REQUEST FOR CEO ENDORSEMENT/APPROVAL

PROJECT TYPE: FULL-SIZE PROJECT
THE GEF TRUST FUND

Re-Submission Date: April 9, 2010

PART I: PROJECT INFORMATION

GEFSEC PROJECT ID:

Expected Calendar (mm/dd/yy)	
Milestones	**Dates**
Work Program (for FSPs only)	N/A; under IF
Agency Approval date	June 2010
Implementation Start	Sept. 2010
Mid-term Evaluation (if planned)	April 2012
Project Closing Date	Dec. 2013

GEF AGENCY PROJECT ID: P090376
COUNTRY(IES): China
PROJECT TITLE: Shanghai Agricultural and Non-point Pollution Reduction Project
GEF AGENCY(IES): World Bank
OTHER EXECUTING PARTNER(S): N/A
GEF FOCAL AREA(s): International Waters
GEF-4 STRATEGIC PROGRAM(s): IW-SP 2
NAME OF PARENT PROGRAM/UMBRELLA PROJECT: GEF/WB STRATEGIC PARTNERSHIP INVESTMENT FUNDS FOR POLLUTION REDUCTION IN THE LARGE MARINE ECOSYSTEMS OF EAST ASIA

A. PROJECT FRAMEWORK (Expand table as necessary)

Project Objective: To demonstrate effective and innovative pollution reduction activities in Shanghai's rural areas in order to reduce the rural and agricultural pollution load (especially nutrients) in the surface water flowing to the East China Sea.

Project Components	**Indicate whether Investment, TA, or STA[2]**	**Expected Outcomes**	**Expected Outputs**	**GEF Financing[1]**		**Co-Financing[1]**		**Total ($)**
				($) a	%	($) b	%	c=a+ b
1. Livestock Waste Management Technology Demonstration 1-a. Livestock Waste Management on Large-scale Farm	Investment	20.7 ton of TN, 6.89 ton of TP, 381.2 ton BOD, and 975.7 ton of COD discharged from the project site are reduced per year.	85,200 ton of livestock solid and liquid waste treated at the project site.	1,458,000	26.7	4,009,000	73.3	5,467,000
1-b. Livestock Waste Management on Medium-scale Farm	Investment	4.2 ton of TN, 0.32 ton of TP, 56.7 ton BOD, and 94.5 ton of COD discharged from the project site are reduced per year.	17,300 ton of livestock solid and liquid waste treated at the project site.	550,000	48.3	589,000	51.7	1,139,000
1-c. Integrated Livestock and Agricultural Waste Management	Investment	5.7 ton of TN, 0.6 ton of TP, 168.6 ton BOD, and 277.3 ton of COD discharged from the project site are reduced per year.	23,500 ton of livestock solid and liquid waste treated at the project site.	400,000	12.7	2,742,000	87.3	3,142,000
2. Wetland	Investment	0.02 ton NH3-	5.5 m3 of	350,000	23.8	1,118,000	76.2	1,468,000

Demonstration for Pollution Reduction 2-a. Rural Town River-network Wetland Demonstration		N, 0.01 ton TP, 3.24 ton BOD, and 6.06 ton of COD discharged from the project site is reduced per year.	rural household wastewater is treated at wetland wastewater treatment system in the project site.					
2-b. Village Wetland Sewage Treatment System	Investment	1.85 ton NH3-N, 0.56 ton TP, 29.97 ton BOD, and 53.22 ton of COD discharged from the project site is reduced per year.	498.5 m3 of rural household wastewater is treated at wetland wastewater treatment system in the project site.	600,000	32	1,275,000	68	1,875,000
3. Integrated Agricultural Pollution Reduction Techniques 3-a. Demonstration of the Use of Organic Fertilizer	Investment	Organic fertilizer is used in 16,000 mu.	2,400 ton of organic fertilizer is used per year at the demonstration sites.	0	0	16,027,000	100	16,027,000
3-b. Demonstration of the Scientific Application of Agricultural Chemicals	Investment	Organic fertilizer is used in 16,000 mu.	a) 90% of pesticides used in the pilot sites are low residue and low toxicity pesticides. b) A number of farmers use green test control techniques at the pilot sites.	44,000	12.8	3,400,000	87.2	3,444,000
3-c. Analytic Testing and Extension	Investment	Increase of replication farm area using demonstrated technologies.	a) Samples collected at three demonstration sites are tested both on-site and at a laboratory to verify the effect of technologies demonstrated. b) 1,100 farmers receive skill development programs on fertilizer, insecticides, and pesticides.	856,000	90.9	85,000	9.9	941,000

4. Project Management and Dissemination 4-a. Project Management	Investment/N/A	N/A	N/A	50,000	16.7	250,000	83.3	300,000
4-b. Replication Strategy Development, Monitoring and Evaluation	TA	Replication strategy for disseminating demonstrated technologies is in place.	a) Replication strategy for disseminating demonstrated technologies is finalized. b) A monitoring and evaluation plan is in place.	330,000	100	0	0	330,000
4-c. Training and Dissemination	Investment/ TA	Increase in farmers using demonstrated technologies.	a) 5,000 farmers participate in training and workshops. b) Project website set up according to IWLEARN guidance, participation in IWLEARN activities and preparation of 1 to 2 project experience notes	150,000	27.5	396,000	72.5	546,000
Total Project Costs				A4,788,000	13.8	B29,891,000	86.2	34,679,000

[1] List the $ by project components. The percentage is the share of GEF and Co-financing respectively of the total amount for the component.

[2] TA = Technical Assistance; STA = Scientific & Technical Analysis.

B. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT (expand the table line items as necessary)

Name of Co-financier (source)	***Classification***	***Type***	***Project***	***%****
Project Government Contribution	Local Gov't	Grant	14,491,000	49
Shanghai Bright Holstan Company Limited	Beneficiaries	Hard-Loan	687,000	2
Shanghai Shenye Dairy Cooperative	Beneficiaries	Hard-Loan	358,000	1
Shanghai Chongming Shuxin Town Qianwei Village Committee	Beneficiaries	Hard-Loan	880,000	3
Shanghai International Automobile City New Anting United Development Company Limited	Beneficiaries	Hard-Loan	1,118,000	4
Shanghai Agricultural Technology Extension and Service Center	Beneficiaries	Hard-Loan	12,357,000	41
Total Co-financing			B29891000	100%

* Percentage of each co-financier's contribution at CEO endorsement to total co-financing.

C. FINANCING PLAN SUMMARY FOR THE PROJECT ($)

	Project Preparation a	*Project b*	*Total c = a + b*	*Agency Fee*	*For comparison: GEF and Co-financing at PIF*
GEF financing	212,000	A4,788,000	5,000,000	0	5,000,000
Co-financing		B29,891,000			
Total					

D. GEF RESOURCES REQUESTED BY AGENCY(IES), FOCAL AREA(S) AND COUNTRY(IES)[1]

GEF Agency	*Focal Area*	*Country Name/ Global*	*(in $)*		
			Project (a)	*Agency Fee (b)*[2]	*Total c=a+b*
Total GEF Resources					

[1] No need to provide information for this table if it is a single focal area, single country and single GEF Agency project.

[2] Relates to the project and any previous project preparation funding that have been provided and for which no Agency fee has been requested from Trustee.

E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	*Estimated person weeks*	*GEF amount($)*	*Co-financing ($)*	*Project total ($)*
Local consultants*	190	380,000		380,000
International consultants*				
Total		380,000		380,000

* Details to be provided in Annex C.

F. PROJECT MANAGEMENT BUDGET/COST

Cost Items	*Total Estimated person weeks/months*	*GEF amount ($)*	*Co-financing ($)*	*Project total ($)*
Local consultants*				
International consultants*				
Office facilities, equipment, vehicles and communications*		**50,000**	**30,000**	**80,000**
Travel*			**100,000**	**100,000**
Others**			**120,000**	**120,000**[1]
Total		**50,000**	**250,000**	**300,000**

* Details to be provided in Annex C. ** For others, it has to clearly specify what type of expenses here in a footnote.

G. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? yes ☐ no ☒

(If non-grant instruments are used, provide in Annex E an indicative calendar of expected reflows to your agency and to the GEF Trust Fund).

H. DESCRIBE THE BUDGETED M &E PLAN:

Under Sub-component 4(b), a monitoring and evaluation system will be established at all project implementing agencies (PIAs) based on a monitoring and evaluation plan (M&E Plan), prepared by a project management office

[1] Others include cost for report preparation, printing, internal review, translation etc.

(Shanghai PMO) to meet GEF monitoring requirements. Process indicators, stress reduction indicators and environmental status indicators relevant to International Waters projects are included in the M&E Plan. Data collection and analysis will be undertaken by monitoring and evaluation consultants whose TORs are acceptable to the Bank. The Shanghai PMO will ensure the necessary monitoring is undertaken and report results to the Bank and to GEF annually through IW Tracking tool. The estimated budget for monitoring and evaluation is RMB 921,200 (about US$ 141,700) for four years of implementation. Brief descriptions of activities and cost breakdown are shown below.

Table 1: Monitoring and Evaluation Activities

Sub-Component	Description of Activities	Budget (US$)
Livestock waste management on large-scale farm	Visit the site on a quarterly basis and take samples and monitor TN, TP, BOD, COD and coliform; keep daily record for operation and the solid manure and wastewater treatment system, biogas output and farmland rainfall.	10,800
Livestock waste management on medium-scale farm	Install monitoring devices at selected main types of recovery farmlands; take samples of inlet, outlet, and groundwater on a quarterly basis and monitor TN, TP, BOD, COD and coliform; keep daily record for operation of the solid manure and wastewater treatment system and farmland rainfall.	29,300
Integrated livestock and agricultural waste management	Install monitoring devices at selected main types of recovery farmlands; take samples of inlet, outlet, and groundwater on a quarterly basis and monitor TN, TP, BOD, COD and coliform; keep daily record for operation of the solid manure and wastewater treatment system and farmland rainfall.	29,800
Rural town river-network wetland demonstration	Visit the site on a quarterly basis and take samples of water and monitor NH3-N, TP, BOD5, COD, KMnO4;daily record-keeping for removed sludge.	7,800
Village wetland sewage treatment system	Take samples of water on monthly basis and monitor TN, TP, BOD, COD and coliform; keep daily record for wetland operation and wetland plant growth.	14,800
Integrated agricultural pollution reduction techniques	Keep records of types and quantities of chemical fertilizer and pesticides applied; monitor soil and safety and quality of different agricultural products before and two years after implementation.	23,000
Training and dissemination	Keep records of trainees, materials, and photographs; questionnaire survey on promotion and training results	10,800
Reporting	Preparation of reports	15,400
TOTAL		**141,700**

PART II: PROJECT JUSTIFICATION: In addition to the following questions, please ensure that the project design incorporates key GEF operational principles, including sustainability of global environmental benefits, institutional continuity and replicability, keeping in mind that these principles will be monitored rigorously in the annual Project Implementation Review and other Review stages.

A. STATE THE ISSUE, HOW THE PROJECT SEEKS TO ADDRESS IT, AND THE EXPECTED GLOBAL ENVIRONMENTAL BENEFITS TO BE DELIVERED:

Non-point pollution from urban and agricultrual run-off has been recognized as a large and growing problem that contributes to marine pollution in East Asia's large marine ecosystems. Such discharges have been cited as a main cause of hypoxia and eutrophication problems in the Yangtze River estuary, Hangzhou Bay, and the East China Sea, as well as water quality degradation in the Huangpu River, which is one of the main drinking water sources for Shanghai. Four major sources of agricultural and non-point pollution sources in Shanghai are

identified as untreated livestock wastes, untreated sewage from rapidly-urbanizing villages and towns, crop straw, and fertilizer and pesticide runoff.

It is estimated that lack of effective treatment facilities has left about 40 percent of 7.6 million tons of livestock wastes untreated and directly discharged into local waterways annually in Shanghai. In addition, insufficient household wastewater treatment capacity means that only 40 percent of household wastewater generated in rural Shanghai is treated, in many cases only partially. Furthermore, the availability of natural gas in rural Shanghai has helped rural residents avoid using crop straw as a biomass fuel. As a result of this change, about 1 million tons of crop straw annually remains unattended on farmland and eventually flows into the waterways. Also, excessive applications of chemical fertilizers and pesticides in rural Shanghai generate significant water pollution load from fertilizer and pesticide runoffs.

The Shanghai Municipal Government (SMG) has recognized the issues of pollution in the major water sources and agricultural pollution and addressed the issues seriously in the Three-Year Action Plans for Environmental Protection (TYAPEP), which set targets and prioritized environmental projects to be implemented during the period of the plans. The second TYAPEP (2003 – 2005) and the third TYAPEP (2006 – 2008) introduced key measures for livestock waste management and agricultural and non-point source pollution reduction, including: (a) closure of small-scale livestock farms; (b) establishment of organic fertilizer producing facilities; (c) stricter pollution discharge permits for livestock farms; (d) promotion of land application of livestock manure; (e) promotion of organic fertilizers, integrated pest management techniques, and applications of low-toxicity pesticides; (f) a ban on open burning of agricultural wastes; and (g) comprehensive utilization of crop straws.

These investments were successful in achieving their intended objectives in water pollution control. By the end of 2008, Shanghai was able to treat about 75 percent of its wastewater, improved water quality of rivers in urban areas, reduced unit consumption of pesticides and chemical fertilizers in its agricultural production, and curbed significantly pollution discharges from livestock wastes. The SMG intends to continue its efforts in the fourth TYAPEP (2009 – 2011).

In addition to these efforts initiated by Shanghai, the Bank has supported the municipality by mobilizing IBRD loans (Shanghai Urban Environment Project – Adaptable Program Loan (APL) Phases I, II and III) and domestic resources to implement a US$1.5 billion investment program. This program has an objective of improving environmental conditions in the Greater Shanghai Municipality by progressive development and implementation of integrated, metropolitan-wide environmental management measures. During implementation of the first phase of the APL, a study, "Upper Huangpu Catchment Management Plan," was conducted, and agricultural and non-point source pollution in the rural areas were identified as major sources of pollution.

The proposed Shanghai Agricultural and Non-Point Pollution Reduction Project (SANPR), is a stand-alone Global Environment Facility (GEF)-funded project, but it will support the broad program development objective of the APL. Whereas the APL focuses mostly on priority investments and institutional reforms in the water sector (including water supply, wastewater, and solid waste management), the GEF project will complement the efforts by mitigating agricultural and non-point source pollution discharged to a water environment. The GEF project also aims to take a comprehensive approach by demonstrating a number of innovative sub-projects. The project implementation plan included a replication strategy so that the technology introduced through the GEF project will be widely disseminated among the farms after the project ends.

B. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH NATIONAL AND/OR REGIONAL PRIORITIES/PLANS:

The proposed project will support two of the three Country Partnership Strategy themes: (a) managing resource scarcity and environmental challenges; and (b) improving public and market institutions. The SANPR will also support the objectives of China's 11th Five-year Plan, which aims to create a "harmonious society" that balances economic growth with distributional and environmental concerns. The activities in the SANPR are also in line with Shanghai's third TYAPEP (2006 – 2008), which aims to increase the treatment and recovery of livestock waste as a resource and reduce the dosage rate of chemical fertilizer by 10 percent and that of chemical pesticides by 8 percent. Although the SANPR is processed as a GEF stand-alone project, it will support the broad project development objective of the APL3, which is to improve Shanghai's resource and environmental

sustainability in the core and suburban areas through strategic priority investment and selective institutional reforms in the water and wastewater sectors.

C. DESCRIBE THE CONSISTENCY OF THE PROJECT WITH GEF STRATEGIES AND STRATEGIC PROGRAMS:

The SANPR were consistent with GEF's Contaminant-Based Operational Program 10 (OP10), which aimed to demonstrate ways of overcoming barriers to the adoption of best practices that limit contamination of International Waters. They are also consistent with GEF's current Strategic Objective 2, "to catalyze trans-boundary actions addressing water concerns," specifically to reduce land-based coastal pollution, and with Strategic Program 2, "reducing nutrient over-enrichment and oxygen depletion from land-based pollution of coastal waters in Large Marine Ecosystems (LMEs) consistent with the GPA." Regarding hypoxia and eutrophication, the aquatic environment adjacent to Shanghai's coastline is one of the main pollution hotspots in the East China Sea. The amount of nutrients reduced would be closely monitored in the areas of intervention.

D. JUSTIFY THE TYPE OF FINANCING SUPPORT PROVIDED WITH THE GEF RESOURCES.

The SANPR comes under the WB/GEF Investment Fund (IF) for Pollution Reduction in the LMEs of East Asia, which is managed in cooperation with the GEF/UNDP Partnerships for Environmental Management of the Seas of East Asia (PEMSEA). PEMSEA is part of the regional implementation plan of the United Nations Environment Program Global Program of Action (GPA) for the Protection of the Marine Environment from Land-based Activities. The objective of the IF is to scale up investment to reduce land-based water pollution in coastal areas and major river basins in East Asia.

E. OUTLINE THE COORDINATION WITH OTHER RELATED INITIATIVES:

In project preparation, the Bank team kept close communication with a regional GEF coordinator and agencies and agreed on project scope and minor changes. Information and lessons learned from similar projects are exchange in regular basis, as some members of the task team are also team members of other GEF funded initiatives such as the Strategic Partnership Investment Fund for Pollution Reduction in the LME of East Asia and sub-projects, including Ningbo and Huai River. Also, some key lessons learned are drawn from similar Bank-funded projects in the region. These projects include the Livestock, Environment and Development Initiative Area-Wide Integration Pilot Project (LEAD) in China, and other government projects. The lessons learned are reflected in the proposed project design (see Section I.D of the Project Appraisal Document for more detail).

F. DISCUSS THE VALUE-ADDED OF GEF INVOLVEMENT IN THE PROJECT DEMONSTRATED THROUGH INCREMENTAL REASONING :

"Without GEF Investment" Scenario

Shanghai Municipal Government has recognized the need and mobilized IBRD loans (Shanghai Urban Environment Project - APL) and domestic resources to implement a US$1.5 billion investment program with an objective of improving environmental conditions in the Greater Shanghai Municipality. Progressive development and implementation of integrated, metropolitan-wide environmental management measures are promoted under the investment program. Specifically, under the second phase of the investment program, Shanghai is pursuing innovative ways of extending such measures to its less affluent, growing districts outside the core city (home to about 50 percent of the population) with a focus on sanitation (wastewater) and solid waste management.

SMG started addressing agricultural and non-point source pollution in its 2nd Three Year Action Plan for Environmental Protection (TYAPEP, 2003 – 2005). Regarding livestock wastes, key measures adopted include: (a) closure of over 1,100 small and polluted animal farms to promote economic scales of animal farms outside of key water source protection areas; (b) establishment of over 40 organic fertilizer facilities with a processing capacity over 700,000 tons of fresh animal manure; and (c) promotion of land application of animal manure. The 2nd TYAPEP also promoted the use of organic fertilizers, integrated pest management techniques, and applications of low-toxicity pesticides to reduce pollution associated with agrichemicals. A ban on open burning of agricultural wastes also was introduced.

In its 3rd TYAPEP (2006 – 2008), SMG aimed to significantly increase reuse of livestock wastes, and reduce unit use of chemical pesticides by 8 percent and nitrogen-based fertilizers by 10 percent. In particular, it strengthened the issuance of pollution discharge permits for animal farms and expanded and established five organic fertilizer facilities with an increased annual production capacity of 80,000 tons. To reduce agricultural pollution, it promoted: (a) the use of organic fertilizer, (b) integrated pest management techniques including the use of effective low-residue pesticides, and (c) comprehensive utilization of crop straw.

The investments under the 2nd and 3rd TYAPEPs have largely achieved their intended objectives in water pollution control. By the end of 2008, Shanghai was able to treat about 75 percent of its wastewater, had improved water quality of rivers in urban areas, reduced unit consumption of pesticides and chemical fertilizers in its agricultural production, and curbed significantly pollution discharges from livestock wastes.

The 4th TYAPEP (2009 – 2011) aims to reduce the use of nitrogen-based fertilizers and chemical pesticides by 10 percent and further improve environmental performance of 38 large livestock farms. Proposed new areas for livestock waste management in SMG's 4th TYAPEP (2009 – 2011) are: (a) piloting of livestock waste treatment facilities and associated application systems in large farms, and piloting land applications; (b) demonstration of livestock manure biogas projects; and (c) procurement of transportation vehicles for livestock wastes. For agricultural wastes, the plan continued to promote applications of organic fertilizer and integrated pest control techniques with low-toxicity pesticides. It enforced further the ban on open burning of agricultural wastes. On rural environmental quality, the 4th TYAPEP proposes a particular target of treating wastewater from at least 60,000 households to improve water quality of rivers. In this regard, the plan calls for the identification and adoption of economically feasible wastewater treatment techniques. It is estimated that the investment needed for the implementation of the 4th TYAPEP amounts to about RMB82 billion, of which RMB24.6 billion will focus on water quality issues.

Livestock Waste Management

As noted earlier, SMG's efforts to curb livestock waste management are three-fold: (a) to close down small animal farms and promote medium- and large-size animal farms outside of key water source protection areas; (b) to require wastewater discharge from animal farms in compliance with local environmental standards; and (c) to promote organic fertilizer production from livestock wastes. In practice, the first measure has been largely completed. However, SMG has noted the second measure is less effective as animal farms have yet to identify feasible technologies for wastewater treatment and have failed to meet the local effluent discharge standard. It is also noted that biogas production from livestock waste treatment is seldom used in Shanghai even though SMG has been trying to promote the usage of biogas production. High investment costs with relatively low efficiency in power generation and lack of financial incentives are major concerns of the farm owners. Without the GEF project, it is expected that the candidate large farm will continue to struggle to meet local standard with its existing anaerobic wastewater treatment facility but is highly unlikely to consider a waste management system including biogas capture and power generation.

The third measure is also facing difficulties in implementation because best practices in organic fertilizer production are yet to be fully adopted in Shanghai. A common practice of organic fertilizer production simply involves a separation of solids and liquids of livestock wastes. The solid portion is processed as low-quality organic fertilizers, and the liquid portion is treated and then discharged either into the local river system or onto agricultural land. Fertilizer production efforts of the candidate medium farm are of a good example. The farm has an anaerobic wastewater plant and uses a natural process to compost animal wastes in uncovered lagoons with an average of 56 days of retention time. In addition to occupying a large land area and generating odors, the lagoons often overflow and discharge

directly into the neighboring river system. This is particularly serious during the rainy season. At Qianwei, the candidate village for demonstrating integrated agricultural waste management, there is a composting plant in its animal farm, which mixes crop straw and rice chaffs with livestock wastes to produce fertilizer. This methodology increases quantity but lowers the quality of fertilizers. Without support of the GEF Project, it is expected that these common practices will continue in Shanghai for the short term.

Rural Sewage Treatment

As noted, only about 40 percent of rural sewage is treated. For areas with no access to municipal wastewater treatment plants, it is common for farmers in Shanghai to use three-compartment septic tanks to handle their sewage. These tanks either have no discharging outlets, which allow sewage seeps through soil and thus contaminates surface and ground water bodies, or discharge into neighboring water bodies. In other cases, sewage is simply directly discharged without treatment into the local river system. Without the GEF Project, it is expected that SMG will to continue finance the construction of wastewater treatment plants to manage rural sewage issues under its 4th and following TYAPEPs. The challenge faced by this approach is its high capital and operating costs, in particular due to high costs associated with collection and treatment of relatively low volume but widely distributed rural sewage. Shanghai will need time to identify and demonstrate rural sewage treatment technologies that have low capital and investment costs, with simple processes and easy maintenance for rural areas that cannot be readily covered by existing or new wastewater treatment plants.

Agricultural Pollution Reduction Techniques

Since its 3rd TYAPEP, Shanghai has invested greatly in production and promotion of organic fertilizers, integrated pest control techniques and low-toxicity pesticides as measures to reduce agricultural pollution. As noted above, the use of organic fertilizers is successful but still faces technical challenges such as low quality and lack of adoption of best practices of fertilizer application (i.e., without consideration of crop and soil). Similarly, best practices of pest control are also yet to be fully demonstrated in Shanghai. Most importantly, a systematic adoption of these approaches in agricultural production is yet to be demonstrated and promoted in Shanghai. Without the GEF project, it is expected that the current practices will continue to prevail in Shanghai in the short term.

Results Dissemination

In Shanghai, the Shanghai Agricultural Broadcasting Television School is the key entity responsible for training agricultural technicians and disseminating knowledge, agricultural technologies and best practices through local radio and television channels, its classes, internet and in-situ demonstration. Currently, the school has programs related to applications of fertilizers and chemicals but has no program on agricultural and non-point pollution reduction technologies and best practices. Internationally, Shanghai has not been actively involved in technical exchange and dissemination on agricultural and non-point pollution treatment techniques. Without the GEF project, Shanghai will not have the opportunities to participate in GEF-related activities such as PEMSEA and will have no access to the IW:LEARN activities.

"With GEF Investment" Scenario

Livestock Waste Management

With GEF support, SMG will demonstrate best practices for organic fertilizer production at the selected large animal farm in Jinshan, and the medium animal farm and the Qianwei animal farm in Chongming. In Jinshan, a mesophilic anaerobic Completely Stirred Tank Reactor will be demonstrated to support the farm's production and recovery of biogas for power generation. The treated waste will be further processed through a mechanical liquid solids separator, which will remove some phosphorus and nitrogen from the liquid fraction. The liquid effluent will be further treated on site through a series of lagoons prior to conveying to the existing Langxia

Wastewater Treatment Plant for final disposal. Some liquid fraction may be used for fodder crops on the farm either through pipes or a trucking scheme. The solid fraction will be composted and sold as an organic fertilizer and soil amendment.

In the medium animal farm, the collected solids will be composted using a windrow method to produce compost, which will be marketed as an organic fertilizer and soil amendment. The liquid waste will be stored in the existing lagoon for land applications. Management measures will be adopted to prevent any discharge from the lagoon during the rainy season. For land applications, a nutrient management plan will also be developed based on nitrogen and phosphorus availability relative to crop needs.

For the Qianwei Village, the candidate village for demonstrating integrated agricultural waste management, the project will support improvinv waste management practices. In particular, the project will demonstrate animal waste treatment with a heated Completely Stirred Tank Reactor to produce biogas. It will also support the village to demonstrate an Upflow Anaerobic Sludge Blanket, which digests organic fractions of the crop straw to produce biogas under anaerobic conditions. The pre-treated crop straw (solids) will be applied to land as a soil enhancer. The performance of the gasification system for crop straw waste will help SMG evaluate the potential of scaling up the adoption of this system in Shanghai. The gas produced from the CSTR, UASB, and gasification system will be transferred to two 100-kW reciprocating engines with attached generators.

Rural Sewage Treatment

In Jiading, SMG will restore a river-network wetland of about 1.2 million m^2 on existing river banks to help stop the sediments carried by surface runoffs; prevent erosion of river courses; provide ecological functions of water and soil reservation; water purification; biodiversity preservation and landscape; and provide diversified habitats for aquatic biota. A 120 m^2 vertical submerged reed-coarse sand artificial wetland will also be constructed to treat 12 m^3/d sewage from Qinggang Village of 30 households and a population of 105. As a part of a much larger eco-project in Jiading District, SMG planned the wetland for ecological restoration purpose. With GEF support, this wetland will be constructed to demonstrate the effect of a river-network wetland and wetland technologies for rural town sewage treatment. Constructed wetland is a man-made and controlled system which forms a compound ecological system consisting of stuffing, microorganisms and plants that are able to purify sewage through various physical, chemical and biological processes. It is expected that constructed wetland will have the advantages of high efficiency, low construction and operational costs and low power consumption. For a similar reason, the project will support Qingpu to demonstrate a new wetland system for treatment of village sewage.

To illustrate effectiveness of the proposed wetland treatment systems, the project will support regular environmental monitoring at the rural town and village constructed wetlands. This monitoring will also provide early warning of unexpected system failure or pollution accidents. Emergency monitoring plans will be developed and implemented to identify mitigation measures and minimize the risk of such events.

Agricultural Pollution Reduction Techniques

Building on existing SMG programs for investment and promotion of agricultural pollution reduction techniques, the GEF project will support SMG to identify and demonstrate solutions to technical challenges faced by the municipality. Specifically, the GEF project will demonstrate best practices in fertilizer applications in addition to SMG's efforts to promote the use of organic fertilizers. The demonstration will focus on accurate fertilizer application and use of crop-specific and nutrient-customized fertilization to improve efficiency of chemical fertilizer and develop more ecologically friendly and sustainable agriculture. Similarly, the project will promote scientific application of agricultural chemicals based on results of an early warning network for outbreaks of plant diseases and pests infestations. Integrated pest management approaches will be demonstrated to promote accurate uses of non-chemical pest management techniques, eco-friendly biological pesticides, and high efficiency, low toxic, and low residual effect chemicals. In addition, the project will support activities to monitor the effect of the demonstration of such technologies through on-site examination and sample analysis at qualified laboratories.

Results Dissemination

The GEF project will support SMG to develop and implement a replication strategy to disseminate lessons and experience learned from this project locally, nationally, regionally and globally.

Through the Shanghai Agricultural Broadcasting Television School, findings of this project will be integrated into training courses designed for local farmers, school students, technicians, professionals and government officials during project implementation. Successes of this project will also be publicized in Shanghai and China through the School's satellite broadcasting network and internet. In addition, it is planned that a series of workshops will be organized in Shanghai to share experiences for agricultural and non-point pollution management techniques with the municipality as well as nationally. Representatives from PEMSEA and other interested international organizations will be invited to attend local workshops and help disseminate the experience and workshop documents.

Regionally, SMG will participate in activities sponsored by the Bank/GEF Investment Fund and PEMSEA (such as the PEMSEA East Asia Seas Congress) with the assistance of the World Bank. Globally, SMG will disseminate results of this project at GEF-organized activities such as the biennial GEF International Waters Conference. In addition, the project will participate in IW:LEARN activities, and project technical details would be included in the UNEP Best Practices and Success Stories Global Network

G. INDICATE RISKS, INCLUDING CLIMATE CHANGE RISKS, THAT MIGHT PREVENT THE PROJECT OBJECTIVE(S) FROM BEING ACHIEVED AND OUTLINE RISK MANAGEMENT MEASURES:

The following is a summary of potential risks with recommended relevant mitigation measures to avoid or minimize such risks. No controversy is envisaged.

Table 2: Risks and Proposed Mitigation Measures

Risk	Mitigation
Various activities dispersed in four county/districts are supported with limited resources.	While it is limited to further simplify the project design due to constraints imposed by GEF and the client's strong objection, the task team has (i) ensured strong client commitment on overall support to project implementation and (ii) secured adequate resources for project supervision. All PIAs have specified their respective commitment in the mini-PIPs.
Technical failure risk as a result of (a) inappropriate choice of technology and system, or (b) design, equipment or material failure.	The project introduced proven technologies. The client has recruited specialists under Project Preparation Grant to support bid evaluation, review feasibility study report and assist the client and other stakeholders on technical issues. It was agreed that consultants will be selected for project implementation. Bank team has reviewed technical design, procurement package.
Institutional risk due to inadequate collaboration among key participants.	Overall project institutional arrangement has been in place. The Project Coordination Group comprises representatives from the Municipal Finance Bureau, the Municipal Development and Reform Commission, the Municipal Environmental Protection Bureau and the Municipal Agricultural Commission. The APL PMO will serve the Shanghai PMO for this project. Four Working Groups at sub-municipal level were also established with members from relevant government agencies within each working group's respective jurisdiction. Respective responsibilities of agencies involved have been specified in PIP.
Insufficient financial resources to implement the Project.	Provision of counterpart funding in full amount and on a timely basis is agreed to be one of the pre-conditions for participation in the project. Commitment letter from each financing source and each PIA have been obtained.
Operational failure risk resulting from: (a) lack of ownership and local community support; (b) operational and management support not available or inadequately accessible; or (c) lack of practical and efficient O&M arrangement.	All project activities were proposed and committed by PIAs and the project as a whole has been integrated into Shanghai municipal government's mainstream programs. The Shanghai PMO has discussed with the sub-municipal Working Groups and PIAs to address these issues. Similar agreement between each PIA and its respective working group is expected. Training will be provided for all operators of the systems under this proposed project to ensure practical and efficient O&M arrangement in place.
Failure in scaling up demonstration activities due to: (i) lack of or weak enforcement of agricultural and non-point pollution control policies; and (ii) change of government financial subsidy policy.	Policy risks have been discussed in detail between the Bank team and Shanghai government. Since the project objective and project activities are in line with Shanghai government's overall environmental protection priorities, such policies are likely to be strengthened. Therefore, such policy risks are minimized. Moreover, the project has been integrated into the Government's mainstream programs and serves as a pilot under the Shanghai Fourth Three-year Environment Protection and Construction Action Plan (2009-2011). This would greatly ensure the potential for a municipality-wide, long-term replication in Shanghai.
Failure in replication by farmers due to a lack of interest in the new environmentally friendly modern agricultural pollution control technique, such as organic fertilizer, safe-chemical use, bio-pesticides, and non-chemical technologies	In the demonstration, high emphasis is placed on disseminating information on advantages of these techniques, including health, economic and environmental benefits, to create incentives for the farmers.

H. EXPLAIN HOW COST-EFFECTIVENESS IS REFLECTED IN THE PROJECT DESIGN:

Technical design of the project focused on introducing proven technical solutions and practical demonstrations to address the key issues of agricultural and non-point source pollution. The design was based on:

(a) the cost-effectiveness of proposed technologies; (b) the expected environmental performance of the proposed technologies relative to the pollution reduction goals of the project; and (c) the replication potential. The project would demonstrate technology options for each sub-project that are technically sound, financially viable, environmentally effective, and proven in other parts of the world. The actual technologies to be demonstrated would be tailored to fit specific conditions of each PIA with its full ownership.

In designing the project, the following alternatives were considered as possible approaches to reducing and preventing pollution from agricultural and non-point pollution sources but were rejected as unfeasible.

(a) *Approach to use exclusively regulatory forces for livestock farms*. Regulatory measures could include: (i) capping or reducing the number of farm animals; and (ii) forced relocation or closing down of existing livestock farms. This approach was rejected because these measures may potentially run into major economic, social and political problems. Capping or reducing the number of farm animals is likely to hit the livestock production industry hard as well as to reduce incentives for investment in livestock farming. Forced relocation or closing down of existing farms would be possible only where alternative livelihoods can be ensured for the farm owners and employees. Such control measures should be reserved only for the most serious problem cases and used as a last resort.

(b) *Approach to involve all eligible entities*. This approach was rejected mainly because of the limited GEF Grant availability for the project. Extending the project to involve all eligible farms, villages and Districts would most likely result in: (i) the increased complexity of project coordination to an unmanageable extent; and (ii) the diminished interest of eligible entities to participate in the project because the average GEF Grant allocation to any individual participating entity would be too small.

(c) *Approach to focus on single agricultural and non-point pollution source*. This approach was rejected based on findings of a study organized by SMG. The study concluded that the main agricultural and non-point pollution sources in rural Shanghai included: (i) livestock waste; (ii) rural household. sewage; (iii) agricultural chemicals; and (iv) crop straw and residues. Focusing on any single pollution source under the proposed project would create a gap for a comprehensive pollution management to achieve project development objective and global environment objectives unless a series of similar projects focused on all single pollution sources, which is not the case.

PART III: INSTITUTIONAL COORDINATION AND SUPPORT

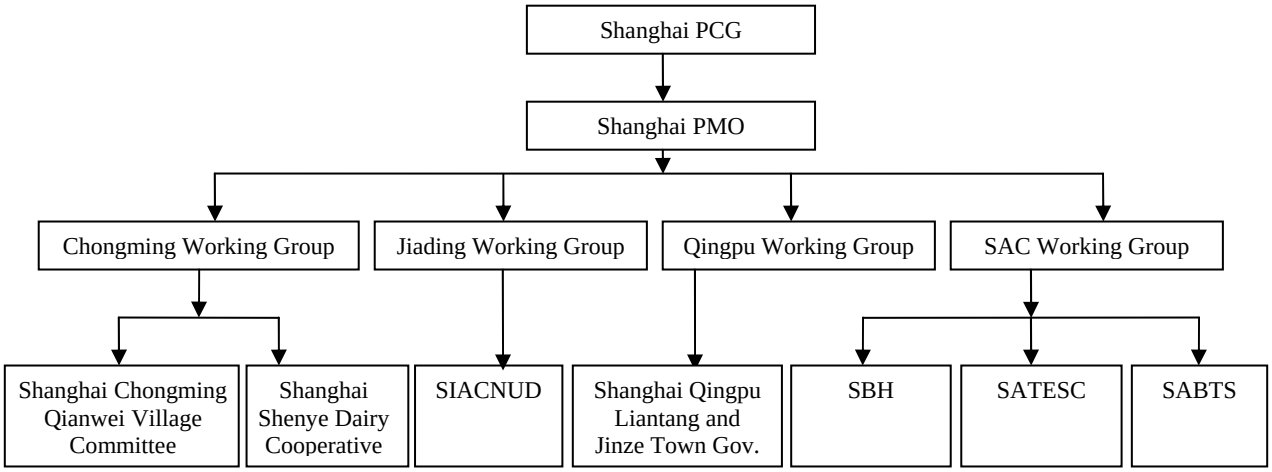
A. INSTITUTIONAL ARRANGEMENT:

The SANPR project is institutionally linked to the WB/GEF Strategic Partnership for Sustainable Development of the Large Marine Ecosystems of East Asia, its financing arm— Strategic Partnership Investment Fund for Pollution Reduction in the Large Marine Ecosystems of East Asia—and its regional agency, PEMSEA.

B. PROJECT IMPLEMENTATION ARRANGEMENT:

Specific institutional arrangement has been made for the implementation of the SANPR project. It is categorized in three levels: municipal, sub-municipal, and participating entity levels. A detailed description of the project's institutional and implementation arrangements is presented in Annex 6 as well as in the PIP.

Figure 1: Institutional and Implementation Diagram



At Shanghai Municipal Level. The Project Coordination Group (PCG) has been established. It is chaired by the Shanghai Development and Reform Commission (SDRC) and comprised of representatives from the SDRC, the Shanghai Municipal Finance Bureau (SFB), the Shanghai Environmental Protection Bureau (SEPB) and the Shanghai Agricultural Commission (SAC). The principal functions of the PCG are: (a) to provide guidance on municipal policies and priorities concerning agricultural and non-point pollution reduction for the project; and (b) to integrate the activities of various agencies involved in the project and to ensure an inter-agency coordinated approach to project implementation.

The Shanghai PMO is a primary focal point for the Bank and the PIAs for the project, and it is placed under the direct supervision of the PCG. Responsibilities of the Shanghai PMO are: (a) to serve as the secretariat of the Shanghai PCG in project preparation and implementation; (b) to act as a coordinating body for the project activities implemented by various agencies; (c) to implement the project's two sub-components (project management and replication strategy development) under Project Management and Dissemination Component; and (d) to serve as the project's focal point for the Bank.

At Sub-municipal Level. Four working groups have been established at the sub-municipal level, i.e. Chongming Working Group, Jiading Working Group, Qingpu Working Group, and SAC Working Group. Working groups in Chongming, Qingpu and Jiading comprise members from relevant government agencies within their respective jurisdiction. SAC Working Group comprises members from SAC's Comprehensive Development division, Crop Office, Animal Husbandry Office, SATESC, SABTS, and Shanghai Bright Holstan Company Limited (SBH). The Working Groups' main roles and responsibilities are: (a) to assist the PCG in coordinating sub-project implementation of the PIAs under their respective administration; (b) to review any amendments to the original sub-project proposals of their respective PIAs, environmental assessment reports, and submission of such documents to other responsible government agencies for further action, if required; (c) to supervise the progress of sub-project implementation by their respective PIAs; (d) to provide policy support and guidance on agricultural and non-point pollution reduction; (f) to develop a replication plan within its own jurisdiction to be included in the project's overall Replication Strategy; and (g) to coordinate and assist their respective PIAs in resolving issues during sub-project implementation.

At Participating Entity Level. Each PIA will be responsible for sub-project implementation of its activities. Respective institutional arrangement has been made at each PIA and specified in a sub-project specific mini-PIP. The PIAs for sub-projects under Livestock Waste Management Technology Demonstration Component will be the owners of their facilities supported by the project. After the completion of the wetland construction, the wetland system in Jiading will be transferred to Shanghai Jiading Water Engineering Design Co., Ltd., and the wetland systems in Qingqu will be transferred to relevant agencies of Jinze and Liantang town governments.

PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF:

The proposed project has been restructured during preparation. In PIF, the project had seven components and each component consisted of two to four activities. Based on the comments received from the concept review meeting, held on March 28, 2008, the task team discussed with the client on restructuring the project during the

preparation mission in June 2008. Consequently, the number of project components was reduced from seven to four. However, the project objective remained unchanged. The revised project components were discussed and agreed with Mr. Christian Holde Severin of GEF on August 18, 2008. Minutes of the Meeting is available on request. The following table provides a comparison of project component structure in approved PIF and at preparation mission.

Table 3: A Comparison of Project Component Structure

In Approved PIF	Link	At Preparation Mission
Comp. 1: Domestic Animal Waste Treatment in Chongming	=A.2	A. Livestock Waste Management Technology Demonstration
Comp. 2: Eco-Agricultural Waste Use Demonstration, Qianwei Village	=A.3	1. Livestock Waste Management on Large Scale Farm
Comp. 3: Artificial Wetland Sewage Treatment in Chenjiazhen	=B.1	2. Livestock Waste Management on Medium Scale Farm
Comp. 4: Dairy Farm Waste Treatment	=A.1	3. Integrated Livestock and Agricultural Waste Management
Comp. 5: Replication of Environmentally Friendly Modern Agricultural Pollution Control Techniques		B. Wetland Sewage Treatment System
(a). Innovative Techniques Demonstration	=C	1. Rural Town River-network Wetland Demonstration
(b). Environmentally Friendly Agricultural Zone Establishment	=C	2. Village Wetland Sewage Treatment System
(c). Garden Type Sewage Treatment Plant	=B.2	C. Integrated Agricultural Pollution Reduction Techniques Demonstration
Comp. 6: Strengthening Rural Area Environmental Protection Dissemination and Training	=D.2	D. Project Management & Dissemination
Comp. 7: Project Management	=D.1	1. Project Management
		2. Training, Replication and Dissemination

PART V: AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for CEO Endorsement.

Agency Coordinator, Agency name	Signature	Date *(Month, day, year)*	Project Contact Person	Telephone	Email Address
Steve Gorman, GEF Executive Coordinator, World Bank			Jiang Ru	202-473-8677	jru@worldbank.org

ANNEX A: PROJECT RESULTS FRAMEWORK

Result Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
Demonstrate effective and innovative pollution reduction activities in Shanghai's rural areas in order to reduce the rural/ agricultural pollution load (especially nutrients) in the surface water flows to the East China Sea	1. Demonstration of pollution reduction technologies 2. Reduced pollution of TN, TP, BOD and COD discharged from the sub-project sites in Livestock Waste Management Technology demonstration Component 3. Reduced pollution of NH3-N, TP, BOD, and COD discharged from the sub-project sites in Wetland Demonstration for Pollution Reduction Component 4. Increased replication farm area using demonstrated technologies 5. Development of a replication strategy for disseminating demonstrated technologies	Recommended best practices in planning and implementation of agricultural, non-point, and rural pollution control programs and projects, and dissemination of the outcomes for sustainable development in rural sector
Intermediate Outcomes	**Intermediate Outcome Indicators**	**Use of Intermediate Outcome Monitoring**
Livestock Waste Management Technology Demonstration Component		
Increase collection and treatment of livestock solid and liquid wastes	Average quantity of livestock solid and liquid waste treated at livestock farms in Jinshan, Shenye and Qianwei	Monitoring the progress of physical works and the PIAs operational performances
Wetland Demonstration for Pollution Reduction Component		
Increase collection and treatment of rural household wastewater	Average volume of rural household wastewater treated at wetland wastewater treatment systems in participating villages	Monitoring the progress of physical works and the PIAs operational performances
Integrated Agricultural Pollution Reduction Techniques Component		
Promote proper usage of fertilizers, insecticides and pesticides	1. Number of farmers receiving skill development programs on fertilizer, insecticides and pesticides 2. Quantity of organic fertilizers used 3. Extent of low residue and low toxicity pesticides used 4. Usage of green test control techniques	Monitoring the progress of purchase of equipment, and efficiency and quality of skill development programs.
Project Management and Dissemination Component		
Improve management capacity of PMO and PIAs Promote agricultural pollution reduction techniques through training and workshops	1. Number of subprojects satisfactorily implemented 2. Number of training courses conducted 3. Number of farmers who participated in the training and workshops.	Monitoring the progress of project management and dissemination programs.

Arrangements for Results Monitoring

			Target Values			Data Collection and Reporting		
Project Outcome Indicators	**Unit**	**Baseline 2010**	**YR1 2011**	**YR2 2012**	**YR3 2013**	**Frequency and Reports**	**Data Collection Instruments**	**Responsibility for Data Collection**
1. Demonstration of pollution reduction technologies	no.	0	6	8	8	Semi-annual report	PIA	Shanghai PMO
2. Reduced pollution of (a) TN, (b) TP, (c) BOD, and (d) COD discharged from sub-project sites in Livestock Waste Management Technology Demonstration Component	ton/yr	(a) 0 (b) 0 (c) 0 (d) 0	3.53 0.31 70.50 116.58	17.98 4.15 362.41 771.43	30.60 7.80 606.50 1,347.50	Semi-annual report	PIA	Shanghai PMO
3. Reduced pollution of (a) NH3-N, (b) TP, (c) BOD, and (d) COD discharged from sub-project sites in Wetland Demonstration for Pollution Reduction Component	ton/yr	(a) 0 (b) 0 (c) 0 (d) 0	1.46 0.44 23.45 42.50	1.85 0.56 31.26 56.20	1.87 0.57 33.21 59.28	Semi-annual report	PIA	Shanghai PMO
4. Increased replication farm area using demonstrated technologies (cumulative)[2]	mu	0	8,000	16,000	16,000	Semi-annual report	PIA	Shanghai PMO
5. Development of a replication strategy for disseminating demonstrated technologies		none	drafted	reviewed	finalized	Semi-annual report	PIA	Shanghai PMO
Intermediate Outcome Indicators								
Livestock Waste Management Technology Demonstration Component Average quantity of livestock solid and liquid waste treated at livestock farms in Jinshan, Shenye and Qianwei	tons/d	0	10,800	69,400	126,000	Semi-annual report	PIA	Shanghai PMO
Wetland Demonstration for Pollution Reduction Component Average volume of rural household wastewater treated at wetland wastewater treatment systems in participating villages	m^3/d	0	199	504	504	Semi-annual report	PIA	Shanghai PMO
Integrated Agricultural Pollution Reduction Techniques Component Number of farmers receiving skill development programs on fertilizer, insecticides and pesticides	per. times	0	550	1,100	1,100	Semi-annual Report	PIA	Shanghai PMO
Quantity of organic fertilizer used	ton/yr	0	1,200	2,400	2,400	Semi-annual report	PIA	Shanghai PMO

[2] The base year for this indicator as well as intermediate outcome indicators related to Integrated Agricultural Pollution Reduction Techniques Component is 2009.

Extent of low residue and low toxicity pesticides used (against the total pesticides used at the pilot sites)	%	0	80	90	90	Semi-annual report	PIA	Shanghai PMO
Usage of green test control techniques (at the pilot sites)	no.	0	description	description	description	Semi-annual report	PIA	Shanghai PMO
Project Management and Dissemination Component								
Number of subprojects satisfactorily implemented (cumulative)	no.	0	3	7	8	Semi-annual report	PIA	Shanghai PMO
Number of training courses conducted	no.	0	5	10	10	Semi-annual report	PIA	Shanghai PMO
Number of farmers who participated in training and workshops	no.	0	1,000	2,000	2,000	Semi-annual report	PIA	Shanghai PMO

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF)

1. Response to GEF Secretariat comments:

Items worth noting at CEO Endorsement: The M& E plan would include monitoring of water near the Demonstration sites to be able to document pollution reduction. Further, funding should be programmed and annual reporting implemented.

Response: An M&E plan has been developed by the client which includes monitoring of water near the demonstration sites or at the pipe-end. Actual monitoring assignment will be contracted to consultants. A total of about $180,000 has been budgeted under the project for M&E. M&E report will be included in semi-annual progress report to be prepared and submitted by the client during the project implementation period. M&E plan is available on request.

2. No comment was received from STAP reviewer.

ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF RESOURCES

Position Titles	*$/ person week**	*Estimated person weeks***	*Tasks to be performed*
For Project Management			
Local			
International			
Justification for Travel, if any:			
For Technical Assistance			
Local			
Replication Strategy and M&E	2,000	165	Drafting, testing and finalizing a replication strategy for the project during project implementation period; carrying out M&E assignment for all sub-projects including sampling, lab work, analysis and reporting.
Training and Dissemination	2,000	25	Training for project management, M&E for all participating project implementation agencies; and dissemination of porject experience and demonstrated technologies.
International			
Justification for Travel, if any: Travel to sub-project sites in participating county and districts by the firm is necessary. Some trainers may travel from other provinces whin China to Shanghai.			

* Provide dollar rate per person week. ** Total person weeks needed to carry out the tasks.

ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS

A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN. The recipient has successfully completed all activities and assignments funded under the PPG. The task team leader found the disbursement to be an accurate representation of the activities and assignments for which the grant was given. A PPG completion report was prepared and submitted by the task team leader to the regional GEF coordinator on February 4, 2010.

B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:

C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

Project Preparation Activities Approved	*Implementation Status*	*GEF Amount ($)*				*Co-financing ($)*
		Amount Approved	*Amount Spent Todate*	*Amount Committed*	*Uncommitted Amount**	
1. Prepare and review the feasibility studies and reports of the demonstration projects, including replication strategy; finalize project design	Completed	197,000	132,000			124,265
2. Prepare TORs and task plans for institutions, policies, and	Completed	5,000	25,000			0

facilities for the demonstration projects						
3. Establish baselines; prepare a Monitoring and Evaluation (M&E) plan	Completed	10,000	55,000			0
4. Prepare project documentation (printing, binding); present and disseminate information	Completed	0				24,000
5. Conduct stakeholder consultation	Completed	0				8,000
6. PPG Management Cost	Completed	0				12,118
Total		212,000	212,000			168,383

* Any uncommitted amounts should be returned to the GEF Trust Fund. This is not a physical transfer of money, but achieved through reporting and netting out from disbursement request to Trustee. Please indicate expected date of refund transaction to Trustee.

ANNEX E: CALENDAR OF EXPECTED REFLOWS

N/A