Detail of Proposal								
Project Title: Integrated wetland resources management in Poyang Lake Area.								
Project start and end date : <u>1 March 2010 – 28 February 2011</u>								
Budget: 1. Requested from GEF SGP:_ <u>RMB 340,000</u>								
2. Contribution from others including from communities as follows:								
Total In cash:RMB_105,000 Total In kind: <u>RMB 165,790</u>								
1. <u>Targeted Location and Population : (</u> Briefly Describe location ,geographical details and livelihoods context of target population, with relevant maps attached)								
The project site is Duchang County located by Poyang Lake (PYL). This region is well known for its fish and rice production from the history. Duchang County is located in the upstream of Pengze and Xinzhi County, holds water from the Gan River (see Figure 1). The total area of Duchang County is about 2669.5 km2 among which 41,631 ha are arable land. The total population is 783000 people.								
No. of households: 2,800 No. of population: Male 6,500 Female 5,800 Cultural group mostly Han people, few Hui minority								
Annual average income/person: <u>18,000RMB</u> No. of participating households: <u>90</u>								



Figure 1 Map of the study region

2. Introduction: (Describe main problems and issues requiring perusal and solutions)

The project site is the Poyang Lake (PYL) Basin which is the largest fresh water lake in China. The PYL region is one of the ten key ecological function reserve zones in China and an important international wetlands conservation area. The wetland ecosystems in the region provide a range of ecosystem services and natural resources including land (particular for grazing), water, fishery, and other natural resources. The wetlands are major wintering habitat for more than 30 bird species, in particular for Siberian crane that is the most endangered species in the world. Protection of crane and other bird species and the limited amount of wetland under climate change in PYL has become a key biodiversity conservation challenge.

The limited wetland ecosystems have to meet ever increasing demands from many stakeholders for biodiversity conservation, greenhouse gas (GHG) emission reduction, and urban and rural water users. The pressing problem in wetland resource use planning in PYL region is to resolve whether certain amount of water and land should be allocated for agricultural or conservation purpose, or used for recreation and other uses. For example, establishing wetlands reserve areas (prohibiting grazing, fishing and hunting) will improve biodiversity protection. However, this will also force farmers in the surrounding areas losing accessibility to natural resources use in the wetlands, which will lead to income loss for those poor rural communities.

There is an increasing concern that climate change may pose significant threats on biodiversity, ecosystem services and health in PYL Basin, and may further aggravate the existing overwhelming conflicts in resource use among wetland protection, infectious disease prevention, eco-tourism development, biodiversity conservation and habitat loss. The motivation of this proposed project is to reduce conflicts between biodiversity and ecosystem service conservation and other resource uses in the surrounding communities with dense rural poor population. The PYL Basin has a particular need for quality scientific information, research capacity and effective knowledge management pathways to enable effective wetland ecosystem decision-making and management in relation to assessment and response to climate change risks, biodiversity and ecosystem service conservation strategy, and sustainable ecosystem management.

Motivated by biodiversity loss and climate change threats, as well as the above mentioned environmental issues and resource use conflicts that are of critical importance, the primary objective of this proposed project is to experiment with an integrated wetland ecosystem approach to address these problems. The integrated approach (IA) will be applied in the project site to build local capacity, sustain wetland biodiversity with global importance, and promote renewable energy use to reduce GHG emission. In addition, the project design and implementation will take consideration of other key local concerns including schistosomiasis disease infection risk reduction, gender equality, and livelihood of rural community.

The project will develop and apply the integrated wetland ecosystem approach to identify and deal with intricate challenges facing the region including biodiversity loss, GHG emission, infectious disease risks and rural poverty. The integrated approach will provide recommendations and solutions to achieve multiple benefits: biodiversity protection, wetland carbon sequestration, schistosomiasis disease reduction, and rural livelihood improvement.

The proposed project will be aimed to carry out the following activities:

1) Development and application of an integrated wetland ecosystem research framework to collect, analyze and synthesize

data and information from existing literature and other sources related to impacts of human activities and climate change on biodiversity, wetland ecosystem services, and human health;

2) Evaluation of alternative wetland ecosystem and resource use plans and practices by relating their various impacts to a number of ecosystem sustainability indicators. The results of wetland use option evaluation will generate the results for optimal resource allocation and wetland ecosystem sustainability;

3) Recommend the practical wetland ecosystem use plans and options which can be implemented in the project site by rural communities to effectively protect biodiversity, enhance wetland carbon sink, promote renewable energy use, reduce infectious disease risks, and improve rural livelihood; and

4) Partner with local stakeholders to implement pilot practices of integrated wetland ecosystem and resource use to achieve co-benefits and improve rural sustainability.

3. SGP Focal Areas and GEF Operational Programs

What GEF focal area does the project fall into? Please check one or more boxes as appropriate

这个项目属于 GEF 的哪个重点领域?请在方框内勾出一个或多个适合的选项。

*□生**物**多样性

OP1 Arid and Semi-arid Zone Ecosystem 干旱半干旱地区生态系统

OP2 Coastal Marine and Freshwater Ecosystem 海岸海洋淡水生态系统

OP3 Forestry Ecosystem 森林生态系统

OP4 Mountain Ecosystem 山区生态系统

OP13 Agricultural Ecosystem 农业生态系统

*□**减缓气**候变化

OP5 Removal of Barriers to Energy Efficiency and Energy Conservation 消除阻碍能源效率和节能的因素

OP6 Promoting the Adoption of Renewable Energy 推广可再生能源的使用

OP7 Reducing the Long-Term Costs of Low Greenhouse Gas Emitting Energy Technologies

降低温室气体低排放能源技术的长期成本

OP11 Promoting Environmentally Sustainable Transport 推广环境可持续的交通

3. SGP Focal Areas and GEF Operational Programs

What GEF focal area does the project fall into? Please check one or two boxes as appropriate

这个项目属于 GEF 的哪个重点领域?请在方框内勾出适合的选项。

□国际水域

OP8 Waterbody- based Operational Programme 有关水体的项目

OP9 Integrated Land and Water Multiple focal area Operational Programme 综合性土地和与水相关的多主题项目

OP10Contaminant-based Operational Programme 有关水污染的项目

*□土**地退化**

OP15 Sustainable Land Management 可持续的土地管理

□ 持久性有机污染**物**

OP14 Operational Programme on Persistent Organic Pollutants 有关持久性有机污染物的项目

4. Specific objectives in this project

- 1) Networking and capacity building through deliberative processes to ensure international important wetland biodiversity sustainability and promote rural renewable energy use;
- 2) Development and application of interdisciplinary methods with a participatory integrated assessment (PIA) approach to achieve co-benefits of wetland ecosystem and resource use: biodiversity conservation, rural renewable energy use, wetland carbon sequestration, schistosomiasis disease infection risk reduction, and community livelihood improvement;
- 3) Implement pilot projects with local communities to showcase integrated wetland resource use plans and effective practices. (Note: detailed objectives and targets are listed below)

In planning proposed activities, take into consideration time availability of target population and major stakeholders. Seasons and climatic conditions are also important factors. Some activities may readily be carried out using pre-existing community resources, without having to wait for cash transfer from GEF SGP.

Proposed activities to achieve the objectives	Descriptive anticipated results including indicators
Activity1. Project inception workshop and training course The inception and training workshop will bring together researchers, local policy makers and stakeholders on biodiversity and climate change issues related to the wetland ecosystems and resources sectors in PYL region. The workshop will be held in Nanchang City for two days. The workshop will help to refine the proposed research activities, methodology, deliverables and milestones with the project team and to make detailed plans for the implementation of the project.	 The inception and training workshop (15 participants) will achieve the following tasks: 1 Identify and invite community representatives, NGOs relevant to biodiversity, climate change, resource management, ecosystem conservation, and poverty, and other stakeholders to discuss status, trends and current priorities; 2 Engage key players from the above participants, and/or others, to establish a research network; and gain their commitment to contribute to the project at various activities; 3 Finalize the overall partnership strategy for project delivery and implementation. This will include agreement on roles and responsibilities throughout the project including level of effort and resources; 4 Refine and fine tune specific activities, and make detailed plans for carrying out specific tasks that will be undertaken

ctivity 2. Collect, synthesize and document a range of equired data on wetland resources stresses and risks. Identify ural sustainability indicators and best practices in integrated retland resource management in project area he researchers will assess data availability, collect, synthesize and analyse data, document data and information derived from arious data sources in different institutions and agencies. Research activity will be carried out in PYL region to consolidate existing biophysical data sets and link them with social and conomic information. Data collection through focus groups and argeted questionnaires for ecosystem services using monetary	 by research partners of the project; and 5 Identify all possible sources for information/data collection and assess data availability in the next step. Various data sets from different sectors such as wetland, water resources, migratory birds habitat, and infectious disease will be collected and analyzed. To handle a variety of sources containing both spatial and non-spatial data, GIS and spatial analysis tools will be used to establish a database. A Mid-term project team meeting (10 team researchers) will use the results in a deliberative process with communities and policy-makers. The team meeting will be held in the City of Nanchang and will have the following major goals and tasks: The team meeting will provide a forum for the research team to present findings for evaluation; The team will review the methodology, models and results produced by the research members: 						
and non-monetary valuation methods will help assess values and trade-offs between different resource uses, ecosystems services, and links with poverty alleviation strategies.	 A sustainability indicator system developed by the project team will be evaluated to identify an acceptable poor-sensitive local sustainability indicator system; and A set of possible integrated wetland ecosystem conservation and use options and plans will be presented and reviewed by the project team. 						
Activity 3. Design and apply the participatory integrated	The proposed research activity will identify a list of effective						
approach (PIA) to conduct policy evaluation to select effective	integrated wetland use policies and measures in assisting rural						
and desirable integrated wetland conservation and use options	communities to adopt practices in managing wetland resources						
and best practices to achieve above outcomes.	of this activity include:						
One challenging issue in evaluating wetland ecosystem	 Development and application of interdisciplinary 						
sustainability under climate change conditions is to design and	methods with a PIA approach consisting of survey, community						
implement the effective options or plans that can reduce	engagement, multi-stakeholder consultation, GIS, remote						
potential damages to wetland biodiversity and ecological	sensing, ecosystem service valuation, and multi-criteria decision						

functions associated with global warming. This will be facilitated	making;
by adopting the participatory integrated approach (PIA). A PIA will	 Conduction of policy evaluation to select effective and
be designed and used to provide answers on how biodiversity and	desirable integrated resource use options and best practices to
climate change can best be addressed through integrated wetland	achieve above mentioned goals.
resources conservation and use to generate biodiversity	 A set of effective integrated wetland ecosystem
protection, habitat improvement, renewable energy development,	conservation and use options and plans will be presented and
land use conflicts reduction, infectious disease prevention and	reviewed by representatives of stakeholders for implementation.
poverty alleviation outcomes.	
This research activity will apply multi-criteria decision making	
methods by engaging multi-stakeholders to conduct integrated	
wetland resource use policy evaluation. The implementation of	
the integrated policy evaluation will identify effective and	
desirable options for achieving goals of improving biodiversity	
and ecosystem services, reducing emission and climate risks,	
increasing income of poor households, safeguarding human	
health and food security, as well as reducing poverty.	
Activity 4. Capacity building and effective practice pilot	Integrate effective integrated wetland resource conservation and
implementation	use options will be implemented to showcase mainstreaming of
_	wetland biodiversity conservation and ecosystem services
The project activities require developing partnerships and	management into rural development strategy.
engaging multi-stakeholders in the region. The project will	5
improve knowledge and skills of partner agencies and	 Poor people in the villages will have increased capacity
stakenoiders in dealing with biodiversity risks and integrated	in sustainable resource use decision making to select
resource use decision making. With a pro-poor and equity	effective and desirable options to improve biodiversity
focus, the study villages will be closely engaged to reflect the	and to reduce carbon emission.
perspectives of poor communities. Capacity building by training	 A wetland ecosystem health monitoring system will be
will be a main part of the project to strengthen the capacities of	designed and installed to monitor the most critical
menage wetland biodiversity under elimate ebange. Fermers'	ecological factors in the PYL wetland ecosystem.
apposite will be ophapood through floorning by doing ?	 A mini natural reserve area will be established for
capacity will be enhanced through learning-by-doing, .	protecting important and endangered species of
	submerged and floating leaf plant biodiversity and
	habitat.
	 The pilot project will also install a 20-M³ methane biogas

	 generator for one village school to convert sewage and a variety of wastes (plant, animal and human waste) into biogas which can be efficiently used for cooking, heating, and gas lighting. A fenced enclosure grazing area (15000 m²) with a rotation grazing system will be established in the study region to protect wetland biodiversity and to manage water buffalo and cattle grazing to reduce infection rates of schistosomiasis. Compensation for formers to purchase seasonal feed will be provided.
Activity 5. Final policy workshop and final report preparation A one-day final workshop with 30 participants will be held. Task One: with researchers looking at key issues emerging from the integrated analyses and their relevance to wetland biodiversity conservation and climate change policy agenda and other research priorities in the study region; Task Two: with relevant members of the rural communities to build capacity to use the interdisciplinary research outputs. The final policy workshop will bring together community representatives, NGOs, ecosystem managers, researchers and the study partners. The primary purposes of the workshop will be to brief policy makers and other stakeholders about the findings of the project. In addition, the workshop will provide a forum for sharing information generated by the project.	 Some specific workshop activities (15 participants) will include: The project researchers present findings to stakeholders, experts, NGOs and policy makers; NGOs, stakeholders and policy makers review outputs of the project team; Workshop participants comment on the findings and their relevance to government's biodiversity and climate polices, ecosystem management, human health and rural development policies; and Workshop participants provide instruction and suggestions to the research team of any revision to the findings which will be submitted to funding agencies.

5. Project Workplan and Monitoring Schedule

Project Number:	Project	Name: Integrated wetl	and res	source	es ma	nage	menti	in Poy	'ang L	_ake A	\rea			
CPR/SGP.OP4/Y3/RA	F/2010/06													
Name of Grant Recip	ient: The Institute for	China and Global Env	vironme	ental S	Sustai	nabili	ty (C⊦	IANG	ES)					
Brief Description of	Brief Description of General Objective of Project:													
The project will de	evelop and apply the	integrated wetland eco	system	appr	oach	to ide	ntify a	and de	eal wit	h intri	cate (challe	nges	
facing the region inclu	ding biodiversity loss	, GHG emission, infect	ious di	sease	risks	and r	ural p	overty	/. The	e integ	rated	appro	bach v	will
provide recommendat	provide recommendations and solutions to achieve multiple benefits: biodiversity protection, wetland carbon sequestration,													
schistosomiasis disea	se reduction, and rur	al livelihood improveme	ent.											
The proposed project	will be aimed to carry	out the following activ	ities:											
 Development a 	and application of an	integrated wetland eco	system	resea	arch f	rame	work t	o coll	ect an	alyze	and s	synthe	esize	
data and inform	nation from existing li	terature and other sou	rces re	lated t	to imp	bacts	of hur	nan a	ctivitie	es and	l clima	ate ch	ange	on
biodiversity, we	etland ecosystem ser	vices, and human heal	th;											
2) Evaluation of a	Iternative wetland ec	osystem and resource	use pla	ans ar	nd pra	ictices	s by re	elating	their	vario	us im	pacts	to a	
number of eco	system sustainability	indicators. The results	of wet	and u	se op	tion e	evalua	tion w	vill ger	nerate	the r	esults	tor	
optimal resour	ce allocation and wet	land ecosystem sustail	hability											
3) Recommend th	ne practical wetland e	cosystem use plans a	nd optio	ons wi	nich c	an be	e imple	ement	ed in	the st	udy re	egion	by ru	ral
communities to	effectively protect b	odiversity, ennance we	etiand o	arbor	1 SINK	, pron	note re	enewa	able e	nergy	use,	reauc	e	
Infectious dise	ase risks, and improv	e rural livelinood; and												_
4) Partner With IO	cal stakenoiders to in	iplement pilot practices	s of inte	grate	a wet	land	ecosy	stem a	and re	esourc	e use	e to ac	nieve	÷
CO-Denetits and	co-benefits and improve rural sustainability.													
GEF Focal Area: Blod	iversity, renewable	GEF OP: OP2, OP	s and C	P15			Proj		art ar		JDate	es: I n	viar	
energy use to reduce	GHG emission, land						201	0-28 f	-eb 2	011				
Desertification, and ad	aplalion Prodific Objective #	1. Duilding loool conce	tu to o	ahana	o into	rootic		impor	toptu	(atlan	dhia	divora	i+. /	
Brief Description of Specific Objective #1: Building local capacity to enhance internationally important wetland biodiversity														
conservation and promote rural renewable energy development; collecting, analysing and of synthesizing data relevant to PYL														
weitand ecosystem sustainability; identify rural sustainability indicators and best practices in integrated weitand resource														
List the activities peed	management in the study region													
List the activities hece	Dui	alion		IVILY II				iiieis)	. 201	J-3	2011	-2		
Activity	Posponsible Party	Indicator	2	1	5	6	7	Q	٥	10	11	12	1	2
ACTIVITY	nesponsible raily	mulcalur	3	4	5	0	1	0	9	10		12		2

1.1 The inception	CHANGES,	Project team	*											
and training	Poyang Lake	formed,												
workshop	Ecological Research	stakeholders												
	Station for	partnership and												
	Environment and	networking,												
	Health (PYLERS)	research plans												
	and Jiangxi Normal	finalized, and												
	University (JNU)	identified												
1.2 collecting,	CHANGES, Jiangxi	Indicators: midterm	*	*	*									
analysing and	Climate Center	team meeting. PYL												
synthesizing of data	(JCC), PYLERS,	wetland ecosystem												
	and JNU	database.												
1.3 identify wetland	CHANGES	A sustainability		*	*									
sustainability		indicator system												
indicators														
1.4 identify a list of	CHANGES,	A list of potential	*	*	*									
wetland resource	PYLERS, and JNU	wetland resource												
conservation and		use options												
use options and														
Brief Description of	Specific Objective #2:	Design and apply the	PIA :	annro	ach fr	or into	arato	d woth	and A	COSVS	tom c	onsor	vation	
and use options evalu	vation to select effective	and desirable integra	tod re	sour		ontic	ne ar		t nrac	ticae	to act	niovo	valioi	
bonofite: and implant	ation to select enective	and management action	no	sourc	JE U30	opiic	/13 ai		n piac	11003		neve	00-	
	ent pilot integrated wette	and management actio	115											
Activity	Responsible Party	Indicator	3	4	5	6	7	8	9	10	11	12	1	2
2.1 design the PIA	CHANGES	A PIA approach		*	*	*								
approach		developed and												
		tested												
2.2 apply the PIA	CHANGES,	A set of effective				*	*	*		1		1		

approach for	PYLERS, a	and JNU	integrated wetland												
integrated policy	integrated policy		ecosystem												
evaluation			conservation and												
			use option identified												
2.3 select and	CHANGES	S,	5 Pilot actions						*	*	*	*	*		
implement pilot	PYLERS, a	and JNU	(please see budget												
actions			table) implemented												
2.4 Final project	CHANGES	S, JCC,	Indicators: findings											*	*
workshop and final	PYLERS, a	and JNU	presented,												
report completion			stakeholders												
			engaged, 30												
			participants												
			reviewed findings												
			final report												
			accented												
			accepted												
Indicate persons resp	Indicate persons responsible for manitering and progress reports:			Mon	itoring		nuona	\mathbf{V} / \mathbf{R}	onorti	ng 小		上的蝠	i玄		
Pena Gona Yonavua	n Yin Tiu Yi	ng and Wa	ina progress reports.		nonnų	JIIE	quenc	<i>y</i> / 11	epon	ng m	目门区	а н <i>ууу</i>	(11		
说明负责而日监督和进展报告的人, 宜鹏 殷永元 刘影 王琳															
Monitoring and			nd Wang Lin			*	*	*	*	*	*	*	*	*	*
Normoning and Decord Keeping 收权和友挫															
		Manager	Via and Mana Lin								*				*
Progress Reports 进展报告 Yongyuai		rongyuan	rin and wang Lin					1							
												1			

7. Details on participation of major stakeholders:

7.1 In order to avoid duplication of activities and to ensure optimal use of pre-existing facilities and experience, the project should identify other projects/agencies working in target location or in the vicinity, and then propose approaches for cooperation and Co-finance.

Name of project/agency	Approaches for cooperation and co-finance
	(both in-cash and-in kind)
Poyang Lake Ecological Research Station for Environment and Health (PYLERS)	Will provide 2 researchers, office space in the station, collect and analyze data, database and network building, and work on pilot actions (see Activities)
School of Geography and Environment at Jiangxi Normal University (JNU)	Will provide 2 professors and 3 graduate research assistants, office space in the SGE; collect and analyze data; organize workshops and engage policy makers and local stakeholders; provide equipment and instruments; and work on pilot actions (see Activities)
Jiangxi Climate Center (JCC)	Will provide 2 scientists and 2 research assistants, office space in the JCC; provide climate and other required data; organize workshops and engage policy makers and local stakeholders; provide equipment and instruments; and work on pilot actions (see Activities)
The State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications, Chinese Academy of Sciences	Provide RMB100,000 cash to support research cooperation on PYL ecosystem research and data collection; provide equipment and computers

7.2 Give a brief on participation from women's group, Men's group, youth group and other less privilege groups in the locality.

The study region is Duchang County located by Poyang Lake (PYL). The study region is well known for its fish and rice production from the history. Duchang County is located in the upstream of Pengze and Xinzhi County, holds water from the Gan River (see Figure 1). The total area of Duchang County is about 2669.5 km2 among which 41,631 ha are arable land. The total population is 783000 people.

8. <u>Project Budget: Please see and use the detailed budget table</u>

9. <u>Discernible problems and issues and approaches for solution/avoidance:</u> Problems and issues are common in any project implementation. Would there be any which are discernible to emerge during project duration? If so, please give a brief on solution/avoidance.

Problem / issues	Approaches for solution/avoidance
1 Farmers are not participating in the project	1 The research team has established good cooperative relationships with
actively due to lack of economic incentives	the study villages. It has been indicated that farmers in the local
2 Difficult coordination among multi-stakeholders	communities are interested in those potential integrated wetland ecosystem conservation and use practices. The project will also engage farmers in best
3 Project partner institutions cannot deliver on time	practice selection and implementation.
	2 Project will establish a steering committee consisting representatives of stakeholders to provide coordination and direction.
	3 The research project partners have been working collaboratively for many years. If some unforeseeable problems happen, we can have other replacement institutions.

10. Continuity of activities and Future Plan after support from GEF SGF expires:

After the project ends, some of its results and lessons learnt should have potentials for future use. Can the project perceive how to keep on making use of those potentials? Can the successful experience of this project be duplicated in other places? What's your plan to make this project sustainable after GEF SGP expires?

After completion of the project, the technologies will be defused to most of the households and other villages by trained local partners. The project is action oriented and requires very limited capital and equipment. Incorporation of traditional knowledge and innovated methods will facilitate the implementation of the idea and activities of the project to other regions. The project will also involve training local farmers and resource managers, and will provide a manual in the final report for expanded application.

The local partner agencies involved in the project represent a range of responsible decision makers and practitioners who can provide technical expertise in the future. Local partners will provide a foundation for expert advice in different regions, and a base for further personnel training. A further anticipated output of the project will be the creation of an effective network to sustain this collaboration of integrated working on sustainable resource management.