⁶ Interviews with EPB officials in Beijing, Shanghai, and Dalian in summer 2000.

¹⁷ World Bank Policy Research Report. (1998). *Assessing aid: What works, what doesn't, and why*. Washington DC:Oxford University Press. Wedel, J. (1998). *Collision and collusion: The strange case of western aid to Eastern Europe 1989-1998*. New York: St. Martin's Press. Mendelson, S. and J. Glenn. (2000). *Democracy assistance and NGO strategies in post-communist societies*. Washington DC:Carnege Endowment of International Peace.

¹⁸ Interview with Mr. Zhang Shanning, deputy general secretary of the CWCA in summer 2000.

¹⁹ The Battelle Institute, which is affiliated with the U.S. Pacific Northwest National Laboratory, is a quasi-nonprofit private entity specialized in the management of scientific research. See The Wilson Center's "Inventory of Environmental Works in China." *China Environment Series* Issues 2,3,4,5 for more information on Battelle's China activities. My thanks to Zhou Dadi, William Chandler, and Jeff Logan for sharing their insights on this topic.

²⁰ Interview with Mr. Chen Kun, deputy general secretary of CSSD in summer 2000.

²¹ Legally, most GONGOs are actually independent entities. BECon is an exception, as it operates under the supervision of SDPC's Resource Institute. Financially, after the state creates the institutional framework for a GONGO, it is expected to gradually take care of its own operational costs. Support from the government (or from international organizations through inter-governmental agreements) typically declines and is eventually cut off.

²² Interview with Mr. Zhu Junshen, director of CREIA in summer 2001.

²³ www.chinaenvironment.com

²⁴ Monthly Newsletter by the China Environment and Sustainable Development Reference and Research Center. [On-Line]. Available: <http://www.chinaeol.net>

²⁵ The information in this section is drawn from numerous discussions with American conservation NGOs and researchers. Special thanks to Dr. Jennifer Turner, senior project associate at the Woodrow Wilson Center and Dr. James Harkness, director of the World Wildlife Fund–China office, for sharing their insights on this issue.

²⁶ Interview with Ms. Yang Jinwei, general secretary of CESA in summer 2000.

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COMMENTARIES

Looking into a Microcosm of China's Water Problems: Dilemmas of Shanxi—A High and Dry Province

By Jih-Un Kim

Su Naihuang, a 67-year-old man living in Yangqu County of Shanxi Province, China, expressed his excitement when he saw the first water faucet in his village: "Chairman Mao liberated us; Deng Xiaoping gave us affluence; and General Secretary Jiang provided us with tap water. How could I forget their blessings?"

Despite blessings (of liberation, economic reform, and water taps) from above, the stark reality for people in Shanxi is that they live in a poverty-stricken province with severe water shortages and water degradation. This water-starved province, located on the dry Loess Plateau (*Huangtu Gaoyuan*) in north central China, also currently confronts a 300 million kilogram grain shortage, which has created food insecurity for 7.6 million people. According to Lee Zhuangwei (an emeritus professor in the history department of Shanxi University) Shanxians sometimes remark, "Shanxi is neither the east nor the west" (*shanxi bushi yige dongxi*), which also can be translated as "Shanxi is nothing." This sentiment stems from the fact that the province does not belong to the rapidly developing eastern coast of China, nor is it a major investment target for the central government's new Develop the West Campaign (*xibu dakaifa*).

Shanxi's isolated location means it is not an appealing target for economic investment. Development in the province also is restricted greatly by serious water shortages and degradation. Over the last two decades, the total amount of available water resources in Shanxi has drastically decreased—between 1985 and 1994 it fell from 11.9 billion tons to 9.5 billion tons. Among Chinese provinces and autonomous regions, Shanxi is now ranked second from the bottom (Ningxia is last) in terms of total available water resources. The per capita water allocated to Shanxi is 17 percent of the national average and only 4 percent of the world per capita average (Song, 1998).

While water problems are more severe in the countryside, both rural and urban people in Shanxi experience the challenges of water shortages. Currently, 4.4 million people in villages face drinking water shortages; nearly 200,000 residents in the mountainous

region of Luliang have no choice but to trek more than five kilometers to fetch drinking water. Zhou Yuanyuan, a sophomore college student from the region, told me that her family and neighbors relied heavily on the rain from the heavens for their daily water needs. Even my apartment complex on the Shanxi University campus (a mere 25-minute drive from the provincial government center) is under regular water cuts everyday. Water is provided to the complex only three times a day (7:00-9:30 in the morning, 12:00-1:30 in the afternoon, and 6:00-9:30 in the evening), but luckily, tap water is available around the clock on weekends and on national holidays.

Agricultural production in the province also suffers as a result of water scarcity. Even in years of normal rainfall the water resources available for each acre of Shanxi's agricultural fields is only 13 percent of the national average. Under the severe droughts of recent years approximately 42.1 million *mu* (2.8 million acres) of agricultural fields in Shanxi are parched and are unable to sustain crops. An unpublished report by the Shanxi government reveals that 383 out of 691 reservoirs in the province already are dried up and a third of its 261 rivers and streams are running dry.

To quench the thirst of cities and rural areas, municipalities and farmers desperately dig wells, which have led to overexploitation of approximately 500 million tons of groundwater each year. Consequently, the groundwater level in aquifers throughout the province has dropped an average of 100 meters and in many areas throughout the province ground subsidence has caused structural damages to homes and other buildings.

Top-Down Pronouncements

In China high-level prioritization of the water problems is a necessary step for substantive action to be taken by lower-level governments. Therefore it is a promising sign that Shanxi's leaders appear to be aware of their province's water crises. One example of high-level concern was noted in the provincial water bureau publication (*Shanxi Shuili*, 2001). The report stated that on 16 January 2001, when Tian Chenping (general secretary of the Shanxi Party Committee) was discussing

the Tenth Five-Year Plan (2001-2005) with the staff of the Provincial Development Planning Commission and other officials he emphasized the need to prioritize water conservation and infrastructure in order to solve the province's dire water shortage. The 25th Standing Committee of the Ninth People's Congress of Shanxi, which convened on 27 September 2001, passed a report highlighting the province's dire water situation. On 15 November 2001, former Vice-Governor Guo Yuhuai contributed a full-page article to *Shanxi Ribao* (a daily provincial newspaper) titled "Wake up and Face the Water Crisis" (*qingxing miandui shuiweiji*). During an interview with a secretary for the governor of Shanxi I was told twice without hesitation that Shanxi's water shortage is "very severe." The secretary then shared some documents that outlined water conservation priorities of the provincial government. Specifically, in order to mitigate the province's water problems the Shanxi government is prioritizing more efficient rain collection in mountain regions and development of high technology water-saving irrigation equipment for its agricultural sector.

Challenges to Government Action

While government officials are quick to make pronouncements about the dire water situation in the province, in my eyes, there are still various challenges that will test the enthusiasm and ability of the provincial and sub-provincial governments to solve their water problems.

- *Limited options to increase water supply.* Many of the existing reservoirs are currently dry and groundwater resources are already over-tapped. Shanxi is a dry region, so improving rain catchments will not solve all water needs. Since it is located on a high mountainous plateau, Shanxi cannot be a beneficiary of the central government's planned south-north water transfer (*nanshui beidiao*), which will divert water from the Yangtze River to China's dry north.
- *Economic priorities.* Shanxi has been designated a national coal mining center in China. Coal mining is ultimately a bondage to Shanxi for it is an industry that not only generates low incomes, but also produces harmful air and water pollution as well as considerable water loss. Every year, in order to extract and clean 300 million tons of coal, mining companies pump out and blacken 250 million tons of groundwater, which equals the total annual water supply to Taiyuan, the capital of Shanxi. Regrettably, approximately 70 percent of this water is dumped unprocessed into Shanxi's waterways, which has triggered drinking water shortages in some 1,540

villages around coal-mining areas.

• *Growing water pollution and erosion problems.* Shanxi water pollution is impacting approximately one billion tons of water annually, which equals 18 percent of the province's total yearly water consumption. According to investigations into water quality by the Shanxi government, 1,817 kilometers (57 percent) of the evaluated 3,178-kilometer river channels are ranked the lowest rating for water quality (grade V). Erosion in the province also is so severe that 69 percent of the total area of Shanxi is now bare and dry without topsoil (*Shanxi Shuili Keji*, 2001).

• *Water wastage.* In Shanxi, approximately 60 percent of irrigation water is lost before it reaches crops in the irrigation fields due to cracked and perforated aqueducts or the lack of aqueducts all together. Considering that 70 percent of Shanxi's total water supplies goes to its agricultural sector, this leakage is creating enormous wastage. Water leakage in urban areas cannot be ignored either. The water pipes in some cities in Shanxi were built during the Japanese occupation period (1937-1945) and these old pipes often leak more than 40 percent of the passing water. Former Vice-Governor Guo estimates that 30 to 35 percent of Shanxi's urban water supply is lost due to these inefficient pipes. When I interviewed officials in the Shanxi Water Resources Management Commission, I was told the leakage rate was only about 15 percent. When I questioned this estimate one interviewee's voice raised to a slightly higher pitch to refute any implication the water agencies in Shanxi were lax in their work. He informed me that the Shanxi provincial water commission was created in 1982 when no similar organization existed in any other Chinese province. Moreover, today a former Shanxi governor holds the top position in the water commission. In short, the water official wished to stress that Shanxi's water officials had considerable experience and their leaders took water problems very seriously. It was therefore somewhat ironic that when I paid my second visit to the water commission, I chanced upon a leaking toilet in the washroom right across from one of my interviewees! I suddenly felt that the more reliable estimation of water wastage would be Mr. Guo's. I also realized that a disparaging remark by General Secretary Jiang Zemin about how China is "the country that shoots rockets into space [but] cannot fix its shoddy (leaky) toilets" was not groundless.

- *Weak institutions for demand management of water.*

Last in this litany of water challenges are the many defects in the water fee system and the water withdrawal permit system (*qushui xuke zhidu*) in Shanxi (and in most other provinces). There are two types of fees—water fees and water resource fees (*shui ziyuan fei*). Water fees are charged to users to cover the water supply costs as well as to generate some support for the management and investment into water supply infrastructure. Water resource fees are levied on developers of water resources to help promote sustainable development and protection of water.

Currently, only when urban factories blatantly overexploit water resources do provincial water agencies levy the WRF (0.06 Yuan/ton for surface-water withdrawal and 0.06-0.12 Yuan/ton for groundwater withdrawal), and at these times the collection rate, according to Mr. Xue, still is only about 70 percent. The Shanxi government has a plan not only to raise WRF standards to 0.25 Yuan/ton for surface-water and 0.5 Yuan/ton for groundwater, but also to include TVEs and tap-water suppliers in the scope of WRF payers. Apparently, however, adoption of the plan will be long delayed, since agricultural and industrial government agencies oppose it and Shanxi's leaders worry about its

...Shanxi's water fee rates are so low that agricultural water is supplied with no profit leftover for the water supply bureaus or companies.

In practice, Shanxi's water fee rates are so low that agricultural water is supplied with no profit leftover for the water supply bureaus or companies. Xue Fenghai, Vice-Director of Shanxi Water Resources Institute, explained to me that agricultural water prices could not be higher than the supply costs considering the poor marginal value of agricultural production per ton of water (about one Yuan from 0.7-0.8 kilogram of grain). These low rates are understandable, but I still wondered how exactly Shanxi's water agencies could even charge the supply costs to agricultural water users, for many farmers do not have metering equipment. Once on a trip out to an interview I had to gently shake my head when a taxi driver living in a rural village north of Taiyuan's downtown told me happily that his villagers now had tap water but did not have water meters. The water prices for urban areas are also low. In Taiyuan, for example, the proportions of water fees to the average family actual income and to the average industrial production value in 1999 were only 1.01 and 1.28 percent, respectively (Lee, 2001). The collection rate of water resource fees (WRF) is meager, due to the fact that:

- (1) Water withdrawals for agricultural use are exempt from the WRF;
- (2) Virtually no water resource fees are collected from township and village enterprises (TVEs); and,
- (3) For more than 20 years tap-water suppliers have been enjoying Shanxi's "temporary" suspension of WRF collection.

negative effects on the province's already sagging economy.

Help From Above, But Not Below

With little income from water fees, Shanxi's water conservancy projects mainly depend on the central government's financial support. Fortunately, in terms of proportion to Shanxi's total annual budget, the province's budget for water conservation work has increased from 3 percent in the 1990s (the Eighth and the Ninth Five-Year Plan periods) to 8 percent today (the Tenth Five-Year Plan period—2001-2005).

I do not know how much the increased budget will help Shanxi extract itself from its water predicaments. I am quite sure that in addition to the increased awareness of the provincial leadership and greater funding for water infrastructure, the improved water habits of Shanxians in their daily life will be integral to solve the province's water problems. However, I must confess some pessimism about the possibility of citizens in Shanxi rapidly becoming water conservation champions. One day, the middle-aged wife of my Chinese landlord beckoned me over to the communal bathroom of our place and asked with a slightly humorous smile, "Jih-Un, can you guess what I'm doing? I'm just managing to steal water by turning on this faucet so little that the water meter does not turn [but water does run]. That's the way we save money." I related this story to a Chinese acquaintance in Taiyuan and asked whether this was a common practice. Instead of giving me a direct answer he said, "Let me tell you in this way. Shanxi is so poor that saving is considered a virtue." I now cannot get rid of a lingering pessimism

that perhaps too many people in Shanxi consider themselves poor enough to save on their individual water fees but at the same time "rich" enough to waste the precious collective good of water.

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ENDNOTES

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Second NGO Forum on U.S-China Environmental Cooperation Held in Beijing

On 14-16 November 2001, the Department of Agriculture Economics at Remin University (Beijing) and the International Fund for China's Environment (IFCE) organized the second NGO Forum on U.S.-China Environmental Cooperation in Beijing. The 212 participants from NGOs, research institutes, news media and governmental agencies attending this forum represented 135 organizations from China, the United States, Europe, and other countries. This is another milestone in the development of Chinese environmental NGOs since the first forum held in Washington, DC in 1999. More than thirty national and international news media organizations reported the event, including three major channels on Chinese Central TV.

The forum included a one-day workshop on NGO development and management. This workshop included four speakers from the United States, Germany, and Japan, who covered topics such as: (1) the role of NGOs in civil society, (2) NGO growth and sustainability, (3) project development and management, and (4) an introduction to UNDP small grants for NGOs.

During the two days of panel discussions fifty experienced professionals gave presentations in nine sessions, including issues such as: (1) women and the environment, (2) ecological preservation in western China, (3) education and the environment, (4) resources preservation and regional economic development, (5) sustainable agriculture and environment, (6) public relations, (7) funding sources and fundraising, (8) environmental policy development and implementation of laws, and (9) WTO/corporate partnerships.

Sponsored mainly by the Ford Foundation, this forum also was supported by Conservation International, International Crane Foundation, U.S.-China Environmental Fund, Chinese Environmental Foundation, E3/Shanghai, and the Little Swan Art Group of Xian.

Most of the presentation papers are included in the two volumes of the forum proceedings. For a copy of the final report, contact IFCE at 703-222-1280 or ifce@ifce.org.

Networking for Development of Legal Assistance to Pollution Victims in China

By Kenji Otsuka

When I arrived in Beijing in March 1997 I was eager to begin two years environmental research on pollution conflict resolution. Unfortunately, I could not find a Chinese research center or nongovernmental partner of environmental and social studies in this area. I then hoped to locate some Sino-Japanese bilateral program related to pollution disputes that could help me in my research, for within the governmental sphere environmental cooperation projects between Japanese and Chinese agencies have grown considerably over the past twenty years. Both sides have increased their awareness of the serious environmental problems facing China and the region. Sino-Japanese environmental cooperation has been particularly active in the areas of pollution control technology, environmental monitoring systems, and nature conservation. However, despite the increasing number of pollution disputes in China and the valuable experience on pollution conflict resolution in Japan, bilateral projects have never focused on environmental conflict resolution or assistance to pollution victims. So even in the governmental sphere there was no proper counterpart for Japanese nongovernmental organizations (NGOs) or researchers like me wishing to conduct a project on pollution conflict resolution.

Despite lacking a Chinese counterpart to help me, I was able to take advantage of the fact that in the late 1990s the Chinese government loosened information disclosure restrictions regarding environmental problems. It was fairly easy for me to locate articles about serious local pollution problems in China. Therefore during my first year at Beijing University I collected a considerable number of documents and articles on environmental conflicts and social changes in China. Nevertheless, political and social constraints meant I had few opportunities to access the actual areas with serious pollution problems or talk to people involved in pollution-related disputes.¹ Such limitations were frustrating and without a counterpart organization or partner researcher in China, I began to feel I would have to give up this line of research.

Almost magically, my research problems were resolved in the tearoom at the Beijing Yanshan Hotel in November 1998 when a Japanese doctoral student introduced me to Professor Wang Canfa. Professor Wang—a professor at the China University of Politics and Law—had just succeeded in setting up an NGO at his university that

focused on providing legal aid to pollution victims. Appropriately the NGO was called the Center for Legal Assistance to Pollution Victims (CLAPV).² I was very excited to learn about how his center was planning to set up a hotline for legal assistance for pollution victims³ and training courses for lawyers. I was doubly excited when I recalled a Japanese NGO with a similar mission—the Japan Environmental Council. When I told Professor Wang about a Japanese counterpart to his NGO he quickly suggested that we set up a China-Japan workshop in Beijing on legal assistance to pollution victims. The enthusiasm of this first conversation sparked three years of cooperation that produced a workshop on pollution victims in Beijing in 2001.

Wang Canfa and I believed that Japanese researchers, lawyers, and NGOs could bring valuable insights to China on pollution conflicts. During the period of high-speed economic growth after World War II, Japanese people endured bitter experiences from industrial pollution when chemicals were dumped indiscriminately into water supplies and caused terrible diseases such as Minamata⁴ and itai-itai,⁵ as well as severe asthma from air pollution, which became particularly serious in the southern port city of Yokkaichi. Since economic growth was a national priority, pollution victims were isolated and ignored. Polluters, the local communities, and the central government were reluctant to recognize these victims and unwilling to push for treatment of industrial waste, for such regulations were seen as a hindrance to industrial development.

The situation for pollution victims began to improve in the early 1970s when lawyers, scholars, and citizen groups assisted victims in winning pollution lawsuits against industries and the government.⁶ In the late 1970s, pollution victims and their supporters (scholars, lawyers, and civic organizations) who had struggled together since the 1950s and 1960s created an NGO—The Japan Environmental Council (JEC). This NGO conducts policy research and advocacy for comprehensive relief for pollution victims and the need to halt environmental disruption in Japan. Over the years of activist work in Japan on behalf of pollution victims, JEC also has developed a network with NGOs in other Asian countries through meetings of the *Asia-Pacific NGO Environmental Conference* (APNEC)⁷ and the periodic publication *The State of the Environment in Asia*.⁸

Similar to Japan, pollution stemming from the country's rapid economic growth has also victimized many Chinese citizens. Today in China there is only one NGO—CLAPV—that strives to give a voice to these pollution victims and help them navigate the newly reformed legal system in China. CLAPV clearly had found an ideal partner in JEC.

Beginning in 1998, CLAPV had numerous chances to conduct cooperative work with JEC and the Institute of Developing Economies (IDE).⁹ All of these experiences laid the groundwork and set the tone for the large international conference on pollution dispute resolution that CLAPV and JEC held in Beijing on 15-18 September 2001 under the auspices of the China University of Politics and Law.¹⁰ Wang Canfa opted to emphasize advocacy at the Beijing workshop in great part because when he attended the annual JEC conference in Tokyo-Kawasaki in 2000 he had been very impressed by the highly vocal pollution victims, lawyers, and scholars who participated in the meeting. These Japanese activists do not hesitate to lobby the government for their cause.

In the first two days of the Beijing conference approximately 80 people from Japan and China gathered in the Beijing Friendship Hotel and listened to presentations from scholars,¹¹ lawyers, as well as pollution victims and their supporters. In their presentations they related their experiences and analysis of environmental pollution disputes in their respective country.¹²

It was very exciting that not only scholars, but also lawyers, victims and even one judicator from China participated in the conference. These participants revealed their own views and were not reluctant to criticize the current system of dispute settlement by administrative bodies and courts in China. Professor Wang explained the openness of the Chinese participants at the workshop was due to the fact that "this is an NGO initiated conference, so it is not the same as government initiated conferences which often exclude any criticism of the government."

In addition to being the first such conference held jointly by Chinese and Japanese NGOs, it was also the first time such a conference was held in China. A short news report of the opening of this conference was also broadcast on China Central TV. In the last two days of the conference CLAPV led over 20 Japanese participants to visit pollution sites. One site was in Qingshuangdao City in Hebei Province where villagers have suffered from serious noise pollution from heavy train traffic. Another site was Huairou County in Beijing where ducks bred by farmers died when wastewater discharged from a pig breeding company contaminated the water.¹³ At each site,

the conference participants were able to meet with some victims and their lawyers to exchange some views on the process of pollution dispute resolution.

This may have been the first time for foreigners to meet with pollution victims in China. Victims in two sites had asked lawyers in CLAPV to plead their cases, while victims in Huairou have already won their lawsuit. It merits mention that most cases receiving assistance from CLAPV (including the one in Qingshuangdao) remain in dispute at court. Although most cases are still moving through the courts, it is certain that the people at CLAPV have played a critical role as both legal adviser and advocate for pollution victims. The first important challenge in the process of pollution dispute resolution is for victims to dare to accuse polluters, who usually would not admit their faults. Besides empowering pollution victims, a major strategy of CLAPV has been to raise public awareness for better implementation of environmental laws through mass media.

This collaboration with CLAPV has given me, a researcher concerned about protecting people from pollution, insights into the evolving pollution dispute process and implementation of environmental laws in China. For further understanding, it would be necessary to conduct interdisciplinary research including not only lawyers, but also other social and natural scientists, who currently are not very involved in CLAPV's activities. Such research might help CLAPV to set up a stronger strategy to win lawsuits.

While international partnerships help improve the capacity of CLAPV, this unique Chinese NGO still has a challenging agenda. Maintaining and developing more networks between stakeholders in pollution dispute resolution in China is the next significant step for CLAPV. I believe CLAPV will play an important role in assisting environmental lawyers who are engaged in providing legal assistance to pollution victims all over China. For example, in October 2001 CLAPV ran a successful training course for 99 lawyers in China to study environmental law—focusing on dispute resolution. Educating and promoting professional networking among such lawyers empowers them to better protect pollution victims. I concur with Professor Wang who often comments that: "We need to empower others for we at CLAPV can not assist all the pollution victims in China by ourselves!"

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¹ One of the most exciting moments in my fieldwork during my stay in China was when I booked a taxi to drive me around northern Jiangsu Province. The taxi driver took me to Hongze Lake to meet with some fisherman to understand how they made their living in the polluted lake. During my field research I had numerous opportunities to visit governmental bureaus throughout China and officials were generous in providing official data on pollution problems. However, these same officials rarely gave me a tour of polluted sites.

²The center was registered at the Ministry of Law after receiving the university's permission in October 1998. CLAPV is a popular name for the center in English that reflects the center's mission. In Chinese the center's registered name is *Huanjing Ziyuan Fa Yanjiu He Fuwu Zhongxin* (Center for Research and Service of Environmental and Natural Resource Law)

³ CLAPV has run the hotline since 11 November 1999.

⁴ Minamata is a small factory town on the coast about 600 miles southwest of Tokyo that was dominated by the fertilizer producer Chisso Corporation. From the 1930s until the late 1960s this fertilizer factory dumped mercury compounds into Minamata Bay. This mercury was absorbed into the fish, which were subsequently consumed by the town's inhabitants. Approximately 3,000 people became ill with methyl mercury poisoning. It took 40 years for these citizens to receive some compensation for their suffering.

⁵ The itai-itai disease is the name for the cases of chronic cadmium poisoning caused by heavy metals such as zinc and

lead that were dumped into the Jinzu River by a mining company in Toyama Prefecture.

⁶ See Japan Environmental Council. (Ed). (2000). *The state of the environment in Asia 1999/2000*. Tokyo: Springer-Verlag:41.

⁷ APNEC has been held in Bangkok (December 1991) Seoul (March 1993), Kyoto (November 1994) Singapore (November 1998) and Agra (September 2000). The next conference will be held in Gaoxiong City in Taiwan in 2002.

⁸ The first and second volumes of *The State of the Environment in Asia* in Japanese were published in 1997 and 2000. The first English edition was published in 2000 and the second English volume covering 2000/2001 is forthcoming.

⁹ In March 2000, JEC invited Professor Wang to its annual conference in Japan. From September 2000 to March 2001, IDE and CLAPV conducted a joint research project on environmental pollution disputes in China. IDE also invited Professor Wang and Professor Xu (she is assistant director of CLAPV) to hold a mini-workshop in IDE. A report was published from this project: Wang et al. (Eds.). (2001). *Studies on environmental pollution disputes in East Asia: Cases from Mainland China and Taiwan*. Joint Research Program Series No. 128. Institute of Developing Economies, Japan External Trade Organization.

¹⁰ The Japan International Exchange Foundation, Aeon Group Environment Foundation, and the Ford Foundation also sponsored this workshop.

¹¹ Most of these scholars specialized in environmental law, but others were from the fields of economics, medicine, and engineering.

¹² The proceedings of this workshop will be printed in both Chinese and Japanese in spring 2002.

¹³ More information on this latter case can be found in *The New York Times* Article "Pollution Victims Start to Fight Back in China" May 16, 2000.

Xinjiang: A Trip to the New Territory

By Wen Bo

Ma Ming—a diligent young ornithologist at Xinjiang Ecology and Geography Institute—strongly recommended that I go to Hongqilapu, “it is an exciting time and you will get to see the military tension there.” Ma was my first environmental contact during a month-long trip to explore environmental problems and meet “green-minded” entrepreneurs in Xinjiang in October 2001. As I prepared for my trip to Hongqilapu I heard many war rumors and stories of danger in Xinjiang.¹ The rumors led some of my friends to admire me for taking such a trip at that time to Xinjiang, an Islamic region of

who previously worked for an oil company, was sent to Beijing for a three-month training program in 1999. By chance, she encountered a group of activists handing out environmental publications in downtown Beijing during an Earth Day event. She read the materials and became interested in the environment. Back in Urümqi, she decided to do some serious study on the subject at local libraries. Later, she quit her job and started to give environmental lectures at schools and industries in her city. Drawing on her own personal savings she has given more than 200 environmental presentations. Some people

Xinjiang occupies one-sixth of China's territory and it is an area facing tremendous environmental challenges and developmental pressures.

China. Others were more concerned about my safety. I was quite surprised, however, by how peaceful Xinjiang was—even with the United States raining bombs onto neighboring Afghanistan. Another surprise during this trip was the discovery that many of my preconceptions about Xinjiang were not completely accurate.

A year ago, while helping Greenpeace China strategize a development plan, the Hong Kong-based office first took Tibet and Xinjiang out of their plan, saying work in these areas would undermine the group. At that time I nodded without any hesitation, for my perception was that any international NGO—particularly an NGO so renowned for political outspokenness as Greenpeace—involved in the two Western regions would attract negative attention from the Chinese government.

Now I realize I was wrong. Xinjiang occupies one-sixth of China's territory and it is an area facing tremendous environmental challenges and development pressures. It is a region that certainly deserves attention from not only Beijing but far beyond.

Perhaps because many environmentalists think as I did before—that Xinjiang is a dangerous and politically sensitive place to work—environmental protection efforts by the nongovernmental community have been negligible in this region. Nevertheless, during my journey I did discover some exceptional and inspiring environmental activists, journalists, government officials, and professors working in small ways to improve environmental quality in Xinjiang.

Li Jun's story was the first that helped shed some light on the challenge of doing green work in Xinjiang. Li Jun,

find it hard to understand why she left a paying job to give environmental talks. Her volunteer work also has many obstacles, for she does not have many contacts outside her city where she can turn to for information, funding, or institutional support. No doubt Li Jun's single-handed efforts can help spread some environmental messages, but ideally schools should put environmental education on their agenda.

Eli Normal University, which lies in Yining City in northwest Xinjiang, is a multiethnic university with graduates spread throughout Xinjiang teaching in schools and serving in government agencies. However, the university does not have two basic departments that would strengthen environmental education—biology and geography. These omissions do not seem to concord with Xinjiang's vast natural resources. Fortunately the president and some teachers at the university were quite open-minded and graciously accepted my proposal to start up an environmental education center.

Indeed, there are numerous opportunities to assist environmental initiatives in Xinjiang. I also was thrilled to meet an environmental journalist, Dai Jiangnan, at *Dushi Xiaofei Morning Post* in Urümqi City. Despite having been on the environmental beat for more than three years, she had no knowledge about any of the Chinese or international environmental groups crowded in Beijing and Yunnan Province. When I asked her what assistance she might require, Dai could not immediately name any needs, for she sees herself as a capable journalist. “How about some environmental information?” I asked. “Yes,” she replied as if suddenly awakened to the depth

of her own need. I was full of confidence and excited about the opportunity to give some support to Dai Jiangnan, for such people will make a difference in Xinjiang.

At the Xinjiang Forestry Department, I found myself talking with a novelist. Yuan Hong, the director of the CITES (Convention on International Trade in Endangered Species) Urümqi office, asked me to read a list of cases on the smuggling of endangered species. As I read he returned to the novel he was trying to finish writing. "My novel appears on the Internet," commented Yuan. "Pity that the contribution fee is too modest." "Oh, yeah," I mumbled, for my mind was completely absorbed in what I read: "*More than 6,000 live horsfield tortoises smuggled in March, 1998 from Kyrgyzstan....2,240 Kilograms Saiga antelope horns on June 9, 2000.....62 saker falcons...*" The list was long and covered species ranging from fir to falcon.

Yuan Hong has his own network of monitors tracking these smuggled species. Once, after being tipped off about a possible saker falcon smuggling case, Yuan halted a Xinjiang Airline plane bound for the Middle East. Repeated checks of passengers' luggage revealed no clues, but as the search continued they discovered three saker falcons in the cockpit! The smuggler was a pilot. Beloved by emirates in the Middle East as a symbol of power and wealth, a saker falcon can fetch up to \$20,000 in markets. Lured by the huge profit, smugglers, mostly Pakistanis, flock to China to collect the falcons. These rare birds of prey are trafficked by air, land, and sea. What Chinese customs confiscate is only a tiny fraction of the trade.

Surprisingly, from time to time the Xinjiang government sets a catch quota in nature reserves, which then enables the government to export some saker falcons to Middle Eastern nations. The official excuse is that these exports help the government maintain good relations with these oil-rich countries—or rather their royal families.

Lu Jun, director of Wenquan County Environmental Protection Bureau, did not know much about the saker falcon's role in international relations. He was just uncertain why the forest department sent teams to catch the birds at a nature reserve under his administration. I met Lu during a trip with Professor Wang Xiuling to release captive bred Xinjiang salamanders, which is another intriguing story.

First discovered in 1866, another sighting of the Xinjiang salamander was not recorded again until June 1989, when a local herdsman saw "four-footed fish" in a mountain stream. The word of the strange fish quickly spread and local people caught large numbers of them, placing them in jars where they quickly died. Others were

dried and sold as medicine. It was not until a student of Professor Wang Xiuling at Xinjiang Normal University brought a specimen from Wenquan (a county bordering Kazakhstan) did the world start to learn about the rediscovery of this 250-million-year-old species that is closely related to another "living fossil," the coelacanth. Since then, Professor Wang has trotted around the mountains of Tianshan and Alataw and found three Xinjiang salamander habitats. The salamanders live only in high mountains streams at 2,800-3,200 meters above sea level. Human disturbance and global warming are the main threats to the salamander. Increased water levels, due to melting snow, constantly wash the salamander down the stream where goats and sheep frequently disturb their dwellings. During the dry season, the salamander's wetland habitats shrink or disappear completely.

While it is true that much of Xinjiang's wildlife is facing a dim future, this western region is also at the crux of another wildlife crisis. International trade of horsfield tortoise is banned by CITES, but this tortoise, once abundant in Central Asia, has been rampantly smuggled into Xinjiang. Traders in each of the tourist stores I visited at the Alataw Pass and Khorgos border gates promised they had the means to obtain horsfield tortoise from Kazakhstan if I paid enough money. The growing economic affluence of the Chinese population increases demands for the tortoise as pets, food, and medicine, which in turn causes wildlife casualties to spread beyond China's borders. To meet China's hunger for the tortoise, in 1998 the Kashgar International Trading Company alone imported from Kyrgyzstan more than 6,000 wild tortoises in a single deal.

"Traders disguise horsfield tortoise as a 'grass turtle' or something else," explained Yuan Hong. "So one of my duties is to identify confiscated wildlife species." However, Yuan's knowledge does not stop at identifying endangered species, but also the source of smugglers. For example, Yuan found out that a majority of saker falcon smugglers were from the Afghanistan-Pakistani border town of Peshawar. I speculated that perhaps once Afghanistan and Pakistan become more stable countries, such smuggling could be better controlled. Ultimately, however, the solution to smuggling and other environmental threats in Xinjiang rest on the improvement of local government enforcement of environmental protection laws and a greater involvement of international and domestic nongovernmental green groups. Increased involvement of NGOs in this area could play key roles in empowering local government officials and protecting this fragile, beautiful, and neglected region of China.

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¹ For example, I heard through the grapevine that a handful of American Marines had parachuted into the China-Afghanistan

border trying to search for Bin Laden's camps in Xinjiang, but immediately found themselves captives of the People's Liberation Army. If this rumor were true (which was doubtful) the Marines' fate would not have been that bad, as China again found itself a U.S. ally—this time in the war against terrorism. This situation reminded me of World War II when U.S. Flying Tigers came to the rescue in the Chinese sky.

American Bar Association—A Green Approach to Governance in China



While the People's Republic of China has enacted a substantial body of environmental laws and regulations, many are not being effectively enforced. As a result, not only do China's people and environment suffer from the effects of air, water, and soil pollution, but also the inconsistent enforcement of existing laws severely undermines the concept of rule of law in Chinese society. Improved enforcement of Chinese environmental law will require inputs and changes at a variety of levels and on a variety of fronts. For example, it will require greater involvement—indeed, a mobilization—of China's fledgling civil society; changes in the structure and funding of the country's environmental regulatory bodies; greater public access to environmental information; and more efficient economic incentives for pollution abatement, and disincentives for pollution emissions.

In February 2002, the Asia Law Initiative Council of the American Bar Association (ABA) placed a liaison attorney in Beijing to implement an environmental governance-training project. The project is providing a broad range of Chinese stakeholders with training and education on environmental governance issues. The training courses will include three components:

- An overview of various national systems of environmental management, and the different approaches that result;
- A review of emerging strategies for environmental compliance in different countries; and,
- A comparative review of roles and responsibilities of public, private, and nongovernmental stakeholders in environmental management, analyzing each sector's role in providing for public participation in environmental decision-making and citizen access to information and justice in environmental matters.

Training activities will take place in three cities. ABA, together with working partners in each city, will adapt the training materials to the environmental circumstances in each locale. The training courses will include individuals from a broad variety of stakeholder perspectives.

Following these training programs, ABA will work with Chinese partners to implement a series of pilot projects that highlight various "tools" for enforcing Chinese environmental law. To the maximum extent possible, ABA will involve more than one category of stakeholders in each activity. Each project will focus on one environmental management technique that illustrates good governance practices, such as: (1) development of a publicly accessible pollutant release and transfer register; (2) conduct of an open legislative process, (3) a transparent permitting process, (4) a participatory environmental impact assessment, or (5) legal advocacy for citizens. In this way, ABA hopes to assist its Chinese partners not only to adopt techniques that afford greater environmental protection, but also to undertake measures that provide for greater governmental transparency, increased citizen participation in decision-making, and enhanced respect for and implementation of law in China.

China's Nature Reserves: Protecting Species or Generating Profits?

By Lawrence Glacy

The Chinese government has taken many steps toward protecting the country's natural resources. Over the past two decades the government has enacted new natural resource protection laws, significantly expanded the number of nature reserves, and increased the national budget for environmental protection. In addition, China cooperates with many international conservation nongovernmental organizations (NGOs) and has strengthened the authority of its environmental protection agencies. Despite these efforts animal and plant species in China are under greater stress than ever before as the ecological environment—even within nature reserves—continues to deteriorate at an alarming rate.

The environmental deterioration and loss of habitat occurring inside China's nature reserves results from a government-sponsored conservation paradigm that weighs the economic benefits and ecological harm of development projects inside nature reserves. I believe that nature reserves are not proper venues for the application of a balancing test to measure the efficacy of a development project. Strict enforcement protecting the nature reserves and education would be more appropriate planning measures than developing an ecotourism plan that extracts forest products and damages habitat in order to address local poverty and development.

Between 1998 and 2000, as part of an undergraduate special study and later for my master's thesis research work, I traveled to seven Chinese provinces, interviewing a broad range of government officials and NGO representatives, notable conservationists, and local stakeholders in and adjacent to reserves. (See Map 1 for location of reserves discussed in this paper)

My research revealed that local government prioritization of economic growth has allowed for the proliferation of commercial activities within nature reserves and hindered effective implementation of pollution control and natural resource protection policies that are crucial to protect the ecosystems within and surrounding the reserves. The following snapshots provide grim insights into the severe threats to nature reserves in China. Ironically, one of the major threats to ecosystem health in these reserves stems from attempts to protect these areas through ecotourism schemes.

A Look Inside China's Nature Reserves

Since opening to the West in 1978, China has continually expanded its nature reserve system and by

1997 the government had set up 926 nature reserves, covering 769,800 hectares, or 7.64 percent of the country's territory. By 2000 China had created 1,227 nature reserves accounting for almost 10 percent of the country's landmass.

Since reserves are, as a rule, considered cornerstones of biodiversity protection, the number and extent of nature reserves should protect many of China's natural resources. However, because nature reserves are being legally and illegally used to support the country's economic growth, they are proving inadequate refuges for the protection of species (World Bank, 2001). The Nature Conservancy working in southwest Yunnan Province concluded, “[p]oor management and poor public awareness of ecological conservation have reduced the current nature reserve network to the verge of a breakdown” (The Nature Conservancy, 2001). WWF, working to safeguard the giant panda (*Ailuropus melanoleuca*), expressed their concern for its survival stating, the “panda is precariously clinging to survival while under intense exploitation” (WWF–Panda Strategic Plan, 1999, page 3).

Dalainuer, Zhalong, and the Yellow River Delta Nature Reserves

In China's northeast, the Dalainuer Nature Reserve in Mongolia consists of more than 400,000 hectares providing habitat for more than 120 nesting species of birds. The State Environmental Protection Administration, which oversees the reserve, is struggling to overcome budget constraints and administrative and jurisdictional barriers to effectively manage the reserve. In the absence of a well-maintained management and monitoring system, local government agencies have been unable to prevent overgrazing, commercial fishing, occasional water diversions, and extraction of wetland grass and reeds within the reserve. These activities impair water quality and damage nesting habitats.

The Zhalong Nature Reserve in Heilongjiang Province is another important bird refuge facing pollution threats. Occasional flooding and close proximity to Qiqihar—the region's industrial and commercial center—are adding pollutants into the reserve. In addition, valuable wetlands are drained for commercial and agricultural use while roads, hotels, restaurants, and viewing platforms are constructed to promote tourism. These activities have put Zhalong's bird population under

increasing environmental stress due to the reduction of feeding, nesting, and breeding areas.

Another extreme case of rampant commercialization within nature reserves is the Yellow River Delta Nature Reserve on the eastern coast that provides habitat for 1,527 animal species and 393 plant species. A recent utilization survey found that basket weaving, charcoal manufacturing, animal food production, fishing, crabbing, 53 oil wells, as well as shellfish and shrimp farming are all commercial activities taking place inside the reserve (Chen, 1997).

Birds in Need of Protection

In central China, Yangxian County, Shaanxi Province, the central government established a protection area for the critically endangered crested ibis (*Nipponia nippon*). Approximately 50 remain in the wild and another 50 (more or less) survive in captivity. The Hanjiang River flows through the reserve carrying toxic agricultural runoff and human waste from upstream communities. In addition, industrial waste is discharged into the ibis feeding areas. Further, due to their small population, many ibis are born blind or otherwise impaired from the genetic effects of inbreeding depression. The survival of the crested

ibis in the wild is doubtful since it would require major investments outside the protected area, such as restoring the Hanjiang River, demolishing dams, closing industrial polluters, converting to organic agriculture, and constructing waste treatment plants for communities along the river. Moreover, inside the protected area the local government would have to increase the woodland roosting habitat and effectively control poaching.

During my visit to Yangxian in the summer of 2000 it was clear that this management area was faced with problems similar to many other nature reserves. For example, insufficient budget allocations, inability to control development, and the failure of inter-jurisdictional cooperation have made serious restoration of the crested ibis habitat unlikely. A reintroduction program is planned for many of China's endangered species, including the ibis. However, where they might be reintroduced is a dilemma.

Pollution problems also plague wetland nature reserves in northwest Yunnan Province, which support 134 species of waterfowl and 382 species of fish, and provide winter habitat for over 30,000 water birds. For example, the Lashihai Nature Reserve in Yunnan Province faces pollution loaded agricultural runoff and human and

Map 1. Nature Reserves in China



animal waste discharged into the lake that supports the reserve's ecosystem. In addition to water quality problems, habitat for many shorebirds is threatened by the inability of the local government to stem the extraction of freshwater from the lake. The nearby city of Lijiang is constructing a second pipeline from the lake to support the freshwater needs of a burgeoning population, increasing the threat to the feeding and nesting habitats around the lake. Another supposedly protected area in northwest Yunnan under siege is the Napahai Reserve in Zhongdian, which supports many of Yunnan's waterfowl, most notably the endangered black-necked crane. This important wetland reserve now abuts a new international airport. The Lashihai and Napahai reserves are among the many in China threatened by water pollution, local extraction of reeds and grasses, conversion of wetlands to farmland, and development.

Ecotourism as the Cure?

Currently, many Chinese government officials and some international NGOs working to protect species in China consider ecotourism the panacea to the threats to the country's nature reserves. In theory, ecotourism simultaneously offers a level of protection for the natural resources of a reserve and a means to alleviate poverty within the local communities. The idea is that rather than protect the natural resources through education and strict enforcement of anti-poaching and conservation regulations, the standard of living in an area is raised by selling the viewing and enjoyment of natural resources to tourists, which provides the incentive for local people to avoid practices harmful to the nature reserve. Thus, economic development through ecotourism, merged with poverty alleviation, has become the prevailing model of nature reserve management in China. However, similar to other developing countries, this ecotourism model has never achieved its intended result in China. Some of the most serious side effects of ecotourism programs in China include:

- Large numbers of China's unemployed flock to an area receiving outside (international or Chinese government) investment to develop ecotourism infrastructure;
- The creation of new local infrastructure to serve the influx of tourists places added demands on the habitat,
- Damage to the reserves from a large number of vehicles and people; and,
- Local people exploit the forest products on a

commercial scale to supply souvenirs and food for tourists.

It appears that in China no matter how much ecotourism increases the standard of living for communities, it is never enough to prevent the exploitation of natural resources. While some nature reserves do monitor the impacts of ecotourism on the area's ecosystem, such monitoring is usually short-term and is insufficient to control and respond in a timely manner to the harm. For example, one common method of monitoring nature reserves is to count large species, but such populations do not necessarily provide insights into the deterioration of plants, rodents, and insects, which often are far more important for the functioning of an ecosystem than, for instance, the panda.

The Wolong: A Model Reserve?

An examination of the Wolong Nature Reserve provides evidence of the shortcomings of over-emphasizing the strategy of ecotourism. The Wolong Nature Reserve is the largest giant panda reserve and it has received more study, money, and world attention than any other protected area in China (Jianguo et al., 2001). Government panda protection programs in this reserve have been implemented with technical and financial support from WWF. Both the government and WWF consider Wolong a model of protection to be replicated in other panda protected areas (WWF, 1998). However, between 1974 and 1989 Wolong and other giant panda habitats have shrunk by 50 percent (Panda Strategic Plan, 1999). A recent study of ecological degradation in the Wolong Nature Reserve found that since the reserve was established in 1975, the loss of prime panda habitat has continued and fragmentation of the protected area from development has increased (Jianguo et al., 2001). The report attributed most of the destruction to local people and cited the loss of habitat as the main cause for the reduction of pandas in the wild from 145 in 1974 to 72 in 1986.

Since 1989, new roads, hotels, restaurants, and businesses that sell a variety of products extracted from Wolong's forest all have contributed to the problem. Some of the products extracted from the forest include wild animal parts, butterflies, mushrooms, herbs, roots, ginseng, and many other species used as medicine. Occasionally, pelts from fox, bear, snow leopard and other vertebrates are available for sale. During the high tourist season, an average of 1,000 visitors a day enjoy Wolong's many attractions and, in addition to purchasing some wildlife or products from the reserve, tourists have the

opportunity to be photographed holding a live panda for 12 dollars.

The Development of Wanglang

In the Min Mountains of northwest Sichuan province, the pristine Wanglang Nature Reserve — established in Pingwu Country in 1963 for the protection of giant panda, golden monkeys, takins, panthers, and other species—is about to be exploited with the development of an ecotourism plan similar to the Wolong scheme (WWF Panda Report, 1999). Wanglang is an area rich in biodiversity where in addition to pandas, there are 61 species of vertebrates, 152 species of birds, and 615 species of plants.¹ The extraction of forest and animal products, until now, has been a limited local activity due to Wanglang's isolation from the impact of mass tourism. In 1998, massive flooding of the Yangtze River led the central government to impose a partial ban on logging in Sichuan Province, for overexploitation of timber in the upper reaches of the Yangtze was the main cause of the destructive flooding. This partial ban on logging has hurt revenue earnings in many areas of Sichuan Province, so it is not surprising that the local government and community people in Pingwu have focused on the commercial value of the Wanglang Nature Reserve.

The provincial and local governments in this area, in cooperation with WWF, have developed an ecotourism plan. The WWF plan suggested limiting the tourist population to 50 per day, but local government officials, tourist bureau personnel, reserve management, and the local Baima minority people plan to fully exploit Wanglang's resources, and are preparing for mass tourism on a daily basis. New roads now provide access to the Wanglang reserve and the region's other scenic sites as local hotels, restaurants, and businesses prepare to accommodate the influx of tourists.² Like Wolong, the local population will exploit the commercial potential of forest products in the area (WWF Panda Report, 1999). A nature reserve brochure notes the attraction:

Visitors can take a bus to enjoy a torrential river and well-protected habitats, defoliation forest and natural forest along a road. They can also enjoy [a] sunbath on a meadow. *It is suitable for mass tourists* (Emphasis added).

The environmental damage from the development of Wanglang most likely will be substantial. The reserve has only one dirt road for access and tour buses will impair air quality and increase erosion. Exhaust emissions will damage riparian habitat along the roadway, and oil and

gasoline deposits will pollute the river and wetlands. Tourist activities will increase garbage waste, noise level, trail compaction, and fire risk from smoking. The commercial impacts from the extraction of forest products on the region's ecology are largely unknown. The development of the neighboring Baima village,³ as well as the nearby town of Pingwu will increase timber consumption for construction materials and firewood for cooking to feed the tourists. Use of natural gas, though intended, most likely will be minimal.⁴ A significant increase in animal husbandry will have to take place to feed the onslaught of tourists in the reserve, the village, and town. This increase in people and animals would mean more waste to threaten water quality. The rising economic development could encourage many of China's unemployed to move to the region further adding to the region's environmental problems.

Quantifying the Harm

The harm ecotourism will have on Wanglang's ecosystem is difficult to predict. As species are removed from a nature reserve its ecosystem is made functionally weaker, which reduces its ability to recover from stress, and gross productivity suffers (Tilman et al., 1996). How much of the flora and fauna can be removed from Wanglang without irreversible environmental damage is unknown. The ecological relationships that exist between panda and other high-order vertebrates, their food source, and the remaining forest flora and fauna are complex and difficult to ascertain. Studies demonstrate that when considering community-based levels of extraction of non-timber forest products, "more information is needed on harvestable levels and management techniques as local preferences move from subsistence uses to commercial production" (Hartshorn, 1995, page 155).

The natural resources and overall ecological health of Wanglang and other nature reserves in China are at risk from mass tourism and the commercial extraction of flora and fauna. Without more proactive and effective efforts by the government, the water, air, soil, forest, and wildlife in many of China's reserves will continue be degraded by pollution and other stresses. Ecotourism alone is not the answer. In short, the utilization of the Wolong Nature Reserve as a model and the role of ecotourism in poverty alleviation should be revisited if the sustainability of the nature reserve's biodiversity is the goal.

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ENDNOTES

¹ The commercial possibilities of the plants in the reserve are great. Among the plant resources, 400 species are considered "worth development," accounting for 65 percent of reserve's total plant resources, including 166 species of herbs that are known and utilized and 33 species of wild fruit and vegetables collected and eaten by local people. In addition, there are 70 species referred to as "familiar and appreciative" plants and include many species from the orchid family (Orchidaceae). According to a survey in 1998 there were 103 species of fungi, mostly edible and some having considerable value.

² In the past, Wanglang lacked suitable roads and facilities and was inaccessible to this tourist population. The repair of the road from Jiuzhaigou to Pingwu and the construction of a road, into Wanglang now make it available as a stop on the "mass" tourist route.

³ Baima—a colorful local minority people—live at the intersection of Tibetan and Han culture and their lifestyle has strong attributes of both cultures. They are considered major stakeholders in the development of the area and many are making their homes ready for overnight guests.

⁴ Conversations I had with Mr. Lishengzi, the local field representative of the World Wide Fund for Nature, indicated that local people who integrate natural gas or biogass into their households for cooking and heating will receive preference in hosting overnight visitors to the nature reserve. However, biogass probably cannot become a major clean energy source due to the low amount of available agricultural waste in the area.

The Yunnan Great Rivers Project

By Ou Xiaokun

With its extremely rugged terrain, varied climates, and rich biological and cultural diversity, the northwestern region of Yunnan Province is one of the world's most important ecological hotspots. Northwest Yunnan also is an economically disadvantaged region, in which twelve of the fifteen counties (which contain more than 3 million people) are impoverished. The natural resources in the region have been degraded in great part as a result of poverty, low education, and the continued practice of some environmentally harmful traditional resource use methods (such as shifting agriculture). Protecting this rich biodiverse region is crucial for preserving the soil and water ecosystems in the lower reaches of major rivers flowing from Tibet and through Yunnan Province into Myanmar (Burma), Laos, and Thailand. Thus, the conservation and sustainable development strategies adopted in northwest Yunnan will not only shape the environmental quality and well being of the citizens within the province, but also will impact ecological health regionally.

Recognizing the imperative to promote sustainable development, the Yunnan provincial government initiated the Yunnan Great Rivers Project (YGRP, also referred to as the Northwest Yunnan Conservation and Development Action Plan). As a part of this project, the provincial government invited The Nature Conservancy (TNC) to advise them on nature conservation in northwest Yunnan. The YGRP was initiated at the end of 1998 after the signing of a joint agreement and pledges by the Yunnan provincial government to invest \$3 million and \$2 million by TNC. The provincial government and TNC set up a joint project office (JPO) in the provincial capital Kunming that helped to coordinate the more than 200 Chinese and U.S. experts who worked on initial feasibility and planning reports during the first phase of the YGRP.

The feasibility and planning reports looked at broad-scale patterns of biological and cultural diversity in the region and served to identify: (1) areas of cultural and biodiversity significance; (2) region-wide or multi-site threats to this diversity; and (3) conservation activities needed to maintain this diversity. By December 2000, these studies and reports led to the creation of an extensive conservation and development plan for the YGRP area. This master action plan also included research into appropriate and sustainable economic and regional development strategies that could maintain and enhance the enormous ecological and cultural diversity in

northwestern Yunnan.

After finishing the master action plan, the provincial government held several consultative meetings at various levels of government to solicit input for revising the plan. In May 2001, a provincial-level meeting was held in Kunming in which experts from various research institutions and government agencies not only expressed their satisfaction with the YGRP master action plan, but also recommended the plan be integrated into the province's Tenth Five-Year plan. In short, this master action plan will be used to guide the conservation and development work in northwest Yunnan Province over the next five years. The high-level acceptance of this plan highlights how effectively TNC and the provincial government worked together in the initial research stages of the project.

There exists, however, challenges to the implementation of this plan. For example, the Provincial Development Planning Committee is the only official agency that sets the development plans in the province. While this provincial committee approved the YGRP, the plan must be carried out by other agencies, such as the provincial forest and construction departments, as well as a plethora of agencies at the prefecture or county level. Gaining the support from and coordinating all of these agencies to implement such a broad sustainable development plan will be challenging. In addition, it will take the various government agencies a long time to finalize and approve a concrete plan of action.

Even while waiting for final approval on the action plan, TNC actually has begun to move ahead on implementation. Specifically, TNC is working with the Lijiang County government to set up a demonstration project in Lashi Hai Lake. The goal of this project is to make a site conservation plan for the lake area to promote the protection of migrating birds, lake conservation, and ecotourism development.

TNC also has started work at the practical level in both the Meili Snow Mountain and Lao Jun Mountain areas. TNC staff and their Chinese partners began by using the methods TNC developed in South America to make the site conservation plans for these two areas. Two joint project offices were established with county-level governments—one in Deqin County (a Tibetan minority county) and another in Lijiang County (a Naxi minority county). TNC has provided funds for Chinese and American experts to survey the biodiversity and cultural

diversity of these two areas and to gather base-line data necessary for the establishment of national parks in these mountainous counties. These would be the first real national parks set up in this region of China.

TNC's work in these minority areas in northwestern Yunnan looks exciting and promising. What is striking, however, is that Chinese officials in the provincial-level JPO in Kunming do not appear to know what activities have been carried out in northwest Yunnan besides the action plan research for this project. Only TNC staff is familiar with the development and status of the on-the-ground projects. The JPO at the provincial level does not seem to be functioning. It is as if it no longer exists.

years, Chinese agencies and organizations need more understanding of the operation and experiences of international organizations. With better communication, the Chinese and TNC partners could more effectively coordinate their work and mutual expectations.

2. *Conflicting priorities among local government participants.* The local governments in northwestern Yunnan are eager for outside investments, especially for development and economic projects that could bring direct and quick benefits. The same local government officials view conservation and environmental protection projects as long-term work

...the conservation and sustainable development strategies adopted in northwest Yunnan will not only shape the environmental quality and well-being of the citizens within the province, but will also impact ecological health regionally.

All of the Chinese nongovernmental organizations (NGOs), researchers and government officials involved in the YGRP hope that it will be successful and that the master action plan will be used to guide the conservation and development policies in northwest Yunnan. In my work with this exciting project I have observed some potential obstructions and challenges to the implementation of the YGRP, which are presented below:

1. *Both sides (the provincial government and TNC) lack experience in cooperating on such a large-scale project.* At the beginning of the project, when the agreement was signed both sides pledged a total of \$5 million (\$3 million from the Chinese side and \$2 million from TNC), which makes this a very large-scale environmental project in China—particularly one undertaken with an international NGO. Today, TNC has provided more than \$1 million to the project, but the Yunnan side has invested less than \$1 million directly in the project. Inexplicably, some government officials believe that much more already has been invested in this area for the environment and sustainable development projects. This confusion regarding the investment commitments is but one area of miscommunication among the partners. I believe this miscommunication stems in part from insufficient opportunities for the partners to exchange thoughts and experiences. Since China has had its doors open to the outside world for less than twenty

with little immediate benefits. Because local officials have only five-year tenures they are not overly eager for such long-term environmental projects. In my opinion one of the methods that the TNC could use to solve this problem would be first to invest directly into the local communities and then to find some suitable partners in the conservation and development project. In the latter area TNC has benefited from the growth in environmental NGOs in China, which have become partners with TNC northwest Yunnan.

3. *Insufficient exchange of ideas at the local level.* As the successful completion of the master plan indicates, TNC worked very well with upper-level officials and agencies during the initial research phase of the project. However, at the practical, implementation level there is insufficient exchange of ideas between TNC staff and their Chinese partners. Even though more and more people in the project are bilingual, language barriers and clashing personalities hinder this exchange. However, the larger and perhaps more difficult challenge to efficient idea exchange and cooperation are the different methods the Chinese and American partners have in conceptualizing and solving problems. For the YGRP to be successful all the implementing partners must feel comfortable in giving input and asking questions, which I believe will occur over time as the partners become better acquainted.

4. *Insufficient clarity of TNC's goals.* Since the

Yunnan Great River Project represents the first time for TNC to work in China, it is perhaps not surprising that the purpose and operation style of TNC is not very clear to some of TNC's Chinese counterparts. Many Chinese participants and observers would like to ask the same questions, namely, what is the purpose of TNC to invest in such a remote area of China and what is the benefit to TNC to undertake such a project? Northwest Yunnan is one of the most politically sensitive areas in China, for it is very close to the borders of Burma and Tibet. Moreover, most people living in this region are Tibetan or other minority peoples. Therefore, the Chinese government is very attentive and cautious regarding the affairs in this area. The political sensitivity in this area is one of the barriers for some of the Chinese officials, researchers, and community groups to understand fully TNC's motivation. After working for a considerable time with TNC I have come to understand that TNC's purpose is first and foremost to protect nature. TNC's mission, however, is not an easy concept for officials and "common people" in China to grasp. I am confident that this problem will be solved over time as evidence of TNC's good work becomes more widespread.

5. Insufficient understanding of the project's ultimate purpose. Many of the Chinese officials and experts involved in the YGRP are not clear as to the purpose or the final results of the project. Will the final results of the project be the establishment of national parks? Nature reserves? Or only a plan on paper? There are eight departments in China connected to conservation affairs and each of them wishes to be involved in the development and maintenance of national parks and reserves. One of the experts in TNC commented to me that TNC only would do some very basic conservation work for the area, which perhaps means that creating a site conservation plan will be the final project result. But will all of the necessary agencies follow this plan?

In order for TNC's work to be fully implemented, a new agency with the authority to deal with all conservation affairs in China would have to be established, similar to Parks Canada or Parks USA. Such an agency is currently but a faraway target. Today, the first step would be for TNC and its partners to provide research information and results to the agencies and institutions that are working on the master plan or are undertaking related projects in northwest Yunnan. Beyond sharing information with various stakeholders, TNC could set up more

demonstration projects to show how the broader master plan could be implemented successfully in the future.

6. Technical problems. There is not yet clarity as to the specific methods and techniques that should be used for the site conservation plan in northwest Yunnan. Several training courses for local protection experts have been held in Yunnan to explore this issue. The YGRP hopefully will produce examples for Chinese experts to identify effective conservation methods to apply in northwest Yunnan. When YGRP planners enter a new community it is important for them to first understand and integrate local conservation techniques and methods into their master plan work, rather than simply teach new conservation methods and techniques.

Although there are problems in implementation, overall I see that the Yunnan Great Rivers Project is moving in a very positive direction. As they have become acquainted with TNC, local people in northwest Yunnan increasingly accept this international NGO. Moreover, many people in the local governments and communities go directly to TNC with questions, good suggestions, or requests for help. TNC has funded several community-based small projects, such as school building, biogas demonstration projects, and training courses. The National Forest Bureau, Yunnan Forest Department, Yunnan Environment Protection Bureau and some other government agencies have invited TNC to help in the training and conservation projects in Yunnan and other provinces. The YGRP is a pioneering project and TNC is the ideal partner. I believe this project will leave a long and lasting impact on conservation and sustainable development work in China.

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Environmental Action as Mass Campaign

By Jane Sayers

An intriguing feature of the environmental movement in China is an apparent absence of resistance strategies among grassroots environmentalists. While blockades and protest rallies are standard fare for environmental activism in the West, these kinds of actions do not represent a sanctioned form of political participation in China, and thus are not staged. Conscious efforts are made by those working for Chinese environmental nongovernmental organizations (NGOs) to adapt their activities into accepted models of political participation such as mass campaigns and model emulation. While campaigns may appear as superficial and ineffectual tools for NGOs to wield, such tactics are much richer in subversive potential than they may at first appear.

The mass campaign is a particularly significant example of sanctioned political participation in China's modern history. From the seminal land reform campaigns in the early 1950s and the excesses of the Great Leap Forward in 1958 to more recent campaigns that target spiritual pollution and crime, mass campaigns have greatly influenced the communist era and the power dynamics between citizens and the state. It is not surprising that the government still employs strategies derived from mass campaigns, for the Chinese leadership has long recognized campaigns as effective tools with which to involve people in politics without giving them a voice in the formulation of policy. Mass campaigns raise people's consciousness of government policy aims without invoking any sense of independent initiative. Strikingly, in my investigation of contemporary environmental protection activities, I found that mass campaign structures also are used effectively by Chinese NGOs to stimulate public participation and environmental awareness. While the use of mass campaigns in the nongovernmental sector is perhaps unexpected, these kinds of strategies do provide the security of a familiar framework to participants while also offering a surprising scope for substantial—or even radical—social change.

In 2000 and 2001, I conducted my doctoral fieldwork in Beijing where I hoped to find a case study to deepen the research I had been doing on forms of expressions of environmental attitudes in China. In this search to better understand the varying types of environmental activities, I went to any "green" event I was invited to and talked to anyone who could understand my Chinese. Consequently, much of my fieldwork involved attending assorted government and NGO-sponsored environmental

activities. Among the many events, two revealed highly divergent and intriguing uses of mass campaign style strategies in environmental activism. One was a government-organized tree-planting event and the other a school participating in the recycling program organized by the Chinese NGO Hand-in-Hand, Building an Earth Village (*shou la shou, digiu cun*). (Editor's Note: More information on this NGO can be found in this issue's inventory of environmental projects in China)

Tree Planting Duty

On 12 March 2001, China's National Tree Planting Day, some 4,000 middle school students descended upon a site in Huairou County, just outside Beijing. The site had been prepared for the planting by local peasants, who had until very recently used this field for their crops. In anticipation of the tree planting, peasants had dug rows of holes (each with a mound of dirt beside it) and at the head of each row was a bundle of meter long sticks, poplar trees stripped of branches and most roots. The students formed lines and their teachers issued both behavioral instructions and shovels. The children then raced off in pairs, shouting and jostling, grabbing a tree on their way to the holes at the other end of the field, as far from teacher supervision as they could manage.

The process of planting for most consisted of one child holding the stick in the hole while the other shoveled in dirt around it. They gave each other critical instructions on how best to hold the tree and how best to shovel the dirt. It was evident that planting trees was not a regular school activity. In their excitement the kids planted the trees in at all kinds of angles. Many of the kids were in need of a gentle reminder to put the dirt in all the way around the tree, rather than just filling up the closest side. Most planted the trees as quickly as they could and then proceeded to chase each other around the field flinging dirt.

In talking to one of the men who had been involved in preparing the site, I was told of the importance of this event in raising the students' awareness of environmental issues. I was further informed that this event was also a chance for the students to show the world their desire to see the Olympics hosted by Beijing in 2008. "How so?" I asked. The students were planting 2,008 trees, a symbol of their green Olympic hope. I then inquired what was to happen to the poor odd-angled trees, would they be replanted or supported? No, I was informed that the angle

of the trees did not matter; those would be pulled out. Successfully planting a stand of trees was not the issue. What was important was raising the students' environmental awareness. I asked him to repeat what he had just said, knowing my Chinese was not all it might be and that I had probably misunderstood. I then repeated it back to him. Yes, I had heard correctly, the trees did not matter, but the raising of consciousness did.

All my experience in China has been in the post-Mao era, but on this occasion I had come as close as I ever would to witnessing the logic of the Great Leap Forward and countless other campaigns. What the organizers considered important was the display—a symbolic action—and not the practical need for afforestation in China's north. The students planted because they were told to—it was their duty. Any environmental awareness gained on this trip was just as likely to come during the bus ride out to the fields as during the actual experience of planting. These children were not fervent communists planting trees for the party or a great leader; rather just kids excited to be out of the classroom. This was a campaign enactment in the style of old. The government issued an order for people to plant trees, and plant they did.¹

Recycling—Campaigning with a New Face

Hand-in-Hand, Building an Earth Village is an NGO based in Beijing and affiliated with the *Chinese Children's Newspaper* (*Shaonian Bao*). Of the more than 200 schools participating in Hand-in-Hand's programs about half are in Beijing and others are scattered about the country. In 2000, this NGO was awarded a Ford Motor Company conservation and environmental grant to help support its major program that educates children about recycling. The Hand-in-Hand recycling activity involves students collecting recyclable materials at home and each student's "harvest" is weighed, sorted, and recorded at school. The materials are then sold to recycling stations and the money raised is used to help build schools in poverty-afflicted areas of China.

To administer this program, an Earth Village (*diqu cun*)—a contemporary, albeit miniature, equivalent of a model village—is established in each participating school. Every student becomes a member of the Earth Village's citizenry (*xiao cunmin*). Students hold most of the positions of responsibility within the village: Recycling Depot Leaders (*huishouzhan xiao zhanzhang*) record the quantity and category of recycling materials brought in by each student; Little Recycling Bank Accountants (*huishou yinhang xiao kuaiji*) count and record the amount of money raised from the sale of the recyclable materials;

and Little Journalists (*xiao jizhe*) put together a regular environmental bulletin for the school. Each Earth Village also elects a Little Village Leader (*xiao cunzhang*), who takes responsibility for the entire program.

This use of a mass campaign strategy to create Earth Villages differs significantly from the tree-planting event in that it is a form of campaign enactment that empowers and truly educates the participants. Moreover, the children love their village responsibilities. These little environmentalists encourage people from their community to save recyclable items; convince their parents to help carry their heavy loads to school; and scrutinize the weighing and recording process. In short, the students take their roles in the Earth Village very seriously. Through this sustained activity the children learn the power of their own agency and their ability to change their community and the world around them.

In the Hand-in-Hand project, independent learning is facilitated through political structures familiar to the children and families, such as the model village and the mass campaign. But these kids are not just exhibiting proper "external behaviour" (*biaoxian*). Instead they are taking away a different understanding of their role in society. It is a completely different experience from that of the students involved in the mass tree-planting event. This is not to say tree planting lacks value, for afforestation is a vitally important issue and community involvement should be encouraged. But the focus of the tree-planting campaign is flawed. To be truly effective, campaign enactment needs to run deeper than superficial display. The Great Leap Forward and Dazhai embody a sad legacy of the futility and even danger of superficial campaigns.

The Chinese government has encouraged "green" NGOs to become active in the realm of environmental protection and education, but is unwilling (and perhaps unable) to fund such activities. In developing their role in these environmental fields, NGOs have been innovative in using acceptable models of mass participation. As the Hand-In-Hand case illustrates, the ways in which some NGOs are using these mass campaign strategies is moving political participation in environmental protection into the realm of individual agency. May their steps be bold!

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ENDNOTES

¹At the end of 1981 the National People's Congress adopted *The Resolution on the Nationwide Voluntary Tree Planting Campaign*. Since that time, it has been compulsory for all able

bodied Chinese over 11 years of age to plant 3-5 trees each year, or make comparable contributions to work in nurseries, forestry management, or other afforestation tasks in accordance with local needs. For many, this requirement is fulfilled on March 12 each year, China's National Tree Planting Day.

Notes from the Field: A Peace Corps Perspective

Peace Corps/China, known locally as the U.S.-China Friendship Volunteers, conducts its work solely in Sichuan. While the Peace Corps' presence in China was inaugurated with an English language project in 1993, an environmental education program opened in 2000. Twenty-six Peace Corps Volunteers (PCVs) are currently assigned to universities and high schools in Sichuan Province where they teach, develop curriculum, and conduct community environmental education activities. A glimpse at the experiences of two PCVs in Sichuan is presented below.

My colleagues and I spent three months designing a two-week investigation of ecotourism and development in Rilong—a small mountain town in rural western Sichuan Province. The plan included tallying the bird and plant species in the area, surveying various interest groups in the area (e.g., local residents, tourists, shop owners, tourist companies, government officials), conducting hydrologic measurements, and making maps of the specific tourist trails. Our overall goal was to get an integrated picture of how tourism was affecting the local economy, culture, and environment. It will be the responsibility of the students to organize a duplicate investigation to compare changes over time in the area. These investigations, together, should be able to monitor the changes in development, attitudes, and the natural habitat that is the base for tourism in the area.

With the trip now long over, I feel the real impact lies not with the community that we investigated, but with the investigators themselves. The students have expanded their knowledge of their own community while learning leadership and analytical skills that can accompany them for years to come. Searching for funding options, researching the area's history, contacting government officials, and even setting up a meeting with one of the companies that is investing money in the area—there was no task too daunting or too intimidating for my students. The memory of students drawing little sketch maps in the rain, laughing and singing while sloshing through the mud is an indication that the project was a worthwhile endeavor.

—Brian Robinson, PCV—Sichuan University

Although the performance was several months ago in the heat of a Sichuan summer, I remember my pre-program jitters as if the show was yesterday. It was easily more than 100 degrees where I was sitting in the sun watching the final rehearsal of my students' environmental program. This was the grand finale of a three-week intensive environment and theater class conducted in English. It was (as far as I know) the first of its kind to be taught in Sichuan Province and certainly the first of its kind to be taught in the city of Mianyang. Locally, the event generated so much interest that a television station did a short documentary about the class while local radio stations conducted interviews.

Our vision was to take a group of Chinese high school students and give them the knowledge and tools to create their own performance that would educate the community about various environmental issues. The students who participated in the experiment were hand picked from the top members of the junior class at Nanshan High School. They were selected for excellence in English, interest in environmental science, and a desire to be creative. It was, for most, their first time performing in front of an audience. At our first meeting the students were shy, nervous bookworms, but the class transformed them into confident, creative actors. A few months after the show, I had a chance to meet with several of the students and discuss how the course impacted them. Their response was overwhelmingly positive. The students all said their English fluency is much higher—along with their grades. Moreover, they are much more confident and willing to participate in English class, and many said they want to study environment, biology, or urban planning in university.

—Rehema Clarken, PCV—Mianyang Nanshan Middle School

Spray-Painting Change? Beijing's Green Olympics, NGOs and Lessons Learned from Sydney

By Timothy Hildebrandt

As it campaigned for the 2008 Summer Olympic Games over the last eight years, and even after awarded the honor, Beijing promised the most environmentally friendly Games to date. Is this pledge of “greeness” blind ambition, genuine commitment, or just lip service? Does Beijing garner support from Chinese environmentalists and nongovernmental organizations (NGOs)? Will international NGOs paint their name on these green Olympics as they did in Sydney? Perhaps there are lessons for Beijing to learn from Sydney’s attempt at creating the first green Games.

The Chinese government can never be faulted for a lack of ambition. Looking far back into dynastic China and more recently to today’s People’s Republic, when Chinese leaders embark on a project, they prefer to do it big and with much fanfare. From relatively trivial endeavors such as the new Beijing opera house (the “egg”), to more consequential projects such as the Three Gorges Dam construction, Chinese leaders regularly launch projects with enough gusto and aspiration to make old Soviet hands envious. Watch China fail once, and you can be sure that the next time around, it will succeed...or, at the very least, spend fantastic amounts of money trying.

Having lost by a mere two votes to Sydney during the final round of voting for the 2000 Games, China’s leaders almost immediately began examining the source of the failure, and keys to future success. For all that Beijing and Sydney had in common, there was one great difference: Sydney devoted tremendous energy to the newly created “third pillar” of the Olympic movement—environment. Juan Antonio Samaranch, then president of the International Olympic Committee (IOC), acknowledged the integral role of the environment in awarding Australia the 2000 Games, lauding Sydney’s commitment to energy, water conservation, and protection of the natural environment.¹ With the endorsement of respected environmental NGOs and a detailed plan of action, Sydney successfully differentiated itself as greener than its Asian neighbor.

The Highest Form of Flattery

If China’s ambition is to be admired, so should its knack for imitation. After losing the 2000 Games, the Chinese leadership was determined to make China’s next Olympic bid a success. Modeled after Sydney 2000,

Beijing’s bid showcased a concern for the environment. As has grown fashionable in recent bids, competing cities have attempted to “out-green” each other to demonstrate their concern for environment and devotion to this new “pillar.” As expected, China did not disappoint in this respect. Beijing’s winning bid included a massive environmental overhaul over a short nine-year period (1998 to 2007). The Beijing Sustainable Development Plan calls for a total of \$12.2 billion, devoted to moving or retrofitting high polluting factories; shifting from coal to gas for heating and energy production in the city; reducing auto emissions and solid waste; and general “greening” (e.g., planting trees, laying sod).² At the center of its Olympic environmental efforts is the proposed Olympic village, tagged the “Olympic Green.” Beijing promises that green land will account for 62.55 percent of the total planned area.³ The planning committee has further pledged that by 2007, 40 percent of Beijing proper will consist of parks and waterways.⁴ Although light on details, the Chinese government is prolific with grand predictions: “In short, by 2008, Beijing will become a ‘garden city’ up to international standards with blue sky and clean water.”⁵

A Pie in That Blue Sky?

While the verb “greening” has become passé, a cynical environmental buzzword has come into fashion: greenwash. Some pundits fear that Beijing’s promises are empty, as fake as the Beijing parkways spray painted green in preparation for an IOC visit. Much of Beijing’s push for green has focused on creating the image of a green city. Critics contend that while the newfound devotion of Beijing city officials to the environment is admirable, their motivation is dubious and perhaps even dangerous. The easiest way to achieve a green look, beyond the temporary spray paint, is to create a garden city—characterized by vast areas of lawn and trees. Environmentalists argue that water-hungry lawns will only swell an already large water shortage problem and using precious groundwater in planting trees will further deplete aquifers, weakening an already fragile ecosystem.⁶ Many of Beijing’s greening efforts do not eliminate problems, but simply move them away from Olympic venues. Moving industrial plants, the greatest contributor to pollution in Beijing, might be the capital city’s saving

grace yet become the new environmental menace of other areas. For example, the steel maker Shougang Corporation will relocate plants most harmful to the environment from Beijing to Qianan in Hebei Province.⁷

Sweep it Under the Rug, Too

Describing China's motivations to clean up Beijing, Olympic Committee secretary general Tu Mingde opined, "Just as you might...clean the curtains before visitors arrive, the Olympics will provide the urgency the city needs to put its environment in order."⁸ Even among those who maintain hope that Beijing's Olympic greening efforts are indeed genuine and not just obligatory window dressing, some insist that the Olympics should not be the motivating factor for environmental policy. Howard Liu, a Hong Kong-based Greenpeace campaigner contends that rescue from the environmental crisis in China should not depend on hosting a sporting event. Liu argues, "China should clean up the air to benefit her people and the environment...if she loses the Olympic bid, will this stop the effort of improving air quality?"⁹ A longer, more sustained commitment is necessary for a truly viable environmental policy. Conversely, an overly ambitious policy, bound within an unrealistic timeframe, may cause the environment to fall off the list of China's priorities, with the Olympics now firmly in hand.

Green Power?

A Chinese government poll concluded that 95 percent of Beijing residents supported the Olympic bid (an independent IOC poll arrived at a slightly higher 96 percent figure). Beijing bid officials probably would not include NGOs in this small minority. In fact, officials have claimed that 20 NGOs collectively signed an "Action Plan for a Green Olympics" to show support.¹⁰ However, Wen Bo, a veteran Chinese environmental campaigner reports that, not surprisingly, nearly all of these twenty are government-organized NGOs (GONGOs). Despite efforts to emulate the Sydney formula of including NGOs in the environmental planning process, he speculates that there are not many real chances for NGO involvement—Beijing prefers the NGOs to serve as a rubber stamp as opposed to an active participant or watchdog. Wen Bo views the government's desire for NGO participation as largely superficial, for environmental groups were not invited to participate until very late in the bidding process. Moreover, while the government informally consulted nonprofit NGOs such as Global Village Beijing, Friends of Nature, and Friends of Earth (Hong Kong) prior to the bid, the bulk of outside input has come from professional environmental for-profit consulting

corporations—Beijing has enlisted the services of Colorado-based CH2MHill.

The founders of China's first two independent environmental NGOs—Sheri Liao Xiaoyi (Global Village Beijing) and Liang Congjie (Friends of Nature) were dubbed the "Green Olympic Ambassadors" during the bidding process. Both utilized their new "title" to introduce some new greening efforts in Beijing. Friends of Nature laid the groundwork for a green hotel certification and Global Village Beijing expanded on their existing green communities work. Now that Beijing has secured the Olympics it is not yet clear whether these two NGOs will be part of the official planning.

This somewhat half-hearted effort to involve NGOs elicits the question of whether Chinese environmental NGOs truly support Beijing's Olympic bid and its massive effort to green the city over the next seven years. Many NGOs believe there is much criticism to go around. The huge infrastructure projects, for example, will have a high environmental toll. Stadiums are going up in the environmentally desirable (read: naturally green and clean) north area of Beijing. Such natural greenways shield Beijing from the swelling desertification of northeastern China. But environmental observers speculate that massive digging projects necessary for Olympic infrastructure projects will destroy the last natural means of blocking the exceedingly frequent sandstorms. These adverse environmental impacts call into question the government's declaration that "the construction of the Olympic village will not threaten the city's ecosystem."¹¹ Quite possibly, the currently unspoiled and undeveloped areas of the city could be degraded in the name of a Green Olympics.

Yet, despite the possible shortcomings of Beijing's plan, greening efforts enjoy (sometimes muted) support among Chinese NGOs. Wen Bo speculates that Chinese NGOs do not criticize the bid committee because they trust the Olympics will transform the way China's government works. In other words, if Chinese environmental activists give a moderate thumbs up (or at least reserve outright criticism), they may enjoy greater freedom to perform their work.

Indeed, many Chinese environmentalists see much to gain from the Beijing Olympics. At the very least, the previous attitude of indifference will give way to simple recognition of environmental inadequacies. Sheri Liao Xiaoyi, while critical of the present environmental situation in Beijing, theorizes that the Olympics offer the best opportunity yet to advance the green movement in China—a "moment that has to be seized for the chance of a lifetime to introduce Beijingers to a green lifestyle."¹²

The Olympics will promote cleanup efforts; result in an increase in overall public awareness; and provide many lessons on a large-scale model for environmental management. For many Chinese NGOs, the benefits of the Olympics outweigh the costs.



Spray painting Beijing grass green in preparation for an IOC visit in 2000

Once Bitten: The Case of Greenpeace and Sydney 2000

The Beijing bid committee's limited inclusion of NGOs is no real surprise. The "Green Games" did not gain an air of legitimacy until Greenpeace endorsed the Sydney Olympic bid committee's greening efforts. Leading the environmental NGO charge, Greenpeace took a highly visible role in developing environmental guidelines for Sydney's bid and even claimed ownership of the Game's environmental pillar. A Greenpeace Olympic representative reminded media, "The idea for a Green Games was ours."¹³ Indeed, Greenpeace's involvement proved crucial for the credibility of truly green Games and for Sydney's defeat of Beijing.

Outwardly, the Greenpeace/Sydney 2000 partnership was a case of opposites attracting. The Sydney Olympics secured an endorsement for its environmental pillar from an independent organization with unquestioned devotion to the environment. Greenpeace, often viewed as radical among other more mainstream international organizations, showed it could engage the international community in an effective, non-confrontational manner.

Sydney 2000's idyllic vision of institutional reciprocity would give international NGOs like Greenpeace all the more reason to support Beijing's greening efforts. Beijing would gain an independent

endorsement and legitimacy of its efforts, while Greenpeace could restore its relationship with the Chinese government after years of hostility, best exemplified by the 1995 incident in which six Greenpeace activists were arrested in Tiananmen Square for protesting China's nuclear program.¹⁴

A Greenpeace endorsement of Beijing might have been feasible had its relationship with the Sydney Olympics actually succeeded. The unlikely pairing of government officials and notoriously radical environmentalists was perhaps doomed from the beginning. Greenpeace reports that constant supervision was required to ensure that Australian Olympic officials adhered to their environmental commitments.¹⁵ Even worse, on the eve of the opening ceremonies, Greenpeace made headlines threatening to withdraw support of the green Olympics upon discovering the use of ozone-depleting chemicals in Olympic construction.

The environmental community did not wait until the opening ceremonies, let alone the close of the Sydney Games, to voice their dissatisfaction. As early as 1995, Greenpeace began to abandon its support of the Games. "Our investigation shows...not only is the 'Green Games' concept rapidly becoming a cynical farce, but...the presence of high levels of dioxin at Homebush Bay presents a real environmental and health threat." Homebush Bay, the showcase site for the 2000 Summer Games, quickly emerged as the primary example of Sydney's flawed effort to green the Games. A former industrial site and armaments depot, Homebush Bay had experienced years of unregulated waste dumping and widespread water contamination from asbestos, arsenic, chromium, lead, and mercury—with levels so high that comprehensive fishing bans are still enforced throughout the area. The bay is further noted as one of the world's worst dioxin hotspots, a consequence of Union Carbide's local manufacturing of Agent Orange during the 1970s.¹⁶

The failure to clean the Homebush site was just one in a long list of environmental gaffes noted by Greenpeace. Sydney's Olympic Committee Authority (OCA) failed to provide natural cooling chemicals for venue air conditioning. Greenpeace representative Blair Palese criticized, "Not a single venue meets the guidelines where they committed specifically to non-ozone depleting and non-greenhouse gases."¹⁷ After learning that Sydney's SuperDome installed an ozone-depleting air-conditioning

system, Michael Bland offered a particularly disheartening rebuke, "The OCA has put another nail in the coffin of the Green Games."¹⁸ The Olympic Village, once the centerpiece of the green Games, underwent a drastic design change after the bid was won. Most troubling to Greenpeace was the use of the toxic building material PVC in the village's construction—a particularly stinging slap in the face for Greenpeace in light of its worldwide campaign to ban all use of PVC material in construction projects.¹⁹

Greenpeace was not alone in its dissatisfaction with Sydney's Olympic greening efforts. As early as the bidding process, and up to the completion of the Sydney Games, other environmental groups were reserved in their support for the OCA. Although Sydney Olympic bid documents claimed wide NGO support from the largest Australian environmental NGOs (Australian Conservation Foundation, New South Wales National Conservation Council and Total Environment Centre), these organizations were quick to draw a distinction—while some individuals affiliated with these NGOs had joined an environmental task force on the Games, individual participation did not imply institutional support. In the end, Green Games Watch 2000 (a coalition of major state and national environmental groups) concluded that Sydney served as an example of opportunities lost, dubbing the 2000 Olympics the 'light green' Games.²⁰ Although the campaign to create green Games did bring environmental concerns into the Olympic debate, the inadequacy of Sydney's efforts reveal that much work remains to have truly green Games. Moreover, the Sydney experience raises serious questions regarding Beijing's chances for green Games.

Red and Green—Clashing and Complementing

The environmental shortcomings of the Sydney Olympics do not provide much promise for future Games. If a technologically advanced country marked by relatively clean cities struggles to meet its goals for green Games, it is difficult to have high expectations for Games to be held in a rapidly developing, relatively dirty Beijing. While the Sydney Games illustrate the difficulty of executing a green Games, the Salt Lake City Games offer a more recent case. Although satisfied with efforts at environmental education and awareness, local and national conservation groups were distressed at the overall environmental degradation caused by the 2002 Games. Even those who took an active role in working with the Salt Lake Olympic Committee (SLOC) issue harsh criticism of the *Game's* environmental failings. Tom Price, chairman of SLOC's environmental advisory committee, acknowledged,

"[SLOC] really dropped the ball and the environment is going to suffer."²¹ Others have been even more cynical. "The only thing green about these Games is the color of the currency being thrown around," declared Alexis Kelner, co-founder of the Utah environmental group Save Our Canyons.²²

For fear of risking their reputations, international environmental groups might logically hesitate to endorse the Beijing Olympics after witnessing the negligence of the seemingly responsible Sydney bid committee. For Greenpeace specifically, the fear of compromised ideals and possible public embarrassment outweigh the benefits of endorsing the Beijing Games and gaining favor with the Chinese government. The Greenpeace case, however, does not equate broad-based reluctance from international groups.

While it can be reasonably assumed that international environmental NGOs will not engage in a cooperative relationship with Olympic planners as in the Sydney Games, a number of the NGOs which have been active in China for many years are beginning to design projects that might help lessen the environmental impact of the Olympics. Discussions with international NGOs and academic institutions suggest that low-level, non-controversial and non-confrontational environmental work will occur.²³ For example, some groups are embarking on energy efficiency projects.²⁴

Chinese NGOs, well acquainted with the difficulty of activism in their country, appear even more willing than international groups to undertake projects and activities aimed at lowering the environmental impact of the 2008 Olympics. The NGO culture in China, perhaps a product of China's political culture, helps explain the willingness of Chinese NGOs to work with the government. Liang Congjie, founder of Friends of Nature, contends that NGOs in China choose their battles carefully, lest they lose credibility and any possibility of government support. In the case of the green Games, as with most campaigns, environmental groups will devote themselves to raising awareness and educating the public.²⁵ Chinese environmental NGOs are dedicated to using the 2008 Olympics to their advantage regardless of whether concrete improvements in Beijing's environment result.

Despite Chinese environmental NGOs' willingness to work with the Olympic planners, groups even less likely to be a thorn in the side of Beijing may very well compromise the NGO role. The greatest potential for international activity lies, perhaps not surprisingly, in the corporate sector. Beijing's reliance on an environmental consulting agency, as opposed to environmental NGOs, suggests a future trend. Private enterprises, paid by the

Chinese government, are far more easily controlled—CH2MHill will most certainly not brand these green Games a farce. More importantly, the private sector greening efforts in China are expected to bring rise to an environmental protection industry; government officials predict an annual industry growth of 15 percent, reaching 200 billion RMB by 2005. The privatization of environmental work could very well be a more accurate prediction of the future greening of China.

Six years ahead of the opening ceremonies, the success of Beijing's green Games is obviously uncertain. We are then left only with speculation. The hopeful theorize that the Olympics will provide an opportunity to heighten the awareness of environmental problems; cynics see the greening as disingenuous with the NGO role merely a rubber stamp for centrally planned and centrally executed changes.

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¹⁰ See official Beijing bid Web site: <http://www.beijing-2008.org>

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²³ While no NGOs have yet taken a position on Beijing's successful bid, it is conceivable that some international environmental groups that have long protested the involvement

of U.S. businesses and banks in China's massive infrastructure projects (e.g., the Three Gorges Dam), may campaign against U.S. business investment in the Beijing Olympics.

²⁴ See the new energy efficiency projects in Beijing instituted

by the IIEC and the U.S. China Energy and Environmental Technology Center listed in the inventory of environmental projects in this issue of the *China Environment Series*.

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Call for Contributions to the New Sinosphere Journal

Sinosphere Journal is the journal of PACE, the Professional Association for China's Environment (<http://www.chinaenvironment.net>). The *Sinosphere Journal* has enjoyed great success in the past and published 12 issues from 1998 to 2000. Past issues of the journal covered a wide range of topics including transportation, energy efficiency, U.S.-China relations, trade and the environment, air and water resources, environmental education, and NGOs in China (available online at: <http://www.chinaenvironment.net/sino>). After a recent reorganization of the editorial board, the new *Sinosphere Journal* will resume publication in the summer of 2002. The new *Sinosphere Journal* will be distributed electronically, as well as by mail, to nearly 1,000 PACE members around the globe.

The editorial board is seeking three types of contributions:

Abstracts

Individuals who have written, published, or presented any articles relevant to the study of China's environment are invited to send an abstract of the article. Please include the date and full citation for the article and information on how to obtain a copy.

Field Notes

Short summaries of field studies are welcome, for these field notes have proven to be very timely and informative for our readers.

Articles and Essays

For those interested in expressing views in short scholarly essays devoted to a single topic, articles on any subject relevant to China's environment, including technological developments, business trends, and policy issues are welcome. These articles should be approximately 2,000 words in length, although quality is more important than quantity.

Please send all submissions with your full contact information to the editors at: sinosphere@yahoogroups.com

The Next Issue

The theme of the summer 2002 issue will be "New Approaches to Emission Control in China." It will expand upon the discussion of this topic at the March 2002 PACE China Environment Workshop in Washington, DC, and will feature articles by the U.S. Environmental Protection Agency and the China Research Academy for Environmental Science, the Massachusetts Department of Environmental Protection, Environmental Defense, and the Natural Resources Defense Council.



Brick by Brick: Improving the Energy and Environmental Performance of China's Buildings

By Robert Watson and Barbara Finamore

As the old saying goes, “In theory there should be no difference between theory and practice; but in practice there usually is.” The first goal of the Natural Resources Defense Council (NRDC) in China is to promote innovative energy and environmental policies, or “theories,” while furthering China’s development goals. Our second, and generally more vexing, goal is to turn these new theories into practice.

Improving the energy and environmental performance of China’s buildings is a central feature of NRDC’s China Clean Energy program. In terms of total national energy consumption in China, the energy used to operate buildings in China is estimated to range between 20 and 25 percent on a coal equivalency basis,¹ while the energy used to produce building construction materials (e.g., embodied energy²) adds another 15 to 20 percent. At 35 to 45 percent of total national energy consumption, buildings in China are a sometimes overlooked but extremely important area to target for reducing energy consumption and its attendant environmental problems.³ The World Bank estimates that more than one-half of China’s urban residential and commercial building stock in 2015 will likely be constructed after the year 2000. Therefore, the buildings that will be constructed over the next decade will determine future energy-efficiency levels for decades, since each new building may be used for 50 years or more.

Besides energy consumption concerns, urban water consumption and the provision of clean drinking water are also severe environmental issues that can be positively impacted by better building design. Reducing the water consumption in buildings, while at the same time providing onsite sewage treatment or pretreatment facilities, would significantly move these water issues forward in China. In addition, indoor air quality problems resulting from the direct combustion of coal, kerosene, oil, and traditional biomass pose very serious public health threats and are worthy of inclusion in programs to reduce the environmental impact of buildings. Finally, as China’s housing stock and commercial building stock grow rapidly over the next 20 years, the amount of land dedicated to not only buildings, but also the supporting infrastructure—roads, parking lots, and walkways—will be a significant source of land consumption in China. Given the rapid disappearance of arable land caused by desertification and encroachment from construction, the

ramifications for China’s food supply are considerable.

Energy-Saving Building Codes

Supported by the U.S. Department of Energy and the Energy Foundation, NRDC has been working with the Ministry of Construction (MOC), the Ministry of Science and Technology (MOST), and Lawrence Berkeley National Laboratory (LBNL) to reduce energy consumption in Chinese buildings. With MOC and LBNL, NRDC has been deeply involved in the development of energy-saving building codes for the so-called “transition zone,” the region encompassing the Yangtze River Basin, home to over 500 million people. It is called the transition zone because it requires heating in winter and cooling in summer, and is also characterized by relatively high levels of humidity in the spring and fall.

The stated goal of this building code is to reduce heating and cooling energy consumption in residential buildings by 50 percent. This was principally accomplished by requiring additional wall insulation and window improvements that reduce infiltration and energy loss through the window frames. During the course of the development of the transition zone energy standard, we saw a number of very important changes taking place. First, under the tutelage of LBNL, detailed energy simulation modeling of potential energy-saving measures was carried out using the DOE-2 energy model. A simplified version of this model is currently being developed in China as a code compliance tool.

A second very important change was the growing inclusion of private sector participants, such as developers and materials and equipment manufacturers, in the standard setting process. NRDC supports increased participation by affected parties in this process because implementation of China’s energy standards will rely very heavily on the availability of products to meet the standards, as well as the willingness of the developers to implement those standards.

Third, we were delighted to see an increased willingness on the part of local governments to allow international experts to review and comment on draft legislation. As a prelude to our work on the transition zone code, we first signed an agreement with the Chongqing Construction Commission to assist with the development of a local energy-saving building code. We

assembled a team of experts from within and outside NRDC and came to our first meeting in Chongqing eager to review the draft code, the first of its kind in China. Imagine our astonishment to find out that in the few short weeks between the signing of our agreement and the first substantive meeting, the Chongqing government already had submitted a building code to the municipal legislature, which quickly enacted it into law.

We later learned that the local government was extremely nervous about showing any sort of draft legislation or regulations to foreigners, so they enacted the building code first, and then asked for our comments. After recovering from the news, we dutifully prepared dozens of pages of comments on the final version, which appeared to break the impasse. The Chongqing government used these comments as the basis for preparing detailed building code management and implementation regulations, and has worked closely with NRDC ever since on both local implementation and the development of the transition zone code.

There are a number of areas where the standard setting process in China could be improved. For example, conducting detailed economic and cost benefit analyses of proposed measures could determine which measures are most cost effective in achieving the standards' goals. In addition, we believe that broader outreach to industries and the implementing agencies at the municipal level is warranted at the code development stage and would result in a standard that is more readily implemented. Finally, we believe that China should release a standard with more than one tier of requirements, one with a near-term

implementation date, the other a more stringent tier that would be implemented later. A two-tiered standard would be beneficial in triggering the market transformation that the standards are intended to stimulate.

Energy Efficient Building Demonstration

In the commercial sector, NRDC has been coordinating a project with the Ministry of Science and Technology and the U.S. Department of Energy to design and build a demonstration energy efficient commercial office building in Beijing. This building will house the offices of the National Research Center for Science and Technology for Sustainable Development and the Administrative Center for China's Agenda 21, two divisions of MOST.

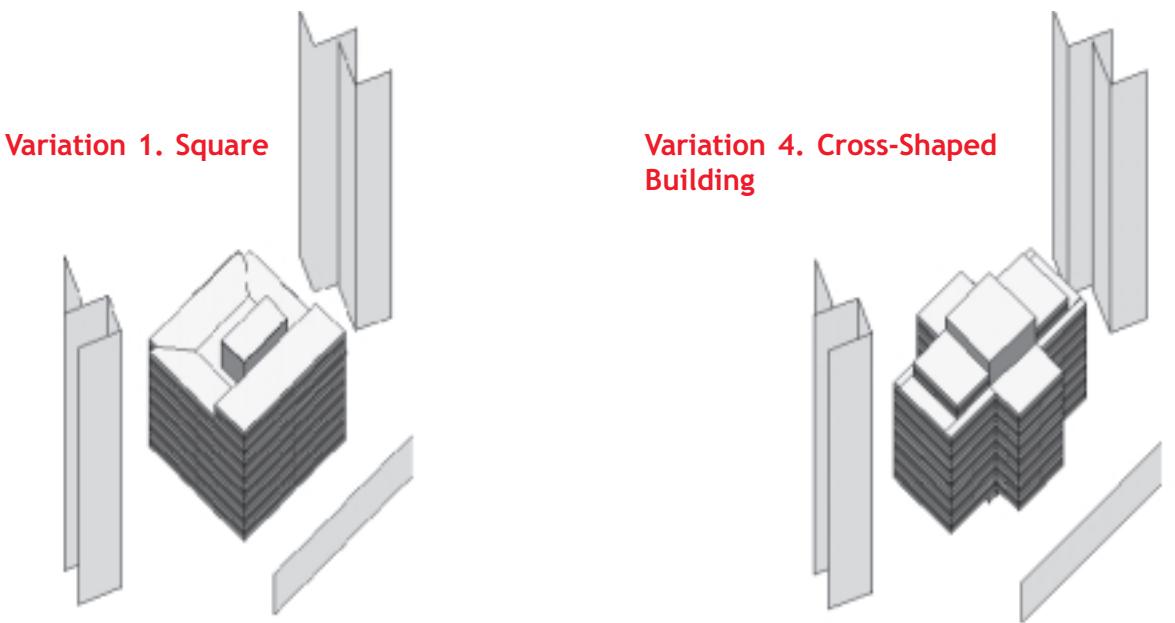
The 130,000 square foot cross-shaped demonstration building is expected to use between 30 and 50 percent less energy than a comparable square-shaped office building in Beijing due to a number of energy-efficiency measures. (See Table 1) The demonstration building is intended to be revolutionary through its comprehensive utilization of "state of the shelf" technologies⁴ to reduce energy consumption and an integrated design process.

The integrated design process ensures that the energy savings resulting from the application of energy-saving technologies are enhanced and amplified by the application of other energy-saving technologies. For example, when energy-efficient windows and lighting systems are installed, there is much less waste heat to remove, whether generated by indoor lights or the sun. Therefore, the size of the air conditioning system can be

Table 1. Energy Consumption Savings of Efficient Buildings

	<i>Megawatts/Year</i>
Energy Consumption of Square Building (With no energy efficiency measures)	1167
<i>Energy Efficiency Measures</i>	
Cross-Shaped Building	-41
Energy Efficient Lighting	-453
Energy Efficient Windows	-26
Energy Efficient HVAC	-56
Other Efficiency Measures	-35
Projected Energy Consumption of Efficient Building (Does not include plug loads - computers, office equipment)	556

Figure 1. Building Designs



reduced dramatically. Reducing the size of the air conditioning system can result in very significant capital cost savings, which in turn can be used to invest in the additional energy-saving measures for the windows and lighting.

Other innovations include the addition of architectural light shells that will not only act as physical shading devices for the windows, but also will bounce light deeper into the core of the building, producing higher lighting levels with less electric lighting. In addition, a significant operational cost savings will result from the utilization of ice storage air conditioning technology, which will be charged during the off-peak hours when electricity costs are low, and utilized during the peak electricity hours when energy prices are high. Finally, the energy modeling undertaken by LBNL identified many opportunities for cost-effective savings from building design. One of the most dramatic savings came from changing the geometry of the building from a square-shaped building to a cross-shaped building. (See Figure 1)

Bidding and Breaking Ground

Every one of Beijing's top construction companies competed fiercely in MOST's competitive bidding process for the right to build the demonstration building. Representatives from several companies said they saw this building as representing the future of construction in

China. A number of American companies are participating in the project by selling their efficient building technologies and materials to MOST for the same price as ordinary non-efficient products—an across-the-board price reduction of about 30 percent. The Ministry of Construction has said that they will use the information coming out of this project to inform the development of an energy-saving commercial building standard for China.

On the second floor of the building will be an energy technology demonstration center, which will be used to display the latest energy-saving technologies from around the world, as well as train architectural students and professionals in integrated energy-efficient and environmentally sound building design. Manufacturers from around the world will be solicited to donate their material and equipment to the facility, which will have rotating displays demonstrating and emphasizing various energy-efficiency issues, measures, and technologies.

The Ministry of Science and Technology hosted a gala groundbreaking ceremony in Beijing on the last day of February 2002. Legions of Chinese construction workers in bright red or yellow hard hats stood guard in the brilliant sunshine as a host of dignitaries with orchid corsages shivered in the shade covering the platform. After the requisite speeches, each VIP turned a shovel of dirt over the handsome foundation stone while cardboard cannons of multicolored confetti (in lieu of forbidden

NRDC's Rob Watson and Barbara Finamore join Joe Huang (BNL), Wang Weizhong (ACCA21), and Wang Yuan (NRCSTD) to break new ground in Beijing (February 2002).



firecrackers) were shot overhead.

As the guests moved away toward the waiting buses, a roar of heavy machinery caused them to turn back. Aided by a giant backhoe and tired of standing around, the construction workers wasted no time in getting down to the real work of digging the building's foundation. When it comes to energy efficiency, these workers practice what others preach.

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¹ China uses "tonnes of coal equivalent" (tce) as the common unit of reporting energy consumption at the macro level. One tce approximately equals 4 barrels of oil.

² For example, a ton of cement has about a barrel's worth of oil "embodied" in its production and transport to the building site.

³ In terms of total national energy consumption in the United States, the energy used to operate buildings in is 36 percent direct consumption, while embodied energy (e.g., building materials) is 6 percent.

⁴ This means the best technology readily available in the market.

Lean and Green: Boosting Chinese Energy Efficiency through ESCOs

By Pam Baldinger

In my old office in Beijing, the rooms sometimes became so stiflingly warm and dry in winter we were forced to open the windows to admit a few gusts of blustery air. I also knew a woman whose office was so cold in summer that she actually bought a portable space heater to warm her cubicle! Efficiently utilizing heating and air conditioning systems is becoming more important in China as the country continues to build both a market economy and ever larger numbers of new buildings. Though China has made great strides to improve the energy efficiency of its industrial base over the past 20 years, statistics show there is still a long way to go. Heating, lighting, and cooling public buildings alone accounts for 5 percent of China's energy consumption, while a Chinese steel maker uses nearly three times as much energy to make a ton of steel as a Japanese steel maker. On average, China's key energy-consuming industries use anywhere from 12 to 98 percent more energy per unit of production than those in developed countries. The cost of this inefficiency is high—more pollution, lower productivity, and wasted resources. So, the \$64,000 question becomes:

Q: *How can you get Chinese factory managers or building owners to focus on and invest in energy-saving measures when their real interest is boosting sales?*

A: *By providing them the relevant services and equipment without making them pay upfront.*

At least, that is the hope of the joint World Bank/Global Environment Facility (GEF) China Energy Conservation Project, which is now entering its second phase. The goal of this project is to promote the concept of energy management contracting in China, through the introduction of specialized companies referred to worldwide as ESCOs (energy service companies). Since the term "energy service company" is already used in China for a different type of organization, the Chinese have coined a different name for their ESCOs—energy management companies, or EMCs.

EMCs provide a unique combination of services to their clients. After conducting an energy assessment of a facility, an EMC will design an energy savings plan, buy and install requisite equipment, train the facility's staff how to use the equipment, and then monitor implementation of the overall savings plan. The client's

facility pays nothing upfront, and obtains title to the equipment upon expiration of the contract. The EMC is paid with the funds its client saves through its new energy savings. Based upon the initial audit, the EMC and its customer will sign a contract specifying the amount of expected savings, and obligating the customer to pay a certain percentage of the savings to the EMC each month. In essence, the EMC functions as both banker and technical expert for its clients; the EMC must therefore have strong financial, management, and technical capacity to succeed.

The World Bank began discussing the EMC concept with the Chinese State Economic and Trade Commission (SETC) in 1997. With financial support from GEF, the World Bank, and the European Commission, the first phase of the resulting China Energy Conservation Project focused on establishing three pilot EMCs. Prior to this time, the notion of energy management contracts was unknown in China. Though the Chinese leadership has long recognized the importance of improving energy efficiency and SETC—through its local branches—has established a nationwide network of energy conservation centers to assist industry, most efforts have been government-directed, utilizing a command-and-control approach. EMCs represent a novel way of using market mechanisms to drive efficiency efforts; the customers enter into contracts to bolster their overall energy and economic efficiency.

The pilot EMCs, located in Liaoning, Shandong, and Beijing, began operating in 1998-1999. To date, they have implemented over 200 projects, resulting in significant energy savings and reductions in greenhouse gas emissions. The payback period for the EMCs is quite quick, with contracts typically lasting one to three years, and the work can be lucrative—the average annual rate-of-return exceeds 20 percent. Unlike the experience in the United States, where the contracts between ESCOs and their clients are extremely legalistic and disputes over the measurement of energy savings common, the Chinese EMCs have had few problems of this nature.

Based upon the successful experiences of the pilot EMCs, the World Bank, GEF, and their Chinese partner on the project, SETC, decided to expand the project. Phase II, which should be approved by the World Bank's board of directors in the summer of 2002, has two goals: (1) to expand the number of EMCs in China by setting

up an EMC association that will provide training and other services; and (2) to set up a risk reserve fund for partial loan guarantees to lenders, so that Chinese banks will feel more comfortable lending to the new EMCs. Currently, the small size and new nature of most EMCs and EMC projects are disincentives to risk-averse Chinese banks. Involving the financial community in the development of the EMC industry is critical if the industry is to become sustainable, the ultimate goal of the project.

In August 2000, SETC posted a notice announcing Phase II and asked companies interested in learning more about the EMC concept to contact the project management office. Over 100 companies from all over China responded and several dozen already have completed introductory training courses. I recently had the opportunity to work with a World Bank team preparing for implementation of the project, and was able to meet with several prospective EMCs as well as representatives of the financial community. These meetings highlighted the bright prospects for the EMC model in China, as well as the significant challenges that must be overcome to make the model successful.

If there was one common denominator amongst the companies I met, it was the need for more information. The bankers are unfamiliar with energy efficiency projects in general, let alone such a new concept as energy management contracting. The prospective EMCs offered the flip side: they may understand energy efficiency technologies, but tend to have limited financial expertise and little or no experience in obtaining financing from Chinese banks. All of these factors now are being incorporated into various Phase II training programs that will seek to bridge these gaps.

Many EMCs estimated they would be able at least to double their business with access to a line of credit; the challenge will be to establish their creditworthiness given limited assets and credit histories. The critical role of intermediary between the banks and EMCs will fall to

the China National Investment and Guaranty Company (I&G), which is working with the World Bank and SETC to structure the guarantee fund. In issuing a guarantee to a bank for a loan to an EMC, I&G essentially takes the first-loss position. The guarantee company, therefore, will work with prospective EMCs to evaluate project risk (particularly the EMC client's ability to meet contract terms), as an EMC's future cash flow will have a significant impact on its ability to repay a loan.

The loan guarantee fund not only will be critical to spurring development of the EMC industry (by providing access to much-needed capital), it also should foster reform of China's financial sector. Though much work remains to be done, the structure of the fund will compel Chinese banks and guarantee companies to evaluate new forms of structured finance and risk-sharing agreements. Ultimately, Chinese financial institutions should be utilizing more market-based criteria with which to evaluate projects and set prices for various services.

The prospects for energy savings in China are tremendous, given the inefficient use of energy by industry as well as significant waste in residential and commercial buildings. According to SETC, China's average energy consumption per 10,000 RMB of GDP is triple the world average. Given China's heavy reliance on coal, more efficient energy use can result in significant environmental improvements; GEF estimates that over ten years the China Energy Conservation Project could reduce carbon emissions by 34 million tons. Moreover, China's experience with the credit guarantee fund, if successful, could serve as a model for other countries, many of which are watching the program closely. Thus, the potential for China's EMCs to make their mark is great indeed.

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Pacific Environment

Pacific Environment—a California-based nongovernmental organization (NGO)—protects the living environment of the Pacific Rim by strengthening democracy, supporting grassroots activism, empowering communities, and redefining international policies. In China, Pacific Environment is active in four areas—civil society support, marine conservation, timber trade monitoring, and freshwater conservation.

Building Civil Society through Support of Chinese NGOs

Pacific Environment, in partnership with Global Greengrants Fund, provides direct support to thirty Chinese NGOs that have great potential to become the cornerstones of the environmental movement in China. Pacific Environment's China Representative, Wen Bo, is always seeking promising new environmental groups and leaders. In 2003, Pacific Environment will host a Chinese NGO/student training conference that will cover campaign training, strategic planning, fundraising, and administration.

Marine Conservation

China is home to an astonishing variety of marine life. Many mammal species, such as Yangtze River dolphins, Chinese white dolphins, and Dugong sea lions are unique to China. However, growing industrial waste dumped directly into rivers is seriously polluting the marine habitat along China's coast.

- Pacific Environment is now working with the Liaoning Marine Fisheries Research Institute to establish a natural reserve for the Dugong sea lions in Hainan Province. In October 2002, Pacific Environment will convene a China Marine Stakeholders' group (comprised of scientists, NGOs, and government officials) to build political support for marine protection and to develop a strategy to protect marine species and habitats.

Timber Trade Monitoring and Enforcement

China's economic growth has resulted in a huge demand for wood and paper products. Massive deforestation in the upper reaches of the Yangtze River led to serious floods in 1998, which motivated the Chinese government to place bans on logging to protect forests and limit erosion. These bans have pushed Chinese industries to look abroad for sources of timber—north to the vast forests of Russia; and south to Burma, Laos, Cambodia, and other Southeast Asian countries. The volume of Russian timber alone sold in China has increased ten-fold in the last five years.

- Pacific Environment is developing a transboundary strategy to counter this rapid deforestation rate. In 2000, Pacific Environment organized the first meeting of forest activists from Russia and China to launch a program to help stem the tide of illegal logs. Pacific Environment also is developing a program that will involve: (1) hiring monitors in northern China to gather timber information at border crossings, and (2) initiating an outreach effort to regional news media and government officials on forestry protection and the impact of timber consumption in China.

Freshwater Conservation and River Monitoring

China has nine of the world's ten most polluted rivers, making water quality a critical concern of virtually all Chinese citizens. Paper factories and industrial agriculture facilities dump untreated pollution directly into rivers, which threatens human and ecosystem health.

- Many freshwater species, including the Yangtze River dolphin, are now on the verge of extinction due to their habitat being poisoned. In the coming year, Pacific Environment will be providing support to Chinese organizations that will participate in an international Yangtze River monitoring project.

Further information on Pacific Environment is available at: <http://www.pacificenvironment.org>