

EfD

Environment for Development



EFD INITIATIVE CENTER REPORT

CHINA 2013/14

The mission of EfD China, also known as the Environmental Economics Program in China (EEPC), is to improve welfare among poor people by preventing pollution and natural resource depletion, and to promote sustainable use of natural resources and ecosystems through the application of environmental economics tools.

Cover: Fields and forest, taken on a field survey in Gansu province

THIS REPORT

This report presents EfD China, also known as the Environmental Economics Program in China (EEPC), its members and work during 2013/14. The Chinese node of the Environment for Development initiative is based at:

EfD Center China
Environmental Economics Program in China (EEPC)
National School of Development, Peking University
Rm 101, Conservation Biology Building
Peking University
Beijing 100871, CHINA
Tel: Fax: +86 10 62767657
Email: eepec@pku.edu.cn
www.efdinitiative.org/china





A tree nursery in Gansu province, China.



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“Traffic officials have been trying to figure out how to get cars off the road since the 2008 Beijing Olympics.”

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The Bird's Nest, Beijing National Stadium



Professor Jintao Xu, Director

MESSAGE FROM OUR CENTER DIRECTOR

In China, many economic analyses point to the fact that policies for environmental protection, such as pollution control, have been undercut by the heated pursuit of economic growth at the local level. Yet, at the same time, economic opportunity has been limited by the expansion of government-sponsored ecological programs that do not necessarily achieve the desired goal of sustainable development. The Chinese government, in its newly promulgated guidelines for the “Twelfth Five-Year Plan (2011-2015),” has addressed its strong determination to emphasize clean, green technology and sustainable development. Currently China is already ranked as No. 1 in clean energy investment globally, and is preparing to take the lead in the Green Race while maintaining a stable economic growth rate in the coming years.

The Environmental Economics Program in China (EEPC) is a research program focusing on applied policy research. In particular, it attempts to identify areas needing improvement in climate and environmental policy and to address policy needs in conducting social and economic assessments of ongoing public programs. Most of the work of EEPC is focused on forest policy, with attention in recent years to reforming the state forest sector and collective tenure system. These two themes have been top priorities on the agenda of the

central government and have merged into the broader national agenda of establishing a new economy in the countryside. EEPC’s other research arenas include water pricing policies, carbon sequestration monitoring, air pollution control and urban transportation, and environmental performance of industrial enterprises.

Research by the EEPC has provided academia and government agencies with comprehensive information with regard to the baseline situation in both state and collective forest sectors. It has been widely acknowledged that the lack of appropriate mechanisms and incentives in the state forest sector underpins severe poverty in forested areas and unsatisfactory performance of forest resource conservation. Forest tenure reform policies have been launched in more than 20 provinces in China. Policy recommendations made by EEPC researchers have been influential during the reform process.

During 2013, the EEPC conducted rigorous analyses on data from two rounds of surveys on China’s collective forest sector, which were finished in 2006/2007 and 2011. A World Bank book volume based on analyses of data from the survey has been edited and is scheduled to be published in 2014. The book provides a comprehensive assessment of China’s collec-

tive forest tenure reform. Experiences and lessons learnt from China’s forest tenure reform will be an important reference for scholars and international organizations looking over forest sector reforms in many other developing countries.

During 2013, EEPC researchers published nine peer-reviewed publications in international journals. The main research themes of these publications are forest sector reform, environmental regulations, transportation management, and behavioral studies in household decision making.

As for capacity building, EEPC has devoted efforts to graduate and undergraduate courses on environmental and natural resource economics at Peking University, and has collaborated with international universities and institutions such as Resources for the Future, the University of California, Berkeley, and the University of Gothenburg. By 2013, EEPC had seven faculty members, including two professors, one associate professor and two assistant professors at Peking University, as well as one associate professor and one assistant professor at Renmin University.

Jintao Xu
Director



The 7th Annual Meeting of the Environment for Development (EfD) Initiative at Noordhoek, South Africa.

THE EFD ANNUAL MEETING 2013 IN SOUTH AFRICA

DECISIONS AND DISCUSSIONS ON RESEARCH

A wide representation of research organizations attended the academic part of the 7th EfD Annual Meeting in Cape Town, South Africa, October 24-27, 2013. Apart from a strong presence from all six EfD centers and a selection of their associated researchers, all EfD partner organizations were present: the Research Nucleus on Environmental and Resource Economics (NENRE) of the University of Concepción, Chile; Resources for the Future from Washington, DC; and the Environmental Economics Unit of the University of Gothenburg. Also present were other organizations with which EfD collaborates, such as the World Bank, Environmental Defense Fund (EDF), International Development Research Center (IDRC), Swedish Environmental Protection Agency, Beijer Institute of Ecological Economics and Stockholm Resilience Center.

The meeting opened with an enthusiastic welcome by Gunnar Köhlin, followed by welcoming remarks by Anthony Leiman, director of EfD South Africa (EPRU), based at the University of Cape Town. During the four-day meeting, there were four keynote speeches and three other special sessions with invited speakers taking place in a plenary setting. The first keynote speech was by Peter Berck, Professor of Agricultural and Resource Economics, University of California, Berkeley on **Identification: the problem that just won't die**, discussing the problem of untangling cause and effect in complicated interactions. The second, about **Systematic Conservation**, was given by Juha Siikamäki, Associate Research Director and Fellow, Resources for the Future (RFF).

The third keynote on **Modeling Land Use** was given by Jo Albers, Professor of Applied Economics, Oregon State University. The fourth keynote speech about **Accounting for Ecosystem Services**, should have been presented by Urvashi Narain, Senior Environmental Economist, World Bank, but since she was delayed, Dr. Francisco Alpízar substituted and gave the speech in her absence. "Accounting for Ecosystem Services" is a process of assigning values to the services provided by natural resources – for example, the services that natural water sources provide to farmers – which, until very recently, have been ignored in calculations of national income.

The special sessions in the program had a focus on leading the way for EfD to partner in new collaborative research projects.

First out was a session about **REDD** (Reducing emissions from deforestation and forest degradation), where Randall Bluffstone, Professor of Economics, Portland State University, presented **World Bank supported REDD projects**. REDD is a program to pay people in developing

countries to avoid cutting or damaging forests so that forests can continue to sequester carbon. This was followed by a presentation of Environmental Defense Fund's (EDF's) REDD projects, where opportunities for potential new collaborations between EDF and EfD were elaborated on. Presentations were made by Richie Ahuja, Regional Director, Asia, EDF and Ferdinand Vieder, Social Science Research Center, Berlin. Another focus was **Accounting for Ecosystem Services**, and contributions to the discussion were made by Jeff Vincent, Professor of Forest Economics and Management, Duke University and Jessica Alvsilver, Swedish Environmental Protection Agency (Naturvårdsverket), who made a proposal to EfD centers to collaborate on a number of case studies to be carried out from 2015 and beyond.

Finally, Michael Toman, Research Manager, Development Research Group, World Bank, talked about **The World Bank's Environmental Research Priorities**, a fruitful discussion to reflect on what is already on the EfD center's research agendas in light of World Bank needs.



Jane Turpie, Deputy Director, EfD South Africa, Randall Bluffstone, Professor of Economics, Portland State University, Sue Snyman, EfD South Africa Research Fellow, Yonas Alem, EfD Research Coordinator and EfD Ethiopia Research Fellow, and Razack Lokina, Director, EfD Tanzania



Thomas Sterner, Visiting Chief Economist EDF and EfD Sweden Research Fellow, Randall Bluffstone, Professor of Economics, Portland State University, Ferdinand Vieder, Social Science Research Center, Berlin and Richie Ahuja, Regional Director, Asia, EDF

In addition, 66 presentations were made during the parallel sessions. These covered the following themes; **Land Use, Energy, REDD, Agriculture, Parks and Wildlife, Forestry, Climate Change, Fisheries, Ecosystem Services and Water, Bioenergy, Environmental Policy Instruments, Experiments, Transport and Health.**

The next EfD Annual Meeting will be held in Tanzania in October 2014.

POLICY DAY

Since 2010, EfD has hosted a separate Policy Day as a starting point for the annual meeting. The aim of the Policy Day is to make EfD research available for primarily local policy makers and also to get policy makers and other stakeholders' input into the ongoing research.

The policy day in Cape Town on October 23, 2013, hosted by EfD South Africa (EPRU), brought together policy makers from various governmental levels, practitioners, NGOs and international and national researchers. The purpose of the day was twofold: first, to identify South African policy makers' research priorities as inputs to EPRU's work; second, to highlight examples from EPRU's research and capacities. The policy day included three distinct sessions focusing on fishery economics, biodiversity and conservation, and climate change.

Fisheries

In the first session, Kim Prochazka, Department of Agriculture, Forestry and Fisheries, presented a range of research questions where economics can provide valuable contributions. These included various efficiency and distributional implications of when to fish or not, who should be given the right to fish and how, how to monitor compliance, etc. Tony Leiman, EPRU center director, gave an overview of research questions that EPRU has worked on in recent years, acknowledging that economics can only be complementary to natural sci-

ences research. The discussion that followed allowed all participants to propose topics and ask questions. There was broad agreement that a particularly important research topic is to evaluate an upcoming reform related to communal rights for inshore fishing in South Africa. What are the impacts of reform on fisheries and fishers who previously had fishing rights, and how are benefits shared? Fisheries reform involves the well-known "tragedy of the commons" problem: if anyone can use a resource, no one has the incentive to conserve it. One solution has been to "devolve" responsibility for a resource to a group of users who can then cooperate to manage it. However, a number of participants from South Africa pointed out that experiences from devolution of other forms of communal rights for agriculture had performed poorly. Another strong message from policy makers to researchers was a call for more multidisciplinary work involving natural sciences, economics and possibly other social sciences. At least, researchers should be well informed of each other's work and make sure that case studies are made in the same area.

Biodiversity and conservation

Jane Turpie of EPRU gave an overview of the toolbox of environmental economics and how it can be applied to a number of research questions of relevance for biodiversity and conservation. Mandy Driver from the South African National Biodiversity Institute (SANBI) presented its work and gave an overview of economic related research needs. She also pointed to the important role of intermediaries in bringing research findings to policymakers. Research topics included: what proportion of the wildlife industry is linked to biodiversity? What is the importance of South Africa's biodiversity assets to jobs and livelihoods? What are the returns from investing in ecological infrastructure?

Climate change

The third session focused on climate change. Thomas Sterner, University of Gothenburg and

Visiting Chief Economist, Environmental Defense Fund, is lead author on the policy instruments chapter for the upcoming IPCC report. He discussed scientific background to the topic and the importance of taking action now despite the political challenges involved. He used Germany as a good example of political and technological leadership, not least through use of feed in tariffs, a policy to encourage investment in renewable energy, which has helped drive down the costs of solar and wind power. Martine Visser highlighted parts of EPRU's work, including the use of experimental economics to increase understanding of how vulnerable groups adapt to flood risk and how farmers respond to climate variability and change. Helen Davies, from the Western Cape provincial government, and Sarah Ward, from the City of Cape Town, gave their views of important research needs. Provincial examples ranged from the costs of not addressing climate change, to more analysis of the economics of the food-water-energy nexus, to efficient use of land, to provincial impacts of a carbon tax at the national level. Examples from the city of Cape Town included how to stimulate behavioral change for greater energy efficiency, economic impacts of green procurement and efficient revenue models for resource taxes to avoid perverse incentives (unintended effects that cause people not to save energy). Questions were asked to the panel, not least related to how provincial and city policies are aligned with decisions at the national level and how the government's agenda for growth and jobs is aligned with sustainable development. Participants appreciated the discussions and stressed the need to continue the dialogue at a more detailed level to narrow down the agenda.

Mare Sarr concluded the policy day by thanking the participants for valuable inputs to EPRU's research agenda and acknowledged EPRU's responsibility for and interest in continuing the dialogue to identify common grounds for research.



Wilfred Nyangena, EfD Kenya Senior Research Fellow, Jane Kabubo-Mariara, Coordinator, EfD Kenya and Senior Research Fellow, and Richard Mulwa, EfD Kenya Senior Research Fellow



Min Wang, EfD China Research Fellow, Marcela Jaime, PhD student at University of Gothenburg and Róger Madrigal, Senior Research Fellow EfD Central America



A delegate from the Climate and Development Knowledge Network poses a question to the panel on Policy Day

RESEARCH POLICY INTERACTION

EEPC actively participates in the process of policy reform in China's forest sector and has been the main force in conducting extensive surveys and rigorous analyses on emerging policy issues such as air quality management, water pricing, city transportation management, etc. The goal of the EEPC is to help the government make intelligent decisions in the process of decentralization in order to reduce the cost of reform and to set a foundation for the sustainable management of natural resources. The EfD initiative is built on the premise that, if relevant applied research is introduced in policy making processes, then this will result in improved policies and consequently poverty reduction and more sustainable development.

EfD China researchers suggest solutions to reduce traffic in Beijing

A plan to reduce automobile traffic in Beijing was announced in early 2014. EfD China played a major role in figuring out what strategies would – and would not – be likely to reduce the high price in pollution and congestion that Beijing residents have been paying for economic growth.



Traffic jams at Xizhimen, Beijing.



Fields and town in northwest Yunnan province.

EEPC focuses on applied policy research. In particular, it attempts to identify areas of environmental policy where improvement is needed, and to address policy needs by conducting social and economic assessment of ongoing public programs. Currently, EEPC is concentrating on analyzing the process of state forest sector reform and collective forest tenure reform, evaluating the reform performance against set criteria and providing policy suggestions. Issues under investigation by EEPC include forest policy reform to induce higher investment in forests, better forest management, and transformation of state-owned forest enterprises; enhanced livelihoods for farmers; pollution control policies; and changes in national gasoline standards and their impacts on the market and the environment.

Starting in 2013, EEPC has been leading the exploration of the green growth ideology for the forest sector. EEPC has cosponsored a workshop with the State Forestry Administration on the forest sector's role in China's transformation toward green growth. The consensus was that the forest sector can make a significant contribution by deepening institutional reform, raising forest productivity and supporting the growth of forest-based bioenergy production.

EEPC has also collaborated with the Beijing Transportation Research Center and provided policy recommendations for the Beijing Municipal Transportation Commission. EEPC has also been involved with collaborative initiatives on energy policy with the National Development and Reform Commission (NDRC) and several fellow colleges on the PKU campus.

“Traffic officials have been trying to figure out how to get cars off the road since the 2008 Beijing Olympics,” said Professor Jintao Xu, director of EEPC. “Our research has shown that restrictions such as odd-even license plates haven't helped, and that charging a fee to cars that enter the city at peak times is more likely to reduce traffic.”

The problem lay in convincing Beijing transportation officials to take the politically unpopular step of charging a fee for driving at peak times. “The public does not want to pay to use public roads,” said EfD Research Associate Lanlan Wang, who conducted the research with Deputy Director Ping Qin. “People think it's more fair to have a rule that applies to everyone, regardless of ability to pay a fee.”

This perception of fairness has little to do with the form of government, and has not been borne out by research. Mexico City, for instance, tried driving restrictions, only to find that wealthier people bought a second car with a different license plate to get around the rules. (A consistent theme in EfD research in many countries is that the lowest income people are not hit hardest by increases in the cost of driving because they are less likely to own cars.)

“In 2008, I knew about the failure of driving restrictions in Mexico City,” Dr. Xu continued. “So I started talking to planners in the Beijing Transportation Authority, to warn of possible unintended consequences of the license plate rules.” This was the start of an ongoing relationship between EfD China and the Transportation Authority, including a conference and internships.

A massive gridlock incident in late 2010 emphasized that the license plate policy wasn't enough to control congestion. Influenced by this incident and by EEPC researchers' recommendations, the Transportation Authority submitted a list of new traffic measures. Higher parking fees and higher penalties for breaking the license plate rules were adopted. Finally, in early 2014, Beijing announced a congestion pricing policy: a fee to drive into the city at peak times. “This market-based approach is likely to be more effective in reducing driving,” concluded Dr. Xu.



By the end of 2012, the number of cars registered in the City of Beijing reached 5.2 million, 60% of which are privately owned.



Professor Jintao Xu (third from left), EFD China/EEPC Director, spoke at a panel for the 200-year anniversary of the Royal Swedish Academy of Agriculture and Forestry, January 27, 2013, Stockholm.

POLICY INTERACTIONS

Green growth and forest sector policy change

In the past eight years, EEPC has been involved with assessing impacts of forest tenure reform on forestry management and farmers' livelihood. In 2013, the effort has been extended to help shape a new framework of forest policy in China, in order for the sector to catch up with the country's pursuit of a green growth model.

In the beginning, the forestry administration's approach to green growth was to develop a set of indicators measuring green growth performance in the forest sector. EEPC researchers, in the process of forest policy consultation, advised that bigger thinking is necessary.

Forest sector development is the foundation of the nation's green growth transformation. Two decades ago, a set of industrial policies were developed, featuring the substitution of steel, cement, and coal for wood. This industrial policy is believed to be the reason for the formation of the existing industrial structure and the ensuing development pattern featuring high carbon intensity, high pollution, high energy and material consumption, and low productivity. A green growth development model calls for reversal of the substitution policy, therefore a structural transformation of the economy. A greater contribution by the forest sector to the consumption of materials and energy will be key to this transformation.

Forest tenure reform, which has been revitalized in the past decade, will play an even more significant role in this green growth transformation. To raise forest productivity for a greater supply of timber and woody biomass, forest tenure has to be stronger than it was before, so that forest producers are more responsive to market signals and economic incentives. A new set of forest policies is also called for. Under previous forest policies, conservation programs were probably oversold and forest production was over-suppressed, supported

by a set of policies in favor of forest protection and more government control. Now it is time to seek removal of policies constraining forest producers (e.g., logging quotas and enforced zoning of ecological forests) and to increase policies that promote and protect forest investment, especially by farmers and the private sector. Direct subsidies to timber forest management should be under consideration, because they can create incentives for farmers and private sector investment.

These messages have been communicated through various channels, e.g., policy consultation meetings with the State Forestry Administration (SFA) and other government agencies. EEPC has been commissioned to draft policy research reports on green growth and a new framework of forest policies by the Department of Policy and Legislation (DPoL), and by the Forestry Economic and Development Research Center (FEDRC), all under SFA.

A license plate lottery in Beijing

Beijing is unique in restricting license plates via a random lottery rather than using an auction system. This lottery policy has had a significant effect on both vehicles sold and traffic congestion. However, the policy also had unintended consequences; for example, it artificially swelled the number of entries to the lottery for license plates, and allocated vehicles to people who did not value them most. In addition, the lottery did not reduce the fuel savings as much as would be expected from cutting the number of vehicles.

Starting on December 24, 2010, individuals and corporations were required to win a publicly-held lottery administered by the Beijing Municipal Transportation Commission. The lottery is held on the 26th day of each month, with 20,000 new car registrations to be selected each month from the pools of eligible applicants.

Qualified applicants can enter the lottery by filling out a short online application and do not have to pay a fee. This structure led all members of the family to enter the lottery in many cases. In addition, households without an immediate need for a car entered the lottery, hoping that they would need a car by the time they won it. Over time, the lottery pool saw dramatic increases in the number of entries, and commensurate decreases in the probability of success. While those who participated in the first lottery in January 2011 had a 9% chance of winning, that probability decreased to less than 2% by August 2012. The difficulty of winning the lottery suggests that many entrants with a high willingness to pay for a vehicle were unable to buy a car. At the same time, many quotas held by those who won the lottery expired without being used.

Although the absolute number of vehicles on the road did not decrease, the growth of the number of vehicles slowed dramatically with the lottery policy. Along with other measures, traffic congestion improved immediately in 2011 after the advent of the license plate lottery. For each month in 2011, congestion was noticeably lower than in 2010, suggesting that the set of policies enacted during this time had a significant effect. According to the 2011 Beijing Transport Annual Report, average driving speeds rose from 22.6 km/h in 2010 to 25.3 km/h in 2011. Yet, it is still too early to judge whether reduced congestion will continue into the medium and long term.

The researchers also estimated the effect of the lottery on fuel use. We projected the vehicle growth, vehicle distance travelled, and average fuel consumption rate under a “no policy” scenario and the lottery policy scenario. We projected that, in 2020, the total number of vehicles under the lottery policy will be 20% lower than the number under the no-policy scenario. However, total fuel consumed is projected to be only 3% lower. There are two reasons for this disparity. First, we anticipate that vehicle distance travelled will fall less sharply under the lottery policy. Second, the lottery policy has encouraged consumers to concentrate their purchases on more expensive cars, resulting in a gradual shift in the vehicle mix toward less fuel-efficient vehicles. Therefore, these factors have the combined effect of lessening the fuel savings that would be expected from cutting the number of vehicles by means of the lottery policy.

POLICY LINKS

Senior members of the EEPC sit on several government advisory bodies and give advice on key policy issues such as forest tenure reform, carbon management, environmental indicators, and environmental fiscal reforms.

Since state forest reform was identified as one of the ten priority research themes by the State Forestry Administration of China (SFA), EEPC has been commissioned to undertake field studies and provide policy recommendations. Policy briefs and reports have been submitted to SFA, emphasizing the exploration of institutional reforms and new mechanisms to achieve sustainable development.

EEPC has been constantly commissioned by SFA and the Ministry of Environmental Protection of China (MEP) to conduct policy related studies. Topics include “Green Growth and Forest Development,” “A New Policy Framework for Forest Sector in China,” “Economic Policies for Environmental Protection,” etc.

Professor Jintao Xu serves as an adviser to the Department of Afforestation within SFA. He was also a member of the Lead Expert Group within the China Council for International Cooperation on Environment and Development, and took part in research planning, evaluation, and preparation of final policy recommendations to present to the council at its annual conference. On the international scene, Jintao Xu is a founding member of the Forest Policy Think Tank in Asia-Pacific, under the Food and Agricultural Organization of the United Nations.

POLICY SEMINARS, WORKSHOPS AND CONFERENCES

EEPC and the Forestry Economics and Development Research Center (FEDRC) of SFA co-organized a workshop on Green Growth and Forestry Development in November 2013. Participants in the workshop included senior officials from SFA, the National Development and Reform Commission (NDRC), the Policy Research Office of the State Council, and academics. EEPC researchers have presented their work at domestic and international conferences. A year-round energy and climate seminar series is organized by EEPC at PKU.



The workshop on Green Growth and Forestry Development, co-organized by FEDRC of SFA and EEPC, with participation from NDRC and State Council policy analysts, November 27, 2013, at Peking University.

RESEARCH

Applied, policy relevant research is a core activity for the EfD initiative. Research is a critical input in a long-term strategy to reduce environmental degradation, eradicate poverty and ensure sustainable use of natural resources. A major challenge in developing countries is, however, the lack of comprehensive research on environmental resource management and poverty alleviation which can inform national strategic plans and policies. Policymakers, farmers, donors, and others need research-based information, not only to design policies but also to evaluate their efficiency in reaching their objectives.



Farmer in Yunnan province, southwest China

PUBLICATIONS 2013

Peer reviewed

Li, Z., and H. Zhang. 2013. Productivity Growth in China's Agriculture during 1985–2010. *Journal of Integrative Agriculture* 12: 1896-1904.

Carlsson, F., P. Martinsson, P. Qin, and M. Sutter. 2013. The Influence of Spouses on Household Decision Making under Risk: An Experiment in Rural China. *Experimental Economics* 16: 383-401.

Chi, C., J. Xu, and L. Xue. 2013. Public Participation in Environmental Impact Assessment for Public Projects: A Case of Non-participation. *Journal of Environmental Planning and Management*.

Qin, P., and J. Xu. 2013. Forest Land Rights, Tenure Types, and Farmers' Investment Incentives in China: An Empirical Study of Fujian Province. *China Agriculture Economic Review* 5: 154-170.

Carlsson, F., H. He, and P. Martinsson. 2013. Easy Come, Easy Go. *Experimental Economics* 16: 190-207.

Carlsson, F., M. Kataria, A. Krupnick, E. Lampi, Å. Löfgren, P. Qin, and T. Sterner. 2013. The Truth, the Whole Truth, and Nothing but the Truth — A Multiple Country Test of an Oath Script. *Journal of Economic Behavior and Organization* 89: 105-121.

Xu, J., X. Wang, and S. Zhang. 2013. Risk-based Air Pollutants Management at Regional Levels. *Environmental Science & Policy* 25: 167-175.

Carlsson, Fredrik, Mitesh Kataria, Alan Krupnick, Elina Lampi, Åsa Löfgren, Ping Qin and Thomas Sterner. 2013. A Fair Share: Burden-sharing Preferences in the United States and China. *Resource and Energy Economics* 35: 1-17.

Ostwald, M., M. Persson, J. Moberg, and J. Xu. 2013. The Chinese Grain for Green Programme: Assessing the Carbon Sequestered via Land Reform. *Journal of Environmental Management* 126: 142-146.

Research Briefs

Qin, P., and P. Hu. 2013. Shale Gas Development in China: Assessment of Potential and Environmental Impact. National Academy of Development and Strategy, Renmin University, ERS201303.

Policy Briefs

Zhang, H., and J. Xu. 2013. A New Framework for Forest Policy in China submitted to the Department of Policy and Legislation. The State Forestry Administration.

Reports

Yang, J., Y. Liu, P. Qin, and A. Liu. 2013. A Review of Beijing's Vehicle Lottery: Short-term Effects on Vehicle Growth, Congestion, and Fuel Consumption.

Wang, L., J. Xu, X. Zheng, and P. Qin. 2013. Will A Driving Restriction Policy Reduce Car Trips? A Case Study of Beijing, China. EFD Discussion Paper EFD DP 13-11.

PROJECTS 2013

For more information on each project, please see the website.

Evaluation of Forest Tenure Reform in Western China Minority Areas

Theme: Policy Design
PI: Jintao Xu (xujt@pku.edu.cn)

China's Climate Change Policies: Competitiveness and Distributional Effects — An Ex-post and Ex-Ante Analysis

Theme: Climate Change, Policy Design
PI: Jing Cao (caojing@sem.tsinghua.edu.cn) and Mun S. Ho

A Behavior Model of Transport Mode Choice in Beijing

Theme: Policy Design
PI: Peter Berck (peter.berck@gmail.com) and Jintao Xu (xujt@pku.edu.cn)

Automobile Demand Analysis in Beijing

Theme: Policy Design
PI: Ping Qin (pingqin2009@gmail.com)

An Experimental Analysis of Auctioning Subsidy for Carbon Emission Reduction: Evidence from China

Theme: Climate Change, Policy Design
PI: Haoran He (haoran.he@economics.gu.se), Yefeng Chen, Qian Weng, Yean Zhou

Environmental and Economic Policies

in China: An overall design and demonstration funded by the Ministry of Environmental Protection (MEP), China. EEPC is responsible for one of the sub-projects: **The Economic Methodology of Environmental Policy Instruments**, funded by the Ministry of Environmental Protection, China.



EfD researchers and a local official in Gansu province

PROJECTS 2014

Assessment of Collective Forest Tenure Reform: Book and Papers

Theme: Forestry

PI: Jintao Xu (xujt@pku.edu.cn)

The Value of Automobile Travel Time and Its Congestion Policy Implications

Theme: Policy Design

PI: Ping Qin (pingqin2009@gmail.com), Hang Yin and Fredrik Carlsson



EEPC researchers and collaborators conducting a survey on forest tenure issues in the Tibetan Area, Qinghai, China

RESEARCH PRESENTATIONS

Academic conferences

The World Bank Land Conference, April 8-11, 2013,
Washington DC, USA

Jintao Xu organized a symposium on China's Forest Tenure Reform (presenters: Jintao Xu, Juha Siilamaki, Gunnar Köhlin and Shuxin Li)

Joint Workshop on Energy Economics, PKU and Penn State
June 23-25, 2013, Beijing

EEPC presenters: Jintao Xu, Xiaoguang Chen

International Conference: Sustainable Natural Resource Management in Rural China

Jintao Xu: Collective Forest Tenure Reform in China: Implications and Challenges, August 27, 2013, Nanjing, China

Forest Economics Forum, November 7-8, 2013, Yanglin, China

Jintao Xu: Factors Driving Post-Reform Forest Land Markets in China



EEPC Weekly Seminar

ACADEMIC CAPACITY BUILDING

The EfD academic capacity building component is designed to correct the shortage of trained environmental economists in developing countries by supporting undergraduate and postgraduate studies in environmental economics and by building the capacity of local public universities, through teaching support, research grants, books and other support. Linking policy research with academia is one of the unique features of EfD.

EEPC, in association with the Institute of Environment and Economy (IoEE) at Peking University and with the support of the Environmental Economics Unit of the University of Gothenburg, is devoted to developing productive international scholars and institutions in order to advance its academic research in modern environmental economics. We receive students from all over China who are interested in environmental sciences and economics. Our graduate program includes an MSc in environmental economics and policy and a PhD in environmental economics and resource economics.

The Master's program prepares professionals with strong analytical skills and a critical, objective vision, both essential to confronting the interrelated challenges of development and environmental protection, whether in the private or public sectors, non-governmental organizations, or academic institutions.

EEPC, incorporating PKU's strength in economics and natural sciences, will be able to develop a comprehensive curriculum for its PhD program, and students will be able to develop their skills in a multi-disciplinary environment. With assistance from international collaborators and programs within the university, EEPC aims to build up a top PhD program in environmental and climate economics.

COURSES TAUGHT BY EFD CHINA

Undergraduate courses

- Econometrics
- Intermediate Microeconomics
- Environmental Economics
- Natural Resource Economics

Graduate courses

- Advanced Natural Resource Economics
- Advanced Environmental Economics
- Environmental Economics
- Mathematics for Economists
- Risk Analysis and Management

PhD Theses

Xiaolan Chen. 2013. Environmental Policy and Industrial Firm Behaviour in China. Supervised by Jintao Xu.

Msc Theses

Xiaojie Xu. 2013. Impact of Forest Tenure Reform on Farmer Energy Use. Supervised by Jintao Xu. Peking University, June 2013.

Undergraduate Theses

Xianrui Huang. 2013. Assessing CO₂ from China's Agricultural Sector Based on County Level Data. Supervised by Jintao Xu.

Lu Jin. 2013. Fit-in-Tariff and China's Wind Power Development. Supervised by Jintao Xu.

Zihan Yin. 2013. Energy Efficiency of Industrial Firms. Supervised by Jintao Xu.





The EEPC investigation team in Gansu province

SPREADING THE WORD

News about research and policy interaction

Read more on the website www.efdinitiative.org/china/news

IN THE MEDIA

On the webpage of the College of Environmental Sciences and Engineering at Peking University (<http://cese.pku.edu.cn/>), readers can link to the EfD Initiative by clicking on the logo located in the lower left corner, where browsers have access to EfD China in both English and Chinese. The EfD Initiative also can be accessed via the webpage of the China Center for Energy and Development (CCED), National School of Development, Peking University (<http://cced.nsd.edu.cn/>).

Gansu Daily reported a field trip by Jintao Xu and associates on the issues of the Natural Forest Protection Program and Ethnic Minority Farmers' Livelihood in Gansu Province, China. Link below in Chinese: <http://gn.gansudaily.com.cn/system/2013/07/15/014486668.shtml>



Landscape in Yunnan province, China.

THE CHINESE NODE IN THE EFD NETWORK

The Environmental Economics Program in China (EEPC) was set up at Peking University in January 2007. It is one of the nine Environment for Development (EfD) centers worldwide, sponsored by the Swedish International Development Cooperation Agency (Sida), with academic and administrative support from the University of Gothenburg. The goals of EEPC are three-fold: building capacity for rigorous economic analysis of environmental policy in China; policy outreach; and graduate education that emphasizes systematic training in modern environmental economics. EfD China is currently the only EfD center in the Asia-Pacific region.



Peking University is one of the pioneer teaching and research institutions in the field of environmental economics. It has been a key institution for environmental economics and policy research and education. The environmental economics and policy program has made tremendous contributions to the advancement of environmental science as well as policymaking. Many of its policy recommendations have been adopted by the government. Faculty members of Peking University have been active in the process of international environmental and climate agreements, and have played important roles in international organizations dealing with global environmental issues.

EEPC occupies a lab room with 100 m² at the Conservation Biology Building (Bao Hu Sheng Wu Xue Lou) located at the northwest corner of PKU's campus. There are 14 tables equipped with computers and networks, accommodating both research fellows and graduate students.

EFD CHINA CENTER STAFF

Local researchers and staff

- Professor Jintao Xu, Coordinator and Senior Research Fellow
- Dr. Ping Qin, Senior Research Fellow and Deputy Coordinator
- Professor Shiqiu Zhang, Senior Research Fellow
- Dr. Jianhua Xu, Senior Research Fellow
- Dr. Min Wang, Senior Research Fellow
- Dr. Zhuo Huang, Senior Research Fellow
- Dr. Xiaojun Yang, Post Doc Research Fellow
- Dr. Lunyu Xie, Research Fellow
- Dr. Shuai Chen, Research Fellow
- Ms. Yuanyuan Yi, Research Fellow

- Ms. Jie Li, Research Fellow
- Ms. Lijun Liu, Senior Research Assistant and Public Relations Officer
- Ms. Ling Li, Administrative Assistant
- Ms. Zhumei Huang, Research and Administrative Assistant

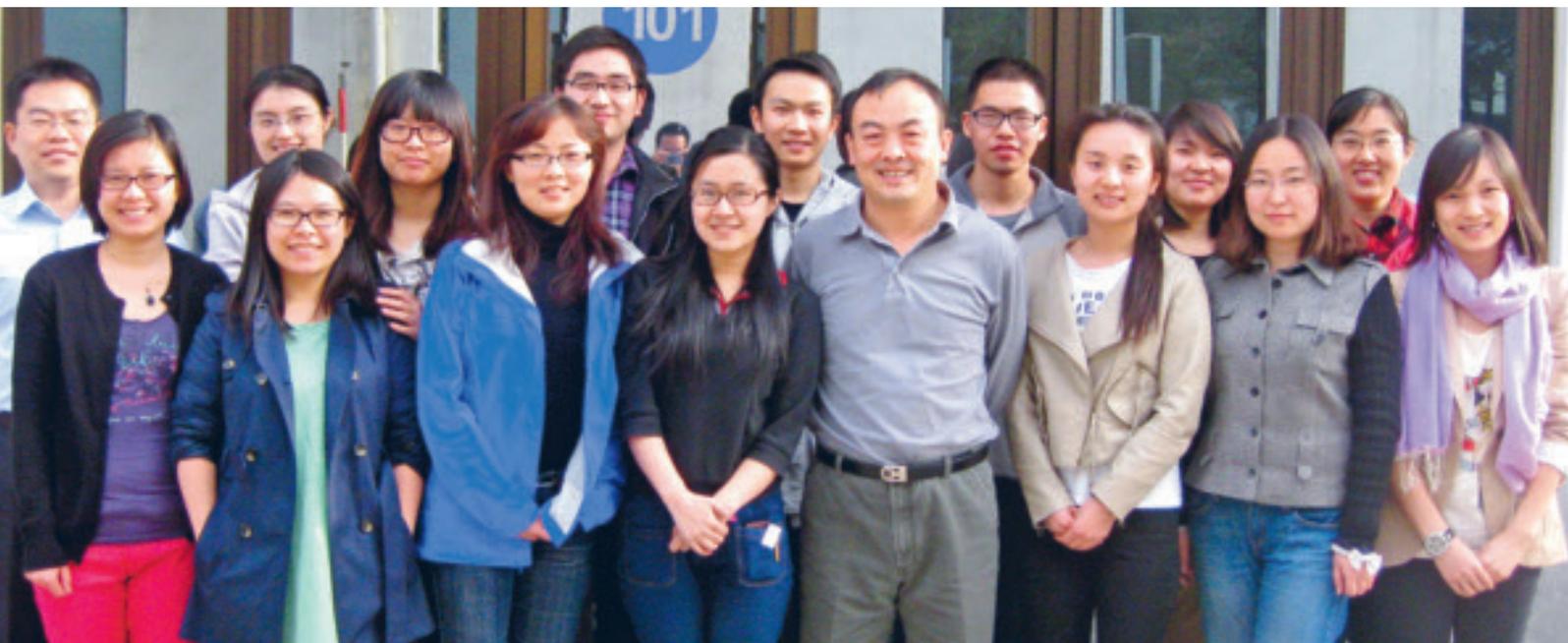
Domestic research associates

- Dr. Jing Cao, Department of Economics at Tsinghua University
- Dr. Wanxin Li, School of Public Policy and Management at Tsinghua University and City University of Hong Kong
- Dr. Haipeng Zhang, Associate Professor, Chinese Academy of Social Sciences
- Dr. Xuemei Jiang, Lecturer, Beijing Forestry University
- Dr. Xiaoguang Chen, Professor, Southwest University of Finance and Economics

International research associates

- Professor Peter Berck, Department of Agricultural and Resource Economics and Policy, University of California, Berkeley
- Dr. Priscilla Cooke St. Clair of Pacific Lutheran University
- Professor Stein Holden, Department of Economics and Resource Management at the Norwegian University of Life Sciences
- Professor Thomas Sterner, Department of Economics at the University of Gothenburg
- Professor Fredrik Carlsson, Department of Economics at the University of Gothenburg
- Dr. Gunnar Köhlin, Department of Economics at the University of Gothenburg

More details about each person are available on the EfD website, in the "Centers" section for China. www.efdinitiative.org/china/people



NETWORKS

EEPC has close collaborations with a broad range of internal and international research networks, including the National Natural Science Foundation of China (NSFC) and our fellow research institutes and universities, such as the Chinese Academy of Social Sciences (for example, the Rural Development Institute, <http://rdi.cass.cn>), the Chinese Academy of Sciences (for example, the Center for Chinese Agricultural Policy, www.ccap.org.cn), the Chinese Academy of Agricultural Sciences (for example, the Institute of Environment and Sustainable Development in Agriculture, www.ieda.org.cn), the Chinese Academy of Forestry Sciences (for example, the Research Institute on Forestry Policy and Information, www.lyzc.org.cn/kxs.htm), Tsinghua University (www.tsinghua.edu.cn), City University of Hong Kong (www.cityu.edu.hk), Renmin University of China (www.ruc.edu.cn), Beijing Forestry University (www.bjfu.edu.cn), Beijing Normal University (www.bnu.edu.cn), China's Forestry Economics and Development Research Center (FEDRC) of the State Forestry Administration, the Beijing Transportation Research Center, etc.

Internationally, EEPC's research network embraces the entire EfD family, the World Bank, the Ford Foundation, the Rights and Resources Initiative, Forest Trends in the US, the International Institute for Environment and Development (IIED), UNEP, UNDP, EEPSEA (IDRC), the Environmental Defense Fund, and universities such as the University of California, Berkeley, the Norwegian University of Life Sciences, the University of Gothenburg, Pacific Lutheran University, the University of Rhode Island, Pennsylvania State University, Michigan State University, University of Cambridge, Aichi University Japan, etc.

DONORS AND FUNDING

During 2013, EEPC received both financial and organizational support from the EfD Initiative, the World Bank, the State Forestry Administration of China, the Ministry of Environmental Protection (MEP), and the Rights and Resources Initiative (RRI).

During the six years since the founding of EEPC, we have also received extensive support from the Ford Foundation, Forest Trends, the Rights and Resources Group, the International Institute for Environment and Development (IIED), the International Development Research Center (IDRC), the National Natural Sciences Foundation of China (NSFC), and others.

Number of donors

4

List of donors

Funding by donor during 2013

1) State Forestry Administration, P.R. China	7.5%
2) Sida	30%
3) Rights and Resources Initiative (RRI)	17.5%
4) Peking University In-kind Contribution	45%

Sida/EfD funding as share of total center budget (incl. univ. salaries)

30%

List of donors EfD China

CONTACT US

You are most welcome to contact EfD China/Environmental Economics Program in China (EEPC):

EfD China
Environmental Economics Program in China (EEPC)

Peking University
Rm 101, Conservation Biology Building
Peking University, Beijing 100871, CHINA
Phone: +86 10 62767657
Email: eepc@pku.edu.cn
www.efdinitiative.org/china



A road for farmers and livestock located in Gansu province, China.

THE EFD INITIATIVE IN BRIEF

Our vision is a green economy with sustainable economic growth founded on efficient management of ecosystems, natural resources and climate change impacts.

The concept of the Environment for Development Initiative is simple – we believe that natural resources and the environment should be seen as the basis for, not the constraint on, sustainable growth in developing countries. But for that to happen, we need to apply our best analytical tools to how to manage these resources. And that is what we do in the Environment for Development Initiative!

Our mission is to contribute to poverty alleviation and sustainable development through increased use of environmental economics capacity in policy design and policy-making processes pertaining to management of ecosystems, natural resources and climate change impacts. We use environmental economics tools both to identify the roots of environmental problems in modern economies, and to find what social and economic mechanisms can be used to solve them.

Institutionally, Efd is now well underway to become a global network of environmental economics centers. The original six Efd centers in China,

Costa Rica (for Central America), Ethiopia, Kenya, South Africa and Tanzania have now been formally joined by three more centers: Resources for the Future (RFF), Washington DC, USA; the Research Nucleus on Environmental and Natural Resource Economics (NENRE) at the University of Concepción in Chile; and the Environmental Economics Unit, University of Gothenburg in Sweden. This is the first step in forming an independent international organization in support of high quality, policy-relevant research on development and the environment, as well as academic capacity building and in-depth policy interaction.

There have also been productive interactions with other partners, such as the United Nations Environment Programme, the African Development Bank, the Global Green Growth Institute and the Climate and Development Knowledge Platform. We are also happy that our unique way of stimulating policy-relevant research through our Efd Research Fund has attracted funding from the World Bank, in addition to our generous core funding from the Swedish International Development Cooperation Agency (Sida).

EFD CENTERS

There are nine Efd centers hosted by academic institutions. For more information on each center, please contact the Center Director or Coordinator:

EFD CENTRAL AMERICA

Research Program in Economics and Environment for Development (IDEA) in Central America
Centro Agronómico Tropical de Investigación y Enseñanza (CATIE)
Dr. Francisco Alpizar, Center Director
Email: falpizar@catie.ac.cr
Phone: +506 558 2215 / 2624



EFD CHINA

Environmental Economics Program in China (EEPC)
Peking University
Professor Jintao Xu, Coordinator
Email: xujt@pku.edu.cn
Tel: +86 10 6276 7629



EFD ETHIOPIA

Environmental Economics Policy Forum for Ethiopia (EEPFE)
Ethiopian Development Research Institute (EDRI)
Dr. Alemu Mekonnen, Center Director
Email: alemu_m2004@yahoo.com
Tel: +251-115-53 86 32



EFD KENYA

School of Economics, University of Nairobi
Professor Jane Mariara, Coordinator
Email: jmariara@uonbi.ac.ke
Phone: +254-20-318262, ext. 28122



EFD SOUTH AFRICA

Environmental-Economics Policy Research Unit (EPRU)
University of Cape Town
Anthony Leiman, Center Director
Email: tony.leiman@uct.ac.za
Phone: +27-21-6502725



EFD TANZANIA

Department of Economics,
University of Dar es Salaam
Dr. Razack Lokina, Center Director
Email: razack_lokina@yahoo.co.uk
Phone: +255-22-241 0252



RESOURCES FOR THE FUTURE (RFF)

Allen Blackman
Senior Fellow, RFF
Email: blackman@rff.org
Phone: +1 202 328 5073



RESEARCH NUCLEUS ON ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (NENRE)

Department of Economics,
Universidad de Concepción
Professor Carlos Chávez, Center Director
Email: cchavez@udec.cl
Phone: +56-41-220 4503



UNIVERSITY OF GOTHENBURG SCHOOL OF BUSINESS, ECONOMICS AND LAW

EFD SWEDEN

Environmental Economics Unit (EEU), University of Gothenburg

Associate Professor Gunnar Köhlin
Director, Efd
Email: gunnar.kohlin@economics.gu.se
Phone: +46 31 786 4426

Professor Thomas Sterner
Email: thomas.sterner@economics.gu.se
Phone: +46 31 786 1377

Karin Backteman, Communications Officer
Email: karin.backteman@economics.gu.se
Phone: +46 31 786 2595



Sida

The Swedish International Development Cooperation Agency, Sida, provides core funding for the Efd Initiative.





To find out more about our work and the Efd Initiative:

Please visit www.efdinitiative.org/china

You are most welcome to contact us:

Efd China

Environmental Economics Program in China (EEPC)

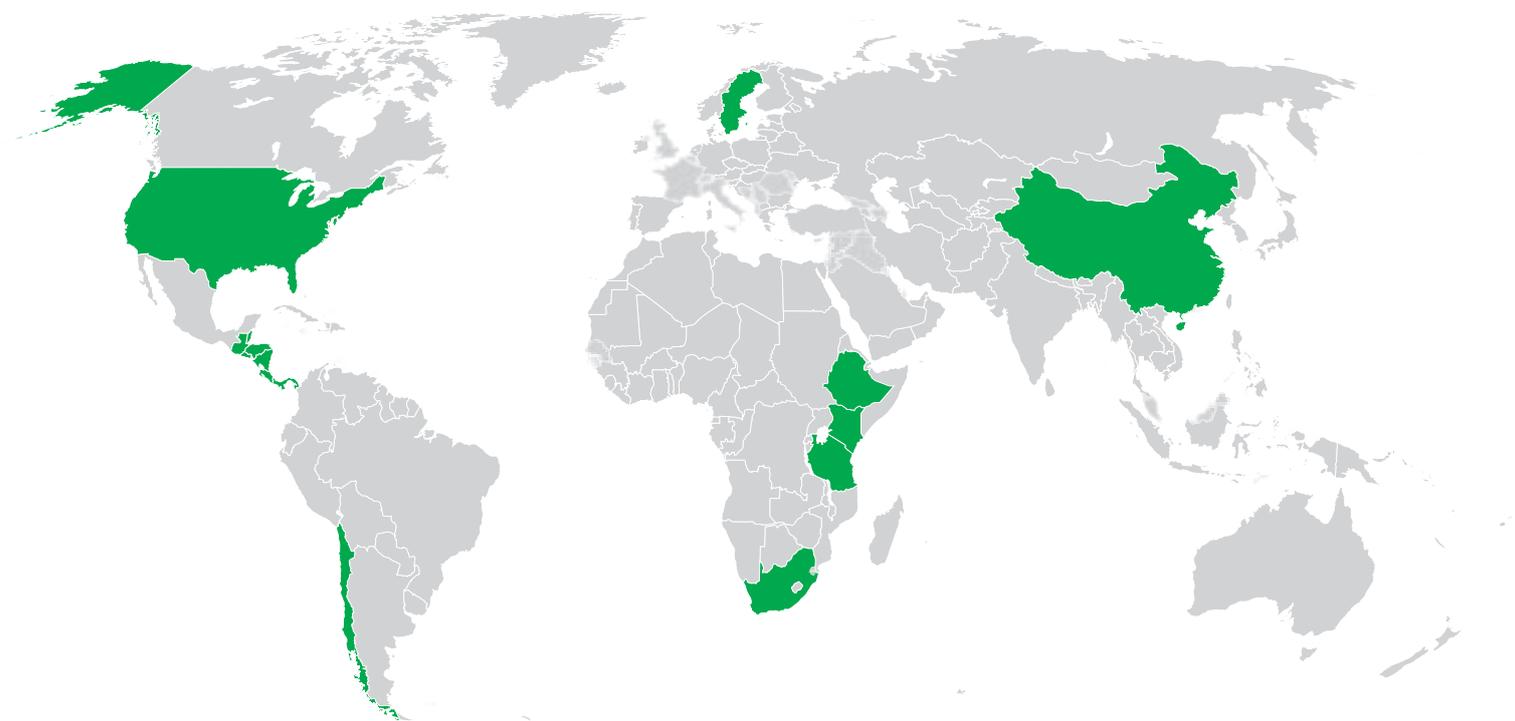
Peking University

Rm 101, Conservation Biology Building

Peking University, Beijing 100871, CHINA

Phone: +86 10 6276 7657

Email: eepc@pku.edu.cn



Efd CENTERS

Central America, Chile, China, Ethiopia, Kenya, South Africa, Sweden, Tanzania, USA

DONOR

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