Inventory of Environmental and Energy Work in China

In this sixth issue of the China Environment Series, the Inventory of Environmental and Energy Work in China has been updated and we have added many new nongovernmental organizations (NGOs) and student groups to the Chinese section. Last year's inventory included a section with information from European, Australian, and Japanese governments on their projects in China, but this year we opted to present this information in feature boxes that have been scattered throughout the inventory.

This inventory aims to paint a clearer picture of the patterns of aid, investment, and activism in environmental protection and energy efficiency projects in the People's Republic of China. The Chinese inventory section reveals a growing geographical diversity of green NGOs in China, as well as an increased variety of activism in registered and in university green groups. We highlight a total of 124 organizations and agencies in this inventory and provide information on 299 new projects (ongoing projects are listed in the inventory but not included in this total). The four inventory categories are listed below.

We are grateful to all of those in U.S. government agencies, representatives in foreign embassies, as well as U.S., international, and Chinese nongovernmental organizations and universities who generously took the time to compile and summarize their environmental and energy work in China. Timothy Hildebrandt (CES managing editor) and Ma Zhao (CES research assistant) deserve a round of applause for devoting countless hours to compiling, formatting, and proofreading this mountain of information. We have made every attempt to verify that the projects inventoried are actually taking place or soon will begin. Any updates, corrections, or inquiries regarding the inventory should be directed to Jennifer L. Turner (CES editor) at chinaenv@erols.com. This inventory also can be viewed on the ECSP China Environment Forum Web site: http://www.wilsoncenter.org/cef.

Glossary

ADB	Asian Development Bank
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
GEF	Global Environment Facility
GHG	Greenhouse Gases
LBNL	Lawrence Berkeley National Laboratory (United States)
MOA	Ministry of Agriculture (China)
MOF	Ministry of Finance (China)
MOST	Ministry of Science and Technology (China)
NREL	National Renewable Energy Laboratory (United States)
SDRC	State Development and Reform Commission (Formerly SDPC) (China)
SEPA	State Environmental Protection Administration (China)
SETC	State Economic Trade Commission (China)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

Editor's Note: Unless otherwise indicated, all currency noted in China Environment Series is in U.S. dollars. The current rate of exchange is approximately 8.28 Renminbi for one U.S. dollar.

PART I U.S. GOVERNMENT ENVIRONMENTAL ACTIVITIES

BATTELLE-ADVANCED INTERNATIONAL STUDIES UNIT (AISU)

http://www.pnl.gov/china
http://www.pnl.gov/aisu http://www.battelle.org

Beijing Energy Efficiency Center (BECon)
Focus: Energy Efficiency Research
Partners: Energy Research Institute, Lawrence Berkeley National Laboratory, U.S. Environmental Protection Agency (EPA), World Wildlife Fund, Department of Energy (DOE)
Schedule: Initiated 1993, Ongoing

BECon was established in 1993 in cooperation with three organizations—Battelle, Lawrence Berkeley National Laboratory, and the World Wildlife Fund. Today, BECon has a fulltime staff of 12 professionals and many consultants. BECon is leading high-level market-driven energy-efficiency projects for the World Bank and United Nations Development Programme, and has contributed to many influential energy policy recommendations to the Chinese government.

China Clean Energy Finance Facility
Focus: Clean Energy Finance
Partners: Blue Moon Fund, United Nations Foundation, several Chinese organizations
Funding: Blue Moon Fund, United Nations Foundation
Schedule: Initiated 2001, Completed July 2002

Battelle helped develop a proposal for the United Nations Foundation to establish a clean energy finance facility in China. The United Nations Foundation board approved the proposal in the summer of 2002 and initial work is now beginning in China under direction of the United Nations Industrial Development Organization (UNIDO). The facility aims to direct $50 million in Chinese and international investment in Chinese enterprises focusing on energy efficiency, renewable energy, and clean energy business. (For more information, see the August 2002 press release at: http://www.unfoundation.org/media_center/press).

Chinese Environmental Project Finance Competition
Focus: Environmental Finance Development
Partners: Patricia Chernoff Charitable Trust, University of Maryland, Chinese universities, research institutes, and private companies
Funding: Patricia Chernoff Charitable Trust
Schedule: Initiated 2001, Completed October 2002

Battelle Memorial Institute received funding from the Patricia Chernoff Charitable Trust to sponsor 4 Chinese environmental fellows. Each fellow competed to win the award and work with AISU staff to develop their ideas for projects to help solve energy and environmental problems in China. Visiting fellows from Shanghai (2) and Beijing (2) each stayed at AISU for 3 months to develop their project ideas, seek financing, and learn new skills. AISU staff and its partner, the University of Maryland, provided *ad hoc* training and logistical support to enable the winning applicants to develop their project ideas.

Economic and Environmental Modeling
Focus: Energy Research
Partners: Beijing Energy Efficiency Center, Energy Research Institute, Chinese Academy of Social Sciences, Development Research Center of the State Council, Qinghua University
Funding: Environmental Protection Agency (EPA)
Schedule: Ongoing

Economic, energy, and environmental modeling will become increasingly important in China as market reforms continue to reshape the economy. Policymakers will need realistic models to explore energy and climate change policy options and invest wisely in economic development expenditures. The EPA is supporting a series of modeling workshops to share information on computable general equilibrium, optimization, and hybrid models in order to: (1) analyze potential scenarios aimed at reducing climate change and pollution mitigation costs, and (2) build a community of Chinese and international modelers.

Expanding Natural Gas Utilization in China
Focus: Energy Policy
Partners: EPA, Chinese State Development and Reform Commission (SDRC), University of Petroleum-Beijing
Schedule: Initiated 1999, Completed April 2002

Natural gas has many advantages over coal, yet historically natural gas has played a minor role in China's energy sector. Chinese policymakers are developing a renewed interest in natural gas as a way to fuel growth without the environmental and health impacts of coal combustion. To boost natural gas availability and market demand, a number of barriers must be removed to make it more competitive. This study—one of the ten agreements reached in 1999 between the EPA and the Chinese government—is now complete (bilingual publication is available at: http://www.pnl.gov/china).

Department of Agriculture

http://www.usda.gov

Foreign Agriculture Service Research and Scientific Exchanges Department Projects (FAS/RSED)
Ongoing Projects (CES5): Oregon Seeds Project

China Cornell-University Consortium Component I SARM Related (UCCA)
Focus: Agricultural Research
Partners: *U.S. Side:* Cornell University, Universities of Maryland, California, and Wisconsin, Ohio State, Texas A&M, Michigan State, Penn State, North Carolina State, and IDEALS, USDA. *PRC Side*: China Agricultural, Nanjing Agricultural, Huazhong Agricultural, SW Agricultural, South China Agricultural Shenyang Agricultural, and Zhejiang Universities; NW Science and Technology University of Agricultural & Forestry; Chinese Academy of Agricultural Science
Schedule: Initiated 2001, Ongoing

The consortium of U.S. and Chinese agricultural universities promotes the advancement of agricultural research and exchange in both counties. Objectives of the consortium include: (1) creating specific ways to develop collaborative agricultural research, education and outreach projects; (2) crafting opportunities that involve cooperation among partners to address practical needs of agriculture where there is an expectation for making a difference; and (3) building a network for empowering significant personnel exchanges. These objectives will be reached through training courses, sabbatical leaves, short-term visits, seminars/workshops, summer institutes for undergraduate students in both countries, possible joint agricultural MBA program, as well as joint research, education and outreach centers. UCCA presented a WTO Technical Seminar in the summer 2002 and a Natural Resource Seminar in the fall of 2002.

China Ministry of Water Resources S&T Research and Exchange Program
Focus: Water Research
Partners: Chinese Ministry of Water Resources (MWR)
Schedule: Initiated April 2002, Ongoing

In November 2002, the USDA's Foreign Agriculture/International Cooperation and Development and Chinese Ministry of Water Resources (MWR) signed an agreement on scientific collaboration, including short-term scientific exchange visits and technical symposia. This scientific collaboration will provide agricultural and water officials, scientists, and technical experts from both China and the United States with the opportunity to establish contacts with counterpart officials, research laboratories and institutions, and to develop and implement projects of mutual scientific interest. Selected activities for cooperation may include, but are not limited to: short-term technical scientific exchange visits, long-term research project collaboration, and technical symposia. In May 2002, FAS and MWR selected three sites for future soil and water conservation management demonstration centers.

Real-Time Watershed Management Project in Yellow River
Focus: Water Quality Monitoring, Wastewater Reuse
Partners: U.S. Environmental Protection Agency (EPA), SEPA, China Environmental Protection Foundation (CEPF), Ministry of Water Resources (MWR), Shandong and Henan Provincial Environmental Protection Bureau (EPBs)
Schedule: Initiated November 2000, Ongoing

The successful completion of the U.S.-TIES Drinking Water Demonstration projects (1996-1999) helped develop strong working relationships between the China Environmental Protection Foundation (CEPF), USDA, and EPA. These partners

decided to build on previous drinking water projects by creating cooperative research involving various aspects of watershed management focused on real-time data collection and systems management. The proposed research is comprised of two initiatives along the Yellow River: (1) real-time water quality and meteorological monitoring and (2) pilot demonstration of wastewater re-use package plants. The project's unique aspects involve the use of real-time data collection, transmission, and control of each of the systems. The first real-time water quality monitoring site was installed in Henan province in November 2001. USDA, MWR, and the Australia government hosted a session on this Yellow River initiative at the Third World Water Forum in Japan March 2003. A wastewater reuse pilot demonstration site was installed in Shandong province in early 2003. EPA and USDA will transfer lessons learned from this demonstration to a new EPA watershed project on China's Hai He River. [*Editor's Note: See Entry in EPA section*]

Scientific Cooperative Research Program
Focus: Long-term Collaborative Research
Schedule: Annual

The Scientific Cooperation Research Program (SCRP) supports international cooperative research focused on practical uses of science to help solve critical problems affecting food, agriculture, and the environment in both the United States and collaborating countries. Managed by USDA's ICD/RSED, the program provides linkages to international resources and enhances research and technical efforts of scientists domestically and worldwide. Scientific cooperation activities promote research and development of new technologies for food safety, improving the nutritive value and stress resistance of crops and livestock, new and improved agricultural products, and environmental sustainability. Other mutually beneficial priority food and agriculture issues include: enhancing community and household food security, reducing barriers to marketing and trade, preventing introduction of new pests, and addressing economic and technical needs of limited resource and small farmers. Proposals are accepted from U.S. scientists affiliated with a university, federal or state agency, or private nonprofit organization. Collaboration can be with research institutions in developed and developing countries having U.S. diplomatic relations, including the International Agricultural Research Centers linked with the Consultative Group on International Agricultural Research (CGIAR). In China collaborative research projects between 1999 and 2001 included:

Collection, Documentation, And Preservation Of Hemlock (Tsuga Spp.) From Central China
Since 1999, USDA/ARS, the Universities of Pennsylvania, Maine, and Tennessee and the CAAS are collaborating on research to develop genetic resistance to the Asian hemlock woolly adelgid, a serious pest of native forests and cultivated hemlocks important to the timber and landscape industries.

Broad-Spectrum Virus Resistance In Transgenetic Cereal Crops
In 2001, U.S. and Chinese scientists have collaborated on using appropriate bio-safety protocols to develop broad-spectrum virus resistance in three important cereals: wheat, maize and rice. This three-year project has the potential to provide resistance to a wide variety of plant viruses.

Scientific Cooperative Research Program—China Exchanges
Focus: Agricultural and Scientific Research
Partners: Chinese Ministry of Agriculture, State Forestry Administration, MWR, and research institutes
Schedule: Annual

The SCRP provides funding to support USDA's Scientific and Technological Exchange Agreement with the People's Republic of China (PRC) for visits of teams in which the receiving country covers all expenses for in-country travel and per diem for visiting teams. Under this agreement, teams of five to six scientists are exchanged for up to 14 days for each team.

Examples of P.R.C. Exchange Teams from 2001 to 2002 included:

Pest Risk Analysis (PRA). A November 2002 tour included six State Forestry Administration scientists visiting the United States to learn about the pest varieties that potential menace China's forests and PRA methods and major U.S. control techniques.

Production and Marketing of Organic Agricultural Products. Chinese scientists from China's Green Food Center, MOA, and Yunnan and Guizhou provincial departments of agriculture visited the United States in December 2002 to learn about the development of organic agriculture and regulations on using fertilizer and pesticides, as well as procedures for setting and implementing standards on food safety.

Study Tour on the Animal Husbandry. The objectives of this 2001 study tour were to promote the further development of the industrialized production for dairy and beef cattle and to strengthen the cooperation with the U.S. concerning the animal production, breeding, disease control and waste disposal which is significant to the sustainable, steady and efficient development of local animal husbandry and environmental protection.

Selected Examples of U.S. Exchange Teams from 2001 to 2002 include:

Eastern Himalayan Bio-Diversity and the Agricultural of China. In October 2001, five specialists from the ARS, ERS and NRCS visited China for a short-term exchange to determine whether China's water policies can reform to avert a water crisis due to water scarcities. The team accessed the potential impact water scarcity will have on future cropping patterns in northern China and how these changes will affect the country's future agricultural trade and U.S. export opportunities. Finally, the group developed international relationships between water specialists and agricultural economists in both countries for future collaboration on water related agricultural problems in both countries.

Increase conservation and Boost Productivity of Economically Distressed Farmers in Loess Soils. Scientists from Washington State University, USDA/FAS, and Nez Perce Land Services Program visited research programs and sites of conservation innovation in China's deep loess region. They observed and recorded Chinese accomplishments with potential U.S. applications. The tour led to the establishment of cooperative research projects to learn and test technology in the U.S. Pacific Northwest and conservation technologies in China.

Sustainable Agriculture and Water Activities for Green Beijing Olympics 2008

Focus: Water Conservation

Schedule: Initiated 2002, Ongoing

Partners: Department of Energy (DOE), Beijing Municipal Government (BMG)

In its bid to host the 2008 Summer Olympic Games, the Beijing Municipal Government (BMG) made specific commitments to improve the environmental quality of the city and to introduce clean energy technologies. The first U.S.-China Joint Working Group (JWG) Meeting took place on 5-6 December 2002. The U.S. delegation—which included representatives from Departments of Energy, Commerce, and Agriculture, EPA, National Oceanic and Atmospheric Administration (NOAA), and national laboratories—worked with their Chinese counterparts to identify areas for cooperation that are of mutual interest. During the meeting, USDA presented a summary of existing water projects in China and proposed potential activities on water treatment, water quality monitoring and reuse, animal waste treatment and forestry applications. The JWG has identified nine areas for potential cooperation and USDA will coordinate the water related activities. To date: (1) the U.S. side has recommended specific water activities; and, (2) DOE has provided Beijing Olympic Science and Technology Committee (BOSTC) with a comprehensive list of each U.S. agency's current water activities in China, including points of contact. The second JWG Meeting will be in Beijing in 2003 to discuss follow-up actions.

Technical Issues Resolution Fund (TIRF) in China

Focus: Agricultural Research and Project Financing

Partners: USDA, MOA, the American Seed Trade Association (ASTA), Iowa State University-Seed Science Lab, U.S. and China industry representatives and officials

Funding: FAS Emerging Markets Program

Schedule: Initiated 2000, Ongoing

The purpose of TIRF is to address technical barriers to trade in emerging markets worldwide by providing technical assistance, training, and exchange of expertise. Implementation of activities under the fund is a joint effort between the USDA's Emerging Markets Office and International Cooperation and Development (ICD). There are two types of activities that are considered under the TIRF: (1) high priority or time-sensitive issues and (2) strategic areas of long-term interest. A TIRF activity initiated in 2000 featured industry/government collaboration on conducting a pest risk analysis on U.S.-China maize seed trade. This project has addressed pest risk analysis through technical workshops involving U.S. and Chinese plant quarantine officials.

U.S.-China Agro-Environmental Center of Excellence (CUACE)

Partners: USDA/FAS/ICD, Johns Hopkins, USDA/CSREES, U.S. Composting Council, Chinese Ministry of Agriculture (MOA), Chinese Academy of Agricultural Sciences (CAAS)

Schedule: Initiated 2000, Ongoing

Building on years of exchanges, agricultural workshops, and the joint creation of a compost demonstration project in 2000

and 2001, FAS/ICD and CAAS established an Agro-Environmental Center of Excellence in 2002 to serve as a catalyst for research and discussion on the issues of environmental problems in agriculture. The Center will coordinate the efforts of American and Chinese experts, academics and others in the development of cleaner production practices, the coordination of field research and demonstration projects, policy recommendations and the stimulation of trade opportunities for U.S. trade associations and U.S. companies.

U.S. Department of Agriculture/China MOST Cooperation in Agricultural S&T and Related Fields
Focus: Agricultural Research, Biotechnology Cooperation
Partners: China Ministry of Science and Technology (MOST)
Schedule: Initiated 2002, Ongoing

USDA and MOST are establishing a protocol on cooperation in agricultural science and technology and related fields. The purpose of the protocol is to provide a means to facilitate USDA-MOST cooperation and explore joint activities of mutual interest in the field of agriculture, particularly in the area of biotechnology. The protocol will also promote further development of exchanges and cooperation in agriculture between the United States and China through scientific research, education, technology and bilateral trade. The protocol was initiated during the China-U.S. JCM meeting in Beijing April 2002, and was signed in November 2002.

USDA/AGRICULTURAL RESEARCH SERVICE/OFFICE OF INTERNATIONAL RESEARCH PROGRAMS

http://www.ars.usda.gov

Joint Centers for Natural Resource Management
Focus: Soil and Water Conservation, Grazingland Ecosystem Sustainability
Partners: *China Partners:* MOST, MOA, Chinese Academy of Sciences, Gansu Agriculture and Animal Husbandry Bureau, Gansu Agricultural University, Inner Mongolia Agricultural University, Sichuan Provincial Grassland Institute, Sichuan Agricultural University, Qinghai University, Ningxia University, Xinjiang Agricultural University, Tibet Animal Husbandry and Veterinary Science Institute, Northwest Sci-tech University of Agriculture and Forestry. *U.S. Partners:* Department of State, USDA Service Agencies (Agricultural Research; Cooperative State Research, Education and Extension; Natural Resource Conservation; Forest; Foreign Agriculture), U.S. Geological Survey, Bureau of Land Management, U.S. Naval Research Lab, Colorado State University, Utah State University, University of Arizona, Oregon State University, Desert Research Institute (Nevada), Purdue University, University of Wisconsin, Arizona State University, Oregon Seed Council, Wyoming Branch of the Nature Conservancy. *Other Partners*: World Bank
Funding: In-kind funding from participating agencies, universities, and organizations
Schedule: Initiated 2000, Ongoing

Planning has been in progress since autumn 2000 for the establishment of two joint U.S.-Sino natural resource management centers to promote long-term U.S.–China research and development cooperation on soil, water, and grazingland ecosystems. A new Agricultural Science and Technology (S&T) Protocol between USDA and MOST is formalizing the status of the two joint centers. The centers will provide a platform to facilitate partnerships, share information, and stimulate natural resource research cooperation within and between the U.S. and China. The center directors, whose time is contributed by the host university, will provide dynamic leadership and with the help of a Ph.D. student assistant will maintain Web sites, prepare annual reports, facilitate and document research exchanges. Partners to the joint centers will donate the time of their professional staff and provide their own funding for mutually beneficial agricultural and environmental research and development. The specific location and hosts of the two centers are listed below:

U.S.-Sino Joint Centers of Soil and Water Conservation and Environmental Protection: The Chinese center was established on 20 May 2002 at Northwest Science and Technology University of Agriculture and Forestry at the Institute of Soil and Water Conservation, which is managed by the Chinese Academy of Sciences. The U.S. center is located at the University of Arizona in Tucson hosted in the Institute for the Study of Planet Earth with USDA and university teams in other states contributing to the work.

U.S.–Sino Joint Centers for Grazingland Ecosystem Restoration. The Chinese center will open in late 2003 and be based at the Gansu Agricultural University in Lanzhou. The U.S. center will be based at Colorado State University in Fort Collins with relevant USDA and university teams in other states contributing to the work.

GTZ-China

In more than twenty years of close collaboration with the Chinese Ministry of Foreign Trade and Economic Cooperation (MOFTEC), the German Technical Cooperation (GTZ) has been constantly tailoring its portfolio to the immense transition process in China. Today GTZ-China activities encompass four primary fields of operation: (1) Vocational and Technical Education and Employment, (2) Economic and Structural Reform, (3) Natural Resources Protection and Poverty Alleviation, and (4) Environmental Protection and Energy Management. The principal areas of activity and a few of the currently implemented GTZ projects/programs in the field of Environmental Protection and Energy Management are briefly illustrated below.

Policy Advisory Services and Environmental Management for Small-and Medium-Sized Enterprises (2003-2005)
The principal purpose of this project is to strengthen the State Environmental Protection Administration's (SEPA's) capacities in environmental policy planning and implementation through enhancing the exchange of Sino-German experience. Furthermore, through the introduction of environmental management systems like ISO 14000, this project aims to improve the environmental performance of primarily small- and medium-sized enterprises.

Environment-Oriented Enterprise Consultancy Zhejiang (November 2002-October 2007)
This program has been conceived to improve the environmental performance of industry in the province of Zhejiang. Based on the polluter-pays principle, GTZ will help establish a model system of hazardous waste management and support an eco-efficient production system in selected industries.

Environmentally Sound Urban Development
Environment-Friendly Urban Energy Systems (November 1999-December 2003)
In cooperation with the State Development Planning Commission (SDPC) this project supports energy experts in the cities of Beijing, Hohhot, and Suzhou in elaborating various urban energy supply concepts for industrial zones, as well as for neighbourhood areas. GTZ, together with SDPC, will advise urban committees on the political enforcement of urban energy policies.

Eco City Planning and Urban Management (June 2002-May 2007)
The target group of this program is the urban population in the rapidly urbanizing corridors and towns of Yangzhou and Changzhou in Jiangsu province. The goal is to help town dwellers benefit from a more efficiently managed urbanization process, which is socially, economically, and ecologically balanced. This project will strengthen spatial planning and integrated environmental urban management in congested and poorly zoned areas, while also establishing integrated learning systems for use and dissemination.

Clean Coal and Electricity Generation
Thermal Power Station Performance Optimization (Phase I: 2001 - 2004)
The overall project objective is to reduce the average specific coal consumption and thereby CO_2 emissions. In addition, energy service companies (ESCOs) active in the power plant sector shall be enabled to provide appropriate services to plant operators who will then be able run their facilities in a more efficient and environmentally friendly way. This project is comprised of technical advisory and procurement services for power plant-specific measuring equipment, and assistance in human resource development.

Renewable Energy for Rural Development
Renewable Energies in Rural Areas (October 2001-September 2007)
As an integrated part of the national western development program, this program will contribute to the improvement of the social and economic situation of the population in off-grid rural areas of Qinghai and Yunnan provinces by providing adequate electricity supply by means of renewable energy sources. This program consists primarily of three components: (1) institutional capacity building, (2) elaboration of dissemination strategies for renewable energy technologies, and (3) introduction of technical quality assurance systems.

A hallmark of GTZ's operations is the principle of participation and sustainability—problems are analyzed and strategies developed with partners and target groups to promote appropriate economically, socially, and ecologically balanced development. In addition, GTZ has sophisticated systems of both quality assurance and impact monitoring at its disposal. This makes GTZ a valuable partner for projects run by international finance institutions.

Detailed information on GTZ-China is available at: http://www.gtz.de/china/english/environment.htm

DEPARTMENT OF COMMERCE/INTERNATIONAL TRADE ADMINISTRATION

http://www.environment.ita.doc.gov
http://www.ita.doc.gov

Environmental Technologies Industries

The Environmental Technologies Industries (ETI) office is the principal resource and key contact point within the U.S. Department of Commerce (DOC) for U.S. environmental technology companies. ETI's goal is to facilitate and increase exports of environmental technologies, goods, and services by providing support and guidance to U.S. exporters. ETI staff covers key countries, with an emphasis on designated emerging markets, including China. ETI and EPA's Office of International Activities co-chair the bilateral U.S.-China Joint Commission on Commerce and Trade (JCCT) Environment Subgroup. ETI recently published an updated, comprehensive report, *China Environmental Technologies Export Market Plan*, and *Partnering in China's Environmental Sector* (for copies of these publications see: www.usatrade.gov, search "Market Research"). For more information about resources for environmental companies seeking business opportunities in China, contact Susan Simon (Susan_Simon@ita.doc.gov, 202-482-0713).

Export Assistance Services

The four main areas of DOC's export assistance services include: (1) environmental technologies industries, (2) market access and compliance, (3) advocacy, and (4) U.S. and Foreign Commercial Service. The U.S. and Foreign Commercial Service (FCS) is a global network of offices strategically located in more than 220 cities worldwide, offering U.S. exporters a comprehensive range of export facilitation services. In China, FCS offices serve U.S. companies in Beijing, Chengdu, Guangzhou, Hong Kong, Shanghai, and Shenyang. China services include market analyses, business counseling, market and policy information, and introductions to Chinese government officials and business contacts. U.S. FCS Contacts:

China

Beijing Phone: (86-10) 8529-6655: Kellie Holloway, Commercial Attaché (Kellie.Holloway@mail.doc.gov, ext. 819) or Yi Wang, Environmental Commercial Specialist (Yi.Wang@mail.doc.gov), Xiaolei Wan, FCS Liaison to TDA\Commercial Specialist (Xiaolei.Wan@mail.doc.gov, ext. 839)

Chengdu Phone: (86-28) 8558-3992/9642: Helen Peterson, Principal Commercial Officer (Helen.Peterson@mail.doc.gov) or Chen Ling, Environmental Commercial Specialist (Ling.Chen@mail.doc.gov)

Guangzhou (86-20) 8667-4011: Eric Zheng, Principal Commercial Officer (Eric.Zheng@mail.doc.gov, ext. 15) or Diana Liu, Environmental Commercial Specialist (Diana.Liu@mail.doc.gov, ext 32)

Hong Kong (852) 2521-1467: Barry Friedman, Commercial Consul (Barry.Friedman@mail.doc.gov) or Olevia Yim, Environmental Commercial Specialist (Olevia.Yim@mail.doc.gov, 852-2521-6166)

Shanghai (86-21) 6279-7055: James Mayfield, Commercial Officer (James.Mayfield@mail.doc.gov)

Shenyang (86-24) 2322-1198: Erin Sullivan, Principal Commercial Officer (Erin.Sullivan@mail.doc.gov, ext. 140) or Hongmei Yu (Hongmei.Yu@mail.doc.gov, 86-139-0982-6379)

Philippines

Manila (63-2) 887-1345: Stewart Ballard, Senior Commercial Officer, FCS Liaison to ADB (Stewart.Ballard@mail.doc.gov) or Cecile Santos, Commercial Specialist (Cecile.Santos@mail.doc.gov)

Market Development Cooperator Program (MDCP)

Focus: Environmental Technologies

Partners: City of Denver, Colorado Environmental Business Alliance (CEBA), University of Colorado Business Advancement Center, U.S. International Trade Administration, U.S. Export Assistance Center in Denver, Colorado Office of Economic Development and International Trade, CH2MHILL, other Colorado organizations

Schedule: Initiated 2002, Ongoing

DOC's International Trade Administration (ITA) recently awarded a grant to the University of Colorado's Business Advancement Center in Boulder. The Market Development Cooperator Program (MDCP) is a public-private partnership that provides matching grants to help U.S. businesses take risks to innovate, and to pursue profitable export markets. The program helps defray the costs incurred by the partnership for trade delegations, seminars, and marketing. The MDCP grantees, together with assistance from partner organizations, plan to: (1) conduct two trade missions in China in 2003, (2) launch a Web site database of environmental projects in China, (3) organize a "Greening Beijing Olympics Opportunities" conference, and (4) conduct pollution prevention/energy efficiency workshops in China. For information about MDCP activities contact the grant's ETI manager, Susan Simon (Susan_Simon@ita.doc.gov) or Ellen Drew, Executive Director, CEBA (303-277-0932, edrew@dimensional.com).

U.S. Joint Commission on Commerce and Trade (JCCT)

Established in 1992, the mission of JCCT is to facilitate development of commercial relations between the United States and China with the direct objective of promoting bilateral commercial agendas. The JCCT meets annually in a plenary session and is led by the U.S. Secretary of Commerce and the Chinese Ministry of Foreign Trade and Economic Cooperation (MOFTEC). The JCCT's Environment Subgroup, established in 1996, organizes and supports events and programs such as technology demonstrations, training workshops, trade missions, exhibitions, conferences, and seminars to foster bilateral environmental and commercial cooperation. For information about official activities of the Environment Subgroup, contact Susan Simon (Susan_Simon@ita.doc.gov).

Department of Energy

http://www.doe.gov
http://www.oit.doe.gov/international/china.shtml

[*Editor's Note: For more information on other DOE supported projects in China see entries under Battelle-Advanced Energy Laboratory, Environmental Protection Agency, Lawrence Berkeley National Laboratory, and National Renewable Energy Laboratory in the government inventory section and Alliance to Save Energy, the Atlantic Council, International Center for Sustainable Development, and NRDC in the U.S./International NGO inventory section*]

U.S.-China Protocol for Cooperation in the Field of Fossil Energy Technology Development and Utilization

This protocol was signed in April 2000 and aims to: (1) identify the developing export and international business opportunities in partnership with U.S. private industry in China, (2) develop technical programs and implement policy that will enhance U.S. energy industry's competitiveness in the Chinese market, and (3) promote technologies and solutions that will improve the global environment and increase U.S. energy security.

Annex I (Power Systems): Two activities are being planned for 2003: (1) a policy study by Harvard focusing on policies and institutional changes that can promote the successful and more rapid development and deployment of clean coal technologies in China, and (2) two, one-week workshops in China on flue gas desulfurization (FGD) technology (one workshop on design, specification and procurement and one workshop on operation and maintenance). In 2002, four Chinese engineers from State Power Corporation (SPC) and Electric Power Research Institute participated in a seminar on electric grid modeling hosted by PowerWorld Corporation in Urbana, Illinois. Eleven Chinese delegates from SPC, Huabei Design Institute, Yantai Power Plant, Shandong Power Group, Thermal Power Research Institute, Electric Power Planning & Engineering Institute, and Ministry of Science and Technology attended briefings on integrated gasification combined cycle (IGCC) technology hosted by Tampa Electric Company in Tampa, Florida, and Southern Company Services in Wilsonville, Alabama.

Capacity Building: Natural Gas Training and Certification

Focus: Energy Capacity Building, Energy Training
Partners: China Petroleum and Chemical Industries Association (CPCIA), Energy Environmental Technology Center (EETC) at Tulane University, Gas Technology Institute
Schedule: Initiated 2001, Completed August 2002

This Sino-U.S. project addressed the need to enhance broad-based adoption of natural gas in the vast urban areas of China, while simultaneously enhancing the market share of U.S.-made equipment and components. The Chinese government is constructing a major gas pipeline that will deliver natural gas from west China to the eastern coast. In anticipation of the completed pipeline, this project was designed to systemically and effectively build a team of certified regulators, managers, engineers, planners, marketers, and technicians for the Chinese natural gas industry. As the first step in this capacity-building work, in November 2001 U.S. and Chinese teams worked together to identify the most important topics. A four-day, introductory course on U.S. natural gas industry technology, equipment, practices, and regulations was offered 5-8 August 2002 in Beijing. The training course had 150 attendees who received a certificate afterwards signifying the cooperative contribution of both countries. The courses may be offered to the Chinese market for establishing a self-supported operation.

First Phase Joint Training Program for Coal Bed Methane

Focus: Energy Training
Partners: DOE, China Petroleum and Chemical Industries Association, China United Coal Bed Methane Corporation Limited, Environmental Technology Center at Tulane University, Tsinghua University, Mr. Scott Stevens of ARI,

Mr. F.W. "Pete" Brown of Cimarron Production Company
Schedule: Initiated 2002, Targeted Completion 2003

China's coal bed methane (CBM) resources are rich and comparable to that of the country's natural gas, but full-scale development is hindered by lack of technology. U.S. companies with the requisite technology lack the geologic data and in-depth understanding of the specific characteristics of China's CBM resources, which hinders the formation of Sino-U.S. joint ventures in profitable CBM projects. In order to promote the development of China's CBM industry with U.S. technology and equipment, DOE and its partners have proposed a first phase joint training program. Training material outlines have been tentatively set covering the following four areas: (1) CBM geology and resource appraisal methods, (2) CBM exploration technology and well-testing procedures, (3) CBM drilling, completion, simulation, and production technologies and equipment, (4) CBM utilization options (e.g., pipeline, power generation, and chemical production).

DEPARTMENT OF THE INTERIOR/FISH AND WILDLIFE SERVICE (FWS)

http://www.fws.gov
http://international.fws.gov

Cooperation Agreement: U.S.-PRC Nature Conservation Protocol

Focus: Conservation Management, Conservation Training
Partners: Chinese State Forestry Administration, Ministry of Agriculture, Chinese Academy of Sciences
Funding: Appropriations to the FWS Division of International Conservation.
Schedule: Initiated 1986, Ongoing

The Fish and Wildlife Service (FWS) administers activities with China under the bilateral Nature Conservation Protocol, signed in 1986 and recently extended through 2006. Exchanges carried out in 2001-2002 included: (1) reciprocal visits of Chinese and American specialists to ports of New York, San Francisco, Beijing, and Shanghai on techniques for inspecting for shipments of wildlife and their parts under the Convention on International Trade in Endangered Species (CITES), (2) evaluation by a U.S. team of aquatic habitat quality in the Yangtze and Pearl rivers, (3) visit by U.S. specialists to northwest China to observe measures to conserve argali sheep, (4) visit to China by American wildlife agency and zoo staff for talks on policies governing panda loans to U.S. zoos, and (5) visit by Chinese wetlands biologists to Georgia and Florida for familiarization with wetlands management and restoration. In March 2003 the two countries held their ninth Joint Committee Meeting to adopt a Work Plan through mid 2005. Future activities will focus on: (1) restoration of damaged wetland areas, (2) recovery of threatened lake trout, walleye and naked carp, (3) visitor education and law enforcement in wildlife refuges, and (4) continuing CITES cooperation.

ENVIRONMENTAL PROTECTION AGENCY

http://www.epa.gov

Advanced Reburn System Pollution Control

Focus: Air Quality Control Technologies
Partners: Institute for Thermal Power Engineering (ITPE), Zhejiang University
Schedule: Initiated 2002, Ongoing

The Advanced Reburn System Pollution Control project is providing technical assistance to Chinese partners on cost-effective control of NO_x, POPs and other pollutants from combustion sources. ITPE, designated by the Ministry of Education as the Clean Energy and Environmental Engineering Key Laboratory in China, has been assigned the task of reducing the NO_x emissions of a coal-fired cogeneration boiler (100 Megawatts) near the embassy district in Beijing. EPA's ORD is discussing with ITPE possible technical assistance for this demonstration project, which will try to reduce NO_x emissions by 80 percent.

Air Quality Assessment

Focus: Air Quality Management
Partners: SEPA, Chinese Research Academy of Environmental Sciences (CRAES) Shanghai
EPB Shanghai Academy of Environmental Sciences (SAES) Shanghai Environmental Monitoring Center/National Monitoring Center
Schedule: Initiated 2000, Ongoing

This collaborative effort aims to evaluate China's air quality assessment (AQM) system and assess the feasibility of applying

U.S. AQM methods and technologies to air quality issues in Shanghai (the demonstration city). The assessment covers a broad-range of AWM elements such as: (1) emission inventory development and use, (2) ambient monitoring network design and data use, (3) local and regional modeling, (4) control strategy and regulation development, and (5) public participation and outreach at the national and local levels. The project's principle activities include: training/exchanges on U.S.-Chinese AQM systems through meeting and workshops, capacity building in monitoring, emission inventories, and modeling, and technical tools transfer. AQM workshops were held in Beijing in March 2000 and one year later AQM training took place in United States. The final assessment report for Shanghai will be completed in 2003.

Air Quality Modeling Demonstration Project
Focus: Air Quality Modeling
Schedule: Initiated 2002, Targeted Completion December 2003

The objective of the Air Quality Modeling Demonstration project is to conduct a national/regional air quality modeling demonstration in China. The project aims to build capacity of Chinese researchers through transfer technology on air quality modeling and emission tools and to provide a preliminary scientific assessment of regional formation and transport of ozone, PM, acid rains, and other pollutants in China. At the completion of this modeling project scientists in Shanghai and Beijing are expected to extend the applications to the urban air quality assessment (e.g., energy scenarios/AQ impact planning, cost/benefit analysis & health assessments) and link with EPA's previous integrated environmental strategies program (see below).

Ambient Monitoring Project
Focus: Air Quality Management
Partners: California Air Resources Board, National Association of State Agencies, SEPA
Schedule: Initiated 1997, Targeted Completion 2003

The aim of this project has been to create an air quality monitoring network in China by providing technical assistance through the California Air Resources Board to assist in siting, operations, data integration modeling, and air quality forecasting in 11 Chinese cities in Phase I and 22 cities in Phase II. In the final stage of the project will acquire and install monitoring equipment in the cities.

Asian Persistent Organic Pollutants (POPs) Workshop and International Conference
Partners: Shanghai Academy of Environmental Sciences (SAES), SEPA, Shanghai EPB, Zhejiang University
Focus: Air Quality Management
Schedule: Ongoing

The EPA and its Chinese partners will organize an Asian POPs workshop and international conference in Shanghai in April 2004 to support worldwide efforts to reduce POPs released to the global environment.

China Energy Efficiency Voluntary Endorsement Labeling
Focus: Energy Efficiency Standards, Energy Policy
Partners: China Center for Certification of Energy Conservation Products (CECP), Lawrence Berkeley National Laboratory, Energy Foundation, UN Foundation
Schedule: Initiated 2000, Ongoing

EPA works with CECP to strengthen China's voluntary energy-efficiency endorsement label (similar to Energy Star). Cooperation focuses on: (1) developing label performance specifications for new products which achieve direct emissions reductions and build capacity to develop future performance levels, and (2) training in Energy Star program management and promotional techniques. EPA brings the expertise of the Energy Star program, which is considered to be the world's most successful voluntary energy-efficiency endorsement labeling program. This project and other energy-efficient equipment technology work in China builds on more than a decade of successful EPA cooperation with SEPA and other Chinese partners, which began in 1990 with the *U.S.-China CFC-free, Super-Efficient Refrigerator Project*. Working with EPA, CECP has established performance specifications for televisions, room air conditioners and printers, which will enable manufacturers to label qualifying products and save nearly three million metric tons of coal equivalent (MMTCE) annually by 2010. Specifications are being developed for monitors, computers, copiers, fax machines, DVD players, and washing machines. Existing specifications for room air conditioners and refrigerators are being revised to increase energy-efficiency levels, which could save at least 16 MMTCE annually in China.

China-U.S. Partnership for Industrial Pollution Prevention and Energy Efficiency
Focus: Environment Protection Policy, Corporate Environmental Stewardship
Partners: State Environmental Protection Administration (SEPA)
Funding: EPA, Office of International Affairs
Schedule: Initiated 1999, Targeted Completion 2004

EPA is assisting SEPA in developing and launching voluntary pollution prevention (P2) and energy efficiency (E2) "beyond compliance" industry-government partnership programs, and providing training and technical assistance in their implementation. The short-term objectives of this ongoing EPA-SEPA project are: (1) implement new pilot P2/E2 environmental performance partnership program, (2) evaluate the success of the pilot programs to reduce emissions in a cost-effective manner, (3) design Chinese national-level programs based on lessons learned from the pilot projects, and (4) recruit industry partners and launch the national-level Chinese programs. If additional resources become available the longer-range objectives are: (1) design and launch a second, higher tier environmental performance program, and (2) create a Web site to publicize the voluntary P2 partnership programs and link to P2/E2 technical information online. These activities will strengthen the ability of SEPA to establish and implement a more economically efficient environmental management policy for China's industrial sector, focusing on preventing pollution. Three phases already have taken place in developing this initiative:

I. Program Type Selection. In September 2000, officials from SEPA visited EPA headquarters and EPA Region 1 to study voluntary pollution prevention programs. SEPA's subsequent feasibility study identified two U.S. voluntary programs as being most applicable to China: the National Environmental Performance Track (NEPT) program and the Supplemental Environmental Projects (SEP) program. These U.S. programs were discussed more fully with officials from SEPA, other ministries, and selected provincial environmental protection bureaus (EPBs) at a "China-U.S. Roundtable on Pollution Prevention and Energy Efficiency" held in Beijing in June 2001.

II. Program Launch. SEPA launched China's new pilot National Environmentally Friendly Facilities program July 2002 in Beijing at a "Sino-US Summit Roundtable and Technical Workshop in Pollution Prevention and Energy Efficiency." SEPA has selected "two sectors, five cities, ten facilities" as pilot projects for the new program. Sectors include petrochemicals and chemicals; cities are Dalian (Liaoning province), Shenzhen (Guangdong province), Yanquan (Shanxi province), Rizhao (Shandong province), and Kalamayi (Xinjiang). The ten industrial facilities participating in the pilot program were nominated by the provincial EPBs and approved by SEPA.

III. Program Development. A study tour to the United States, focusing on best practices in U.S. petrochemical and chemical sectors, was held for officials from participating provincial and regional EPBs and environmental health and safety officials from participating industries in January 2003. The trip report is pending. Planning is under way for an in-depth pilot program in Xinjiang. The objectives of the Xinjiang pilot are to: (1) build capacity for county-level environmental protection officials to provide P2E2 technical assistance to Xinjiang facilities, (2) develop sector-specific training and tools to implement P2E2 practices in food processing and cement, (3) enable EPB officials to deliver technical assistance to pilot cement and food processing companies in Xinjiang. The experiences in Xinjiang should help the EPA and its Chinese partners to identify policies and incentives to promote P2E2 and water conservation in Xinjiang and western China.

Clean Water for Sustainable Cities
Focus: Water Quality
Partners: SEPA, State Water Management Committee, Tianjin Municipal Government
Schedule: Targeted Initiation 2003, Targeted Completion 2005

The proposed two-year Clean Water for Sustainable Cities project has the overall objective of improving drinking water quality in the Hai River Basin in China by: (1) optimizing the performance of drinking water and wastewater treatment plants, (2) reducing industrial consumption and pollution of water resources, (3) advancing the development of a watershed management plan, and (4) increasing financing mechanisms for water sector infrastructure.

Coal Mine Methane Commercialization Program
Focus: Air Pollution Prevention Technology
Partners: State Administration of Coal Mine Safety Supervision (under State Economic and Trade Commission), China Coal Information Institute, Asian Development Bank, Chinese coal companies

Schedule: Initiated 2002, Ongoing

EPA and its Chinese and international partners are working to recover and commercialize the methane from Chinese coal mines. Building methane recovery industry in China will greatly reduce greenhouse gas emissions, improve regional air quality, advance local economic development, encourage U.S. investment, and improve mine safety. Building upon 14 years of sustained cooperation in China, for this program EPA is working with the EPA co-founded China Coalbed Methane Clearinghouse on: (1) marketing project plans, (2) advising financial institutions and brokerage firms, (3) hosting technical training workshops, (4) preparing an investment guide for U.S., Chinese, and other companies, and (5) hosting international symposia to provide U.S. and other potential investors and developers with access to the Chinese market for coal mine methane. To date the project: (1) held a workshop on financing projects in June 2002, (2) prepared an investment guide, (3) planned an international investment/technology symposium, (4) assisted project developers, and (5) began to plan an international conference to be held in China in September 2003.

Economy-Environment Health Modeling

Focus: Air Quality Research

Partners: State Council Development Research Center, National Bureau of Statistics, Tsinghua University

Schedule: Ongoing

This modeling project is constructing and updating a dynamic computable general equilibrium (CGE) model of the Chinese economy. The model has been used to look at the economic, environmental, and health effects of policies to reduce GHG emissions in China. A recent Harvard-Tsinghua project collected data on industrial emissions from a number of sources in five Chinese cities. These data have been used to improve model parameters for particulate matter (PM) and SO_2 emissions. In collaboration with the Chinese National Bureau of Statistics, work is currently underway to construct a time-series data set to be used to estimate a number of parameters of the economic model.

Economic and Environmental Modeling Workshops

Focus: Air Quality Research

Partners: Energy Research Institute (ERI) of the State Development and Reform Commission

Schedule: Initiated 1998, Ongoing

This series of workshops are enhancing technical capacity in China (and other developing countries) to model and run alternative scenarios of measures to address climate change and other environmental concerns. The technical exchange between U.S. and Chinese country modelers is mutually beneficial and improves the likelihood that China will evaluate a fuller range of climate policy options. Five workshops have been held in China—proceedings from the most recent workshop in Beijing in November 2002 have been published.

Energy-Efficient Air Conditioner GEF Project Application

Focus: Energy Efficiency Technology

Partners: SEPA, Energy Foundation, Global Environment Facility (GEF)

Schedule: Initiated 2003

The Energy-Efficient AC GEF Project Application will provide technical support for preparation and initiation of a GEF project, building on EPA's earlier technical support for energy efficient AC technology in China between 1997 and 2002. The project has received official endorsement from the government of China, is ready for entry into GEF pipeline and was approved by the GEF council in 2003.

eeBuildings

Focus: Energy Efficiency Policy

Partners: China Center for Certification of Energy Conservation Products, Ministry of Construction Center for Energy Efficiency in Buildings, Association of Shanghai Property Managers

Funding: U.S. EPA

Schedule: Initiated in 2002, Ongoing

EPA works with Chinese partners in the commercial buildings sector to build capacity to achieve reductions in emissions of greenhouse gasses (GHG) and other air pollutants through the adoption of voluntary, profitable measures to reduce building energy consumption. The eeBuildings program assists property owners and managers in Shanghai to implement low- and no-cost actions which can reduce building energy use by 10 to 30 percent while maintaining comfortable lighting levels, temperature and air quality. eeBuildings provides technical assistance through seminars offered with the Association of

Shanghai Property Managers, an e-mail newsletter, and www.epa.gov/eeBuildings. The program has trained 100 building owners and managers, responsible for 120 million square feet of space in 135 buildings. eeBuildings plans to expand its efforts to other major Chinese cities. For more information please contact Myra Frazier at: *frazier.myra@epa.gov* or 202-564-3469.

Environmental Tobacco Smoke Outreach Project
Focus: Air Quality
Partners: World Health Organization, Governments of China, Poland, Latvia, and Viet Nam
Schedule: Initiated 2002, Ongoing

The EPA's Office of International Affairs is working with the World Health Organization to conduct training of community leaders to do outreach on health issues related to environmental tobacco smoke. China is one of four countries (including Poland, Latvia, and Viet Nam) participating in this health prevention program.

Feasibility Study on SO_2 Emissions Trading in China
Focus: Air Quality Control
Partners: SEPA, China Research Academy of Environmental Sciences (CRAES), and local EPBs
Schedule: Initiated 2000, Ongoing

In this feasibility study, which aims to facilitate SO_2 emissions trading in China, EPA is providing: (1) analysis of how the U.S. emissions trading experience can be adapted to China, (2) financial support to build technical and analytical capacity within SEPA and CRAES for the design of emissions trading programs, (3) technical assistance on emissions measurement, reporting, and verification, allowance accounting, and regulatory structure, and (4) data systems for collecting and managing emissions and allowance data, and assessing compliance. The project has conducted three workshops and the feasibility report was completed in 2002 and distributed at a joint workshop in Beijing. Next steps for this project may include the creation of regional training workshops cosponsored by EPA and SEPA to raise the understanding of emissions trading and measurement fundamentals.

Inspection and Maintenance Program for Shanghai
Focus: Air Quality Technology, Transportation Transport
Partners: Shanghai EPB, Shanghai Academy of Environmental Sciences (SAES)
Schedule: Ongoing

The I&M Program for Shanghai provides technical assistance to the Shanghai EPB and Shanghai Academy of Environmental Sciences in the design and implementation of a high-tech I&M program for automobile exhaust monitoring.

Integrated Environmental Strategies
Focus: Air Quality Policy
Partners: SEPA, Shanghai and Beijing EPBs; Tsinghua, Beijing, and Fudan Universities; Shanghai Academy of Environmental Sciences; National Center for Research on Environmental Analysis and Measurement; Beijing Environmental Monitoring Center
Schedule: Initiated 2000, Ongoing

The Integrated Environmental Strategies (IES) project (*Inventoried in CES5 as: Cooperation to Assess Benefits of Programs to Reduce Air Pollution and Protect Public Health in China*) is building capacity in China to develop, analyze, promote and implement policies that reduce greenhouse gases (GHG), improve air quality and protect public health. The IES methodology enables developing countries to assess, quantify and compare clean energy and transport technologies, policies and measures, in terms of the local air quality and public health benefits, GHG reductions and other economic impacts. After completing preliminary analysis of health affects of air pollution in Shanghai, EPA and its partners conducted national and local policymakers workshop to discuss the results and published papers in Chinese journals and presented results in several international meetings. EPA and its Chinese partners aim to begin applying the methodology nationally to continue to build local capacity and conduct health benefits analysis of energy and environmental policies.

Minimum Energy-Efficiency Standards
Focus: Energy Efficiency Policy
Partners: China National Institute for Standardization (CNIS), LBNL/CLASP, DOE, UN Foundation, UNDESA, Energy Foundation

Schedule: Initiated 2000, Ongoing

The Minimum Energy-Efficiency Standards project is a highly cost-effective effort, achieving substantial GHG reductions and building capacity to achieve reductions in the future. EPA technical assistance supports implementation of minimum energy efficiency standards and information labels for appliances and other equipment. This activity builds on EPA's energy-efficient CFC-free refrigerator project and high-efficiency room air conditioner project, as well as Lawrence Berkeley National Laboratory appliance standards, labeling and market transformation programs. The adoption of mandatory minimum energy efficiency standards and labels are projected to reduce GHG emissions by 11.3 million metric tons of coal equivalent (MMTCE) annually by 2010. Technical assistance in 2003 is supporting development of standards for commercial and room air conditioners.

Real-Time Watershed Management on the Yellow River

[*Editor's Note: See Entry in USDA section of this inventory for details on this USDA/EPA project*]

Studies on Health Effects of Arsenic in Inner Mongolia

Focus: Water Quality Research, Health Research

Partners: Inner Mongolia Center for Endemic Disease Control and Research

Schedule: Initiated November 1999, Ongoing

EPA's Office of Research and Development (ORD) is conducting and sponsoring research to enhance the scientific basis for understanding the health risks associated with arsenic in drinking. The groundwater in western Inner Mongolia is naturally contaminated with arsenic. This arsenic endemic area provides a unique opportunity for assessing health risk of arsenic in humans because the residents have been exposed to a wide range of arsenic concentrations and showed health effects, including cancer and non-cancer-related diseases. For exposure assessment in the village of Ba Men, EPA and its partners have been able to assess arsenic exposure at individual levels because each family has their own well. Chinese health officials have accumulated a great deal of arsenic exposure and health effects data useful for conducting such epidemiological studies. The investigators in the National Health and Environmental Effects Research Laboratory, EPA/ORD, and the Chinese investigators in Inner Mongolia have established a cooperative agreement to conduct arsenic research in Inner Mongolia. Epidemiological studies and toxicological studies are in progress to assess the neural, developmental, cardiovascular and carcinogenic effects of arsenic in Inner Mongolia. These collaborative efforts have led to two scientific publications on effects of arsenic on DNA and chromosome damage in this population.

Training on the Use of Emissions Trading in China

Focus: Air Quality/Market Mechanisms

Partners: Provincial and local (Shanxi and Taiyuan) EPBs

Schedule: Ongoing

This project, part of a larger Asian Development Bank initiative led by Resources for the Future, provides technical assistance on design, operation, and assessment of emissions trading programs in Shanxi province and Taiyuan municipality. The project has conducted several training workshops on the basics of emissions trading and developed a computerized registry for tracking allowance transactions. There will be further training workshops on compliance determination, legal requirements, and other pertinent topics.

[*Editor's Note: See U.S./International NGO inventory in this issue of CES for more details*]

Transportation Demand Modeling for Wuhan

Focus: Air Quality Management, Transportation Research

Funding: World Bank

Schedule: Initiated 2002, Ongoing

This pilot project, implemented in Wuhan, is applying an alternate method of using transportation demand modeling to calculate the Internal Rate of Return of World Bank loans. The result is expected to be a more accurate economic assessment and better predictor of mobile source emissions.

Wind Technology Partnership

Focus: Renewable Energy Development

Partners: SDRC Energy Bureau, with ERI

Schedule: Initiated 2003, Targeted Completion 2005

The Wind Technology Partnership (WIP) project supports country driven technology transfer under the UN Framework Convention on Climate Change. This project supports implementation of a WTP with the Basic Industries Department of SDRC in order to advance the programs, policies, demonstrations, and investments needed to expand wind power generation in China substantially over the next five to ten years. A draft strategy for wind power development is under review and will be shared and discussed with other major sponsors of wind power development in China, including the World Bank, GEF, UNEP, UNDP, Energy Foundation, State Power, SETC, and provincial officials.

LAWRENCE BERKELEY NATIONAL LABORATORY

http://china.lbl.gov

Ongoing Projects (See CES5): Building Energy Efficiency

Appliance Standards, Labeling, and Market Transformation Programs

Focus: Energy Management, Energy Policy

Partners: State Economic and Trade Commission; State Administration of Quality, Supervision, Inspection and Quarantine; China National Institute of Standardization; SEPA; China Certification Center for Energy Conservation Products; Global Environment Facility (GEF); Alliance to Save Energy; International Institute for Energy Conservation; U.S. EPA; ICF Kaiser Consulting

Schedule: Initiated 1995, Ongoing

Energy-efficiency standards and labeling programs for household appliances have proven to be extremely effective in reducing household electricity consumption in the United States and other developed countries. Several past and current Lawrence Berkeley National Laboratory (LBNL) projects have assisted China to transform markets to promote greater energy efficiency in appliances, particularly in setting minimum energy-efficiency standards and establishing energy labeling programs. Past projects have included: (1) refrigerator standards training, (2) development of a $10 million GEF refrigerator market transformation project, (3) air conditioning standards training and preparation of market transformation project, sector survey, consumer survey, monitoring in 250 households, (4) training in electronic ballast standards, (5) preparation of a Green Lights GEF proposal, (6) training in fluorescent lamp standards, (7) training in color TV and printer energy-efficiency labeling criteria, and (8) inclusion of standby power management policies in national efficiency labeling. Current LBNL standard setting projects include: (1) training in washing machine standards, (2) training in commercial packaged air conditioner standards, (3) training in the establishment of energy-efficiency criteria for China's energy-efficiency label (similar to U.S. Energy Star), and (4) a cooperative study on the development of a mandatory informational energy label.

China Energy and Carbon Scenarios

Focus: Energy Policy, Environmental Policy

Partners: Beijing Energy Efficiency Center, Stockholm Environment Institute-Boston, Oak Ridge National Laboratory, National Renewable Energy Laboratory, Shell International

Schedule: Initiated 1999, Targeted Completion 2003

This project is a collaborative effort between teams of Chinese and international researchers. This study is a scenario-based analysis of energy-efficiency and renewable energy policies on energy use and pollutant emissions, with the intent of providing input for the implementation of the Tenth Five-Year Plan and ongoing energy planning activities in China. The project involves construction of computer models on which to run scenarios to analyze the potential impact of specific energy policy measures. The project objectives are to: (1) strengthen and train a leading group of Chinese energy policy analysts, (2) develop alternative energy scenarios for China in far greater depth than done before, (3) provide analysis of how to implement energy-efficiency and renewable energy initiatives, (4) inform the State Development and Reform Commission and other government agencies of new analysis technologies, and (5) better inform and educate citizens of China and other countries of analysis results.

Evaluating the Outcomes of China's Programs to Promote Improved Stoves

Focus: Energy Policy

Partners: University of California, San Francisco; Tsinghua University; Renmin University; China Centers for Disease Control

Schedule: Initiated 2001, Targeted Completion 2003

LBNL and the partners in this project—led by the Institute for Global Health at the University of California, San Francisco—

are conducting an independent review of the Chinese National Improved Stove Program (NISP) (which was implemented from the early 1980s to the early 1990s) and subsequent market-based efforts to disseminate improved stoves. Initiated in response to rural fuel shortages, NISP was the largest program of its kind in the world, and is credited with providing 180 million households with more efficient and cleaner stoves using coal and biomass fuels. This project will address key questions at the national, regional, and local policy levels through surveys of government units and households. Analysis of survey data will provide evidence upon which to base future household energy policy decisions in China and in other low and middle income countries. Surveys performed in this project will provide a quantitative picture of NISP and subsequent programs in terms of extent, management, and utilization, as well as impact on the health of rural populations. Data will be collected simultaneously in two ways: (1) a survey of 100 government agencies and enterprises will gather data on policies and management practices from the national to the village levels, and on rural stove manufacturers and service providers; (2) a household survey will gather data on health status, household fuel, stove use and efficiency, and indoor air quality from approximately 4,000 households in three provinces (Zhejiang, Hubei, and Shaanxi) representing different socioeconomic levels.

[*Editor's Note: See 23 April 2003 meeting summary in this issue of CES for more details on this project*]

Government Energy Efficiency Procurement
Focus: Energy Management, Energy Policy
Partners: China Center for the Certification of Energy Conservation Products (CECP), State Economic and Trade Commission
Schedule: Initiated 2002, Ongoing

Recognizing the role of the government in the promotion of energy-efficient products, the State Economic and Trade commission has appointed CECP to: (1) investigate the scope of energy consumption in government buildings, (2) research public-sector efficiency programs in other countries, and (3) develop a pilot program for government efficiency procurement for trial implementation. Together with LBNL, CECP will use this program to link government procurement policy to efficiency-labeled products, similar to the Federal Energy Management Program (http://www.eere.energy.gov/femp) in the United States. An international workshop to share the experience of the United States, Mexico, the EU, and selected Asian countries will take place in 2003. LBNL and CECP expect to launch the pilot program by December 2003.

Industrial Energy Efficiency Policy
Focus: Energy Policy
Partners: State Economic and Trade Commission, China Energy Conservation Association, Shandong Economic and Trade Commission, Jinan Iron and Steel Corporation, Laiwu Iron and Steel Corporation
Schedule: Initiated 1999, Targeted Completion 2003

The State Economic and Trade Commission now faces the task of developing regulations and programs to implement China's Energy Conservation Law, which has been in effect since 1998. The Chinese government has focused on industry in energy-efficiency work since it consumes about two-thirds of China's commercial energy. The government is eager to demonstrate new market-based approaches such as voluntary agreements between government and industry could encourage accelerated improvements in energy efficiency. This project will demonstrate the implementation of a voluntary agreement framework at two steel mills in Shandong, including the development of supporting regulations and reporting structures. Signing of pilot voluntary agreements with the two steel mills is expected in the first half of 2003.

Residential Energy Consumption Survey/China RECS
Focus: Energy Research
Partners: National Bureau of Statistics
Schedule: Initiated 1999, Target Completion 2004

Detailed surveys of household energy use, appliance ownership, and energy expenditures are crucial basic data for developing energy standards and assessing the impact of other energy-efficiency measures. Such a survey has not been conducted before in China. This pilot survey of household energy consumption covers 250 households in five cities, and will provide an important snapshot of current energy-consumption conditions and trends. Initial results of the study were released in a report in 2002. The next step is for LBNL to work collaboratively with the National Bureau of Statistics, with technical support from the U.S. Energy Information Administration, to conduct a yearlong national survey of approximately 5,000 households. The results will allow improved analysis in support of a wide variety of energy policy and program activities in China.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)/ NATIONAL OCEAN SERVICE

http://international.nos.noaa.gov/china

U.S.-China Integrated Coastal and Marine Resources Management Program

Focus: Coastal Management Capacity Building

Partners: Chinese State Oceanic Administration (SOA), Hainan Provincial Marine and Fishery Department, Guangxi Zhuang Autonomous Region Government, Tianjin Municipal Government, IUCN-The World Conservation Union, United Nations Development Program, State Government of Florida, State Government of Maryland, Virginia Institute of Marine Sciences, ESRI Inc.

Funding: Lead Sponsors: UNDP, Global Environmental Facility, Chinese SOA, and NOAA; Direct and Indirect Funding and Contributions: All Partner Organizations; ESRI Inc. $60,000 of GIS software in 2003

Schedule: Initiated 1998, Ongoing (new work plan extends until 2005)

This program, a component of the U.S.-China Marine and Fishery Science and Technology Protocol, aims to enhance national and local capacity for integrated coastal management in China and the United States through technical training. Since its inception, this marine and coastal program has consistently contributed to defining the coastal and marine sector as an important common environmental issue for priority cooperation by both nations. The program currently has five core elements: (1) create management exchange and training in marine protected area management; (2) produce the summary report: *Marine Environmental Monitoring In China: Lessons Learned 1979 to 1999*; (3) protect marine biodiversity in southern China seas; (4) execute personnel exchanges on sea area use law, policy, regulations, and enforcement practices; and (5) develop educational material and academic curriculums for integrated coastal management. Through this program, both countries have been able to raise the awareness and importance of sustainable coastal and marine management in China. Since the program began, China has passed new legislation and upgraded older legislation (e.g., Marine Environmental Protection Law-2001 and Sea Area Use Law-2002) and undertaken governmental structural reform to improve the efficiency of its marine resource management efforts. The forthcoming long-anticipated joint publication of *Marine Environmental Monitoring in China: Lessons Learned 1979-1999* is expected to identify policy issues, define program gaps and technical needs as China seeks to upgrade its national marine monitoring capacity. Through this program, NOAA and China have developed three sister park reserves to promote personnel and technical exchange to improve management of protected resources. In early 2003, an eight-year $13 million dollar program was started for protecting marine biodiversity at five sites in Southern China.

NATIONAL RENEWABLE ENERGY LABORATORY

http://www.nrel.gov/china

Technology Cooperation Agreements Pilot Project (TCAPP)

Focus: Energy Research, Energy Policy

Partners: Chinese State Development and Reform Commission (SDRC), U.S. EPA

Schedule: Initiated 1997, Completed 2003

The Technology Cooperation Agreements Pilot Project (www.nrel.gov/tcapp) is an initiative of the U.S. government that is assisting developing countries in attracting clean energy investments to meet development needs and reduce greenhouse gas emissions. The National Renewable Energy Laboratory (NREL) and SDRC led the implementation of the TCAPP team activities in China in the areas of: (1) efficient motors, (2) grid-connected wind power, (3) industrial boilers, and (4) clean coal technology. In 2003, work in motors, industrial boilers, wind and clean coal technology will conclude. During 2003, a new EPA program will focus on deployment of grid-connected wind power and developing a long-term wind strategy for China to address key barriers in coordination with other wind programs. Six areas of activities in the wind and motors sectors are outlined below:

1) Wind resource assessment. *(See CES5 for description of activities)*

2) Wind turbine testing for certification. *(See CES5 for description of activities)*

3) Wind business partnerships. *(See CES5 for description of activities)*

4) Boiler Technology Transfer. A pilot site for industrial boiler technologies, fuels, and new operation parameters was identified at the Hui Ro Chu District Heating Company outside of Beijing. An underlying goal of this first action is to help facilitate business development activities. Information exchange will be facilitated between small- and medium-sized companies, trade organizations, manufacturers, and project developers. A review of worldwide advanced technology applicable for industrial boilers and an assessment of appropriate technologies for industrial boilers in China were completed in 2002.

5) Industrial Boiler Business Partnerships. A study tour in fall 2002 to the eastern United States educated Chinese experts on advanced U.S. and international boiler and boiler-related technologies. Nine delegates from China, including six heads of Chinese manufacturing companies, spent ten days investigating opportunities to transfer suitable technologies with greenhouse gas mitigation potential to China. The study tour included presentations on various technologies and visits to numerous industrial boiler plants. The visit resulted in promising discussions with companies and research centers such as GE, Foster Wheeler, ECR International, the Energy Center at Penn State University, and the Energy Research Center at Lehigh University.

6) U.S. PFBC Workshop. The emphasis of this technology is to lay the foundation for future Sino-U.S. collaboration in pressurized fluidized bed combustor (PFBC) technology. The main activity was a PFBC technology workshop in the United States in January 2003 with key participation from U.S. and Chinese private sector businesses. Major outcomes include information exchange, development of formal understandings such as licensing agreements, and initial project identification for U.S. Trade and Development Agency support. During the workshop, the Chinese team presented Chinese PFBC activities and future plans, including summaries of R&D activities, pilot demonstration activities, and results from completed technical/economic studies.

U.S.-China Protocol for Cooperation in the Fields of Energy Efficiency and Renewable Energy Technology Development and Utilization

Focus: Energy Policy

Schedule: Initiated 1995, Ongoing

This protocol (signed by DOE and MOST) focuses on three sustainable energy goals to: (1) advance world energy security interests by helping China develop more diversified energy resources and reduce its future demand for oil, (2) mitigate environmental damage associated with rapid growth in energy demand through deployment of renewable energy and energy-efficiency measures, and (3) enhance U.S. industry competitiveness in China's energy market. Five of the six protocol annexes pertain to renewable energy, of which NREL implements annexes on rural energy development, wind energy development, business development, policy and planning, and geothermal production and use. A progress report for this bilateral protocol is available on the Web site (www.nrel.gov/china/re_forum.html). Activities under NREL's implementation of the five annexes are outlined below.

Rural Energy Development Annex I

This annex focuses on the use of village scale renewable energy technologies to provide energy or electricity to rural areas in China.

Ongoing Projects Under Rural Energy Annex I (See CES4 and CES5): *Gansu Solar Home System Project, Great Wall PV Demonstration Site; Inner Mongolia Hybrid Household Project; Rural Biomass Collaboration; Rural Renewable Energy Development Training Activities*

Asia Pacific Economic Cooperation (APEC) Tibet Solar Electrification Project

Two companies have installed 200 solar home systems (30-36 watt systems) in rural areas of Damschung and Phendrop counties within Lhasa prefecture. They also identified business development strategies for photo voltaic (PV) installations in Tibet. Lotus Energy and Wisdom Light Group have implemented this project with assistance from the Boulder-Lhasa Sister Cities Program. In 2003, this project, in collaboration with Greenstar, completed installation of a two-kilowatt PV village power system with Internet communications to help villagers increase local incomes through export of digital art and music. Other APEC activities in China include work in four areas—financing, renewable energy standards, distributed resources, and micro-business development—in which the United States is pursuing activities jointly with other APEC members.

Wind Energy Development Annex II

Activities under the wind energy development annex focus on accelerating sustainable large-scale development of wind power in both grid-connected and off-grid village power applications in China.

Ongoing Projects Under the Wind Energy Annex II (See CES4 and CES5): *Wind Energy Training, Xiao Qing Dao Village Power Project*

Hybrids Industry Working Group

Focus: Energy Training

Partners: UNDP, UN Department of Economic and Social Affairs (UNDESA)

Schedule: Initiated 2002, Ongoing

DOE/NREL is working with the UNDP to: (1) convene regular meetings of China's hybrid systems integrators, and (2)

design and implement training programs for China's hybrids industry working group.

Renewable Energy Business Development Annex IV

Under this annex, DOE/NREL has undertaken workshops and outreach activities that have been successful in helping U.S. companies facilitate business partnerships and develop markets for renewable energy technologies in China. Previous workshops are outlined in CES5 and recent outreach activities are described below.

Outreach. During 2002 and 2003, the China Renewable Energy Industries Association (CREIA) has been providing an in-country liaison service as business support for U.S. companies. In addition, CREIA and NREL will publish fact sheets in 2003 for businesses interested in large renewable energy projects in China. The fact sheets cover seven topics: SDRC Township program, the Tenth Five-Year Plan, wind farm development, the Brightness Program, how to do business in China, renewable energy policies, and World Bank renewable energy projects

Policy and Planning Annex VII

This annex, which focuses on renewable energy policy and support of the Brightness Rural Electrification Program, was signed between DOE and SDRC in May 2000.

Brightness Program/Township Program Training Certification

Focus: Renewable Energy Training
Partners: Institute for Sustainable Power (ISP), Jikedian Renewable Energy Center
Schedule: Initiated 2001, Ongoing

1) NREL and ISP are working with Jikedian Renewable Energy Center to establish a training certification program for the Brightness Program. An initial evaluation of the Brightness Program and training levels was conducted by NREL and ISP in September 2001 and followed by certification of Master Trainers in the United States in early 2002. In July 2002 these delegates held a training course in Beijing for solar home systems for trainers from three provinces who were certified as Master Trainers. This framework may be extended to include the village systems in the China's Township Electrification Program.

2) DOE/NREL and SDRC held a Village Power Sustainability Workshop in Beijing in December 2002 to support the $240 million renewable energy Township Electrification Program that will provide electricity to 1,061 townships. The workshop attracted a dozen foreign experts and 70 Chinese government, service company and systems integrator company representatives and generated discussions about load management, use of hybrid systems, the energy service company approach, rational tariffs, productive uses, and other factors that support sustainability or renewable energy. The next stage of the program will provide service to the remaining 20,000 un-electrified villages. (Workshop proceedings available at: www.nrel.gov/china/vp_workshop_2002.html)

Energy Policy

Focus: Renewable Energy Policy
Partners: Center for Renewable Energy Development (CRED)
Schedule: Initiated 1998, Ongoing

Previous renewable policy research by the staff from Center for Renewable Energy Development (CRED), DOE, and NREL led SDRC to advocate renewable energy policy incentives to the State Council, including the creation of a Renewables Portfolio Standard, which became part of the Tenth Five-Year Plan (2001-2005). More recently, staff from CRED and provincial Development Planning Commissions were trained in MARKAL and are using the model results to develop renewable energy plans for Hunan province and Xinjiang.

Geothermal Energy Production and Use Annex VI

This effort has focused on development of the geothermal heat pump markets and identification and implementation of investment projects.

Geothermal Market Development

Focus: Energy Research, Energy Development
Partners: U.S. Geothermal Heat Pump Consortium, Beijing Jike Energy New Technology Development Company
Schedule: Initiated 2000, Ongoing

DOE, U.S. Geothermal Heat Pump Consortium, and Beijing Jike Energy New Technology Development Company (Jike)

identified twelve geothermal heat pump (GHP) projects, three of which—totaling $5.3 million—have been completed by Trane and Florida Heat Pump Environmental Equipment Company. The Beijing Concordia International Apartment Building, which features 501 GHP units, was commissioned in August 2001. The training and demonstration projects under this initiative have contributed to a rapidly growing Chinese market for GHP. In 2003 activities will include a market study, the development of a market development strategy, and an international conference.

U.S. Trade and Development Agency

http://www.tda.gov

Feasibility Studies in China

Focus: Energy and Environment Trade Studies

Schedule: Initiated 2001, Ongoing

The U.S. Trade and Development Agency (USTDA) advances economic development and U.S. commercial interests in developing and middle-income countries. The agency funds various forms of technical assistance, feasibility studies, training, orientation visits, and business workshops that support the development of a modern infrastructure and a fair and open trading environment. USTDA's strategic use of foreign assistance funds to support sound investment policy and decision-making in host countries creates an enabling environment for trade, investment, and sustainable economic development. Operating at the nexus of foreign policy and commerce, USTDA is uniquely positioned to work with U.S. firms and host countries in achieving the agency's trade and development goals. In carrying out its mission, USTDA gives emphasis to economic sectors that may benefit from U.S. exports of goods and services. Clean energy and the environment are two sectors in which USTDA concentrates in China. Recent activities in China include:

Environment (Air and Water Pollution)

- **Environmental Sector Definitional Mission:** USTDA approved funding for a Definitional Mission (DM) to China to examine and recommend at least three projects for USTDA funding in the environmental sector. ECODIT, Inc. was chosen to undertake DM.
- **Jiangsu Environmental Monitoring:** This project involves working with the Jiangsu Environmental Protection Department in establishing automatic air and water quality monitoring stations in Jiangsu Province. The Grant Agreement was signed September 17, 2002. The opportunity was competitively bid and contractor selection is underway.
- **Partnering for Clean Water in Asia Conference:** This 10-12 July 2002 conference in Bangkok focused on projects in the water and wastewater sectors, while matching U.S. technologies with relevant Asian project sponsors. Chinese delegates were invited to participate in the conference.
- **Shanghai Centralized Medical Waste Treatment Facility Project:** USTDA approved funding for a feasibility study to construct a centralized medical waste treatment facility in Shanghai to modernize and expand medical waste treatment services and management. The potential grantee for the project is the Shanghai Environmental Protection Bureau, and the opportunity will be competitively bid on *Federal Business Opportunities.*
- **Shanghai Infrastructure Finance Advisory Services:** USTDA offered a grant to provide technical assistance for utilizing corporate bonds to raise revenue for environmental projects in the Shanghai area. Shanghai Water Services Assets Operation and Development Company, Limited is the grantee. The grant was signed 19 September 2002. The opportunity was competitively bid.
- **Shanghai Municipal Solid Waste Technical Assistance:** USTDA has approved funding for technical assistance for the Shanghai City Appearance and Environmental Sanitation Administration Bureau as it prepares its application to the World Bank for a loan to assist with the Shanghai Urban Environmental Project. The Assistance will mainly focus on Municipal Solid Waste. The grant was signed in late April 2002 and Ecology & Environment is performing the study.
- **Tianjin Waste Project:** USTDA approved funds to support the Municipality of Tianjin as it establishes a system for the collection, storage, transportation, and disposal of medical and radioactive waste. The establishment of a chemical/hazardous material related emergency response system is also under development. The Grant Agreement was signed 30 July 2002 and contractor selection is ongoing.

Clean Energy

- **Geothermal Heat Pump (GHP) Project:** USTDA approved funding for Beijing Jike Energy New Technology Development Company to establish four geothermal heat pump (GHP) projects in northern China. These projects will demonstrate the ability of GHP technology to heat structures by using renewable energy. Jacwill Services, Inc. is performing the feasibility study. The grant was signed in April 2002.

- **Ningxia Di-Methyl Ether Plant Project:** USTDA approved funding for a feasibility study on the construction of a Di-Methyl Ether Plant in Ningxia, in western China. The plant will allow Ningxia to develop alternative fuels to alleviate environmental degradation. The potential grantee for the project is the Ningxia Petrochemical Industry Lingzhou Group Company, Ltd.
- **PetroChina Enhanced Oil Recovery Project:** USTDA approved funds to partially fund a feasibility study for an enhanced oil recovery project in Liaoning province. Tradewinds Oil and Gas International Ltd. entered into an agreement with PetroChina to increase the production of oil from the Shuangliu Well Area of China's Liaohe oil field. Grant Agreement was signed 30 July 2002.
- **PetroChina Underground Gas Storage Project:** USTDA signed a feasibility study grant with PetroChina to evaluate the technical and economic feasibility of using the Jintan salt deposits for underground gas storage. Grant Agreement was signed in September 2002. The opportunity was competitively bid and contractor selection is currently underway.
- **Shanghai Electric Power Orientation Visit:** Shanghai Municipal Electric Power Bureau is developing a plan to increase energy reliability and quality and expand its power network. An orientation visit occurred 2-11 June 2002 and included discussions with manufacturers and visits to operating power networks.
- **U.S.-China Natural Gas Institute:** USTDA provided a grant to help establish a natural gas training institute in China. The institute will cover all aspects of natural gas use and will work to promote greater usage throughout China. The grant was signed in September 2002 with the Gas Technology Institute (GTI) as the grantee. GTI and the Chinese State Development and Reform Commission are currently conducting the training courses.

U.S. GEOLOGICAL SURVEY (USGS)

http://www.usgs.gov

Earth Sciences Protocol

Focus: Water Research, Geological Research
Partners: Ministry of Land and Resources
Schedule: Initiated January 1980, Ongoing

This protocol promotes: (1) exchange of scientists, specialists, delegations, and scientific and technical information, (2) exchange of specimens and standard samples, (3) cooperative research on subjects of mutual interest including the development of instruments and equipment, and (4) joint organization of scientific conferences, symposia and lectures. Earth science fields covered by this protocol include mineral resources, energy resources, ground water resources, engineering geology, marine geology, geotectonics, stratigraphy, paleontology, geophysics and geochemistry. All data and information used in these cooperative activities are publicly available, and in many cases, the scientific results have been published in internationally refereed scientific journals. One of the four project annexes (PA) addressing environmental and human health concerns is:

Collaborative Studies of the Human Health Impacts of Domestic Coal Use in China and the United States. The objectives of this PA are to: (1) systematically collect and analyze coal samples from areas in China where domestic coal combustion has contributed to the occurrence of endemic arsenism, fluorosis, selenosis, and iodine deficiency; (2) collaborate with Chinese and U.S. biomedical researchers to study the epidemiologic effects of domestic coal combustion; (3) systematically collect and analyze coal samples from the major coal producing areas in China and United States; and (4) jointly publish the results of these studies and organize scientific and technical meetings to publicize the results. Partners for this work include: Institute of Geochemistry, Chinese Academy of Sciences, Western Kentucky University, Armed Forces Institute of Pathology.

[*Editor's Note: See 13 December 2002 meeting summary in this issue of CES for more information on this initiative*]

Joint Centers for Natural Resource Management

The USGS is co-signer with USDA on an agreement establishing the Sino-U.S. Centers for Soil and Water Conservation and Environmental Protection, located at the Northwest Sci-Tech University for Agriculture and Forestry in Yangling, Shaanxi Province, and the University of Arizona in Tucson (http://www.ispe.arizona.edu/sino). A proposed initial project under the auspices of the centers is formation of an International Watershed Research Network (IWRN). Neither the centers, nor the IWRN are currently supported under the U.S.-P.R.C. Surface Water Hydrology Protocol.

[*Editor's Note: See complete description of this project within the USDA section above*]

Potential Future Activities: Biodiversity Protocol, Dust Storm Activities, and Environmental and Hydrogeologic Mapping

Biodiversity Protocol: USGS has ongoing discussions with the Chinese Academy of Sciences (CAS) on the development of a biodiversity protocol between the two organizations. Project Annexes under such a protocol would include invasive species, GAP analysis, biodiversity monitoring and sustainable development of biological resources in the southwestern China provinces.

Dust Storms: Discussions have also been held by USGS scientists and potential Chinese counterparts to develop collaborative studies on the effects of Asian dust storms on human health and Pacific coral reefs. Hundreds of millions of tons of soil-derived dust are transported annually from the Gobi and Takla Makan deserts across northern China, Korea, Japan, and the northern Pacific, periodically reaching North America. Living microorganisms and chemical contaminants potentially carried with the fine dust may be adversely affecting human health and coral reefs. The objectives of joint studies would be to: (1) collaborate to systematically collect air samples during dust and non-dust conditions from China source regions, near the coast of China, Midway Island, Hawaii, and the U.S. west coast, and (2) analyze the samples for chemical contaminants and identify microorganisms.

Environmental and Hydrogeologic Mapping: USGS and China Geological Survey (CGS) signed a Letter-of-Intent on March 2002 to jointly plan future cooperative activities in environmental and hydrogeologic mapping, establishment of geologic databases and ecogeological studies.

Protocol for Scientific and Technical Cooperation in Surveying and Mapping Studies

Focus: GIS Research

Partners: State Bureau of Surveying and Mapping (SBSM) of the People's Republic of China

Schedule: Initiated April 1985, Ongoing

The objectives of this protocol are to: (1) develop geographical information systems, (2) apply remote sensing information to cartography in China, (3) facilitate the exchange of U.S. and Chinese scientists, specialists, technical consultants, delegations, and of scientific and technical information, and (4) carry out joint basic research and applications projects that engage the core scientific and technical capabilities of SBSM and USGS in areas of mutual interest. During the period 2001-2006, two of the four project annexes in force under this protocol include:

Scientific and Technical Cooperation in Developing Geographic Information Systems (GIS). Entail cooperative activities emphasizing: (a) GIS applications of remote sensing, (b) GIS database update and maintenance, (c) Web/Internet-based GIS data services, (d) proposed mapping and GIS support for the 2008 Beijing Olympics, and (e) jointly authored scientific papers and publications.

Scientific and Technical Cooperation in the Application of Remote Sensing Information to Cartography. From 2001-2006, cooperative activities are emphasizing: (a) technical exchange and joint research projects on the applications of satellite data for land cover and land use change, (b) technical exchange on new sensor systems and their mapping applications, such as invasive species research, (c) jointly authored scientific papers and publications.

Surface-Water Hydrology Protocol

Focus: Water Resource Research

Partners: Department of Hydrology in the Chinese Ministry of Water Resources

Schedule: Initiated October 1981, Ongoing (Fourth extension signed in January 2003)

The purpose of the protocol is to promote scientific and technical cooperation in the fields of basic and applied studies of water resources. This protocol continues to focus primarily on the surface-water discipline, while ground-water cooperative activities between USGS and scientific agencies within China are carried out under the Earth Sciences Protocol. The objectives of this Protocol are: (1) exchange of scientists, specialists, delegations, and scientific and technical information, and (2) cooperative research in the design and operation of data collection networks, automated storage and retrieval of hydrologic data, techniques of hydrologic and hydraulic analysis, hydrological forecasting, and the application of space technology to hydrology and water resources. Seven project annexes are supported under the Surface Water Hydrology Protocol:

Annex 1: Interchange of S & T Information on Hydrology and Analytical Techniques of Water Resources Study.
Annex 2: Hydrologic Measurement Procedures, Instruments, and Equipment.
Annex 3: Cooperative Project on Hydrologic Extremes.
Annex 4: Cooperative Project on Sediment Transport. This 1983 annex is a vehicle to facilitate research on China's

sediment-laden rivers. Projects have included studies of (1) total sediment transport, (2) debris flows and hyper concentrated flows, and (3) geomorphic and hydrologic processes in upland areas.

Annex 5: Flood Forecasting. This annex is facilitated by the National Weather Service, NOAA, and MWR.

Annex 6: Cold Regions Hydrology. This annex was developed with the Lanzhou Institute of Glaciology and Geocryology, Academia Sinica to facilitate scientific exchange between U.S. and Chinese researchers.

Annex 7: Water Quality. This annex has become the major focus of activity under the protocol. The most recent activity resulted in publication of Professional Paper 1647 "Comparative Water-Quality Assessment of the Hai He River Basin in the People's Republic of China and Three Similar Basins in the United States." The publication was prepared in cooperation with the Hai He River Water Conservancy Commission, the Tangshan Water Resources Bureau, MWR, in cooperation with the USGS National Water-Quality Assessment Program. Following the completion of this study, scientists of the Hai He River Water Conservancy Commission initiated plans to launch a joint study of reservoir eutrophication. The plan was to select a reservoir in the early stages of eutrophication, and to determine the sources of nutrients, and what reduction in nutrient load, primarily phosphorus, is required to bring the reservoir water to the desired level of quality as a source for drinking water. The study formally started in 2001 with water samples collected for chemistry, isotopes, and algae community composition. One final year of sampling, to be completed in September 2003, is planned. Upon completion of the studies, a plan will be developed by the Hai He River Commission to reduce the loadings of nutrients to the reservoir through a series of land use changes or regulatory actions. The study is planned to be a model effort at understanding watershed loadings of nutrients or other contaminants, and the development of strategies to reduce those loads in order to restore the planned beneficial uses of surface water systems. Findings will be jointly published.

UK-China Environmental Cooperation

The United Kingdom has had environmental cooperation programmes with China for many years. There are three strands to the current programme: (1) small projects addressing global issues and environmental governance funded by the Foreign and Commonwealth Office, (2) larger projects dealing with sustainable development issues funded by the Department for International Development, and (3) scientific cooperation funded by the Department of Environment, Food, and Rural Affairs. All three programmes work in partnerships where appropriate.

FOREIGN AND COMMONWEALTH OFFICE (FCO) ENVIRONMENT PROJECT FUND (2001-2003 INITIATIVES)

Biodiversity

- Support for WWF-China research and publications on the socio-economic impacts of the major national reforestation policy launched in 2000 (tuigeng huanlin) and on issues surrounding the introduction of a system to certify timber from sustainably managed forests in China.
- Support for China Council Biodiversity Working Group research, publications, and training on use of endemic plants (grasses, shrubs, and trees) in reforestation work, and control of alien invasive species.
- Support for Fauna and Flora International to contribute towards a pilot Biodiversity Species Action Plan for the important Longxi-Hongkou Nature Reserve in Dujiangyan county, Sichuan province. This reserve is home to the giant panda and many other endangered species.
- Cooperation between the Royal Botanic Garden Edinburgh and the Chinese Academy of Sciences on the construction of a botanic garden and high alpine research station in Lijiang, Yunnan province. The research station now has been built and conservation work on the highly endangered endemic plants of Yulong Snow Mountain is producing some very promising results.

Public participation in environmental issues

- Support for Yunnan Eco-network to help student green groups understand practical local sustainable development issues and participate in activities to promote public awareness. In the summer of 2002 students planted trees in their home villages and discussed the links between environmental degradation and poverty at a seminar in September in Kunming.

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• Support for Global Village Beijing to raise awareness of the 2002 World Summit on Sustainable Development amongst Chinese NGOs and organize a delegation of grassroots environmental NGO representatives to attend the summit.

FCO Climate Change Challenge Fund (2002-2003 Initiatives)

• Support for Wardell Armstrong and AEA Technology to work with the China Clean Coal Institute to establish an advisory service promoting the use of methane from abandoned coalmines for electricity generation. This makes productive use of a greenhouse gas-which would otherwise escape slowly into the atmosphere-and helps to improve coalfield safety.

• Support for the State Development Planning Commission (SDPC) to produce training materials and run pilot training courses for provincial level officials to understand: (1) climate change, (2) the UN Convention and Kyoto Protocol, (3) planning for a changing climate, and (4) reducing greenhouse gas emissions through provincial planning policy.

FCO Chevening Scholarships

Every year a small number of Chevening scholarships are awarded to officials from a range of central and local government bodies to pursue Master's degrees in environmental subjects in the United Kingdom.

UK Department for Environmental Food and Rural Affairs (DEFRA) Climate Impacts Research

DEFRA is providing funds for joint research between UK and Chinese scientists on the impacts of climate change on agriculture in northern China. The project is using a variety of soil and crop models together with predictions of local climate change generated by models at the Hadley Centre for Climate Prediction and Research.

DEFRA Darwin Initiative: Landscape Level Biodiversity Planning in Qinghai (2002-2004 Initiative)

Experts from Fauna and Flora International are working with the local environment protection bureau and forestry authorities in Qinghai to identify the locations and key threats to biodiversity in the province. The project has identified the need to find alternative energy sources to protect remaining forest areas that are suffering as local people rely on biomass for fuel. The project also will look at applying to the Global Environment Facility (GEF) or other sources for large-scale funding to implement the plan.

UK Department for International Development (DFID) (2000-2003 Initiatives)

• Yunnan Environment Development Project aims to assist the Yunnan provincial government to prepare and implement pro-poor, environmentally sustainable development plans. The DFID contribution is a £6.7 million ($10.5 million) grant.

• A £6.9 million ($10.9 million) DFID grant for the Water Sector Development Project aims to assist in the introduction of sustainable water resource management and rural water and sanitation improvements. The project pilots are located in all four DFID target provinces: Liaoning, Gansu, Sichuan, and Yunnan. This project is complemented by DFID Technical Assistance to the Ministry of Water Resources (MWR) for revisions to the Water Law (which was passed October 2002).

• A £2 million ($3.16 million) DFID contribution to the World Bank/GEF Energy Efficiency Project aims to ensure that the project is implemented in poorer regions of western China.

DFID Pipeline Project (2003 Initiative)

Assistance to the World Bank Loess Plateau Water Conservation and Rehabilitation 2 project is in the preparation stage and subject to the approval within both DFID and MWR. It is proposed to provide the existing Project Management Offices, which report to MWR, essential capacity building and participatory methods to strengthen the effectiveness of this Loess Plateau project and increase a focus on poverty issues. Most activities of proposed DFID assistance will be in Gansu province.

For more information on UK-supported environmental projects in China contact Siobhan Peters at: siobhan.peters@fco.gov.uk or see www.thinkuk.org.cn

Part II. U.S. and International Nongovernmental Organization Activities

Alliance to Save Energy

http://www.ase.org

International Energy Efficiency Technology Assistance Program
Focus: Energy Efficiency Education
Partners: To be determined
Funding: U.S. Department of Energy (DOE)
Schedule: Initiated 1997, Ongoing

Since 1997, the Alliance to Save Energy has held fifteen educational energy efficiency seminars in China, which focus on identifying energy-saving opportunities in industrial factories, residential buildings, hotels, hospitals, and utilities. These seminars feature a day and a half of panel presentations from energy efficiency technology and service providers. Smaller group meetings between the companies and seminar participants also are arranged, in order to allow attendees to discuss specific questions about their technology needs. The Alliance plans to hold two seminars in 2003.

The Atlantic Council of the United States

http://www.acus.org

Clean Air for China and India
Focus: Air Quality Policy, Energy Policy
Partners: Committee for Energy Policy Promotion of Japan, Confederation of Indian Industry, South-North Institute for Sustainable Development (Chinese NGO), and the State Development and Reform Commission (SDRC)
Funding: DOE, National Energy Technology Laboratory, Committee for Energy Policy Promotion, Simmons International, Richard L. Lawson
Schedule: Initiated 2000, Targeted Completion 2003

The objective of this project is to develop consensus recommendations on a quadripartite basis (China, India, Japan, and the United States) for economic and energy policies that will contribute to reducing air pollution associated with energy use in China and India. The audience for the recommendations will be government policymakers and decision-makers in the private sector in the four countries. During year one, the project activities focused on developing Chinese and Indian views on energy and air pollution, as well as possible policies and actions. To obtain input for the recommendations, seminars were held in New Delhi (April 29-May 1, 2002) and Beijing (February 17-19, 2003). A policy paper will be developed on a consensus basis by a group of 20 to 30 experts (an equal number from each country). The final recommendations will be disseminated to public and private sectors in the four countries. [Editor's Note: For more information, see the feature box for The Atlantic Council in this issue of the China Environment Series]

Blacksmith Institute

http://www.blacksmithinstitute.org

The focus of Blacksmith Institute's work is on safeguarding human health through combating environmental pollution. Blacksmith Institute provides small grants (typically $10,000/year or less), mentoring programs, networking support, and general development assistance to start-up Chinese environmental NGOs and local government agencies.

Fubao Township Integrated Environmental Planning Pilot Project
Focus: Sustainable Development, Pollution Prevention
Partners: Yunnan Environmental Protection Bureau (YEPB)
Funding: Blacksmith Institute
Schedule: Initiated 2002, Targeted Completion 2003

Based in Fubao Township in the Lake Dianchi Basin (Yunnan province), this project aims to develop a sustainable township planning infrastructure and a participatory approach to local development involving a range of stakeholders. By doing so, non-point pollution entering the lake will be reduced-it is intended that this model for sustainable development will then be able to be replicated elsewhere in China.

Monitoring Hazardous Waste Pollution in Three Gorges Dam Area
Focus: Hazardous Waste Management, Pollution Prevention, Water Quality
Partners: China Chongqing Green Volunteers Union
Funding: Blacksmith Institute
Schedule: Initiated 2003, Ongoing

China Chongqing Green Volunteers Union (CCGVU) is monitoring local environmental authorities' efforts to clean up hazardous waste around the area of the Three Gorges Dam, which began filling in June 2003. CCGVU's ongoing work, following completion of the dam, will focus on working with the Chongqing municipal government to conduct public education work on water quality and pollution prevention.

Preventing Pollution from Illegal Mining in Inner Mongolia
Focus: Pollution Prevention, Ecosystem Preservation
Partners: Greener Beijing
Funding: Blacksmith Institute
Schedule: Initiated 2002, Ongoing

Greener Beijing, a Beijing environmental NGO, is spearheading efforts to protect the Inner Mongolian prairie from the effects of illegal mining and industrial pollution. With the assistance of the Center for Legal Assistance to Pollution Victims (CLAPV), Greener Beijing is working on various legal strategies to shut down polluting industries, as well as conducting a media campaign to bring the issue to wider attention.

Center for Resource Solutions

http://www.resource-solutions.org

Assistance Renewable Energy Policymaking
Focus: Energy Policy
Partners: SDRC
Funding: Energy Foundation
Schedule: Initiated 1999, Ongoing

For the past three years, the Center for Resource Solutions (CRS) has provided assistance to SDRC's Center for Renewable Energy Development (CRED) with research and analysis on renewable energy policies. CRS is providing policy assistance to CRED related to potential renewable policies that may be implemented at a national level in China. CRED is currently analyzing three potential policy tools, including a renewable portfolio standard (RPS), a feed-in law, and a competitive tendering process for renewables. During 2003, CRS will continue to work with CRED to identify the best policy for China and to assist by providing their international experience in the implementation and design of these three policies. The goal of the project is to develop a long-term and effective national renewable energy program for China.

Green Market Development
Focus: Energy Research
Partners: South-North Institute for Sustainable Development
Funding: Energy Foundation
Schedule: Initiated 2001, Ongoing

In 2001, the South-North Institute for Sustainable Development (SNISD) surveyed large businesses in Beijing on attitudes towards and preferences for renewable electricity. The results were overwhelmingly positive-businesses showed a strong preference for renewable electricity and expressed a willingness to pay a slight premium for renewable power. SNISD has been working to develop a pilot green power marketing initiative to sell renewable power to non-residential electricity users in Beijing. SNISD is working closely with the Beijing utility and municipal government to seek approval for the project. CRS is assisting SNISD with the design of the green power program and the implementation plan.

Off-Grid Renewable Energy Development
Focus: Energy Policy
Partners: China Energy Research Society
Funding: Energy Foundation
Schedule: Ongoing

By the end of 1995, 850 million people lived in the rural areas of China, which occupy seven percent of the total cultivated lands of the world. Rural energy demand for electricity continues to grow as farmers' incomes increase and township and village enterprises rapidly develop. The China Energy Research Society is assessing the financial needs to support small-scale distribution of renewable energy resources in rural China. CRS is providing peer review of the final report.

Public Benefits Fund to Support Renewable Development in Beijing
Focus: Energy Policy
Partners: Tsinghua University, Beijing Municipal Commission for Science and Technology
Funding: Energy Foundation
Schedule: Initiated 2002, Ongoing

This project is focused on the development of a public benefits fund to support new wind, photovoltaics, and high efficiency natural gas generation in Beijing. CRS is providing assistance to the Chinese Team on the use of public benefits funds to support such technologies.

Public Benefits Fund to Support Renewable Development in China
Focus: Energy Policy
Partners: Center for Renewable Energy Development (CRED), State Power Company's Energy Research Institute, Ministry of Finance, Beijing Energy Efficiency Center (BECON)
Funding: Energy Foundation
Schedule: Initiated 2001, Ongoing

Since 2001, CRS has provided policy assistance to CRED and the Project Team on the international experience with public benefits funds, and their use to support renewable development. The Project Team has identified a strong need for a separate fund to help renewables and energy efficiency in China. The use of such funds will allow renewable developers to remain competitive with conventional electricity generation. CRS will continue providing information how the fund can be structured and administered to ensure maximum benefit based on the U.S. and European experience.

Wind Concession Project
Focus: Power Development
Partners: SDRC, Guangdong Energy Techno Economic Research Center, National Renewable Energy Laboratory (NREL)
Funding: Energy Foundation
Schedule: Initiated 2001, Ongoing

The first Wind Concession Workshop was organized by CRS together with NREL in 2001. Since that time, SDRC's Center for Renewable Energy Development (CRED) has been working to design a competitive tendering process for China and to get government approval to implement a pilot wind concession project. In March 2003, a competitive tendering pilot was announced for 100MW of wind in both Guangdong and Jiangsu provinces. The bidding for the two wind contracts will be completed by the end of 2003. CRS will provide expert assistance on power purchase agreements, and the relationship between specific contract terms and conditions and the ability to finance wind projects-SDRC will select the winning bids.

CONSERVATIONAL INTERNATIONAL

http://www.conservation.org

Mountains of Southwest China Hotspot
Focus: Biodiversity Protection, Capacity Building
Partners: State Environmental Protection Administration (SEPA), State Forestry Administration, WWF, TNC, U.S. Forest Service, Peking University, The Critical Ecosystem Partnership Fund (CEPF) and the Biodiversity Working Group of the China Council for International Cooperation in Environment and Development
Funding: CEPF (World Bank, GEF, the Japanese government, the MacArthur Foundation and Conservation International)
Schedule: Initiated 2002, Ongoing

Identified as a biodiversity hotspot, the mountains of southwest China stretch from southeast Tibet through western Sichuan and into northern Yunnan. While only covering ten percent of China's land area, the area is home to nearly 50

percent of the country's birds and mammals, and over 30 percent of its higher plants. From 1999 to 2001, the Chinese government launched three programs to deal with conservation issues in this region: the Natural Forest Protection Program, the Conservation of Sloping Cultivated Land to Forest and Grassland Program, and the Endangered Plant and Wildlife Protection. Conservation International (CI) has recently introduced programs aimed at assisting the successful implementation of these initiatives. As part of their programming, CI intends to:

- Work with central and local governments and other conservation groups to promote natural regeneration;
- Establish a monitoring network in collaboration with Peking University to assess the impact of natural regeneration;
- Encourage businesses to invest in natural regeneration in order to earn conservation-friendly carbon credits;
- Support efforts to build management capacity in nature reserves;
- Strengthen capacity of grassroots nongovernmental organizations (NGOs) to participate in conservation through the provision of small grants and by training a network of trainers;
- Conduct rapid field surveys and support long-term research; and,
- Work with government and other NGOs to strengthen law enforcement in an effort to halt illegal wildlife trade.

ECOLOGIA (Ecologists Linked for Organizing Grassroots Initiatives and Action)

http://www.ecologia.org
http://virtualfoundation.org

China Environmental Management Systems (EMS) Project

Focus: Environmental Management
Partners: Center for Environmental Management Certification and Training (Beijing)
Funding: Rockefeller Brothers Fund, Goldman Fund
Schedule: Initiated 2001, Ongoing

ECOLOGIA's China EMS Project seeks to work with members of China's business, government, and nonprofit sectors to promote the use of environmental management principles as a tool for sustainable development. Together with Chinese partners, ECOLOGIA is initiating EMS workshops and exchanges that reach out to Chinese businesses. ECOLOGIA has successfully undertaken similar work in Russia and Eastern Europe, and participates in the development of international environmental management standards through the International Organization for Standardization (ISO), including an upcoming standard for greenhouse gas accounting.
[Editor's Note: See the 6 November 2002 meeting summary in this issue of China Environment Series for further information on ECOLOGIA's investigation into ISO 14000 environmental standards in China]

Virtual Foundation and Small Grants Program

Focus: Capacity Building
Partners: Environmental Volunteers Association of Sichuan University (Chengdu), Green Earth Volunteers (Beijing)
Funding: Ford Foundation, Trace Foundation, and individual donors
Schedule: Initiated 1997, Ongoing

ECOLOGIA provides direct small grants (under $3,000) to NGOs and community groups initiating environmental, sustainable development, and human health projects in China. Projects that assist in the development of NGO capacity while solving concrete local problems are given priority. ECOLOGIA's Virtual Foundation Web site (www.virtualfoundation.org) is used to match grant applicants with foreign organizations and individuals interested in supporting community projects in China.

Environmental Defense

http://www.environmentaldefense.org

Promoting SO2 Total Emission Control (TEC) and Emission Trading Policy in China

Focus: Energy Policy
Partners: State Environmental Protection Administration (SEPA)
Funding: SEPA
Schedule: Initiated May 2002, Completed June 2003

In May 2002, Environmental Defense was officially designated by the State Environmental Protection Administration (SEPA) as its partner in a project to reduce sulfur dioxide emissions by 20 percent through implementation of a cap and

trade program. The project spans three cities (Shanghai, Tianjin, Liuzhou), four industrial provinces (Shandong, Shanxi, Jiangsu, Henan), and one electric generating company (China Resources) that account for roughly one-third of China's SO2 emissions. By setting up a pilot effort in the provinces and cities in the areas targeted for emissions control the project aims to reach the SO2 Total Emission Control (TEC) target set by the national Tenth Five-Year Plan to: (1) enhance acid rain and SO2 management in the "Acid Rain Control Zone" and the "SO2 Pollution Control Zone;" and (2) promote the SO2 emission permit system. The pilot program involves the development of a coordinated set of regulations covering the SO2 permit, allocation, monitoring, and emissions trading for each participating jurisdiction. Jiangsu province was the first to promulgate this set of regulations in September 2002. While Environmental Defense has previously participated in demonstration SO2 trading in Nantong, the first transboundary trade recently took place in Jiangsu. In this precedent setting transaction, Taicang's Gang Environmental Power Production Company will pay Nanjing's Xiaguan Power Plant for 1,700 tons of SO2 allowances annually. As both the State Council and Mr. Xie Zhenhua, Administrator of SEPA, have affirmed China's commitment to market-based solutions to their environmental challenges, Environmental Defense has also been training Chinese environmental officials in issuing emissions permits, managing trades, and enforcement.

International Center for Sustainable Development

http://www.solarcities.org

Guanghan Model Sustainable Village
Focus: Integrated Resource Planning, Renewable Energy Technologies
Partners: International Center for Sustainable Development (ICSD), Chinese Ministry of Science and Technology (MOST), Guanghan City Government, Asia Pacific Economic Cooperation (APEC), DOE
Funding: DOE
Schedule: Initiated March 1999, Design Completed January 2002, Construction Targeted Completion December 2003

The Chinese Ministry of Science and Technology (MOST), through its Rural and Social Development Program, is helping cities develop formal rural communities in an effort to improve the quality of life in the rural areas and mitigate the migration to the already crowded cities. ICSD, through APEC, is working with MOST to design Model Sustainable Villages that can be demonstrated and duplicated throughout China. Longju village in Guanghan city, Sichuan province is a typical farming-based community in China. ICSD designed a sustainable village master plan for Longju village based on the goals of economic development, environmental sustainability, and improved quality of life. The master plan will serve as a model for the design and construction of other sustainable villages in Guanghan and other areas of China. This village design makes maximum use of village resources and relies on renewable energy. A biogas facility was designed as part of an animal production enterprise development to eliminate the pollution from the animal waste, and to provide cooking gas and feed a fuel cell to generate village electricity and hot water. The fuel cell produces heat used to warm the digester as well as clean hot water used in a laundry enterprise. A solar powered community center provides a community focus with Internet, daycare, health clinic and other services. Village homes and other buildings are constructed of compressed earth bricks to eliminate firing of the bricks that is done with coal. The result of implementing the sustainable village master plan is a healthier environment for residents. Replicating this village on a larger scale will contribute significantly to healthier air and water throughout China as well as a higher quality of life in rural areas.

International Crane Foundation

http://www.ifc.org

Ongoing Projects: (See 4 June 2002 Meeting Summary in this volume of the China Environment Series)

International Fund for Animal Welfare (IFAW)

http://www.ifaw.org

Ongoing Projects (See CES5): Asian Elephant Habitat Conservation and Community Development Project, Beijing Raptor Rescue Center, China Bear Campaign, Humane Education, Pet Rescue, Tibetan Antelope Campaign

CITES Education and Awareness
Focus: Environmental Capacity Building, Environmental Education
Partners: CITES China, provincial CITES offices

Funding: International Fund for Animal Welfare
Schedule: Initiated 1999, Ongoing

To educate travelers about the threat illegal animal trade poses for China's biodiversity, IFAW initially collaborated with CITES Yunnan branch to install the first education billboard in the departure lounge of the Kunming International Airport in 1999. Similar billboards are now installed in Shanghai and Beijing airports. Brochures in Chinese titled "Love Nature, Respect Life," educating travelers about CITES regulations were distributed to all fourteen CITES offices around China. Another component of this project was to adapt and translate the wildlife crime enforcement guide that had been published by Indian wildlife experts. The book was printed in 2002 for CITES and customs enforcement personnel training. Currently, education efforts are targeting Duty Free shops in China's international airports, many of which sell products made from endangered species, which is a direct violation of CITES. Based on a MOU with CITES Management Authority of China, IFAW initiated a CITES training program in 2002 to promote the CITES enforcement training in China.

International Rivers Network

http://www.irn.org
http://www.chinarivers.org (Chinese)

Ongoing Projects (See CES5): Campaign for Living Rivers in China

International Snow Leopard Trust

http://www.snowleopard.org

Ongoing Projects (See CES4): Conservation of the Snow Leopard and its Mountain Habitat

National Committee on United States-China Relations

http://www.ncuscr.org

Developing Municipal Finance for Local Infrastructure in China
Focus: Environmental Management
Partners: Woodrow Wilson Center's China Environment Forum
Funding: U.S. Department of State Bureau of Education and Cultural Affairs
Schedule: Initiated Spring 2002, Completed Fall 2002

The limitations of centralized planning, the demise of many state-owned enterprises, fiscal crises at the central and local government levels, and increasing pressures from localities to participate in decision-making have altered the relationship between China's central government and local authorities, as well as between the public and private sectors. These changing fiscal and political dynamics are particularly relevant to China's plans to improve its infrastructure. This project aimed at building a greater understanding among American policymakers and practitioners of the demand in China for more and better water supply and wastewater treatment, district heating, solid waste collection and disposal, energy supply, and education and social facilities. The National Committee and the Wilson Center took five U.S. municipal finance experts to China in December 2002 to hold a series of workshops focusing on how U.S. municipalities use bonds to fund environmental and other infrastructure needs. The team held seminars in three Chinese cities (Beijing, Shanghai, and Hangzhou), meeting with a wide range of central and municipal-level officials, with the goal of helping to build the capacity of local government agencies and policymakers to plan for infrastructure development. The American participants gained insights into China's municipal infrastructure system and the current state of fiscal decentralization in China. [Editor's Note: See Municipal Financing for Environmental Infrastructure Special Report in this issue of the China Environment Series for more details on this project]

Economic Development and Environmental Management
Focus: Environmental Management
Partners: Hazardous waste NGOs and government institutions in cities in Mainland China, Hong Kong, and Taiwan
Funding: U.S. Department of State Bureau of Education and Cultural Affairs
Schedule: Initiated Spring 2002, Completed May 2002

This was a two-week study tour for a delegation from greater China. The eight-member delegation (from mainland China, Hong Kong, and Taiwan) included hazardous waste specialists and an environmental journalist, all of whom work within private and governmental institutions responsible for hazardous waste regulation and management. They visited the Washington, D.C. area, southern Louisiana, Houston, and San Francisco. Their program included a series of workshops and discussions on regulatory frameworks and best practices, such as: (1) America's Superfund legislation, (2) the financing of hazardous waste treatment, (3) the transnational transfer of hazardous waste; (4) corporate environmental standards and practices of U.S. companies, (5) Chinese enterprises and Sino-American joint ventures, (6) brownfields, and (7) concerns about public health and environmental justice. [Editor's Note: See the 26 June 2002 meeting summary in this issue of China Environment Series for presentations by NCUSCR's hazardous waste delegation members]

WTO Accession and Agriculture
Focus: Agriculture Policy
Partners: U.S. Trade Representative, U.S. Department of Agriculture, economic research institutions and corporations, Chinese Ministry of Foreign Trade and Economic Cooperation (MOFTEC), Chinese Ministry of Agriculture
Funding: U.S. Department of State Bureau of Education and Cultural Affairs
Schedule: Initiated 2002, Completed December 2002

The focus of this project was a series of workshops in China to consider the effects of WTO accession on the agriculture sector. Chinese participants included farmers, local officials, economists, and the news media. American discussants were specialists in international trade, agribusiness representatives, commodity traders, and policy analysts. They examined the likely practical consequence of WTO accession for grain and cotton markets, as well as for meat, fruit, vegetables, and further value-added food products. By drawing a practical, real-world picture of the potential positive and negative repercussions of WTO accession, farmers, business people, and policymakers, would be better prepared to make the necessary adjustments and would be less apprehensive about the impact of China's WTO entry. In addition to Beijing, where the delegates met with national policy leaders, the itinerary included workshops, briefings and meetings in Beijing, Harbin, Nanjing, Yangzhou, and Shanghai.

NATURAL RESOURCES DEFENSE COUNCIL: CHINA CLEAN ENERGY PROJECT

http://www.nrdc.org

ACCORD21 Building Demonstration Project
Focus: Energy Efficiency
Partners: DOE, MOST, Lawrence Berkeley National Laboratory (LBNL)
Funding: W. Alton Jones Foundation, MacArthur Foundation
Schedule: Initiated 1999, Ongoing

Natural Resources Defense Council (NRDC) is coordinating an energy efficient new building demonstration project in Beijing that will track and measure the energy savings and greenhouse gas reductions resulting from integrated design strategies. The 130,000 square foot office building is planned for downtown Beijing and will house the offices for the Administrative Center for China's Agenda 21 and other government departments promoting China's sustainable development. The building also will contain an energy-efficient demonstration and learning center. The center will exhibit the currently best technologies and design strategies, as well as promising future alternatives. NRDC is working with DOE and MOST to develop appropriate baselines for the project that could have an important impact on future evaluation of greenhouse gas reductions from Chinese buildings. LBNL and the National Renewable Energy Laboratory have completed an in-depth energy saving analysis for the project. NRDC formed ACCORD21, a voluntary association of leading energy-efficient equipment, material and design providers that is charged with coordinating the final design and implementation of the energy-efficient features of the building, which are expected to reduce energy consumption by over 30 percent. Groundbreaking began February 2002 and occupancy is expected in October 2003.

Building Energy Efficiency
Focus: Energy Efficiency
Partners: Research Institute for Standards and Norms, Ministry of Construction, Chinese Academy of Building Research, LBNL, Shanghai Energy Conservation Supervision Center, Shanghai Pacific Energy Center, Chongqing Construction Commission, Chongqing Architecture College
Funding: DOE, China Sustainable Energy Program of the Energy and Packard Foundations

Activities of the Australian Centre for International Agricultural Research in China

By Chris Brittenden

None of us ever forget the first time that we stepped onto Chinese soil. In 1992, my first train ride from Hong Kong to Shenzhen and Guangzhou and then onto Beijing revealed a China in total development catch-up mode. From the train I could see, even in rural areas, the striking explosion of new buildings and factories and shocking scenes of pollution-smoggy skies and rivers clogged with masses of polystyrene. The Chinese have a saying "a man with no food has one problem, a man with food has many problems" and after years of successful economic reforms, the China I saw in 1992 was moving from one to many problems. One of the many problems includes growing land, air and water degradation, which can be mitigated with outside assistance.

While one international organization cannot address all of China's environmental and development woes, the Australian Centre for International Agricultural Research China (ACIAR), as a part of Australia's Aid and Development Program, uses Australia's agricultural research capacity to find solutions to common rural problems. In working with partner countries, ACIAR seeks to help: (1) alleviate poverty, (2) establish food security, and (3) promote environmentally responsible development.

ACIAR began China activities in 1982 with forestry projects in the south—in Guangdong, Yunnan, Guizhou, and Guangxi provinces. These projects have focused on improving species, especially eucalypts, and have benefited the Chinese economy and promoted protection of fragile forest environments.

The centre currently has a number of other projects that directly address problems of deep environmental concern. One of the most promising is the Treatment of Wool Scouring Effluents in China and India Project (AS1-1996-069), which is led on the Australian side by Dr. Jock Christoe of the Commonwealth Scientific & Industrial Research Organization (www.csiro.au) and on the Chinese side by the Ministry of Water Resources. While it sounds like an obscure issue, putrid wastewater from wool scouring effluents is one of the "many problems" that the Chinese central and provincial governments are eager to solve. Technology developed and used in Australia to process wool scouring effluents is shortly to be introduced in China and India. If preliminary studies can be taken forward, it may be possible to remove nearly all contaminants, recycle water used in the scouring process, and cut water intakes and out flows dramatically. Recovered waste has, during preliminary work, been identified as marketable, useful agricultural products and is capable of producing genuine financial profit. This project is significant as it directly engages industry and has the potential to deliver real environmental benefits while supporting employment and economic growth.

Another ACIAR project making a significant contribution to a pressing environmental issue is Improving the Productivity and Sustainability of Rainfed Farming Systems for the Western Loess Plateau of Gansu Province (LWR2-1999-094). This project is undertaking research on tillage and cropping systems to reduce erosion, improve soil fertility, and increase economic return for wheat-based crops. Working in Dingxi, declared to be the poorest county in China, and Xifeng (an area south of Lanzhou), the project seeks to develop conservation tillage systems based on crop residue retention and to integrate legumes into wheat rotations. Work will be undertaken to promote the improved cropping methods amongst local farmers.

Other ACIAR projects have environmental components, addressing questions of water usage, nutrient leeching, and the reduction of fertilizer usage. For example, since 1998 ACIAR has had an irrigation project in Tianjin that is yielding good results in developing the reuse of wastewater.

As China deals with its "many problems" one should not ever lose sight of one of the basic fundamentals in the Chinese psyche—China is set on becoming a leader in the world, and its government understands that to excel economically it must also take care of its environment.

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Schedule: Initiated 1999, Ongoing

NRDC and LBNL assisted China in the development of a residential building energy code for one of China's three major climate zones, the Transition Zone, which covers the entire Yangtze River Basin. If implemented successfully, the national code is expected to reduce greenhouse gas emissions by approximately 1.6 million tons per year in an area that is home to 500 million people. NRDC is now launching a major joint effort to assist Shanghai and other cities in the region to ensure that the code is properly implemented and working with LBNL and the Ministry of Construction to help develop (1) a residential energy code for China's southern climate zone, and (2) a commercial building energy code.

Coal-Based Syngas Polygeneration Strategy for China's New Power Plants
Focus: Climate Change, Energy Efficiency
Partners: Princeton University and relevant central government departments of China
Funding: The Blue Moon Fund
Status/Schedule: Initiated 2003, Ongoing

The International Energy Agency estimates that China will build approximately 47 percent of the world's new coal power capacity over the next 30 years. The country's carbon dioxide emissions are expected to double under a business-as-usual scenario. A promising clean coal technology, Oxygen-Blown Coal Gasification-Based Polygeneration with CO2 Capture (hereafter polygeneration), has the potential to help China considerably slow down carbon emission growth while allowing it to continue to pursue economic development. The project will identify technical, economic, structural and regulatory barriers to more widespread acceptance of polygeneration in China and propose strategic steps for the development of a polygeneration industry. Key Chinese policymakers and power/chemical industry representatives will be identified through this project, laying a basis for further broadening and strengthening advocacy aimed at launching demonstration projects and commercializing coal polygeneration in China. NRDC will work to influence the current power sector restructuring process. NRDC will also promote Sino-U.S. collaboration in the development and demonstration of this technology.

Controlling Power Plant Emissions
Focus: Emissions Control
Partners: China Research Academy for Environmental Sciences, Regulatory Assistance Project, Massachusetts Department of Environmental Protection
Funding: The China Sustainable Energy Program of the Energy and Packard Foundations; W. Alton Jones Foundation
Schedule: Initiated January 2001, Ongoing

NRDC is working with its partners to assist China in controlling power plant emissions through the use of output-based Generation Performance Standards (GPS), which limit emissions per kilowatt-hour of electricity produced. This approach levels the playing field for more efficient, less polluting facilities, especially in a competitive power market. The first phase of the project, which involved a comprehensive analysis of the potential applicability of the GPS approach to China, has now been completed. In the second phase, SEPA has launched three pilot projects-in Zhejiang, Shandong and Shanxi provinces-to test the use of an output-based GPS approach to allocate the national cap on SO2 emissions to municipalities and enterprises in these three provinces. Once the allocation is complete, these provinces will evaluate the possibility of adopting an output-based GPS standard for SO2 emissions from power plants, which could eventually become a model for a revised national standard.

Fuel Cell Vehicle Development and Commercialization
Focus: Emission Control, Sustainable Transportation
Partners: Shanghai Municipal Economic Commission, Tongji University, MOST, South-North Institute for Sustainable Development, Taiwan Institute for Economic Research
Funding: W. Alton Jones Foundation, China Sustainable Energy Program of the Energy and Packard Foundations
Schedule: Initiated 2001, Completed 2002

This project supported the development and commercialization of fuel cell vehicles in China, a key R&D objective of China's Tenth Five-Year Plan. NRDC and its partners successfully organized two conferences on fuel cell vehicle (FCV) development and commercialization in China in the second half of 2002. Over 50 central government policymakers attended a one-day workshop in Beijing on FCV commercialization strategies. More than 300 experts and policymakers from around the world attended the Shanghai International Fuel Cell Vehicle Forum, which aimed to catalyze collaborations between Chinese and foreign companies and institutions. Several follow-up actions are emerging including: (1) DuPont formally entering Shanghai; (2) a partnership between a Canadian company and Shanghai bicycle manufacturers for fuel cell scooter development; and (3) the Shanghai Economic Commission undertaking a study of commercializing fuel cell scooters in Shanghai. NRDC also supported the development of a short public education TV program on FCV broadcast by China Central Television.

Policy Options for Demand-Side Management in China: Analysis and Recommendations
Focus: Energy Management
Partners: State Power Company Energy Research Institute, Beijing Energy Efficiency Center
Funding: The China Sustainable Energy Program of the Energy and Packard Foundations
Schedule: Initiated January 2001, Ongoing

Compared with international practices in energy efficiency and advanced technology deployment in the utility sector, China has much lower electrical end-use energy efficiency levels and relies extensively on outdated technology. Overall, energy efficiency in China's power sector is three-quarters that of advanced international standards. Increasing China's electric energy efficiency would be a cost-effective way to both utilize limited energy resources and minimize the environmental impacts resulting from the use of fossil fuels. At present, the utility sector in China is responsible for one-third of China's total coal consumption, over 30 percent of its sulfur dioxide emissions, more than 25 percent of its carbon dioxide emissions, and about one-fifth of nitrogen oxides emissions. The main purpose of this project is to identify and assess the policies and strategies available to China for improving its electrical end-use efficiency. NRDC is completing a detailed assessment of the barriers to utility demand-side management in China, and recommendations that are targeted to address each of these barriers. Policy options include price and revenue reforms, financial incentives, legal reform, and regulatory mandates.

Transforming China's Fertilizer Industry
Focus: Energy Management
Partners: Chongqing Municipal Economic Commission, Energy and Environment Technology Center
Funding: W. Alton Jones Foundation, Shell Environment Initiative
Schedule: Initiated 1998, Ongoing

Fertilizer production is one of the most energy intensive and environmentally polluting industries in China, accounting for 20 percent of all industrial electricity consumption. China's fertilizer plants use 40 percent more energy per ton of production than plants using modern European and U.S. technology. China is the world's second largest fertilizer producer. Fertilizer production in Chongqing consumes over one million tons of coal equivalent per year, resulting in the emission of nearly 2 million tons of carbon dioxide and thousands of tons of sulfur oxides, nitrogen oxides, and particulates. Chongqing represents about five percent of China's national fertilizer production. NRDC and the Chongqing municipal government have completed a comprehensive feasibility study for demonstrating advanced natural gas-based fertilizer production technology and moving the product mix towards modern fertilizers that are more stable and have higher nutritional value. The feasibility study, which was completed in September 2001, also analyzed the possible linkage of closing and/or converting coal-fired fertilizer plants to compound fertilizer-mixing facilities to accommodate the output from the expanded natural gas fertilizer production in Chongqing. NRDC is now working with Chongqing to implement the findings of the report.

Oxfam America - East Asia Regional Program

http://www.oxfammekong.org
http://www.oxfamamerica.org

China Programs-Upper Mekong
Focus: Watershed Management, Participatory Development
Partners: Green Watershed, Lashi Township Government, Lijiang County Government, Culture and Gender Research Center, Lijiang
Schedule: Initiated 2000, Ongoing

Oxfam America's East Asia regional program (EARO) is focused on the Mekong Region with an overarching emphasis in securing residents' right to water, their access to sustainable livelihoods, and participatory decision-making processes around development projects. Specifically, the program works to: (1) promote sustainable and gender-sensitive models of poverty reduction and livelihood strategies and community-based natural resource management; (2) ensure through monitoring, networking, and research-based advocacy that development projects do not undermine the rights of sustainable livelihoods of communities; (3) strengthen civil society organizations and integrate them into government dialogue to ensure that key decision-makers adopt an integrated and inclusive approach to national poverty reduction strategies; and (4) persuade regional governments, donor agencies, and developers to promote transparency and accountability in all decision-making related to Mekong development projects.

• In 2000, EARO initiated a watershed management project in Lashihai, Lijiang county, Yunnan. The project was set-up to address: (1) the threatened food and livelihood security of the poorest upland communities, (2) the inequitable access to water resources by local communities, (3) the lack of villagers' participation in decision-making and implementation, and (4) lack of capacity for integrated poverty alleviation and resource management. Since the project's inception, the food security needs of the upland Yi and lowland Naxi have been met through the implementation of a micro-credit project and the creating and training the members of a participatory Watershed Management Committee (WMC). The second phase of the project (2002-2004) focuses on addressing fishery resource management within the Lashi wetland and a micro-

watershed management initiative in Xihu village.

- In 2002, EARO supported the development of a new environmental organization in China called Green Watershed. Green Watershed seeks to develop and promote integrated watershed management concepts and practices among government officials and communities in order for sustainable practices to be realized in western China.
- In 2002, EARO supported Green Watershed to contribute to the Oxfam My Mekong regional project, which aims to encourage local communities to articulate their alternative vision of the Mekong through the use of popular and creative media. By facilitating community research, writing and storytelling in selected villages in Lijiang county, Green Watershed has made significant headway in documenting the eco-history and heritage of the Lashi watershed. The goal was to convey the importance of the watershed resource in the lives of the communities in the upstream and downstream areas and to highlight the interconnection between people and their environment. An eco-history book call Our Watershed was created and 14 of the best stories were gathered and translated into Dongba pictographic text, the religious writing system of the Naxi, the main ethnic group. In November 2002, several participants of the project traveled to Cambodia to attend an Oxfam partners' meeting and display their work.

PESTICIDE ACTION NETWORK NORTH AMERICA

http://www.panna.org

Promoting Ecological Agriculture in China
Focus: Pest Management, Organic and Sustainable Agriculture
Partners: Center for Community Development Studies, Pesticide Eco-Alternatives Center
Funding: Rockefeller Brothers Fund
Schedule: Initiated 2000, Completed 2003

Pesticide Action Network North America (PANNA) is one of five independent regional centers of Pesticide Action Network, an international coalition of organizations and individuals working to eliminate the use of hazardous pesticides and promote ecologically sound and socially just alternatives. PANNA's main work in China involves collaborating with the Kunming-based NGO Center for Community Development Studies (CDS) to promote compliance with the World Bank's pest management policy. PANNA and CDS have conducted participatory monitoring and evaluation of the World Bank-financed Anning Valley Agricultural Development Project in Sichuan province and discovered extremely high levels of pesticide use. The World Bank and its Chinese counterpart offices have agreed to address the concerns of PANNA and local farmers by developing a plan for training in ecological integrated pest management as required by World Bank policy. The joint monitoring project is designed to serve as a model for promoting local empowerment and sustainable farming practices throughout the World Bank's agricultural development projects in China. Documentation of work in China also contributes to PANNA's growing collection of case studies that provide the basis for recommendations for reform of World Bank agricultural lending practices throughout the developing world. In addition, PANNA has provided strategic and technical support to Chinese organizations engaged in promoting ecological agriculture, such as the Yunnan Entomological Society (YES), and has fostered links between Chinese groups and similar organizations in other parts of the world. PANNA has supported YES in establishing a new organization called Pesticide Eco-Alternatives Center that conducts policy advocacy, farmer training, and consumer education about choosing pesticide-free food. [Editor's Note: See 13 March 2003 meeting summary in this issue of China Environment Series for more information on PANNA's work in China]

RENEWABLES FOR DEVELOPMENT

http://www.inshp.org

Ongoing Projects (see CES5): Large Scale Rural Electrification through Renewable Energy

THE NATURE CONSERVANCY (TNC) CHINA PROGRAM

http://www.tnc.org/china

Yunnan Great Rivers Project
Focus: Biodiversity Protection, Nature Reserve Management
Partners: Over forty partners including: SEPA; SPRC; Yunnan Provincial Government (Provincial Planning Commission, Environmental Protection Bureau, Department of Forestry, and other provincial bureaus, departments, and related county and prefecture offices); Institute of Forest Planning and Design; South-North Institute for

Sustainable Development; Southwest Forestry College; Chinese Academy of Science; Kunming Institute of Botany; Kunming Institute of Zoology; Missouri Botanical Garden; International Snow Leopard Trust
Funding: Starr Foundation, Sall Family Foundation, Goldman Foundation, Packard Foundation, Yunnan Provincial Government, UN Foundation, W. Alton Jones Foundation, Ford Foundation, International Community Foundation, General Motors Corporation, private donors
Schedule: Initiated 1998, Ongoing

The Yunnan Great Rivers Project (YGRP) is a joint conservation and sustainable development project between the Yunnan provincial government and The Nature Conservancy (TNC). The Conservation and Development Action Plan for Northwest Yunnan was completed in April 2001 and has been incorporated into Yunnan's Tenth Five-Year Plan. TNC is collaborating with government and academic partners, as well as county governments and local village leaders to create conservation site plans to: (1) protect the area's unique biodiversity, (2) reduce or eliminate threats to the area's biodiversity, and (3) promote sustainable development. YGRP is now working at five sites in northwestern Yunnan covering a total of 66,000 km2. Implementation of alternative energy systems, including biogas units and fuel-efficient stoves, are underway at all action sites in an effort to reduce the threat of fuel wood collection to forest ecosystems. A $2.1 million project to encourage a rural alternative energy industry in northwestern Yunnan began implementation in 2003. Ecotourism has been developed at one site-an ecolodge powered by alternative energy and run by a cooperative of local villagers. Conservation area plans, integrating resource and tourism management, are being developed at all sites. Qinghua University and the U.S. Park Service are primary partners in developing plans to minimize the effects of unplanned and unmanaged tourism development on biodiversity. An innovative project called Photovoice, which gives villagers cameras and records villagers' impressions of their photographs, has occurred in 30 villages and collected more than 20,000 images. Photovoice allows villagers to represent their own culture, concerns, and natural resource use, informing TNC and government policy. TNC's China Program, of which YGRP is a part, now has an office in Beijing and is collaborating with SEPA to write a comprehensive conservation blueprint for China.

Wild Camel Protection Foundation

http://www.wildcamels.com

Critically Endangered Wild Bactrian Camel Protection
Focus: Biodiversity Protection
Partners: SEPA, Lop Nur Wild Camel Nature Reserve, Xinjiang Environmental Protection Bureau, Environmental Initiatives Centre (Mongolia)
Funding: GEF, Chinese Government, Kadoorie Foundation, Robert Schad Foundation, Kleinwort Benson, Shell-China, Wild Camel Protection Foundation, private donors worldwide
Schedule: Initiated 1995, Ongoing

Wild Camel Protection Foundation initiated and successfully assisted in the establishment of a 75,000-km2 nature reserve in Xinjiang province, the home of the critically endangered wild bactrian camel. Appointed as sole international consultant to the new nature reserve, Wild Camel Protection Foundation: (1) advises reserve management on biodiversity conservation, (2) develops and participates in the implementation of scientific studies of the protected area, and (3) leads a multilingual environmental public awareness educational program for schools and communities in Xinjiang. In Mongolia, the foundation works closely with the Ministry of Nature and the Environment on a captive wild bactrian camel breeding program and wild bactrian camel conservation in Mongolia. As the wild bactrian camel is a migrating species the foundation staff also monitors wild bactrian camel cross-boundary problems between China and Mongolia and hosted a Wild Camel Conference in China, at which the two governments signed a joint Letter of Intent to cooperate on the protection of the wild bactrian camels, especially when they cross the international boundary.

Wildlife Conservation Society

http://www.wcs.org
http://www.wildlifewarden.net/wcs.htm

Asian Conservation Communication Program (ACCP)
Focus: Biodiversity Conservation, Environmental Education
Partners: Government Agencies, Institutes, and NGOs in Beijing, Shanghai, Guangxi, Anhui, Jilin, Heilongjiang, and Sichuan

Funding: Wildlife Conservation Society (WCS), National Fish and Wildlife Foundation (NFWF) / Save the Tiger Fund

Schedule: Initiated 1996, Ongoing

In 2002, WCS-ACCP continued to reach out to the traditional Chinese medicine (TCM) community, local residents in tiger nature reserves, school children, and the general public to reduce the demand for tiger body parts and to increase awareness of tiger conservation. WSC initiated a series of activities in the newly established Jilin Hunchun Nature Reserve, including a mobile tiger exhibit, a green summer camp, an interview survey of local residents, and a speech and composition contest among students in Hunchun. In addition, WSC held four more TCM workshops in Hefei, Guilin, Chengdu, and Changchun, which more than 50 top TCM practitioners attended. In addition, debates and other campus-based activities were also organized in Hefei, Guilin, Shanghai, Changchun, and Harbin. In Changchun, Jilin province, a series of debate contests with the topic of " Protect Wild Animal, Have One Blue Sky " were organized among seven university campuses. To reach a wider range of university students, a monthly flyer on tiger conservation was prepared and distributed to universities in Shanghai and some other cities. By 2002, 45 institutions become "model schools for wildlife conservation" in Shanghai, more than double the original 20 schools that boasted the title in 2000. These model schools have launched many successful activities on wildlife conservation and gathered together periodically to share experiences. Students also produced Web sites for their schools.

China Endangered Ungulates Conservation Project

Focus: Conservation Research

Partners: Gansu Endangered Wildlife Breeding Center; Zhejiang Normal University; Yancheng Nature Reserve; Shanghai Zoological Garden; East China Normal University; Chungbuk University, Korea

Funding: Wildlife Conservation Society (WCS)

Schedule: Initiated 1996, Ongoing

In 2002, WSC conducted a genetic variation study between Chinese and Korean subspecies of the Chinese water deer. The study found that the genetic variation between these two species is not significant. Further analysis is being conducted to confirm the results. In addition, WSC initiated a study on the population of the Chinese water deer in Poyang Lake Nature Reserve. A diet analysis of the black muntjac was conducted in Gutian Mountain Nature Reserve and Jiulong Mountain Nature Reserve in Zhejiang province in winter, spring, and autumn of 2001 and 2002. Two students also conducted behavioral observation on Black muntjac and Chinese muntjac in Shanghai Zoological Garden between March and April 2002.

Conservation and Reintroduction of Chinese Alligators

Focus: Conservation Management

Partners: State Forestry Administration, Shanghai Agriculture & Forestry Bureau, Anhui Forestry Bureau, Chongming East End Nature Reserve, East China Normal University

Funding: Wildlife Conservation Society (WCS)

Schedule: Initiated 1997, Ongoing

In August 2001, an international workshop organized by China's State Forestry Administration (SFA), WCS, and IUCN was held in Hefei province. Experts in attendance made a recovery plan for the wild Chinese alligator and SFA plans to conduct reintroduction projects in other places that have suitable habitat. In May 2002, WCS scientists made an evaluation of the wetland of Chongming East End Nature Reserve in Shanghai for the trial release project and recommended it as an ideal site for releasing. Currently, WCS China Program is working with Shanghai Agriculture & Forestry Administration, East China Normal University, and Shanghai Zoo to initiate the trial releasing project of the Chinese alligator in the Chongming East End Nature Reserve.

Southeast Tibet Conservation

Focus: Biodiversity Conservation

Partners: Tibet Forestry Bureau, Nyingchi Forestry Bureau, Medog Forestry Bureau, and Zayu Forestry Bureau

Funding: Wildlife Conservation Society, John D. and Catherine T. MacArthur Foundation

Schedule: Initiated 1998, Ongoing

In 2002, field studies in southeastern Tibet were undertaken by two graduate students, focusing on zayu tiger conservation as well as a study of conflict between wildlife and local residents in Medog. A survey report on this work will be published in 2003. A conservation training workshop was co-organized with Nyingchi Prefecture Forestry Bureau (NPFB) and held in Bayi, Nyingchi Prefecture from 11-16 August 2002 with 46 nature reserve managers participating in the workshop.

Most of the participants thought the new material in lectures and training activities would be helpful to their future work on conservation and reserve management.

Transboundary Amur Tiger and Far Eastern Leopard Project
Focus: Biodiversity Conservation
Partners: Jilin and Heilongjiang Forestry Bureaus, Heilongjiang Wildlife Institute, State Forestry Administration
Funding: Wildlife Conservation Society (WCS), U.S. Fish and Wildlife Service, TIGRIS
Schedule: Initiated 1999, Ongoing

WCS assisted Jilin province in establishing the Hunchun Nature Reserve in December 2001. Since its establishment, a total of 56 reserve staff obtained two training courses from WCS in 2002, focusing on the issues of tiger monitoring, anti-poaching, and reserve management. With financial and technical support from WCS, the reserve undertook regular anti-poaching activities, a total of about 3,200 wire snares and 110 traps were removed in the field, and five rifles with over 200 bullets were confiscated. Seven illegal hunters were arrested and prosecuted. In November 2002, with the support from the U.S. Fish and Wildlife Service, another anti-poaching operation was carried out and removed a total of 1,900 snares. At the end of 2002, WCS China Program established a project office in the Hunchun Nature Reserve; the office coordinates the local projects on the tiger and leopard conservation. A workshop on "Wild Amur Tiger Population Recovery Progress in China" was held in Hunchun Nature Reserve on 2-3 December 2002. Thirty-three delegates from the State Forestry Administration, Jilin and Heilongjiang provincial forestry departments, and WCS China and Russian Far Eastern programs attended this workshop. The delegates reviewed progress of conservation activities for the Amur tiger and far eastern leopard in the trans-boundary regions since the 2000 Harbin workshop and developed a strategy for conservation in both Jilin and Heilongjiang provinces.

World Resources Institute (WRI)
http://www.wri.org

China BELL (Business Environment Learning Leadership)
http://bell.wri.org http://www.chinaeol.net/bell
Focus: Environmental Education
Partners: SEPA Center for Environmental Education and Communications; National MBA Education Supervisory Committee; Tsinghua, Peking, Renmin, & Fudan Universities; Dalian University of Technology; China Europe International Business School
Funding: GE Fund, Alcoa Foundation, Netherlands Ministry of Foreign Affairs, Boeing
Schedule: Initiated 2000, Ongoing

Today, there are 63 nationally accredited institutions that grant graduate business management degrees in China, a number that is steadily increasing. The number of top students enrolling in these schools is also growing, making them a critical point of intervention in the development of China's future business leaders. The infusion of environmental and sustainable management into the curricula of these business schools is the goal of this World Resources Institute (WRI) BELL project. The China BELL project: (1) trains and promotes networking among business school faculty; (2) publishes curricula; (3) supports course development; and (4) helps business schools understand changes in industry practice and skill needs that are relevant to curriculum development and research.

EMBARQ - The WRI Center for Transport and the Environment
http://www.embarq.org
Focus: Sustainable Transportation
Partners: To be determined
Funding: Shell Foundation
Schedule: Initiated 2002, Ongoing

EMBARQ acts as a catalyst for socially, financially, and environmentally sound solutions to the problems of urban transport. The focus of its first five years of operation will be cities in developing countries where air pollution, traffic congestion, and lack of access to clean and convenient transport are most acute and the poor bear the brunt of these problems. EMBARQ's first partnership is with Mexico City, one of the world's biggest cities that experiences serious transport problems. Currently, WRI is discussing with Shanghai authorities the establishment of an EMBARQ partnership to help the city meet its development and transport objectives, in which EMBARQ will:

- Forge partnerships with political leaders, the business community, and civil society groups that have a mutual and demonstrated commitment to bring change;
- Support cities with technical and policy expertise, and help finance analysis, experimentation, implementation, and evaluation;
- Establish itself concurrently as a reliable source of independent analysis and technical assistance, and as a partner that facilitates concrete agreements between private and public sector actors; and,
- Disseminate the lessons learned to other cities.

WWF China - Climate & Energy Program

http://www.wwfchina.org

Commercialization of Biogas Technologies

Focus: Energy Research

Partners: South-North Institute for Sustainable Development

Funding: $60,412 ($57,367 of budget used as loan guarantee for energy services company)

Schedule: Initiated February 2003, Targeted Completion February 2004

Biogas technology has brought a great benefit to the improvement of rural energy supply, the environment, ecology, sanitation, and sustainable agriculture. China's experience in using biogas technology to treat wastes, produce alternative fuel and fertilizer, and promote the rural economy while protecting the ecosystem has attracted much attention and interest in developing countries. However, considerable barriers are preventing the full commercialization of biogas development in China. This program will explore the innovative ways to spread and commercialize biogas technology. WWF has come to an agreement with a local bank, which will provide special loans to local energy service company (LESC), according to the demand of investment for local households to build 3-in-1 biogas systems (which integrate biogas digester, pigsty, and toilet into one unit). The special loan must be used by LESC for meeting the need of building 3-in-1 biogas systems for local households and providing funds for special micro-credit financing for households. WWF provides guarantee for the loan and the LESC provides the backup of bad debts to WWF in order to compensate for the bad debts from the households. The main outcome of the project will be the establishment and successful operation of a new financial mechanism, with which to promote the commercialization of biogas technology in Changde city, Hunan province. It will have wider implications for duplication in other regions in China. In addition, one or two energy service companies independent of the government will be established and operate in a commercial way. Generally, energy service companies belong to the government rural energy station, and the same people work for those two organizations. So the company relies on government project and lack market incentives and capability of developing new market and to provide high quality service to rural people. WWF's project attempts to demonstrate that there is a bigger potential market other than government project for rural energy services, and companies can make a profit if government provides good policy environment

Promotion of Energy Efficient Buildings in Yunnan Province

Focus: Energy Efficiency, Energy Conservation

Partners: International Network for Bamboo and Rattan (INBAR), Urban & Rural Planning & Design Institute of Yunnan Bear Architecen Group (Holland)

Funding: $60,000 (WWF: $32,200; INBAR: $27,800)

Schedule: Initiated March 2002, Targeted Completion June 2003

Southern China has an abundance of bamboo resources that are both cheap and a good substitute for wood and forest products. The use of bamboo as a building material has a promising future. WWF is working with the International Network for Bamboo and Rattan (INBAR) to develop a demonstration project of sustainable buildings. This program's recent activities have focused on the design of energy efficient housing. Two Chinese architects were sent to the Netherlands for a one-month training where they worked with Architects of the Netherlands to design an energy-efficient school, tourist hotel, and three houses for rural people. Two workshops, held in May and September 2002 to promote these new energy-efficient building designs, attracted considerable attention from relative government officials as well as developers. The Japanese Embassy in China will provide building expenses for one of the designed primary schools in Yunnan province. A local developer in Yunnan also agreed to give a donation to the school building and was interested to work further with us on sustainable building promotion.

Promotion of Green Electricity in China
Focus: Capacity Building, Environmental Education
Partners: South-North Institute for Sustainable Development
Funding: $34,338
Schedule: Initiated March 2002, Completed June 2003

Renewable energy resources such as wind power, solar power, biomass, and geothermal energy to generate electricity are now widely available due to the development of new energy technology. Unlike traditional electricity generation, electricity generated from renewable energy sources has little or no CO2 emissions. Such 'green electricity' could make a great contribution to mitigating climate change. WWF China, together with the Energy Foundation, supported the South-North Institute for Sustainable Development, Huabei (North China) Power Company, and the Beijing Economy Commission developing a voluntary-based green electricity program in Beijing. This program expects to provide customers in Beijing an opportunity to choose alternative green power products from their current power supplier by 2004. An independent verification process will be established to ensure that the green electricity customers choose is really from renewable sources. WWF is focusing on communication, capacity building, and a media campaign to promote public support for the program. Experiences from Europe and the United States on green electricity market development are being introduced through the involvement of experts and major news agencies, such as CCTV.

Qinghua/WWF Graduate Program on the Human Dimension of Climate Change
Focus: Environmental Education, Climate Change
Partners: Tsinghua University
Funding: $865,900
Schedule: Initiated October 2000, Targeted Completion 2003 (currently seeking funding for additional 3-years)

China's deficiency in the area of advanced human dimensions of climate change education and research largely constrains the advancement of country's capacity in addressing political and technical climate change negotiations, emission technology assessment, and elaboration of greenhouse gas control policy instruments. This project aims to teach the next generation of scientists, leaders, policymakers, and experts to work on multidisciplinary areas of climate change, diplomacy, research, and policymaking. Currently there are nine students recruited in this program to pursue their master or doctoral degree. The students and researchers with the program have so far published ten papers in journals, workshops, and conferences. A series of training seminars and workshops were organized within the program and have greatly improved China's international academic exchange in this area.

WWF China - Forest Program

http://www.wwfchina.org

Ongoing Projects (See CES5): Forest Certification in China, Systematic Conservation Planning of the Forests in the Upper Yangtze

Minshan Initiative
Focus: Biodiversity Conservation
Partners: Sichuan and Gansu Forestry Departments; Sichuan Academy of Social Sciences; Sichuan Academy of **Forestry;** Chinese Academy of Forestry; State Forestry Administration; Chinese Academy of Sciences; Wenxian County in Gansu Province; Pingwu, Qingchuan, Beichuan, Songpan. Maoxian, Jiuzaiguo counties in Sichuan Province
Funding: $100,000 (The Luce Foundation), $20,000 (SIDA), $4,900 (WWF International)
Schedule: Initiated 2002, Targeted Completion 2005

WWF is conducting a socioeconomic, biodiversity, and policy assessment of the Minshan Mountain landscape to determine priority areas for biodiversity conservation intervention. Among the outputs of the assessment: (1) a series of GIS-based maps will be produced of current land uses such as protected areas, farmland, and state forest enterprises, socioeconomic studies, and analysis of major development; (2) investment projects in Minshan will be completed to serve biodiversity conservation action planning; (3) monitoring and patrolling network for panda in the Minshan Mountains will be set up; and (4) standardized, forest landscape restoration guidelines will be established for demonstration and monitoring. WWF will: (1) develop evaluation indicators for monitoring and assessing reforestation efforts, (2) identify the potential for ecotourism, and (3) development of environmentally friendly alternative livelihoods. WWF will then work with provincial officials and community stakeholders to develop and reach agreement on a conservation strategy for landscape restoration to ensure sustainable economic development.

WWF and IKEA Cooperation on Forest Projects - China Project
Focus: Conservation Education, Conservation Capacity Building
Partners: Chinese Academy of Forestry; Jilin, Heilongjiang, and Inner Mongolia Forestry Departments; State Forestry Administration; Forest Education and Research Institutions of Baihe, Wangqing, Youhao Forestry Bureaus
Funding: $1,141,500 (IKEA)
Schedule: Initiated 2002, Targeted Completion 2005

Beginning in 2002, the WWF/IKEA project has begun to map and identify the potential conservation value of forests in Xing An-the Chang Bai Mountain areas of northeast China and Inner Mongolia-and assess the size of protected areas in this region. The project is also compiling information on potential High Conservation Value Forests. Ultimately, this NGO-business partnership also aims to increase number of Chinese government agencies and timber companies harvesting the forests sustainably. The project is establishing a Web site with the bilingual material geared at promoting forest certification in China. In addition, the project will be sending a quarterly newsletter to subscribers and writing reports for the Chinese news media to raise awareness of forest certification.

WWF China - Freshwater Projects

http://www.wwfchina.org

WWF-HSBC Yangtze Project
Focus: Biodiversity Conservation
Partners: State Forestry Administration (SFA), Hubei Provincial Government, Wuhan Municipal Government, Xinzhou District Government, Hubei and Wuhan Forestry Departments, Peking University, China Council for International Cooperation on Environment & Development (CCICED)
Funding: HSBC, WWF UK
Schedule: Initiated 2003, Targeted Completion 2007

In China, approximately $3 million of HSBC's donation will go towards conservation of the Central Yangtze region. The Yangtze is very important in the culture and history of China but in recent generations it has become more of an engineered channel. Intensive land reclamation has sited agricultural and urban settlements on former floodplains and lakes whilst thousands of kilometers of dykes have cut off the river's links to lakes that used to form a complex wetland network, fulfilling important natural functions such as spawning and feeding for fish. Not only are many unique species endangered such as the Yangtze dolphin and Chinese sturgeon, but also the engineering has failed to prevent Yangtze floods. WWF advocates a natural management solution for the Yangtze, finding a way to work with rather than against the river. With existing successful pilot wetland projects flourishing, WWF is using the HSBC grant to embark on an exciting new demonstration site for re-linking a lake with the Yangtze and to work at the policy level towards restoration of the balance of nature and people in the Central Yangtze region.

Yangtze Focal Project
Focus: Conservation Management
Partners: SFA; Hanshou and Yuanjian County Governments; Hunan Forestry Department; Hunan Youth Development Foundation; Peking University; Chinese Academy of Science; CCICED; Xinhua News Agency, CCTV, Mountain, River, Lake Committee of Jiangxi Province
Funding: WWF Netherlands
Schedule: Initiated July 2002, Targeted Completion June 2005

The Yangtze Focal Project is the continuum of the former Action Network (AN) Yangtze Programme (1999-2002) supported by WWF-NL. The AN Yangtze Programme created a foundation for the current project in wetland restoration to increase biodiversity, secure nature conservation assets, and prevent flooding. Focal Project has set up new conservation goals and three modules: Active Module A: Field demonstration for wetland restoration with applications for diversified flood adaptive farming, especially of organic products; Active Module B: Ecotourism in Dongting Lake Region; and Active Module C: Integrated River Basin Management (IRBM) in Poyang Lake Basin.

WWF China - Tibet Programme

http://www.wwfchina.org

Mobile Service Center
Focus: Biodiversity Conservation, Environmental Education Capacity Building
Partners: WWF, The Bridget Fund, The Tibet Forestry Bureau, Shuanghu County Government
Funding: $55,000 (WWF and The Bridget Fund)
Schedule: Initiated June 2003, Targeted Completion May 2004

As a pilot project, the Mobile Service Center will enhance and demonstrate the idea of mobile service, and develop a mobile service management system. When the system develops its capacity and becomes an effective tool for distance service, the project will add other components including environmental education, publicity of conservation regulations, conduct wildlife surveys, and many other forms of mobile services. The primary goal is to develop a mobile service mechanism and gradually replicate this model to other parts of the Changtang Nature Reserve in Tibet.

Social Service and Wildlife Protection
Focus: Biodiversity Conservation
Partners: WWF, The Tibet Forestry Bureau, Gezi County
Funding: $80,000
Schedule: Initiated July 2003, Targeted Completion June 2004

The project will establish four Supply & Patrolling Stations in Gezi and Nima counties within the Changtang Nature Reserve, which will deliver goods to remote nomads and conduct wildlife patrolling. The project aims to resolve a basic social service-provision of daily necessities for remote nomads and strengthening local capacity for wildlife protection. Improving local capacity for wildlife protection and initiating nomads' participation in wildlife protection will greatly contribute to future sustainability and self-management of the nature reserve. The project will provide station staffs with transportation, revolving funds, basic patrolling tools (binocular, GPS, and wildlife survey guidebooks), and training on project management and wildlife surveys. The project will support key townships to establish Supply & Patrolling Stations by providing revolving funds and management training. The profit of the stations will cover expenses of patrolling and eventually shift the responsibility of wildlife protection to the hands of local people.

WWF China - Freshwater & Marine Programme
http://www.wwfchina.org

Yellow Sea Ecoregion Planning Programme
Focus: Biodiversity Education, Community Capacity Building
Partners: WWF-Japan, Korean Ocean Research and Development Institute, Chinese State Forestry Administration, Shanghai Agri-Forestry Bureau, Chongming Dongtan Nature Reserve, Chongming Dongtan County Bureau of Education
Funding: $117,248 for three years (WWF-Japan), $15,293 for one year (Japan Fund for Global Environment)
Schedule: Initiated 2001, Ongoing

The Yellow Sea Ecoregion (YSE) Planning Programme includes two primary projects. Project A seeks to: (1) identify priority areas for biodiversity conservation in YSE, and (2) gain endorsement of Biodiversity Vision for YSE by key stakeholders-scientific experts, government agencies responsible for natural resource management, and international organizations in charge of international cooperation for the management of the environment of YSE. Project B is charged with creating networks of key stakeholders (local governments, communities, fishers, and schools) around priority areas of YSE for biodiversity conservation and encouraging them to recognize the importance of and pledge commitments to conservation and sustainable use of biodiversity of their areas. Both projects will: (1) conduct assessments of potential partners; (2) organize three workshops for stakeholders; and (3) select seven middle and elementary schools as pilot sites and one nature reserve as partner for projects to train 21 schoolteachers and five nature reserve staff on environmental education and develop training handbooks.

WWF China - Species Program
http://www.wwfchina.org

China Conservation Small Grants Fund
Focus: Conservation Education
Funding: $39,352 (The Novozymes)

Schedule: Initiated October 2001, Targeted Completion December 2003 (seeking funding for future terms)

With increased environmental awareness, more and more Chinese citizens are paying close attention to environmental issues such as air pollution and sand storms. While this is an encouraging phenomenon, few people in China are aware of threats to the country's rich biological diversity. There is a dearth of scientific data on endangered species, which makes it difficult for the government to develop effective conservation policies. The resources available for research are currently almost all focused on a few very high-profile species, while lesser-know species and their habitats receive hardly any attention at all. In order to address this problem, with support from a Danish company, Novozymes, WWF China Program set up the "China Conservation Small Grants Fund" that seeks to raise awareness of the full range of biodiversity that exists in China. By the end of 2002, 19 projects, ranging from conservation of birds, plants, and mammals from over 20 provinces have received support.

Panda Conservation in Minshan Landscape (Minshan Project)

Focus: Biodiversity Conservation

Partners: Pingwu Integrated Conservation and Development Project (ICDP) in Sichuan province.

Funding: $245,000 one year

Schedule: Initiated 2003, Targeted Completion 2005

With the support of WWF's Integrated Conservation and Development Project (ICDP), conservation in Pingwu (the county with the largest panda population) has been improved considerably. The experiences of ICDP should be shared on a larger scale in order to enhance the whole Minshan landscape conservation and integrate the efforts with the Global Environment Facility (GEF) and EU's natural forest protection projects. The Minshan Panda Conservation initiative will focus on the panda reserve networking through rehabilitation of crucial ecological corridors for the giant panda, cooperative research, joint monitoring and patrolling work, capacity building and information sharing.

Panda Strategic Actions

Focus: Biodiversity Conservation

Funding: $100,000 per year

Schedule: Initiated 2003, Targeted Completion 2005

Being the earliest international organization working on panda conservation, WWF has gained valuable experiences and lessons in this field, which could benefit other organizations and other conservation work. In order to deliver the right message, WWF has supported research, a national survey, regular monitoring, and studies of other crosscutting issues that could be used by decision makers. Panda Strategic Actions projects support studies on panda conservation related issues and crosscutting issues of ecotourism, monitoring and patrolling and community development to influence policy changes.

Qinling Panda Focal Project of Shaanxi Province

Focus: Biodiversity Conservation

Funding: $584,132 (Netherlands)

Schedule: Initiated 2002, Targeted Completion 2004

To meet the complex and daunting challenges of protecting the environment in a country of 1.3 billion people, WWF believes that nature conservation should be a joint effort between government, NGOs, and businesses with a commitment to a better future. The Chinese government has been the leading force for nature conservation and has played a critical role in policymaking, implementation, management and monitoring. In the past few years, green groups have also emerged to play an increasingly prominent role in raising environmental awareness, and environmental protection has become one of the top concerns of Chinese citizens. However, the involvement of Chinese businesses, the "non-conservation" sector, has a long way to go. Traditionally, businesses are often considered opponents of conservation due to the negative impact some businesses have on nature. The Qinling Panda Focal Project, on the contrary, believes that a balanced future for both conservation and development depends on enterprises and private investments. By mobilizing partners from the private sector to adopt a demonstration model, we will help to bring change to the China's business sector. Therefore, while continuing effective cooperation with traditional partners, WWF hopes to bring a win-win solution to both conservation and economic development in the panda habitat. Cooperation with traditional conservation institutions to promote the creation of 12 new panda reserves and ecological corridors for the Qinling panda population through the implementation of the Natural Forest Protection Program to ensure the long-term survival of the species in this region. Exploring cooperation with major economic and social actors in the Qinling Mountains to: (1) demonstrate sustainable economic and conservation approaches, (2) reduce the negative impact of development on natural resources, and (3) sustain biodiversity conservation in Qinling. WWF's vision is that by 2012, the Qinling giant panda population will increase by at least 10 percent and its

protected habitats increase by at least 80 percent. These goals will be met by mobilizing new business stakeholders to adopt and apply conservation and sustainable use approaches in their policies, decision-making, investments and consumption behavior.

Part III. Professional Associations and Universities

American Bar Association

http://www.abanet.org/aba-asia

Environmental Governance Training Program
Focus: Environmental Law
Partners: Center for Environmental Education and Communication of State Environmental Protection Administration, other multi-stakeholder partners
Funding: U.S. Department of State
Schedule: Initiated February 2002, Ongoing

In February 2002, the Asia Law Initiative Council of the American Bar Association (ABA) placed a liaison attorney in Beijing to implement a rule of law and environmental governance training project. The project is providing Chinese stakeholders with training and education on environmental governance issues and includes three components. Initially, the project offered information and training in three sites: Shenyang, Wuhan, and Chifeng included: (1) an overview of systems of environmental management, (2) a review of emerging strategies for environmental compliance around the world, and (3) a comparative review of roles and responsibilities of public, private, and nongovernmental stakeholders in environmental management. In 2003, the project will shift its attention to enhancing the role of citizens in governance and empowering their advocates. It will conduct additional trainings and follow-on implementation activities in several cities, continuing the local stakeholder involvement and direction of the earlier trainings and follow-on activities. The project will also begin to support selected advocates of citizens' rights, including NGOs and private attorneys, but also potential academic centers or institutions, legal aid centers, and other sources of citizens' rights advocacy. Through both training and direct support the project will encourage advocacy and best legal practices in China and relevant advocacy themes will be gathered and published in a handbook for citizens' rights advocates.

[Editor's Note: See 17 December 2003 meeting summary in this issue for more information on ABA's China work]

Center for Energy and Environmental Policy, University of Delaware

http://www.udel.edu/ceep

Economic Analysis of Building Integrated PV in China
Focus: Energy Efficiency
Partners: Green Buildings Alliance, Environmental Market Solutions, Beijing Fountainwood Real Estate Co. Ltd, Harbin Dongli Real Estate Development Company
Funding: Chinese development companies and W. Alton Jones Foundation
Schedule: Initiated 2000, Ongoing

The Center for Energy and Environmental Policy (CEEP) has been working with the Green Buildings Alliance of China organized by Environmental Market Solutions (EMS, a U.S. consulting firm) since 2000. To date, CEEP researchers have completed several studies on green building designs for China's major cities, including a 45-floor commercial building in Beijing and a headquarters building in Harbin. CEEP has investigated the technical and economic feasibility of using solar electric technology (known technically as "photovoltaic" or PV) in these buildings, including the use of PV as a building energy supply technology, an energy management technology, an energy services technology, and an architectural element. Such applications offer a combination of benefits that include an energy value (i.e., the system's ability to save energy), a capacity value (in the form of coincident peak demand reduction), a service value (through the provision of emergency power during electrical outages), and a replacement value (displacing expensive building materials). To realize positive economic value, building-integrated PV (or BIPV) needs to be designed with the aim of incorporating a variety of services and benefits such as: peak load management, emergency power and architectural value (in the form of materials savings). With the fastest growing commercial building market in the world, China's architects and designer need to consider the long-term impact of today's projects. With buildings lasting 50-80 years, the possibility of sustainable urban development

in China will hinge on environmental factors that are incorporated into the building stock to be constructed over the next 10 years. This building integrated PV project includes major real estate developers and city planners in China, and a team of experts organized by EMS and is funded by Chinese developers and grants obtained by EMS and CEEP. CEEP's analysis of the economics of BIPV was published in the proceedings of the Green Buildings Alliance Workshop held in Shanghai in July 2001. The paper is available on CEEP's website at (http://www.udel.edu/ceep/papers/BIPV_econ_china.pdf).

Off-grid Renewable Energy Options for Rural Electrification in Western China
Focus: Renewable Energy
Partners: Ministry of Agriculture, China, Chinese Academy of Science - Institute of Policy Management, Center for Renewable Energy Development of China
Funding: National Renewable Energy Laboratory (U.S.) and Chinese Ministry of Agriculture
Schedule: Initiated 1994, Completed 2003

An eight-year collaborative project between several of China's leading energy and environmental research institutes and CEEP has demonstrated the viability of a renewable energy-based strategy to address rural electricity needs in a socially and environmentally sustainable manner. Rural electrification is now and will remain an essential element for rural development in China and other developing countries. With more than half of the world's population living in rural communities, lessons for rural renewable energy applications and assessment from China can be very helpful in defining a global sustainable development strategy. This project studied energy needs in rural China, examined the resource availability of solar and wind energy in three provinces (Inner Mongolia, Qinghai and Xinjiang), and evaluated rural energy options and the economics of stand-alone off-grid renewable energy technologies for rural application in this region. The project findings through 2002 are available at: http://www.nrel.gov/china/pdfs/off_grid_options_china.pdf and in China the report can be found at: http://www.secidc.org.cn/report.htm. Based on the project's latest research results, a paper entitled "Renewable Energy for Rural Sustainability: Lessons from China" was published by the Bulletin of Science, Technology & Society in April 2002. The paper, which summarizes detailed findings for 75 counties in the three-province region, is available at http://www.udel.edu/ceep/papers/reenergychina.pdf. CEEP's research shows that wind, photovoltaic (PV) and a PV-wind hybrid systems (designed by CEEP) are economically superior to conventional off-grid rural electricity options which include diesel and gasoline-fueled small generators. The great majority of 531 households interviewed during the course of the project favor renewable energy systems over conventional technologies because they are easier to maintain and operate. The environmental benefits of the renewable energy systems highlighted in CEEP's work could be substantial if China chooses to make them a focus of a Clean Development Mechanism project under the Kyoto Protocol.

Center for International Earth Science Information Network (CIESIN), Columbia University

http://sedac.ciesin.columbia.edu/china
http://www.ciesin.columbia.edu

China Dimensions Data Collection
Focus: Environmental Research
Partners: Global Change Information and Research Center (GCIRC), China in Time and Space Project, University of Michigan China Data Center
Funding: U.S. National Aeronautics and Space Administration
Schedule: Ongoing

The Socioeconomic Data and Applications Center (SEDAC) maintains access to a range of environmental and socioeconomic data on China, including county-level administrative boundaries and associated attribute data in Geographic Information System format. An English version of the Atlas of Population, Environment and Sustainable Development of China will be released in 2003.

Environmental Sustainability Index
Focus: Environmental Research
Partners: Global Leaders of Tomorrow Environment Task Force of the World Economic Forum, Yale Center for Environmental Law and Policy
Funding: The Samuel Family Foundation, U.S. National Aeronautics and Space Administration
Schedule: Ongoing

The Environmental Sustainability Index (ESI) provides a measure of overall progress towards environmental sustainability

for most countries, including China. ESI permits cross-national comparisons of environmental progress in a systematic and quantitative fashion. CIESIN provides access to both the ESI data and to detailed documentation on the analytic framework, quantitative methodology, and data sources used to construct ESI. An online interactive mapping tool permits users to compare the overall ESI with its subcomponents and with other indicators such as the Human Development Index and the Ecological Footprint.

Global Population and Land Use Data
Focus: Environmental Research
Partners: International Food Policy Research Institute, World Resources Institute, Millennium Ecosystem Assessment, Intergovernmental Panel on Climate Change (IPCC), Goddard Institute for Space Studies (GISS), Ramsar Bureau, Wetlands International, Wildlife Conservation Society, International Union for the Scientific Study of Population
Funding: U.S. National Aeronautics and Space Administration, MacArthur Foundation
Schedule: Ongoing

SEDAC maintains a number of global databases and information resources on population, land use, greenhouse gas emissions, agriculture, and wetlands that include detailed data on China and neighboring countries. Data resources include: (1) Gridded Population of the World, Version 2 (Version 3 to be released in 2003); (2) Population, Landscape, and Climate Estimates (PLACE); (3) future economic and greenhouse gas emission scenarios developed for the IPCC; (4) a major crop-climate modeling study at GISS; (5) spatial data on wetlands of international importance; and (6) the "Last of the Wild" and "Human Footprint" datasets. A set of peer-reviewed online guides on future population projections, land cover and land use, and other topics is available. SEDAC also hosts the Population-Environment Research Network, which includes a literature database containing numerous items related to China.

Environmental Treaties and Resource Indicators (ENTRI)
Focus: Environmental Research
Partners: World Conservation Union (IUCN)
Funding: National Aeronautics and Space Administration
Schedule: Ongoing

The Environmental Treaties and Resource Indicators database provides online access to data on international environmental treaties, including information on treaty participation by China and other Asian nations. A newly designed interface facilitates access and downloading of information organized by treaty or country.

Center for Sustainable Environmental Technologies, Iowa State University
http://csetweb.me.iastate.edu

Conditioning of Producer Gas from Biomass Gasification
Focus: Energy Research
Partners: Fundamental and Applied Science Research Institute, Zhengzhou University
Schedule: Initiated 2001, Ongoing

The goal of this project is to improve the prospects for generating cooking gas from biomass gasification. Agricultural residues (e.g., peanut shells, corncobs, and wheat straw) represent a renewable energy resource in rural regions of China. Thermal gasification is able to convert this solid biomass into a flammable gas mixture known as producer gas. This gas, if cleaned of particulate matter and tar, is suitable for piping to residential kitchens for use as cooking gas. However, the traditional method of removing the tar by spraying the gas with a stream of water results in water pollution problems. This project is investigating catalytic steam reforming of tars, which converts the tars to additional cooking gas rather than discharging them to the environment.

Center for Crops Utilization Research, Iowa State University
http://www.ag.iastate.edu/centers/ccur

Use of Agricultural Residues and Protein-based Adhesives for Building Materials
Focus: Air Quality
Partners: Fundamental and Applied Science Research Institute, Zhengzhou University
Schedule: Initiated 2001, Ongoing

Researchers at Iowa State University and Zhengzhou University have completed a study on producing fiberboard for furniture construction by using crop residues as fiber sources and formulating adhesive resins from peanut and soybean flours. Promising results from laboratory studies have led the team to industrial trials in an effort to commercialize these technologies in China. If successful, use of agricultural residues for fiberboard production would significantly reduce pre-planting open burning of crop harvesting residues. In addition, the use of soybean- and peanut-based adhesive resins also would eliminate formaldehyde emissions at fiberboard production facilities and significantly improve indoor air quality. Plans have been made to formulate adhesive resins from pyrolysis oils in conjunction with the study of crop residue gasification for energy.

China Project Harvard University Center for the Environment

http://www.environment.harvard.edu/envath/china.html

1a) Dynamic Economy-Energy-Environment Model

Focus: Energy and Environment Research

Partners: Harvard University Department of Economics and John F. Kennedy School of Government; China's School of Management and Economics at University of Aeronautics and Astronautics

Schedule: Initiated 1995, Ongoing

The team led by researchers at Harvard has developed and continues to revise and update a dynamic multi-sector model of the Chinese economy, with a special focus on energy use and emissions. Besides taking into account dynamic effects of changes in population, capital, technology, and demand, the model also incorporates the dual nature of the Chinese economy-the coexistence of plan and market institutions. The model estimates the effects on GDP growth, sectoral output, emissions, and damages to human health. Project researchers have used the model to study environmental and economic policies in the following areas: (1) In one study [Environment and Development Economics 4(4)], the effects of using carbon taxes to reduce baseline carbon emissions was simulated; (2) Another study [Energy Journal 20(3)] analyzed the causes of dramatic falls in the energy-GDP ratio in the last decade in China, a highly contentious topic related to transformations of the economy, policy interventions, and the reliability of official economic and energy data. (3) A study for a high-level international body advising the Chinese government (CCICED) indicated that a system of Pigovian-like taxes on fuels-taxes in proportion to the damage caused-will result in a heavy tax on coal but will substantially reduce health damage from air pollution. (4) Currently, the researchers in this project are using the model as a central analytical tool for a major initiative to estimate the total damages of energy-related ambient air pollution to human health and the economy in China (see 1b and 1c entries below).

1b) The Total Damages of Energy-Related Air Pollution to Human Health and the Economy in China: From Emissions to Human Exposure

Focus: Air Pollution Research, Health Research

Partners: Harvard University Department of Economics, John F. Kennedy School of Government, Harvard School of Public Health; Tsinghua University, Department of Environmental Science and Engineering

Schedule: Initiated 2000, Targeted Completion 2003

In a central link of the initiative to estimate the total health damages of ambient air pollution in China (see 1a and 1c), a joint research team is estimating the "Intake Fraction" (iF) of air pollutants in China. This method translates emission rates of critical air pollutants from key polluting sectors into population exposures. The team is applying atmospheric dispersion models on source data gathered nationally and in five field cities and five sectors: electric power [Atmospheric Environment in press], chemicals, iron and steel, cement, and transportation. Among key source characteristics are stack heights, meteorological conditions, and population in surrounding areas. Derived and validated coefficients are being applied to sources across sectors throughout the country to estimate national average iF of each pollutant and sector, and then the exposed population. From this, results from earlier epidemiological studies [including four Project-supported studies in International Journal of Occupational and Environmental Health 5(1), 7(3); Environmental Health Perspectives forthcoming; and Archives of Environmental Health 55(2)] will be applied to estimate health damages from each economic sector.

1c) Economic Value of Reducing Health Risks by Improving Air Quality in China

Focus: Air Quality Research

Partners: Harvard University's School of Public Health, Local Chinese Bureaus of Public Health

Focus: Health and Economic Valuation

Schedule: Initiated 1998, Targeted Completion 2003

Researchers at the Harvard School of Public Health, collaborating with authorities in local Bureaus of Public Health, have

used contingent valuation to estimate the economic value of preventing adverse health effects in China. Field surveys have been conducted in urban Beijing and Anqing (Anhui province), and the rural area surrounding Anqing. The study, which will be published in 2003, has estimated the population's willingness to pay in three cases: to prevent a minor illness (cold), a statistical case of chronic bronchitis, and premature mortality. Results of this research, and others, are being applied to health damage estimates of 1b to approximate the economic cost of total health damage of ambient air pollution in China, as encouraged by senior environmental officials in China.

Recent results of projects 1a-1c, with associated simulations of policy interventions, are being prepared for publication in an edited volume in mid-2003. The draft chapters were presented for review at the HUCE China Project's "4th U.S.-China Workshop on Reconciling Economy, Energy, and Environment" on 12-14 September 2002, at Tsinghua University in Beijing.

2a) Modeling Air Quality and Policy in China
Focus: Air Quality Research
Partners: Harvard University Division of Engineering and Applied Sciences and Department of Earth and Planetary Sciences; Tsinghua University, Institute of Environmental Science and Engineering
Schedule: Initiated 2001, Targeted Completion 2005

This study is building a detailed analysis of air quality over China and eastern Asia more broadly, with a special focus on trans-boundary transport of pollutants to and from China. Such analysis is timely as measurements of trace gases and aerosols are now becoming available for Asia from satellite observations, surface sites, and a new wealth of data downwind of China from aircraft campaigns. Emissions inventories must be considered, with considerable controversy about the reliability of current sources. The study is making use of these data, noting uncertainties, to address the following questions: (1) are atmospheric observations of trace gases consistent with current understanding of Chinese emissions and atmospheric chemistry; (2) to what extent are the mechanisms influencing ozone different over China and East Asia because of differences in the emissions mix and high loading of aerosols from natural and human origins; (3) how much do external emissions influence Chinese air quality (and vice versa); (4) how will air quality and radiative forcing (the mechanism of climate change) over China respond to future fossil fuel use and to proposed new pollution control measures? The primary tool for this initiative is the GEOS-CHEM global atmospheric chemistry model that has been developed at Harvard over the past fifteen years, and a higher resolution window over China nested within that global model that Harvard's China Project researchers have constructed over the last year. With this nested model, the team carried out a preliminary study on data for January-May of 2001, contrasting in particular seasonal effects on regional pollutant transport in and out of China from monsoonal changes in atmospheric circulation.

2b) Measuring Emissions and Air Quality in China
Focus: Air Quality Research
Partners: Harvard University Division of Engineering and Applied Sciences and Department of Earth and Planetary Sciences; Tsinghua University, Institute of Environmental Science and Engineering
Schedule: Initiated 2002, Targeted Completion 2005

As the team develops and uses its East Asia atmospheric model (2a), it is preparing to test and enhance it with two, interrelated field activities. A first step is to test the model against better observations than are currently available. The team is preparing atmospheric measurement equipment for deployment in a semi-rural area north of Beijing, to carry out long-term automated measurements of a range of chemical species and provide independent observational data. A second step is to begin refining emission inventory estimates for China, to reduce uncertainties in model inputs. Students working at Tsinghua have gathered initial data for several sub-sectors.

3a) Systems Analysis of Personal Transportation Demands in Developing Countries
Partners: Harvard University Division of Engineering and Applied Sciences; MIT Department of Urban Studies and Planning; Tsinghua University, Department of Civil Engineering and Department of Environmental Science and Engineering; Multiple Institutions in India
Focus: Transportation Research, Land Use Research
Schedule: Initiated 1999, Targeted Completion 2005

Harvard and partner institutions in the U.S., China, and India are examining technology and policy trade-offs in meeting the demand for urban mobility in developing countries. Using a case study approach, this research initiative examines the intersection of urban transport systems, land use management, and their environmental impacts. A variety of modeling

techniques are used to compare transport options defined broadly, from vehicle technologies and fuel choice to traffic management and urban planning [Transportation in press; Transportation Research Record in press]. Linked to transport system models are Geographical Information Systems (GIS) that represent the urban plans of target cities geographically and temporally, and model urban growth, densification, and land-use variation [Computers, Environment and Urban Systems in press]. The research initiative, begun with a pilot study on Beijing, subsequently added Indian collaborators for case research in Delhi and Chennai. The Indian stream of collaboration focuses on small projects by a variety of local research institutions, presented for cross-disciplinary review at annual research forums, the second held December 2-4, 2002, in Hyderabad. The China stream of collaboration has initiated a larger-scale, coordinated case study of Chengdu, Sichuan. This work is linked to a parallel study 3b below.

3b) Evaluation of Transportation Health Risks in China
Focus: Air Pollution and Health Research
Partners: Harvard University School of Public Health; Tsinghua University, Department of Environmental Science and Engineering
Schedule: Initiated 2002, Ongoing

Conducted in parallel with study 3a, a research team led by the Harvard School of Public Health has begun modeling mobile source air pollution in China and the attendant human exposures and health risks. These were found in 1b above to be generally more complex than human exposures and health risks from point industrial sources, due in part to the number of pollutants emitted, the role of secondary chemistry, and potential importance of near-source exposures. The team focuses on two questions. First, which pollutants are most critical to assess for mobile source, urban air pollution health risk in China? Conducting a full review of current epidemiological and toxicological literature, and taking into account population densities in Chinese urban areas, the initial foci are PM2.5 and ozone. Second, what is the comparative importance to health risk of near-source effects in different settings-analyzed with street canyon models-and regional-scale dispersion of both PM2.5 and ozone-analyzed with Models3 and similar frameworks? These models are being applied to the Chengdu case study. It will employ mobile source emissions generated by the investigation of the city's transport system in 3a.

4) Popular Understanding and Utilization of Environmental Law in China
Focus: Environmental Law
Partners: Harvard Law School; Zhejiang University
Schedule: Initiated 2001, Ongoing 2004

This is a multi-year study of popular understanding of environmental law in Hangzhou and Shaoxing in Zhejiang province. In recent years, the PRC has been active in promulgating ever more sophisticated environmental laws, such as the Air Pollution Prevention and Control Law and its revisions, which were investigated and published previously by this research team [Stanford Environmental Law Journal 16(1); Hastings Law Journal 52(3)]. Serious questions remain, however, as to how effectively these laws have been communicated to and understood by the Chinese populace. Hangzhou and Shaoxing are especially useful areas in which to examine this question, as each city is renowned for its scenic heritage while also being among the most vibrant centers of economic growth (especially by the non-state sector) in all of China. The study is focusing on the ways in which citizens understand and seek remedies for environmental problems. For example to what extent do citizens see such issues in terms of the newly promulgated laws? Is recourse to legal measures gaining ground or is there a continued reliance on administrative, political or more personal solutions? The team is conducting baseline surveys and interview-based qualitative research as an urban compliment to a multidisciplinary rural initiative of the China Project, completed by team members and others in Anhui province [Journal of Contemporary China 11(32)].

Federation of American Scientists

http://fas.org/china_lands/propose.htm

China Tropical Lands Research-Degraded Lands of China Problems and Opportunities
Focus: Agricultural Research, Land Conservation
Partners: South China Agricultural University, Zhuhai Science and Technology Commission, Zhuhai Agricultural and Science Research Center (ZA&SRC)
Funding: Guangdong Provincial National Science Foundation, ZA&SRC
Schedule: Initiated 2002, Ongoing

South China University and government researchers are keenly interested in cooperating with American and other Western scientists on ways to solve their region's degraded lands problems. Taking advantage of this desired research agenda the

Federation of American Scientists has been discussing and setting up projects with Chinese scientists related to improving South China's deforested, eroded, and over-cultivated lands. Inquiries on the status of the four areas of joint research projects listed below can be directed to the Project Director Dr. Walter E. Parham (parham305@aol.com):

- A technology assessment of South China's innovative agro-ecological systems;
- Developing a science policy for South China's provinces that will foster long-term improvement in the environment and the economic conditions for farmers;
- Establishing international research and science-based ecotourism demonstration sites on two tropical islands near Zhuhai as a means to test and measure techniques to improve South China's degraded lands; and,
- Agro-ecological research, demonstration, and teaching activity to quantify the capture of atmospheric carbon by different South Chinese agro-ecological systems designed to restore degraded lands.

South China Science Based Workshop for Chinese Environmental NGOs
Focus: Agricultural Research, Land Conservation
Partners: South China Agricultural University, Zhuhai Science and Technology Commission, Zhuhai Agricultural and Science Research Center (ZA&SRC)
Funding: Guangdong Provincial National Science Foundation, International Foundation
Schedule: Initiated 2002, Targeted Completion October 2003

The Federation of American Scientists and its Chinese partners are setting up a one-week training workshop with related field visits in Guangdong province and its near-shore islands for 25 to 30 leaders from China's environmental NGOs. The workshop/field visits approach will provide a valuable mechanism to highlight some of South China's important environmental/natural resource problems, identify the causes, and illustrate workable solutions. The training will provide new environmental NGO leaders, who may be in their formative stages of developing their full environmental agendas, a unique educational opportunity to interact directly in a field setting of rapid development with concerned Chinese scientists. The proposed activities will improve and expand the NGO leaders' understanding of a wide range of important environmental problems adversely affecting their country today. Discussions will focus on how interdisciplinary solutions were developed here and how other interdisciplinary solutions could be developed to deal with China's emerging environmental and natural resource problems. On completion, the NGO leaders should be able to transfer and adapt this learning approach to other parts of China by cooperating with concerned scientists of those regions.

Hoffman Environmental Research Institute, Western Kentucky University

http://hoffman.wku.edu

[Editor's Note: See 13 December 2002 meeting summary in this issue of CES for an update for this institute's China work in Guizhou province]

PACE (Professional Association for China's Environment)

http://www.chinaenvironment.net

China Environment Seminar Series
Partners: The World Bank, numerous environmental NGOs
Funding: The World Bank, corporate donations, member volunteers
Schedule: Initiated 1998, Ongoing
Since its inception, PACE has organized periodic seminars and workshops on a variety of topics related to China's environment. These seminars have allowed for increased exchange of information and ideas on issues related to China's environment among PACE members and other interested parties.

Discussion Board
Funding: Supported through member volunteer work
Schedule: Initiated 2001, Ongoing

Since 2001 PACE has sponsored and maintained a discussion board, which is open to the general public through PACE's Web site (www.chinaenvironment.net). This discussion board has promoted increased exchange of information and ideas on issues related to China's environment among PACE members and other interested parties.

PACE First Annual Conference: PACE '03: Environment - China in Transition
Funding: World Bank, PACE Member Volunteers
Schedule: October 2003

In today's rapidly changing world, China is eager to promote growth and attract foreign investment to alleviate poverty and reform its economy. At the same time, China faces many environmental threats, yet lacks the necessary expertise, national and regional policies, environmental management systems, legal mechanisms, social supporting systems, technology and human resources to confront these threats. As a transitional economy, it will be challenging for China to achieve comprehensive solutions in the near future. Nonetheless, a range of actions can be taken today to slow down environmental deterioration and improve environmental quality. PACE has the opportunity to make a unique contribution to such a process. This professional forum on China's environment will bring together PACE members as well as other environmental decision-makers, industry and community leaders, professional practitioners and representatives from public interest organizations to exchange ideas and develop recommendations on a range of critical environmental issues in transitional China. For more information check the PACE Web site (http://www.chinaenvironment.net) or mail to pace@chinaenvironment.net.

PACE Listserve
Funding: Supported through member volunteer work
Schedule: Initiated 1998, Ongoing

Since 1998, PACE has sponsored and maintained an e-mail listserve. The listserve has allowed for increased exchange of information and ideas on issues related to China's environment among PACE members and other interested parties. To subscribe, send a blank email to PACELISTSERVER-subscribe@yahoogroups.com. To contribute to the listserve, email PACELISTSERVER@yahoogroups.com.

Sinosphere Online Journal
Funding: Supported through member volunteer work
Schedule: Initiated 1999, Ongoing

Sinosphere Journal is the online journal for PACE (http://www.chinaenvironment.net/sino). The journal covers a wide range of topics relevant to China's environment, such as transportation, energy, trade, U.S.-China relations, air and water resources, environmental education, and NGOs in China. The journal is distributed electronically to nearly 1,000 PACE members around the globe.

Texas A & M University

http://www.tamu.edu

Joint Secretariat for U.S.-China Collaboration on Rural and Social Science and Technology Development
Focus: Sustainable Rural Development
Partners: Chinese Ministry of Science and Technology (MOST), Texas A&M University System (TAMUS), China Rural Technology Development Center (CRTDC), Beijing Taijidejie Correspondence Corporation (Smarteam)
Funding: MOST ($31,000 seed grant for secretariat, $50,000 grant for 2003 conference), TAMUS ($31,000 seed grant for secretariat), Smarteam ($50,000 grant for 2003 conference, $25,000 grant to STARR LAB of Texas A&M University)
Schedule: Initiated November 2002, Targeted Completion November 2007

The main thrust of the MOST-TAMUS November 2002 MOU is the establishment of a joint secretariat as a long-term institution to promote U.S.-China collaboration in rural and social development. Headquartered in CRTDC in Beijing, the joint secretariat provides a mechanism and legitimacy for open participation of interested parties from China and the United States in the development and implementation of rural development projects that are mutually beneficial. Since the formal announcement the joint secretariat MOST-TAMUS in early 2003 MOST-TAMUS are beginning to design and plan joint initiatives. Both sides have identified the following six priority items for collaboration: (1) establishment of an international academy of agricultural science and technology and the development of an international agricultural science and technology park system; (2) promotion of the International Conference on Agricultural Science and Technology (ICAST); (3) promotion of a comprehensive science and technology extension system for China's agriculture and the country's rural and urban development; (4) development of public affairs, including intelligent transportation management systems, small township construction, logistics, food safety and other areas of mutual interests in China; (5) rational development and utilization of resources and environmental protection; and (6) advancing the integration of the eastern and western medicinal sciences and the promotion of equitable public health education and delivery systems. On a continuous

basis specific projects from the above six areas will be designed, planned and implemented. To effect comprehensive and positive change in China's rural development the partners in this project intend to create projects that will be business led, market driven, include multi-stakeholder participation and government endorsement. For example, the MOST-TAMUS China Food Initiative that aims by 2007 to help in the emergence of a safer and greener food and agro-product distribution system with a significant niche in the Chinese market. For inquiries, contact: Dr. Douglas K. Loh loh@tamu.edu

China Project, University of Wisconsin-Madison

http://www.wisc.edu

Biodiversity Conservation and Sustainable Development, Northwest Yunnan
Focus: Biodiversity Conservation
Partners: School of Agriculture and College of Letters and Science at the University of Wisconsin -Madison, Chinese Academy of Sciences
Funding: University of Wisconsin and the Chinese Academy of Sciences
Schedule: Initiated 2002, Targeted Completion 2008

An interdisciplinary team led by more than twenty researchers at the University of Wisconsin has developed a new approach to train both American and Chinese scientists on biodiversity conservation and sustainable development in northwest Yunnan province. The interdisciplinary training and joint research focuses on three interrelated areas: (1) ecological and environmental factors that govern existing and future patterns of biodiversity, (2) population dynamics and economic livelihoods of people that drive resource exploration, and (3) policy and governance structures that impact biodiversity conservation and human development. The three primary field sites in Yunnan are: the high plains on Zhongdian, the watershed feeding Lugu Lake and Weixi county that straddles the Baimaxyushan Mountains. A total of fifteen American Ph.D. candidates and a number of Chinese scientists will be trained during the course of this project. The project has been funded by the University of Wisconsin and the Chinese Academy of Sciences, and is expected to receive further support from the NSF as well as private foundations.

Part IV Chinese and Hong Kong Environmental NGO, GONGO, and Student Group Activities

Chinese and Hong Kong Nongovernmental Organizations

Beijing Earthview Education and Research Center (Beijing)

http://www.earthview.org

Organization Background: Beijing Earthview Education and Research Center is a video resource center of the Television Trust for the Environment (TVE International). It is a nonprofit NGO registered as a member of the Public Welfare Committee of the China Association of Social Workers in Beijing. Earthview promotes environmental education and research through collaboration with other organizations. Key technology partners are the Institute of Scientific and Technical Information of China and Institute of Computing Technology of Chinese Academy of Sciences. Earthview's mission is to collect and promote high quality international environmental television programs and other environmental education resources to environmental protection agencies, research institutions, news media, universities, grade schools, NGOs, and communities. As of December 2002, Earthview had a collection of more than 800 international and domestic television programs, videotapes, and VCDs covering a broad range of environmental protection topics. In addition to translating foreign language videos into Chinese, Earthview's other projects include: (1) running a video resource center and environmental resource library; (2) building a digital library and regional VCD lending libraries; (3) setting up environmental film festivals and Earthview Online Web site.

Beijing Environment and Development Institute (Beijing)

MA Zhong, mazhong@public.bta.net.cn
Ongoing Projects (See CES 4 & 5)

Beijing Raptor Rescue Center (Beijing)

Organization Background: In 2002, with funding from the International Fund for Animal Welfare (IFAW), REN Qing founded this center that searches for injured raptors in the Beijing area. The center rescued and treated more than 360 raptors during its first year of operation. For more information contact: Mr. REN Qing, Biology Garden, School of Life Science, Beijing Normal University, 100875 Tel: 86-10-6220-5666.

Bird Lover Association (Hebei Province)

Organization Background: In 1998, middle school teacher and avid bird lover LI Jianping started organizing his students to go bird watching and gave talks to educate local villagers on how to protect injured birds. Over the past several years he has persuaded local residents and officials not only to learn about wild birds, but also to join Bird Lover Association. In 2002, his group obtained a 30,000 RMB grant from WWF-China to undertake activities to protect a local rare bird and its habitat, which led the group to begin setting up a new eco-tourism project in the village. For more information contact: Mr. LI Jianping, Pingshan Middle School, Pingshan county, Hebei province 050400.

Camel Crying, Desert Encroachment SOS Initiative (Inner Mongolia)

Wei Wei, wei@stanford.com

Organization Background: LU Tongjing, a retired local forestry bureau member and ecological photographer from Inner Mongolia, has traveled extensively throughout desert areas in northern China taking ecological photographs. In recent years he has given lectures and slide shows to many university students, environmental NGOs, and international assistance agencies. In 2002, Mr. LU joined Mr. Wei Wei (a Stanford economics graduate) to initiate a nonprofit hybrid corporation to fight against desertification by undertaking community capacity building in Inner Mongolia.

Caohai Peasants Association for Environmental Conservation (Caohai, Guizhou Province)

DENG Yi, caohai@public.gz.cn

Organization Background: Caohai Peasants Association for Environmental Conservation aims to promote environmental awareness and sustainable development through environmental education in rural communities in Guizhou province. The association's environmental education activities focus on training young environmental volunteers for local communities through formal environmental education in schools, environmental publications, public events, and cooperation with the news media. These education activities are helping to build a communication and cooperation platform for local governments, farmers, environmental volunteers, and other NGOs in the rural areas surrounding the Caohai Nature Reserve.

Center for Biodiversity and Indigenous Knowledge (Kunming, Yunnan Province)

http://cbik.org

Ongoing Projects (See CES 4 and 5): Northwest Yunnan Great Rivers Conservation and Development Project, Rangeland Management Project, Ecotourism and Eco-Cultural Tourism Project, Watershed Management Project

Center for Community Development Studies (Kunming, Yunnan Province)

WU Yusong, wuyusong@hotmail.com and LU Caizhen, lukaren@hotmail.com

Ongoing Projects: (See PANNA entry in the U.S. NGO Activities Inventory in this issue of CES)

Center for Legal Assistance to Pollution Victims (Beijing)

http://www.clapv.org

WANG Canfa, clapv@public2.east.net.cn

Legal Assistance to Pollution Victims

Focus: Environmental Law

Funding: Ford Foundation, Canadian Embassy in Beijing, UK Embassy in Beijing, Japan Foundation Asia Center, Netherlands Embassy in Beijing, Norway Embassy in Beijing, N(o)vib of Oxfam Netherlands

Schedule: Initiated 1999, Ongoing

The Center for Legal Assistance to Pollution Victims (CLAPV) located at the China University of Political Science and Law provides legal assistance to the general public and makes substantial efforts to improve the enforcement of environmental laws in China through a variety of means:

(1) A legal aid hotline provides free legal advice to pollution victims-as of December 2002, the center received 4,284 telephone calls, replied to 186 letters, and accepted 333 visits from pollution victims;
(2) Legal experts at the center have published 86 advisory letters and published six articles on typical pollution victim cases in China Environmental News and other national newspapers;
(3) Center staff and volunteers cooperate with news media organizations to conduct lectures on environmental law and advance the public's awareness of environmental law;
(4) Cooperation with law firms to undertake environmental cases and cover expenses of proceedings and lawyer fees for pollution victims who are unable to pay for their cases (the center has helped file 43 cases to courts);
(5) Research and critique for strengthening the legislation and enforcement of environmental laws in China;
(6) 152 lawyers and 50 judges were trained over the last two years to improve their professional knowledge and raise the enforcement level of environmental laws; and,
(7) Participate in international and national seminars on environmental law enforcement to promote international exchanges on the issue.

China NPO Network (Beijing)

http://www.chinanpo.org
SHANG Yusheng, chinanpo@263.net

Organization Background: China NPO Network is working for foundations and nonprofit organizations (NPOs) in China to: (1) improve public awareness of Chinese NPOs, (2) enhance the development of Chinese NPOs, and (3) strengthen the communication and information exchange between Chinese NPOs and international communities.

China Student Green Camp (Beijing)

http://www.greencamp.org.cn

Member Training, Environmental Research, and Education
Focus: Environmental Education
Partners: China Green Student Forum, Green Stone City, Xinjiang Conservation Fund, Global Greengrants Fund, International Fund for Animal Welfare, Friends of Nature, Roots & Shoots Beijing, Green-Web, Saunders's Gull Protection Association of Panjin, Chifeng Research Institute of Desert Forestry, State Forestry Administration, Environmental Protection Bureaus and Student Environmental Groups in different cities and provinces, The Conservancy Association (Hong Kong), Wellesley College
Funding: Donations from Green Camp members, Private and Corporate Donations, 2002 Ford Motor Conservation & Environmental Award
Schedule: Initiated 1996, Ongoing

Green Camp was initiated in 1996 by Mr. TANG Xiyang, chief editor of Nature, and Mrs. Marcia Bliss Marks, an American expert on culture and education. Green Camp members are selected from different universities to do summer field research of various ecosystems. Green Camp aims to use environmental education to promote the environmental awareness among students and social responsibility among the general public. Many former Green Camp members have graduated from universities and are now working in environmental organizations and institutes.

China Wild Bird Liberation Front (Dalian, Liaoning Province)

WEN Bo, wenbo2cn@sina.com

Wild Bird Protection Campaigning
Focus: Environmental Education, Conservation Capacity Building
Partners: China Bird Watch, Wild Bird Society of Dalian, Green Stone City (NGO in Nanjing)
Funding: Global Greengrants Fund
Schedule: Initiated 2001, Ongoing

China Wild Bird Liberation Front is a grassroots organization devoted to campaigning against poaching, trading, and consumption of wild birds. This group also publishes a biweekly newsletter, which includes educational information on birds and advocates measures to protect wild birds.

Chongqing Green Volunteers Federation (Chongqing, Sichuan Province)

WU Dengming, cqbvu@sina.com

Organization Background: The Chongqing Green Volunteers Federation's key work focuses on advocating better water treatment and other measures to prevent the Three Gorges reservoir from turning into a toxic water body, endangering the environment and human health. The Federation is also active in a number of research, environmental education, and public awareness activities including: (1) providing teacher training classes in schools, (2) investigating and monitoring environmental protection in natural woods along the Yangtze River and around the Three Georges Dam area, (3) establishing green schools, (4) advocating green industry, and (5) promoting public awareness of sustainable consumption and recycling within Chongqing.

Civic-Exchange (Hong Kong)

http://www.civic-exchange.org

Ongoing Projects (See CES 5): Air Quality Monitoring for Southern China

[Editor's Note: See Lisa Hopkinson and Rachel Stern feature article in this CES for additional information on this project]

Attitudes on the Environment: A Survey of Pearl River Delta Residents
Focus: Environmental Education Research
Partners: China Development Institute, Shenzhen
Funding: Rockefeller Brothers Fund
Schedule: Initiated Summer 2002, Completed December 2002

An environmental attitude survey of 1,500 Pearl River Delta residents was carried out in summer 2002, following a similar survey of Hong Kong residents carried out in 2001.

Improving Water Quality in the Pearl River Delta: Innovative Management and Financing Options
Focus: Water Protection Research
Funding: Pro Bono Work by Researchers
Schedule: Published October 2002

This Civic Exchange sponsored study examines how additional funding could be raised for water and wastewater infrastructure projects in the Pearl River Delta.

Multi-stakeholder Workshop: Environmental and Social Impact Assessment Report for the Building of a Petrochemical Plant in Huizhou, China
Focus: Environmental and Social Impact Assessment
Funding: CNOOC Limited/Shell Joint Venture
Schedule: Workshop June 2002, Final Report September 2002

This workshop was held to receive comments and views from around 40 Hong Kong and mainland China government and nongovernmental stakeholders on the building of a petrochemical plant in Huizhou, China by a Joint Venture between Shell and CNOOC (Hong Kong-based oil company).

Clear the Air (Hong Kong)

http://www.cleartheair.org.hk
ClearTheAirHK@aol.com

Organization Background: (See CES 5)

The Conservancy Association (Hong Kong)

http://www.conservancy.org.hk

Poyang Lake Community Bird Training
Focus: Biodiversity Conservation, Environmental Education
Partners: Promotion Association for Mountain River Lake Regional Sustainable Development Poverty Alleviation Office of Xingzi County, Jiangxi Province Mountain-River-Lake Office of Xingzi County, Jiangxi Province Poyang Lake Wetland Ecological Reserve, Hong Kong Bird Watching Society
Funding: Conservancy Association Internal Funds
Schedule: Initiated November 2002, Completed January 2003

Poyang Lake is the largest freshwater lake in China with thousands of migrating birds during wintertime including Siberian cranes, oriental white storks, and great bustards. This project to train local villagers living near Poyang Lake about wetland ecology and migrating birds was co-organized with the Mountain-River-Lake Office of Xingzi County-a provincial government-organized NGO (GONGO) in Jiangxi Province. The training included talks, discussions, and field studies for 200 villagers. The project not only raised the ecological awareness of the local villagers, but also helped increase capacity of local GONGOs.

The China Nature Magazine
Focus: Biodiversity Conservation, Environmental Education
Partners: The China Nature Magazine, Beijing Natural Science Museum, Association of Chinese Natural Science Museum, China Wildlife Conservation Association
Funding: Partially Financed by the Conservancy Association
Schedule: Initiated 1993, Ongoing

The China Nature Magazine, published quarterly in Beijing, focuses on nature conservation and wildlife in mainland China. The Conservancy Association helps subsidize this magazine, for with nationwide circulation of 25,000 it is an affordable and informative source on nature conservation for students, academics, and amateur ecologists throughout China.

Tree-Planting Competition in China Desert
Focus: Land Conservation
Partners: Forestry Bureau of Chifeng City, Inner Mongolia; Forestry Bureau of Balinyouqi County, Chifeng City; Hong Kong Professional Teachers' Union
Funding: 43 Secondary and Primary Schools in Hong Kong
Schedule: Initiated 2000, Targeted Completion 2004

The total area affected by desertification in China is over two million km2 and the situation is deteriorating rapidly. In the Inner Mongolian county of Balinyouqi a tree-planting competition was launched not only to encourage local farmers to plant trees, but also to help them appreciate the value of protecting the living environment. The plantation has grown to 93 hectares now that forty farms have joined the competition-each farmer oversees one part of the plantation. In addition to greening semi-arid areas, which have become marginal areas due to deforestation and overgrazing, the Conservancy Association hopes this campaign will promote the public awareness of environmental protection beyond the specific problem of desertification.

Yangtze River Tree-Planting Action
Focus: Land Conservation
Partners: Forestry Department of Yunnan Province; Local Governments and Forestry Bureaus of Yongsheng, Huaping, Heqing, Dayao, and Wuding Counties of Yunnan Province; Baoxing County Government and Jiajinshan Forestry Bureau of Sichuan Province
Funding: The Hong Kong Electric Company Limited, Private Sponsor
Schedule: Initiated 1999, Targeted Completion 2006

The extraordinary flooding of the Yangtze River in 1998 was caused mainly by soil erosion in deforested upstream areas. To address the root cause of the problem and raise local people's awareness of environmental protection, the Conservancy Association has launched a tree-planting and forestry protection program to improve soil retention along upstream riverbanks. The campaign, now in its fourth year, covers five counties in Yunnan province and one in Sichuan. Planting areas include: (1) a total area of 6,670 hectare of lands afforested via aerial seedling, (2) 907 hectares of "ecological" forest and 101 hectare of "economical" forest via direct planting, and (3) 4,970 hectares of former forestlands protected for rejuvenation by restricting entry.

Ecological Association for the Three River Sources (San Jiang Yuan) (Qinghai Province)

Mr. ZHA Xi Duo Jie, uyohata@sina.com

Organization Background: This association, established in 2002, received a Friends of Nature Small NGO Grant to create community development and nature conservation in Zhiduo country (Qinghai) together with environmental NGOs in Beijing and Shanghai.

Environmental Journalist Salon (Beijing)

ZHANG Kejia, luse2000@vip.163.com

Organization Background: Green Earth Volunteers (GEV) and the Green Island of China Youth Daily created the Environmental Journalist Salon in June 2002. The Salon has been meeting once a month, inviting different environmental experts, scholars, and government officials to give lectures to journalists. The Salon aims to enhance the environmental capacity of Chinese journalists in order to help them make more accurate and influential environmental reports. The meetings also provide a platform for environmental journalists to communicate with experts and share information among themselves. Over the past year the Salon sessions have touched on a wide variety of environmental topics, including China's water challenges, the ecological impact of the Go-West campaign, returning farmland to forest, environmental rights, clean energy, and pollution emissions trading.

Friends of the Earth (Guizhou Province)

YANG Jiongli, zlbmu@sina.com

Organization Background: Established in 1997, this NGO had been active in environmental education activities in one of China's poorest provinces, Guizhou. Some of the major activities undertaken by Friends of the Earth (FOE), Guizhou include: (1) running a series of lectures on environmental issues in schools and colleges, (2) publishing environmental education textbooks and brochures, (3) holding student environmental education camps and bird watching activities in nature reserves, and (4) establishing the Cao Hai Ecological Education Base. The Hong Kong Bird Watching Society, Hong Kong Conservancy, and a number of universities and environmental research institutes in Guizhou have joined FOE, Guizhou in many of the above projects. FOE, Guizhou also receives support from its 8,000 members-most of whom are science and technology professionals, teachers, and students. In 2003, FOE, Guizhou is bringing together university and research institutes to create a "Guiyang Tourism and Development and Planning Team" to help the government tourism department with research, exploration, and planning on Guizhou eco-tourism development. The team's projects include: (1) economic and eco-tourism planning for Guiyang South River karst canyon, (2) exploration and planning for Guiyang Xiuwen Yangming cultural tourism region, (3) economic planning and cultural tourism for Guiyang Gaopo and Longli Prairie, and (4) eco-tourism planning for Qing town. These projects not only involve FOE members in actual ecological research, but also engage them in fundraising and the publication of environmental books such as Research on Gauging Natural Terrain Data in Guizhou Province and Eco-Tourism in Guizhou. Working with Guiyang Senior University, FOE, Guizhou also hosts a television show on Guiyang TV titled Red Setting Sun (Xiyanghong) that provides environmental knowledge and health information contests for seniors.

Friends of the Earth (Hong Kong)

http://www.foe.org.hk

Capacity Building Program, China
Focus: Environmental Education, Community Capacity Building
Funding: Private Donations
Schedule: Ongoing

A series of training programs were conducted in China to train a young generation of environmental leaders and activists, and to empower Chinese women with the necessary knowledge and skills to learn more about community mobilization in order to prevent wastage, exploitation, and further damage to China's ecosystem.

Earth Awards, China/Hong Kong
Focus: Environmental Education, Environmental Networking
Partners: The China Forum of Environmental Journalists (CFEJ)

Funding: Private Donations
Schedule: Initiated 1997, Ongoing

Friends of the Earth (FoE), together with CFEJ, presents a yearly Earth Award to commend individuals and groups for outstanding achievements in the protection and improvement of China's environment. Over the past five years, 140 individuals have been recognized for their sterling achievements in environmental protection in China.

Expanded Polystyrene (EPS) Recycling Program & Consultancy Study
Focus: Waste Management
Partners: Hong Kong EPS Association Ltd. sponsored by the Hong Kong and China Gas Company Ltd.
Funding: Public and Private Donations
Schedule: Initiated 2002, Ongoing

FoE and its partners set up a system to collect and recycle packing EPS from major dumping grounds in Hong Kong, including seafood markets, construction sites, and housing estates. This program aims to limit the dumping of non-recyclables into Hong Kong landfills, which will filled up in the next 10 to 15 years if recycling rates do not increase.

Future Kids Workshops
Focus: Environmental Education
Funding: Private Donations
Schedule: Initiated 2002, Targeted Completion 2003

In 60 primary schools throughout Hong Kong, FoE has been conducting workshops covering a wide range of environmental protection topics such as waste reduction, green food, and renewable energy.

Old Clothes Recycling & Printer Cartridge Reuse Program
Focus: Waste Management, Environmental Education
Partners: Recycling Companies, Local Communities and Schools
Funding: Public and Private Donations
Schedule: Ongoing

This community-based program mobilizes residents of private and public housing estates to recycle used clothing in order to prevent such waste being dumped into landfills. FoE also collects used printer cartridges from offices, schools, and households for refilling and reuse.

Public Lobbying and Education on Renewable Energy
Focus: Energy Education, Renewable Energy Education
Partners: Various Industry Associations
Funding: Public and Private Donations
Schedule: Initiated 2002, Targeted Completion 2003

FoE released a Renewable Energy Position Paper and organized a signatory petition in October 2002 to call on the Hong Kong government to swiftly respond to public requests regarding the development of renewable energy and to formulate a renewable energy policy. A Wind Energy Forum was held in March 2003, in which key researchers and stakeholders gave updates on the progress of wind energy development in Hong Kong and Guangdong province.

Solar Cart Race
Focus: Energy Efficiency Education, Renewable Energy Education
Partners: Corporations, Universities
Funding: Public and Private Donations
Schedule: Initiated December 2002, Ongoing

This annual competition aims to promote the concept of renewable energy and to enhance the community's understanding of the potential of solar power. In 2002, 27 racing teams used solar photovoltaic panels (PVs) and other mechanical parts to design, build and race their zero emissions "dream carts."

Wind Energy Study Project
Focus: Wind Energy Research

Funding: Private Donations
Schedule: Initiated 2001, Completed March 2003

FoE performed wind resource assessments by setting up wind monitoring stations in two outlying islands of Hong Kong during 2002. The modeling study generated data for the Hong Kong Wind Resource Report and a wind atlas to assess the potential application of wind power technologies in Hong Kong. These assessments provided guidelines and encouraged the government to pursue a more sustainable way to supply electricity to the Hong Kong public.

FRIENDS OF GREEN (TIANJIN)

SUN Yanjun, sunyanjun011@sina.com
Ongoing Projects (See CES5): Environmental Surveys, Public Education, Legal Aid to Pollution Victims, Tree planting
[Editor's Note: See 18 October 2003 meeting summary in this issue of CES for information on the Friends of Green founder's environmental journalism work]

FRIEND OF GREEN ENVIRONMENT (JIANGSU PROVINCE)

http://www.green-discovery.com

Organization Background: This nonprofit environmental NGO, directed by Environmental Protection Bureau of Jiangsu province, has more than 2,000 volunteers and 12 staff members from a broad range of backgrounds. This NGO's mission is to promote green civilization, increase public environmental awareness, facilitate environmental policy supervision, and promote sustainable development. Projects include: Environmental Theories Research, NGO Capacity Building, Changjiang Drainage Area Ecosystem Conservation, Green Communities Building, Environmental Education and Training, Green Home, and Green Explore Web.

FRIENDS OF NATURE (BEIJING)

http://www.fon.org.cn

GEF NGOs Meeting

Focus: NGO Capacity Building
Funding: MISEREOR (German Foundation), Global Environment Facility (GEF)
Schedule: 16-17 October 2002

Following the GEF-NGO network in East Asia meeting held in early 2002, FON organized 50 Chinese environmental NGOs-many from remote regions of China-to participate in the 2nd GEF Assembly in October 2002 in Beijing. At the Assembly, FON also organized a Chinese NGOs workshop entitled: "What can we do to promote the sustainable development?" FON, with support from MISEREOR, published bilingual proceedings of this workshop.

Small Grant Project

Focus: NGO Capacity Building
Partners: MISEREOR (German Foundation)
Funding: MISEREOR
Schedule: Initiated July 2002, Ongoing

This two-year project provides small grants of no more than 50,000 RMB to environmental protection programs conducted by Chinese grassroots NGOs or volunteer groups. FON is responsible for identifying promising programs and supervising grant implementation. By the end of 2002, the project had supported 5 social groups and 22 collage student groups for their 2003 programs. This small grant project aims to improve the capacity of grassroots NGOs and promote sustainable development. [Editor's Note: See Box 3 in Lu Hongyan's feature article in this issue of CES for a description of one university project receiving a FON small grant]

Teachers Training Project in West China

Focus: Teacher Training
Funding: Liang Congjie's Donated 2000 Ramon Magsaysay Award for Public Service
Schedule: Initiated November 2002, Ongoing

In order to improve environmental teaching capacity of teachers in western China, FON has organized four training

courses in Inner Mongolia, Shaanxi, Hebei, and Guangxi for more than 500 local teachers and local officials from environmental protection bureaus.

Global Village of Beijing (Beijing)

http://www.gvbchina.org
ZHAO Lijian, gvb@public3.bta.net.cn

Chinese NGOs' Joint Activities for the WSSD (World Summit on Sustainable Development)
Focus: NGO Capacity Building, NGO Networking
Partners: Environmental NGOs in China and Hong Kong, Administrative Center of China's Agenda 21, UNDP China; British Embassy in Beijing, Ford Foundation, Canadian Civil Society Program
Funding: UK Embassy in Beijing (409,700 RMB), Ford Foundation (175,000 RMB), Canadian Civil Society Program (143,605 RMB)
Schedule: Initiated February 2002, Completed September 2002

In early 2002, Global Village of Beijing (GVB) began undertaking activities to create and fund the first delegation of Chinese grassroots NGOs to attend a global environmental summit. In spring 2002, GVB sent representatives to attend the WSSD Prepcoms. GVB organized the forum "From Beijing to Johannesburg: Chinese NGOs Workshop on WSSD," in May 2002, which nearly 150 NGO representatives and scholars from more than 20 provinces attended. GVB conducted a two-day training program at GVB's Training Center in Yanqing County, Beijing for participants from various grassroots NGOs to help select and prepare delegation members. In August 2002, a Chinese environmental NGOs delegation (consisting of 18 representatives from 12 grassroots NGOs) attended WSSD.

Community Residents Forums and Community Health Program
Focus: Community Development, Health Education
Partners: Earth Day Network, Jiangongnanli Community, Chunshuyuan Community
Funding: Canadian Civil Society Program (65,000 RMB), Global Greengrants Fund ($2000)
Schedule: Initiated June 2002, Completed June 2003

In 2002, GVB held the "Green Community Forum" series in the Beijing Jiangongnanli community. The forum aimed to bring together residents, experts, governmental officials, and NGO professionals to discuss environmental and health concerns within the community and to seek solutions. To disseminate forum discussions GVB also published Green Community Forum Newsletters.

Conservation Tillage
Focus: Land Conservation, Desertification Prevention
Partners: Conservation Tillage Research Center of the Ministry of Agriculture, Agriculture Bureau of Zhangjiakou, Agricultural Machinery Station of Zhangjiakou, Agricultural Machinery Bureau of Zhangbei
Funding: Private Donation
Schedule: Initiated 2001, Completed 2002

Sponsored by a Chinese American Ms. TAN, GVB and other partner organizations established a 200-hectare Conservation Tillage Experimental Farm at Fugong village (Zhangbei area in Hebei province). By evaluating the output of the farm where deep moldboard plowing techniques have been replaced by conservation tillage techniques, GVB discovered some remarkable results: (1) desertification was reduced by approximately 70%; (2) air quality was improved due to elimination of the practice of burning crop straws; (3) water runoff was reduced by 60% and soil erosion by 80%; (4) soil water retention capability increased by 15% and effectiveness of water use by 15%; (5) soil quality and crop production increased by 17%; (6) farming operation costs were reduced by 10 to 15%; and (7) farmers' income increased by 10 to 20%. GVB is actively raising funds to extend the size of the existing experimental land in order to make a significant contribution to desertification reduction.

Earth Day 2002
Focus: Environmental Education
Partners: Earth Day Network, BTV, Chaoyang Park, Insitute of Environment and Development, China Youth Development Foundation, WWF-China, CANGO (China Association for NGO Cooperation) and several other environmental organizations

Funding: Tetra Pak (Shanghai) (100,000 RMB)
Schedule: Initiated February 2002, Completed April 2002

GVB organized Earth Day celebrations in several Chinese cities in order to promote public awareness of environmental protection needs in China.

The First China Sustainable Consumption Forum
Focus: Environmental Education
Partners: China Consumers Association, Chinese National Committee for Pacific Economic Cooperation, UNEP China, UNDP China, Committee for Environment and Resource Protection of the National People's Congress of China
Funding: Heinrich Böll Foundation (360,000 RMB)
Schedule: Completed 15-16 May 2002

For the First Sustainable Consumption Forum, GVB assembled international and domestic experts, scholars, NGOs, and individual researchers to discuss important sustainable consumption issues. Sustainable consumption is a new concept in China, so this forum was highly enlightening for the Chinese participants who learned how consumption patterns related to environmental problems and sustainable development. Forum discussions highlighted the need for Chinese consumers, researchers, and NGOs to help reduce consumption. This forum also created a network information distribution, which is the necessary to promote sustainable consumption in China. GVB compiled forum documents into a publication, which was taken to WSSD Prepcom4 and WSSD in Johannesburg in 2002.

Green Angel Artistic Troupe
Focus: Environmental Education
Funding: ExxonMobil Foundation (50,000 RMB)
Schedule: Initiated January 2002, Ongoing

The Green Angel Artistic Troupe, which creates and performs songs and plays to spread the message of green life and environmental protection, expanded considerably in 2002 with support from the ExxonMobil Foundation and the Education Center of the Environmental Protection Administration. The chorus now has 20 first-tier members, 56 second-tier members, six teachers and four artistic advisors.

Green Community Guidebook
Focus: Environmental Education
Partners: China's State Environmental Protection Administration (SEPA)
Funding: Shell (China) (135,000 RMB)
Schedule: Initiated March 2002, Completed July 2002

With support from Shell (China) and SEPA, GVB created the Green Community Guidebook, which provides highly practical strategies for citizens to create environment-friendly communities. Guidebook information draws on the experiences of GVB's extensive "Green Community" project and lessons learned in similar community education projects worldwide.

Sustainable Agriculture: A Tour of Small Towns and Their Communities in the United States
Focus: Agricultural Education
Partners: U.S. Department of Agriculture, China Central Television (CCTV)
Funding: U.S. Department of Agriculture ($80,000)
Schedule: Initiated 2000, Completed May 2002

In cooperation with the U.S. Department of Agriculture (USDA), GVB produced a series of nine programs introducing sustainable agriculture practices used in the United States. The nine 15-minute programs included: History of Sustainable Agriculture, Land Use, Farmland, Watershed Management, Water Quality, Water Conservation, Organic Agriculture, Pest Management, and Public Participation. After completing the series USDA, CCTV, and GVB held a press conference on 22 May 2002 in the U.S. Embassy in Beijing. Programs have been broadcast on CCTV10 and 7.

Video Program on Chinese Environmental NGOs
Focus: Environmental Education
Partners: Chinese environmental NGOs

Funding: World Bank (80,000 RMB)
Schedule: Initiated June 2002, Completed August 2002

This 42-minute program introducing grassroots environmental NGOs in China was prepared for screening at WSSD. The World Bank provided the support for GVB's TV team to travel across the country to film interviews of many grassroots environmentalists in China.

WSSD Follow-up: Public Environmental Workshop
Focus: NGO Capacity Building
Partners: Friends of Green Environmental of Jiangsu Province, Nanjing Environmental Protection Administration, Tongchuang Group
Funding: Ford Foundation (160,000 RMB)
Schedule: 20 September 2002

Global Village of Beijing (GVB) organized a WSSD Follow-up workshop and drafted a document laying out twenty priority issues for environmental NGOs in China. After the workshop, GVB drafted a Chinese NGO "WSSD Follow-up Action Plan," which has been adopted by 24 Chinese NGOs. GVB also produced an educational brochure on Chinese environmental NGO participation in WSSD.

Green Development Institute (Dalian, Liaoning Province)

WU Changhua green@china.com or changhuawu@yahoo.com

Organization Background: Green Development Institute (GDI) is a newly established nonprofit environmental think-tank in Dalian, Liaoning province. GDI will work with various players that share common values to seek options and create practical solutions to make green development a choice and a reality in China. Currently GDI is working in Dalian with the Economic and Development Zone on a recycling economy initiative. As GDI expands its work it will focus on: (1) environmental institutions and governance, (2) sustainable business models and practices (3) consumption patterns and consumer pressure for change, (4) public access to environmental information. GDI's executive director is WU Changhua, previously director for China Studies at the World Resources Institute in Washington, DC.

Green Earth Volunteers (Beijing)

http://www.chinagev.org
WANG Yongchen, wangyc54@sina.com

Organization Background: Green Earth Volunteers (GEV) is an environmental organization under China Environmental Foundation, which was initiated by journalists and environmentalists to generate public participation in environmental protection. Since 1996, the corps of Green Earth Volunteers has grown from several dozen to more than ten thousand. Members include reporters, environmentalists, students and teachers from different levels of schools, retired senior citizens, and governmental employees. Every weekend GEV organizes members to plant and "adopt" abandoned little trees in mountain areas. GEV's major projects include: (1) Tree Planting: along the Great Wall, in Inner Mongolian deserts, and along the Yangtze River; (2) Bird Watching; (3) White Dolphin Protection: created educational activities and took members to visit "Qiqi," the only white dolphin raised in captivity in the world at the Academy of Science of Wuhan; and (4) Green Talks: environmental lectures and study groups on environmental topics.

Greener Beijing Institute (Beijing)

http://www.grchina.org
SONG Xinzhou, sxz@grchina.net

Organization Background: Greener Beijing Institute is a grassroots environmental NGO, started from Internet volunteer activities in 1998. Greener Beijing Institute now has become one of the biggest and most active environmental volunteers organization in China. The group aims to promote environmental awareness and public participation in environmental protection work. Greener Beijing Institute uses the Internet as an efficient tool to gather volunteers and spread information. The Online Green Community of Greener Beijing Institute plays an important role in organizing environmentalists, experts, and other concerned people to discuss environmental issues. Greener Beijing Institute also has different cooperative projects with various grassroots environmental NGOs and academic institutes. Their major projects include: Save Tibetan

Antelope Campaign, Tree Planting Action, "Step into the Nature"-Camping Environmental Education Team and Save Endangered Species Campaign. Volunteer donation and foundation sponsors mainly fund these projects.

[Editor's Note: See commentary by YANG Guobin in this issue of CES for information on other Internet green groups]

Green Friend Association (Shijiazhuang, Hebei Province)

GAO Hongwei, ghw@jingying.com.cn
Ongoing Projects (See CES5): Tree planting, Canal Cleaning, Environmental Education, Green Schools, Daughter of the Earth Award

Greenpeace China (Beijing and Hong Kong)

http://www.greenpeace-china.org.hk

Organization Background: Greenpeace China campaigns for a green and peaceful future. Greenpeace China works with scientists, government agencies, commercial sector, and the general public on the following projects: (1) strengthening bio-safety and promoting ecological agriculture in China, (2) raising consumer awareness on genetically engineered foods in Hong Kong and mainland China, (3) banning waste incineration and promoting recycling industries in Hong Kong, (4) promoting clean energy in Hong Kong and mainland China, (5) halting dumping of electronic waste into China, (6) stopping Iraq war and demanding peace, and (7) community engagement in Hong Kong. Greenpeace offices all over the world do not accept donations from governments, political parties, or corporations. Greenpeace China receives most financial income from individual donations from citizens and a small percentage from foundations.

Green Peng Chau Association (Hong Kong)

http://www.greenpengchau.org.hk

Peng Chau Eco-tourist Education Center
Focus: Environmental Education, Biodiversity Conservation
Partners: Potential Partner Kadoorie Farm
Funding: Private Donations
Schedule: Initiated 2000, Ongoing

While not a tourist draw like other islands in Hong Kong, Peng Chau is a small, intriguing island that was prosperous well before Hong Kong's colonial history. Strikingly, Peng Chau's people have preserved their traditional lifestyle, which has disappeared in many rural areas of Hong Kong. But some proposed development threatens the island's environment, which has rich biodiversity resources. The Green Peng Chau Association currently is working on developing the potential of the island as an Eco-tourist Education Center.

Green Plateau Institute (Yunnan Province)

Ongoing Projects (See CES 5): Conservation and Community Development in Deqin District

Green Power (Hong Kong)

http://www.greenpower.org.hk

Organization Background: (See CES 5)

GreenRiver (Sichuan Province)

http://www.green-river.org
YANG Xin, greenriver@mail.sc.cninfo.net

Conservation of the Source of the Yangtze River
Focus: Water Conservation, Environmental Research
Partners: Environmental NGOs, university student associations, and research institutes throughout China
Funding: Global Greengrants Fund, International Fund for Animal Welfare, Individual Donations
Schedule: Initiated 1994, Ongoing

Although it did not receive formal NGO status until 1999, GreenRiver has worked since 1994 to protect the source of the Yangtze River through a variety of projects, including: (1) construction of an ecological monitoring station in the Tongtian River Basin (1994) and the Suonandajie monitoring station in the northern basin of the Yangtze headwaters (1996); (2) cooperation with local scientific research organizations and journalists to survey and research the quality of the Yangtze River headwaters in order to accumulate baseline data on the health of the river and to help design an effective environmental protection plan for the basin; (3) assistance to local governments in developing anti-poaching patrols; and (4) recruitment of volunteers to educate local rural communities and tourists about the threats to the Yangtze River ecosystem. Other new projects are listed below:

- Jinsha River Book Project-The second book about the Yangtze River-Jinsha River-will be published in 2003. The book is presenting the environment, tourism, biodiversity, natural disaster, culture, and human influence of Yangtze River. Profits from the book will help support GreenRiver projects.
- Project of Minjiang Natural Protection Station-GreenRiver's second natural protection station-Minjiang-will be built in Sichuan province. The feasibility study is completed and the project has been approved by Environmental Protection Bureau of Sichuan province. This station will become a base for studies and education on ecology, environment, biodiversity, and eco-tourism.
- Project in Suonandajie Natural Protection Station-In 2001, GreenRiver launched a volunteer system at the Suonandajie station in which every year 30 volunteers from the local community and beyond are recruited to maintain the operation of the station, develop training projects to local communities, and participate in conservation work. The volunteers have successfully (1) carried out environmental education projects and conservation projects in the Yangtze source area, and (2) gathered considerable data on wild animals and wildlife protection, especially of the Tibetan Antelope protection project. The local and central governments have adopted GreenRiver's suggestion to incorporate Tibetan antelope protection measures into the planning and construction of the Qinghai-Tibet Railway Program.

Greensos Fund (Sichuan Province)

http://www.greensos.org
CHU Yinghao, cyh@greensos.org
Ongoing Projects (See CES5): Mini Grants for Student Environmental Groups

Green Stone City (Nanjing, Jiangsu Province)

http://www.green-stone.org
WU Haoliang, w@green-stone.org
Ongoing Projects (See CES5): Promoting Public Environmental Awareness
[Editor's Note: See feature article by Lu Hongyan in this issue of CES for more information on Green Stone City]

Green Watershed (Yunnan Province)

YU Xiaogang, yxgood2001@yahoo.com
[Editor's Note: See Green Watershed feature box in this issue of CES for information]

Green-Web (Beijing)

http://www.green-web.org
GAO Tian, akagu@21cn.com
Ongoing Projects (See CES5): Online Activism and Environmental Protection Outreach Initiatives
[Editor's Note: See the commentary by YANG Guobin in this issue of CES for more information]

Green Yanbian (Jilin Province)

LI Qiang, gryk612@hanmail.net
Organization Background (See CES 5)

Hand-in-Hand Earth Village (Beijing)

http://www.childrenandearth.org.cn
http://www.dqc.org.cn

Focus: Environmental Education
Partners: Chinese Aid Committee for the Culturally Disadvantaged, National Working Commission for Children, Chinese Teenager's Journal (Shaonian Bao), State Environmental Protection Administration of China
Funding: Asian Agricultural Research and Development Fund, Japanese Governmental Assistance Fund, The Dow Chemical Company, GE China, 2000 Ford Motor Company Conservation & Environmental Award, 2001 Earth Award
Schedule: Initiated June 1997, Ongoing

Hand-in-Hand Earth Village (HHEV) is one of the earliest and biggest children's environmental protection organizations in China. HHEV sets up programs in primary and middle schools to promote students' participation and management of their own environmental projects. Students are engaged in environmental protection activities through the creation of "Earth Villages" at their schools. By coordinating with teachers in more than 200 schools throughout China, HHEV has helped students set up recycling programs. In these recycling programs some students run the recycling collection and sorting station, others take the role as accountants and journalists, and one student acts as a mayor to coordinate all of these activities. Recyclable products collected by the students are sold to recycling companies and the proceeds are contributed to the construction of Hand-in-Hand Environmental Protection Primary Schools in poor rural areas in China. So far, HHEV has built 5 Hand-in-Hand primary schools and 155 libraries.

Han Hai Sha-Volunteer Web Site Concerning the Desertification in China (Beijing)

http://www.desert.org.cn
YANG Hao, yhsky@desert.org.cn

Organization Background: Han Hai Sha (literally "Boundless Ocean of Sand") is a volunteer network devoted to promoting public awareness of desertification and mobilize community efforts to solve practical problems. The volunteers gather and disseminate information through the Internet and work closely with experts and volunteers in areas suffering from desertification. The founder, YANG Hao, has focused his group's outreach in two rural communities in Inner Mongolia and Sichuan province. The activities of Han Hai Sha are listed below:

- Environmental Education on Desertification-In partnership with Friends of Nature and Green-Web, and funding from Oxfam Hong Kong, Han Hai Sha began working in March 2003 to promote conservation of ecological and cultural diversity in desert areas of Inner Mongolia and Sichuan province.
- Han Hai Sha E-Newsletter-Beginning in March 2003, Han Hai Sha began publishing in partnership with Green-Web an e-newsletter with support from the Global Greengrants Fund.
- Sending Volunteers from Cities to Rural Desert Areas-In partnership with the Sanjiangyuan Environment Protection Association of Yushu Qinghai, Han Hai Shi is exploring a mechanism for sending urban volunteers to help build the capacity of grassroots conservation organizations in China's desert areas.
- Supporting the Development of Grassroots Organizations and Environmental Education in Sichuan Ruoergai Area-With funding from Oxfam Hong Kong and in partnership with the Inner-Mongolia Chifen Green Engineering Institute, "Green Camel" of Sichuan Ruoergai, and Sanjiangyuan Environment Protection Association of Yushu, Qinghai, Han Hai Sha is promoting environmental education and helping to build the capacity of local grassroots organizations to carry out anti-desertification activities. This project began March 2003 and will continue until at least February 2004.

Institute for Environment and Development (Beijing)

http://www.lead.org.cn
Rebecca ZHU, Rebecca@ied.org.cn

Organization Background: The Institute of Environment and Development (IED/LEAD) was created in 1994 as a nonprofit NGO to implement the China program of Leadership for Environment and Development. The IED/LEAD Board of Directors is chaired by Mr. QU Geping. Core faculty plan and supervise the education, research, and information dissemination activities, which aim to empower all the environmental stakeholders and general public and to create a mechanism for equal dialogue and participation. Education activities emphasize leadership development to cultivate a new generation of leaders with the commitment and ability to implement sustainable development strategies. Research & Development at IED/LEAD focus on developing new institutional arrangements within the government and research sectors that integrate environment protection into a development strategy that encourages participation of all stakeholders

in decision making and implementation process. Information dissemination work aims at enhancing the public access to environment information and knowledge.

Institute of Human Ecology, China (Beijing)

http://www.ihe.org
Dr. Diane CHANG, ihe@163bj.com

Organization Background: The Institute of Human Ecology (IHE) focuses on facilitating communication on environmental and ecological issues amongst governmental agencies, industry developers and academic institutes. IHE provides a forum to broadcast cross-sector environmental and sustainable development initiatives with useful information for developing policies, regulations, and new concepts in the field.

Indoor Air Quality Program
Focus: Air Pollution Policy
Funding: Corporate Sponsorship
Schedule: Initiated 1997, Ongoing

IHE has conducted an indoor air quality study and research for four years in order to generate policy recommendations based on scientific findings and social economic research. The study's findings were submitted to the National People's Congress in spring 2001. In March 2002, IHE introduces LEED standards to China urban construction market and established a working relationship with SEPA and other government agencies to promote policies on green buildings.

Nature and Biodiversity Conservation Program
Focus: Biodiversity Conservation
Partners: The Nature Conservancy (TNC), Conservation International (CI) and other international environmental NGOs
Schedule: Initiated 1997, Ongoing

IHE has been very active in a variety of biodiversity conservation activities. From 1997 to 1999 IHE collaborated with TNC to launch the Yunnan Great River National Park initiative. Since October 1998 IHE and CI have worked on launching the Biodiversity Corridor Project in Hengduan Mountains in western Sichuan. IHE also published and distributed CI's World Biodiversity Hotspots Map in Chinese. IHE began to work with National Geographic Magazine in early 2001 to search and develop stories on China's biodiversity hotspots. Since the summer of 2001, IHE has cooperated with UNESCO on a Man and the Biosphere program in natural reserves in Tibet.

Little Swan Artistic Troupe (Shaanxi Province)

LIU Wenhua, lwenhua@21cn.com

Organization Background: Little Swan Artistic Troupe was founded in 1985 as a social organization focusing on art and environmental education for youth. The organization's mission is to cultivate young "green" artists through art and education training. Through different projects the troupe members can also bring green ideas back to their families and communities to promote greater environmental awareness in China. Some key projects include: (1) "Green Stars" Youth Environmental Performance, in which the Little Swan Artistic Troupe (LSAT) and Shaanxi TV Station produced environmental singing and dancing programs for children in the summer of 2002. (2) LSAT, together with Global Village of Beijing, Xi'an Student Green Camp, Environmental Protection Bureau of Shaanxi province, and the Environmental Protection Bureau of Xi'an city, carried out Community-based education programs to promote water conservation and garbage separating and recycling in Xi'an. (3) With assistance from local partners and the International Fund for Animal Welfare, LSAT also created activities for an animals action week in November 2002 to promote education on wildlife protection. Overviews of other projects are below:

Environment & Art Communion of Japanese-Chinese Children
Focus: Environmental Education
Partners: Beijing Global Village, Xi'an Student Green Camp, Shaanxi Provincial People's International Friendship Exchange Society, Culture Department of Shaanxi Province, Education Department of Lianhu District, Xi'an City, Japan-China Friendship Organization

Funding: Private and NGO Donations
Schedule: Initiated January 2002, Completed August 2002

LSAT created activities to promote the communication and exchange between Japanese and Chinese educators on educating children about the environment.

Green Classroom
Focus: Environmental Education
Partners: Global Village of Beijing, Shaanxi Ecological Institute, Xi'an Students Green Camp, Shaanxi Green Mother Volunteer Network, Department of Education of Shaanxi Province, Department of Education of Xi'an City, Department of Education of Lianhu District, Department of Culture of Shaanxi Province, Literature and Art Sodality of Shaanxi Province, International Fund for China's Environment, Shaanxi TV Station, Xi'an TV Station
Funding: Private and Corporate Donations
Schedule: Initiated 2001, Targeted Completion 2003

This project aims to improve environmental art education in primary schools in Tai Bai Mountain National Natural Reserve, the Niu Bei Liang National Natural Reserve, and primary and secondary schools in Xi'an city.

PESTICIDE ECO-ALTERNATIVES CENTER OF YUNNAN THOUGHTFUL ACTION (YUNNAN PROVINCE)

http://www.panchina.org
Ongoing Projects (See CES 5): China Pesticide Action for NGOs Development, Pesticide Alternatives-Research, Training, and Demonstration Projects, Policy Development and Advocacy, Public Education and Campaigns Against Pesticides

PRODUCE GREEN FOUNDATION (HONG KONG)

http://www.producegreen.org.hk

The Close Encounter of the Organic Kind
Focus: Organic Farming Education
Funding: Quality Education Fund ($623,800 HKD)
Schedule: Initiated September 2001, Completed July 2002

About 20 Hong Kong schools were involved in the project to set up organic campuses and to develop an organic farming education pack. At the end of the project, about 100 teachers and students were invited to a seminar introducing the education pack. The final organic farming education pack was delivered to all teachers and students in primary and secondary schools in Hong Kong.

HIA Organic Farming Competition
Focus: Organic Farming Education
Partners: Hong Kong Airport Authority
Funding: Hong Kong Airport Authority ($45,740 HKD)
Schedule: Initiated January 2003, Completed May 2003

This project provided assistance to set up an organic farm for the Airport Authority of Hong Kong. Produce Green Foundation provided training on the basic techniques of organic farming to 120 students from 8 schools near the airport. The students and airport staff now run the organic farm.

Hong Kong Organic Directory 2002
Focus: Organic Product Education
Funding: Produce Green Foundation ($2,847 HKD), Advertising Fees ($29,900 HKD), Vegetarian Society of Hong Kong ($8,720 HKD)
Schedule: Initiated May 2002, Completed November 2002

This organic directory created by Produce Green Foundation is used for the promotion of organic farming and organic food to the Hong Kong public, by providing current information on local and imported organic products and services. It also gives a reference to organic producers and traders.

Hong Kong Organic School and Community Network
Focus: Organic Farming Education
Funding: ECF ($90, 692 HKD), Participant Fees ($10,000 HKD)
Schedule: Initiated October 2002, Targeted Completion July 2003

The project, with organic schools and communities, includes: (1) a Web site packed with gardening advice, (2) workshops on composting and organic gardening, (3) an organic gardening competition, and (4) a conference on organic gardening in schools and communities. The aim was to build up a network of about 100 organic schools and communities to encourage them to make compost out of organic waste and to use this compost to grow plants organically way. About 2,000 participated in different activities of the project.

Hong Kong Organic Standard and Certification and Hong Kong Organic Resource Center
Focus: Organic Standard and Certification
Partners: Hong Kong Baptist University and Hong Kong Organic Farming Association
Funding: Agricultural Development Fund ($3,996,000 HKD), Application Certification Fee ($40,000 HKD)
Schedule: Initiated December 2002, Targeted Completion November 2005

In order to enable the certification of organic foods, Produce Green Foundation is working to set up a resource center, a Web site, an organic standard, and certification body. Twenty operators from the organic sector will be selected for the first lot of inspection and certification by this project.

Tsuen Wan Golden Organic Garden Scheme
Focus: Organic Farming
Partners: Elderly Commission
Funding: Elderly Commission ($588,802 HKD), Participant Fees ($96,000 HKD)
Schedule: Initiated March 2003, Targeted Completion August 2004

An organic garden is going to be set up in Tsuen Wan. About 240 elderly people and 960 family members will be recruited to participate in the gardening work. A harvest day will be held at the end of this project.

Roots & Shoots Beijing (Beijing)
http://www.jgichina.org ZHANG Zhe, info@jgichina.org

Organization Background: Roots & Shoots is the Jane Goodall Institute's global, environmental and humanitarian education program for young people that began in 1991 in Tanzania. Now more than 5,000 Roots & Shoots groups have been registered in 70 countries. Roots & Shoots Beijing office started in September 2000. Roots & Shoots Beijing Office focuses on providing support to Roots & Shoots groups throughout China and within two years they have assisted more than 150 groups from kindergartens to universities to community groups.

Roots & Shoots Pilot Group Capacity Building Project (Beijing/Tianjin/Zhejiang)
Focus: NGO Capacity Building
Partners: Center for Environmental Education, Ahmedabad India; WWF China; U.S.-China Environmental Fund; Friends of Nature; Friends of Green; Tianjin Environmental Protection Bureau; Nankai University; Tianjin Natural History Museum
Funding: Shell (China)
Schedule: Initiated January 2003, Ongoing

This six-month training project is aimed at promoting the understanding of the environment among students environmentalists and empowering students organizations to better manage environmental projects. The Roots & Shoots office first conducted a needs assessment survey of Roots & Shoots groups throughout China and selected 30 Roots & Shoots Pilot Groups (RSPGs) from primary schools, junior high schools and secondary schools and universities in Beijing and Tianjin and Zhejiang province. To help the RSPGs, Roots & Shoots has: (1) conducted "Training for Trainers" for two members from each RSPG to enable them to train their own groups in better project management; (2) given the groups a management training manual; (3) visited RSPGs regularly to advise and evaluate their project management; (4) helped RSPGs organize a Roots & Shoots Action Week.

Sanjiangyuan Environmental Protection Association (Yushu, Qinghai Province)

http://www.snowland-great-rivers.org
ZHAXI Duojie, zhaxiduojie@snowland-great-rivers.org

Organization Background: Sanjiangyuan Environmental Protection Association is a nonprofit NGO, which was founded in November 2001 and authorized by Ministry of Civil Affairs of Yushu Zangzu Autonomous Prefecture. The association has organized a committee of Sanjiangyuan environmental protection experts who work to set up environmental education and training activities to strengthen environmental culture and sustainable development in Sanjiangyuan. The main projects to date include: (1) "The Snow Zone and The Great River" Wild Yak Environmental Education Mobile Vehicle Project; (2) university students supporting the ecological protection of the Qinghai-Tibet Plateau; (3) promoting organic farming and biodiversity in local communities; and (4) conducting scientific research on Sanjiangyuan ecological protection.

Saunder's Gull Protection Association of Panjin (Liaoning Province)

LIU Detian, heizuiou@263.net

Saunder's Gull Protection Projects
Focus: Animal Conservation
Partners: Friends of Nature, Global Village of Beijing, Environmental Protection Bureau of Panjin, Shuang Tai He Kou National Natural Reserve, Liao River Oil Field Shallow Sea Corp, Panjin Vocational and Technical School, Panjin 3rd Complete Middle School, Liao River Oil Field Experimental Middle School, Xing Long Tai 1st Primary School.
Funding: International Donations (7,740 RMB), Private Donations (LIU Detian, 40,000 RMB), 2002 Ford Environmental Award (50,000 RMB)
Schedule: Initiated 1991, Ongoing

This association was founded in 1991 to focus on protecting the saunder's gull and its wetland breeding habitats. In the past 12 years Saunder's Gull Protection Association initiatives have helped this endangered gull population increase from 1,200 in 1990 to 5,020 in 2002. Recent association activities include: "Welcome, Saunder's Gull" Eco-culture Seminar (20 May 2002); saunder's gull banding by volunteers and avian experts (16-18 June 2002); "Send baby saunder's gulls back home" (2 July 2002). The association also hosted the August 2002 China Student Green Camp that promoted environmental education and investigation into endangered gulls and a research initiative on saunder's gull winter habitat patterns (October to December 2002).

Sino-American Environmental Education Program of Southwest Normal University (SAEEP-SWNU) (Sichuan Province)

LIU Yang, weneedwaterandair@hotmail.com

Environmental Education Programs
Focus: Environmental Education
Partners: Environmental Protection Bureau of Chongqing; U.S. Peace Corps China site-schools; Forest Resources Confliction Management Office of FAO; WWF-China; Greensos; Chinese Student Environmental Protection Groups, middle schools
Funding: Foreign Affairs Office of SWNU, College Student Quality Office of SWNU, Private Donations
Schedule: Initiated March 2001, Ongoing

SAEEP-SWNU is a cooperative program between the Foreign Affairs Office of SWNU and the U.S. Peace Corps which has three main projects: (1) classes on sustainable development for college students; (2) environmental education classes for middle and primary school students; (3) environment protection publicity activities, such as Earth Day, organic composting, and used battery recycling campaigns. To date this program has involved more than 200 students, who have educated approximately 3,000 students and teachers from different universities, given 200 middle school students at least one environmental education class, and drawn 500 local community residents into environmental activities. SAEEP-SWNU has also published three environmental newsletters (1,000 copies each semester), collected and stored more than two tons of used batteries, and organized ten campus clean-up activities and five environmental movie shows.

South-North Institute for Sustainable Development (Beijing)

http://www.snisd.org.cn

Ongoing Projects (See CES 4 and 5): Demonstration Project to Commercialize Biogas Technology in Baima Snow Mountain Nature Reserve, Yunnan Province Promoting Green Electricity in Beijing and Surveying the Potential Consumer Demand for Green Electricity, Fuel Cell Vehicle Development and Commercialization, Clean Air for China and India, Green Market Development

Tibetan Antelope Information Center (Beijing)

http://www.taic.org

HU Jia, hujia@public.bta.net.cn

[Editor's Note: See commentary by YANG Guobin in this issue of CES for information on this NGO]

Volunteer Mothers for Environmental Protection Association (Xi'an, Shaanxi Province)

BAN Li, sxmmhb@163.net

Organization Background: Volunteer Mothers for Environmental Protection Association, founded in 1997, focuses its efforts on environmental education of children and women. The association's main projects include environmental education in primary schools, tree planting by mothers and their children, women environmental education in rural areas, and "Green home building" initiative. Its partner organizations include UNDP China, Environmental Science Center of Beijing University, China Environmental Science Academy, Konrad-Adenauer-Stiftung (Germany), Badi Foundation (Macau), International China Environment Foundation, Institute of Environment and Development, Global Women Funds, Global Village of Beijing, Friends of Nature, and different local and provincial governmental departments. Private donations, cooperative programs, or foundation funds fund all projects.

Volunteers Association of Environmental Protection of Yueyang City (Hunan Province)

WANG Zhoujian, c/o Wuli Gateway Sanatorium Yard for PLA officers; Yueyan, Hunan Province

Organization Background (See CES 5)

WWF Hong Kong

http://www.wwf.org.hk

Hoi Ha Wan Marine Life Center

Focus: Marine Conservation Education

Partners: City University of Hong Kong; Marine Biological Association of Hong Kong; Agriculture, Fisheries and Conservation Department of Hong Kong Government; Education Department of Hong Kong Government; Environmental Protection Department of Hong Kong Government; Ocean Park

Funding: Hong Kong Jockey Club (38 million HKD), HSBC (14.5 million HKD)

Schedule: Initiated September 2001, Targeted Completion 2003

To promote conservation of Hong Kong's marine environment and heritage through education and awareness building among students, teachers and people of Hong Kong and South China, WWF Hong Kong has begun construction on a Marine Life Center at Hoi Ha Wan. The site, which has been left in almost pristine condition with good water quality and relatively undisturbed corals, was chosen as an excellent study site for Hong Kong's over 80 species of corals and associated marine life. The Center will provide on-site educational facilities (display, aquaria, and lecture rooms), as well as teacher-led field studies programs in several coastal environments of Hoi Ha Wan. There will also be a glass-bottomed boat to provide even non-swimmers the opportunity to enjoy the best corals in Hoi Ha Wan. There is also a laboratory where marine research will be conducted.

Xinjiang Conservation Fund (Xinjiang Autonomous Region)

http://www.greenxinjiang.org

YI Yimin, yiyimin@21cn.com

Organization Background: Xinjiang Conservation Fund was founded in 2001 with support from Global Greengrants Fund. The group's mission in Xinjiang is to promote the development of local environmental organizations and to help

solve the environmental problems in this remote western region of China. Specialists working on different conservation field in Xinjiang form the Board of Xinjiang Conservation Fund.

Research and Investigation into Environmental Problems in Xinjiang
Focus: Environmental Research
Funding: Global Greengrants Fund

Xinjiang Conservation Fund is supporting endangered species environmental education and research into: (1) changes in the Talimu Basin ecosystem, (2) strategies for protecting the Xinjiang north salamander, (3) conservation of snow leopards, (4) protection of swans in Bayinbuluke.

Promoting Communication of Natural Conservation in Xinjiang
Focus: Environmental Education
Partners: China Environment and Sustainable Development Reference and research Center
Funding: Global Greengrants Fund

In order to promote public environmental awareness and disseminate information on nature conservation work in Xinjiang, the Xinjiang Conservation Fund has organized several lectures in Beijing on Xinjiang environmental issues. Moreover, Xinjiang Conservation Newsletters are published quarterly and the Fund is also supporting the publication of a book on Xinjiang environmental issues titled Grow One Seed.

Support Capacity Building of Local Environmental Organizations in Xinjiang
Focus: NGO Capacity Building
Funding: Global Greengrants Fund

Xinjiang Conservation Fund is providing financial support to university environmental groups and other green NGOs in Xinjiang. To date the four university environmental groups have received project grants include: Green Bookshelf Project of Environment Protection Association (Xinjiang Agriculture University); Green Light Forum Project (Green Sunshine Environment Protection Group of Xinjiang Normal University); Environmental Education Project (Green Source Environmental Protection Association of Xinjiang Medical University); and Green Bookshelf Project (Green Yili Environment Protection Association of Yili Normal College).

GOVERNMENT ORGANIZED NGOS (GONGOS) AND RESEARCH CENTERS

BEIJING ENERGY EFFICIENCY CENTER (BECON) (BEIJING)

http://www.beconchina.org
LIU Jingru, becon@public3.bta.net.cn

Barrier Removal for Efficient Lighting Products and Systems in China
Focus: Energy Efficiency Research, Energy Efficiency Education
Partners: UNDP, Global Environment Facility, State Economic and Trade Commission, Ministry of Finance
Funding: Global Environment Facility Grant ($8.14 million)
Schedule: Initiated 2001, Targeted Completion 2005

This project is working on the following issues: (1) upgrading the technical level of China's lighting industry, (2) improving product quality by supporting and stabilizing the market, (3) enlarging the market share of high quality efficiency lighting products, (4) increasing consumer awareness of electricity conservation in lighting through education and information dissemination, and (5) establishing a healthy and sustainable market for efficiency lighting products. After nearly two years of implementation, the project has made the following accomplishments: (1) drawn up and sought government approval for two energy-efficiency standards for fluorescent lamps, (2) worked out energy product certification implementation rules for fluorescent lamps-once experts and government departments give comments BECoN will submit the rules for final government approval, (3) produced the energy-efficiency education TV program Greenlights in China for CCTV10, (4) conducted a market survey of lighting products, (5) published education materials in cooperation with Shanghai Fudan University; and (6) held many workshops related to Greenlights.

China End-Use Energy Efficiency Project
Focus: Energy Efficiency Research
Partners: State Economic and Trade Commission (SETC), UNDP, GEF
Schedule: Initiated 2003, Targeted Completion 2006

China End-Use Energy Efficiency Project is designed to support of the first phase of a four part, 12-year strategic plan developed by China's government to dramatically improve the efficiency of its major end-use sectors-buildings and industry. This project aims to remove barriers to the widespread application and practice of energy conservation and energy efficiency in these major energy-consuming sectors in China. Overcoming these barriers will strengthen China's capabilities to aggressively pursue energy efficiency as its economy continues to grow. This three-year project expects to help bring about carbon emissions reductions of approximately 12 million tones on a cumulative basis and also reduce energy consumption in these sectors by nearly 19 million tons of coal equivalent.

China Sustainable Energy Future Scenarios and Energy Phase II: Related Carbon Emission Analysis
Focus: Energy Research
Partners: State Development & Reform Commission (SDRC), Energy Foundation, Shell Foundation, Lawrence Berkeley National Laboratory
Schedule: Initiated March 2002, Completed May 2003

Based on the results of the first phase of carbon scenarios analysis of different industrial sectors, this new project is working on an integrated report of China's sustainable energy future scenarios. The final report will be crucial reference material for new energy policymaking in China.

World Bank/GEF China Energy Conservation Promotion Project
Focus: Energy Conservation
Partners: State Economic and Trade Commission (SETC), World Bank; Global Environment Facility (GEF), Asia Alternative Energy Program-UK Department for International Development (ASTAE-DFID)
Funding: World Bank, GEF
Schedule: Initiated 1999, Ongoing

This World Bank/GEF supported project is being implemented in two phases. Phase 1 supported the creation of three pilot energy management companies (EMCs) and established an effective energy conservation information dissemination mechanism. Accomplishments of the pilot EMCs includes: (1) EMCs entered into over 200 energy efficiency subprojects for over 180 customers in the past five years, with total investments of 390 million RMB; (2) these energy-efficiency projects led to an aggregate energy savings of about 764,900 tons of coal equivalent and associated carbon dioxide emission reductions of 530,400 tons of carbon, as well as 13,800 tons of SO2, and 107,000 tons of total suspended particulates. Based on the successful demonstration of Phase I, SETC and the World Bank decided to initiate Phase II to establish more EMCs. A GEF grant for Phase II will be used to establish an EMC Loan Guarantee Special Fund to help EMCs get loans from commercial banks to implement energy-efficiency subprojects. Currently, two tasks are being prepared: the formation of an EMC development service team to implement the ASTAE-DFID training plan supported by a UK government grant and training for potential EMCs. To date, seven introductory training courses have been provided and with 160 potential EMCs participants. Another task is to establish an EMC Loan Guarantee Program, for which the operating method of specific guarantee transactions is being discussed with China National Investment & Guaranty Co., Ltd., the Guarantee Program implementing agency. The project managers expect that near 3.2 billion of energy conservation investment will be formed in seven years with an aggregate energy savings of about 35.33 million tons of coal equivalent and associated CO2 emission reductions of 23.42 million tons of carbon. The implementation of Phase II will further push forward the industrial development of EMCs in China and promote the development of China's energy conservation industry in market economy.

China Energy Conservation Association (Beijing)

http://www.ceca-setc.org.cn
JIANG Yun, ceca@mail.263.net.cn

Developing Chinese Regulatory Infrastructure Project
Focus: Energy Efficiency Policy
Partners: The Energy Foundation, Lawrence Berkeley National Laboratory (LBNL), SETC
Funding: The Energy Foundation, The Packard Foundation

Schedule: Initiated 1999, Ongoing

The research work for the first phase of this project has been completed, and the second phase is currently being implemented. The goal of this project is to improve the energy efficiency in key energy-intensive industry sectors in China through the identification of appropriate policy instruments. In Phase I the China Energy Conservation Association evaluated industrial energy-efficiency policies in other countries to assess similar policies in China and make recommendations for policy modifications. In Phase II the association will organize a team of industrial energy-efficiency policy experts to develop implementation measurements for part of the Energy Conservation Law, which were highlighted in Phase I of this project. Phase II also will develop a pilot program plan to test the concept of voluntary energy-efficiency agreements in the steel sector in Shandong province.

CHINA ENVIRONMENT AND SUSTAINABLE DEVELOPMENT REFERENCE AND RESEARCH CENTER (BEIJING)

http://www.chinaeol.net/ts/book_en/cesdrrc_home.htm

Dr. Eva STERNFELD, aiwastar@163bj.com

Organization Background: China Environment and Sustainable Development Reference and Research Center (CESDRRC) is a department of the Center for Environmental Education and Communication (CEEC) of China's State Environmental Protection Administration). This public environmental library and information center was set up in 1998 and today is staffed by Chinese and two German experts. The German experts are supported by the German CIM program. Examples of research and training programs sponsored and coordinated by CESDRRC include: (1) an organic food consumer guide for Beijing was published in September 2002 (partly funded by GTZ); (2) a monthly electronic newsletter (since April 2001), public lectures, and workshops on various topics; (3) training courses for environmental educators focusing on environmental management for schools, media competence for environmental educators, and education on water issues; (4) study tour for Chinese environmental educators to Germany; (5) consultant work for other institutions (e.g., EU-China Liaoning Integrated Environmental Protection Programme, GTZ, Inwent). Other initiatives are detailed below.

Ecological Consumer Guides

Focus: Environmental Education
Funding: Inwent-ASA Programme
Schedule: Initiated March 2003, Ongoing

After publishing the "Organic Food Consumer Guide for Beijing" CESDRRC is planning a series of consumer guides (either brochures or leaflets) dealing with various aspects of ecological consumption (e.g., water conservation, energy saving, eco-friendly building materials, waste management). CESDRRC will receive support from Inwent-ASA program to sponsor three-month scholarships for two students from Germany to assist with this consumer guide research work.

Profitable Environmental Management for Pilot Schools

Focus: Environmental Management, Environmental Education
Partners: Education Division of CEEC of SEPA
Funding: Heinrich-Böll Foundation, Germany (33,000 EURO)
Schedule: Initiated May 2003, Targeted Completion June 2004

Profitable environmental management (PREMA) is an environmental management tool designed to increase economic efficiency and ecological benefits of enterprises or other institutions. Originally developed by the GTZ for small enterprises and institutions (P3U Program) PREMA is a low-cost alternative to ISO 14000. For 2003, CESDRRC is planning to set up PREMA in 12 pilot schools in four eastern provinces-Jiangsu, Jiangsu, Zhejiang, Shandong, and Guangdong. In the start-up phase representatives of participating schools will receive training in two workshops moderated by an experienced German trainer. During the later implementation process the group will meet for two-one day networks meetings supervised by German experts.

Photo Catalogue: Crying for Help out of the Desert (Photos by Lu Tongjing)

Focus: Environmental Education
Funding: Heinrich-Böll Foundation, Germany (12,000 EURO)
Schedule: Initiated February 2003, Completed March 2003

CESDRRC produced a catalogue of photos taken by the environmental activist Lu Tongjing. Every year Lu, a laid-off worker from a coalmine in Inner Mongolia, travels several months a year to the desert areas of northwest China taking photos that document the vicious cycle of poverty and ecological degradation in that region. His photo report on dying

camels in the Alashan Region of Inner Mongolia published by several Chinese newspapers raised public discussion about the environmental crisis in northwest China. In 2003 photo exhibitions of Lu Tongjing's work will be shown in several Chinese cities and CESDRRC will support these events by producing a photo catalogue.

China Forum of Environmental Journalists (Beijing)

http://hjjx.zhb.gov.cn

Organization Background (See CES5)

Chinese Society for Sustainable Development (Beijing)

CHEN Kun, chenkun@acc21.edu.cn

Organization Background (See CES 5)

Hangzhou International Network on Small Hydropower (Zhejiang Province)

http://www.inshp.org

Organization Background: The United Nations Development Program (UNDP), The United Nations Industrial Development Organization, and the Chinese government cosponsor this program. The Hangzhou International Center on Small Hydro Power/International Network on Small Hydro Power (IN-SHP) was established in December 1994 to focus on the worldwide development of medium/small hydropower. Hangzhou International Center has its head quarters located at Hangzhou, southeast China is now a sponsored center of UNIDO.

Yunnan Econetwork (Yunnan Province)

http://www.yunnaneconetwork.net

Organization Background: Yunnan Econetwork (Yen) is a nonprofit network engaged in natural resources conservation, management and development in Yunnan province. Yen is working on a more effective and creative coordination of activities and an exchange of technical knowledge to reach common quality standards of conservation project implementation in Yunnan. Yen recognizes and affirms that the ecological and cultural resources of Yunnan are of global significance. Yen consists of individuals, organizations, projects and institutions to work together to protect these resources. Yen's projects originate from foreign governmental organizations, international organizations, international banking organizations, international NGOs, and scientific research institutes and include partnerships with local Chinese government departments. This unique network has succeeded in: (1) providing a forum for sharing technical knowledge; (2) providing information to other organizations of network members' activities and supplying information on fundraising for projects in Yunnan; (3) maintaining a data bank on international and national experts for consulting requests. Yen's network aims to generate new concepts and strategies to improve environmental protection of western regions in China and perform effective public awareness on conservation issues.

Student Environmental Protection Groups

Agricultural Service and Training Pioneering Team, Nankai University (Tianjin)

Zhang Huiteng, zht0695@sohu.com

Organization Background: (See CES 5)

Ai Cun Association of Southwest Agriculture University (Chongqing, Sichuan Province)

love-earth@greenren.org

Organization Background: Ai Cun ("Love the Village") Association, founded in October 2000, focuses on environmental protection and economic development in rural areas in Sichuan province. The main projects include: (1) used battery recycling, (2) campus secondhand market, (3) investigations into rural pollution (e.g., pollution in vegetable fields in Bei Bei District of Chongqing), and (4) study on rural economic development and conservation in the Three Gorges area. The partner organizations include Chongqing Green Volunteer Association, Environmental Protection Bureau of Bei Bei District, and Friends of Nature. Projects are funded by private donations and foundation funds.

China Green Student Forum (Beijing)

http://www.greenchina.org

Ongoing Projects: (See CES 4, 5, and Lu Hongyan feature article in this issue of CES) Consulting & Training Center for Student Environment Groups, Green Seed, Training Camp for Young Environmentalists

Environmental Protection Association of Sichuan International Studies University (Sichuan Province)

Sichuan International Studies University, P.O. Box 113, Chongqing 40031, China

Environmental English Education

Focus: Environmental Education

Partners: Friends of Nature, Chongqing Green Volunteers Union, Foreign Affairs Office, League Committee of Sichuan International Studies University

Funding: Friends of Nature

Schedule: Initiated 2003, Ongoing

This project was launched to promote environmental education in secondary schools through English classes with the first projects at Nankai Middle School and Chongqing No.1 Middle School. This project overlaps with another environmental education initiative to promote bird conservation and research in urban areas (initiated December 2002 and targeted completion October 2003).

Green Campus

Focus: Environmental Education

Partners: Chongqing Green Volunteers Union, Sichuan International Studies University

Funding: TBD

Schedule: Targeted Initiation 2004, Targeted Completion 2006

This project will explore sustainable ways to create a truly "green" campus at Sichuan International Studies University through: (1) promoting recycling, (2) developing environmental education courses, (3) cultivating an environmental-friendly culture, and (4) exploring different means to broaden scientific knowledge of students.

Poverty Reduction for Disabled People through Environmental Protection

Focus: Environmental Education

Partners: Chongqing Disability Federation

Funding: TBD

This project will promote environmental education among disabled people by involving them in environmental protection projects from which they benefit. The target population will be disabled people in rural areas and the project will work on increasing their capacity to participate in society and increase their social equality through environmental education and campaigns.

Environmental Protection Association of West Anhui University (Anhui Province)

http://www.wauepa.51.net

Second West Anhui University Students Green Camp

Focus: Biodiversity Conservation, Ecosystem Research, Environmental Education

Partners: Global Greengrants Fund, Greensos, China Green Student Forum, Nanjing Green Stone City, Environmental Protection Bureau of Liu'an City, Forestry Bureau of Liu'an City, Administration of Tiantangzhai National Nature Reserve

Funding: Private Donations, University and Foundation Funds

Schedule: Initiated 2002, Ongoing

The second Green Camp project has produced several outputs: (1) educating university students on conservation issues, (2) setting up an environmental sign board in Tiantangzhai tourism area to educate tourists, (3) disseminating information on illegal hunting during the field trip to Tiantanzhai Nature Reserve, (4) promoting environmental awareness and protection of tradition and culture in local communities, (5) undertaking water quality monitoring, (6) facilitating communication and cooperation with other student environmental groups, and (6) hosting discussions on local natural resources and models of environment-friendly economic development.

Set Up the University Environment Protection Union of Anhui Province
Focus: NGO Capacity Building
Partners: China Earth Day Union, Nanjing Green Stone City, 20 green students groups, Greensos, Environmental Protection Bureau of Anhui Province
Funding: Private Donations, Foundation Funds

With the goal of promoting regional cooperation among university student environmentalists, this project aims to build a platform for student green groups in Anhui and Jiangsu provinces to share information and cooperate on projects.

Environmental Volunteer Association (EVA) of Sichuan University (Sichuan Province)

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Organization Background: Created in 1995, EVA conducts numerous environmental education and research activities on the campus of Sichuan University. In 2002, EVA used university and business donations to carry out a battery recycling program. In addition to setting up environmental discussions and lectures at the university to celebrate Earth Day, EVA is planning a field investigation in Long Chi Natural Reserve, Sichuan province.

Fancier of Nature Association, Beijing University of Technology (Beijing)

http://www.greenfan.org

Organization Background: Fancier of Nature Association (ziran aihaozhe xiehui) was established in September 1998 at Beijing University of Technology and now has 650 registered members. The association carries out environmental education activities both on campus and in other provinces. In addition to the projects listed below, since 2001 this association has been working with the Caohai Environmental Education Network System, Administration of Caohai Nature Reserve, and Scientific Exploration and Outdoor Life Society (SENOL) in the Hope in Caohai "1+1" Education Assistance Project, which aims to help provide educational assistance to communities near Caohai Nature Reserve and promote wetland protection (funded by Friends of Nature Grants and membership fees).

Garbage Separating and Recycling Project
Focus: Waste Reduction
Partners: "Lvsetiandi" Recycle Company, Beijing Seventh Papermaking Factory, Beijing Useful Garbage Recycling Center
Funding: Membership Fees
Schedule: Initiated 1998, Ongoing

This project sets up recycling collection sites for plastic, paper and used batteries in student dormitories and other places on the Beijing University of Technology campus.

Green Bookshelf Project
Focus: Environmental Education, NGO Capacity Building
Partners: China Green Student Forum, Library of Beijing Industry University
Funding: China Green Student Forum, other national and international environmental NGOs
Schedule: Initiated 1999, Ongoing

To date, the Green Bookshelf Project has collected more than 400 books on environmental science, geography, economics, law, policy, literature, management, and other related environmental fields. This project is managed by the members of Fancier of Nature Association who have set up a system for searching for books. The project is working on collecting more books and trying to open a bigger and better Green Reading Room for student readers.

Green Classroom-Children Environmental Education Project
Focus: Environmental Education
Partners: Student Environment Protection Association, China Agriculture University; "Danyi Tianshi Aixin She," Capital Normal University; Green Shield, University of Science and Technology of Beijing; SENOL, Beijing Forestry University
Funding: Friends of Nature Grants
Schedule: Initiated August 2002, Targeted Completion 2003

Waves of rural migrants are seeking work in Beijing and the city struggles to provide them services, especially education. Rural migrant children lack legal registration and can only attend special, inexpensive, low quality schools. Fancier of Nature Association and five other student environmental groups in Beijing are bringing environmental education to these special schools. By January 2003, eight project members had taught 180 children in six classes at different schools across Beijing for a total of 120 hours. In March 2003, this project began to send 23 members to new schools to teach environmental education. [Editor's Note: See Box 2 in Lu Hongyan's feature article for more details on this initiative]

The First Capital University Students Supporting Eco-conservation in Qinghai-Tibet Plateau Action
Focus: Grassland Conservation
Partners: Sanjingyuan Environmental Protection Association, Green-Web
Funding: Sanjingyuan Environmental Protection Association
Schedule: Initiated 2002, Targeted Completion 2005

In July 2002, two members from Fancier of Nature Association attended "The First Capital University Students Supporting Eco-conservation in Qinghai-Tibet Plateau Action" and did investigations on environment, medical treatment, education, transportation and religion in the Sanjiangyuan area. One report was sent to the local government as reference for future decision-making. This project also organized circuit talks in seven universities in Beijing.

Green Action Group, Nankai University (Tianjin)

WANG Xinhuan, greengroup@eyou.com or green-group@163.com

Organization Background: Green Action Group was founded in March 1999 by seven students' scholarships. The campaign projects on campus include: (1) stop using disposal chopsticks, (2) used battery recycling, (3) reduce cards, save trees, (4) Green Bookshelf, (5) environmental lectures, and (6) bird watching. Partner organizations for these projects include Green Friends Association of Tianjin, Friends of Nature, Global Village of Beijing, Roots & Shoots Beijing, Environmental Protection Bureau of Tianjin, and Environmental Protection Bureau of Nankai District. Green Action Group's funding is from private and company donations and some foundation funds.

Green Association of Tsinghua University (Beijing)

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Organization Background: Green Association of Tsinghua University is a student environmental group, founded in the mid-1990s. In addition to the environmental education activities listed below, the association has created a garbage separating and recycling system for the campus.

"Ecology, Life and Living" Works Exhibition-Looking for the Green in Your Life
Focus: Environmental Education
Schedule: Initiated November 2000, Ongoing

Green Association created this exhibit of ecological education photo, videos, drawings, essays in response to the call for "Green Olympics" by the Beijing government. The exhibition also aimed to raise the awareness of Tsinghua University students on the relationship between people and nature and to reflect on how environmental changes on campus and in the city impacts people's lives.

Green Bookshelf
Focus: Environmental Education
Partners: China Green Student Forum, other NGOs and student environmental protection groups
Schedule: Initiated 2001, Ongoing

Green Association set up a "Green Bookshelf" at Tsinghua University library for environmental books, newspaper, journals and magazines. The materials give students and faculties an opportunity to learn more about the environment.

"Green Blood" Environment Protection Association, Bei Hua University (Jilin Province)

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Organization Background: "Green Blood" is registered under the Normal School of Bei Hua University. Their campus

projects include: (1) tree planting, (2) used battery recycling, (3) reduce cards, save trees, (4) environmental education talks, and (6) "6.5" Environment Day activities. Their partner organizations include Environmental Protection Bureau of Jilin City, other students environmental groups, Bei Hua University, and private companies. Their funding mainly comes from private, university, and company donations.

"Green Eye" Environmental Protection Society (Wenzhou, Zhejiang Province)

http://www.chinagers.org

Organization Background: Green Eye, founded in 2000, is a middle-school student green group in Cangnan, Wenzhou city. With support from companies and private donations and Friends of Nature grants, Green Eye has been setting up environmental education art exhibits and performance activities. Animal welfare is also a major theme of this group, which since 2000 has created educational activities for students to become aware of helping homeless pets and improving care of animals. The group has also conducted, with the help of the Cangnan Department of Forestry, studies on black market wildlife trading in China. They are issuing reports with data and news to the public and local government to encourage action to control such illegal trade.

Green Volunteers Association, Capital University of Economics &Business (Beijing)

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Environmental Exhibition
Focus: Environmental Education
Partners: Roots & Shoots Beijing
Schedule: Initiated November 2002, Ongoing

This project brings together a number of environmental student groups to raise awareness among students and communities on radiation pollution from mobile phones and prevention strategies.

Paper Recycling on Campus
Focus: Waste Reduction
Partners: The Seventh Beijing Papermaking Factory, Youth League Committee
Schedule: Ongoing

This project promotes the concept of recycling on campus and instructs students on how changed behavior can make a difference in protecting the environment. Two to three times a semester, Green Volunteers collects paper around campus-in the beginning they gathered about 20 tons papers each time but today each collection garners more than 150 tons. Green Volunteers is also negotiating with the university administration and stationery stores on campus to promote recycled paper for office work.

Survey and Education on Snow Leopard
Focus: Biodiversity Conservation
Partners: Global Greengrants Fund, Beijing Zoo
Funding: Global Greengrants Fund
Schedule: Initiated March 2003, Targeted Completion November 2003

This project aims to complete a detailed report on the snow leopard situation in China and promote the improvement of their captive breeding. Different activities will help the project introduce snow leopard as an endangered species to the public, especially to children, by cooperating with the Beijing Zoo. Another plan is to build a snow leopard protection network in China and cooperate with International Snow Leopard Trust to promote more organizations and individuals to join their Snow Leopard Survival Strategy (SLSS) program.

"Green Wing" of Zhongce Vocational School (Zhejiang Province)

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Organization Background: This environmental protection association Green Wing, founded in March 2000, promotes environmental education and environmental volunteer activities among university students. To date, "Green Wing" has carried out the following campaign projects on campus: (1) used battery recycling, (2) saving water and electricity, (3) noise

reduction, and (4) garbage separating and paper recycling. "Green Wing" also is conducting research on green technology practices and science, most recently completing a research report on water pollution control. The partner organizations for its activities include Friends of Nature, Green Zhejiang, and Friends of the Earth (Hong Kong). Private donations and the 2001 Ford Motor Company Conservation & Environmental Award have funded all projects.

"Promise to Nature" Southwest University of Science and Technology (Yunnan Province)

http://www.cngreen.org

Organization Background: This student environmental protection association, Promise to Nature, was founded four years ago and today has 530 members. They organized the First Southwest University of Science and Technology Students Green Camp in 2002 and did a field investigation on panda protection in Wanglang Nature Reserve, which focused on promoting environmental program management and eco-tourism. Their partner organizations in this study included WWF-China ICDP Office, Greensos, and other student green groups.

Pure River Environment Society, Beijing Technology and Business University (Beijing)

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Organization Background: Pure River projects focus on environmental education and campus environmental activities, such as paper recycling, environmental lectures, environmental exhibits, and also field trips to increase students' interest in environmental issues. Membership fees and private donations fund projects.

Scientific Exploration and Outdoor Life Society of Beijing Forestry University (Beijing)

http://www.senol.org.cn
FAN Yingying, senol@263.net

Organization Background: The Scientific Exploration and Outdoor Life Society (SENOL), established on 27 April 1994, expects its members to be willing to take action to enhance the environmental awareness on campus and in the surrounding communities. SENOL's activities include: (1) promoting green culture on campus through recycling, tree planting, bird watching, waste reduction, (2) public lectures and symposiums, (3) environmental education and volunteer training, and (4) participation in the Hope Project to support poor children's education in western China. A major SENOL activity is the annual summer environmental research investigations and campaigns. SENOL members and volunteers have (1) examined threats to vegetation in Qinling, Hainan in 1994, (2) studied water quality in the Xiaoluan River in 1995, (3) organized the Saving Golden Monkey Action in Yunnan in 1996, (4) planted trees in a desert areas of Inner Mongolia in 1997, (5) worked for the construction of Suonandajie Station on the Qing-Tibet Plateau for the NGO GreenRiver and conducted an environmental survey at the source of the Yangtze and Yellow rivers in 1998, (6) investigated natural forest protection in western Sichuan in 1999, (7) did environment education projects in Li County of Gansu province and Inner Mongolia in 2000 and 2001, (8) studied and documented in pictures and videos the possible environmental and migration problems stemming from the construction of Three Gorges Dam in 2002. Other SENOL projects include: Hope in Caohai "1+1" Education Assistance Project, Mountain School Project of Members Training and Capacity Building, and Used Book Recycling Project. SENOL's work has been recognized through three major awards: April 2001 Earth Award, October 2002 Ford Motor Company Conservation & Environment Award, and October 2002 Mother River Award.

Students Green Association of Haerbin Industry University (Haerbin, Heilongjiang Province)

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Organization Background: Students Green Association is a student environmental organization, founded on March 23, 1997. Its activities have broad impacts not only in university students, but also in local communities and different sectors in Haerbin. They have more than 3500 members around the city. Students Green Association focuses on promoting environmental awareness among public and influencing the policy-making process. Its activities get a lot of exposure from different media in Haerbin and other national newspaper and TV programs.

Environmental Education Project
Focus: Environmental Education
Schedule: Initiated December 1999, Ongoing

This association has carried out environmental education programs in more than 100 primary and middle schools and universities in Haerbin. This project also includes the creation of the "Green Voice" radio program at the Haerbin Literature Radio Station.

Organizing "Green Higher Education-Haerbin Industry University Wild Action"
Focus: Environmental Research
Funding: University Sponsors, Company Donations, Global Greengrants Fund Grants
Schedule: Initiated May 2002, Ongoing

In May 2002, Students Green Association organized the fifth Wild Action study-an investigation of the Xinkaihu Nature Reserve. The association also sent some core members to Keerqin desert in Jilin province to work with the local community to set up an environmental education program to help deal with desertification problems. Global Greengrants awarded the association a $400 grant in 2003 to organize an investigation of water pollution in the Songhua River and its impact on the local communities. The final report, due out at the end of 2003, will contain recommendations on pollution control in the Songhua River will be provided to the local governments and news media.

Environmental Volunteers Action
Focus: Environmental Education
Funding: Haerbin City Government (800,000 RMB), Volunteer Support
Schedule: Initiated 1999, Ongoing

This project recruits environmental volunteers throughout Haerbin and provides free environmental information to the public through a variety of activities. In the past four years the association has organized more than 6,000 volunteers to plant 30,000 trees. Another successful activity has been battery recycling involving primary and middle school students, local communities, and private companies. Since September 1999, more than 10,000 people have been involved in this battery recycling action and many have agreed to stop using "white waste" such as Styrofoam. The city government also gave 800,000 RMB to the association for battery research and recycling activities. Volunteers have also helped the association with garbage separating and recycling projects and acting as environmental guides in the city zoo.

Social Surveys
Focus: Environmental Education
Schedule: Ongoing

The Students Green Association is promoting environmental awareness among the public through the dissemination of reports and taking surveys. The Association has already finished "Mother River Investigation Report," "Disposable Chopsticks Survey," "Public Environmental Awareness Survey," "Railway Environmental Regulation Implementation Survey," and "Survey of Used Battery Recycling in Haerbin."

Wildlife Protection Actions
Focus: Environmental Education on Wildlife Protection
Partners: Wildlife Conservation Society (WSC)
Schedule: Ongoing

This project investigates wildlife conditions in northeast Tiger Park in Heilongjiang and organizes bird watching. The association also set up a public wildlife protection environmental education activity in November 2002.

Xi'an Students Green Camp (Shaanxi Province)

http://www.xagreencamp.org
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Organization Background: Xi'an Students Green Camp, founded in March 2001, focuses on the ecosystem of western China and raising public awareness of environmental protection by promoting cooperation among all the university green groups in Xi'an and carrying out environmental education projects. Besides the major "Green Trips" described below, Xi'an Student Green Camp, together with the Little Swan Artistic Troupe, carried out an investigation of the ivory trade in Xi'an in 2002 with funding from the International Fund for Animal Welfare (IFAW). In partnership with WWF-China, Shaanxi Green Future Eco-network, "Kuafu Tribe" University Students Outdoor Sports Club, this student group recently completed the "Close to Nature" Environmental Education for University Students project, in which they set up capacity building and networking activities for student green groups in 2002 and 2003.

2001 Green Trip: "Looking for the Silk Road"
Focus: Water Research, Desertification Research
Partners: UN 2050 International Environmental Committee, Little Swan Artistic Troupe, China Student Green Camp, Environmental Protection Bureau of Shaanxi Province, eight student green groups in Xi'an,
Funding: Private Donations, Camper Fees, Government and University Sponsors, Company Donations
Schedule: Initiated March 2001, Completed December 2002

This green trip took students to camp and do investigations in Gansu province focusing on: (1) water shortages in Dingxi county (Lanzhou city), (2) desertification in Minqin Qin county (Wuwei city), and (3) Water and erosion problems in forests on Qilian Mountain (Zhangye city). The camp members completed one systematic investigation report for each of the local governments. During the trip, students also organized and presented four environmental education activities in four cities: Lanzhou, Zhangye, Wuwei, and Jiayuguan. They documented the investigation trip with more than 1,200 pictures, some of which were shown at several talks and exhibitions in Xi'an organized by camp members.

2002 Green Trips: "Looking for a Desert Control Hero, Walking into the Desert in North Shaanxi" and "Walking into the Forest in Qin Ling Mountain"
Focus: Environmental Education, Desertification and Forestry Education
Partners: 25 students green groups from Xi'an, UN 2050 International Environmental Committee, Volunteer Mother for Environmental Protection Association, Little Swan Artistic Troupe, Forestry Department of Shaanxi Province, Environmental Protection Bureau of Shaanxi Province, Shaanxi 6th TV Station
Funding: Camper Fees, Government and University Sponsors, Company Donations, Publicity Merchandise Sales
Schedule: Initiated March 2002, Completed December 2002

This green trip took students to investigate the following environmental issues in Shaanxi province: (1) participatory evaluation of desert control and community economic development (Dingbian country), (2) degradation of forests (Jingbian county), (3) natural forest program and local community development in Qinling Mountains (Ningshan county), (4) environmental education in primary and middle schools (in several cities and counties). The student participants organized two environmental education activities during the Green Trip in Yanan and Yulin and finished three systematic investigative reports for the local governments. They documented the local ecosystem with more than 1,500 pictures, which were exhibited at talks in Xi'an city.

Xin Xin She, Sichuan University (Sichuan Province)

http://susu.scu.edu.cn/aixin
LU Zhaogang, suibwx@163.com

Organization Background: Xin Xin She was founded in November 2001 by the scholarship winners of Cyrus Tang Foundation in the United States to focus on social welfare and environmental education. In July 2002 the organization conducted an education survey in 40 Primary Schools in Sichuan and Yunnan provinces. Drawing on membership fees and private donations, Xin Xin She worked with the Student Union of Electronic Department of Sichuan University to organize 200 students and faculty members to plant more than 100 trees on campus in March 2002. In November 2002 the group joined the Environmental Department of Sichuan University to screen the film "Balance," which depicts the true story of Suo Nan Da Jie a former administrator of Zhiduo country in Qinhai province who worked for Tibetan Antelope protection and lost his life fighting illegal hunters.