REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: Full-sized Project
TYPE OF TRUST FUND:GEF Trust Fund

For more information about GEF, visit TheGEF.org

PART I: PROJECT INFORMATION

Project Title: Biodiversity Conservation and sustainable land management in the soda saline-alkaline wetlands agro pastoral landscapes in the western area of the Jilin Province (Jilin - BCSLM)			
Country(ies):	China	GEF Project ID:[1]	4632
GEF Agency(ies):	FAO (select) (select)	GEF Agency Project ID:	611430
Other Executing Partner(s):	Department of Water Resources, Jilin Province (DWR Jilin)	Submission Date:	April 10, 2015
GEF Focal Area (s):	Multifocal Area	Project Duration(Months)	48
Name of Parent Program (if applicable): ➢ For SFM/REDD+ ➢ For SGP ➢ For PPP	N/A	Project Agency Fee ($):	262,700

A. FOCAL AREA STRATEGY FRAMEWORK[2]

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount ($)	Indicative Co-Financing ($)
BD-2	Outcome 2.1: Increased sustainable managed landscapes and seascapes that integrate biodiversity conservation	Output 2.2 National and Sub-national land-use plans (3) that incorporate biodiversity and ecosystem services valuation	GEFTF	1,415,000	6,700,000
BD-2	Outcome 2.2: Measures to conserve and sustainable use biodiversity incorporated in policy and regulatory frameworks	Output 2.1. Policies and regulatory frameworks (1-3) for production sectors	GEFTF	221,000	500,000
LD-1	Outcome 1.2 Improved agriculture management (increased land area with sustainable productivity and reduced vulnerability to climate variability)	Output 1.3 Sustainable SL/WM interventions to increase vegetation cover in agro-ecosystems Output 1.5 Information on SLM technologies and good practice guidelines disseminated	GEFTF	512,000	6,000,000
LD-3	Outcome 3.1 Enhanced cross-sector enabling environment for integrated landscape management (policies support integration of agriculture, rangeland, and other land uses)	Output 3.1 Integrated land management plans developed and tested	GEFTF	35,000	300,000
LD-3	Outcome 3.2 Integrated landscape management practices adopted by local communities (application of integrated natural resource	Output 3.2 INRM tools and methodologies developed and tested Output 3.4 Information on INRM technologies and good	GEFTF	312,000	2,500,000

[1] Project ID number will be assigned by GEFSEC.
[2] Refer to the Focal Area Results Framework and LDCF/SCCF Framework when completing Table A.

	management practices (INRM) in wider landscapes)	practice guidelines disseminated			
		Sub-Total		2,495,000	16,000,000
		Project management cost[3]		132,000	800,000
		Total project costs		2,627,000	16,800,000

B. PROJECT FRAMEWORK

Project Objective: To demonstrate and replicate an integrated model for Sustainable Land and Water Management (SLWM) in saline-alkaline productive landscapes including rehabilitation and BD conservation in wetlands.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount ($)	Confirmed Cofinancing ($)
Component 1: Improvement of the policy, legal and regulatory framework for an SLWM model in productive landscapes, including capacity development	TA	Outcome 1.1: Adoption of integrated SLWM model including biodiversity conservation by local governments and drafting of corresponding policy implementation guidelines.	Output 1.1.1: Adoption of and clear political commitment to the integration of the SLWM model including biodiversity conservation by local governments and relevant line agencies at county level in primary and replication areas (saline-alkaline landscapes with similar ecosystem throughout West Jilin). Output 1.1.2: Drafting and approval of county level policy implementation guide-lines outlining the de-tails of the roll-out of the SLWM model including specific responsibilities of stakeholders.	GEFTF	130,000 (BD: 70,000; LD: 60,000)	800,000
		Outcome 1.2: Adjustments of policy plans, legal provisions and regulations to mandate the SLWM model implementation and replication (including location-specific environmental standards for salinity	Output 1.2.1: Wetlands biodiversity conservation and SLWM model incorporated into policies, plans, and regulations for the agriculture and water resource management sectors (including land and water use planning			

[3] GEF will finance management cost that is solely linked to GEF financing of the project.

		and agrochemical levels) Outcome 1.3: Training of decision makers, government and technical staff as well as local communities, extension workers and individual farmers (training in SLWM agricultural practices)	and management) in western Jilin province Output 1.2.2: Wetlands biodiversity conservation and SLWM model replicated in saline alkaline landscapes in western Jilin province Output 1.3.1: Decision makers and technicians from water resource, agriculture, forestry, environmental protection bureau at prefecture and county level and Chagan Lake Administration are trained Output 1.3.2: Extension workers and Farmers trained in application of SLWM practices including green/ecological, conservation, water saving and grassland rehabilitation practices.			
Component 2: Design and piloting of sustainable land and water management and conservation agriculture practices in production landscapes around Chagan Lake	INV	Outcome 2.1: Water management guidelines for agricultural use (based on and adjustable to the information gathered by the comprehensive water monitoring system) Outcome 2.2: Design, testing and adoption of sustainable agricultural practices for water and land use in coherence with the overarching	Output 2.1.1: Water management guidelines for agricultural water use as well as use of chemicals and pesticides formulated and implemented in all project sites Output 2.1.2: Ground water levels stabilized in the project area and positive demonstration effects for the wider irrigation area Output 2.2.1: Degradation and desertification processes stopped and reversed in saline-alkaline land with improved vegetation cover resulting in in-	GEFTF	1,400,000 (BD: 700,000; LD: 700,000)	10,000,000

		SLWM model including the development of technical guidelines for implementation	creased productivity and reduced vulnerability to climate variability Output 2.2.2: SLWM agricultural practices adopted in Qian'an and Qian'guo pilot sites and scaled to the total Songyuan irrigation area of integrated production land-scape contributing to the conservation of wet-lands biodiversity Output 2.2.3: Develop technical guidelines Output 2.2.4: Farmer's households adopt SLWM practices and benefit from in-creased land productivity in two pilot sites			
		Outcome 2.3: Establish and gain local agreement on Integrated Land and Water Management Plans (ILWMP) for agricultural use in coherence with the overarching SLWM model	Output 2.3.1: Prepare comprehensive and dynamic ILWMP for the project area that integrate agriculture, pasture management, biodiversity conservation and ecosystem service preservation with salinity and water management. Output 2.3.2: Integrated land and water management plan (ILWMP) for the entire Songyuan Area consulted, validated and agreed with relevant stakeholders. Output 2.3.3: Integration of the IL-WMP guidelines and principals into the training programs of the WRB and CAD			

			(measured by the number of training packages updated).			
Component 3: Rehabilitation of wetlands and grasslands leading to improved biodiversity conservation in the productive landscapes around Chagan Lake	INV	Outcome 3.1: Rehabilitation of wetlands in project sites 1&2 and improved biodiversity conservation leveraging the baseline irrigation infrastructure; water flow management in-formed by monitoring system (see 3.2) Outcome 3.2: Design and establishment of a comprehensive monitoring system to monitor salinity as well as pollutant levels, water flow quantities, and biodiversity development (early warning system to inform adjustments of water management and farming practices throughout the project)	Output 3.1.1: Rehabilitation and conservation of wetlands managed as an integrated part of the freshwater fishery and irrigated crop and grassland production landscape providing important habitats for endangered migratory birds resting and feeding in these wetlands. Output 3.1.2: Improved biodiversity indicators for: population and number of IUCN red listed Crane species (Siberian, Hooded, White-naped, and Red crowned) Output 3.2.1: Establish comprehensive monitoring system measuring pollutants and salinity across the project area. Output 3.2.2: Agricultural non-point source pollution con-trolled and monitored within the project area. Output 3.2.3: Model for water quality requirements and eco-logical water demand for rehabilitation of wetlands developed based on the data collected from buffer zone inflow and outflow water quality and quantity measurement. Output 3.2.4: Buffer zone inflow and outflow water quality	GEFTF	800,000 (BD: 800,000)	4,000,000

		Outcome 3.3: Long-term management system to protect rehabilitated wetlands and conserve wetland bio-diversity; includes a wetland co-management approach for local communities as well as awareness raising efforts wetland biodiversity conservation	and quantity systematically monitored and analyzed, and pollution risk early warning sys-tem and inflow and outflow management strategy implemented. Output 3.2.5: Establish comprehensive monitoring system measuring biodiversity across the project area. Output 3.3.1 : Wetlands co-management committees with local communities and county reed administration and biodiversity co-management plan for the wetlands and buffer zone prepared and under implementation. Output 3.3.2: Awareness raising campaign on wetlands biodiversity conservation implemented in rehabilitated and existing wetlands in the area of influence of the Songyan irrigation area			
Component 4: Monitoring and evaluation of project activities, dissemination of knowledge and information and public awareness raising	TA	Outcome 4.1: Monitoring and evaluation of project activities, dissemination of knowledge and information and public awareness raising	Output 4.1.1: Project monitoring system is set up and operational for ensuring the effective implementation of the planned project activities and providing six-monthly reports on progress in achieving project out-puts and outcomes Output 4.1.2: Annual review and planning workshop carried out to ensure	GEFTF	165,000 (BD: 103,000; LD: 62,000)	1,200,000

			the achievements of the intended outputs and outcomes; Midterm and final evaluation reports Output 4.1.3: Project results and best practices disseminated			
				Subtotal	2,495,000	16,000,000
				Project management Cost (PMC)[4]	GEF TF	132,000 (BD: 80,000; LD: 52,000)	800,000
				Total project costs		2,627,000	16,800,000

C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME ($)

Please include letters confirming cofinancing for the projeSct with this form

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount ($)
Local Government	Water Resource Department of the Jilin Province	Grant	16,600,000
GEF Agency	FAO	In-kind	200,000
Total Co-financing			16,800,000

D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY[1]

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in $)		
				Grant Amount (a)	Agency Fee (b)[2]	Total c=a+b
FAO	GEFTF	Biodiversity	China	1,753,000	175,300	1,928,300
FAO	GEFTF	Land Degradation	China	874,000	87,400	961,400
Total Grant Resources				2,627,000	262,700	2,889,700

[1] In case of a single focal area, single country, single GEF Agency project, and single trust fund project, no need to provide information for this table. PMC amount from Table B should be included proportionately to the focal area amount in this table.

[2] Indicate fees related to this project.

F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:

Component	Grant Amount ($)	Cofinancing ($)	Project Total ($)

[4] PMC should be charged proportionately to focal areas based on focal area project grant amount in Table D below.

International Consultants	70,000	426,000	496,000
National/Local Consultants	411,200	2,500,000	2,911,200

G. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? No

(If non-grant instruments are used, provide in Annex D an indicative calendar of expected reflows to your Agency
and to the GEF/LDCF/SCCF/NPIF Trust Fund).

PART II: PROJECT JUSTIFICATION

A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF[5]

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NCSA, NIPs, PRSPs, NPFE, Biennial Update Reports, etc.

NO CHANGE

A.2. GEF focal area and/or fund(s) strategies, eligibility criteria and priorities. ***NO CHANGE***

A.3 The GEF Agency's comparative advantage: ***NO CHANGE***

A.4. The baseline project and the problem that it seeks to address:

The provincial government, Songyuan and Baicheng prefectures and county government in the western Jilin province are planning or already implementing a number of programs to tackle the causes of degradation, salinization and alkalization and to halt the reduction of wetlands ecosystem services in Western Jilin.

The challenge is daunting. The naturally uneven distribution of water resources within China, featuring a water-rich South and a dry North, has been plaguing the country throughout Chinese history. In recent times, human actions have severely exacerbated this situation reaching a point where ecosystems cannot compensate for the damages any longer and face the danger of irreversible degradation.

In the large agriculturally used areas of northern China, two mutually reinforcing human-made factors pose a grave threat:

1. Unsustainable agricultural practices, damaging use of land and water resources, driven by population growth and rapid economic development. This especially includes the inefficient water use as well as the diminishing of water resources through pollution (e.g. pesticides and chemicals used in agriculture). Both put enormous pressure on water resources in China, causing land and biodiversity degradation.
2. Detrimental effects of climate change are fundamentally shifting water resource pat-tern across China. The northern parts of the country, traditionally already prone to droughts, are becoming even more vulnerable to severe water shortages, exacerbating land and habitat degradation. Climate change increases the urgency for action on unsustainable agricultural practices.

The severity of the situation makes the Western Jilin Wetlands a perfect test case. The project region of Songyuan prefecture has been bearing the full brunt of water resource degradation. Water flow into the prefecture has been diminished by economic activities and upstream water withdrawal. This leads directly to a vicious cycle of unsustainable pumping of groundwater in the project area, exacerbating the problem to a point close to ecosystem collapse. At the heart of the Songyuan ecosystem lies Chagan Lake, a National Nature Reserve of great biodiversity and with a vital eco-function as a stopover for migratory birds. The

[5] For questions A.1 –A.7 in Part II, if there are no changes since PIF and if not specifically requested in the review sheet at PIF stage, then no need to respond, please enter "NA" after the respective question.

stability of this globally significant ecosystem crucially depends on the health of the surrounding productive landscapes, especially the wetlands. However, water scarcity and unsustainable land and water management severely degraded these wetlands, putting mounting pressure on the entire ecosystem.

The envisioned GEF project can rely on an exceptionally strong set of baseline initiatives in Western Jilin. The infrastructural investments within the Songyuan irrigation zone are fully compatible with the environmental objectives of the project, backed by strong political support at all levels and implemented with major government resources. The irrigation scheme provides the backbone for the envisioned GEF activities and will be leveraged to create significant GEBs. The project activities will make strategic and targeted improvements to the existing set of initiatives, turning the irrigation scheme into a showcase example for integrated SWLM at the landscape level. In this way, the comparatively small GEF investment will yield exceptionally high environmental benefits of global significance.

A) Initiatives geared towards the rehabilitation of saline wetlands as well as reversal of degradation processes, thereby benefitting natural habitat and crop and livestock production:

1) Hadashan Hydrological Construction Program: The national government, Jilin provincial government, Jilin DWR, and the Songyuan and Baicheng City Governments will invest 5.8 billion Yuan (USD 945 million) in 2012-2019 for the Hadashan Hydrological Construction Program. This project serves as a platform and overarching umbrella program for a spectrum of activities connected to the improvement of degraded agricultural lands as well as rehabilitation of wetlands and grasslands within the Songyuan Irrigation Area. The other projects described below are closely connected to this overarching program and provide additional funds from different sources strengthening various aspects already included in the Hadashan Program. The Hadashan Program provides the backbone infrastructure to be leveraged towards the GEF project's objective.

The objective of this program is twofold:

a. Construct an irrigation system (190,000 ha) to supply water for improving croplands affected by salinization and degradation in Qian'guo, Qian'an and Da'an in the Song-yuan Irrigation Area (SIA).

b. Construct a system of water channels to rehabilitate degraded wetlands and dried up lakes along the Huolin River South and adjacent to Chagan Lake. (These efforts are partially blended with the Songyuan Water Diversion, Conservation and Control System Project described below.)

Together, the area served by the irrigation system is called the Songyuan Irrigation Area (SIA), which includes all three initial GEF Project Areas. The water source for this investment program is the Second Songhua River. During flooding season, when water withdrawal is possible with-out negatively affecting either economic or environmental interests, water is rerouted from the Hadashan Reservoir into an irrigation canal connecting the Second Songhua River and the de-graded water bodies and wetlands of Hua'aopao. This aspect of the Hadashan Program receives additional support through the River-Lake Connection Programme presented below. The related restoration of the Hua'aopao wetlands (GEF Project Area 3) is one of the main objectives of the GEF Project.

The effects of the water diversion on the downstream ecosystems have been comprehensively studied and evaluated during an Environmental Impact Assessment (see section 3.1). The water quantity of Second Songhua River during flooding season is well above all critical thresholds and the amount of diverted water is kept to a minimum, ensuring that no detrimental environmental effects can occur. During the dry season, the storage capacity of the Hua'aopao lakes is used to provide a steady supply of irrigation water avoiding any excessive water withdrawal from the Second Songhua River during this period. In this way, irrigation flows can be steady while water diversion is sensible to the seasonal changes of the river flow. The Hua'aopao lakes are connected to the irrigation system and allow for a fully controlled water flow within the system. This will be of crucial importance for the implementation of the wetland rehabilitation supported by the GEF project.

The irrigation water will flow into two areas:

The first area is a fully degraded and salinized wetland (Xinmiaopao = GEF Project Area 1) which will be rehabilitated through the water flow. Managing this rehabilitation and long-term health of the wetland as

well as avoiding the negative effects of increased water salinity levels for the wetlands as well as Chagan Lake will be one of the major objectives of the GEF Project (project component 2).

The second area is an intensely used cropland area (Dakouzipao = GEF Project Area 2), currently supplied with water through unsustainable groundwater pumping. In addition to groundwater use, the farmers in these areas employ a variety of environmentally damaging practices including overuse of chemicals and pesticides. Therefore, this area will be the primary site for the implementation of Conservation Agriculture practices (project component 3). After flowing through the croplands, the water goes through a buffer zone of smaller lakes and wetlands into Chagan Lake. Controlling and improving the pollutant levels of this water will create significant GEBs and is accordingly one of the main objectives of the GEF project.

2) Songyuan Water Diversion, Conservation and Control System in the Songyuan Irrigation Area (SIA): This initiative is blended with the Hadashan Program described above. It provides additional funds primarily focused on the wetlands and grasslands rehabilitation aspects already included in the Hadashan Program. It is implemented by the Jilin DWR, which will invest an additional USD 16.6 million in the next five years for strengthening an integrated water supply approach simultaneously considering water supply needs for agriculture and food security as well as wetlands and grasslands rehabilitation. These funds, being directly connected to the objectives of the GEF project, will provide crucial co-financing to the project: drainage channels from the SIA to secure the water for rehabilitation of wetlands; design of experiments, testing and implementation of water and soil improvement and conservation measures; and technical assistance, equipment, local travel etc. to support project activities and project management.

3) Rehabilitation of Ecosystem in Saline Landscape of West Jilin Program: This program is funded by the Provincial Agricultural Department and pursues similar goals as the initiatives above. Measures include: physical engineering measures for flushing salt in soil by drainage systems, introducing salt resistant shrubs and crops, chemical absorption of soil salt, and sustainable management of rehabilitated land resources. The total planned annual investment is 300 million Yuan (USD 49 million) according to the Provincial Agriculture Commission.

4) River-Lake Connection Programme (RLCP): The program, financed by the national government, Jilin DWR, and Songyuan City government, will introduce the harvesting and storage of flood water during the rainy season to rehabilitate wetland ecosystem and degraded grass-lands and saline-alkaline land. The RLCP project intends to increase the eco-water volume for wetlands and grasslands rehabilitation through diversion of water from Second Songhua River, Nen River and Taoerhe River without negatively impacting water supply to downstream regions (see Hadashan Program above). The investment area covers Qianguo, Qian'an and Changling in Songyuan City and will restore 40,000 ha of wetlands. The total confirmed governmental in-vestment for RLCP is 10 million Yuan RMB (USD 1.6 million) to be used from 2015 to 2020. This investment will serve as cofinancing for the GEF component 3 allowing for the replication of the piloted Sustainable Water Management Model in the wider Songyuan Irrigation Area (Qian'guo and Qian'an) and in Da'an (Tao'erhe River) and Zhenlai (Ecosystem rehabilitation through diversion of water from the Nen River.

B) Initiatives geared towards the introducing suitable practices for use of land, water and grass-land resources in crop and livestock production

In addition to the large infrastructure and irrigation investments described above, a number of initiatives exist that connect more specifically to project component 3, the introduction of CA and other environmentally sustainable farming practices. These initiatives will create an addition-al basis for the GEF investment to build on and in part receive co-financing from.

1) Baicheng Conservation Agriculture (CA): Baicheng City has initiated a CA project in 90,000 ha farmland. Key technologies and practices include: (i) application of CA Machines of integrating seeding, fertilizing and ploughing in one process to reduce damage on soil structure; (ii) Anti-weeding by applying environmental friendly herbicides to avoid soil disturbance;

2) Ecological Agriculture in paddy rice production: Songyuan City has been recognized by National Green Food Development Center as Green Food Rice Standard Production Demonstration Base. The green and organic products have been registered as commercial brand "Songyu" for marketing. Green and organic food

certification system is in place. Until 2013, fifteen organic and green food products have been certified. A set of technical guidelines for instruction of the production practice was developed by local Agricultural Bureau. The key technologies for green rice production include: (i) reduced chemical fertilizer application; (ii) adoption of Integrated Pest Management (IPM) in paddy rice and other crops pest control; (iii) application of low residues chemical pesticides in following national standard; (iv) green processing of products, including package, storage and transportation, etc.

3) Rehabilitation of degraded grassland: A pilot will be conducted in Hongxing Livestock Farm with key rehabilitation interventions: (i) fencing; (ii) rational grazing; (iii) soil ploughing and seeding with salt and saline resistant native grasses;

4) Hadashan Hydro Programme (HHP): The program has a 70 million Yuan (USD 11.4 million) budget allocated for measuring the irrigation and water flow and demand, including the water demand for irrigation and ecological water demand. The program will be also experimenting and piloting the water saving agricultural practices, water saving irrigation technologies, etc. which will be implemented in the coming 5 years. Piloting of practices will be coordinated and results will be shared for further replication throughout the SIA.

5) Water Saving in Irrigation Agriculture. During 12th Five Year Plan, Jilin Provincial government and local government in Baicheng and Songyuan initiated the Water Saving Irrigation Agriculture Project with a planned intervention area of 670,000 ha (rain-fed farmland) to be implemented from 2011 to 2015.

C) Current studies and monitoring of wetlands water quality and quantity for the protection of its biodiversity and sustaining its natural flood and recession cycle

1) In December 2012, China Water and Hydropower Research Academy and Chagan Lake National Nature Reserve Administration jointly established “Chagan Lake Hydro-Ecological Sys-tem Monitoring and Research Center” in the Chagan Lake Administration for monitoring and studying the hydro-ecological environment of Chagan Lake. The monitoring efforts of the Cha-gan Monitoring Center, measuring water quality of the lake itself, will be closely coordinated with the monitoring system to be established by the GEF project, which will focus on measurements in the surrounding wetlands. The two systems will be fully complementary and mutually reinforcing.

2) Since 1990s, a number of scientific research studies have been conducted on the Chagan Lake Wetland hydro-ecosystem, water quality and water pollutions as well as impacts of drain-age water quality from rehabilitated saline land irrigation area on the buffer zone hydro-ecosystem in Xinmiao Lake and other buffer zone areas of Chagan Lake. The findings of these studies will be an important baseline input for the establishment of the buffer zone and the rehabilitation of wetlands with irrigation drainage water to be supported by the project.

D) Additional projects, initiatives and investments in wetland biodiversity conservation

For conserving and rehabilitating biodiversity and wetlands ecosystem habitats the national and provincial governments have established three national nature reserves (NNR) in West Jilin, namely Chagan Lake National Wetland NR (2007), Momoge National Wetland NR (1997) and Xianghai National Wetland NR (1986). Chagan Lake NNR is located adjacent to the Songyuan Irrigation Area and is as such directly connected to and affected by the GEF project intervention areas.

In the past decade, both central and provincial government financed several research and rehabilitation and protection efforts and activities in Chagan Lake, Xianghai and Momoge National Wetland NNR. In 2013 all three wetland NNRs had established rehabilitation and conservation regulations and drafted management plans. Based on these plans, a series of rehabilitation and conservation activities and projects have been implemented in the three NNRs supported by government and international organizations. In addition, they are also conducted biodiversity monitoring and observation activities with focus on migratory birds monitoring changes in number of individuals in the population of each species and in the biophysical status of their habits. Routine protection and management practices were also piloted by the NNR administrations.

A. 5. Incremental /Additional cost reasoning: describe the incremental (GEF Trust Fund/NPIF) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF/NPIF financing and the associated global environmental benefits (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

The GEF project will leverage the extensive baseline initiatives, making small but targeted adjustments that will create significant GEBs which would not have been realized by the baseline itself. The existing and forthcoming governmental supported land resource management, water resource management, agricultural development and ecological improvement projects are mainly focus on the improvement of land productivities and construction of hydro and irrigation infrastructures. Although ecological rehabilitation and sustainable water resource management are stated in the objectives of these programs, there are, however, lack of pilots and technical guidelines and policy instruments for addressing the abovementioned ecological threats and social economic barriers. GEF project will help Jilin Provincial and local government to address these problems and remove these threats.

China is quickly approaching a breaking point regarding its land and use in agricultural lands and the related environmental damages. Across northern China, numerous ecosystems that include agricultural landscapes are at the brink of irreversible environmental damages. China urgently needs solutions for protecting these landscapes while balancing environmental protection with the socio-economic needs of local communities. Diversion of water resources in the context of large irrigation systems will inevitably be part of these restoration efforts. Thus far, water diversion projects in China followed a rather heavy-handed approach, focusing on local agricultural needs while ignoring detrimental effect to the local as well as downstream ecosystems. **Demonstrating a careful and prudent way of environmentally sound water diversion, featuring a clear understanding of ecosystem impacts and innovative solutions for maximizing environmental benefits, carries enormous potential to improve biodiversity conservation and land management across China.**

In order to build an environmentally sensitive model for large irrigation efforts, the initiative will have to look at all the interrelated factors at the landscape level. A model for Sustainable Land and Water Management (SLWM) in irrigated areas that can insure agricultural productivity, sustainable land use and biodiversity simultaneously needs to address two fundamental issues:

1. Sustainable design and application of the irrigation system: The irrigation system cannot be solely targeting maximum and short-term agricultural gains, but needs to take the entire landscape into account. The irrigation system needs to restore an ecological balance between land resource protection, biodiversity conservation and agricultural production. A carefully designed, cautiously applied and closely monitored irrigation system can serve all three objectives at the same time, creating a productive landscape of long-term ecological health and sustained productivity.
2. Change agricultural practices to serve land and biodiversity protection: Even the most carefully designed irrigation system will not be able to counterbalance unsustainable agricultural practices for long. Agricultural practices, especially over-use, waste and pollution of water resources, are the part of the fundamental problem that can (in contrast to global climate change) be fully solved at the local level. A SLWM Model at the landscape level will have to include alternative agricultural practices that keep productivity, land use and biodiversity in a sustainable balance. In this way, the threefold objective is the same as for the design and application of the irrigation infrastructure.

Both aspects in their combination result in a comprehensive and integrated SLWM Model at the landscape level. To design and apply this model is the ambitious yet fully feasible objective of this project. The Western Jilin wetlands offer a unique opportunity to do so. All building blocks are in place to implement an innovative and pioneering solution: keen environmental awareness of stakeholders, major government resources and strong political will. The project will build upon a carefully planned for water diversion to improve degraded croplands and rehabilitate wetlands of vital ecological importance. The project will complement the envisioned irrigation system to make it environmentally sound and ensure, that land degradation and biodiversity concerns are adequately addressed. The project will combine this rehabilitation effort with the introduction of sustainable agricultural practices based on the tried and tested principles of Conservation Agriculture (CA) with a strong focus on sustainable and efficient water-use and avoidance of

water pollution through agrochemicals. Both aspects, rehabilitation of degraded wetlands plus introduction of sustainable agricultural practices, will in their combination create an integrated SLWM Model.

Thereby, the **GEF project will synergistically complement the baseline initiatives and address remaining barriers and environmental challenges, thereby creating significant global environmental benefits:**

Component 1: The gaps in the legal, regulatory and policy framework described in the previous section would continue to seriously undermine all upcoming and future efforts to implement long-term, sustainable approach to land and water resource management in Jilin and beyond. Making a targeted efforts towards introducing integrated approaches based on a landscape perspective into the overarching framework will cause a significant improvement of the effective-ness of all future initiatives. Component 1 will leverage ongoing positive developments with regard to legal, regulatory and policy conditions and improve their positive environmental impact by a comparatively small, but systematic adjustment.

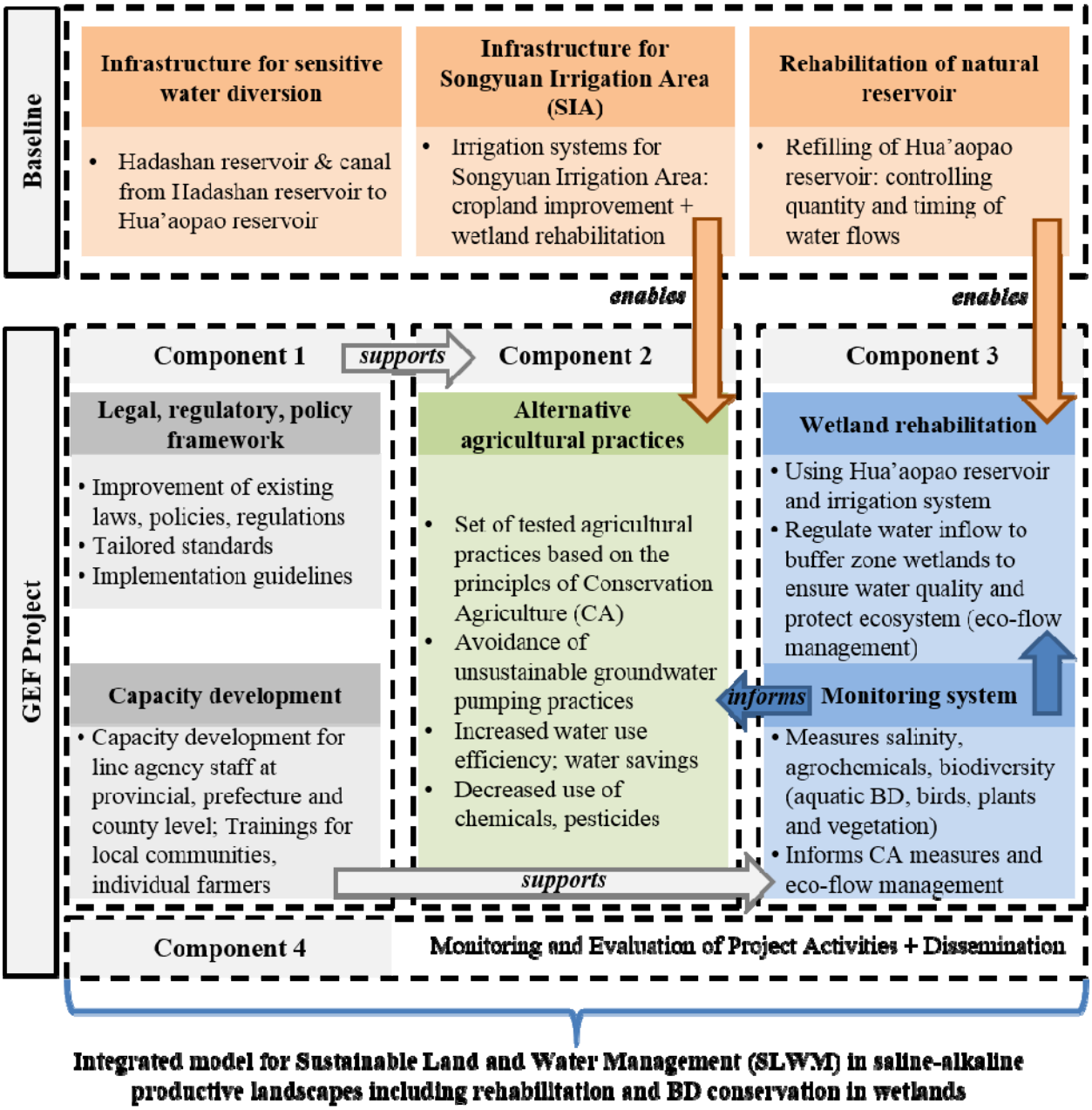
Component 2: Without the GEF project, all efforts to improve the environmental situation around Chagan Lake through the irrigation initiative will be short-lived, as the irrigation efforts by themselves will not address the actual root causes of environmental degradation which lies in the current agricultural practices. Changing these practices, especially by introducing water saving and water quality conservation measures, will put the future development of productive landscapes around Chagan Lake onto a different, more sustainable track. The SLWM model to be introduced by component 2 will provide an alternative to conventional approaches which is feasible, effective and efficient. Component 2 will thereby slightly redirect the current and planned agricultural initiatives, putting them on a path towards reduced water usage and conservation of water quality.

Component 3: Without the GEF project, the Hadashan Program and all connected baseline activities would continue the water diversion and wetland flooding activities without taking into account the immediate threat of water salinity levels as well as the long-term sustainability of the rehabilitation efforts. Long-term environmental recovery requires an integrated SLWM approach for the entire production landscape taking into account the conservation of biodiversity as an intrinsic part of productive landscape management. It will require systematic management of fisheries resources, waterfowl habitats and pollution threats as well as systematic monitoring and management of ecosystem health in contributory channels and buffer zone wetlands. Component 3 will integrate the BD conservation model with the SLWM model of component 2. Ecosystem services and biodiversity valuation will be developed from the beginning of the project and different options for mitigating land degradation processes; salt accumulation (or salinization process) in the soil and water will be analyzed and tested by applying the LADA-WOCAT method-ology.

An early warning system for pollution threats will be established to insure the conservation of wetland habitats for waterfowls and migratory birds, and fishery resources will be inventoried, monitored and managed based on water ecosystem carrying capacity. The ecosystem based SLWM model developed in this project will be followed up by adjustment in policies and regulations securing the mainstreaming of biodiversity and soil conservation in planning and management processes in the water, agriculture and livestock sectors and documented for replication in other complex production landscapes integrated by water diversion systems, paddy-fields, dry cropland, grassland and wetlands

Global Environmental Benefits: The anticipated direct GEBs in the project pilot sites will be: (i) Degradation and desertification processes reversed in 170,780 ha saline-alkaline land with improved vegetation cover resulting in sustainable productivity and reduced vulnerability to cli-mate variability, namely the drought and floods; (ii) 220,000 ha of integrated production land-scape under SLWM practices, and conservation and environment-friend agriculture practices, etc.; (iii) Rehabilitation and conservation of 49,883 ha wetland managed as an integrated part of the freshwater fishery and irrigated crop and grassland production landscape providing important habitats for endangered migratory birds resting and feeding in these wetlands; (iv) Wetland habitat for freshwater fish, mammals, water fowl and endangered migratory birds is conserved leading to: 1) population of IUCN red listed Crane species (Siberian, Hooded, White-naped, and Red crowned) maintained or increased in pilot sites by the end of the project (<5% variance); 2) population of wetlands mammals such as the IUCN red-listed Eurasian otter increased in pilot sites.

Further to these direct global benefits in the pilot sites the project will also have indirect benefits in the wider western Jilin wetlands and agro-pastoral landscape (50 000 km2). The valuation of biodiversity and ecosystem services in land use and water planning and management; the main-streaming of the integrated SLWM and conservation model in policies, programs and regulations in the water, agriculture and livestock sectors within the western Jilin province; and the enhanced awareness of wetland ecosystem services and conservation measures in local land and water management and agriculture activities, will allow for that the global benefits of the project will cover significantly more hectares than the rehabilitated hectares mentioned above.



Integrated model for Sustainable Land and Water Management (SLWM) in saline-alkaline productive landscapes including rehabilitation and BD conservation in wetlands

A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:

Risks	Risk rating	Mitigation countermeasures
A. Ecological risks		
Impacts of climate change	High	• Introduce water saving irrigation technologies and facilities in rain-fed farmlands; • Straw Mulching
Impact of water diversion on down stream	Low	• Assessment and monitoring measures will be considered at project inception.
Salt moving to the upper layers of the soil	Medium	• Introduce integrated saline soil improvement technologies, such as physical engineering, chemical absorption, plant salt resistant crops, etc.
B. Social economic risks		
Farmers lack of capacity to adopt water saving agriculture practice and technologies	Medium	• Can be mitigated through farmer's training and field demonstration
Market risks for green food products	Medium	• Support to farmer's cooperatives • Promote the agro-company plus households marketing modality
Risks of marginalization of rural women and poor farmers in the project	Medium	• Provide technical training to women • Give the priority to poor farmers in selecting pilot households • Conduct participatory consultation with women and poor households in planning, monitoring the project activities
Conflicts between farmers' livelihoods and management of wetland and habitats	Medium	• Support alternative livelihood activities in the community co-management pilot
C. Institutional risks		
Interests conflicts between different sectors and line agencies	High	• Set up multi-institutional consultation mechanism at prefecture and county levels during planning and implementation • Incorporate the SLWM and biodiversity conservation models into local government development planning by different sectors • Hold multi-stakeholder policy consultation conference at Y4
Lack of participation of agriculture, animal husbandry and environmental agencies in the policy implementation	Low	• Sub-contracting agronomy and pastoral management activities to agriculture and animal husbandry departments
Local government is not able to pay the eco-service compensation to farmers	Medium	• Consult with and formulate recommendations to local government

Delayed physical engineering construction of Songyuan Irrigation Area for Dakouzipao Pilot Area	Medium	• Jilin Department of Water Resources, PMO will coordinate with the SIA Project implementation unit to give priority to the Dakouzipao

A.7. Coordination with other relevant GEF financed initiatives

During project preparation lessons learned and approaches developed under the UNDP/GEF project Wetland Biodiversity Conservation and Sustainable Use in China will be considered. This project has built organization and planning skills, and strengthened information management and community involvement in wetland reserves, and improved the management level of wetlands and wetland biodiversity conservation in China which will benefit the proposed project. Likewise, the project will benefit from habitat protection approaches developed for the highly threatened migratory bird, Siberian Crane, by the UNEP/GEF Siberian Crane Wetland project which had the western Jilin province wetlands as one of its intervention sites resulting in an increased population.

The project will directly apply capacities and methodologies for identification and mapping of land degradation processes in dry lands, their causes and solution options in terms of land use planning and natural resources management responses developed in China supported by the UNEP/FAO/GEF Land Degradation Assessment in Dryland (LADA) project (mentioned in section A.1 and B.2 above).

Regarding ongoing projects or projects under preparation coordination to maximize synergies will be established with: the three wetlands FAO/GEF/China projects Demonstration of estuarine biodiversity conservation restoration and protected area networking in China, Securing biodiversity conservation and sustainable use in China's Dongting Lake protected area, and Protection and Sustainable Use of Poyang Lake Wetland Ecosystem; and the UNDP/GEF/China wetlands PA program Main Streams of Life – Wetland PA System Strengthening for Biodiversity Conservation. As mentioned under section A.1 above, the proposed project could offer important additional approaches to wetlands conservation in China to the wetlands PA centered approaches of these projects. The proposed project is a key entrance point to the mainstreaming of wetlands biodiversity in the water sector which could add value to the experiences gained in the PA focused program and projects.

B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:

B.1 Describe how the stakeholders will be engaged in project implementation.

Stakeholders at the provincial and prefecture level recognize the acute threat to the environmental as well as the economic well-being of the region. The ecosystem of Chagan Lake is not only of great environmental importance, but also of high economic value as a tourist location. Next to agriculture, tourism is the main source of livelihood for local communities. Both sources of in-come depend on the health of the croplands, grasslands and wetlands surrounding the lake. Accordingly, a broad alliance of dedicated stakeholders formed to find an answer to the daunting environmental and socio-economic crisis.

This broad alliance is of particular importance with regard to the specifically agricultural dimension of this project, including a number of activities related to sustainable agricultural practices. For these parts of the project, the DWR will rely on the support from the corresponding agricultural ministries and other stakeholders from the agricultural sector. The exact responsibilities are spelled out section 4 on implementation arrangements.

The Jilin Department of Water Resources will be the main Project Execution Partner. See section 4.2 for further description of its responsibilities in this role. Water Resource Bureau in Songyuan City and Qianguo, Qian'an and Da'an counties will be also be involved in the implementation of project activities in the project area.

Songyuan Municipal Government, Qian'guo and Qian'an county governments are the major local co-executing partners for the implementation of pilot activities and replicating the SLWM and biodiversity conservation practices and model. See section 4.2 for further description of their responsibilities in this role.

Jilin Provincial Agricultural Committee, agricultural and livestock bureau, relevant agricultural extension services at provincial, prefecture and county levels will play very important roles in piloting the conservation agriculture and sustainable pastoral management practices. They can directly be involved in the component 2 designing, providing technical training to farmers in con-conservation agriculture, integrated pest management, water saving agriculture, integrated pasture management, organic agriculture, etc., required during implementation of the component 2 activities.

The **Provincial Environmental Protection Department** and local environmental protection bureaus will be involved in the monitoring the water quality in the buffer zone and new formed wetlands to ensure the drained out water in the buffer zones of the project pilot areas will match the water biophysical and biochemical criteria required by wetland habitats for migratory birds. The water quality monitoring points set up by Songyuan City Environmental Protection Bureau might be used by monitoring the water quality of the pilot areas.

Provincial Science and Technology Department: the department will be involved in the com-munity outreach campaign and extension of relevant technologies required in the SLWM and biodiversity conservation, conservation agriculture, organic and environment friendly agriculture. The Science and Technology Association at the city and county level, as affiliated civil society can also be directly involved in the community education and technical training;

The **Jilin Provincial Government Legislative Affair Office** will be involved in legislative approval and enacting of the SLWM and biodiversity conservation regulations and guidelines and provide an enabling legislation environment for replicating the SLWM, biodiversity conservation and eco-payment regulations in other areas of West Jilin Province.

Hadashan Hydro Program Administration (HHPA) will be involved in the water balancing modelling carried out in component 2 of the project. It will also be involved in the monitoring for complying with the water diversion quota from Second Songhua River. In addition it will also play roles in replicating the piloted SLWM model in the non-pilot areas within the Songyuan Water Irrigation Area.

Chagan Lake Natural Reserve Administration (**CLNRA)** will be a key partner in implementation of the wetlands biodiversity conservation component 3 including monitoring wetlands eco-system functions and biodiversity rehabilitation processes and setting up of wetlands and native grasslands co-management schemes and monitoring. CLNRA will also play important roles in replicating the piloted SLWM models and biodiversity conservation best practices outside of Songyuan Irrigation Area.

Coordination with line departments

The project will closely cooperate and coordinate with line agencies to support component 1 in policy development and replication of the SLWM and biodiversity conservation models in other areas of West Jilin as well as component 2 and 3 activities. These stakeholders will all be included in the Project Steering Committee (see section 4.2) and include Jilin Provincial Development and Reform Commission, Jilin Department of Finance, Provincial Agricultural Committee, Provincial Agricultural Bureau, Provincial Animal Husbandry Bureau, Provincial Environmental Protection Department, Provincial Forestry Bureau.

Other stakeholders

Besides the abovementioned governmental line agencies and authorities, following institutions will be involved in the project implementation:

1) Jilin Water and Hydrological Survey and Planning Institute (WHSPI). The institute has been the major partner in GEF project preparation. WHSPI will be involved in the implementation of component 2 as subcontractor.

2) Northeast Normal University. Northeast China Normal University has strong expertise in water ecology and migratory bird bio-diversity monitoring. Two consultants from the School of Life Science of the

university have been involved in the GEF Project preparation. The university will participate in the project implementation for component 3 commissioned by the project as subcontractor;

3) Jilin Provincial Academy of Agricultural Sciences and its crop, livestock and soil management institutes will provide technical supports and consultancy in piloting conservation farming models with focus on crop cultivation, grassland management, pest management, fertilization, etc., under component 2. These institutes can also provide technical training to farmers and county agricultural extension workers.

4) Jilin Provincial Agricultural Extension Center is directly affiliated to the Provincial Agricultural Commission with the functions of introducing and piloting crop varieties and adopting crop cultivation, pest management technologies and providing technical training to farmers. The center can be involved in demonstrating conservation agriculture, integrated pest management and introducing new crop varieties under component 2.

Non-governmental organizations (NGOs): Community-based organizations, such as farmers' co-operatives, producers' associations, professional associations, such as Environmental Protection Association at county and city levels, Water Conservation Association, etc., can play roles in promoting the community awareness building and capacity building for sustainable application of tested SLWM and biodiversity conservation and wetland co-management models. They can also be directly participating in the community campaign and training. Potential NGO for collaboration with the project will be contacted before start-up of the project. Songyuan Environmental Protection Volunteer Association, Jilin Provincial Bird Protection Association, Jilin Wildlife Protection Association and Jilin Water Conservation Association and their branches in Songyuan will be the potential partners. In addition, the project will also cooperate with Village Based Farmer's Cooperatives in the fringe areas of the GEF pilot project sites.

B.2 Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund/NPIF) or adaptation benefits (LDCF/SCCF):

Local communities and individual farmers in their increasing role as stakeholders and managers of productive landscape ecosystems in China are the core addressees and beneficiaries of this project. Almost all project activities are directly geared at farmers, giving them the knowledge and information, tools and mechanisms, to contribute actively to a different model of water and land use in agricultural production. Accordingly, farmers are the main addressee of the comprehensive training and capacity development activities to be implemented under component 1. They are of course the central group to implement the alternative agricultural practices to be promoted under component 2. And they are also the main stakeholder and responsible party of the co-management scheme for protecting wetland biodiversity under component 3. In short: farmers and local communities will carry this project to success.

In return, many of the benefits of the project will directly go to local communities and farmers. Especially in the long term, the more ecologically sustainable approach to water use in agricultural production will ensure long-term productivity and ultimately provide a significant surplus in terms of agricultural production. In addition to this direct agricultural gain, the project will safe-guard the ecosystem of Chagan Lake, which is a major tourist attraction of the region. The land degradation that this project addresses is also a danger to the income generated from tourism in this region. Tourism is the second major source of income next to agriculture/fishery of the local communities surrounding Chagan Lake. The project will therefore directly contribute to the economic well-being of local people. Consequently, the project is broadly supported by the affected population, creating an extraordinary social sustainability.

As during project preparation, local communities will be an active participant in the project related decision-making processes ensuring local ownership. Participatory practices will place strong emphasis on the realization of gender equality throughout the project implementation process. Furthermore, the training and capacity development mechanisms that are envisioned to operate well beyond project duration will also serve as knowledge exchange fora to be used for farmers' interaction on past experience. The conscious inclusion of women in these knowledge exchange mechanisms will further strengthen the gender equality focus of the project.

B.3. Explain how cost-effectiveness is reflected in the project design:

The project is expected to reach a particularly high level of cost effectiveness as it is based on extensive utilization of existing structures. As described in section 1.1, the project is not only aligned with, but firmly embedded into comprehensive government effort to find environmentally sustainable solutions for irrigation and water diversion schemes. Instead of building cost-intensive own mechanisms, the project leverages the emergence of a pioneering approach to agricultural irrigation combined with degraded land rehabilitation. The significant infrastructure in-vestments have already been provided. The project will make targeted adjustment to the current scheme and will, with a small GEF investment, improve the entire environmental trajectory of the major baseline activities. By instilling pollutant, salinity and biodiversity monitoring into the irrigation scheme, a long-term balance between agricultural productivity and environmental protection becomes possible. By complementing this with the introduction of alternative, environmentally sustainable agricultural practices, a relatively small adjustment will create a new paradigm of Sustainable Land and Water Management. Thereby, the project will realize an exceptionally high GEB return to incremental investment, making this project highly cost effective.

C. DESCRIBE THE BUDGETED M &E PLAN:

Oversight and monitoring responsibilities

Monitoring and evaluation of progress in achieving project results and objectives will be con-ducted based on the targets and the corresponding output and outcome indicators established in the Project Results Framework (Annex 1). The project's M&E system will be put in place during the first 6 months of project implementation and will feed back into project implementation. This system will be housed within the Jilin DWR as described in the previous sections. Technical assistance for the design and administration of the project M&E system, training, and procurement of equipment to administrate the information system will be provided by FAO.

The M&E system will be structured in a way that combines traditional on-going monitoring of project activities, external/participatory impact evaluations and social accountability mechanisms. The monitoring and evaluation system will also facilitate learning and generation of knowledge necessary for the subsequent replication and scaling up of project activities. Thereby, the M&E system becomes an integral part of the project and a continuously used tool for realizing adaptive project management.

Indicators and information sources

The project indicators are specifically selected to capture progress in improvements of water quality and water use, land degradation as well as enhanced biodiversity protection. This further highlights the need to closely integrate the project M&E system with the comprehensive water quality and biodiversity monitoring systems to be designed and implemented as integral parts of the project. The monitoring systems to be established as part of component 3 will at the same time serve as the primary information sources to assess project progress and achievements.

To assess and confirm the congruence of outcomes with project objectives, physical inspection and/or surveying of activity sites and participants will be carried out. This latter task will be undertaken by the DWR supported by the FAO Project Task Manager. Under the guidance of the Project Technical Team and with participation of local communities, collection of baseline data will be carried out and compiled into a base document for each sub-project in accordance with the indicators established to monitor on-the-ground impacts of conservation practices being applied. By the end of each sub-project data to monitor the development in the performance and impact indicators will be collected by local communities supported by project staff. However, in some cases it will only be possible to evaluate on-the-ground impacts 1-3 years after project termination.

Reporting Schedule

Specific reports that will be prepared under the M&E program are:

1. project inception report;
2. Annual Work Plan and Budget (AWP/B);
3. Project Progress Reports (PPRs);
4. quarterly project implementation reports (QPIRs);
5. annual project implementation review (PIR);
6. technical reports;
7. co-financing reports; and
8. terminal report.

Project Inception Report:

After FAO approval of the project and signature of the Execution Agreement an inception workshop will be held. Immediately after the workshop, DRW will prepare a project inception report in consultation with the FAO Project Task Manager and other project partners. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed First Year Annual Work Plan and Budget (AWP/B) and a plan with all monitoring and supervision requirements. The draft report will be circulated to FAO for review and comments before its finalization.

Annual Work Plan and Budget (AWP/B):

DRW will submit to the FAO Representation in China an Annual Work Plan and Budget which will be divided into monthly timeframes detailing the activities and progress indicators that would guide implementation during the year of the Project. As part of the AWP/B, a detailed project budget for the activities to be implemented during the year should be included together with all monitoring and supervision activities required during the year. With the support from the PTM the FAO Representative will give no-objection to the AWP/B in consultation with the LTU and the GEF Coordination Unit.

Project Progress Reports (PPR)

DRW will submit to the FAO Representation in China six-monthly project progress reports. The 3rd report should accompany the following year's draft Annual Work Plan and Budget (AWP/B) and the 1st and the 2nd reports should be accompanied by the updated AWP/B, for review and no-objection by FAO. The PPR are used to identify constraints, problems or bottlenecks that impede timely implementation and take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the project Results Framework. The FAO Project Task Manager will review the progress reports and submit them to the Lead Technical Unit (LTU) for approval and subsequently to the GEF Coordination Unit for final approval and uploading on FPMIS.

Quarterly Project Implementation Reports (QPIR) The FAO Project Task Manager, with inputs from DRW Project Progress Reports and supervision activities will prepare quarterly reports which entail regular review of the project to compare approved work plans with actual performance, and to take corrective action as required.

Project Implementation Review (PIR)

The LTU supported by the FAO Project Task Manager, with inputs from DRW, will prepare an annual Project Implementation Review (PIR). The PIR will be submitted to the GEF Coordination in TCI for review and approval. The GEF Coordination will submit the final report to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio.

Technical Reports

Technical reports will be prepared to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by DRW to the FAO Representation in China who will share it with the LTU and the GEF Coordination Unit for review and clearance, prior to finalization and publication. Copies of the technical reports will be distributed to the Project Directive Committee and other project partners as appropriate. These will also be posted on the FAO FPMIS.

Co-financing Reports

DRW will be responsible for collecting the required information and reporting on in-kind co-financing. DRW will provide the information in a timely manner and will transmit such information to FAO.

Terminal Report

Within two months of the project completion date DRW will submit to FAO a draft Terminal Report, including a list of outputs detailing the activities taken under the Project, "lessons learned" and any recommendations to improve the efficiency of similar activities in the future. This report will specifically include the findings of the final evaluation as described above.

Monitoring and evaluation plan summary

Type of M&E activity	Responsible Parties	Time-frame	Budgeted costs
Inception Workshop – Overall Project Launch (as part of annual project management workshop including M&E system application)	DRW, FAO BH LTO/PTM, LTU	Within two months of project start up	USD 8 000 (annual project management workshop & M&E system application)
Project Inception Report	DRW, FAO BH LTO/PTM, LTU	Immediately after workshop	None (in-kind co-financing and GEF agency fee)
Design and set-up of project monitoring system including training of staff and equipment	DRW, FAO LTO/PTM, LTU	As early as possible after project start up	USD 12 000
Field based impact monitoring including M&E system operating expenses	DRW, PDFs, County level project units, local forest managers	Continually	USD 40 000 (includes M&E specialist fee plus parts of biodiversity monitoring system used for project M&E purposes)
Supervision visits and Quarterly Project Implementation Reports - QPIR	FAO LTO/PTM, FAO FLO (Funding Liaison Officer - TCI) with inputs from DRW	Quarterly	Visits of the FAO LTU/LTO and TCI-GEF to be paid by GEF agency fee. PTM visits to be paid from project travel budget.
Project Progress Reports - PPRs	DRW	four-monthly	None (in-kind co-financing)

Type of M&E activity	Responsible Parties	Time-frame	Budgeted costs
Project Implementation Review - PIR	LTU, FAO LTO/PTM; FAO FLO (Funding Liaison Officer - TCI).	Annually	Paid by GEF Agency fee
Co-financing Reports	DRW	Annually	None (in-kind co-financing)
Technical reports	DRW, FAO LTO/PTM, LTU	as appropriate	None (in-kind co-financing and GEF agency fee)
Supervisory visits to project and field sites	FAO LTO/PTM, LTU	Yearly or as required	Paid by GEF Agency fee
Mid-term evaluation	External Consultant, FAO-C , TCI-GEF Unit with the project team and stakeholders	At mid-point of project implementation	USD 30 000
Mid-stage assessment workshop	External Consultant, FAO-C , TCI-GEF Unit with the project team and stakeholders	At mid-point of project implementation	USD 13 500
Final evaluation	External Consultant, FAO independent evaluation unit in consultation with the project team and stakeholders	At the end of project implementation	USD 40 000
Final assessment workshop	External Consultant, FAO independent evaluation unit in consultation with the project team and stakeholders	At the end of project implementation	USD 10 000
Terminal Report	DRW, LTU, FAO LTO/PTM	At least one month before end of project	None (in-kind co-financing)
		Total (GEF funding)	**USD 153 500**

Provision for evaluations

An independent mid-term evaluation will be undertaken during the third year of project implementation. The evaluation will determine progress being made towards achievement of objectives, outcomes, and outputs, and will identify corrective actions if necessary. It will, inter alia:

a) review the effectiveness, efficiency and timeliness of project implementation;
b) analyze effectiveness of implementation and partnership arrangements;
c) identify issues requiring decisions and remedial actions;
d) identify lessons learned about project design, implementation and management;
e) highlight technical achievements and lessons learned; and
f) propose any mid-course corrections and/or adjustments to the implementation strategy as necessary.

An independent final evaluation will take place three months prior to the terminal review meeting of the project partners and will focus on point d) and e) listed above. In addition, the final evaluation will review

project impact, analyze sustainability of results and whether the project has achieved its environmental and development objectives. The evaluation will furthermore provide recommendations for follow-up actions.

Draft Terms of Reference (TOR) for the Mid-term and Final Evaluation will be prepared by DRW and finalized in close consultation with the FAO Project Task Manager in the FAO representation in China, the FAO LTU, the GEF Coordination, and under the ultimate responsibility of the FAO Office of Evaluation, in accordance with FAO evaluation procedures and taking into consideration evolving guidance from the GEF Evaluation Office.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):): (Please attach the Operational Focal Point endorsement letter(s) with this form. For SGP, use this OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Ms. Jiandi Ye (OFP at the time of PIF approval)	Director, IFI Division III, International Department	Ministry of Finance	AUGUST/30/ 2011

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF/LDCF/SCCF/NPIF policies and procedures and meets the GEF/LDCF/SCCF/NPIF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date *(Month, day, year)*	Project Contact Person	Telephone	Email Address
Gustavo Merino Director, Investment Centre Division, Technical Cooperation Department FAO Viale delle Terme di Caracalla 00153 Rome, Italy TCI-Director@fao.org		April 10, 2015	Jeffrey Griffin Senior Coordinator, GEF Coordination Unit, Investment Centre Division Technical Cooperation Department FAO Viale delle Terme di Caracalla 00153 Rome, Italy Jeffrey.Griffin@fao.org	+39 (0)6 570 55680	GEF-Coordination-Unit@fao.org

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

THE **PROJECT RESULTS FRAMEWORK** CAN BE FOUND IN THE PROJECT DOCUMENT, APPENDIX 1, PAGES 98-107.

ANNEX B: RESPONSES TO PROJECT REVIEWS

Most comments from project reviews have been answered during the PIF stage and appropriate changes have been included in PIF as well as the overall project design as described in the Project Document. Remaining recommended action at CEO Endorsement from STAP project review are addressed as below (based on STAP PIF Screening of March 2012):

GEF STAP Recommended Action at CEO Endorsement	FAO Responses
1. Hydrological and soils baseline studies and monitoring will be essential and clear targets are needed against which to evaluate impact. Without such studies the proposed diversion of water cannot be properly quantified and could lead to a "lose-lose" scenario. […] Accordingly STAP advises that the project design should build in the necessary additional baseline surveys and modeling actions along with monitoring protocols and responsibilities to determine the best use of the available water and the impacts realistically achievable along with clearly specified targets and indicators.	The baseline information on soil, climatic and hydrological context has been significantly extended during project preparation through expert studies. Comprehensive data on the overall baseline situation can be found on pages 12-20 of the ProDoc, including additional information on: - *Degradation, salinization and alkalization processes* - *Evolution of soil salinization degree* - *Area changes in land use types* - *Climatic data 1950-2005 incl. variation of annual precipitation and evaporation* - *Evolution of underground water table reduction* - *etc.* In addition, comprehensive specialized studies have been conducted to assess the exact impact of the water diversion, determine the best use of the available water and set appropriate quantitative targets. **The results of these efforts are presented on pages 64-68 of the ProDoc**, including: - *Water Inflow Volume, Diversion and Outflow Volume downstream measurements and projections until 2030* - *Estimations for total water demand for restoring the existing lakes in project area* - *Minimum eco-flow required by downstream regions* - *Projected (2030) down-flows from HDS Hydro-Project with and without diversion* - *Change of Monthly Water Flow at Harbin River Section with and without project* - *etc.* Based on that data, the project design carefully addresses the risks of the water diversion scheme and puts into place a series of safeguards to avoid all possibilities for negative environmental impacts. Safeguards include a comprehensive monitoring system, as suggested by STAP. The details of the monitoring system are presented on pages 56-58 of the ProDoc. The project budget includes ample resources for setting up the necessary monitoring measures for close to real-time monitoring of key indicators. Corresponding quantitative targets have been selected and are summarized in Appendix 1 of the ProDoc.

2. Significant salinization of runoff waters will accompany wetland rehabilitation which, depending upon the receiving river/channel flows available to dilute salt, may impact downstream uses for several years.	See comments on 1) above. The dangers of salinization of runoff water is indeed one of the central characteristics of the project and has been extensively researched throughout project preparation. The projects proposed design to deal with this problem (see p. 64 of ProDoc) is one of the **major innovations the project offers, also for further replication across northern China.** The project will avoid the risk of salinization through a carefully orchestrated use of different water reservoirs, constant control of water flow levels supported by an extensive salinity monitoring system. Tackling this complex issue, setting an example for comparable conditions elsewhere, is one of the most important benefits expected from this project. From ProDoc (p. 42): "However, the high salinity of the soil in Western Jilin complicates the endeavor: the saline levels of the water in the rehabilitated wetlands and the runoff into Chagan Lake could potentially rise too high, causing ecological damages. The project will avoid these negative effects. First, it will use the existing system of newly flooded natural reservoirs (also used to avoid water flow fluctuations downstream; see above) to tightly control the quantity and timing of water flows into the wetlands. Second, it will establish a monitoring sys-tem constantly controlling salinity levels at checkpoints across the project area (also used to monitor levels of agrochemicals; see above). The combination of both instruments gives stakeholders full control over the flooding and revitalization process and ensures that excessive salinity levels cannot occur."
3. The PIF suggests that for the downstream consideration of allowable minimum ecological flows in the Songhuajiang River that the Tennant method resulted in an assessed minimum flow of 20% of dry season average flow to the river. STAP notes that according to the environmental flows review conducted by Acreman and Dunbar (2004) and the IUCN "Flows" publication, the Tennant method is considered to have no ecological validity within eco-climatic regions outside the USA region within which the method was developed, therefore the proponents should consider alternative methods supported by monitoring.	See comments on 1) above. The Tennant method has been supplemented and results have been refined. See pages 64-68.
4. The PIF does not deal with climate change risk,	Additional information on climate change risks were already

which needs to be comprehensively addressed in the full project brief. […]	provided in the PIF revision and then further expanded in the ProDoc, which now takes climate change into consideration comprehensively. Next to unsustainable agricultural practices, the ProDoc defines climate change as one of two mutually reinforcing human-made factors posing a grave threat to the health of the agriculturally used areas of northern China: "Detrimental effects of climate change are fundamentally shifting water resource pat-tern across China. The northern parts of the country, traditionally already prone to droughts, are becoming even more vulnerable to severe water shortages, exacerbating land and habitat degradation. Climate change increases the urgency for action on unsustainable agricultural" (page 2 of ProDoc) Baseline information on climate change risks can be found in the ProDoc on pages 17-18. Climate change considerations are also prominently included in the water flow assessments and risk mitigation strategies on pages 64-68. Climate change risks are the first risk discussed in the Risk Matrix (Appendix 4 of ProDoc).
5. While the baseline conditions are reasonably well covered, the PIF makes only passing mention of tracking the progress and impact of the project through the careful choice of a small set of impact indicators relevant to biodiversity and land degradation. STAP would like to see this addressed in the full proposal, along with the methods for tracking and monitoring. […]	The comprehensive monitoring system has already been mentioned in the answer to comment 1) above. **Outcome 3.2: Design and establishment of a comprehensive monitoring system to monitor salinity as well as pollutant levels, water flow quantities, and biodiversity development (early warning system to inform adjustments of water management and farming practices throughout the project)** From ProDoc (p. 57): "A pivotal part of component 3, which will also be closely integrated with component 2, is the design and establishment of a comprehensive water monitoring system to monitor salinity as well as pollutant levels, water flow quantities, and biodiversity development. The monitoring system will serve as an early warning system to inform adjustments of water management and farming practices throughout the project duration." This monitoring system to be established by the project will be closely interlinked with the project monitoring system measuring project progress and achievement of targets, ensuring the effective implementation of the planned project activities and providing six-monthly reports on progress in achieving project outputs and outcomes (Output 4.1.1).

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

PPG Grant Approved at PIF: **100,273**			
Project Preparation Activities Implemented	***GEF/LDCF/SCCF/NPIF Amount ($)***		
	Budgeted Amount	***Amount Spent Todate***	***Amount Committed***
Stakeholder consultations	3,700	4,902	
Socio-economic baseline and identification of co-benefits for local socio economic and global environmental benefits	9,143	9,500	
Analysis of institutional and regulatory framework for water and land-use planning	9,470	10,000	
Climate vulnerability and land degradation assessment and mapping (LADA or other alternative)	18,570	10,250	7,503
Analysis of water cycle as a function of different land-uses and development of SLWM model to be tested in pilot area	14,770	14,750	
Biophysical requirements for the establishment of buffer zones for wetlands restoration	10,770	10,770	
Biodiversity and ecosystem services baseline and threat analysis and identification of mitigation and monitoring measures	13,570	11,050	
Capacity needs assessment and development of capacity building plans	6,570	7,838	
Detailed design of project components based on incremental reasoning, risk analysis and financial mobilization	13,710	0	13,710
Total	100,273	79,060	21,213