Transforming payments for environmental services in China: moving from state control to equitable market mechanisms

A diagnostic country study contributing to the international project: *Developing markets for watershed protection services and improved livelihoods*[1]

Workplan for July 2004 to September 2005

Executive Summary

The overall purpose of the project is to: "increase the understanding of the potential role of market mechanisms in promoting the provision of watershed services for improving livelihoods in developing countries." The work plan for China's diagnostic study was developed at a preparatory workshop held in Beijing on May 10, 2004, which was attended by principal project partners and other stakeholders. China's context of payment for environmental services (PES) was reviewed in the workshop. It was agreed that different and complex PES schemes exist in China, which are either initiated by the central government or by local communities. The outputs and the activities for the diagnostic study were developed in the workshop. The diagnostic study has been formulated with four broad outputs with the long-term vision of transforming payments for environmental services from state control to markets. These outputs are:

- review of macro-economic policy and legislation that impact on PES,
- five case studies that will improve the understanding of market or decentralized projects payments for environmental services,
- feasibility studies for further options from selected case studies, and
- dissemination of information through seminars, workshops and exchange visits for selected stakeholders.

The College of Humanities and Development (COHD) of China Agricultural University (CAU) will coordinate the project implementation together with other partners, including the Institute of Agricultural Economics (IAE), the World Agroforestry Center (ICRAF) and the Research Center for Ecological and Environmental Economics (RCEEE). The total cost of the planned activities is £90,024. The diagnostic study will be run from July 2004 to September 2005.

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Contents

1. Introduction

Land use and management techniques on watersheds can influence the quantity, reliability and quality of water downstream. Globally, willing buyers and sellers are now entering into financial transactions to maintain the watershed management practices that provide improvements in water flows and quality. However, there has been little investigation of the impacts of these financial relationships on the livelihoods of people living in the watersheds and indeed the efficacy and the sustainability of these instruments on resource management.

During the first phase of this project (October 2001 to March 2003) diagnostic studies on the potential for markets for watershed services were conducted in selected Caribbean countries, India, Indonesia and South Africa. The results of these studies were considered at two international workshops. In addition, IIED reviewed 254 cases of payments for environmental services with a specific focus on their impacts on poverty. The results of the survey were summarized in "Silver Bullet or Fools Gold? - A global review of markets for forest environmental services and their impacts on the poor" (Landell-Mills and Porras, 2002, IIED, London). IIED also has an ongoing programme to review, through a series of case studies the impacts of markets or payments for watershed environmental services on the livelihoods of poor and marginalized people.

A second phase of the project has been funded by the Department for International Development (DFID-UK) and started in October 2003 and will run to September 2006 (IIED, 2003). The current phase of the project intends to facilitate markets or payments for watershed environmental services in selected Caribbean countries as well as India, Indonesia and South Africa, thereby building on the diagnostic studies carried out in these countries during the first phase. In these countries the project will work with local partners in an "action-learning approach" which requires active engagement in establishing markets for buyers and suppliers of watershed environmental services. Importantly, this process requires that the stakeholders also take time to consider, reflect and learn from the processes that they have been facilitating. The action learning sites are complemented by two further countries, Bolivia and China, where diagnostic studies, similar to those of phase one are to be carried out. It is however anticipated that these studies will be more extensive than those carried out in phase one of the project, and should actually contribute to the development of a market for watershed environmental services or should aim to advance an existing initiative.

The diagnostic study in China is being undertaken through a partnership between the College of Humanities and Development (COHD), / the Center for Integrated Agricultural Development (CIAD) of China Agricultural University, the Research Center for Ecological and Environmental Economics (RCEEE) of CASS, the Institute of Agricultural Economics of the Chinese Academy of Agricultural Sciences and the Yunnan Office of the World Agroforestry Center (ICRAF) based in Kunming. The project will run for approximately 15 months from July 2004 and September 2005. The workplan was developed in a planning workshop hosted by COHD/CIAD and attended by the principal project partners and representatives of other interested stakeholders on May 10, 2004.

2. Payments for Environmental Services in China

China has been transforming itself into a market economy for the past 25 years. These changes are also influencing the management of natural resources where the market instruments and mechanism are being introduced. The principle of payments for environmental services is well established in China. However, to date the Government has been the major buyer. This study intends to examine and develop greater understanding of those market payments for environmental services. This is timely as there are indications that the state is no longer able, or is unwilling to, remain the primary buyer of environmental services in China.

2.1 Legal status of payment for environmental services in China

There is an extensive legal framework that allows for the payment for environmental services in China. Some of the first legislation was passed in The Water and Soil Conservation Act of P. R. China (1991) that introduced market mechanisms into watershed protection. It allows some small watersheds to be auctioned or leased to farmers or other private investors to develop the watershed with the obligation of preventing it from erosion.

Many local governments prescribe their penalties on those whose construction projects would cause soil erosion. For example of the Guangdong Province, it is stipulated that any development project in sloping land with over 5 degree in slope has to pay an amount of money to a government agency for mitigation of soil erosion. For the real estate project, the rate of the penalty is 0.5-1.5 yuan/m^2 of vegetation destructed. For the highway project, the rate is 0.1-0.5 yuan/m^2.

One of the provisions of the "Forest Act of P. R. China" (revised in 1998) is that "the State sets up the Fund of Compensation for Forest Providing Ecological Services in order to help (compensate) plant, foster, protect, and manage the forests which are to provide ecological services". It is further stipulated in the "Forest Act Enforcement Note", issued by China State Council in 2000, that 1) 30% of China's forests are expected to provide ecological services, and thus compensation schemes should be implemented for the provided services; 2) the managers of such forests have rights to be compensated for forfeiting revenues by increasing ecological service functions of forests.

It is stated in the "Water Act of P. R. China" that the resources of water are owned by the nation and those who take water directly from aquifer, rivers or lakes should apply for permit. The provincial governments are entitled to decide whether those who take water have to pay for the water resources.

These national laws and regulations provide principles and outlines for PES. The State Council and many provincial governments detail them in their respective enforcement notes. For example, the Guangdong Province prescribes how to distinguish ecological forests from other ones in the province and elaborates the financial arrangement for compensating ecological services providers in the forest sector.

The opportunities created by the legislative framework have resulted in a complex and widespread set of national programmes. The impact and the extent of these programmes are reviewed below.

2.2 Government programs regarding payment for environmental services

China has a complex system of national programs that involve payment for environmental services. Examples of these programmes and the cost to the State are given below:

The Sloping Land Conversion Program: Under this programme, the state uses both cash and grain payments to farmers who convert their sloping cropland (subject to erosion) to forest land. Since 1999 when the program began, the central government has provided 24 billion Yuan to 60 million households in 25 provinces for converting their 7.2 million ha of sloping land and 7.9 million ha of forest plantation. The program is carried out mainly in poor Midwest China. It has been estimated that between 2001 and 2010 the State will spend a further 100 billion yuan on this programme (Wu and Ding, 2004; Yao and Dong, 2003; Wang, 2001).

The Natural Forest Protection Program: Under this programme, the State pays employees engaged in the forestry logging to leave the logging industry in order to protect the natural forest. It has been estimated that the Program have so far cost 45.8 billion yuan and 665,000 people had been paid to leave logging enterprises and seek alternative incomes (SFA, 2004). In the period 2001 to 2010, it has been estimated that the State will spend 96 billion yaun on the Natural Forest Protection Programme (Wang, 2001).

The Mitigation of Sandstorm around Beijing Program: Under this programme the State pays Inner Mongolia, Hebei and Shanxi provinces to adopt environmentally friendly practices in agriculture and grassland management and forestation. Millions of farmers get incentives to change their practices and some of them manage to plant fruit trees, grow mushrooms, and launch eco-tourism or small agribusiness, etc. The farmers' incomes get increased and they depend less on arable or rangeland than before (SFA, 2004a). It has been estimated that the State will spend a further 56 billion Yuan in the period 2001 to 2010 (Wang, 2001).

The Protection of Beijing Water Resources in the 21st Century Programme: under this programme the State pays Hebei and Shanxi provinces to control water pollution and provide enough water to Beijing in the downstream. With these money, Hebei have so far mitigated soil erosion on 961 km^2 of land, and developed water-saving irrigation on 47,000 ha of farmland. It has been estimated that the State will spend a further 8 billion Yuan in the period 2001-2005 (MWR, 2003).

In addition, there are many other programs funded by the central government which involve payment for environmental services. It is however clear that while the principle of payments for environmental services are well established in Chinese legislation and through numerous programmes this has placed a huge financial burden on the State. Including the examples given above, the State is planning to spend more than 300 billion Yuan over the period 2001 to 2010 (Wang, 2001).

2.3 Local payment for environmental services initiatives

The scale and the cost of the State programmes for payment of environmental services has been demonstrated above. In addition however there are many payment schemes for environmental services initiated by local government, river basin authorities (up stream vs. down stream), or rural communities in China. A more comprehensive list or database of locally initiated programmes and schemes will be a valuable part of this diagnostic study. Examples of these local initiatives are given below:

Water purchases: The city of Dongyang is rich in water and has a reservoir, the Hengjin, in the upper reach of the Jinhua River. The city of Yiwu is in the lower reach of the Jinhua River and in severe water deficit. Political endeavor to divert water from Dongyang to Yiwu failed after 4 rounds of negotiation in the past decades. But in November 24, 2000, the two cities reached a water agreement, in which Yiwu paid Dongyang 200 million Yuan for the permanent right of annually diverting 50 million m^3 of water in the Hengjin Reservoir. The water quality was specified in the deal. In addition, Yiwu will pay Dongyang for the water actually diverted for a price of 0.1 yuan/m^3, which is subject to change according to policies at higher levels (MWR, 2001).

Local government schemes: The local government of Xingguo county, Jiangxi province sets up a mechanism by which the downstream beneficiaries of the envisaged watershed protection pay the providers for the services. The payment is enforced by the local government. As a result of this arrangement, enterprises in chemical industry in Xingguo will have to pay 3% of their sales revenue, enterprises in the metallurgy industry pay 0.5% of their sales revenue, enterprises in coal industry pay 0.1 Yuan for each ton of their production, and hydropower stations pay 0.001 Yuan/kwh all to a public account. These funds are appropriated to the watershed protection agency and the agency is responsible for protecting watersheds and managing the water sources with these funds (Liu, 2002).

2.4 The General Characteristics of PES in China

As noted, most PES schemes in China are directed and funded by the government. The viability of PES largely lies on the political will, commitment, and available resources of the government. In general the state initiated PES programs in China are characterized by features such as:

- Top-down planning & designing, lack of flexibility for local innovation;
- Insufficient consideration of the land and resource tenure systems, lack of tenure sensitive initiative;
- Large gaps or differences between the goals of the programmes, their means and their impacts;
- Large operational costs, and
- Overly reliant on political mobilization, rather than on financial or economic incentives

(Zuo, 2003).

A very strong argument in support of the local PES initiatives are that they are more market-based and therefore have to be more realistic with respect to the incentives that are required to change land use and water management. In addition, being locally developed allows a much greater degree of interaction between providers and beneficiaries than government-launched programs. Hopefully, the long-term result of these local initiatives will be that the goals will be more frequently realized compared with the ambitious but not necessarily successful State programmes.

In general, PES and especially payments for watershed environmental services (PWES) has been proposed as a strategy that can be used to achieve both resource management and development objectives (Wang, 2004). It is important for the future of PWES in China that the lessons that have been learned to date from both the large State programmes as well as the local level initiatives are documented and brought into the future policy process. PES could and should have different practical instruments. PES should be considered as both a process and a platform for lobbying different stakeholders. Principles and indicators should be

developed and tested to ensure the equitable and effective economic benefit transfer between consumers and providers of the environmental services.

3. Project objectives and outputs

The diagnostic review of markets for watershed services in China has been guided by the project's overall goal and purpose. The goal of the overall project is to "promote the maintenance of watershed services that support local livelihoods", while the project's purpose is to "increase the understanding of the potential role of market mechanisms in promoting the provision of watershed services for improving livelihoods in developing countries." The project has three outputs, namely:

Output One: Action learning processes' for the development of equitable market mechanisms for watershed services supported in four countries.

Output Two: Diagnostics, plans and preparedness established in two further countries wishing to adopt market mechanisms for watershed protection.

Output Three: Knowledge of market mechanisms improved through networking, development of guidance and dissemination with other countries and institutions.

China was selected as an appropriate country on the basis of 8 criteria developed by IIED. These included, the demand for payments for environmental services by stakeholders within the country, the learning opportunities, the timeliness and the potential as well as the availability of data.

The outputs and the activities for this diagnostic study were developed through a focused one day workshop hosted by the Center for International Agriculture Development (CIAD), within the College of Humanities and Development of the China Agricultural University (see Appendix One).

The workshop was held in order to develop a viable workplan amongst the interested stakeholders. Given the limited resources of the project, it was decided that the project should focus on one aspect of payments for watershed services. It was agreed that the diagnostic study should focus in initiatives that represent more market-based transactions between buyers and sellers of watershed services. The current situation is that the state is normally the primary buyer of environmental services. This approach was selected on the assumption that the current role of the state as the primary buyer of environmental services was financially and politically unsustainable. Consequently, if payments for environmental services are to be maintained in the future, the role of the private sector as a buyer of environmental services will have to be increased substantially.

The Chinese diagnostic study has been formulated with four broad outputs. These are:

1) a review of macro-economic policy and legislation,
2) the development of up to five case studies,
3) carry out feasibility studies for further options from within the selected case studies
4) the dissemination of information through seminars, workshops and exchange visits for selected stakeholders.

Description and outline of Activities

3.1 Output One

Over the last two decades China has transformed from central planned economy to a largely liberalized market economy and in the process raised the real incomes of almost all the Chinese people with various degrees. Urban people benefit most from the transformation while the living standard of the rural poor also get increased in spite of with a less degree. The absolutely poor people in rural China have decreased from 250 million people in 1978 when the reform began to 28 million in 2002 (Li et al., 2003).

The process of economic transformation is ongoing and China is still characterized by a highly dynamic policy environment. For example, the fiscal burden of the Sloping Land Conversion Programme (SLCP) has meant that the government has recently largely cut the scale of the programme by 80% (SFA, 2004b). Consequently, the Chinese diagnostic will start by carrying out a review of the current national level policy with respect to payments for environmental services. This review will provide a current assessment and status of the existing legislation and policy. Importantly, this review will also critically analyze the policy and legislative framework with respect to its effectiveness as well as its impact on poor and marginalized communities. It should also differentiate between state and provincial policy and legislation in order to clarify the policy environment in which programmes are operating.

Payments for environmental services are intended to create financial or economic incentives and initiatives for farmers to change the management of land and natural resources. This may take place either individually or collectively. Generally, decisions by farmers on land use and accompanying resource management are largely influenced by net economic returns. Previous market reforms have resulted in Chinese farmers now operating largely in a free market environment. However, the government still influences land use decisions by farmers through both direct and indirect subsidies for agricultural production or other agricultural policies and regulations. The feasibility of market based payments for environmental services is therefore affected not only by environmental policy and legislation but also by agricultural policies such as subsidies paid to farmers. Consequently, a review of agricultural subsidies, their implementation and their potential impact on market based payments for environmental services and livelihoods will constitute the second review study conducted in the diagnostic study.

Aligned with the issue of agricultural pricing policies and land use decisions is the impact that China’s accession to the World Trade Organization will have on future land use decisions by farmers. The third review study to be carried out will consider the current and future impact of China’s accession to the World Trade Organization and its likely impact on land use and land management decisions with special reference to the potential of market based payments for environmental services in China. Globalization and international environmental treaties such as the Kyoto Protocol will also be considered and assessed for their influence on future decision-making processes.

3.2 Output Two

Given the scale and diversity of environmental problems in China and ongoing state interventions to address them, the focus of this diagnostic study will be specifically on more market-based initiatives for environmental services. At the local level there are developing relationships between farmers, both collectively and individually, and private sector

enterprises that involve payments or compensation for environmental services. Given the assumption that at the macro-level China will continue to follow a policy of economic liberalization, these nascent market initiatives are considered to represent the best learning opportunities and proto-type models for future payments for environmental services schemes.

The first activity to be conducted will be to develop a small database on existing initiatives. Information will be collected over the duration of the project. The database will develop a simple framework for recording key information such as location, types of payments (size, frequency, contractual obligations), the degree and possible impact of market forces on payments, the nature of the buyer (i.e. % of state ownership, % private ownership, type of enterprise) and their rational for paying for the services, and will also attempt to collect published or documented literature about the initiative. The development of this database must build on the current efforts of other organizations that are working in this sector in China. The proposed information should be complemented with some qualitative information that can be captured from literature or through interviews with key informants.

In addition the study will also conduct up to a maximum of 5 case studies identified from the database. In order to achieve a level of consistency between case studies the project will initially identify and agree on a set of criteria for the case studies and then select appropriate sites. In addition, and more importantly, the project team will develop a common framework for the analysis of the case studies. In particular the case studies should consider:

1) The context of the case study, this will include bio-physical, economic and social descriptions of the watershed or catchment under review. In particular the background or context should identify the motives and the organizations or persons that motivated the development of the scheme. The processes by which the PES has been established and indications of the role of different stakeholders together with costs will be important.

2) The processes, including local policy and legislation, that allowed the development of a market orientated payment from the buyer to land and resource managers

3) The impact that the payments have had on land and natural resource use within the identified areas

4) The impact that the payments and the scheme have had on the land and resource managers with special reference to economically marginalized or poorer sections of the community.

5) The impact that the payments and the scheme are having on the viability of the buyer of the environmental service.

It is envisaged that the cases studies will be conducted whenever possible through partnerships with organizations that have the appropriate skills and capacity within the area in order to reduce the costs of the studies. For example, two potential case studies in Yunnan Province may be facilitated by the China ICRAF office using locally based consultants and programme staff. It is envisaged that once the case studies have been completed the project team will develop a synthesis document of the lessons that have been learned.

3.3 Output Three

An important characteristic of the current diagnostic studies being conducted under this phase of the project is that they should contribute to improvement, the selection and preparedness for markets in the future. As already noted, China has a complex and extensive set of programmes in which the state can be construed as the primary buyer of environmental services on behalf of society. This project is operating under the assumption that macro-economic liberalization will continue in both urban and rural areas and that the state is unlikely to be able to afford the fiscal burden on such subsidies. From the selection of case studies the diagnostic study will select up to two sites that are appropriate for in-depth studies and further developments of market based payments for watershed environmental services. Within these sites the study will assist all involved stakeholders (buyers, land and resource managers as well as local policy makers) to identify a set of options to improve the existing relationships and services. The project will then conduct more detailed feasibility analyses of the options that have been identified. Conceptually these feasibility studies will be multi-disciplinary and should include hydrological and economic analysis of the proposed options. As a final step under this output the options and the accompanying feasibility studies will be presented to the stakeholders to help facilitate as a further discussions on the future of their relationships. The feasibility studies may well consider and assist with identifying opportunities for further financial and technical support of the processes that have been initiated.

3.4 Output Four

To ensure that the analyses and the lessons learned from Outputs 1 to 3 are disseminated as widely as possible the project will form a core learning group. The learning group will be comprised of selected individuals from key organizations that are involved in environment and development issues in China. Potential participants will include representatives from the Government (State Forestry Administration-SFA, State Environmental Protection Administration-SEPA, Ministry of Agriculture-MOA and Ministry of Water Resources-MWR, etc.), academic organizations and international donor organizations with similar or crosscutting programs. During the project, the learning group will host at least three seminars to share, highlight and present the findings and potential lessons to be extended to other programs and the implications for policy reform and changes. In addition, the learning group will facilitate other types of learning activities that may include capacity building for selected individuals, exchange visits between case studies where synergies exist and visits by selected individuals to cases studies sites where lessons can be drawn of provincial or national importance.

It is particularly important that the learning group consider options for maintaining its functions beyond the life of the project. One option that will be considered is to establish a direct relationship with the current World Bank – DFID Project on Watershed Management, currently in its inception stage.

In addition to the learning events hosted by the learning group, it will also have the responsibility of disseminating the lessons learned from the project as widely as possible. Products from the analysis, case studies and feasibility studies will be translated and disseminated in both hardcopy and electronic format. The project is already preparing translations of key documents (Project Proposal, Project Flyer and the Executive Summary of Silver Bullet or Fool’s Gold) for distribution in China. The projected products of the China Diagnostic Study are shown in table 1.

Table 1 Summary **of proposed products by output**

Output	Proposed product
ONE: Macro economic and policy review	Review of current policy and legislation affecting land and water management in China
	Analysis of the impacts of agricultural policies (e.g. subsidies) on resource management and livelihoods in China
	Analysis of China's accession to WTO, globalization on resource management and livelihoods in China
TWO: Case studies of local initiatives	Up to five local case studies of market orientated payments for watershed services
	Database for initiatives of payment for watershed services in China
	Summary of case studies and lessons learned
THREE: Options and feasibility studies	Options and feasibility studies for up to two case studies
FOUR: Learning group	Seminar, workshop and exchange visit reports as appropriate
	Overall review of project, lessons learned and future options

4. Budget

The total budget of £90,000 is available for the China Diagnostic Study over the next 15 months (July 2004 to September 2005). The budget has been allocated by output as table 2. For detailed breakdown of the budget, see appendix 3.

Table 2 Budget **allocation by Output**

Output	Allocation (RMB)	Allocation (GBP)	% Allocation
Macro economic and policy review	240,000	£15,000	17%
Case studies of local initiatives	630,000	£43,000	48%
Options and feasibility studies	135,000	£9,000	10%
Learning group	345,000	£23,000	25%
Total	1,350,000	£90,000	100%

The projects activities will be funded by IIED, payments will be made in three tranches of £30,008 each. The payments will be made:

- Upon the grant agreement being signed (July, 2004)
- Submission of draft reports from Output One
- Submission and completion of reports from Output One, Two and Three

5. Schedule of activities and outputs

Table 3 Schedule **of activities and outputs**

Output / Activity	**One**: Macro-economic, policy and legislative analyses conducted	**Two**: Case studies with an emphasis on market based payments conducted	**Three**: Future options identified and analyzed	**Four**: Lessons learned disseminated amongst key stakeholders
May- June 2004	Project workplan agreed and grant agreement established between IIED and COHD			Ongoing activities: Translation of key documents, Dissemination of information, Participation in appropriate events
July & August 2004	Terms of reference and sub-grants for analyses agreed with project partners Work on policy analysis, rural subsidies and WTO initiated	Database structure of payments for watershed services prepared, 1st data collected. Criteria for case studies developed and agreed.	.	Internal workshop, establishment of web-site for project
Sept & Oct 2004	Analyses undertaken	Case studies selected and allocated between project partners (maximum 5). Case studies conducted		Site visits for selected persons conducted
Nov&Dec. 2004	Draft reports submitted to project steering group (Dec. 31, 2004)	Case studies conducted	During case studies progress reviewed and 2 sites for feasibility studies identified (Dec. 31, 2004)	Summary workshop / seminar for selected stakeholders
Jan.-April 2005	Final reports prepared (in both Chinese and English) (Feb 28-2005)	Case studies conducted and draft reports submitted to project steering group (April 30, 2005)	Options and feasibility studies conducted, discussions between providers and buyers of services facilitated.	
May-September 2005	Report dissemination to key stakeholders	Final reports prepared (in both Chinese and English), and dissemination to key stakeholders (June 30-2005)	Final reports prepared (in both Chinese and English), and dissemination to key stakeholders (August 31-2005)	International workshop for result dissemination (Sept. 2005)

6. Project partners

The project is implemented through a partnership by COHD/CIAD, IAE, ICRAF-Yunnan office, and RCEEE. The partnership is coordinated by the COHD/CIAD, which takes the overall responsibility of project management.

6.1 The College of Humanities and Development (COHD)/CIAD, CAU

The College of Humanities and Development (COHD) and its functional research center CIAD are part of China Agricultural University. CIAD is one of the first institutions in China with integrated functions of development research, training and consultancy. In the past 16 years, COHD/CIAD has developed a participatory, development need-oriented and multi-disciplinary methodology package and built up a very good professional reputation in the field of rural development in China and abroad.

As a member of China Agricultural University, COHD/CIAD has close contacts and cooperation with other university faculties. At the same time, COHD/CIAD also built up a solid and broad cooperation and partnership with many international development organizations, such as World Bank, ADB, UNDP, FAO, WFP, IFAD, UNICEF, UNESCO, EU, German GTZ, AusAID, DFID, CIDA.

Through practice in the development consultancy and research, COHD/CIAD has adopted and developed a participatory and bottom-up development approach, which fully adapts to the needs of the development target groups and other stakeholders. COHD/CIAD plays a leading role in institutionalization of the participatory development approach all over the country.

COHD/CIAD specializes in the following areas:

- Rural development, sustainable livelihood, poverty reduction;
- Sustainable agricultural development;
- Social Forestry and participatory forestry resource management
- Sustainable environmental and resource management
- Participatory rural extension, training and institutional capacity building
- Gender and development
- Governance and development
- Participatory development planning and management

The COHD/CIAD Team, with its 28 professional staff, could offer its services for the whole development project life cycle. Besides the professional services for development research and consultancy, COHD/CIAD can also provide high efficient logistic services for international symposia, workshops and short-term training with its perfect technical equipment and training facilities, and organize learning group events.

In this project, COHD/CIAD will carry out 1 desk research (impact of agricultural policy on land management) and 2 case studies (potential sites in Guangdong and Shanxi provinces). CIAD will also be responsible for the overall coordination and management of the project. COHD/CIAD will organize learning group and launch learning events through workshops, conferences, visits, and forums. COHD/CIAD is responsible for financial accounting

management, reporting of project progress and results, and providing an organizational home for the case study database.

6.2 The Institute of Agricultural Economics (IAE)

IAE is affiliated with the Chinese Academy of Agricultural Sciences (CAAS). Established in 1958, the Institute of Agricultural Economics (IAE) is one of the earliest national research institutes devoted to agricultural economics and policy research in China. The goal of the institute is to provide policy recommendations to the government at national and local level, consultative service for enterprises and conduct studies on macro-economic issues and agricultural productivity related to rural development. IAE concentrates its research on major issues in areas such as rural development strategy, agro-technical economics and modern management, agricultural sciences and technology policy, resource deployment and sustainable development, enterprise development, international trade of agriculture products, rural energy and environment, new economic issues and international comparative study. IAE always stands at the frontier and problems related to agricultural policy and rural development.

IAE has a wide source of research funds. Majority of the funds come from the National Natural Science Foundation, the State Philosophy and Social Science Foundation and various ministries nationally and World Bank, FAO, EU, Ford Foundation, CGIAR, as well as foreign national research grants. IAE serves as a center for providing opportunities to both national and international agricultural economists in exchanging views on current issues and problems related to agricultural policy and rural development. IAE publishes two national journals namely: Problems of Agricultural Economy and Journal of Agro-technical Economics. Additionally, IAE is hosting both the China Agricultural Economics Association and Chinese Society of Agro-technical Economics.

IAE will be responsible for 1 case study (potential site at the Danjiangkou Reservoir), interact with other partners, and contribute to learning events as a member of the learning group.

6.3 The World Agroforestry Center (ICRAF) -Yunnan Office

ICRAF-Yunnan office is based in Kunming, Yunnan province. It is undertaking country studies of the regional RUPES program—Rewarding the Upland Poor for the Environmental Services they provide. RUPES is a multi-stakeholder partnership led by the World Agro-Forestry Centre (ICRAF) funded by the International Fund for Agricultural Development (IFAD). The RUPES Program aims to build working models of best practice for successful environmental transfer agreements in Asia. These models should provide information on how environmental rewards (incentives or PES) can both promote sound environmental management and improve the livelihoods of poor upland communities.

Through a research programme, RUPES will be looking at whom the rewards (incentives) will go to, who will pay them and what form they should take. The best practice models will emphasize workable, easily understood, financially and institutionally sound approaches.

ICRAF-Yunnan is also engaged with local government and line agencies in Northwest Yunnan and provides support for and scientific input related to improve the Sloping Land Conversion Program and ecological restoration of degraded watersheds.

ICRAF-Yunnan's part in this project will be to connect the new research to ongoing research of RUPES-China but also to the regional programme activities. RUPES staff in Bogor, Indonesia will engage and provide input into the new project and the above-described project can draw on expertise in other countries.

In this project, ICRAF-Yunnan office will undertake 2 cases studies (potential sites in the Yunnan Province), contribute to partnership and learning events as a member of learning group.

6.4 The Research Center for Ecological and Environmental Economics (RCEEE)

The mission of RCEEE is to promote the integration of environmental concerns into the decision-making processes of governments, businesses and common consumers in China. To achieve its mission, RCEEE focuses its program activities on three subject fields: 1) Strategic policy work in the broad field of environment and sustainable development; 2) Promoting the development of environmentally friendly business in China; 3) Project consulting in environmental protection and resource management.

RCEEE achieves its mission by building broad partnerships with relevant institutions and individuals. RCEEE has developed good working relationships with the Chinese government at various levels and with other domestic research institutions. In addition, RCEEE has had collaboration with a host of overseas institutions.

RCEEE will be responsible for 2 desk studies (macro-policy and WTO accession), interact with other partners and contribute to learning events as member of learning group.

6.5 The International Institute for Environment and Development (IIED)

IIED's goal is to shape a future that ends global poverty and sustains fair and sound management of the world's resources. As a northern based NGO, IIED works through partnerships with organizations primarily in southern or developing countries. A key element of IIED's approach to its work and partnerships is by linking applied research to practice thereby bringing benefits to both people and the environment upon which they frequently depend.

IIED was responsible for securing funding for both phases of the markets for watersheds project. In the first phase, IIED worked with partner organizations to undertake diagnostic studies of markets for watershed services. In the second phase of the project, IIED will provide overall coordination and management of the project. This will be carried out at two levels, between the DFID and IIED and then between IIED and the country partners. In its work with partners, IIED will facilitate a collaborative, action-learning approach.

In addition, IIED has a significant commitment to assist with the documentation and dissemination of the lessons learned from the project (Output 3). Indicative activities that will be carried out under this output are: organization and facilitation of workshops, seminars as well as the mid-term and end of project reviews, production and dissemination of working papers, policy briefs in both electronic and hard format, networking and participation at international events and the production of a synthesis report building on the lessons learned from Silver Bullet or Fools Gold: A global Review of markets for forest environmental services and their impacts on the poor (Landell-Mills and Porras, 2002)

6.6 Other relevant organizations/projects

Table 4 Other relevant projects

Implementing organization	Project	Goals/Activities	Relationship to project
World Bank Beijing Office	China's Watershed Management Project	Develop best and new practice models, which emphasize poverty reduction	Both deal with watershed management, both in inception phase, both funded by DFID
Chinese Academy of Environmental Planning	Compensation mechanism for ecological and environmental services	Design mechanisms to compensate those who provide ecological and environmental services. The project highlights the West China and the Great Western Development Program	Both deal with ecological and environmental services and compensation for them
Government Organizations, SFA, SEPA			

7. Project Management

The implementing agency for the project will be the College of Humanities and Development (COHD). A project management team with three persons from COHD and one representative from each of the other partner organizations has been formed to manage the project. Dr. Li Xiaoyun will oversee the project. Project management and coordination will be carried out by Dr. Jin Leshan. A technical steering group will be set up to oversee the desk studies and case studies, whose members include Li Xiaoyun from COHD, Ivan Bond from IIED, and Helen Oconnor from DFID.

7.1 Project management team

Table 5 Project management team

Management role	Name	**Responsibility**
Project leader	Li Xiaoyun	Project oversight
Project manager	Jin Leshan	Project management and coordination, including routine management, liaison, accounting management, learning events organization
Team member	Zuo Ting	Responsible for assignments to COHD, group learning facilitation,
	Zhang Lubiao	Responsible for assignments to IAE
	Horst Weyerhaeuser	Responsible for assignments to ICRAF
	Sun Changjin	Responsible for assignments to RCEEE
Assistant	Tang Lixia	Logistic assistance
	Ivan Bond	IIED management and liaison

7.2 Financial accounting and procedures

COHD, as the lead agency, will be responsible for the financial administration of the project. Consequently, COHD will enter into a grant agreement with IIED for the project. Activities with partner organizations will be funded through sub-grants.

7.3 Project reporting

COHD will be responsible for submitting quarterly narrative reports to IIED detailing the progress of the project. In addition, COHD will also be responsible for ensuring the production and dissemination within China of the reporting project progress at its midterm and whenever IIED project officer asks for it. Jin Leshan will keep instant communication with IIED project officer and with each partner so that project officer, project team leader and members are informed of project progress in time.

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Appendix 1 : Workshop participants and workshop agenda

Participant	Institution	Contact information
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Workshop agenda

Venue: Room 709, CIAD building, China Agricultural University
Date: May 10, Monday, 2004

Agenda:
In the morning:
9:00—9:30 Introduction to the research project, by Ivan Bond
9:30—9:45 remarks, by Li Xiaoyun
9:45—10:30 background presentation
1. a brief review of market for watershed services in China, by Jin Leshan
2. compensation scheme for ecological services of forest, by Zuo Ting
3. intro to RUPES, by Horst Weyerhaeuser
10:30—10:45 tea break
10:45—12:00 preliminary discussion on how to develop diagnostics in China
12:00—1:30 lunch at the Nongyiyun Res., on the campus of CAU

In the afternoon:
1:30—3:30 continued discussion (chaired by Li Xiaoyun)
policies and institutions influencing watershed services and related livelihood improvement, the role of market in it;
selection of sites for case studies;
methodology of work
partnership
3:30—3:45 tea break
3:45—5:00 wrapping up of discussion
5:30 dinner

Appendix 2: Summary of Potential Case Studies For Output 2

Potential Case Study One: Name Bai Cai; Province Yunnan; local partner: ICRAF.

Description: Bai Cai (good practice, successful local watershed management.) and other villages in Baoshan prefecture were completely degraded 20 years ago. It is now completely covered with forests with detailed management plans for community forestry (rules and regulations for violating them are agreed upon and enforced), excellent entrepreneurial skills and activities for improving their livelihoods – but all under the premise that the forest and the watershed will be kept the way it is and not destroyed.

It makes a good case to study how this all came about, why did it work there and not in other areas which faced the same problems 20 years ago and still look the same, what was the enabling environment, what would have made it even more successful if policies would have supported them even more, what would have made it impossible. Village/watershed community organization, development of local monitoring, rules and regulations, and other possible enabling environment are to be explored. How could it be transferred to other areas, and what lessons can be learned.

Potential Case Study Two: Hydropower and PES; Province Yunnan; local partner ICRAF

Description: The hydropower station has to come up with large funds to replace their turbines every 18 months due to siltation and subsequent damage to their equipment, loss of income, close down of the power plant, etc. The company wants to invest in the upstream watershed to reduce amount of erosion that damages the turbines.

Research questions: How does a company approach local communities and individuals to see this as a problem. How should we assess “erosion” and damage, and make the transformation from plot level assessments to micro watersheds and larger watersheds to the mouth of the watershed where the power plant is situated. What happens along that way, where are barriers to erosion outside of farmers influence, how to get landless people who have often an impact i.e. due to overgrazing and subsequent degradation of grasslands and high erosion in those areas, to participate and comply with agreements, how to look at the influence of infrastructure and road construction on erosion, where are possible interventions and how to allocate e.g. land for filter strips before the power plant, etc. What is the mechanism to monitor, to “manage” a diverse group of farmers and ethnic minorities to be part of PES. What are the “payments” or incentives for them to participate in the mechanism.

Follow with the case study the process of negotiations. Describe those processes and how all stakeholders are represented and representing their case, how are deals made or NOT made, what do communities outside of the watershed feel about this as they happen to have chosen the “wrong” watershed to live in and therefore will not be compensated for PES. Are they seeing this as something they also should do for the sake of downstream communities? Or do they act selfishly? Lessons to be learned.

Potential Case Study Three: Name: watershed auctioned for development and protection; Province Shanxi; Potential local partner: Jinzhong water and soil conservation bureau.

Description: Shanxi province is in the Loess Plateau, which is very vulnerable to soil erosion. There are numerous small watersheds that need protection from erosion. In Jinzhong, Shanxi

Province, some of the small watersheds are auctioned or leased to farmers. Farmers have to prevent the watershed from erosion according to agreed criteria while they can develop the watershed and profit from it.

This system bypasses the financial difficulty of government in watershed protection, and absorbs the private investment into it. It is expected that watershed services could be provided and local livelihood improved.

But the challenges facing the system are 1) how to monitor and guarantee the protection provisions in the deal are implemented; 2) tenure security; 3) poor farmers vs. rich farmers are more likely to benefit from it. Detailed investigation and evaluation are required and there must be lessons to learn from it.

Potential Case Study Four: Name: local government-directed PES; Province Guangdong; Potential local partner: Qujiang water resources bureau.

Description: Qujiang county, Guangdong Province, is in a hilly area with rich rainfall. Upland farmers are poor and live on agriculture. There are many small-size hydropower stations and a number of reservoirs (source of drinking water) along the watersheds. Farmers' best practices in agriculture will benefit downstream hydropower stations and drinking water plants. But here there are numerous farmers and many beneficiaries.

The local government of Qujiang acts to collect money from potential beneficiaries of the watershed services, and use these money to promote environmentally-friendly agriculture in the watersheds. For example, companies providing pipeline water to households are levied 0.01 Yuan for each ton of its production. Hydropower stations are levied 0.005 Yuan per kwh of electricity.

Unlike the central government-launched PES, the local government of Qujiang is not a buyer of environmental services (fund provider), but rather a broker in the deal. This might increase the sustainability of PES.

The government's role in PES is highlighted in this case. Can the role of brokerage be undertaken by a third party such as a neutral fund, an NGO, or a collective regime? There are many to investigate and explore.

Potential Case Study Five: Name: Danjiangkou Reservoir; Provinces Hubei, Shaanxi, and Henan; Potential local partner: watershed conservation bureaus in the 3 provinces

Description: Danjiangkou Reservoir is planned to provide water to the Great South to North Water Diversion Canal. But the water quality is affected by the watershed management in the 3 upstream provinces of Hubei, Shaanxi and Henan.

End users of the diverted water benefit from the upstream watershed management, but how should the upstream be compensated or encouraged to provide those environmental services? How does the price of the diverted water include the costs of watershed management? What kind of mechanism is possible which has to deal with providers and beneficiaries who are far away from each other. This case study is to explore the feasibility of compensation in large scale in geography.

Appendix 3. Budget breakdown