



GLOBAL ENVIRONMENT FACILITY  
INVESTING IN OUR PLANET

**Naoko Ishii**  
CEO and Chairperson

April 10, 2015

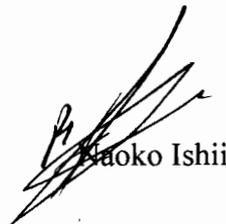
Dear Council Member:

FAO as the Implementing Agency for the project entitled: ***China: Sustainable Forest Management to Enhance the Resilience of Forests to Climate Change***, has submitted the attached proposed project document for CEO endorsement prior to final approval of the project document in accordance with FAO procedures.

The Secretariat has reviewed the project document. It is consistent with the proposal approved by Council in June 2013 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by FAO satisfactorily details how Council's comments and those of the STAP have been addressed. I am, therefore, endorsing the project document.

We have today posted the proposed project document on the GEF website at [www.TheGEF.org](http://www.TheGEF.org). If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,



Naoko Ishii

Attachment: GEFSEC Project Review Document  
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee



# REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

For more information about GEF, visit [TheGEF.org](http://TheGEF.org)

## PART I: PROJECT INFORMATION

Project Title: Sustainable forest management to enhance the resilience of forests to climate change in China			
Country(ies):	China	GEF Project ID: <sup>1</sup>	5139
GEF Agency(ies):	FAO (select) (select)	GEF Agency Project ID:	623509
Other Executing Partner(s):	China State Forestry Administration	Submission Date:	December 30, 2014 Resubmitted March 16, 2015
GEF Focal Area (s):	Multifocal Area	Project Duration(Months)	72
Name of Parent Program (if applicable):		Project Agency Fee (\$):	679,509
	<ul style="list-style-type: none"> <li>➤ For SFM/REDD+ <input checked="" type="checkbox"/></li> <li>➤ For SGP <input type="checkbox"/></li> <li>➤ For PPP <input type="checkbox"/></li> </ul>		

## A. FOCAL AREA STRATEGY FRAMEWORK<sup>2</sup>

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount (\$)	Cofinancing (\$)
CCM-5 (select)	<p>Outcome 5.1: Good management practices in LULUCF adopted both within the forest land and in the wider landscape</p> <p>Outcome 5.2: Restoration and enhancement of carbon stocks in forests and non-forest lands, including peatland</p>	<p>Output 5.1: Carbon stock monitoring systems established. (16 monitoring systems at local level operational at project end)</p> <p>Output 5.2: Forests and non-forest lands under good management practices (min. of 100,000 ha directly; ca. 700,000 ha of project site forest area indirectly)</p>	GEF TF	4,475,455	30,782,000
(select) BD-2	<p>Outcome 2.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation.</p> <p>Outcome 2.2: Measures to conserve and sustainably use biodiversity incorporated in policy and regulatory frameworks.</p>	<p>Output 2.1. Policies and regulatory frameworks for production sectors. (1 at national level, 4 at provincial level, 16 at county level)</p> <p>Output 2.2. National and sub-national land-use plans that incorporate biodiversity and ecosystem services valuation. (16 local SFM plans based on existing</p>	GEF TF	889,091	5,768,000

<sup>1</sup> Project ID number will be assigned by GEFSEC.

<sup>2</sup> Refer to the [Focal Area Results Framework and LDCF/SCCF Framework](#) when completing Table A.

		national and provincial plans)  Output 2.3. Certified production landscapes and seascapes. (certification of an additional 35,000 ha of forest under the CFCS, including 15,000 ha of rare species planting)			
(select) SFM/REDD+ - 1	Outcome 1.1: Enhanced enabling environment within the forest sector and across sectors.  Outcome 1.2: Good management practices applied in existing forests.  Outcome 1.3: Good management practices adopted by relevant economic actors.	Output 1.2: Forest area under sustainable management, separated by forest type. (min. of 100,000 ha directly; ca. 700,000 ha of project site forest area indirectly; certification: additional 35,000 ha of forest under the CFCS, including 15,000 ha of rare species planting)  Output 1.3: Types of services generated through SFM (SFM practices directly leading to emission reductions yielding 17.9 million tCO <sub>2</sub> e; rare and threthend species protection; alternative sources of income through carbon trading & rare species business models)	GEF TF	1,788,182	11,850,000
<b>Total project costs</b>				7,152,728	48,400,000

## B. PROJECT FRAMEWORK

**Project Objective:** To enable local communities in four Chinese provinces to effectively employ incentive-based sustainable forest management (SFM) practices in reforestation and forest restoration activities, enhancing carbon storage and sequestration as well as biodiversity conservation.

Project Component	Grant Type	Expected Outcomes	Expected Outputs	Trust Fund	Grant Amount (\$)	Confirmed Cofinancing (\$)
Component 1: "Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local levels, creating a	TA	Outcome 1.1 "Improved implementation framework translating the SFM principles and goals embodied in national policies into tangible choices and priorities for on-the-ground	O 1.1.1: National and provincial level implementation guidelines facilitating implementation of existing SFM policies, legal provisions and standards.  O 1.1.2: Incorporation	GEF TF	1,102,100	8,750,000

<p>basis for enhanced biodiversity conservation and carbon sequestration.”</p>		<p>SFM activities.”</p> <p>Outcome 1.2 “Strengthened local level application and coherent planning of SFM practices, including biodiversity conservation and carbon benefit enhancements.”</p> <p>Outcome 1.3 “Local monitoring systems guide the application of SFM practices, biodiversity conservation and carbon sequestration efforts.”</p>	<p>of implementation guidance on the biodiversity standards for certification (China Forest Certification Scheme, CFCS).</p> <p>O 1.1.3: Incorporation of implementation guidance to improve forest inventory procedures and MRV for carbon sequestration and GHG emission reductions from forests, land-use and land-use change including the existing methodology for obtaining tradable carbon certificates from enhanced SFM.</p> <p>O 1.2.1: Local SFM plans (following 1.1.1 provisions) for each project area containing a set of modifications in forest regulations, policies and guidelines.</p> <p>O 1.3.1: Development of overarching national level monitoring system for collecting and processing information on SFM activities in the 4 provinces (envisioned for national roll-out)</p> <p>O 1.3.2: Development of national level framework and action plan for establishment of a forest carbon sequestration and emission reductions monitoring system</p> <p>O 1.3.3: Design of local</p>			
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		<p>Outcome 1.4  “Enhanced national level policy, legal and regulatory framework based on feedback of project experiences and identified gaps.”</p>	<p>level BD monitoring systems integrated with the national level system and following guidance provided under 1.1.2.</p> <p>O 1.3.4: Design of local level CCM monitoring systems integrated with the national level system and following guidance provided under 1.1.3.</p> <p>O 1.4.1: Several adjustments to national forest policies, legal provisions and/or regulation directly linked to and informed by experiences gained from project implementation at the local level.</p>			
<p>Component 2:  “Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.”</p>	INV	<p>Outcome 2.1  “County forestry bureaus and local communities empowered and capacitated to apply a large spectrum of SFM practices selected in accordance with location-specific needs and challenges.”</p> <p>Outcome 2.2  “Carbon sequestration enhanced and GHG emissions from forests reduced through re-forestation of damaged forest, rehabilitation of degraded forest, as well as enhanced SFM practices leading to emission reductions.”</p>	<p>O 2.1.1: Strengthened SFM capacity at local level; at least 100,000 ha of economically used forest benefitting from enhanced SFM practices across the 4 provinces.</p> <p>O 2.2.1: 42,000 ha of reforestation and forest restoration/rehabilitation yielding 4,770,611 tCO<sub>2</sub>e (project duration).</p> <p>O 2.2.2: 87,000 of enhanced carbon management yielding 12,927,948 tCO<sub>2</sub>e (project duration).</p> <p>O 2.2.3: Six project</p>	GEF TF	4,382,650	32,150,000

		<p>Outcome 2.3  “Enhancement of forest biodiversity through protection and conservation of rare and endangered native species.”</p>	<p>sites successfully create carbon credits under the SFM methodology for China’s national carbon trading scheme.</p> <p>O 2.3.1: 35,000 ha of additional forest area certified under CFCS with particular focus on CFCS biodiversity requirements.</p> <p>O 2.3.2: 15,000 ha of forest restoration efforts incorporate the planting of rare species.</p> <p>O 2.3.3: Nurseries for rare tree species created or improved.</p> <p>O 2.3.4: Implementation of business models for revenue generation from rare species protection.</p>			
<p>Component 3:  “Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.”</p>	TA	<p>Outcome 3.1  “Enhanced knowledge and capacity of local farmers and government staff to implement SFM practices, create CCM and BD related GEBs and implement the corresponding monitoring systems.”</p>	<p>O 3.1.1: National level as well as cross-provincial trainings for stake-holders from all project provinces including international experts and exchange at international level</p> <p>O 3.1.2: Provincial and county-level forest bureaus as well as local community forest managers trained in SFM practices with specific focus on CCM and BD benefit creation. [Total number of trainees across the four provinces: 4000]</p> <p>O 3.1.3: Provincial and county-level forest bureaus as well as local community forest</p>	GEF TF	1,327,978	5,500,000

		<p>Outcome 3.2  “System for peer-to-peer teaching and regular exchange of knowledge and experiences between project site staff within and between the four provinces.”</p>	<p>managers trained in the setup and application of carbon as well as biodiversity monitoring systems as designed under component 1.</p> <p>O 3.1.4: Improved provision of relevant data and knowledge to project stakeholders.</p> <p>O 3.2.1: Mechanisms and communication channels for regular exchange of knowledge and experience incl. peer-to-peer teaching between local forest managers and government administrators at county and provincial level established.</p> <p>O 3.2.2: Mechanisms and communication channels for exchange of knowledge and experience between project stakeholders from different provinces established.</p> <p>O 3.2.3: Interaction on SFM utilized to strengthen social networks and new social capital among local forest managers (possibly including creation of forest manager associations where suitable).</p>			
		<p>Outcome 3.3  “Establishment of project monitoring and evaluation system measuring project progress and achievements.”</p>	<p>O 3.3.1: Project M&amp;E system designed, established and applied throughout the project and across all components, provinces and project sites.</p>			

		O 3.3.2: Publication and dissemination of project information and experiences; public awareness raising.		
Subtotal			6,812,728	46,400,000
Project management Cost (PMC) <sup>3</sup>			GEF TF 340,000	2,000,000
<b>Total project costs</b>			<b>7,152,728</b>	<b>48,400,000</b>

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

Please include letters confirming cofinancing for the project with this form

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount (\$)
Local and National Government	State Forestry Administration (SFM) and Provincial Forestry Departments (linked to EIB-GOC program)	Cash and in-kind	40,650,000
Local and National Government	SFA and Henan Provincial Forestry Department (linked to National Strategic Timber Reserve Project)	Cash and in-kind	7,350,000
GEF Agency	FAO	Cash	400,000
<b>Total Co-financing</b>			<b>48,400,000</b>

**D. TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in \$)		
				Grant Amount (a)	Agency Fee (b) <sup>2</sup>	Total c=a+b
FAO	GEF TF	CCM	China	4,475,455	425,168	4,900,623
FAO	GEF TF	BD	China	889,091	84,464	973,555
FAO	GEF TF	SFM	China	1,788,182	169,877	1,958,059
<b>Total Grant Resources</b>				<b>7,152,728</b>	<b>679,509</b>	<b>7,832,237</b>

<sup>1</sup> 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.

<sup>2</sup> Indicate fees related to this project.

**F. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:**

Component	Grant Amount (\$)	Cofinancing (\$)	Project Total (\$)
International Consultants	90,000	0	90,000
National/Local Consultants	1,915,000	5,000,000	6,915,000

**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).

<sup>3</sup> PMC should be charged proportionately to focal areas based on focal area project grant amount in Table D below.

## **PART II: PROJECT JUSTIFICATION**

### **A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF<sup>4</sup>**

A.1 National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, 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 GEF incremental investment will be firmly rooted in a significant baseline investment that combines a:

- **European Investment Bank-Government of China (EIB-GOC) Forestry Framework Loan** (project implementation period 2014-2018), and the
- **Government of China's own forest sector investments under the National Strategic Timber Reserve Programme (NSTRP).**

The two baseline initiatives are already closely interrelated and designed to complement each other in terms of areal coverage. They share their main focus on expanding commercial forest area through re- and afforestation efforts. **While especially the investments under the EIB loan feature several considerations on sustainability of forest ecosystems, the baseline projects do not include targeted activities to maximize GEB creation in the restored forest areas.** Consequently, the GEF project will on the one hand use the extensive organizational and administrative structures as well as mechanisms for knowledge dissemination created through the baseline initiatives. On the other hand, the GEF activities will serve to demonstrate alternative ways and methods to incorporate SFM practices into the larger baseline projects. Thereby, the baseline initiatives will become the primary vehicle for direct roll-out and up-scaling of the GEF project's activities well beyond the confines of the actual GEF project sites. The combination of the baseline projects and the GEF project therefore represents an excellent balance between compatibility and complementarity that has proven a crucial success factor for long-term impact of GEF projects in the past. The opportunity for leveraging co-financed activities to create high levels of additional GEBs with relatively small investments is particularly pronounced for this project.

#### **Co-Financing arrangement**

The co-financing arrangement and respective co-financing amounts will be described in more detail in section 2.3 (Financial planning and management). **The overall amount of co-financing provided by the Government of China through the State Forest Administration totals US\$48,000,000, combining resources from both major nationwide initiatives listed above (US\$40,650,000 from the EIB-GOC loan project and US\$7,350,000 from the NSTRP).** Throughout this document, the National Government and the SFA will be listed as Co-financier as both of the related programmes have their resources pooled and managed at the national level. However, the total co-financing amount includes proportions of resources that are allocated to the provincial level, making the four province governments de

<sup>4</sup> 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.

facto co-financers. The distribution of co-financing commitments follows the relative distribution of EIB-GOC and NSTRP resources between the four pilot provinces.

### **EIB-GOC Loan Project**

The EIB-GOC loan project focuses on four main areas of work:

- i. establishment of protective forests for soil and water erosion control/timber forest plantation; economic trees,**
- ii. tendering or modification of low-efficiency forest,**
- iii. sustainable development of forest ecosystems,**
- iv. establishment of biomass plantations.**

Activities funded under this new framework loan will include capacity building, long-rotation re- and afforestation and the development of socially and economically important forests having high and sustainable income generation potential. In Henan Province, The project is active in 27 project sites across the province. Its main focus is a re- and afforestation effort with planned 41,950 km<sup>2</sup> of afforestation and 22,400 km<sup>2</sup> of reforestation and forest rehabilitation. The GEF incremental investment will leverage the project's reforestation investments to create additional GEBs. In Guangxi Autonomous Region, the project covers commercially used forest areas in 13 counties and 7 state owned provincial forest farms. Main focus is on re- and afforestation of 21,500 km<sup>2</sup>. The GEF incremental investment will only leverage reforestation activities. In addition, the project provides funding for enlargement of two existing nurseries and establishment of one new nursery. This funding will be used directly as co-financing for the GEF investment, aiming at utilizing nurseries for the growing of rare and endangered species as preparation for creating mixed forest areas that include rare species. In Hainan Island, the EIB-GOC project focuses on returning original forest land from its current use as farm land back to forest. The target area is 6,667 km<sup>2</sup>. **The resources allocated under this project that are so closely connected to the GEF Project to be dedicated as co-financing amount to a total of US\$40,650,000.** As resources are managed at national level, SFA will be considered the sole co-financer, knowing that the respective co-financing resources are part of the province level resource allocations.

### **National Strategic Timber Reserve Programme**

The NSTRP is a recently established umbrella project designed and managed by SFA to coordinate nation-wide public investments into commercial forest expansion and management. The main objective of the programme is the long-term security and stability of supply of timber resources. In order to ensure availability and access to timber resources, the NSTRP aims to increase China's productive forest area by approximately 20 million hectares annually and to do so in a nationally coordinated, strategic and coherent way. This baseline investment offers a unique chance for a GEF incremental investment to complement the forest expansion driven by economic considerations with aspects of environmental sustainability with regard to biodiversity and climate change mitigation. SFM provides the framework to maximize the synergies between the economic productivity of commercially used forest areas and the creation of global and local environmental benefits.

The programme links most directly and significantly with the GEF project in Henan Province, which is a focus region of the NSTRP. Accordingly, Henan Province has three forest farms that receive public funds for improving forest management under the NSTRP: Minquan Forest Farm in Shangqiu Municipality, Huangbaishan Forest Farm in Xinyang Municipality and Nanwan Forest Farm. The GEF incremental investment will leverage the NTRSP funds as co-financing in these three project areas. **The resources allocated under this project that are so closely connected to the GEF Project to be dedicated as co-financing amount to a total of US\$7,350,000.**

### **GEF incremental investment in relation to baseline**

The combination of the two baseline initiatives features a strategic gap accurately fitting the planned GEF incremental investment, i.e. the piloting and subsequent roll-out of new and innovative tools and incentives for mainstreaming biodiversity (using the tool of forest management certification) and sequestering and avoiding CO2 emissions (leveraging emerging incentive opportunities of the national emissions trading scheme). Complementing the baseline initiative, the GEF investment will enable stakeholders to focus more on: a) enhancing forest productivity to avoid the losses of carbon from management neglect/forest decay and enhance carbon sequestration; and b) the mainstreaming of biodiversity conservation objectives and practices into local level SFM. Following GEF requirements, the GEF project will concentrate on SFM-based reforestation and forest restoration efforts linked to corresponding parts of the baseline initiative. The GEF incremental investment will thus not be used in the context of afforestation activities.

During the project preparation phase, the FAO team in close collaboration with the GOC counterparts has analysed the baseline programs determining which parts of the EIB Framework Loan and GOC financing can be directly leveraged to enable the GEF project activities and catalyse their replication and scaling-up beyond the project's scope. According to these calculations, US\$48 million of the total baseline program amount (see above) will be directly used and leveraged by the GEF resources, therefore representing the project's co-financing.

**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 incremental investment builds on and complements the baseline project described in great detail in the ProDoc. Using the large forest investment of the baseline as a launching pad, the GEF funded alternative will address the barriers above, unleashing significant potential for additional GEB creation. By strengthening stakeholder coordination and participatory management of productive forest resources, the GEF project will secure global biodiversity and climate change benefits while simultaneously realizing benefits for local communities. Mainstreaming SFM practices into the larger baseline initiative will enhance biodiversity protection, avoid emissions caused by forest degradation, increase sequestration through enhanced biomass and improve forest productivity creating economic incentives for local forest owners and managers. Under the two described baseline initiatives, China attempts to re-establish and rehabilitate large areas of forests, which currently suffer from degradation and weak resilience in the face of climate extremes, resulting in the loss of carbon and biodiversity. GEF's incremental investment will provide a coherent SFM framework for these efforts, adding expertise on the selection, design and implementation of effective SFM practices and establish mechanisms for the monitoring and certification of the improvement in forest management. It will pilot the creation of additional incentives for SFM adoption such as revenue from carbon credits. The baseline projects and the GEF incremental investment strike a balance between compatibility and complementarity that has proven a crucial success factor for long-term impact of GEF projects in the past.

**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:**

Risk	Rating	Mitigation measures
Insufficient coordination and collaboration among stakeholders (vertical	Low	The project implementation structures and arrangements build directly on the existing forest governance system and utilizes the high effectiveness of China's government bureaucracy, ensuring high implementation capacity along the vertical axis.

and horizontal) decreases implementation effectiveness		Vertical as well as horizontal collaboration effectiveness have furthermore been significantly strengthened as part of the project preparation process, establishing coordinative mechanisms and stable channels of communication, knowledge and information exchange. The risk of insufficient administrative coordination collaboration is thereby close to fully mitigated.
Capacity development may not be sustained at the local community level failing to enable forest farmers to understand and apply SFM or resulting in stakeholders continuing unsustainable practices.	Low	<p>The strong guidance function and close supervision of local level forest management exerted by the county level forest bureaus will greatly facilitate the introduction of SFM practices at local community level. The high capacity at county level will be a valuable asset in translating the selected SFM tools into practice in the respective communities, facilitating the knowledge transfer and information sharing process and overseeing correct implementation well beyond the project duration.</p> <p>In addition, the project will be implemented amid an ongoing decentralization of forest management, shifting increasing responsibility to the local community level. Correspondingly, the project's capacity development efforts will in part address new groups of forest managers without the barriers of preconceptions and entrenched practices.</p> <p>The project will employ the full range of tested best practices ranging from reiterated, long-term training mechanism to peer-to-peer dissemination of knowledge and experiences. Furthermore, the project will benefit from a range of other capacity development initiatives underway at all levels of forest administration in China, driven by firm policies and supported by national and donor-funded programmes.</p>
Climate change impacts may increase to the extent that even if the project implements activities to improve forest management it may not be enough to make a significant difference.  New threats could emerge, specifically, insect infestations, epidemics or diseases caused by CC.	Medium	<p>The project actively incorporates climate change impacts into its planning, emphasising an adaptive project design, management structures and implementation arrangements that will allow stakeholders at all levels to amend and adapt SFM approaches as needed to changing biophysical circumstances. The project is not designed to respond rigidly to one threat or another, but puts in place processes and methods that will enable stakeholders to adapt SFM practice that can be translated into improved management for any given context defined by any specific threat.</p> <p>In addition, the SFM practices to be introduced by the project have proven to increase the resilience of forest to climate change significantly. Well-managed forest stands will also be healthier and more resilient to climate change, making the mitigation of climate threats not only a reduction of an external risk to project achievements, but an intrinsic objective of the core project activities itself. Furthermore, forest under SFM are also more resilient against the secondary threats like pests and diseases. Accordingly, the project is very well placed to withstand climatic or other changes in biophysical conditions</p>
The national executing partner does not have the full capacity to implement the fiduciary processes of the project	Low-Medium	The comprehensive fiduciary and capacity assessment of the National Executing Partner, i.e. SFA, concluded that the SFA's experience, procedures, processes and standards are fully commensurate with the tasks to be fulfilled in the context of this project. Overall risk in these dimensions is low to none. However, the weakness of the SFA as a national executing agency is the

including financial planning and budgeting in all its aspects		number of sufficiently trained personnel which seems relatively low in comparison to workload and spectrum of responsibilities. The risk deriving from personnel overstretch is rated as medium in the fiduciary assessment. Accordingly, the assessment strongly recommends the expansion of fully capable personnel by a combination of creating additional positions plus targeted training of junior personnel. In combination, the risks deriving from the executing partner's capacity is fully manageable and unlikely to lead to a reduction in project achievements.
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**A.7. Coordination with other relevant GEF financed initiatives**

This proposed project will be coordinated with a range of ongoing initiatives in China related to forest management, forest carbon and biodiversity management. Regular coordination and consultation mechanism will be incorporated into the project's knowledge exchange mechanisms to be established under project component 3 (see section 2) to maximize synergies and avoid duplication with the work of relevant GEF financed and other initiatives. The project aims to learn from the experiences gained from related initiatives in order to ensure the use of best operational practices and their effective incorporation into the proposed GEF project's framework. In particular, FAO will ensure coordination among its rapidly growing portfolio of GEF projects in China, many of them being biodiversity conservation related projects. This relates in particular to the nearly completed GEF project Securing Biodiversity Conservation and Sustainable Use in Huangshan Municipality and the FAO-GEF project Piloting Provincial-level Wetland PA System in Jiangxi Province.

WWF's ongoing work in promoting forest certification in commercial forests will provide valuable insights for the project areas seeking CFCS certification with support of the GEF incremental investment. Similarly, IUCN aims to conserve forest biodiversity, reduce illegal logging and promote the sustainable use of forest products for the benefit of the rural poor in China through its Livelihoods and Landscapes Strategy and Forest Law Enforcement and Governance activities. The KfW Development Bank-funded Sino-German Afforestation Projects in North and South China (1998-2018) are being implemented in several provinces including Henan province, which is one of the GEF project provinces. It provides substantial financial and technical assistance under grant and loan arrangements to achieve effective afforestation of formerly barren and unproductive land and sustainable management of undermanaged and underutilized older forest stands. UNDP-GEF projects in China also provide an important body of work with which coordination will also be important. This includes the GEF-funded CBPF-MSL: Strengthening the Management Effectiveness of the Wetland Protected Area System in Hainan for Conservation of Globally Significant Biodiversity (CEO Endorsement March 2013).

With regards to linking forestry activities to the emerging carbon markets, the work of The Nature Conservancy (TNC) in China will be a major source of information and best practices. TNC is currently conducting the first project to create carbon credits from forest activities under the voluntary carbon market. The TNC bamboo forest project in Southern Yunnan Province will provide crucial insight for the GEF project's efforts under the compliance carbon market.

**B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE:**

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

The primary executing partner for this project is the **State Forestry Administration (SFA)**, representing the national level ministry responsible for setting forest management policy and for overseeing forest management across China. The SFA has established itself as a champion and pioneer on promoting SFM in China and has been the driving force behind much of the positive political dynamic described in previous sections. It also served as the lead institution in formulating the CFCS as well as the SFM methodology for creating tradable carbon credits, which

will both be crucial instruments to achieve the project's objectives. Overall responsibility for this project lies with the SFA's **World Bank Project Management Center (WBPMC)**, which started as the implementation unit for WB loans and has since established itself as SFA's specialized department for the management of international projects in collaboration with international agencies.

The respective **specialized SFA departments** for forest certification and carbon markets will provide crucial expertise throughout project implementation. Especially, the **National Forestry Carbon Sequestration Accounting and Monitoring Center (NFCSA)** under the SFA's Academy of Forestry Inventory and Planning will be an important project partner elaborating and implementing the project's work to strengthen carbon inventory and monitoring at the local and provincial levels in China. Through its specialized departments, SFA will implement a spectrum of project activities that reach across the four project provinces (under component 1 and 3) as well as oversee and guide the provincial and local level investments (under component 2).

In doing so, SFA will liaise closely with the second group of main project partners, the **Provincial Forest Departments (PFD)**. The PFDs of Henan, Guangxi, Hainan Dao, and Fujian are responsible for effective forest management in their province and for executing national policy at the provincial and local levels. They will be the main recipient of strengthened implementation guidance formulated under component 1. The PFDs have significant experience in the implementation of international projects and collaboration with international agencies (UN agencies and development banks). During project preparation, they demonstrated high capacity for effective project implementation and will therefore be of crucial importance for supporting the county governments, forest farm administrations and local farmers with the execution of project activities.

The PFDs collaborate directly with their counterparts at the county level, the county governments' **County Forest Bureaus**. The county government play an extremely important role within the implementation framework for this project. They carry the main responsibility for organizing and coordinating on-the-ground implementation of activities. They have long-standing working relationships with local communities and local contractors that are responsible for carrying out forest management activities. They will therefore supervise the correct application of SFM practices applied by local communities at the project area level.

The ultimate implementer of project activities are **farmers living in local communities** in around the project areas. Following central government policies (see section 2), local stakeholders have increasingly taken over responsibilities for forest management, either as land use right owners or as contractors to the county government fulfilling forest management tasks on state owned forest farms. The selected project areas represent a balanced mix between both management systems. The farmers, as individuals or through farmers associations (FAs), or in some cases small local enterprises will be responsible for the actual application of SFM practices on the ground. Their training and development of their capacity, knowledge and awareness represents the very core of this project.

*Table: Roles and responsibilities of stakeholder institutions*

Stakeholder Institution	Relevant roles/responsibilities related to project implementation
State Forestry Administration (SFA)	Responsible for setting forest management policy and for overseeing forest management across China. Will be the primary executing partner of FAO for this project.
SFA World Bank Project Management Center (WBPMC)	Overall responsible department for this project. SFA's specialized department for the management of international projects in collaboration with international agencies.

National Carbon Accounting and Monitoring Center (NFCSA)	Forestry Sequestration and Center	Located in SFA's Academy of Forestry Inventory and Planning, the NFCSA will be a key partner elaborating and implementing the project's work to strengthen carbon inventory and monitoring at the local and provincial levels in China.
Provincial Departments (PFD)	Forest	PFD in the project's pilot provinces of Henan, Guangxi, Hainan Dao, and Fujian are responsible for effective forest management in their province and for executing national policy at the provincial and local levels. They will be key project counterparts as liaison to local stakeholders during project implementation.
County Forest Bureaus		County governments and their forest bureaus play a critical role in the on-the-ground guidance and supervision of project activities as they operate with local communities and forest management user groups on a daily basis.
Local communities		Under central government policy, forest land use rights and management responsibilities are increasingly being handed over to farmers across China. Farmers, together with County and Provincial Forest departments, are the main target beneficiaries of this project.
Civil Organizations (CSO)	Society	The project will collaborate with CSOs such as the World Wildlife Fund (WWF) and The Nature Conservancy (TNC) on innovative and cutting edge work: with WWF cooperation will relate to High Value Conservation Forest Assessments with respect to the project's work on Forest Certification; with TNC on how the emerging compulsory (as well as the voluntary) carbon market can be effectively applied to productive forest areas. The Central Government has recognized both TNC and WWF contributions to environmental work in China.

**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 (LDCE/SCCF):**

Local communities in their intensifying role as managers, owners and beneficiaries of productive forest landscapes in China, are the core addressees, stakeholders and beneficiaries of this project. Almost all project sites, those with land use rights held by local farmers or farmer associations as well as the state-owned forest farms, are managed by local communities. Farmers take on forest management responsibilities either as owners or as government contractors. In both cases, local farmers are the main addressee of the comprehensive training and capacity development activities to be implemented under component 3. Local farmers will benefit significantly from their enhanced forest management knowledge and capacity they stand to gain in the context of the project.

The additional revenue streams created by the project to incentivize SFM, carbon reductions and biodiversity conservation will directly benefit local communities. This includes additional sources of income from forest certification (CFCS) and carbon trading. In addition, the increase in forest value brought about by the project through forest productivity gains and growing of valuable rare timber species will improve the overall socioeconomic situation of the local communities in question. Local co-benefits deriving from the creation of GEBs are thus particularly pronounced in this GEF project enhancing social and socioeconomic 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.

The GEF project will use the currently ongoing decentralization of forest management structures in China to increase the effectiveness and efficiency of its planned activities by putting a strong focus on the growing, diversifying groups of new forest stakeholders, owners and managers. The mix of incentive mechanisms to be employed by the project will create tangible benefits for local communities, increasing their stake in the long-term adoption of SFM practices and creation of GEBs.

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

The project will utilize a **unique window of opportunity** for effective and efficient introduction of SFM practices in China: The scope and intensity of ongoing and planned commercial forest activities across the country makes action highly promising and highly urgent at the same time. Forest structures feature a distinct lock-in effect: decisions today determine the environmental benefits for decades to come. The negative environmental effects of unsustainable approaches increase when used during a period of ambitious forest expansion. On the other hand, the current dynamic offers a great opportunity: alleviating the level of quality of forest management at this point in time can make an enormous positive impact as it can change practices for a large quantity of forest area.

The project's objective is to seize this opportunity and **to enable local communities in four Chinese provinces to effectively employ incentive-based sustainable forest management (SFM) practices in reforestation and forest restoration activities, enhancing carbon storage and sequestration as well as biodiversity conservation.** In order to achieve this objective, the project will utilize four ongoing developments that can be directly related to SFM and serve as starting point to successfully and sustainably mainstream SFM practices into China's forestry sector:

(1) **Decentralization of forest management structures:** The management structures of China's forest areas has been changing dramatically in recent years, moving from a centralized system to an increasing responsibility of local communities for the management of forest areas. This change opens an opportunity to act decisively at the very beginning of an emerging trend: disseminate knowledge and information on SFM practices to a growing group of new forest stakeholders at the local level is likely to prove highly effective.

(2) **Emergence of a strong forest certification mechanism:** Forest certification as an incentive based mechanism to promote sustainable forestry practices has been continuously strengthened in China in recent years. This development has recently culminated in the establishment of the China Forest Certification Scheme (CFCS) representing a potent tool to facilitate SFM. In particular, CFCS certification criteria include a comprehensive set of requirements on the quality and sustainability of biodiversity protection for commercially used forest areas that seek to obtain CFCS certification. CFCS thereby provides a concrete, step-by-step guideline for activities promoting SFM and biodiversity protection. The project will make extensive use of this new instrument by channeling GEF incremental investment into supporting the changes and improvements necessary for obtaining CFCS status. Successful certification of forest areas that are currently non-certifiable will be a central measuring stick for this project's effectiveness.

(3) **Creation of a comprehensive forest inventory and carbon monitoring system:** A functioning forest inventory and carbon monitoring system represents a prerequisite for measurable climate change mitigation activities in the forest sector. In some provinces, corresponding forest inventory systems have been established in recent years. Some systems, like the one being operated in Fujian Province, are more advanced than others. Overall, most systems are advancing steadily, but are still in their development and testing phase. Furthermore, a centralized inventory system at the national level was missing. To fill this gap and provide the basis for measurable carbon related

activities, the SFA set up the National Forestry Carbon Sequestration Accounting and Monitoring Center (NFCSA) in 2010 to aggregate forest inventory data at the national level and provide assistance for the further development, improvement and consolidation of the provincial level efforts. The GEF investment will leverage these ongoing efforts, help to facilitate and improve the implementation of existing systems and support specific adjustments where necessary.

(4) **Establishment of a national carbon market:** China is currently in the process of establishing a national level compulsory carbon trading scheme. Experimentation in pilot provinces has been ongoing for several years and the nation-wide roll-out is planned for 2015. Recently, the State Forestry Administration has approved a carbon methodology for sustainable forest management increasing forest carbon sinks. Through this methodology, forest management becomes an eligible area for creating carbon certificates tradable on the emerging national carbon market. Assisting the creation of tradable carbon certificates from forestry practices will be a promising way for the project to create additional incentives for a climate change conscious approach to forest management among local governments and communities. Where suitable, a combination with obtaining carbon certificates tradable on the voluntary carbon market (using the Panda Standard's methodology "Improving Low Value Forests") is possible and could prove a valuable supplement to carbon certificates under the national scheme.

The combination of these four trends, all strongly backed by political interest and government commitment, creates a promising window of opportunity for project activities to create a high amount of Global Environmental Benefits with relatively small incremental investments. This project is designed to make full use of this opportunity.

### **C. DESCRIBE THE BUDGETED M & E PLAN:**

#### **Oversight and monitoring responsibilities**

Monitoring and evaluation of progress in achieving project results and objectives will be conducted 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 SFA's WBPMC 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. The project Monitoring and Evaluation Plan has been budgeted at US\$ 329,600. The project monitoring and evaluation system will go hand in hand with the biodiversity and carbon monitoring systems to be established under project component 1.

#### **Indicators and information sources**

The project indicators are specifically selected to capture progress in improvements of carbon sequestration and emission reductions as well as enhanced biodiversity protection. This further highlights the need to closely integrate the project M&E system with the CCM and BC monitoring systems to be designed and implemented as integral parts of the project strategy. The monitoring systems to be established as part of the project 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 SFA Project Technical Team 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.

The detailed overview of selected indicators and targets can be found in the full project framework in the Appendices section of this document. The carbon related indicators will follow the in-depth carbon calculations conducted in the context of project preparation to establish the carbon baseline and assess the realistic carbon benefits to be expected from project activities. The target amounts have been listed in section 2.

### **Reporting schedule**

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

- i. project inception report;
- ii. Annual Work Plan and Budget (AWP/B);
- iii. Project Progress Reports (PPRs);
- iv. quarterly project implementation reports (QPIRs);
- v. annual project implementation review (PIR);
- vi. technical reports;
- vii. co-financing reports; and
- viii. 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, SFA 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):

SFA 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)

SFA will submit to the FAO Representation in China six-monthly project progress reports. The 3<sup>rd</sup> report should accompany the following year's draft Annual Work Plan and Budget (AWP/B) and the 1<sup>st</sup> and the 2<sup>nd</sup> 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 SFA 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 SFA, 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 SFA 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

SFA will be responsible for collecting the required information and reporting on in-kind co-financing. SFA 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 SFA 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
Inception Workshop	SFA, FAO BH LTO/PTM, LTU	Within two months of project start up
Project Inception Report	SFA, FAO BH LTO/PTM, LTU	Immediately after workshop
Design and set-up of project monitoring system including training of staff	SFA, FAO LTO/PTM, LTU	As early as possible after project start up
Field based impact monitoring	SFA, PDFs, County level project units, local forest managers	Continually

Type of M&E activity	Responsible Parties	Time-frame
Supervision visits and Quarterly Project Implementation Reports - QPIR	FAO LTO/PTM, FAO FLO (Funding Liaison Officer - TCI) with inputs from SFA	Quarterly
Project Progress Reports - PPRs	SFA	four-monthly
Project Implementation Review - PIR	LTU, FAO LTO/PTM; FAO FLO (Funding Liaison Officer - TCI).	Annually
Co-financing Reports	SFA	Annually
Technical reports	SFA, FAO LTO/PTM, LTU	as appropriate
Supervisory visits to project and field sites	FAO LTO/PTM, LTU	Yearly or as required
Mid-term evaluation	External Consultant, FAO-C, TCI-GEF Unit with the project team and stakeholders	At mid-point of project implementation
Final evaluation	External Consultant, FAO independent evaluation unit in consultation with the project team and stakeholders	At the end of project implementation
Terminal Report	SFA, LTU, FAO LTO/PTM	At least one month before end of project

#### 4.6 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 SFA 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.

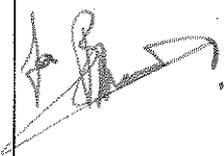
**PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**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 OFF endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Mr. Guo WENSONG	Director, IFI Division.III, International Department	MINISTRY OF FINANCE	19/09/2014

**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, FAO Viale delle Terme di Caracalla 00153 Rome Italy		Submitted December 30, 2014  Resubmitted March 16, 2015	Jeffrey Griffin Senior Coordinator, GEF Coordination Unit	+39 065755680	Jeffrey.Griffin @fao.org
FAO-GEF Coordination Unit					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).

Objective/Impact	Baseline	Outcome indicators	Assumptions
<p>Global Environmental Objective:</p> <p>To enable local communities in four Chinese provinces to effectively employ incentive-based sustainable forest management (SFM) practices in reforestation and forest restoration activities, enhancing carbon storage and sequestration as well as biodiversity conservation.</p> <p><u>Project Development Objective:</u><sup>5</sup></p> <p>To increase and improve provision of goods and services from forestry in local communities across four Chinese provinces in a sustainable manner, particularly emphasizing the long-term resilience of restored and reforested forest areas against environmental pressures. (in line with FAO SO2)</p>	<p><u>Component 1:</u></p> <p>“Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local level, creating a basis for enhanced biodiversity conservation and carbon sequestration.”</p> <p>-BASELINE:</p> <ul style="list-style-type: none"> <li>Comparatively advanced policy framework at national level with some remaining weaknesses</li> <li>Lacking provisions and guidance for translating national level policies to local implementation</li> <li>Insufficient incorporation of SFM principles in policies and plans at provincial and local level</li> <li>Gaps in addressing location specific threats (pests, diseases, fires) through appropriate SFM plans</li> <li>No monitoring systems for SFM, BD and CCM in place</li> </ul>	<p><u>Component 1:</u></p> <p><b>Outcome 1.1</b></p> <p>“Improved implementation framework translating the SFM principles and goals embodied in national policies into tangible choices and priorities for on-the-ground SFM activities.”</p> <ul style="list-style-type: none"> <li>Drafting and successful application of cascading set of implementation guidelines: 1 at national level, 4 at provincial level, 16 at county level</li> </ul> <p><b>Outcome 1.2</b></p> <p>“Strengthened local level application and coherent planning of SFM practices, including biodiversity conservation and carbon benefit enhancements.”</p> <ul style="list-style-type: none"> <li>Drafting and successful application of 16 local SFM plans that incorporate three key components: (i) biodiversity criteria and SFM standards; (ii) provision of locally specific incentives for adoption; (iii) specialized management provisions for locally prevalent threats.</li> </ul> <p><b>Outcome 1.3</b></p> <p>“Local monitoring systems guide the</p>	<p><u>Component 1:</u></p> <p>(1) Full political support at national, provincial, and local level for the principles of SFM and appreciation of related benefits (already demonstrated by all stakeholders throughout project preparation)</p> <p>(2) Strong communication and collaboration between government levels (vertical) as well as exchange of best practices at the same government level, province-to-province, county-to-county (foundation and mechanisms already established during project preparation)</p> <p>(3) Technical expertise for drafting of corresponding documents at all level (provision of related technical support is one of the major activities under this project)</p> <p>(4) Willingness, especially at local level, to increase awareness, knowledge, experience, and capacity for SFM implementation (willingness demonstrated during project preparation; development of necessary</p>

<sup>5</sup> In line with FAO SOs  
GEF5 CEO Endorsement Template-February 2013.doc

		<p>application of SFM practices, biodiversity conservation and carbon sequestration efforts.”</p> <ul style="list-style-type: none"> <li>Drafting and successful application of 16 BD as well as CCM monitoring systems at local level following technical requirements outlined under Outcome 1.1</li> </ul> <p><b>Outcome 1.4</b></p> <p>“Enhanced national level policy, legal and regulatory framework based on feedback of project experiences and identified gaps.”</p> <ul style="list-style-type: none"> <li>Fine-tuning of all national level policies and plans under direct responsibility of SFA and advice and exchange of ideas with other departments regarding their respective policies relating to forest management</li> </ul>	<p>capacity will be strongly supported through component 3 of the project)</p>
	<p><u>Component 2:</u></p> <p>“Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.”</p> <p>BASELINE:</p> <ul style="list-style-type: none"> <li>Extensive reforestation and forest restoration activities are ongoing in all four pilot provinces to serve as basis for project activities (including the two direct baseline initiatives for this project: EIB loan project + NSTRP)</li> </ul>	<p><u>Component 2:</u></p> <p><b>Outcome 2.1</b></p> <p>“County forestry bureaus and local communities empowered and capacitated to apply a large spectrum of SFM practices selected in accordance with location-specific needs and challenges.”</p> <ul style="list-style-type: none"> <li>Strengthen SFM capacity at local level empowers and capacitates local communities to successfully apply SFM practices on more than 100,000 ha of economically used forest across four provinces</li> </ul>	<p><u>Component 2:</u></p> <p>(1) General willingness of stakeholders at all levels to test implementation of SFM practices is very high (as proven during project preparation)</p> <p>(2) Existing frameworks like CFCS are insufficient by themselves to maximize GEBs, but can serve as solid anchors to closely integrate project activities into existing structures</p> <p>(3) Strong trends are currently changing the overall approach to forest management and will be leveraged by project activities: (i)</p>

<p>• Many of the ongoing activities do neither follow SFM practices nor explicitly consider BD and CCM implications of forest management (“quantity over quality”)</p> <p>• Practical knowledge about SFM practices is limited, especially at local level</p> <p>• Two national level sets of requirements on BD and CCM, largely compatible with SFM principles, already exist and can be used to guide project activities: (i) BD requirements as part of the CFCS certification scheme; (ii) SFM methodology for creation of carbon credits under the national carbon trading scheme</p>	<p><b>Outcome 2.2</b></p> <p>“Carbon sequestration enhanced and GHG emissions from forests reduced through re-forestation of damaged forest, rehabilitation of degraded forest, as well as enhanced SFM practices leading to emission reductions.”</p> <p>• Successful application of SFM practices that directly lead to emission reductions yielding 17.9 million tCO2e</p> <p><b>Outcome 2.3</b></p> <p>“Enhancement of forest biodiversity through protection and conservation of rare and endangered native species.”</p> <p>• Successful application of SFM practices that directly lead to the certification of an additional 35,000 ha of forest under the CFCS, including 15,000 ha of rare species planting, nursery creation etc.</p>	<p>Decentralization of forest management structures; (ii) Emergence of a strong forest certification mechanism; (iii) Creation of a comprehensive forest inventory and carbon monitoring system; (iv) Establishment of a national carbon market</p> <p>(4) High level of embedment of project activities into existing trends and structures will facilitate replication and scaling-up beyond project scope and duration</p>
<p><b>Component 3:</b></p> <p>“Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.”</p> <p>BASELINE:</p> <p>• General institutional capacity in the forest sector is comparably high (albeit differing between the four pilot provinces) and can serve as a solid basis for project activities</p>	<p><b>Component 3:</b></p> <p><b>Outcome 3.1</b></p> <p>“Enhanced knowledge and capacity of local farmers and government staff to implement SFM practices, create CCM and BD related GEBs and implement the corresponding monitoring systems.”</p> <p>• Enhanced capacity of a minimum of 4000 trainees across the four provinces with regard to SFM practices, BD conservation and CC mitigation in the forest sector</p>	<p><b>Component 3:</b></p> <p>(1) Communication and collaboration among project stakeholders at different levels can be strengthened to the necessary degree to effectively implement capacity development mechanisms</p> <p>(2) Existing capacity at the local level is sufficient to serve as a starting point for building SFM, BD and CCM specific capacity</p>

	<ul style="list-style-type: none"> <li>• Knowledge and practical skills on SFM is limited, especially among local community forest managers and local government officials</li> <li>• Capacity and information on biodiversity conservation as well as climate change mitigation through forest management is insufficient</li> <li>• Capacity to set up and apply BD and CCM monitoring systems is small</li> </ul>	<ul style="list-style-type: none"> <li>• Improved mechanisms for data provision and information exchange successfully established</li> </ul> <p><b>Outcome 3.2</b></p> <p>“System for peer-to-peer teaching and regular exchange of knowledge and experiences between project site staff within and between the four provinces.”</p> <ul style="list-style-type: none"> <li>• Improved mechanisms and channels for knowledge exchange, including peer-to-peer teaching, successfully established and applied</li> </ul> <p><b>Outcome 3.3</b></p> <p>“Establishment of project monitoring and evaluation system measuring project progress and achievements.”</p> <ul style="list-style-type: none"> <li>• Project M&amp;E system designed, established and applied throughout the project and across all components, provinces and project sites</li> </ul>	
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**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).

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 GEFSEC project review are addressed as below:

GEF STAP Recommended Action at CEO Endorsement	FAO Responses
<p>8. Please elaborate on the monitoring system that will be established to track carbon benefits accrued through the project. Please explain how the guidelines developed will be incorporated into implementation of national inventory program and how the guidelines will address the range of forests that exist within the country.</p> <p>30. There is a need for Carbon stock monitoring systems that can help in the measurement, reporting and validation of GHG emission avoidance through reforestation. The development of this system, or refinement of an existing system would fit well within CCM5 and SFM/REDD+. Also, reforestation, developing and implementing policies and regulations to avoid deforestation, and defining conservation areas to secure carbon sinks are activities that support objectives in CCM5 and SFM/REDD+, would fit well in this</p>	<p>As suggested by GEFSEC the establishment of high-quality carbon monitoring systems has been included as a major set of activities in the project design, addressing carbon monitoring challenges at national, provincial and local level. Corresponding project resources have been budgeted for this purpose. The design of the monitoring systems, each according to local pre-conditions and requirements, is described throughout the Project Document.</p>
<p>10. Please identify the drivers for forest degradation and if the threat still exist please explain how the project addresses these drivers so that the project outcomes related to reforestation and forest diversification activities will be sustained.</p> <p>The preliminary estimates provided on C sequestered in the production forests are appreciated. However, a strong monitoring system need to be set up and relevant indicators need to be determined to ensure that C benefits through the production forest continue and agree with the estimates provided.</p>	<ul style="list-style-type: none"> <li>• Main drivers for forest degradation are unsustainable commercial use in the context of China's unprecedented economic growth, de-forestation from land use change as well as forest degradation due to widespread environmental pollutions of water, soil and air.</li> </ul> <p>Many of these drivers are being addressed by existing government-led reforestation and forest rehabilitation efforts across the country. But existing efforts suffer from serious limitations as they are one-sidedly geared towards increasing overall forest area.</p> <p>The project is addressing the limitations of existing efforts by introducing an entire spectrum of SFM practices. Thereby, the project will transform the existing reforestation and rehabilitation efforts, enabling them not only to pick the "low hanging fruits" of forest quantity, but to realize significant GEB gains through better quality of forests.</p> <ul style="list-style-type: none"> <li>• Regarding the monitoring system, please refer to the responses to STAP comments #8 and #10 above.</li> </ul>
<p>11. Please determine the baseline carbon stocks in the different forests.</p>	<p><i>Also see closely related answer to STAP comments #13 below and the detailed carbon stocks calculation in</i></p>

Appendix 5 of the Project Document

Forest type	tC
Coniferous	7,457,920
Mixed coniferous	1,102,035
Mixed coniferous and broadleaved	673,809
Broadleaved	5,114,112
Mixed broadleaved	10,836,527
Bamboo	735,639
Other	542,681
<b>Total standing forest carbon stocks</b>	<b>26,462,723</b>

13. Please determine the carbon stocks stored in the target districts based on the actual forest coverage/on-site measurement/satellite imagery. Please provide detailed analysis of carbon stored in the harvested forest products. Compare the value against increased carbon expected to be sequestered through the proposed project using methodologies equivalent to Tier 2 level calculations and agreeable with Panda Standards stated in the project.

During project preparation, carbon stocks in the project areas have been determined in close collaboration with the **National Forestry Carbon Sequestration Accounting and Monitoring Center of the SFA and the provincial level Forest Bureaus**. Forest coverage an on-site measurements have been used extensively. Satellite imagery has been included in the calculations where available (especially in Fujian).

For carbon stock calculation see answer to STAP comments #12 above. Sources of emissions are determined as follows:

Sources of emissions	tCO <sub>2</sub> e/year
Forest fire	6,646
Pests/diseases	4,364
Other disturbances	48,004
Commercial: fast	6,744,668
Commercial: med	2,505,659
Commercial: slow	4,308,403
<b>Total emissions</b>	<b>13,617,744</b>

Removal of atmospheric carbon in the project sites is determined as follows:

Age-class/source of removal	tCO <sub>2</sub> e/year
-----------------------------	-------------------------

Young	3,056,211
Middle-age	5,652,644
Nearly mature	2,688,620
Mature	1,035,380
Over-mature	171,239
Annual forest gain	64,406
<b>Total removals</b>	<b>12,668,500</b>

**For the full and detailed table of carbon stocks and carbon emissions/removals balances for each of the project sites individually please refer to Table 5 of Annex 5 in the Project Document (page 131).**

Expected carbon sequestration has been calculated through Tier 2 level calculations. The calculation did not use the Panda Standard as a benchmark as the more applicable and equally stringent National SFM Standard became available during project preparation and will now serve as the basis and benchmark for the projects carbon sequestration efforts.

**The full tables for expected carbon emissions reductions and enhanced removals resulting from the implementation of project activities, individually calculated for each of the project Provinces, can be found in Annex 5 in tables 6.1, 6.2, 6.3 (pages 134-136).**

The overview table of total carbon emissions reductions and removal enhancement resulting from project activities reads as follows:

	<b>Reduced emissions (tCO<sub>2</sub>e/yr)</b>	<b>Reduced emissions: Yrs 1-6 (tCO<sub>2</sub>e)</b>	<b>Reduced emissions: Yrs 7-20 (tCO<sub>2</sub>e)</b>
<b>Guangxi</b>	778,040	4,668,240	10,892,560
<b>Henan</b>	477,100	2,862,600	6,679,400
<b>Fujian</b>	455,080	2,730,480	6,371,120
<b>TOTAL</b>	<b>1,710,220</b>	<b>10,261,320</b>	<b>23,943,080</b>

	<b>Enhanced removals (tCO<sub>2</sub>e/yr)</b>	<b>Enhanced removals: Yrs 1-6 (tCO<sub>2</sub>e)</b>	<b>Enhanced removals: Yrs 7-20 (tCO<sub>2</sub>e)</b>
	375,304	2,251,824	5,254,256
	683,060	4,098,360	9,562,840
	212,222	1,273,332	2,971,108
	<b>1,270,587</b>	<b>7,623,522</b>	<b>17,788,204</b>
	<p>Yearly removals calculations for reforestation are calculated at 70% of total potential over the six-year project period, to account for the slower rate of carbon accumulation during early growth.</p> <p>No removals are calculated for the project sites in the Province of Hainan, as project activities in this project site focus on Biodiversity Conservation.</p>		
18. Please explain measures or incentives that will encourage the stakeholders especially landowners to undertake forest management practices proposed in the project during and beyond project duration.	Incentive systems for stakeholders have been identified (forest certification, timber futures trading, carbon certificates trading under the emerging national carbon market scheme in China) and are described in detail in the ProDoc.		
19. Please develop mechanisms to coordinate with the identified related initiatives in the country. Also, other ongoing initiatives in the country that may be directly relevant to building the MRV system and creating the national inventory need to be identified.	Coordination with identified related initiatives in the country are described in the ProDoc as well as in Section B of this document (see above).		
<b>Questions from the Council Members</b>	<b>FAO Responses</b>		
<p><b>1) Germany's Comments</b></p> <p>Germany approves the following PIF in the work program but asks that the following comments are taken into account.</p> <p>Germany requests that the following requirements are taken into account during the design of the final project proposal:</p> <p>1.a) The project uses improved SFM / innovative FM and a few other such terms interchangeably. In the absence of clear definitions (see also above mentioned UNEP review), it remains guesswork which specific elements the SFM-package of this project is supposed to contain.</p> <p>1.b) The project is to be implemented in three provinces, ranging from the tropics (Hainan Province)</p>	<p>1.a) The precise practices are defined for each of the 16 project sites individually. All practices are described in detail in section 2 of the project document (page 31 ff). Primarily, applied practices include the following:</p> <ul style="list-style-type: none"> <li>• Reduce impact logging</li> <li>• Transformation of monoculture to mixed forest</li> <li>• Improved pest, disease, and fire management</li> <li>• Enhanced tending, thinning, clearing of deadwood</li> </ul> <p>These practices are integrated into the Reforestation, Forest restoration and rehabilitation efforts implemented under the project.</p> <p>1.b) The project now includes project sites in four provinces (Hainan, Guangxi, Henan, Fujian). Through a series of stakeholder workshops, the benefits of a differentiated and cross-cutting project strategy reaching across different</p>		

and subtropics (Guangxi) to warm-temperate zones (Henan). We recommend evaluating the benefits of a differentiated approach in terms of carbon modelling reflecting local growth/site conditions.

1.c) To ensure credibility for forest carbon offsets it is recommended including robust figures obtained through (i) repetitive inventories conducted on a certain (ii) number of statistically derived (iii) permanent sample plots and of a (iv) predefined shape.

1.d) It is recommended to further specify the type of incentives and define benchmarks/criteria for eligible activities.

1.e) Overall, it is recommended to review the concept with regards to its socio-economic / legal rationale. The envisioned mandatory certification scheme for sustainably produced fuel wood should include appropriate environmental criteria with regards to conservation of biodiversity and local ecosystems, the use of agro-chemicals and water use so as to avoid negative environmental impacts.

conditions and climate zones has been evaluated intensively. Discussions about the differences but especially the astonishing similarities in challenges and possible solutions across the provinces highlighted the benefits of a cross-provincial project strategy.

1.c) Comprehensive carbon inventory and account work has been conducted during project preparation to establish baseline carbon stock and expected carbon offset. For the detailed calculations see answers to STAP comments #12 and #13 above.

In addition, the establishment of a high-quality carbon monitoring systems has been included as a major set of activities in the project design, addressing carbon monitoring challenges at national, provincial and local level and including the instruments mentioned by Germany's comments.

Corresponding project resources have been budgeted for this purpose. The design of the monitoring systems, each according to local pre-conditions and requirements, is described throughout the Project Document.

1.d) Incentive systems for stakeholders have been identified (forest certification, timber futures trading, carbon certificates trading under the emerging national carbon market scheme in China) and are described in detail in the ProDoc.

1.e) The emergence of the now fully operational China Forest Certification Scheme, which achieved international recognition by the Geneva-based Programme for the Endorsement of Forest Certification Schemes (PEFC) in 2014, has put the project activities into a very strong legal and regulatory framework.

The CFCS Forest Management Certification Standard, which will be applied to the project areas, includes 9 general principles, 45 criteria and 118 indicators. The FM Standard prescribes a comprehensive set of principles, criteria and indicators for improving the quality of biodiversity protection in forest areas seeking certification. The CFCS provides not only a concrete, step-by-step guideline for activities promoting SFM and biodiversity protection, but also an instrument for the verification of biodiversity protection that adheres to international standards and has obtained international recognition. The project will make extensive use of this new instrument by channelling GEF incremental investment into supporting the different changes and improvements necessary for obtaining CFCS status. Successful certification of forest areas that are currently far from certifiable will serve as a central measuring stick for

<p><b>2) USA's Comments</b></p> <p>The U.S. appreciates both the importance of improved and biodiversity-oriented management of forested land areas and the role that these actions would have in climate change mitigation through carbon sequestration, as well as the importance of the training and knowledge dissemination component of this project.</p> <p>We concur with STAP's assessment that encouraging local community participation in forest management will be key to this project's success.</p> <p>However, the United States, in light of its policies for certain development projects, abstains from participating in the decision.</p>	<p>this project's effectiveness and results.</p> <p>Thank you for the comments, we have well noted.</p>
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**ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS<sup>6</sup>**

A. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:

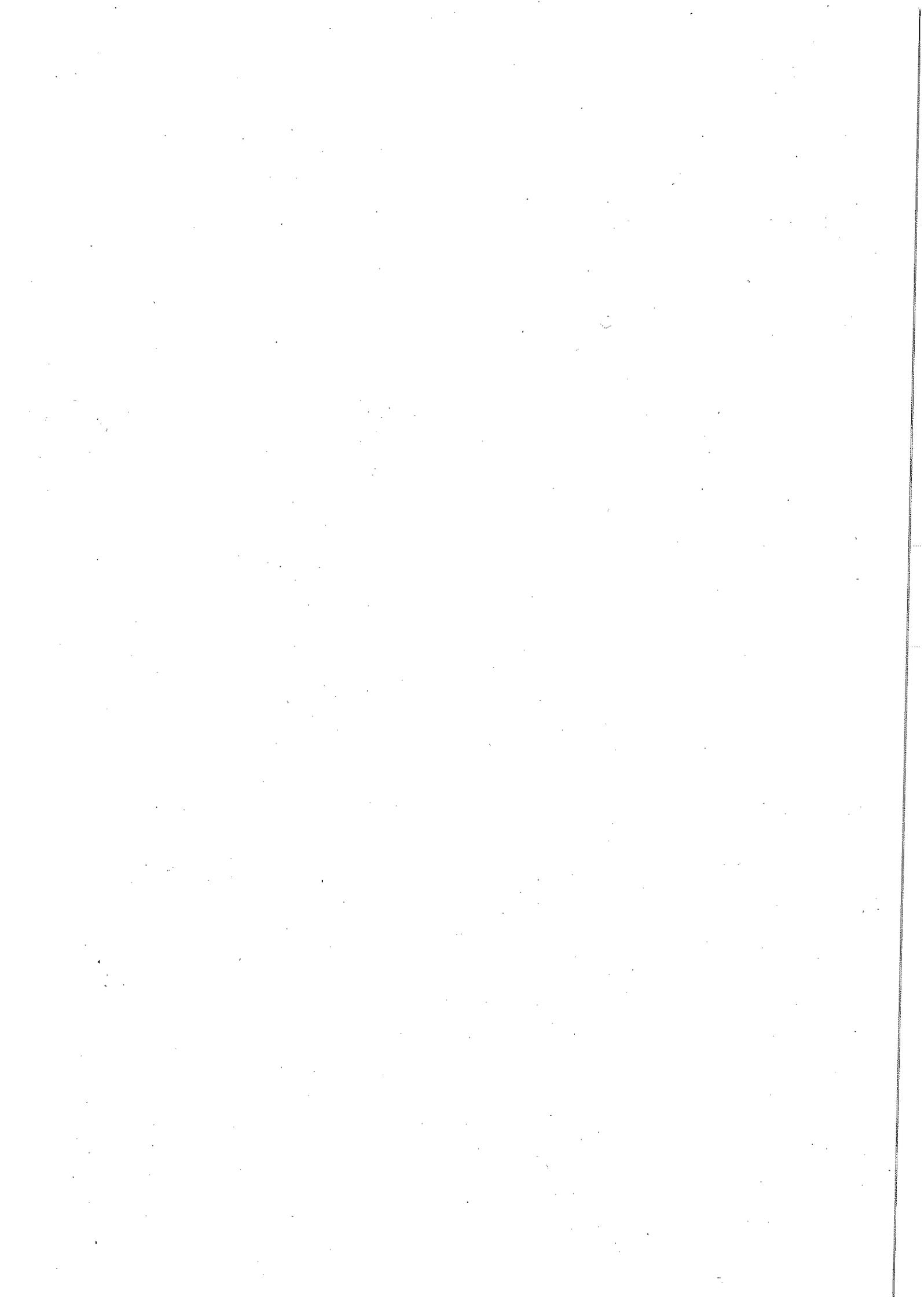
PPG Grant Approved at PIF: <b>153,200</b>			
<i>Project Preparation Activities Implemented</i>	<i>GEF/LDCF/SCCF/NPIF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>
Refine selection of project sites in the pilot provinces and identify corresponding farmer-based Forest Management Units (FMUs) to directly benefit from the planned project activities.	15,320	15,320	
Elaborate Component 1 – Strengthened institutional, policy and regulatory frameworks for forest management.	22,980	22,980	
Elaborate Component 2 – Innovative forest management unit models for SFM, enhancing carbon storage and certifying biodiversity conservation through forest management that enhances generation of revenues, demonstrated and adopted.	61,280	41,280	20,000
Elaborate Component 3 – Knowledge development; education, awareness building; monitoring, evaluation and dissemination of best practices.	22,980	12,980	10,000
Information Synthesis, Project Design & Budgeting	30,640	24,644	5,996
<b>Total</b>	<b>153,200</b>	<b>117,204</b>	35,996

<sup>6</sup> If at CEO Endorsement, the PPG activities have not been completed and there is a balance of unspent fund, Agencies can continue undertake the activities up to one year of project start. No later than one year from start of project implementation, Agencies should report this table to the GEF Secretariat on the completion of PPG activities and the amount spent for the activities.

**ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)**

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/NPIF Trust Fund or to your Agency (and/or revolving fund that will be set up)

Not applicable





**FAO/GLOBAL ENVIRONMENT FACILITY  
PROJECT DOCUMENT**



<b>PROJECT TITLE: Sustainable forest management to enhance the resilience of forests to climate change in China</b>	
<b>FAO PROJECT SYMBOL: GCP/CPR/056/GFF</b>	
<b>Recipient Country: China</b>	
<b>Resource Partner: Global Environment Facility (GEF)</b>	
<b>FAO project ID: 623509</b>	<b>GEF/LDCF/SCCF Project ID: 5139</b>
<b>Executing Partner(s): State Forestry Administration (SFA)</b>	
<b>Expected EOD (starting date): 15 April 2015</b> (project launch and inception workshop)	
<b>Expected NTE (End date): 15 April 2021</b> (72 months project duration)	
<b>Contribution to FAO's Strategic Framework<sup>1</sup></b>	<p><b>a. Strategic objective/Organizational Result: SO2</b></p> <p><b>b. Regional Result/Priority Area:</b></p> <ul style="list-style-type: none"> <li>➤ enhancing equitable, productive and sustainable natural resource management and utilization</li> <li>➤ coping with the impact of climate change on agriculture and food and nutritional security</li> </ul> <p><b>c. Country Programming Framework Outcome:</b></p> <ul style="list-style-type: none"> <li>➤ CPF Priority Areas 4: Promoting sustainable agro-ecological development and agricultural heritage conservation and utilization</li> </ul>
<b>GEF Focal Area/LDCF/SCCF: Climate Change, Biodiversity, SFM-REDD+</b>	
<b>GEF/LDCF/SCCF Strategic Objectives: CCM-5; BD-2; SFM-REDD+-1</b>	
<b>Environmental Impact Assessment Category (insert √): A B C√</b>	
<b>Financing Plan:</b> GEF/LDCF/SCCF allocation:	USD 7 152 728
<u>Co-financing:</u>	
State Forestry Administration and Provincial Forestry Departments (in-kind)	USD 40 800 000
State Forestry Administration and Provincial Forestry Departments (cash)	USD 7 200 000
FAO (grant)	USD 400 000
Subtotal Co-financing:	USD 48 400 000
<b>Total Budget:</b>	<b>USD 55 552 728</b>

## EXECUTIVE SUMMARY

Since the 1990s, the PRC government, in face of intensifying environmental pressures, has highlighted the importance of the country's forests as an essential asset for putting China onto a more sustainable development path. The multitude of ecosystem services provided by healthy forest areas, from improved water and air quality to the safeguarding of biodiversity and sequestration of carbon, has by now been recognized by policymakers at all government levels. Measures addressing forest loss and degradation have steadily moved up the political agenda and have already been incorporated into many overarching policies and development plans. The PRC has followed through on this political commitment by stepping up its national and provincial level forest investments. On the one hand, these investments went into the establishment of protected forest areas, on the other hand into the expansion of commercially used forest areas. **These productive forest landscapes will be the focus of this project.** Public investments in commercially used forests are channelled through a number of afforestation and reforestation initiatives of impressive scope. The increasing awareness of the ecologic value of forests provides a stable basis and favourable environment for the introduction of sustainable forest management practices and instruments.

At the same time, the overarching reforestation and afforestation dynamic in China features a number of weaknesses that stifle the enormous potential for realizing forest ecosystem services in commercially used forest areas. These weaknesses significantly reduce the environmental benefits currently being realized through forest activities in China. **In brief, China's advances in the forestry sector are still a story of "quantity over quality".** Monoculture, single age stands continue to cover millions of acres, representing forest structures that are not only vulnerable against pest and diseases as well as climatic shocks, but also yield much lower environmental benefits in terms of fostering biodiversity and mitigating climate change. Especially the comparatively low carbon stocks in large parts of China's forest areas represent a challenge that this projects sets out to address.

The scope and intensity of ongoing and planned commercial forest activities across the country makes action highly urgent. Forest structures feature a distinct lock-in effect: decisions today determine the environmental benefits for decades to come. The negative environmental effects of unsustainable approaches increase when used during a period of ambitious forest expansion. On the other hand, the current dynamic offers a great opportunity: alleviating the level of quality of forest management at this point in time can make an enormous positive impact as it can change practices for a large quantity of forest area.

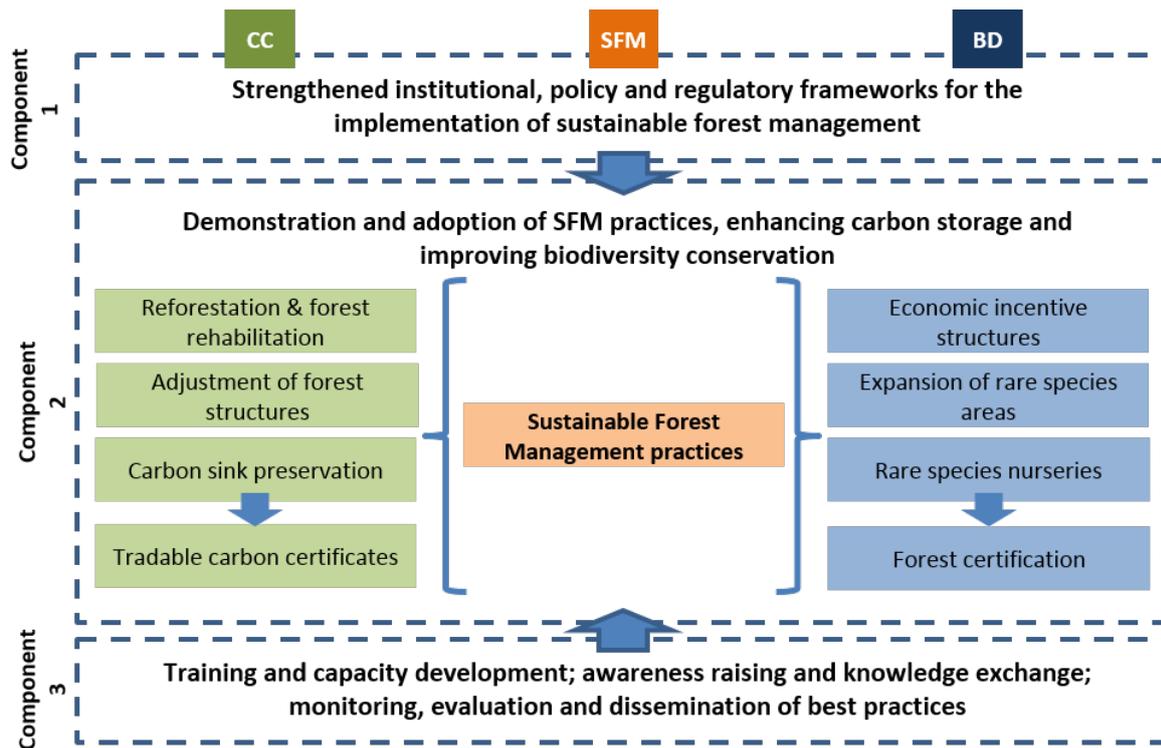
The project's objective is to seize this opportunity and **to enable local communities in four Chinese provinces to effectively employ incentive-based sustainable forest management (SFM) practices in reforestation and forest restoration activities, enhancing carbon storage and sequestration as well as biodiversity conservation.** In order to achieve this objective, the project will utilize four ongoing developments that can be directly related to SFM and serve as starting point to successfully and sustainably mainstream SFM practices into China's forestry sector:

- (1) **Decentralization of forest management structures:** The management structures of China's forest areas has been changing dramatically in recent years, moving from a centralized system to an increasing responsibility of local communities for the management of forest areas. This change opens an opportunity to act decisively at the very beginning of an emerging trend: disseminate knowledge and information on SFM practices to a growing group of new forest stakeholders at the local level is likely to prove highly effective.

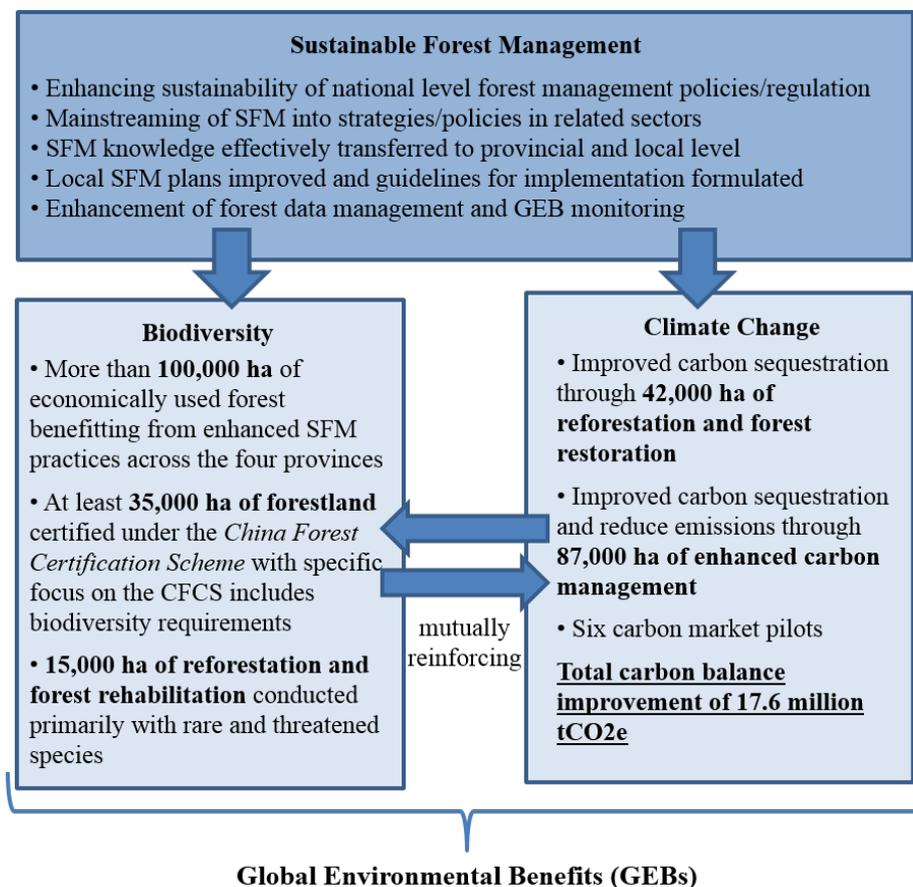
- (2) **Emergence of a strong forest certification mechanism:** Forest certification as an incentive based mechanism to promote sustainable forestry practices has been continuously strengthened in China in recent years. This development has recently culminated in the establishment of the China Forest Certification Scheme (CFCS) representing a potent tool to facilitate SFM. In particular, CFCS certification criteria include a comprehensive set of requirements on the quality and sustainability of biodiversity protection for commercially used forest areas that seek to obtain CFCS certification. CFCS thereby provides a concrete, step-by-step guideline for activities promoting SFM and biodiversity protection. The project will make extensive use of this new instrument by channelling GEF incremental investment into supporting the changes and improvements necessary for obtaining CFCS status. Successful certification of forest areas that are currently non-certifiable will be a central measuring stick for this project's effectiveness.
- (3) **Creation of a comprehensive forest inventory and carbon monitoring system:** A functioning forest inventory and carbon monitoring system represents a prerequisite for measurable climate change mitigation activities in the forest sector. In some provinces, corresponding forest inventory systems have been established in recent years. Some systems, like the one being operated in Fujian Province, are more advanced than others. Overall, most systems are advancing steadily, but are still in their development and testing phase. Furthermore, a centralized inventory system at the national level was missing. To fill this gap and provide the basis for measurable carbon related activities, the SFA set up the National Forestry Carbon Sequestration Accounting and Monitoring Center (NFCSA) in 2010 to aggregate forest inventory data at the national level and provide assistance for the further development, improvement and consolidation of the provincial level efforts. The GEF investment will leverage these ongoing efforts, help to facilitate and improve the implementation of existing systems and support specific adjustments where necessary.
- (4) **Establishment of a national carbon market:** China is currently in the process of establishing a national level compulsory carbon trading scheme. Experimentation in pilot provinces has been ongoing for several years and the nation-wide roll-out is planned for 2015. Recently, the State Forestry Administration has approved a carbon methodology for sustainable forest management increasing forest carbon sinks. Through this methodology, forest management becomes an eligible area for creating carbon certificates tradable on the emerging national carbon market. Assisting the creation of tradable carbon certificates from forestry practices will be a promising way for the project to create additional incentives for a climate change conscious approach to forest management among local governments and communities. Where suitable, a combination with obtaining carbon certificates tradable on the voluntary carbon market (using the Panda Standard's methodology "Improving Low Value Forests") is possible and could prove a valuable supplement to carbon certificates under the national scheme.

The combination of these four trends, all strongly backed by political interest and government commitment, creates a promising window of opportunity for project activities to create **a high amount of Global Environmental Benefits with relatively small incremental investments**. This project is designed to make full use of this opportunity.

The following figure summarizes the overall architecture of the project with its activities divided in three components. Section 2 of this document will explain the project strategy and the interrelation between the different building-blocks in detail.



Resulting from these closely interrelated and mutually reinforcing components, the project is expected to produce a series of Global Environmental Benefits. The yardstick for success of this project will be the realization of the following results:



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## GLOSSARY OF ACRONYMS

AFOLU	Agriculture, Forestry and Other Land Use
AWP/B	Annual Work Plan and Budget
BD	Biodiversity (GEF Focal Area)
BH	Budget Holder
CCER	China's Certified Emission Reduction
CCM	Climate Change Mitigation (GEF Focal Area)
CEO	Chief Executing Officer (GEF)
CFCS	China Forest Certification Scheme
CPF	FAO Country Programming Framework
EBA	Endemic Bird Areas
EIB	European Investment Bank
EN	Endangered
EP	Executing Partner
EWSPS	Endemic woody seed plant species
FAO	Food and Agriculture Organization of the United Nations
FAO FD	FAO Forestry Department
FLO	Funding Liaison Officer
FM	Forest Management
FMCS	Forest Management Certification Standard
FPMIS	Field Project Management Information System
FRA	Forest Resource Assessment
GDP	Gross Domestic Product
GEBs	Global Environmental Benefits
GEF	Global Environment Facility
GEFSEC	GEF Secretariat
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
LTO	Lead Technical Officer
LTU	Lead Technical Unit
LULUCF	Land Use, Land-Use Change and Forestry
M&E	Monitoring and Evaluation
MRV	Monitoring, Reporting, Verification
NAMA	Nationally appropriate mitigation actions
NBSAP	National Biodiversity Strategic Action Plan
NCCP	National Climate Change Programme
NDRC	National Development and Reform Commission

NEX	National Execution
NFI	National Forest Inventory
NFMS	National Forest Monitoring System
NFSCA	National Forestry Carbon Sequestration Accounting and Monitoring Center (SFA Department)
NSTRP	National Strategic Timber Reserve Programme
PFD	Provincial Forest Department
PIF	Project Identification Form (GEF)
PIR	Project Implementation Review
PPG	Project Preparation Grant (GEF)
PPR	Project Progress Report
PRODOC	Project Document
PY	Project Year
RIL	Reduced Impact Logging
SFA	State Forestry Administration (China)
SFM	Sustainable Forest Management
STAP	Scientific and Technical Advisory Panel
TCI	Investment Centre Division (FAO)
tCO <sub>2</sub> e	Tonnes of carbon dioxide equivalent
TOR	Terms of Reference
USD	United States Dollar
VU	Vulnerable
WBPMC	World Bank Project Management Center (SFA)

## SECTION 1 – RELEVANCE

### 1.1 General Context

#### *a) General development context related to the project*

The current situation in China's forestry sector can be summarized as a story of "quantity over quality". While the efforts to halt forest loss and degradation through reforestation and afforestation initiatives have been highly ambitious and steadily increasing in intensity and scope over the course of the last two decades, significant opportunities for improvements regarding the quality of forest management remain. The practices being employed in the context of ongoing forest expansion initiatives usually do not fully conform to international standards for sustainable forest management (SFM). Monoculture, single age stands continue to cover millions of acres in China, representing forest structures that are not only vulnerable against pest and diseases as well as climatic shocks, but also yield much lower environmental benefits in terms of fostering biodiversity and mitigating climate change. Especially the comparatively low carbon stocks and sequestration ability in large parts of China's forest areas represents a challenge that this projects sets out to address.

The scope of ongoing and planned forest activities across the country calls for urgent and immediate action. Forest structures feature a pronounced lock-in effect with management decisions made today determining the forests' environmental benefits for decades to come. The negative environmental effects of unsustainable approaches will increase when employed during a period of ambitious forest expansion. On the other hand, the current dynamic offers a unique window of opportunity: alleviating the level of quality of forest management at this point in time can make an enormous positive impact as it will change practices employed in a large area of forest. The potential leverage effect of GEF activities is therefore particularly high at this point in time. This GEF projects aims to seize this opportunity to the fullest.

#### **Forest situation at national and provincial level**

China's forest sector is still marked by the consequences of the massive deforestation in the mid-late 20<sup>th</sup> century in the context of China's rapid industrialization. Unprecedented economic growth over the last three decades, fuelled by the unsustainable use of natural resources, has left China with dramatic environmental problems including a devastated forestry sector. The Chinese government has since convincingly demonstrated its willingness to change course towards a more sustainable economic model, including a reorientation in the forestry sector. Large-scale re- and afforestation programmes across the country, especially over the last 15 years, had the explicit goal of rectifying some of the mistakes of the past. These initiatives have indeed led to a considerable expansion of plantation forests across China that now provide ecosystem services from improved water and air quality to the safeguarding of biodiversity and sequestration of carbon. In many instances, use of forests as shelterbelts against seasonal sandstorms and intensifying desertification in China's Northern provinces provides additional political motivation for large scale re- and afforestation efforts.

In quantitative terms, these efforts are certainly impressive. Over the five year period 2004 to 2009 the national forest area increased by more than 20 million ha, primarily in the context of the Six Key Ecological Forestry Programs: the Shelterbelt Programme in the three Northern Regions and along the Yangtze River (commenced 1978 & 1989), Coastal Shelterbelt Programme (commenced 1991), Natural Forest Conservation Programme (2000 to 2020), Grain for Green Programme (commenced 2000), and the Nature Reserves and Biodiversity Conservation Programme (commenced 2001). The total investment in forestry by the Government

between 1998 and 2010 increased from US\$ 2.26 billion (13.53 billion Yuan) annually to US\$ 20.49 billion (122.96 billion Yuan) annually, an average annual increase of ~ 20% over 12 years.

In 2006, China's 7th National Forest Inventory (NFI) determined the total extent of forest coverage in China to be 196,524,000 hectares. In 2010, FAO's China Forest Resources Assessment (FRA) projected the total extent of forest coverage to be 206,860,000 ha or ~22% of China's land area. Of this total area, 125,403,000 ha is natural forest; 64,545,000 ha is plantation forest, and 16,912,000 ha consist of recently afforested, cut or burned areas. Total standing volume is 14.9 billion m<sup>3</sup>. China's forest area has been increasing steadily during the last two decades, averaging an annual 1.39% increase since 1990 (Global FRA 2010). This expansion reflects China's overall ambitious forest activities. In terms of quantity, i.e. area covered, China's re- and afforestation efforts have certainly been highly successful. How the corresponding benefits are partially thwarted by the methods and principles underlying the forestation efforts will be described in section 1.1 b) below.

Taking a look at the situation at provincial level, the province boxes below summarize some key parameters summarizing the forest structure and biome for each of the project's four pilot provinces.

*(The colour coding for the four provinces will be applied throughout this document)*

**Henan Province**

***Natural forest: 1,192,000 ha – Plantation forest: 2,174,000 ha***

Henan Province is located in China's central plains covering a total area of 167,000 km<sup>2</sup> (16.7 million ha). Henan's climate features a humid region of northern subtropics and a semi-humid warm temperate zone. Annual average temperature is approximately 14°C, annual precipitation is 600-1200mm. Henan's forest cover rate is about 23% and has been steadily increased in the context of China's overall re- and afforestation efforts. Henan has about 1,192,000 ha of natural forest and 2,174,000 ha of plantation forest. Primary forest types are temperate coniferous, temperate deciduous broadleaf, as well as mixed coniferous and broadleaf.

**Guangxi Autonomous Region**

***Natural forest: 5,178,000 ha – Plantation forest: 5,155,000 ha***

Guangxi Zhuang Autonomous Region has been one of the focal points of China's forest related initiatives due to its large subtropical forest areas. Guangxi is particularly rich in biodiversity, but many local species have become rare and endangered during the period of rapid economic growth. Guangxi forests have also proven to be especially vulnerable to climatic shocks in the recent past. Especially the record low temperatures during the winter of 2007/08 has caused very serious damage in large parts of Guangxi forests, leaving the remaining forest structure even more vulnerable as before and in dire need for large scale restoration. Overall, Guangxi features approximately 5,178,000 ha of natural forest and 5,155,000 ha of plantation forest. The majority of forest area consists of either subtropical coniferous forest or sub-tropical evergreen broadleaf forest.

### Hainan Dao Province

*Natural forest: 500,000 ha – Plantation forest: 1,253,000 ha*

Hainan Island is China's southernmost province, located in the South China Sea. It has an area of 33,920 square kilometers (13,100 square miles; 3.39 million ha) featuring vast coastlines with natural harbors at the seaside, and hills, valleys and mountains filled with rivers and streams on the interior. Hainan stretches two climate zones with sub-tropical as well as tropical moist monsoonal climate. The majority of Hainan's land mass is forests with 61.5% coverage reported in 2012. Hainan has approximately 500,000 ha of natural forest and 1,253,000 ha of plantation forest. Mostly, forests are either sub-tropical evergreen broadleaf forest or tropical rain forests. The tropical forests of Hainan harbor an especially great variety of biodiversity, which has, however, come under enormous pressure in more recent times (see biodiversity box below).

### Fujian Province

*Natural forest: 2,500,000 ha – Plantation forest: 5,500,000 ha*

Fujian Province on the southeastern coast of China has an area of more than 120,000 square kilometers (12 million ha). Mountains and hills make up the vast majority of Fujian's territory, while only narrow strips of the eastern seaside are plains. Due to its mountainous landscape, Fujian comprises some of the most secluded and inaccessible areas in China. In consequence, Fujian today features the highest forest cover rate of all Chinese provinces (approximately 66% in 2013) and one of the most diverse biospheres in the country, making it a biodiversity hotspot. The province's total forest area totals approximately 8,000,000 ha, marking an increase of 365,000 ha over the last five years. Fujian's plantation forest area is about 5,500,000 ha making Fujian one of the primary areas for commercially used forest in China. A large number of nationally renowned forestry products are grown in Fujian. Given the importance of its economically used forests with a model function well beyond the province itself, Fujian represents a particularly important region for demonstrating the mainstreaming of biodiversity protection as well as climate change mitigation considerations in commercial forestry practices. Mechanisms applied in Fujian have a particularly high chance for replication and up-scaling within and outside Fujian.

### Forest situation at project site level

After the final selection of project sites in the four provinces, extensive field missions were conducted to gather site level data forest status and characteristics. The mission participants included highly-qualified international and national experts working in close collaboration with provincial level project consultants as well forestry department staff at the provincial and county level. Active participation of local communities in the deliberations and information gathering constituted an explicit and important aspect of the missions. A series of missions was conducted between December 2013 and February 2014, following a data collection template developed collaboratively at the consultation workshop in Guangxi in November 2013.

The following figures summarize the cumulative forest status data at the project site level for all project sites in the four pilot provinces. **The project sites together contain 793,813 ha of forest land;** the distribution by forest type is set out in Figure 1.

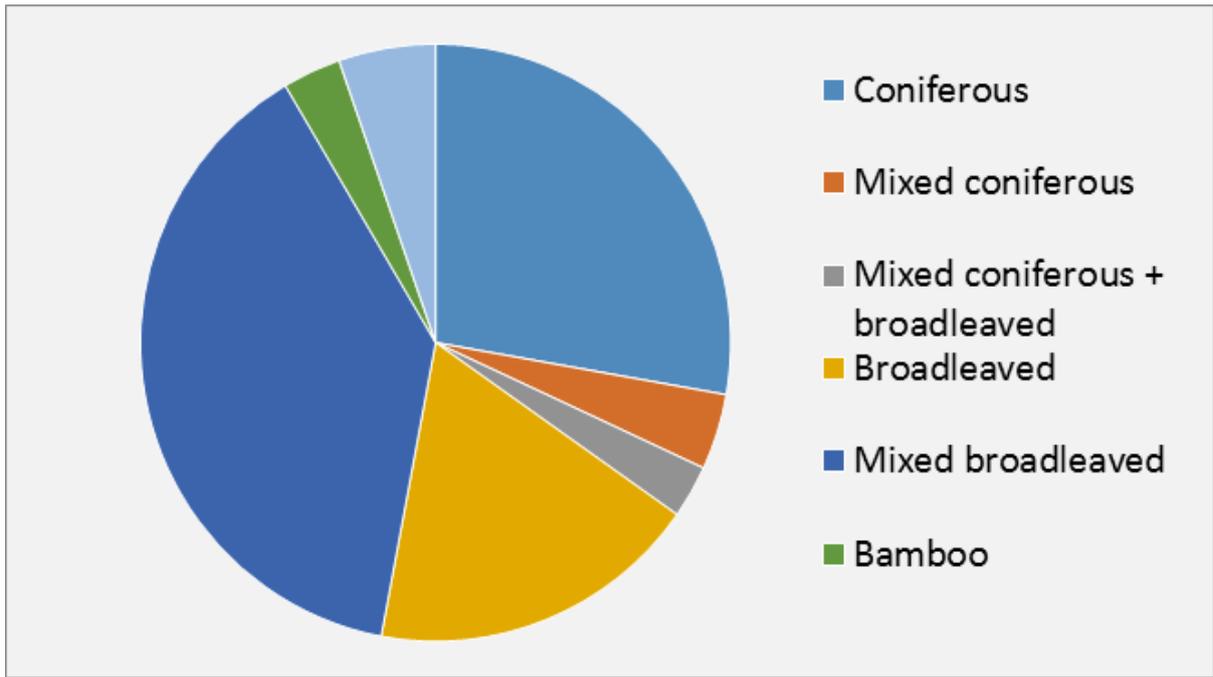


Figure 1: Distribution of forest land by forest type in the project sites

In order to gauge forest age, structure and growth rates in the project sites, data was also collected on age-class distribution in the project areas. The results, illustrated in Figure 2, show a skewed distribution towards younger age-classes – i.e. growing forest; likely a reflection of the extensive areas of forest planted in the project areas and more widely across China over the past 10-15 years.

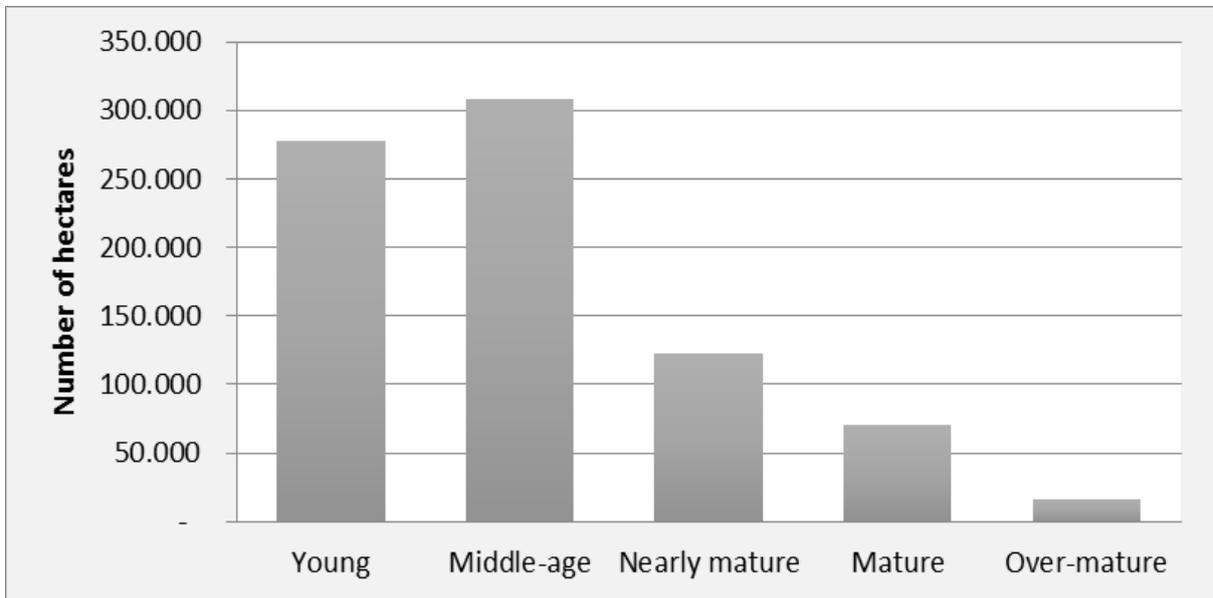


Figure 2: Distribution of forest in project sites by age-class.

The data in Table 1 show the distribution of forest by management type and highlight the important coverage of commercial forestry activities at the project sites. The table also shows the annual hectare coverage of forest disturbances that impact project site areas.

		Ha
Forest management	Conservation	413,273
	Commercial forestry, of which:	571,061
	Commercial forestry: fast-growth species	300,783
	Commercial forestry: medium-growth species	103,760
	Commercial forestry: slow-growth species	166,518
	Plantation	259,388
	Natural forest	337,870
	Other use	1,898
		Ha/yr.
Forest disturbances	Fire	193
	Pests/diseases	506
	Other disturbances (e.g. weather events)	5,566

Table 1: Distribution of forest in project sites by forest management type.

### Linking the current forest situation to Global Environmental Benefits (GEBs)

The described re- and afforestation efforts and corresponding expansion of commercially used forest areas across China naturally had a positive effect on the environmental situation, creating environmental benefits of global significance in the areas of biodiversity and climate change mitigation.

**Climate Change Mitigation:** Looking at GEBs in the focal area of climate change mitigation, China's net CO<sub>2</sub> removal through land use change and forestry was 422 Mt after considering emissions from forest land conversion and sequestration from forest growth (2<sup>nd</sup> NCCC, 2012). China's carbon in forest biomass has been continuously increasing in recent years. Table 2 summarizes the corresponding data on carbon forest biomass as reported by FAO's 2010 Global Forest Resources Assessments (FRA). Total carbon in living forest biomass in China amounted to 6.202 billion metric tons in 2010.

FRA 2010 Categories	2000	2005	2010
C in above-ground biomass	4013.9	4392.1	4675.5
C in below-ground biomass	1281.0	1409.9	1527.4
<b>Total: C in living biomass</b>	5295.0	5801.9	6202.9

Table 2: Forest resource assessment data on C in forest biomass

At the province level, forest carbon stocks, emissions and removals figures for the GEF project area are listed per project province in Table 3, showing the project sites to be an overall source of emissions by 905,185tCO<sub>2</sub>e/yr. Over the lifetime of the proposed project, this would amount to forests in the project sites emitting 4,525,927tCO<sub>2</sub>e, and 18,103,707tCO<sub>2</sub>e over a medium-term view of 20 years. The full and comprehensive carbon calculations can be found in the appendices section of this document.

	Standing forest C stocks	Emissions (tCO <sub>2</sub> e/yr.)	Removals (tCO <sub>2</sub> e/yr.)	Emissions balance (tCO <sub>2</sub> e/yr.)	Emissions over 5 years (tCO <sub>2</sub> e)	Emissions over 20 years (tCO <sub>2</sub> e)
<b>Guangxi</b>	13,683,909	11,577,126	7,939,892	3,637,233	18,186,166	72,744,664
<b>Hainan</b>	5,295,662	565,546	1,644,158	-1,078,612	-8,737,940	-34,951,760
<b>Henan</b>	5,433,853	717,298	2,464,886	-1,747,588	470,761	1,883,045
<b>Fujian</b>	2,049,299	713,715	619,563	94,152	-5,393,060	-21,572,242
<b>TOTAL</b>	<b>26,462,723</b>	<b>13,573,685</b>	<b>12,668,500</b>	<b>905,185</b>	<b>4,525,927</b>	<b>18,103,707</b>

Table 3: Carbon stocks and carbon emissions/removals balances for the project sites

**Biodiversity:** With respect to potential for GEB creation in the area of biodiversity, China ranks in the top three countries in the world for biodiversity with a flora of about 30,000 species of vascular plants, of which 58% or 17,300 are endemic including 8 genera of gymnosperms and 232 genera of angiosperms (2.5% and 7.4% respectively). A recent study aimed at detecting distribution patterns and identify diversity hotspots for Chinese endemic woody seed plant species (EWSPS) found 20 hotspots covering 7.9% of China’s total land area were identified, among which 11 were identified with all the five indices, including the Hengduan Mountains, Xishuangbanna Region, Hainan Island, and eight mountainous areas located in east Chongqing and west Hubei, in east Yunnan and west Guangxi, in north Guangxi, south-east Guizhou and south-west Hunan, in north Guangdong and south Hunan, in south-east Tibet, and in south-east Hubei and north-west Jiangxi. The project’s site provinces (Henan, Guangxi, Hainan, and Fujian) contain at least four hotspots for “endemic woody seed plant species” diversity (EWSPS), including Hainan Island and the mountainous areas of western and northern Guangxi and western Henan. Notable rare and endangered tree species threatened with habitat loss include Ginkgo (*Ginkgo biloba*; EN), Chinese or Himalayan yew (*Taxus wallichiana*; EN), and the endemic Nan (*Phoebe zhennan*; VU & *P. Nanmu*; EN). The endemic fragrant rosewood “Huanghuali” (*Dahlbergia odorifera*; VU) will play a particularly prominent role in this project, particularly regarding project activities in Hainan.

The project’s pilot provinces encompass globally significant fauna diversity, including at least one Global 200 Ecoregion (Southeast China-Hainan Moist Forest) and least three Endemic Bird Areas (EBA): Chinese Subtropical Forest EBA; South-east Chinese Mountains EBA; Hainan EBA. The Subtropical Forest EBA is home to the endemic Golden fronted fulvetta (*Alcippe variegaticeps*) and the restricted range Silver oriole (*Oriolus mellianus*; VU). The mixed broadleaf-coniferous forest of the Southeast Chinese Mountains EBA is home to four restricted range species, including the White-eared night heron (*Gorsachius magnificus* - CR), the endemic Cabot’s tragopan (*Tragopan caboti*), the endemic White-necklaced partridge (*Arborophila gingica*) and the endemic Elliot’s pheasant (*Syrnaticus ellioti*). Hainan EBA’s montane and lowland evergreen rain forest harbors 46 endemic sub-species including: the Grey Peacock pheasant (*Polyplectron katsumatae*) the Black browed barbet (*Megalaima oorti faber*) and the Blythe’s kingfisher (*Alcedo Hercules* - VU). The southeast China-Hainan region also harbors endemic amphibians including the Asiatic salamander (*Vibrissaphora liu*) and the horned toad (*Megophrys kuatunensis*).

The province boxes below summarize additional information on biodiversity for each of the project’s four pilot provinces:

### Henan Province

The province has the existing 520 kinds of terrestrial vertebrate wild animals, including 90 species of national key protected wild animals. 3979 kinds of higher plants are known in the province, with 85 species of national and provincial key protected wild plants. The specific project sites in Henan are primarily located in the climatic and geographical transition region between North and South China, meaning they harbor a particularly wide spectrum of southern as well as northern species in a very distinct composition. Among the many rare and threatened woody species endemic to the transition regions of Henan, the Persian walnut (*Juglans regia*), and *Emmenopterys Henryi* are particularly prominent and will be focus species for biodiversity protection in commercially used forest land under this project.

### Guangxi Autonomous Region

Guangxi is rich in plant biodiversity and wildlife resources. The autonomous region features 884 kinds of vertebrates, accounting for 14% of the total vertebrates in the country, 133 kinds of mammals, 520 kinds of birds, 157 kinds of reptiles, 74 amphibians, as well as 99 species of snakes accounting for 50% in the country. Guangxi forests provide habitat to 27 kinds of the national first-grade key protected wild animals, such as the white-headed langur and crocodile lizards of Yao Mountain, 123 kinds of the national second-grade key protected wild animals, like the macaque and the Silver Pheasant (*Lophura nycthemera*). Among the numerous rare and several threatened tree species, the *Taiwania flousiana*, a large coniferous tree in the cypress family Cupressaceae, is prominent in Fujian. It is classified as vulnerable internationally (IUCN scale) and even as Category I on China's national Red List of endangered species.

### Hainan Dao Province

Hainan forests are populated with more than 4,600 kinds of plants and more than 570 species of animals. However, due to an invasion of exotic species, human impact from tourist, deforestation, and the release of pollutants, many species are under threat. A report from the Department of Land, Environment and Resources of Hainan Province states that 200 species are near extinction, with 6 species, such as *Maytenus hainanensis* and *Sciaphila tenella* already extinct. More than one hundred of the total 362 bird species on the island have become hard to trace. The Hainan black crested gibbon is one of the world's most endangered primates. Among others, a subspecies of the Leopard (*Prionailurus bengalensis alleni*) and the Hainan Leaf-warbler (*Phylloscopus hainanus*) are endemic to Hainan.

Dongfang, the location of the specific project sites, is one of the most abundant regions in biodiversity. There are vascular plant species 2258, in which 32 species are list in the red book of China, for example: *Hopea hainanensis* and *Cycas hainanensis* belong to the category I, and 29 species such as *Cyathea spinulosa* belong to the Category II. In addition there are 45 species are listed in the red book of Hainan. Among the Dongfang tree species, the *Dalbergia odorifera*, known as *Huanghuali* in China, is the most famous rare species and at the same time one of the most valuable timbers in the world. *Huanghuali* conservation will be a specific focus of this project (see following sections).

### **Fujian Province**

Fujian province is famed for its extremely varied vegetation, ranging from tropical species to forest and plant types associated with a cold temperate climate. Commercial forests are located upstream in the mountainous and rainier interior, away from rural settlements. The province has subtropical, laurel-leafed forests, as well as many kinds of conifers. In western Fujian the lower elevations support tropical mountain forests. The lianas are purely tropical. Tree ferns grow in the ravines. Higher up, where elevation modifies the climate, deciduous trees, conifers, and rhododendrons occur. Animal life in Fujian is of the subtropical forest variety and is characterized by great diversity, with many kinds of birds, amphibians, and reptiles. Fujian's forest lands harbor 4707 kinds of higher plants in the province, including 52 species of national key protected plants, 1943 kinds of woody plants of which fir and pine are the main timber species, 824 kinds of wild animals, including 157 national key protected species, and nearly ten thousand kinds of insects.

#### *b) GEB status, threats, causes; problems the project will address*

The environmental benefits already obtained through ongoing re- and afforestation activities cannot mask the fact that the large potential for ecosystem services to be yielded by China's forests is far from being realized to the fullest. Current efforts can only partially mitigate the enormous pressures on China's forest ecosystems from unsustainable commercial use in the context of China's unprecedented economic growth, deforestation from land use change as well as forest degradation due to widespread environmental pollutions of water, soil and air. The GEBs already realized represent mostly the "low hanging fruits" that could be obtained with a primary focus on forest quantity.

Turning the attention to aspects of forest quality, remaining challenges become obvious. Overall, the resilience of China's forests, including newly reforested areas, is in most places too low to withstand these numerous pressures. Consequently, remaining shortcomings in terms of the sustainability of forest management and applied practices significantly reduce the GEBs actually obtained from current efforts in China's forest sector. This is true in terms of biodiversity protection, but especially with regard to the reduction of carbon emissions from forests and increase of carbon stocks in forest biomass. This GEB potential currently lying idle in China's forests is what the GEF incremental investment aims to unlock.

A large part of the re- and afforested areas are monoculture, single age forest stands. In addition, these forests have in most cases not been managed in a way consistent with internationally good practices of sustainable forest management (SFM), neither regarding the maintenance of healthy forest structures nor the practices of low-impact economic use of forests (e.g. reduced impact logging, RIL). Furthermore, the main focus of past and ongoing forest activities in China has been afforestation efforts rather than urgently needed restorative reforestation or restoration of degraded forest areas. For example, the number of hectares reforested in 2005 declined to less than 1/10 the number of hectares afforested (see corresponding FRA results in Table 4 below). Restoring the health of existing degraded forests through reforestation/restoration is not an area where China has focused its efforts thus far. Supporting the emerging trend towards heightened attention to the quality of reforestation and forest restoration efforts lies at the very core of this project.

Category	Area (1,000 ha)		
	1990	2000	2005
Afforestation	5094.5	4737.1	4385.0
Reforestation	625.0	630.0	304.4

Table 4: Afforestation vs reforestation (FRA 2010)

The current approach to China's re- and afforestation has produced large forest areas that are extremely vulnerable to external pressures, ranging from pest and diseases to extreme weather and climate shocks expected to become more intense and frequent with ongoing global warming. Especially severe wind as well as unusually cold temperatures in the South during winter months, have already taken a severe toll on existing forests resulting in millions of hectares of degraded forest land in China. The pilot region of Guangxi experienced some of the most severe damages in this regard, making it a particularly suitable spot for demonstrating the effectiveness of countermeasures. Ultimately, the forests' ability to sustainably harbour biodiversity is impaired by their vulnerability while at the same time their carbon storage and sequestration capacity is well below its potential. GEB creation remains well below its potential. And as these forests grow older, these weaknesses in terms of ecological resilience and the corresponding reduction of ecosystem services will become even more pronounced. In order to halt this trend, the introduction of sustainable forest management practices to safeguard existing and create additional ecosystem services needs to happen immediately.

China's government at the national as well as provincial level is keenly aware of the remaining weaknesses and unused potential in its forest sector. In light of the crucial positive role forest can play in solving China's daunting environmental challenges, the government made the improvement of the quality of forest management a political top priority. While, in consequence, government investments have gradually increased in areas like forest fire and pest control programmes, strengthening of an ecological culture and enhancing public awareness of forestry, these investments are but a starting point for a more comprehensive transformation towards the full use of SFM practices according to internationally accepted good practices. For a GEF investment, the current situation therefore provides a strategic opportunity: In order to safeguard existing and create additional creation of GEBs from China's forests, turning the story from "quantity *over* quality" into "quantity *with* quality" through innovative initiatives to help China further shift forest management in the direction of ecosystem-based SFM, promises a highly effective use of GEF incremental support.

### c) Institutional and policy framework

The project will be embedded into a highly conducive political context significantly increasing the project's impact and sustainability in the long run. At the most overarching level, the fundamental recalibration of China's economic growth model towards structures that are not one-sidedly driven by maximizing GDP growth, but take the long-term economic viability and ecologic sustainability into account, has arguably started as early as with the 10<sup>th</sup> Five Year Plan (2001-2005). In face of intensifying environmental pressures and a looming environmental crisis with potentially severe consequences, the principles of environmental sustainability turned into an explicit and prominent feature with the 11<sup>th</sup> Five Year Guidelines

(2006-2010) and have now been mainstreamed into most policies and sectors through the 12<sup>th</sup> Five Year Guidelines (2011-2015) and the multitude of connected development plans at national, provincial and local level. The development dynamic in China's forestry sector is firmly embedded into this overarching recalibration towards granting higher priority to long-term sustainability.

In the context of this fundamental trend, the Chinese government has started to highlight the importance of the country's forests as an essential asset for averting an environmental crisis and putting China onto a more sustainable development path. The multitude of ecosystem services provided by healthy forest areas, from improved water and air quality to the safeguarding of biodiversity and sequestration of carbon, has by now been fully recognized by policymakers at all levels. Consequently, measures addressing forest loss and degradation have steadily moved up the political agenda and have now been incorporated into many policies and plans. China has followed through on this political commitment by significantly stepping up its national and provincial level forest investments as described in the previous sections. The pronounced awareness and appreciation of the ecologic value of forests at the political level provides a stable basis and favourable environment for the introduction of sustainable forest management practices and instruments.

The remaining weaknesses in China's forest sector have been well recognized at the political level for some time. This awareness translated into a gradual mainstreaming of a stronger focus on quality forest management into China's forestry policies, development plans and performance criteria in recent years. Accordingly, the political momentum is conducive to the objectives of the proposed GEF intervention. But the dynamic is still in its early stages and needs further stabilization to reduce the risk of another trend reversal. Additional support will be crucial to further strengthen and safeguard the positive trend that is clearly evident at the moment.

In particular, four specific political developments can be turned into powerful instruments for achieving the objectives of this project. The four trends will be introduced in greater detail in section 2, which will also describe how the project concretely intends to use these dynamics. In this section, a listing of the four trends that create the favourable policy environment for this GEF project will suffice:

1. Decentralization of forest management structures;
2. Emergence of a strong forest certification mechanism;
3. Creation of a comprehensive forest inventory and carbon monitoring system;
4. Establishment of a national carbon market.

The combination of these four trends, all strongly backed and promoted by political interest and government commitment, creates a promising window of opportunity for project activities to create a high amount of Global Environmental Benefits. This project is designed to make full use of this opportunity (see section 2).

The institutional framework of the project will be explained in detail in section 4 of this document. The executing partner on the side of the Government of China is the State Forestry Administration (SFA). Under guidance of the SFA at the national level, the project management offices in the Province Forestry Departments will play a prominent role in the coordination of activities at the province level. Ultimate implementation will be led by the county level forest administrations and forest farms, who will oversee and guide the activities applied by household level forest managers from local communities.

## 1.2 Rationale

a) *Baseline projects and investments for the next 3-5 years addressing the identified GEB threats and causes (main co-financing sources of the project)*

The GEF incremental investment will be firmly rooted in a significant baseline investment that combines a:

- **European Investment Bank-Government of China (EIB-GOC) Forestry Framework Loan** (project implementation period 2014-2018), and the
- Government of China's own forest sector investments under the **National Strategic Timber Reserve Programme (NSTRP)**.

The two baseline initiatives are already closely interrelated and designed to complement each other in terms of areal coverage. They share their main focus on expanding commercial forest area through re- and afforestation efforts. **While especially the investments under the EIB loan feature several considerations on sustainability of forest ecosystems, the baseline projects do not include targeted activities to maximize GEB creation in the restored forest areas.** Consequently, the GEF project will on the one hand use the extensive organizational and administrative structures as well as mechanisms for knowledge dissemination created through the baseline initiatives. On the other hand, the GEF activities will serve to demonstrate alternative ways and methods to incorporate SFM practices into the larger baseline projects. Thereby, the baseline initiatives will become the primary vehicle for direct roll-out and up-scaling of the GEF project's activities well beyond the confines of the actual GEF project sites. The combination of the baseline projects and the GEF project therefore represents an excellent balance between compatibility and complementarity that has proven a crucial success factor for long-term impact of GEF projects in the past. The opportunity for leveraging co-financed activities to create high levels of additional GEBs with relatively small investments is particularly pronounced for this project.

### Co-Financing arrangement

The co-financing arrangement and respective co-financing amounts will be described in more detail in section 2.3 (Financial planning and management). **The overall amount of co-financing provided by the Government of China through the State Forest Administration totals US\$48,000,000, combining resources from both major nation-wide initiatives listed above** (US\$40,650,000 from the EIB-GOC loan project and US\$7,350,000 from the NSTRP). Throughout this document, the National Government and the SFA will be listed as Co-financier as both of the related programmes have their resources pooled and managed at the national level. However, the total co-financing amount includes proportions of resources that are allocated to the provincial level, making the four province governments de facto co-financers. The distribution of co-financing commitments follows the relative distribution of EIB-GOC and NSTRP resources between the four pilot provinces.

### EIB-GOC Loan Project

Co-financing source	Co-financier	Brief Description of Co-funded Baseline Project Activities	Type	Amount (USD)
National Government	SFA	<ul style="list-style-type: none"> <li>- FA staff services and procurement of facilities.</li> <li>- Establishment of forests demonstrating fire protection &amp; control.</li> <li>- Focuses on state managed and controlled plantation areas.</li> <li>- Carbon monitoring at national level</li> </ul>	In-kind	124 000 000 (€100 000 000)

		- CFCS in late stages of development; early stages of use. - Voluntary carbon market for AFOLU in nascent stages.		
Multi-lateral	EIB	- Afforestation, protective forests for erosion control/timber forest plantation; economic trees, - tendering or modification of low-efficiency forest, - establishment of biomass plantations & capacity building	Loan	124,000,000 (€100 000 000)
			<b>Total</b>	<b>USD248 000 000</b>

Table 5: Summary of EIB-GOC project

The EIB-GOC loan project focuses on four main areas of work:

- i. establishment of protective forests for soil and water erosion control/timber forest plantation; economic trees,**
- ii. tendering or modification of low-efficiency forest,**
- iii. sustainable development of forest ecosystems,**
- iv. establishment of biomass plantations.**

Activities funded under this new framework loan will include capacity building, long-rotation re- and afforestation and the development of socially and economically important forests having high and sustainable income generation potential. In Henan Province, The project is active in 27 project sites across the province. Its main focus is a re- and afforestation effort with planned 41,950 km<sup>2</sup> of afforestation and 22,400 km<sup>2</sup> of reforestation and forest rehabilitation. The GEF incremental investment will leverage the project's reforestation investments to create additional GEBs. In Guangxi Autonomous Region, the project covers commercially used forest areas in 13 counties and 7 state owned provincial forest farms. Main focus is on re- and afforestation of 21,500 km<sup>2</sup>. The GEF incremental investment will only leverage reforestation activities. In addition, the project provides funding for enlargement of two existing nurseries and establishment of one new nursery. This funding will be used directly as co-financing for the GEF investment, aiming at utilizing nurseries for the growing of rare and endangered species as preparation for creating mixed forest areas that include rare species. In Hainan Island, the the EIB-GOC project focuses on returning original forest land from its current use as farm land back to forest. The target area is 6667 km<sup>2</sup>. **The resources allocated under this project that are so closely connected to the GEF Project to be dedicated as co-financing amount to a total of USD 40 650 000.** As resources are managed at national level, SFA will be considered the sole co-financer, knowing that the respective co-financing resources are part of the province level resource allocations.

### **National Strategic Timber Reserve Programme**

The NSTRP is a recently established umbrella project designed and managed by SFA to coordinate nation-wide public investments into commercial forest expansion and management. The main objective of the programme is the long-term security and stability of supply of timber resources. In order to ensure availability and access to timber resources, the NSTRP aims to increase China's productive forest area by approximately 20 million hectares annually and to do so in a nationally coordinated, strategic and coherent way. This baseline investment offers a unique chance for a GEF incremental investment to complement the forest expansion driven by economic considerations with aspects of environmental sustainability with regard to

biodiversity and climate change mitigation. SFM provides the framework to maximize the synergies between the economic productivity of commercially used forest areas and the creation of global and local environmental benefits.

The programme links most directly and significantly with the GEF project in Henan Province, which is a focus region of the NSTRP. Accordingly, Henan Province has three forest farms that receive public funds for improving forest management under the NSTRP: Minquan Forest Farm in Shangqiu Municipality, Huangbaishan Forest Farm in Xinyang Municipality and Nanwan Forest Farm. The GEF incremental investment will leverage the NTRSP funds as co-financing in these three project areas. **The resources allocated under this project that are so closely connected to the GEF Project to be dedicated as co-financing amount to a total of USD 7 350 000.**

### **GEF incremental investment in relation to baseline**

The combination of the two baseline initiatives features a strategic gap accurately fitting the planned GEF incremental investment, i.e. the piloting and subsequent roll-out of new and innovative tools and incentives for mainstreaming biodiversity (using the tool of forest management certification) and sequestering and avoiding CO<sub>2</sub> emissions (leveraging emerging incentive opportunities of the national emissions trading scheme). Complementing the baseline initiative, the GEF investment will enable stakeholders to focus more on: a) enhancing forest productivity to avoid the losses of carbon from management neglect/forest decay and enhance carbon sequestration; and b) the mainstreaming of biodiversity conservation objectives and practices into local level SFM. Following GEF requirements, the GEF project will concentrate on SFM-based reforestation and forest restoration efforts linked to corresponding parts of the baseline initiative. The GEF incremental investment will thus not be used in the context of afforestation activities.

During the project preparation phase, the FAO team in close collaboration with the GOC counterparts has analysed the baseline programs determining which parts of the EIB Framework Loan and GOC financing can be directly leveraged to enable the GEF project activities and catalyse their replication and scaling-up beyond the project's scope. According to these calculations, USD 48 million of the total baseline program amount (see above) will be directly used and leveraged by the GEF resources, therefore representing the project's co-financing.

#### *b) Remaining barriers to address threats on GEB*

Despite the increasing government investments in China's forest sector, including but going beyond the described baseline programmes, critical barriers remain that impede the full-fledged mainstreaming of SFM as a guiding principle and benchmark for all forest related activities in China. Some current initiatives represent a trend into the right direction, but fall short of providing long-term solutions to secure and enhance ecosystem services and GEBs from China's forests. Illustrating ways to remove these barriers is the aim of the proposed GEF incremental investment.

#### **Barrier #1: Inadequate framework and guidance for the effective implementation of the evolving regulatory framework promoting sustainable forest management, biodiversity mainstreaming and carbon emission reductions in China's forests.**

As illustrated in previous sections, China's forestry policy and legal framework at the national level is developing quickly with SFM requirements gradually becoming an integral principle of forest governance in China. However, the translation of this emerging framework to on-the-ground implementation is still lacking, representing a major barrier for achieving SFM

objectives. China's forest sector needs operational regulation and guidelines to shape the implementation of SFM programmes at local levels, governing responsibilities of county-level administrations, state-owned forest farms, and local communities in their role as either owner or manager of forest areas. The interplay between these different stakeholders necessary to achieve effective SFM is currently not fully developed. Formulating a coherent and inter-linked body of local regulations and practical implementation guidelines represents an urgently needed building-block for realizing China's SFM ambitions.

Three concrete examples illustrate the significance of this barrier. The Chinese Forest Certification Scheme (CFCS) with its sensible requirements on biodiversity mainstreaming represents in principle a powerful instrument for improving SFM. However, the translation of the certification scheme to the implementation level is still weak and local administration and communities will need significant practical guidance to achieve CFCS certification. This barrier is even more pronounced in the case of the emerging national carbon market and the new methodologies for creating carbon credits from forest activities. Here, GEF support can play an even more pioneering role in reducing the barriers of translating national level policies and regulations into action on-the-ground. A third example is the carbon monitoring system, which is also evolving at the national level, but will require significant improvements in terms of practical and location-specific implementation guidelines in order to ensure effective and reliable implement at the local level. The GEF project intends to use all three of these instruments for achieving its objectives (for a detailed description of the instruments and their prominent role within the overall project strategy see section 2.1). A first and crucial step will therefore be the removal of implementation obstacles through the strengthening of operational guidance.

**Barrier #2: Inadequate knowledge in many local administrations and communities about how to effectively apply SFM practices in a practical and beneficial way.**

The general awareness that forest practices can and should be approved is certainly growing not only at the national, but perhaps even more importantly at the provincial and local levels of government as well as society. Turning this dynamic into tangible GEB creation is the central aim of this project. Removing barrier #1 by improving implementation guidance for major regulatory instruments will be an important first step, but will leave local communities with an even more significant second barrier: practical knowledge. The lack of experience in actually selecting, designing and implementing a set of SFM practices that address the specific local challenges and are effective under particular local conditions at the county and/or forest farm level represents the most significant barrier to SFM mainstreaming in China. The barrier of inadequate knowledge about innovative forest management practices that aim to maximize forest ecosystem services and GEBs while at the same creating local benefits to forest owners and managers can only be removed by supporting a coherent and well-rounded combination of demonstration and education, including investments in practical implementation of new practices accompanied by directly linked training and capacity development efforts that will create understanding and ownership for sustainable silvicultural principles and practices at the local level. By providing incremental investments for this targeted combination of demonstration and education, the GEF project will make a crucial contribution to removing this barrier, first in the project areas and then, through roll-out and scaling-up efforts, across the forest sector in China.

**Barrier #3: Ability to realize the full value of forest environmental benefits at local and global level and to seize opportunities for creating additional sources of income through environmental protection.**

While the general need for increasing the sustainability of forest resources and reducing their vulnerability for rapid degradation from an economic perspective is well developed, the value of creating environmental benefits in terms of biodiversity protection and carbon sequestration is still a relatively new concept in China and needs further strengthening. There is still a gap in local understanding of the critical role of biological diversity for maintaining ecological complexity as an approach towards developing forest resilience as well as local capability to realize the full value of these forest environmental benefits. This represents a barrier especially where practices are to be specifically tailored for the maximization of BD and CCM benefits in the context of productive forest landscapes. Closely linked to the approach described for the removal of barrier #2 (see above), ways to realize the inherent value of BD and CCM at local as well as global levels need to be communicated through training and capacity development activities. At the same time, environmental benefits should be directly linked to related opportunities for creating additional income streams from productive forest areas, for example through forest certification and carbon credits (see section 2).

*c) Incremental/additional reasoning*

The GEF incremental investment builds on and complements the baseline project described under a). Using the large forest investment of the baseline as a launching pad, the GEF funded alternative will address the barriers above, unleashing significant potential for additional GEB creation. By strengthening stakeholder coordination and participatory management of productive forest resources, the GEF project will secure global biodiversity and climate change benefits while simultaneously realizing benefits for local communities. Mainstreaming SFM practices into the larger baseline initiative will enhance biodiversity protection, avoid emissions caused by forest degradation, increase sequestration through enhanced biomass and improve forest productivity creating economic incentives for local forest owners and managers. Under the two described baseline initiatives, China attempts to re-establish and rehabilitate large areas of forests, which currently suffer from degradation and weak resilience in the face of climate extremes, resulting in the loss of carbon and biodiversity. GEF's incremental investment will provide a coherent SFM framework for these efforts, adding expertise on the selection, design and implementation of effective SFM practices and establish mechanisms for the monitoring and certification of the improvement in forest management. It will pilot the creation of additional incentives for SFM adoption such as revenue from carbon credits. The baseline projects and the GEF incremental investment strike a balance between compatibility and complementarity that has proven a crucial success factor for long-term impact of GEF projects in the past.

The objective of the GEF funded alternative is ***to enable local communities in four Chinese provinces to effectively employ incentive-based sustainable forest management (SFM) practices in reforestation and forest restoration activities, enhancing carbon storage and sequestration as well as biodiversity conservation.*** Accordingly, the project's incremental investment will enable the significant forest management baseline to generate global benefits:

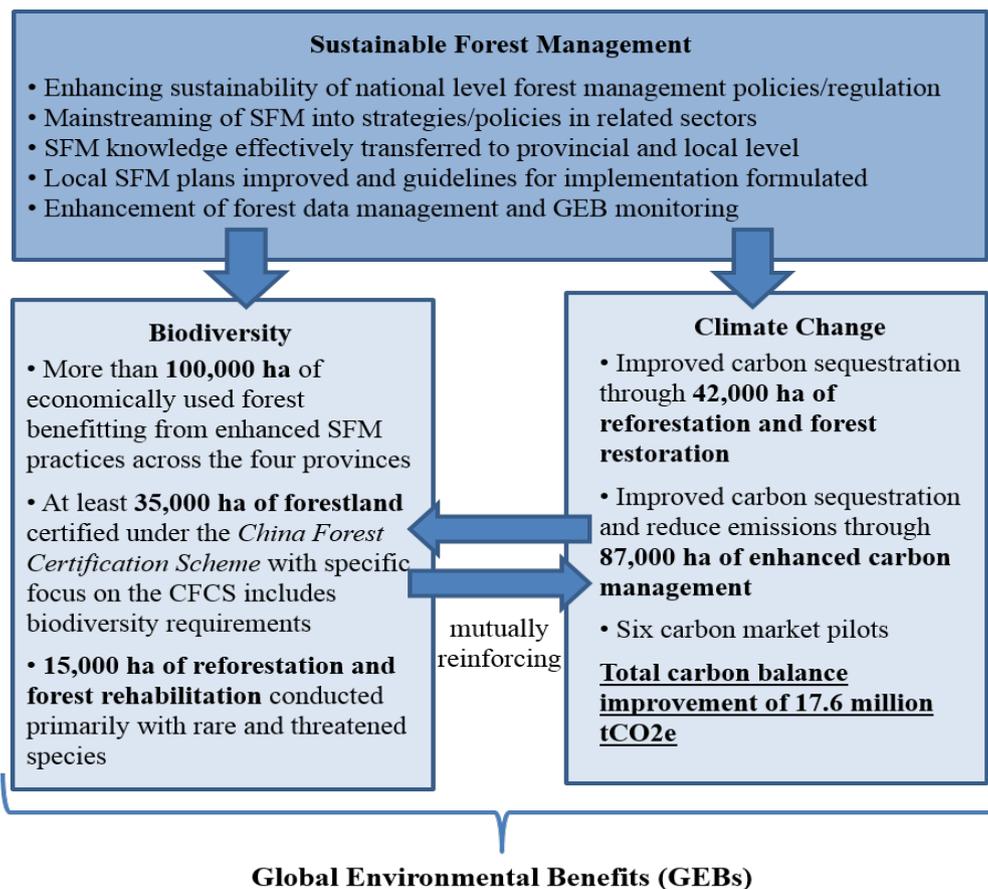


Figure 3: Summary of expected Global Environmental Benefits

### 1.3 FAO's comparative advantages

Promoting and supporting the sustainable management of the world's forests is one of FAO's strategic goals, core responsibilities and main areas of activity. The FAO Forestry Department (FD) is a globally acknowledged lead institution with regards to forest related expertise and information. FAO's *Global Forest Resources Assessment* and *State of the World's Forests* are hallmark publications on global forest issues. The core mandate of the FAO FD is to support member countries to implement SFM by providing policy advice, technical knowledge and reliable information while ensuring that forests and trees contribute to sustainable livelihoods. FAO serves as a neutral forum for policy dialogue, as a reliable source of information on forests and trees and as a provider of expert technical assistance and advice to help countries develop and implement effective national forest programmes. The FAO FD employs about 150 staff including about 10 staff working in the Asia Pacific Region. FAO has a rich and unique experience worldwide designing and implementing projects with country partners to build institutional capacities for forestry, biodiversity and natural resource management and in integrating forest with biodiversity conservation and forest management.

As one of the three partner agencies of the UN-REDD Programme, FAO leads the work stream on National Forest Monitoring Systems and on Monitoring, Reporting and Verification of carbon stocks and GHG emissions from the LULUCF sector (Land Use, Land-Use Change and Forestry). FAO's strong reputation, its capacity to deploy expertise and implement activities in developing countries, as well as its renown technical expertise in the field of forestry, particularly for the assessment and monitoring of forest resources, makes it the most reliable and reputable partner for the development and implementation of national forest monitoring

and MRV systems for REDD+, both at the national and sub-national level. To support REDD+ readiness in developing countries, FAO relies on a team of over 20 experts specialized in each of the essential elements required for NFMS and MRV system development, including national forest inventories, remote sensing technologies, geographic information systems, GHG inventories, as well as IPCC and UNFCCC guidelines. The team currently supports over 40 countries globally in the planning and deployment of NFMS and MRV systems. FAO has also significant experience in CCM and will bring to this project its global knowledge of best practices gained through its numerous technical programmes and field projects in SFM.

In China, FAO has been a trusted partner for many decades on a broad spectrum of issues. The strong working relationship FAO has built with counterparts in China's is an important element of FAO's comparative advantage, as it ensures efficient and effective communications and implementation of activities. FAO can build on the experience of a broad portfolio of projects successfully implemented in China as well as a rapidly growing portfolio of GEF projects in China on a range of environmental issues. FAO is already supporting a range of land management initiatives in China and has assisted development in the forestry sector through the definition of criteria and indicators for sustainable forest management. FAO will be responsible for technical support and overall management and financial supervision of project implementation. The project will be supervised technically by the Senior Forestry Officer based in the Bangkok, working closely with the FAO Country Office in China and with technical support from forest officers in FAO Headquarters. The Senior Forestry Officer will be the Lead Technical Officer (LTO) for FAO on this project. The LTO's job will be to ensure adequate technical support for project implementation and to provide technical support throughout preparation and implementation of the project. The project will also be guided and supported by a multidisciplinary Project Task Force that will be established in FAO and the FAO-GEF coordination Unit in the Investment Center Division in FAO headquarter in Rome.

#### **1.4 Participants and other stakeholders**

The primary executing partner for this project is the **State Forestry Administration (SFA)**, representing the national level ministry responsible for setting forest management policy and for overseeing forest management across China. The SFA has established itself as a champion and pioneer on promoting SFM in China and has been the driving force behind much of the positive political dynamic described in previous sections. It also served as the lead institution in formulating the CFCS as well as the SFM methodology for creating tradable carbon credits, which will both be crucial instruments to achieve the project's objectives. Overall responsibility for this project lies with the **SFA's World Bank Project Management Center (WBPMC)**, which started as the implementation unit for WB loans and has since established itself as SFA's specialized department for the management of international projects in collaboration with international agencies.

The respective **specialized SFA departments** for forest certification and carbon markets will provide crucial expertise throughout project implementation. Especially, the **National Forestry Carbon Sequestration Accounting and Monitoring Center (NFCSA)** under the SFA's Academy of Forestry Inventory and Planning will be an important project partner elaborating and implementing the project's work to strengthen carbon inventory and monitoring at the local and provincial levels in China. Through its specialized departments, SFA will implement a spectrum of project activities that reach across the four project provinces (under component 1 and 3) as well as oversee and guide the provincial and local level investments (under component 2).

In doing so, SFA will liaise closely with the second group of main project partners, the **Provincial Forest Departments (PFD)**. The PFDs of Henan, Guangxi, Hainan Dao, and Fujian are responsible for effective forest management in their province and for executing national policy at the provincial and local levels. They will be the main recipient of strengthened implementation guidance formulated under component 1. The PFDs have significant experience in the implementation of international projects and collaboration with international agencies (UN agencies and development banks). During project preparation, they demonstrated high capacity for effective project implementation and will therefore be of crucial importance for supporting the county governments, forest farm administrations and local farmers with the execution of project activities.

The PFDs collaborate directly with their counterparts at the county level, the county governments' **County Forest Bureaus**. The county government play an extremely important role within the implementation framework for this project. They carry the main responsibility for organizing and coordinating on-the-ground implementation of activities. They have long-standing working relationships with local communities and local contractors that are responsible for carrying out forest management activities. They will therefore supervise the correct application of SFM practices applied by local communities at the project area level.

The ultimate implementer of project activities are **farmers living in local communities** in around the project areas. Following central government policies (see section 2), local stakeholders have increasingly taken over responsibilities for forest management, either as land use right owners or as contractors to the county government fulfilling forest management tasks on state owned forest farms. The selected project areas represent a balanced mix between both management systems. The farmers, as individuals or through farmers associations (FAs), or in some cases small local enterprises will be responsible for the actual application of SFM practices on the ground. Their training and development of their capacity, knowledge and awareness represents the very core of this project.

<b>Stakeholder Institution</b>	<b>Relevant roles/responsibilities related to project implementation</b>
State Forestry Administration (SFA)	Responsible for setting forest management policy and for overseeing forest management across China. Will be the primary executing partner of FAO for this project.
SFA World Bank Project Management Center (WBPMC)	Overall responsible department for this project. SFA's specialized department for the management of international projects in collaboration with international agencies.
National Forestry Carbon Sequestration Accounting and Monitoring Center (NFCSA)	Located in SFA's Academy of Forestry Inventory and Planning, the NFCSA will be a key partner elaborating and implementing the project's work to strengthen carbon inventory and monitoring at the local and provincial levels in China.
Provincial Forest Departments (PFD)	PFD in the project's pilot provinces of Henan, Guangxi, Hainan Dao, and Fujian are responsible for effective forest management in their province and for executing national policy at the provincial and local levels. They will be key project counterparts as liaison to local stakeholders during project implementation.
County Forest Bureaus	County governments and their forest bureaus play a critical role in the on-the-ground guidance and supervision of project activities as

	they operate with local communities and forest management user groups on a daily basis.
Local communities	Under central government policy, forest land use rights and management responsibilities are increasingly being handed over to farmers across China. Farmers, together with County and Provincial Forest departments, are the main target beneficiaries of this project.
Civil Society Organizations (CSO)	The project will collaborate with CSOs such as the World Wildlife Fund (WWF) and The Nature Conservancy (TNC) on innovative and cutting edge work: with WWF cooperation will relate to High Value Conservation Forest Assessments with respect to the project's work on Forest Certification; with TNC on how the emerging compulsory (as well as the voluntary) carbon market can be effectively applied to productive forest areas. The Central Government has recognized both TNC and WWF contributions to environmental work in China.

*Table 8: Roles and responsibilities of stakeholder institutions*

## **1.5 Links to national development goals, strategies, plans, policy and legislation, GEF/LDCF/SCCF and FAO's Strategic Objectives**

### *a) Alignment national development goals and policies*

As mentioned in previous sections, the project will be embedded into a highly conducive political context based on the exact alignment with top priority national development goals and policies. The project will leverage this alignment to significantly increase the project's impact and sustainability in the long run, improving replication and scaling-up prospects. At the most overarching level, the fundamental recalibration of China's economic growth model towards structures that are not one-sidedly driven by maximizing GDP growth, but take the long-term economic viability and ecologic sustainability into account, has started as early as with the 10th Five Year Plan (2001-2005). In face of intensifying environmental pressures and a looming environmental crisis with potentially severe consequences, the principles of environmental sustainability turned into an explicit and prominent feature with the 11th Five Year Guidelines (2006-2010) and have now been mainstreamed into most policies and sectors through the 12th Five Year Guidelines (2011-2015) and the multitude of connected development plans at national, provincial and local level. The development dynamic in China's forestry sector is firmly embedded into this overarching recalibration towards a higher priority of long-term sustainability. The project directly supports the key forestry and climate change mitigation objectives put forth as the *Energy and Climate Goals of China's 12th FYP*, including enlarging forest areas by 12.5 million hectares and forest stock volume by 600 million m<sup>3</sup> by 2015.

In addition, the specific Global Environmental benefits to be obtained through this project are also rooted in national strategies and policies, giving the concrete project activities additional momentum. In June 2007, the PRC announced its hallmark National Climate Change Programme (NCCP), which provides the long-term national strategy on climate change including reduction of greenhouse gas emissions and enhancing capacity to adapt to climate change. The forestry sector, including carbon sink improvement as well as enhanced carbon sequestration, is a prominent feature of the NCCP.

Furthermore, China's 12th FYP for Forestry Development emphasizes climate change mitigation and carbon storage and thereby closely relates to the national "Forestry Action Plan to Address Climate Change." The project directly aligns with key elements of this action plan and is particularly relevant to "Action 6: Expand area of closing off mountains for natural regeneration and scientifically reform single species plantations" under the plan's Key Area #3, Sustainable Forest Management. This baseline priority is what underlines the GEF investment. Action 6 talks of using natural regeneration in some areas to restore forests by simply fencing off the forestland that is degraded. For farmer household managed forest lands, this will require participatory planning and improved short-term and long-term benefit planning. Action 6 also prioritizes the ecological rehabilitation/transformation of mono-culture plantations into more diverse assemblages of forest types and habitats. How to catalyse natural regeneration of some areas and reform of single species plantations at the farmer household level using new kinds of tools forms the basis for this GEF incremental investment.

*b) Alignment with NAPA, NAPs, NBSAP, NIPs, NAMA*

Regarding biodiversity goals, the National Biodiversity Strategic Action Plan (NBSAP) for China was approved and commenced in 1994/95. It was revised in 2010 designating 35 priority conservation areas covering 23% of the country. The revised NBSAP for the period 2010-2030 comprises eight strategic tasks, 29 actions and 11 safeguarding measures. It aims to increase the area of biodiversity conservation of China from 15% to 18% by 2020. It is a comprehensive plan and includes "a review of the present status of biodiversity in China" (chapter 2), "gap analysis and identification of future conservation priorities" (chapter 3), a "national biodiversity strategy" (chapter 4), a "national biodiversity action plan" (chapter 5) and "measures to ensure compliance with implementation of the national biodiversity action plan and strategy" (chapter 6). The GEF project is closely aligned with the NBSAP. Specifically, the expected outcome of the proposed project of mainstreaming sustainable and participatory biodiversity conservation into forest management systems at the national, provincial and local level are consistent with "Priority Domain 2" of China's NBSAP: "To incorporate biodiversity conservation into sectorial plans and promote sustainable use."

In terms of climate change mitigation, China ratified the United Nations Framework Convention on Climate Change in August 2002 and it entered into force in February 2005. China's National Climate Change Programme (NCCP) announced in 2007 provides strong, long-term policy support for sustainable natural resources management, including in forestry. The strategic goal for responding to climate change is to control GHG emissions, to enhance the capability for continuous adaptation to climate change, to promote climate-change related research and technology, to raise public awareness on climate change issues and to strengthen institutional arrangements concerning climate change. In addition, the NCCP proposes increased international cooperation, specifically for capacity building.

The project will support China's policies and actions to mitigate climate change through the forestry sector, as stipulated in the Second National Communication on Climate Change submitted to UNFCCC on 8 November 2012. The Part IV, Chapter 5: Stabilization and Increase of Forest Carbon Sink of the second national communication specifically refers to the actions to be taken in the forestry sector during China's Twelfth Five-Year Plan (12th FYP: 2011-2015). In addition, the project will contribute, through piloting the community-based forest carbon monitoring, to the development of a nationally appropriate mitigation actions (NAMAs) and corresponding MRV capacity, including forest carbon sink monitoring and accounting, which China is obliged to consider under the Bali Action Plan.

*c) Alignment with GEF focal area and/or LDCF/SCCF strategies*

The project is consistent with the GEF-5 Focal Area Strategies for Climate Change Mitigation (CCM) and Biodiversity (BD) as well as with the strategy for the Sustainable Forest Management/REDD incentive mechanism.

It is aligned with CCM-5 (Promotion of conservation and enhancement of carbon stocks through sustainable management of land use, land-use change and forestry) and entails numerous activities from demonstration to capacity development to achieve improved carbon sequestration and storage outcomes through expanded afforestation and improved long-term forest management. Innovative features include use of carbon market methodologies in the forestry sector, afforestation efforts using long-rotation rare and endangered high-value indigenous tree species, and others.

The project is also aligned with BD-2 (Mainstream biodiversity conservation and sustainable use into production landscapes/ seascapes and sectors) as it strengthens policy and regulatory frameworks that delegate responsibilities for production forest management to local communities and create incentives for sustainable forest use and the progressive formation of more species diverse and healthy forest ecosystems. It will enlarge institutional capacity and the knowledge base at national, provincial and local levels to support local user groups and ensure sustainable management of forest resources by incorporating biodiversity valuation in SFM plans for production forests and produce biodiversity-friendly management and harvesting.

The project will contribute to the objectives of SFM/REDD-1 (Reduce pressures on forest resources and generate sustainable flows of forest ecosystem services) by strengthening the enabling environment within the forestry sector and across sectors and by introducing good management practices promoting sustainable forest management, avoiding deforestation and will contributing to ecological and social sustainability. It will scale-up innovative and proven participatory forest management practices which enjoy the support of local communities and will lead to improvements in multi-species forest management in project provinces.

*d) Alignment with FAO Strategic Framework and Objectives*

The GEF project aligns closely with FAO's revised Strategic Framework and corresponds fully with *Strategic Objective 2: Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner*. Following the FAO mandate to contribute to increased and improved provision of goods and services from the forestry sector, the project supports the achievement of all four of the defined organizational outcomes under SO2, specifically:

- adoption of sustainable practices by producers and natural resource managers in China's forestry sector;
- strengthening of China's governance system at the national, provincial and local level facilitating the transition towards sustainable agricultural sector (including forestry) production systems;
- implementation of internationally recognized mechanisms, e.g. through the mainstreaming of SFM best practices and the application of the internationally acknowledged CFCS certification standard;
- design and implementation of evidence-based decision-making in China's forestry sector, e.g. through the establishment of reliable carbon accounting and monitoring systems.

The FAO Strategic Framework identifies forests as a “key to soil and water protection and to mitigate potential climate change.” The importance of these forest ecosystem services are particularly pronounced in China as has been illustrated in the previous sections. Still, the FAO Strategic Framework warns that “deforestation and forest degradation remain major problems.” Tackling these problems is a core organizational mandate of FAO. It is also the essence of this GEF project, reflecting the project’s close alignment with and significant contribution to the achievement of SO2.

In addition, the project also aligns closely with the regional priority areas for Asia, namely “enhancing equitable, productive and sustainable natural resource management and utilization” as well as “coping with the impact of climate change on agriculture and food and nutritional security”. Finally, the project is also reflective of the FAO Country Programming Framework for China. Under *CPF Priority Area 4: Promoting sustainable agro-ecological development and agricultural heritage conservation and utilization*, the China CPF lists *Outcome 4.1: enhanced sustainable agro-ecological development programmes, technologies and practices*, directly corresponding to the objectives and activities envisioned for the GEF project.

## SECTION 2 – PROJECT FRAMEWORK AND EXPECTED RESULTS

### 2.1 Project strategy

The project will achieve its objective and catalyse long-term impact well beyond the original scope of the project itself through the close interaction of three different components. The components are designed to remove the barriers to SFM mainstreaming in China described in section 1.1.1:

- a) **Barrier #1:** Inadequate framework and guidance for the effective implementation of the evolving regulatory framework promoting sustainable forest management, biodiversity mainstreaming and carbon emission reductions in China's forests.
- b) **Barrier #2:** Inadequate knowledge in many local administrations and communities about how to effectively apply SFM practices in a practical and beneficial way.
- c) **Barrier #3:** Ability to realize the full value of forest environmental benefits at local and global level and to seize opportunities for creating additional sources of income through environmental protection.

#### **COMPONENT 1: Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local level, creating a basis for enhanced biodiversity conservation and carbon sequestration.**

Component 1 will tackle barrier #1 by improving the framework and guidance for SFM implementation, building on the existing regulatory basis already established at the national level. Overarching SFM plans and further specialized management plans addressing the most pressing local challenges will close the existing gap between national policy goals and local implementation capability. The local level implementation planning will include practical guidance on using forest certification (CFCS) and carbon markets as instruments promoting and incentivizing SFM adoption. Accordingly, carbon as well as biodiversity monitoring systems as necessary prerequisites for effective SFM implementation will be established at local level under component 1.

#### **COMPONENT 2: Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.**

Component 2 addresses barrier #2 by investing in the application of SFM practices, enhancing carbon storage and certifying biodiversity conservation, in the project areas. Thereby, the project will demonstrate the feasibility and effectiveness of a location-specific set of practices (detailed description in section 2.4), creating knowledge and ownership for these practices among local governments and communities, and thereby preparing the ground for broader adoption of SFM principles and methods within and beyond the confines of the baseline project. The requirements for achieving CFCS certification as well as the methodology for creating carbon credits from SFM serve as the blueprint for the selection of activities, ensuring full verification of compliance.

#### **COMPONENT 3: Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.**

Component 3 will help to remove barrier #3 by provision of targeted training and capacity development on SFM responsive to specific local conditions, needs and challenges. It will enhance needed capacity among local governments and farmers necessary to implement CCM

as well as BD activities effectively. At the same time, component 3 will entail efforts to raise awareness for the real value of ecosystem services and for opportunities to create additional sources of income through environmental protection, for example through carbon credits or forest certification. Knowledge created through the project will be collected and disseminated to inform the replication and scaling-up of activities beyond the project duration.

Each of the three components will comprise **specific activities targeting the creation of CCM and BD benefits**. In parallel, the mainstreaming of SFM as a holistic concept will guide the creation of an overall framework for project activities. The implementation of SFM thereby underlies and supports both CCM and BD activities. The combination of barrier specific components and GEB specific activities under each component result in a matrix structure that depicts the overall strategy of this project:

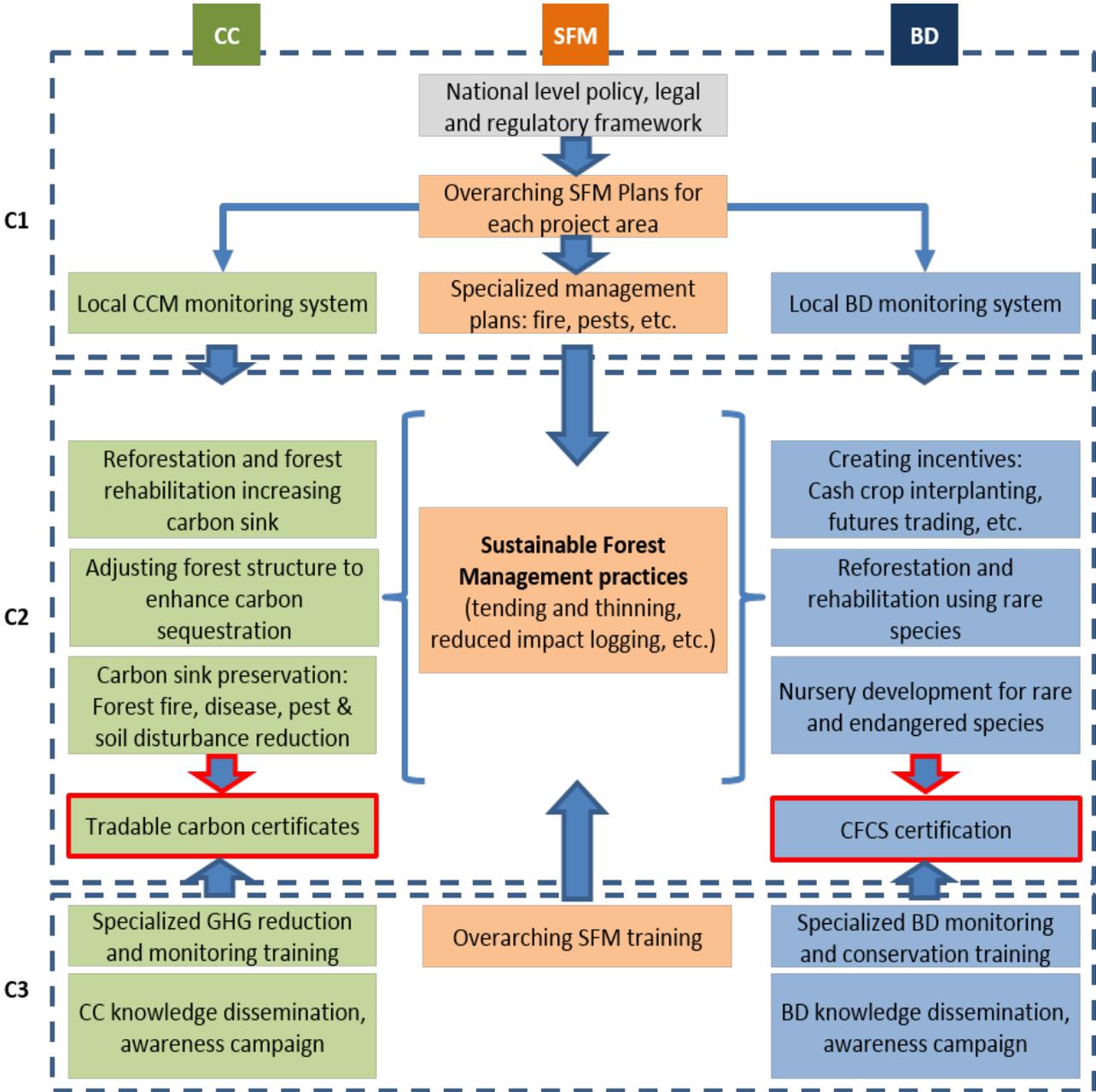


Figure 4: Overall Project Strategy – Matrix structure of components and GEF focal areas

## Leveraging four current developments

The project overall project strategy will make particular use of four current dynamics in China's forestry sector, which will be leveraged by the project activities to successfully produce the expected project outcomes. The four dynamics, constituting the "political undercurrent" of the project, are:

- (1) **Decentralization of forest management structures:** Since the 1990s, through fundamental revisions of the legal framework, China has undergone a far-reaching reform of land use rights and management of forest resources, arguably the largest undertaken in modern times anywhere both in terms of area and the number of people affected. Forest land use reforms have been applied to approximately 100 million ha that is home to more than 400 million people and is widely promoted by the Government as a step towards private household property, part of the broader social and political trend aiming for the de-collectivization of China's rural landscape and the establishment of free markets. In consequence, management structures of China's forest areas has been changing dramatically in recent years, moving from a centralized system to an increasing responsibility of local communities for the management of forest areas. For example in the five years between the 6th NFI and the 7th NFI, ownership patterns changed dramatically: the number of ha of forestlands under private ownership (individual households and corporations) nearly doubled from 34 to 62 million. Collective-owned forest lands decreased from 68 to 57 million ha and State-owned forest lands remained largely unchanged.

Beyond the formal change in ownership structures, here is a clear trend towards the decentralization and diversification of forest management. Forestry programme operations are decentralized to provinces and counties. The larger plantations are sometimes county-owned forest farms that enjoy considerable managerial autonomy, others are managed individually as local village-based management units. Local communities as forest management stakeholders are being given a higher degree of responsibility for forest management also in the state-owned forest lands, often through contracting of forest management services from the county-level forestry departments to local communities, farmer associations and/or small private enterprises. Significant private investments are being made in fast-growing short rotation plantations on land held by farmers owning the management rights. This policy shift is now central to forest development planning and investment considerations in the forestry sector and is a significant basis for improving the socio-economic situation of rural communities, especially forest communities. Pilot trials of this new approach to forest harvest management commenced in 2008 in 193 counties in 24 provinces.

The GEF project will use this change to increase the effectiveness and efficiency of its planned activities by putting a strong focus on the growing, diversifying groups of new forest stakeholders, owners and managers. The mix of incentive mechanisms to be employed by the project will create tangible benefits for local communities, increasing their stake in the long-term adoption of SFM practices and creation of GEBs.

- (2) **Emergence of a strong forest certification mechanism:** Forest certification as an incentive-based mechanism to promote certain forestry practices has been continuously strengthened in China in recent years. Looking to develop a forest certification scheme with Chinese characteristics the design of its own national certification scheme started as early as 2001. This development has now culminated in the establishment of the China Forest Certification Scheme (CFCS) representing a very powerful tool to facilitate

SFM practices. In March 2014, CFCS achieved recognition by the Geneva-based Programme for the Endorsement of Forest Certification Schemes (PEFC) after demonstrating compliance with PEFC's globally recognized Sustainability Benchmarks.

The CFC Council oversees the CFCs program. Its Working Group on Standard Setting is in charge of formulating CFCS's certification standards. The standards must go through field trials, expert and public consultations and expert approval before official publication. 11. Multiple forest certification standards will be elaborated under the CFCS, including: forest management (FM) certification and chain-of-custody (CoC) certification, carbon sink forest certification, non-timber wood product certification, certification of forest ecosystem services. The FM and CoC certification standards have already been promulgated, while the formulation of the other standards is ongoing.

CFCS's FM Certification Standard (FMCS) includes 9 general principles, 45 criteria and 118 indicators. The FM Standard prescribes the principles, criteria and indicators that shall be followed by the certification of sustainable forest management and the performance requirements that forest management unit shall realize in order to achieve sustainable forest management. In 2009, the first third party independent certifier was established and in 2011, more than 3.4 million hectares of forests in NE China were certified under the CFCS.

#### **FMCS general principles for certification of SFM**

- 1: Comply with national legal framework
- 2: Clearly defined forest tenure/use rights
- 3: Recognition and respect for local community and laborer's rights
- 4: Scientific forest management plan necessary
- 5: Apply silviculture practices to support SFM
- 6: Forest management shall conserve and improve biodiversity
- 7: Minimize environmental impacts & emphasize ecosystem services
- 8: Protect forest from fire, pests and disease
- 9: Forest monitoring is important to inform good management

Of particular importance for the GEF project is the comprehensive set of principles, criteria and indicators the FMCS prescribes for improving the quality of biodiversity protection in forest areas seeking certification. The CFCS provides not only a concrete, step-by-step guideline for activities promoting SFM and biodiversity protection, but also an instrument for the verification of biodiversity protection that adheres to international standards and has obtained international recognition. The project will make extensive use of this new instrument by channelling GEF incremental investment into supporting the different changes and improvements necessary for obtaining CFCS status. Successful certification of forest areas that are currently far from certifiable will serve as a central measuring stick for this project's effectiveness and results.

- (3) **Creation of a comprehensive forest inventory and carbon monitoring system:** A functioning forest inventory system and technology-supported monitoring system for changes in forest carbon stocks, carbon flux and sequestration ability represents a prerequisite for measurable climate change mitigation activities in the forest sector. In

some provinces, corresponding forest inventory systems have been established in recent years. Existing systems, like the one being operated in Fujian Province, are more advanced than others. Overall, most systems are advancing steadily, but are still in their development and testing phase. Furthermore, a centralized inventory system at the national level was missing. To fill this gap and provide the basis for measurable carbon related activities, the SFA set up the National Forestry Carbon Sequestration Accounting and Monitoring Center (NFCSA) in 2010 under the Academy of Forestry Inventory and Planning to aggregate forest inventory data at the national level and provide assistance for the further development, improvement and consolidation of the provincial level efforts.

The NFCSA works through a network of national level institutions such as Chinese Academy of Forestry Science to elaborate the monitoring methodology and to gather and analyse national-level baseline data on forest carbon stock and carbon flux. Currently carbon monitoring beyond forest inventory is still primarily a national level activity with little local level monitoring methodologies developed. Ultimately four regional carbon monitoring centres will operate in the northwest, central south, east and southwest of China in the corresponding regional institutions of forestry survey, planning and design. GEF incremental funds will enable the four pilot provinces, in close collaboration with NFCSA and the emerging regional monitoring centres, to develop and pilot local-level carbon monitoring methodology. The project will focus on enabling local stakeholders to begin C monitoring (sequestration and avoided emissions) to complement the national, large-scale approach of the NFCSA.

- (4) **Establishment of a national carbon market:** China is currently in the process of establishing a national level compulsory carbon trading scheme. The plans for creating a national scheme were announced in 2008 and experimentation in pilot provinces has since been ongoing. The nation-wide roll-out is planned for 2015 and while experts expect a certain delay in the full-fledged application of the scheme at the national level, approved methodologies will already be employable. Once established at the national level, the Chinese national carbon trading scheme will in size be only second to the European ETS.

In 2013, three methodologies for the creation of China's Certified Emission Reduction (CCER) through forest activities were developed under leadership of the SFA and in collaboration with The Nature Conservancy that had already played a pioneering role in the development of forest methodologies under the voluntary carbon market "Panda Standard" (see Box 5). The three methodologies, which have recently obtained approval by the National Development and Reform Commission (NDRC) and are therefore employable in the field, include one methodology for afforestation, one for bamboo forest carbon sinks (modelled after the corresponding Panda Standard methodology already piloted in Yunnan provinces, and ultimately a methodology for carbon benefits from Sustainable Forest Management. This last methodology, granting CCERs for compliance with the fundamental principles and practices of SFM, provides the GEF project with a highly suitable incentive instrument, creating an additional revenue stream for forest stakeholders rewarding the types of practices already promoted by the project.

The decision to include the possibility for creating carbon credits from forestry activities at an early stage of the trading scheme's development opens a unique opportunity for the GEF project. Part of the GEF incremental investment will support truly pioneering work in the application of a carbon market methodology that has never been implemented before, thereby making a powerful contribution to the success of the Chinese

carbon market in general and the effective inclusion of forest carbon credits into the trading scheme in particular.

### **Compliance market and Voluntary Carbon Market (“Panda Standard”)**

The Project Identification Form (PIF), based on the situation as it presented itself during PIF preparation, identifies the Voluntary Carbon Market and especially the emerging voluntary Panda Standard as the central mechanism for creating tradable carbon certificates from forest activities. Since then, however, the national compulsory carbon market has developed much more rapidly than expected, diminishing the importance of the voluntary market. Especially the explicit inclusion of carbon credits from forest activities at this early stage of the national carbon market was not to be expected. This development opens an even more pronounced opportunity for the GEF project to use the carbon market as a powerful instrument to create revenue streams for SFM practices with positive effects on the forests carbon balance. In consequence, the project shifted its focus from the voluntary to compulsory carbon market.

Nevertheless, where suitable, a combination with obtaining carbon certificates tradable on the voluntary carbon market (using the Panda Standard’s methodology “Improving Low Value Forests”) is possible and could prove a valuable supplement to carbon certificates under the national scheme. In fact, the emergence of the forest methodologies under the national compulsory carbon market are closely tied to the formulation of the corresponding Panda Standard methodologies with overlapping groups of experts working on both. Accordingly, the methodologies in both markets are very similar in their requirements which therefore can be achieved in parallel.

The coinciding emergence of the four developments outlined above is a testament to the fundamental but vulnerable change in China’s approach to productive forest landscapes. It marks a crucial point in time: a window of opportunity has opened to introduce SFM as a fundamental basis for China’s forestry sector. Enabling this SFM transformation is the strategic goal of the GEF incremental investment. In order to safeguard existing and create additional creation of GEBs from China’s forests, turning the story from “quantity *over* quality” into “quantity *with* quality” and helping China further shift forest management in the direction of ecosystem-based SFM, promises a highly effective use of GEF incremental support.

## **2.2 Project objective**

The overall project objective is to enable local communities in four Chinese provinces to effectively employ incentive-based sustainable forest management (SFM) practices in reforestation and forest restoration activities, enhancing carbon storage and sequestration as well as biodiversity conservation.

## **2.3 Expected project outcomes**

Following the structure of the GEF Project Framework, the description of expected outcomes will be included in the following section 2.4, linked to specific project components and outputs.

## **2.4 Project components, expected outcomes and outputs**

The following section will provide a detailed description of the overarching project framework already described in section 2.1. The **Component-Activity-Matrix** illustrated in figure

1 (page 26) provides an initial orientation regarding the project framework, as it shows the interconnectedness of the three components (C1-C3) as well as the broader categories of activities under each component distinguishing between GEF Focal Area (BD, CCM, and SFM incentive mechanism). This general picture will now be further differentiated and broken down to the provincial level.

**Project site selection**

Pilot province and project site selection is based on in-depth project site analysis conducted by international and national experts in the field. Project site selection resulted from a comprehensive deliberation and information gathering process that included all project stakeholders from the national all the way to the local community level. The process took input from all stakeholders into full account before arriving at the final set of project sites. From a technical perspective, project site selection was oriented towards fulfilling a list of objective criteria, including:

- a. **Maximize the potential for Global Environmental Benefit (GEB) creation:** The primary criterion for project site selection is the potential to achieve GEBs. Sites need to be selected that are especially suitable for improvements in forest management, biodiversity conservation, and/or improved carbon sequestration, maximizing GEB creation.
- b. **Balance types of GEBs and corresponding activities across the three provinces:** The overall project aims to achieve a balanced mix between different activities across all four provinces. This balance should reflect the envisioned distribution of funding between different Global Environmental Benefits. The PIF provides an indicative total amount of forestlands across all three provinces to be improved in terms of biodiversity (40,000 ha) and climate change (40,000 ha). Activities for biodiversity and climate change can be combined within one project site. There can also be project sites that have only biodiversity activities or only climate change activities:

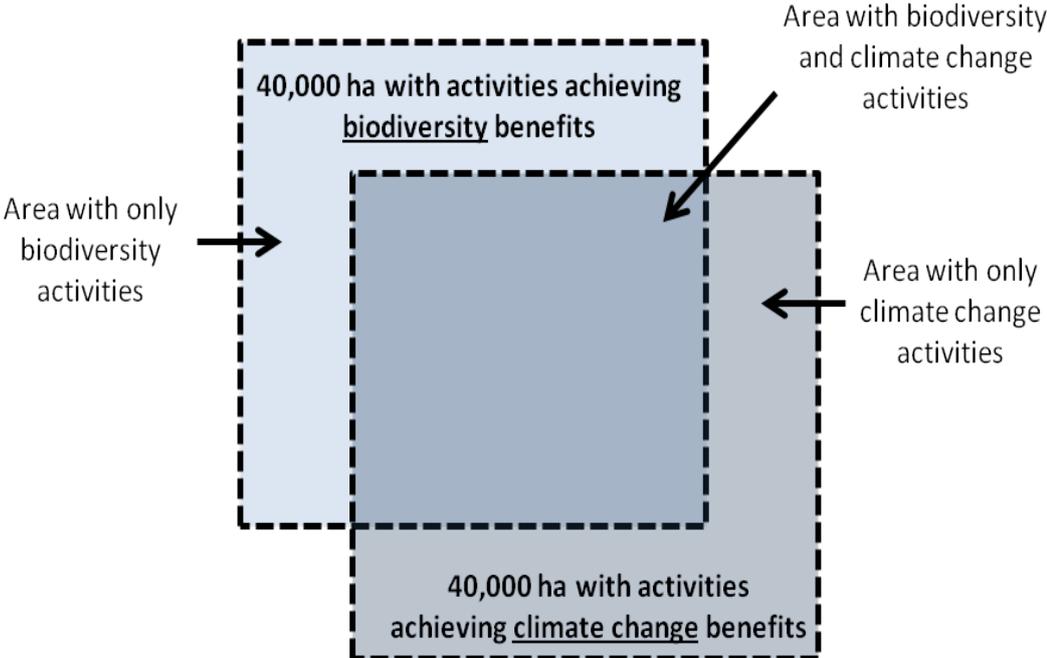


Figure 5: Example for area distribution between climate change and biodiversity activities

- c. **Ensure alignment with baseline investment:** GEF project activities need to leverage, complement and improve existing and on-going investment activities. For this project, GEF activities will be primarily linked to sustainable forest management investment that is happening in the context of the two baseline activities: the *European Investment Bank-Government of China (EIB-GOC) Forestry Framework Loan* and the *National Strategic Timber Reserve Programme (NSTRP)*. In consequence, GEF project sites should overlap with project areas of one or both baseline projects to maximize the leverage effect:

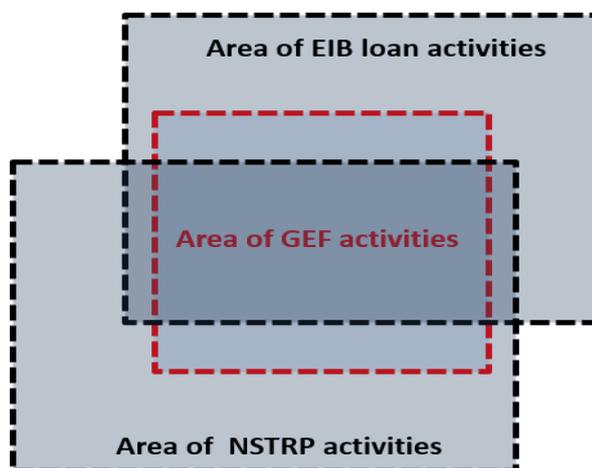


Figure 6: Example for area distribution maximizing alignment with baseline investment

- d. **Avoid resource use duplication:** Under no circumstances GEF resources can support activities that already receive or have received GEF resources. It can also not support the same activities that are already funded through other international or domestic sources. GEF resources need to be used for additional activities, financing the “increment” needed to leverage and improve existing investments thereby increasing the creation of GEBs. The duplication of funding needs to be very carefully avoided.

Based on the strict application of these criteria, the comprehensive analysis of national and provincial level consultants and active participation of local governments and communities, the project areas have been selected as follows:

<p style="text-align: center;"><b>Henan Province</b></p> <p>a. Huangbaishan Forest Farm b. Nanwan Forest Farm c. Minquan Forest Farm d. Xinxian County Forest e. Dengfeng County Forest</p>	<p style="text-align: center;"><b>Guangxi Autonomous Region</b></p> <p>a. Yachang Forest Farm b. Tianli County Forest c. Xing’an County Forest d. Shankou Forest Farm</p>
<p style="text-align: center;"><b>Hainan Dao Province</b></p> <p>a. Dongfang County Forest</p>	<p style="text-align: center;"><b>Fujian Province</b></p> <p>a. Yangkou Forest Farm b. Datian County Forest c. Minhou Baisha Forest Farm d. Shaowu Weiming Forest Farm e. Jiangle Forest Farm f. Shunchang Forest Farm</p>

Depending on the respective potentials for GEB creation, balanced with local needs and priorities of local stakeholders, the set of activities under the project’s three components will be implemented across the different project sites. In each case, activities will be tailored to the respective locations conditions.

**Components, Outcomes, Outputs**

**Component 1: Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local level, creating a basis for enhanced biodiversity conservation and carbon sequestration.**



Figure 7: Component 1 within the Overall Project Strategy (see page 26)

Component 1 will build on the existing policy and regulatory framework on forest management that has been established at the national level with SFA acting as the lead institution. The policy framework (described in previous sections) provides a solid framework of general principles and goals on SFM. The fine-tuning of this framework at the national level will be one expected outcome to be achieved by the project under component 1.

The main objective to be achieved by this component is, however, the translation of national level policies to local implementation through implementation guidelines including practical guidelines for the application of new instruments like CFCS and carbon market methodologies at local level. These implementation guidelines aimed at the provincial and local level will be operationalized through an overall local SFM plan for each project county and forest farm included in the project. These SFM plans should be amended where necessary by specific provisions on pronounced threats and challenges for the specific location, e.g. forest fire management plans where forest fires have proven to be of major concern.

This cascade of implementation guidance from the abstract principles at the national level to the concrete measures at the highly localized level represent an important gap in the current forest governance framework in China. Corresponding guidelines are, however, not fully absent in all parts of the country. Therefore, the project will amend and improve (or, if necessary, replace) the existing documents and incorporate the newest knowledge and experience

on SFM. It will support the drafting of new plans and guidelines where none exist as of yet. Along the same line of argument, the project under component 1 will also assist the translation of national level monitoring structures for carbon stock and flows to the local level, establishing local carbon monitoring systems and capacity that will be a prerequisite for measurable and verifiable achievement of climate change mitigation benefits. In parallel, biodiversity monitoring systems will be established or improved where they already exist. In conclusion, the described tasks to be addressed under component 1 translate into the following expected outcomes and related outputs:

**Outcome 1.1: Improved implementation framework translating the SFM principles and goals embodied in national policies into tangible choices and priorities for on-the-ground SFM activities.**

**Outputs for 1.1:**

*1.1.1 National and provincial level implementation guidelines facilitating implementation of existing SFM policies, legal provisions and standards.*

*1.1.2 Incorporation of implementation guidance on the biodiversity standards for certification (China Forest Certification Scheme, CFCS).*

*1.1.3 Incorporation of implementation guidance on improving forest inventory procedures and MRV for carbon sequestration and GHG emission reductions from forests, land-use and land-use change including the existing methodology for obtaining tradable carbon certificates from enhanced SFM.*

The main responsibility for the formulation of corresponding guidelines lies with SFA in close collaboration and coordination with PFDs to effectively incorporate provincial level conditions, needs and challenges. Guidelines need to include specific provisions for CFCS certification as well as carbon credit creation under the approved SFM methodology.

**Outcome 1.2: Strengthened local level application and coherent planning of SFM practices, including biodiversity conservation and carbon benefit enhancements.**

**Outputs for 1.2:**

*1.2.1 Local SFM plans (following 1.1.1 provisions) for each project area containing a set of modifications in forest regulations, policies and guidelines including:*

*(i) regulations with forest ecosystems / biodiversity criteria, management standards for SFM and enforcement guidelines;*

*(ii) guidelines to facilitate the adoption of key incentives by farmer households for SFM;*

*(iii) specialized management plans for location-specific challenges (fire, diseases, pests, etc.).*

Based on the implementation guidelines, each project location is expected to formulate a coherent and integrative SFM plan addressing local challenges and improving biodiversity conservation as well as carbon storage and sequestration in the particular forest area. Main responsibility for this task lies with the county level forest bureaus under guidance from PFDs and SFA and with close participation of local communities. Indicators for the achievement of this expected outcome are the improved effectiveness of local SFM frameworks (as measured by tracking tool) resulting in improved SFM of more than 100.000 ha of forestland in four project provinces (direct impact).

**Outcome 1.3: Integrated national and local level monitoring systems guide the application of SFM practices, biodiversity conservation and carbon sequestration efforts.**

Outputs for 1.3:

*1.3.1 Development of overarching national level monitoring system for collecting and processing information on SFM activities in the 4 provinces (envisioned for national roll-out)*

*1.3.2 Development of national level framework and action plan for establishment of a forest carbon sequestration and emission reductions monitoring system*

*1.3.3 Design of local level BD monitoring systems integrated with the national level system and following guidance provided under 1.1.2.*

*1.3.4 Design of local level CCM monitoring systems integrated with the national level system and following guidance provided under 1.1.3.*

Many building-blocks, technical procedures and skills for developing a national level SFM monitoring system already exist. The main task under 1.3.1 and 1.3.2 will be to coordinate and integrate existing mechanisms, identify and fill remaining gaps and ensure the integration with the corresponding (currently non-existing) local systems that will be established under 1.3.3 and 1.3.4.

The creation of CCM and BD monitoring systems at the local level will be consummate with the specific needs and expected results for each location. Project locations piloting the SFM carbon credit methodology will for example need to establish a particularly precise and comprehensive carbon monitoring capability. Main responsibility for the implementation of the monitoring systems lies with the county level forest bureaus. However, the design of the monitoring systems will be comprehensively supported by the respective SFA experts, relayed through the PFDs.

Carbon monitoring system will be designed and established in accordance to local conditions, requirements and capacity. Quality of monitoring will be ensured by basing each localized system on a set of internationally recognized principles and best practices. Carbon monitoring system will include the following components:

### Components of Carbon Monitoring systems

- Development of monitoring guidelines and training programme
- Integration of carbon flow monitoring protocols
- Sample-site measurements for soil and litter
- Strengthening of data processing capability (GIS software)
- Enhanced reporting tools: decision-making module, map production
- Selection and implementation of suitable monitoring protocols
  - Field-level ('C-stock field assessment')
  - Remote sensing-based
  - Participatory tools (forest users)
  - Web-based tools for C tracking and data dissemination
  - (Improved enforcement?)
- Strengthening of national-subnational NFMS linkages and data flows
- Integration of C measurement protocols into existing inventory activities at the field level
- Refinement of approaches for C stock field assessment (soil carbon, litter layer, etc.)
- Feedback to improve a robust and transparent national level monitoring system

Biodiversity monitoring will include: a) a broad regional scale monitoring component; b) a diagnostic component to evaluate areas meeting specific status and change criteria; and c) a cyclic-incremental component to evaluate effectiveness of specific management prescriptions in achieving desired conditions in components of biodiversity.

#### **Outcome 1.4: Enhanced national level policy, legal, and regulatory framework based on feedback of project experiences and identified gaps.**

##### Outputs for 1.4:

*1.4.1 Several adjustments to national forest policies, legal provisions and/or regulation directly linked to and informed by experiences gained from project implementation at the local level.*

Throughout project implementation, the experiences made by the project at the project sites is likely to reveal remaining gaps and room for improvements regarding the existing national level framework for forest governance including the National Forest Monitoring System. Therefore, one of the expected outcomes under component 1 is a further improvement and fine-tuning of national level provisions.

**Component 2: Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.**

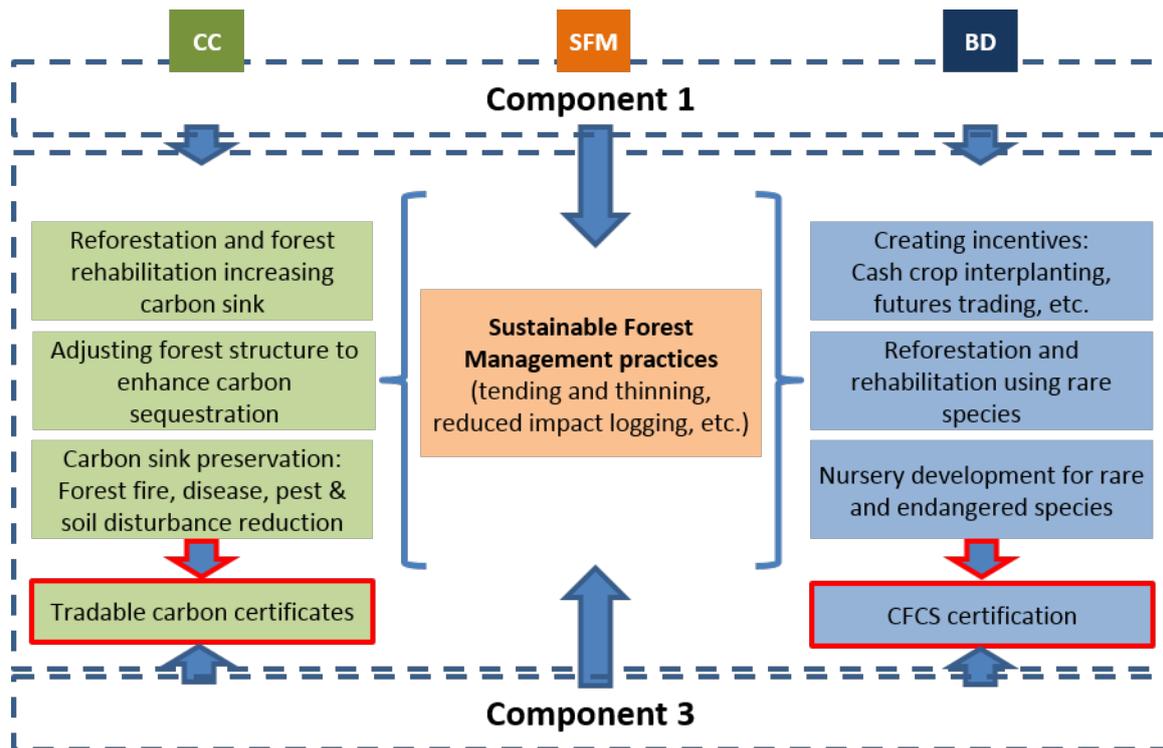


Figure 8: Component 2 within the Overall Project Strategy (see page 26)

Component 2 entails the main part of the GEF incremental investment and will provide support for the actual implementation of SFM practices on the ground. Corresponding to the specific conditions, needs and stakeholder priorities in each of the project areas, the investment will fund implementation of a specific set of SFM activities. The demonstration of feasibility and effectiveness of these practices aims at creating knowledge and ownership among local governments and communities, thereby not only creating direct GEBs, but also preparing the ground for further replication and up-scaling.

In order to connect the overall objective of SFM mainstreaming to the creation of specific GEBs under the GEF’s biodiversity and climate change mitigation focal area, the project will use two different sets of existing requirements as a benchmark

- a) the criteria list for CFCS certification, proving the comprehensive protection of biodiversity (BD Focal Area) in the certified forest areas, and
- b) the criteria list of the official SFM methodology for the creation of carbon credits under the national carbon trading scheme, verifying and confirming the achievement of GHG reductions (CCM Focal Area) through SFM practices.

**Creation of global biodiversity benefits:** The CFCS system has been described in section 2.1 on page 25 and following. It provides a highly suitable blueprint for the implementation of SFM practices while at the same time including strict standards for biodiversity conservation. The project will fully utilize the advantages of this certification system. First, CFCS will serve as a means to measure and verify the project’s achievements according to internationally accepted standards and rules. The additional area of productive forest land certified under CFCS through the support of the project proves the significant improvement in the effectiveness of biodiversity protection in these areas. This also relates directly to the GEF Focal Area for Biodiversity, which defines the main indicator for achievement under objective BD-2 as “Landscapes and seascapes certified by internationally or nationally recognized environmental

standards that incorporate biodiversity considerations.” This requirement will be fully addressed through CFCS certification.

Second, CFCS will also serve as an incentive mechanism rewarding the implementation of biodiversity conservation practices by opening additional revenue streams. The additional revenues for CFCS certified areas can be generated by

- a) an expanded eligibility for receiving public financing for certified forest areas and a corresponding increase of management budgets for these areas;
- b) the ability to export forest products abroad which is tied to passing certification standards;
- c) the opportunity to turn the CFCS certification into a forest product certification that proves the product’s quality and sustainable production and can thereby position these products in higher-price market segments.

The combination of these three mechanisms creates a very significant economic incentive for achieving CFCS certification.

**Creation of global climate change mitigation benefits:** Regardless of the emerging national carbon trading system (see below), the project will create adequate monitoring capability at the local level to measure GHG benefits from carbon stock enhancement and improved carbon sequestration for most project sites. In doing so, the project can rely on the extensive structures and methodologies already established at the national level. These existing mechanisms for forest inventory and carbon monitoring will be translated to local conditions through the project under component 1. The detailed carbon related activities by project site under component 2 are listed below.

These carbon related activities will be complemented by linking the project to the emerging national carbon trading system (described in section 2.1 on page 27 and following). In comparison to CSCF, national carbon trading represents an even more innovative mechanism and, due to its novelty, will be used as a piloting opportunity in the context of this project. Several most suitable pilot project sites will follow the SFM methodology which has been developed by SFA and other partners and approved for application under the national carbon trading scheme by the National Development and Reform Commission (NDRC). By creating carbon credits from SFM practices, these pilot project sites will make a significant contribution to the further development of China’s ambitious national emission trading plans. It will also bolster the inclusion of carbon credits from forestry activities under the scheme.

In parallel to the CFCS, using the SFM carbon methodology will also play a twofold role: first, it will provide a reliable way to measure and verify the project’s achievement in terms of GHG reductions. Second, it will become an incentive mechanism by providing a direct revenue stream from trading carbon credits, benefitting local communities.

The described tasks to be addressed under component 2 translate into the following expected outcomes and related outputs:

**Outcome 2.1: County forestry bureaus and local communities empowered and capacitates to apply a large spectrum of SFM practices selected in accordance with location-specific needs and challenges.**

Outputs for 2.1:

*2.1.1 Strengthened SFM capacity at the local level; more than 100,000 ha of economically used forest benefitting from enhanced SFM practices across the four provinces.*

Local stakeholders will be the main recipient of GEF support under this outcome (as well as component 2 as a whole) and will in return bear the main responsibility for the implementation of corresponding activities. Implementation of practices will be closely accompanied by the knowledge and capacity development as well as information exchange and dissemination activities under component 3, aiming at maximizing local communities understanding of the principles and reasons behind SFM. The selected SFM activities at the project site level have to be fully consistent with the SFM plans formulated under component 1. The selected activities are summarized in the four province boxes below. The full list of project activities broken down by project site is provided in the full project framework in the Appendices section of this document.

SFM practices obviously contribute also to the creation of GEBs under the BD and CCM focal area. Therefore, the detailed list of practices are included under outcomes 2.2 and 2.3 even though constituting SFM practices as well.

**Outcome 2.2: Carbon sequestration enhanced and GHG emissions from forests reduced through reforestation of damaged forest, rehabilitation of degraded forest, as well as enhanced SFM practices leading to emission reductions.**

Outputs for 2.2:

*2.2.1 42,000 ha of reforestation and forest restoration/rehabilitation yielding 4,770,611 tCO<sub>2</sub>e (project duration).*

*2.2.2 87,000 of enhanced carbon management yielding 12,927,948 tCO<sub>2</sub>e (project duration).*

*2.2.3 Six project sites successfully create carbon credits under the SFM methodology for China's national carbon trading scheme.*

This outcome includes all activities across the project provinces directly targeting CCM benefits from enhanced carbon sinks and sequestration. The list of CCM related activities per province including area and expected yield is summarized in the province boxes below. The full list of activities by project site can be found in the Appendices section of this document. Activities will include:

- (1) Restoration and reforestation of weather damaged plantation forests using mixed pine, cypress, Chinese fir and various broadleaved species (including oak, birch, Phoebe, Liquid Amber, Liriodendron and other ecologically appropriate slow-growing indigenous species). Especially in Guangxi, large forest plantation areas have been destroyed or severely damaged by low temperatures during the winter 2007/08, justifying the need for restoration. No mechanical preparation of the land but direct planting will be used, minimizing carbon emissions from land preparation or planting.

### **Definition: Forest Restoration**

Much of the forest land in the project sites has been used for commercial purposes for extended periods of time (i.e. more than 30 years), leading to the degradation of many of the forest stands and a general fragmentation of the forest landscapes. The process of forest degradation in these areas leads to the release of GHG emissions to atmosphere as well as the impoverishment of the forest ecosystem and ecosystem service provision. This in turn causes forests to be more vulnerable to shocks and disturbances. Forest restoration is the process of recovering ecosystem structure, function and productivity, and thereby increasing resilience to climate change and other stressors. Forest restoration addresses the recovery of ecosystem functionality as well as wider forest landscape integrity and connectivity.

While some forest types are able to recover more quickly (e.g. systems in which many species can re-sprout from roots and seeds are predominantly wind dispersed), others are slower to regenerate (e.g. systems with species that rely on animal dispersal of seeds from sources outside the site). In more intensively used (e.g. commercial forestry) sites, it is possible that few or no forest seeds remain in the soil and re-sprouting is lower, which limit regeneration from within the site. Moreover, compacted and nutrient poor soils, and stressful microclimatic conditions limit seedling establishment and growth in such areas. Finally, the surrounding land-use matrix influences the availability of seeds. Not only is proximity to remnant forest important to recovery as a source of plants and animals, but maintaining some tree cover in agricultural lands through agroforestry systems or hedgerows provides seeds of some trees species and facilitates the movement of animals (Harvey et al., 2008). Management of surrounding agricultural lands therefore strongly influences the rate of recovery within a given site. For the above reasons, it is important to closely examine the context of forest restoration in order to adopt an appropriate strategy. In sites where natural regeneration is rapid, passive restoration (i.e., simply allowing the system to regenerate naturally) may be sufficient to restore the majority of species present prior to disturbance (Letcher and Chazdon, 2009). In such sites, it is common that large-seeded and later successional species are the slowest to colonize, so restoration efforts should focus on planting seedlings or seeds of such species, particularly when they are of conservation concern.

In sites where recovery is slow, another approach is to identify whether there are barriers to establishment that can be removed with comparatively low effort, an approach often referred to as assisted natural regeneration (FAO, 2003). One example of this approach is controlling fire, which can inhibit seedling establishment. Another is marking all naturally regenerating woody seedlings and then clearing surrounding grasses to reduce competition and fire risk. Not only are these efforts to remove obstacles to natural regeneration without actively planting or seeding much cheaper, they usually leave less of a human imprint on the long-term species composition of the resulting forest (Lamb et al., 2005). Assisting natural regeneration by removing stresses or by planting native tree seedlings are the most common strategies, which will be implemented through this project degraded forest sites. This approach will contribute to project goals of 1) enhancing forest carbon sequestration; 2) increasing resilience of forest ecosystems to climate change and other shocks; and 3) enhancing forest biodiversity.

- (2) Planting of slow-growing “rare and precious” indigenous tree species for reforestation on suitably fertile and sheltered sites for the production of high value non-wood forest products. Species include yew (*Taxus*), walnut (*Juglans*), neem (*Melia*) and ginkgo.

- (3) Diversification of existing monoculture forest into mixed species stands by increasing the species mix. GEF resources will enable local communities to transform predominantly single species mostly even-aged forest stands into mixed broad-leaf species stands. These activities assume that at maturity, more biodiverse plantations would have sequestered more carbon than monoculture plantations. Innovations to be demonstrated will include restoration of under-productive land with ecologically appropriate long rotation species, including “rare and precious” endangered species such as Chinese yew and Ginkgo that yield high value fruit and foliage.
- (4) Mainstreaming of SFM practices that improve forest productivity and thereby carbon stocks like forest tending and thinning as well as practices that reduce carbon emissions from forest activities including for example the application of reduced impact logging (RIL) in a large part of the project area. Emission reduction will also be achieved through improved management of pests, diseases, and fires in accordance to the respective management plans formulated under component 1.

### **Definition: Reduced Impact Logging (RIL)**

Conventional logging and other commercial forestry practices are often highly destructive to forest ecosystems. Heavy machinery can compact the soil and destroy vegetation while high-volume harvesting can contribute to erosion and reduce species diversity and regenerative capacity. In addition, excess organic debris can make forests more vulnerable to destruction in the event of fire. Apart from the environmental benefits, RIL has been shown to reduce the percentage of 'lost' logs (those trees that are felled in the forest but not extracted because they are not seen by tractor operators), thereby reducing timber wastage.

Reduced Impact Logging (RIL) can be defined as intensively planned and carefully controlled timber harvesting practices conducted by trained workers in ways that minimize the deleterious impacts of commercial forestry activities. RIL involves a number of practical measures which can include:

- 1. A pre-harvest inventory and the mapping of individual crop trees;*
- 2. The pre-harvesting planning of roads, skid trails and landings to minimize soil disturbance and to protect streams and waterways with appropriate crossings;*
- 3. Pre-harvest vine-cutting in areas where heavy vines connect tree crowns;*
- 4. The construction of roads, landings and skid trails following environmentally-friendly design guidelines;*
- 5. The use of appropriate felling and bucking techniques including directional felling, cutting stumps low to the ground to avoid waste, and the optimal crosscutting of tree stems into logs in a way that maximizes the recovery of useful wood;*
- 6. The winching of logs to planned skid trails and ensuring that skidding machines remain on the trails at all times;*
- 7. Where feasible, using yarding systems that protect soils and residual vegetation by suspending logs above the ground or by otherwise minimizing soil disturbance; and*
- 8. Conducting a post-harvest assessment in order to provide feedback to the resource manager and logging crews and to evaluate the degree to which the RIL guidelines were successfully applied.*

The implementation of RIL activities not only minimizes damage to surrounding forest, but can also reduce emissions from commercial forestry activities by 30-40% compared to standard practices (Griscom et al., 2014; Putz et al., 2008; VCS, 2013). RIL will be an important activity in this project given the significant levels of emissions resulting from commercial forestry activities in the project sites. Through this project, RIL practices will be planned and implemented on areas currently under commercial forestry – i.e. primarily for logging and fuel wood harvesting.

Equally important to what will be done under this component is what will not be done. Re-forestation using eucalypts and poplars would be disallowed as their use is not consistent with long-term carbon storage aims. They are fast-growing, light-demanding broadleaved species that cannot easily be managed under selection harvesting silvicultural practices in mixture with conifer and slow growing broadleaved tree species. Typically they are grown as even-aged stands, usually on short rotations and are only harvestable by clear cutting; most of the sequestered carbon in the biomass is not permanently stored.

## Henan Province

- I. Forest restoration and rehabilitation:**
  - a. Area: 10,000 ha
  - b. Enhanced removals per year: 172,490 tCO<sub>2</sub>e
  - c. Enhanced removals for project period: 1,034,940 tCO<sub>2</sub>e
- II. Reforestation:**
  - a. Area: 16,000 ha
  - b. Enhanced removals per year: 336,356 tCO<sub>2</sub>e
  - c. Enhanced removals for project period: 2,018,136 tCO<sub>2</sub>e
- III. Enhanced tending, thinning, clearing of deadwood:**
  - a. Area: 14,400 ha
  - b. Enhanced removals per year: 113,843 tCO<sub>2</sub>e
  - c. Enhanced removals for project period: 683,058 tCO<sub>2</sub>e
- IV. Transformation of monoculture to mixed forest**
  - a. Area: 2,800 ha
  - b. Enhanced removals per year: 34,498 tCO<sub>2</sub>e
  - c. Enhanced removals for project period: 206,988 tCO<sub>2</sub>e
- V. Improved pest, disease, and fire management**
  - a. Area: 9,400 ha
  - b. Reduced emissions per year: 319,474 tCO<sub>2</sub>e
  - c. Reduced emissions for project period: 1,916,844 tCO<sub>2</sub>e
- VI. Reduce impact logging**
  - a. Area: 5,000 ha
  - b. Reduced emissions per year: 183,500 tCO<sub>2</sub>e
  - c. Reduced emissions for project period: 1,101,000 tCO<sub>2</sub>e

### **TOTALS**

Forest restoration and reforestation (Output 2.2.1):

- a. Area: 26,000 ha
- b. Enhanced removals per year: 508,846 tCO<sub>2</sub>e
- c. Enhanced removals for project period: 3,053,076 tCO<sub>2</sub>e**

Enhanced forest management practices (Output 2.2.2):

- a. Area: 31,600 ha
- b. Enhanced removals/Reduced emissions per year: 651,315 tCO<sub>2</sub>e
- c. Enhanced removals/Reduced emissions project period: 3,907,890 tCO<sub>2</sub>e**

## **Guangxi Autonomous Region**

### **I. Forest restoration and rehabilitation:**

- a. Area: 1,500 ha
- b. Enhanced removals per year: 25,874 tCO<sub>2</sub>e
- c. Enhanced removals for project period: 155,244 tCO<sub>2</sub>e

### **II. Reforestation:**

- a. Area: 5,000 ha
- b. Enhanced removals per year: 103,494 tCO<sub>2</sub>e
- c. Enhanced removals for project period: 620,964 tCO<sub>2</sub>e

### **III. Enhanced tending, thinning, clearing of deadwood:**

- a. Area: 13,300 ha
- b. Enhanced removals per year: 145,926 tCO<sub>2</sub>e
- c. Enhanced removals for project period: 875,556 tCO<sub>2</sub>e

### **IV. Transformation of monoculture to mixed forest**

- a. Area: 7,130 ha
- b. Enhanced removals per year: 100,011 tCO<sub>2</sub>e
- c. Enhanced removals for project period: 600,066 tCO<sub>2</sub>e

### **V. Improved pest, disease, and fire management**

*Pest, diseases and fire management implementation in the Guangxi project sites is already rather advanced and related GHG emissions have been reduced greatly in recent years. Consequently, a GEF incremental investment in this regard will not be necessary.*

### **VI. Reduce impact logging**

- a. Area: 21,200 ha
- b. Reduced emissions per year: 778,040 tCO<sub>2</sub>e
- c. Reduced emissions for project period: 4,668,240 tCO<sub>2</sub>e

## **TOTALS**

Forest restoration and reforestation (Output 2.2.1):

- d. Area: 6,500 ha
- e. Enhanced removals per year: 129,368 tCO<sub>2</sub>e
- f. Enhanced removals for project period: 776,208 tCO<sub>2</sub>e**

Enhanced forest management practices (Output 2.2.2):

- d. Area: 41,630 ha
- e. Enhanced removals/Reduced emissions per year: 1,023,977 tCO<sub>2</sub>e
- f. Enhanced removals/Reduced emissions project period: 6,143,862 tCO<sub>2</sub>e**

## Fujian Province

- I. Forest restoration and rehabilitation:**
  - a. Area: 3,520 ha
  - b. Enhanced removals per year: 62,527 tCO<sub>2</sub>e
  - c. Enhanced removals for project period: 375,162 tCO<sub>2</sub>e
- II. Reforestation:**
  - a. Area: 6,053 ha
  - b. Enhanced removals per year: 125,408 tCO<sub>2</sub>e
  - c. Enhanced removals for project period: 752,448 tCO<sub>2</sub>e
- III. Enhanced tending, thinning, clearing of deadwood:**
  - a. Area: 1,680 ha
  - b. Enhanced removals per year: 17,387 tCO<sub>2</sub>e
  - c. Enhanced removals for project period: 104,322 tCO<sub>2</sub>e
- IV. Transformation of monoculture to mixed forest**
  - a. Area: 400 ha
  - b. Enhanced removals per year: 6,900 tCO<sub>2</sub>e
  - c. Enhanced removals for project period: 41,400 tCO<sub>2</sub>e
- V. Improved pest, disease, and fire management**
  - a. Area: 700 ha
  - b. Reduced emissions per year: 51,380 tCO<sub>2</sub>e
  - c. Reduced emissions for project period: 308,280 tCO<sub>2</sub>e
- VI. Reduce impact logging**
  - a. Area: 11,000 ha
  - b. Reduced emissions per year: 403,700 tCO<sub>2</sub>e
  - c. Reduced emissions for project period: 2,422,200 tCO<sub>2</sub>e

### TOTALS

Forest restoration and reforestation (Output 2.2.1):

- g. Area: 9,573 ha
- h. Enhanced removals per year: 187,935 tCO<sub>2</sub>e
- i. Enhanced removals for project period: 1,127,610 tCO<sub>2</sub>e**

Enhanced forest management practices (Output 2.2.2):

- g. Area: 13,780 ha
- h. Enhanced removals/Reduced emissions per year: 479,367 tCO<sub>2</sub>e
- i. Enhanced removals/Reduced emissions project period: 2,876,202 tCO<sub>2</sub>e**

### Hainan Dao Province

After in-depth analysis of conditions on Hainan Island, the project team came to the unequivocal conclusion that enhancement of carbon sequestration and reduction of emission in Hainan would be minimal as the additional CCM potential is small and most related practices are already in place. GEF incremental investment in climate change mitigation activities would therefore not be cost effective. Consequently, the project activities in the project sites on Hainan will concentrate on the creation of biodiversity benefits (see next section). Potential for enhanced biodiversity conservation on Hainan is particularly high.

Under this expected outcome (output 2.2.3), **six project sites will pilot the application of the SFM methodology for the creation of carbon credits under the new Chinese carbon emissions trading scheme.** In preparation for achieving this output, the project team and respective province representatives from each province and several project sites engaged in intensive preparatory discussions with the **China Beijing Environmental Exchange (CBEEX)**. CBEEEX is the primary environmental exchange in China with longstanding experience in trading pollution certificates including GHG emissions. CBEEEX was prominently involved in the testing of a broad variety of carbon credit methodologies in the context of China's voluntary carbon market as well as the emerging compulsory scheme. CBEEEX has been a major advising partner during the design and testing of China's new national carbon emissions trading system. In particular, CBEEEX has been involved in establishing the three approved forest related carbon credit methodologies for the new trading system, including the SFM methodology the project areas will use. In consequence, CBEEEX has been a strong partner for this project in the preparation of project implementation, assessing opportunities of GEF project sites for acquiring carbon credits from implementation of SFM. CBEEEX has consistently stated its strong interest in aiding the project areas throughout the process and it will be one of the interlocutors for trading the carbon certificates created by this project. Corresponding Memoranda of Understanding between the respective county governments and CBEEEX will be formulated and signed during the first months of project implementation, constituting the first important step towards achieving output 2.2.2.

On the buyers' side, a first assessment of interest among private sector companies for acquiring the carbon certificates to be created by this project specifically has been conducted. As one example, exploratory discussions were held with the **Swire Group**, a diversified corporation with core businesses in Hong Kong and numerous production sites in mainland China. The Swire Group's efforts on sustainable use of natural resources in its own production processes proved to be an excellent fit with the objectives of this project. Accordingly, acquisition of carbon credits created with support of the GEF investment is of distinct interest to the Swire Group. Building on this initial expression of interest, discussions will be continued during project implementation.

#### **Outcome 2.3: Enhancement of forest biodiversity through protection and conservation of rare and endangered native species.**

##### Outputs for 2.3:

*2.3.1 35,000 ha of additional forest area certified under CFCS with particular focus on CFCS biodiversity requirements.*

*2.3.2 15,000 ha of forest restoration efforts incorporate the planting of rare species.*

*2.3.3 Nurseries for rare tree species created or improved.*

*2.3.4 Implementation of business models for revenue generation from rare species protection.*

This outcome includes all activities across the project provinces directly targeting the creation of BD benefits. Achievement of GEBs will primarily be measured and verified through the certification of additional forest area under the CFCS, which, as described in detail in previous sections, features a strict set of biodiversity requirements and indicators. In addition, the reforestation and forest rehabilitation efforts supported by outcome 2.2 (CCM) will, wherever possible, utilize rare and often valuable, slow-growing species. This will at the same time increase forest value, enhance forest biodiversity and add to the long-term carbon sink. An additional set of activities supported by the project is the expansion and improvement of existing rare tree nurseries, serving as a basis for using rare trees in reforestation efforts.

Biodiversity will also be enhanced by introduction of general SFM practices, like selection forest management. These will improve ecosystem structure, maintain a healthy forest cover over the long term and strengthen forest resilience to climate shocks and other threats to biodiversity. The long-term aim is to progressively increase and maintain ecologically stable, mixed species all-aged forests in perpetuity. Harvesting of forests by clear cutting would be disallowed, except on small areas (<1 ha), where technically necessary to improve opportunities for achieving SFM aims. Protection of forests from fire, diseases and pests is essential. Ecologically stable mixed species forests can be expected to be more resilient towards pests and fungal diseases; the risks of pathological damage or losses is likely to be lower in mixed species all-aged forest stands compared with even aged monocultures.

**The project will put an emphasis on the establishment of economic incentive mechanisms that create revenue streams from or additional to the growing of rare and threatened tree species.** The inter-planting of rare species with cash crops like medicinal herbs can increase the overall revenue of commercially used forest areas and compensate farmers for the short-term economic loss they incur by planting or conserving rare and often slow growing tree species. Another mechanism that will be comprehensively applied and tested for further replication in Hainan is the use of futures trading markets to create revenue from slow-growing timber before its actual harvest, trading futures contracts on future delivery. Especially for precious but very slow-growing timber like the Huanghuali of Hainan, futures trading can replace the long waiting period without revenue (more than 100 years in case of Huanghuali) with upfront revenue or a continuous revenue stream, significantly improving the incentives for growing and conserving these rare species.

**Henan Province**

Henan province has identified 5,000 ha of project area to be certified under the CFCS scheme by the end of the project. Henan has limited experience with forest certification, meaning gaining CFCS certification will require a significant amount of capacity development and skill building. In contrast, Henan has been gaining first experience in the targeted incorporation of rare and threatened species into its reforestation and forest rehabilitation efforts. Accordingly, Henan will be the primary driver of this project activity and is planning to use a high proportion of rare species for approximately 13,000 ha of reforestation and forest restoration. In order to supply seedlings for rare species, Henan will upgrade its existing nursery system to allow for rare species seedling cultivation.

### Guangxi Autonomous Region

Among the project regions, Guangxi Autonomous Region has the most prior experience with forest certification and has acquired some limited certification for commercially used forests in the past. On this basis, Guangxi will use GEF incremental investment to make a major effort on improving its forest certification capability. It has selected 20,000 ha of project area to undergo the certification process. Guangxi also features a functioning system of nurseries, which are however still lacking in their capacity to grow seedlings for some of the rare and threatened species to be conserved through this projects. GEF incremental investment will serve to upgrade nursery technology to accommodate rare species.

### Fujian Province

Like Guangxi, Fujian has limited experience with CFCS certification at this point. However, Fujian has a comparably advanced set of forest management policies and practices already in place that can efficiently be improved to fulfill CFCS requirements. The incremental investment for CFCS certification in Fujian is therefore lower than in the other project areas. The overall area selected by Fujian for certification is 6,700 ha. Overlapping with these forest areas, Fujian will also particularly emphasize the planting of rare and threatened species in the context of its forest rehabilitation efforts on 1,250 ha of its forest land. Some nursery upgrading for accommodating rare species seedlings is also included in Fujian's planned project activities under the GEF project.

### Hainan Dao Province

Hainan Island will focus its efforts supported by the GEF incremental investment on the conservation of its particularly rich biodiversity. In the comparatively small project area (one site in Dongfang County), it plans to achieve CFCS certification of about 3,300 ha.

A special feature of the project activities in Dongfang County is the establishment of a sustainable mechanism to safeguard the endemic *Dalbergia odorifera*, known as *Huanghuali* in China (also see section 1.1). Huanghuali wood has been used throughout Chinese history for building China's most precious furniture and other timber products. The timber is rare and extremely valuable, ranking as one of the most expensive timbers in the world. However, the tree is extremely slow growing, requiring more than 100 years to mature. Growing Huanghuali is also difficult and time-intensive. Consequently, the economic incentive for growing and preserving the species is, from the local farmers' perspective, relatively limited. In order to create a sustainable incentive mechanism for Huanghuali preservation, Dongfang County, supported by the GEF incremental investment, will establish a **futures trading system for Huanghuali timber**, allowing revenue streams to local farmers before the timber can be harvested. Initial negotiations with the Shanghai Futures Exchange have been conducted and provide a promising starting point for further developing this scheme. The GEF incremental investment will support local stakeholders to establish the necessary skills and instruments for trading Huanghuali through the futures exchange including mechanisms to establish proof of origin (DNA testing mostly to be financed through government co-financing) as well as setting up a web-based platform to coordinate trading volumes and other instruments necessary for professional commodity futures trading to be successful.

The project area in Dongfang County will expand the planting of rare and threatened species, in particular Huanghuali, on a planting area of 1,600 ha. In addition, it will significantly increase and improve its existing nurseries to grow Huanghuali seedlings.

**Component 3: Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.**

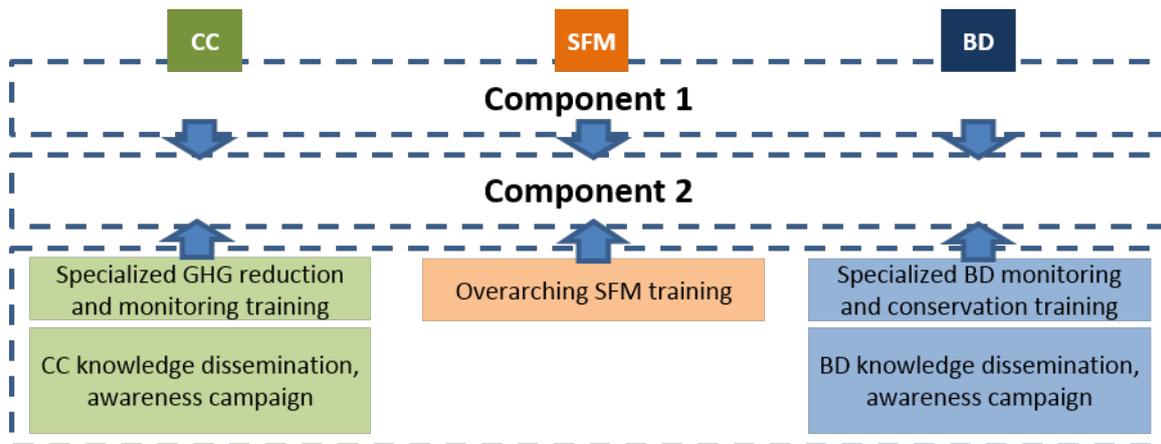


Figure 9: Component 3 within the Overall Project Strategy (see page 26)

Component 3 comprises the provision of **targeted training and capacity development** on SFM responsive to specific local conditions, needs and challenges. Activities under this component will provide local community forest managers as well as local government officials with the knowledge and practical skill set necessary to implement the SFM practices included under component 2. Capacity to be developed will entail the theoretical and practical knowledge on SFM practices, particular capacity relating to the creation of GEBs with regard to CCM and BD, as well as knowledge and implementation skills related to the monitoring systems for CCM and BD created under component 1. Specific CCM and BD related training programmes will be designed and implemented mainly through the Chinese Academies of Forestry that will support improved forest management, overcome constraints for implementing SFM and for enhancing the resilience of Chinese forests to climate change, namely, in silviculture, ecology, growth and yield, biomass and in wood density.

The component will support the generation of relevant information and make the necessary bridges between the technical assistance and training activities under remaining project components. This will ensure coordination and complementarity between all the interventions supported by the project. Capacity and the knowledge base for forest management and monitoring for stakeholders at all administrative levels will be increased. Stakeholders will have improved access to knowledge and data, strengthened social networks that will enhance capability for achieving sustainable management of Chinese forests. The technical capacity of national professional staff will be upgraded through on-the-job training, in-country meetings, field visits and study tours. Lessons learned from these experiences will be used to improve training modules and good practice guidance generated by the project.

Training activities will be implemented in close connection with the practical demonstration of the SFM practices. Thereby, the developed capacity is applied immediately and concretely, passing knowledge and information to an ever-growing group of individuals well beyond the initial group of trainees. At the same time, component 3 will entail efforts to raise awareness for the real value of ecosystem services and for opportunities to create additional sources of income through environmental protection, for example through carbon credits or forest certification. Knowledge created through the project will be collected and disseminated to inform the replication and scaling-up of activities beyond the project duration.

In addition, component 3 will put particular emphasis on **peer-to-peer teaching and knowledge exchange** as well as dissemination of information and best practices gained dur-

ing project implementation. The diversity of project sites, allowing for the application of SFM practices under different conditions, is an important asset of the project. The project will fully seize the opportunities created by the multi-site and multi-province setup of the project. For this purpose, the capacity development mechanisms to be created at the provincial level will not only stress the regular exchange of experiences and knowledge between project sites within one province, but also facilitate knowledge exchange between different provinces. Already during project preparation, during multiple preparation workshops attended by participants from the different provinces, the great potential for improvements through interaction became obvious. Using this potential constitutes an important task under component 3. Finally, component 3 entails the project's monitoring and evaluation system measuring progress and achievements. The M&E plan is described in detail in section 4.5.

The described tasks to be addressed under component 3 translate into the following expected outcomes and related outputs:

**Outcome 3.1: Enhanced knowledge and capacity of local farmers and government staff to implement SFM practices, create CCM and BD related GEBs and implement the corresponding monitoring systems.**

Outputs for 3.1:

*3.1.1 National level as well as cross-provincial trainings for stakeholders from all project provinces including international experts and exchange at international level*

*3.1.2 Provincial and county-level forest bureaus as well as local community forest managers trained in SFM practices with specific focus on CCM and BD benefit creation. [Total number of trainees across the four provinces: 4000]*

*3.1.3 Provincial and county-level forest bureaus as well as local community forest managers trained in the setup and application of carbon as well as biodiversity monitoring systems as designed under component 1.*

*3.1.4 Improved provision of relevant data and knowledge to project stakeholders.*

The main responsibility for the overall coordination and implementation of training and capacity development activities lies with the SFA at the national level. SFA assisted by Chinese Academies of Forestry will organize the training programmes, using national and international trainers, which will take place at the project sites for location-specific training, the provincial level with participants from various project-sites, and in Beijing (or other host province) for national level trainings bringing together participants from all four provinces.

**Outcome 3.2: System for peer-to-peer teaching and regular exchange of knowledge and experiences between project site staff within and between the four provinces.**

Outputs for 3.2:

*3.2.1 Mechanisms and communication channels for regular exchange of knowledge and experience as well as peer-to-peer teaching between local forest managers and government administrators at county and provincial level established.*

*3.2.2 Mechanisms and communication channels for regular exchange of knowledge and experience between project stakeholders from different provinces established.*

*3.2.3 Interaction on SFM utilized to strengthen social networks and new social capital among local forest managers (including creation of forest manager associations where suitable).*

The main responsibility for the overall coordination and implementation of knowledge exchange activities also lies with SFA. The capacity development structures established at all levels under outcome 3.1 will serve as basis and starting point for the establishment of regular knowledge exchange mechanisms. Knowledge fora will be integrated into administrative structures at national and provincial level, also using the existing systems of the Chinese Academies of Forestry, to ensure sustainability beyond project duration.

**Outcome 3.3: Establishment of project monitoring and evaluation system measuring project progress and achievements; publication and dissemination of information and experiences for public awareness raising**

Outputs for 3.3:

3.3.1 Project M&E system designed, established and applied throughout the project and across all components, provinces and project sites.

3.3.2 Publication and dissemination of information for public awareness raising

The M&E system, including stakeholder responsibilities, is described in section 4.5.

**2.5 Global Environmental Benefits**

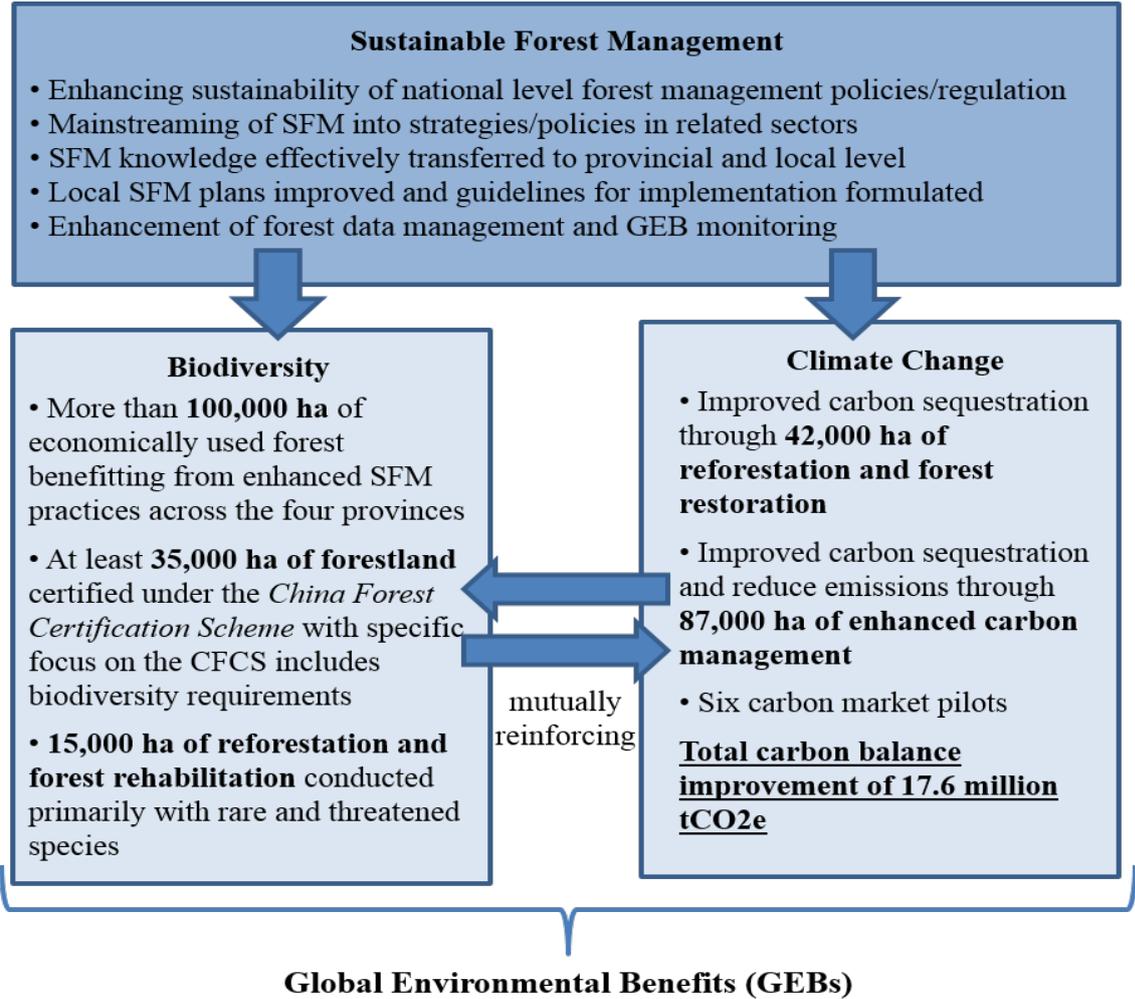


Figure 10: Expected Global Environmental Benefits

## **2.5 Cost effectiveness**

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 an overarching momentum towards improving China's forest management. Instead of building cost-intensive own mechanisms, the project leverages the emergence of the corresponding national systems. This includes the improvement of carbon and biodiversity monitoring capabilities, the creation of a comprehensive forest certification system, the emergence of a carbon trading scheme that incorporates carbon benefits from forest activities, as well as the fundamental shifts in forest management and stakeholder structures at the local level.

All of these trends and developments are country-driven and financed by national resources, but at the same time the mechanisms are used as integral parts of the project strategy. Through comparatively small investments used to improve the application of national level systems at the local level, the project uses the emerging mechanisms to unlock the existing potentials for GEB creation in China's forests. The GEB return to incremental investment is therefore envisioned to be high.

## **2.6 Innovativeness**

The project is built on the strategy to instil innovative approaches into the overarching trend of forest expansion in China. Innovativeness as a means to change the story of China's forest sector from "quantity over quality" to "quantity with quality" is therefore at the core of the project. It will use an integrated SFM approach, applied in a broad range of conditions across four climatically diverse Chinese provinces, in order to unlock forest potential for the provision of ecosystem services. Using the holistic principles of SFM as the backbone of project activities, the project will significantly increase the GEBs created in the project forest areas. In doing so, the project has highlighted innovative solutions to location-specific challenges, like the use of the Shanghai Futures Exchange to create immediate benefits for farmers in Hainan province from the cultivation of extremely slow-growing but highly valuable timber.

In addition, the project will take an explicitly pioneering role in the application of comparably new and innovative forest management instruments established at the national level. The on-the-ground application of China's new forest certification mechanism will bolster the further expansion of the CFCS nation-wide. The arguably most innovative part of the project is the piloting of the SFM methodologies under the currently emerging national carbon trading scheme. The project will be the first initiative to apply the newly approved methodology and to create carbon credits from sustainable forest practices. In this way, the project can make a significant contribution to the overall development of China's carbon trading in general and the explicit role of forest activities as source of carbon credits within this system in particular.

## SECTION 3 – FEASIBILITY

### 3.1 Environmental impact assessment

As a GEF Project, the proposed initiative aims at the generation of global as well as local environmental benefits. Accordingly, the very nature of the project objective and its expected outcomes and outputs makes negative environmental impacts highly unlikely. Nevertheless, national and provincial level experts have conducted a thorough evaluation of all project activities as listed under section 2 to ensure that no unintended environmental effects can arise from the project. In addition, the project framework underwent all environmental safeguard procedures in place at the national level under SFA project implementation rules as well as at the provincial level under the corresponding rules of the Provincial Forest Departments.

The activities to be employed by the project are part of an internationally recognized set of practices known as Sustainable Forest Management (SFM). These practices adhere to the highest standards of environmental sustainability, being specifically designed to reduce the negative environmental impacts of the commercial use of forests. No environmental risks are associated with these practices. The planned reforestation efforts have been scrutinized in order to ensure that the newly planted tree species are indigenous and restore the original ecosystem conditions in the reforested areas without impacting existing flora and fauna in any negative way. The monitoring systems to be installed for the monitoring and calculation of climate change mitigation benefits will be non-invasive and have minimal to no environmental impacts.

Overall, none of the project activities carry any particular risk for causing negative environmental impacts. **Accordingly, the environmental review of the project arrives at the unambiguous conclusion that the project has to be classified as “Category C”, conforming to the pre-approved list of projects excluded from further environmental assessment.** The project will have minimal or no adverse environmental impacts. No further analysis is required.

### 3.2 Risk Management

A comprehensive risk assessment covering the dimensions of potential risks to the achievement of the project’s objectives has been conducted. The overall risk can be classified as low and manageable, with few risks rated medium. Strong political support, high bureaucratic capacity and solid existing administrative mechanisms and experience mitigate most of the existing risks. The project faces primarily three types of risks:

- (1) administrative and organizational risks,
- (2) risks deriving from changing natural conditions, and
- (3) fiduciary risks.

#### 3.2.1 Summary of risks and mitigation measures

All risk categories will be explored in detail in section 3.2.2-3.2.4. As an initial overview, the following table summarizes the central identified risks, provides their overall rating as well as planned mitigation measures included in the project design.

Risk	Rating	Mitigation measures
Insufficient coordina-	Low	The project implementation structures and arrangements

<p>tion and collaboration among stakeholders (vertical and horizontal) decreases implementation effectiveness</p>		<p>build directly on the existing forest governance system and utilizes the high effectiveness of China’s government bureaucracy, ensuring high implementation capacity along the vertical axis.</p> <p>Vertical as well as horizontal collaboration effectiveness have furthermore been significantly strengthened as part of the project preparation process, establishing coordinative mechanisms and stable channels of communication, knowledge and information exchange. The risk of insufficient administrative coordination collaboration is thereby close to fully mitigated.</p>
<p>Capacity development may not be sustained at the local community level failing to enable forest farmers to understand and apply SFM or resulting in stakeholders continuing unsustainable practices.</p>	<p>Low</p>	<p>The strong guidance function and close supervision of local level forest management exerted by the county level forest bureaus will greatly facilitate the introduction of SFM practices at local community level. The high capacity at county level will be a valuable asset in translating the selected SFM tools into practice in the respective communities, facilitating the knowledge transfer and information sharing process and overseeing correct implementation well beyond the project duration.</p> <p>In addition, the project will be implemented amid an ongoing decentralization of forest management, shifting increasing responsibility to the local community level. Correspondingly, the project’s capacity development efforts will in part address new groups of forest managers without the barriers of preconceptions and entrenched practices.</p> <p>The project will employ the full range of tested best practices ranging from reiterated, long-term training mechanism to peer-to-peer dissemination of knowledge and experiences. Furthermore, the project will benefit from a range of other capacity development initiatives underway at all levels of forest administration in China, driven by firm policies and supported by national and donor-funded programmes.</p>
<p>Climate change impacts may increase to the extent that even if the project implements activities to improve forest management it may not be enough to make a significant difference. New threats could emerge, specifically, insect infestations, epidemics or diseases caused by CC.</p>	<p>Medium</p>	<p>The project actively incorporates climate change impacts into its planning, emphasising an adaptive project design, management structures and implementation arrangements that will allow stakeholders at all levels to amend and adapt SFM approaches as needed to changing biophysical circumstances. The project is not designed to respond rigidly to one threat or another, but puts in place processes and methods that will enable stakeholders to adapt SFM practice that can be translated into improved management for any given context defined by any specific threat.</p> <p>In addition, the SFM practices to be introduced by the project have proven to increase the resilience of forest to climate change significantly. Well-managed forest stands will also be healthier and more resilient to climate change,</p>

		making the mitigation of climate threats not only a reduction of an external risk to project achievements, but an intrinsic objective of the core project activities itself. Furthermore, forest under SFM are also more resilient against the secondary threats like pests and diseases. Accordingly, the project is very well placed to withstand climatic or other changes in biophysical conditions
The national executing partner does not have the full capacity to implement the fiduciary processes of the project including financial planning and budgeting in all its aspects	Low-Medium	The comprehensive fiduciary and capacity assessment of the National Executing Partner, i.e. SFA, concluded that the SFA's experience, procedures, processes and standards are fully commensurate with the tasks to be fulfilled in the context of this project. Overall risk in these dimensions is low to none. However, the weakness of the SFA as a national executing agency is the number of sufficiently trained personnel which seems relatively low in comparison to workload and spectrum of responsibilities. The risk deriving from personnel overstretch is rated as medium in the fiduciary assessment. Accordingly, the assessment strongly recommends the expansion of fully capable personnel by a combination of creating additional positions plus targeted training of junior personnel. In combination, the risks deriving from the executing partner's capacity is fully manageable and unlikely to lead to a reduction in project achievements.

**3.2.2 Administrative and organizational risks**

The **administrative and organizational risks** are primarily the risk of insufficient coordination and cooperation between stakeholders, especially across different administrative levels. The project's success requires closely interlinked implementation processes that combine workflows at the national, provincial, county and local community level. This multi-level design of the project is key to achieve the ambitious project goals and to prepare replication and upscaling of project activities beyond the project duration and scope. At the same time, the corresponding coordinative challenges are significant. Nevertheless, the associated risk can confidently be rated as low, as several factors mitigate the administrative risk. Most importantly, the project builds on highly established, solid and tested administrative structures supported by the streamlined and efficient governance structures of China's forest administration. The preparation phase of the project has already served to prove the very high coordination and collaboration capacity of stakeholders at all levels. This coordination capacity was further strengthened by the intense collaboration during the project preparation itself, including a number of workshops that brought together stakeholders from all level and fostered the exchange and collaborative structures between them. Throughout project preparation, effective channels for knowledge and information exchange have been established, which will now serve as the foundation for collaborative implementation vertically between different administrative levels as well as horizontally between the respective provinces and project counties.

Another organizational risk are the known barriers to successful capacity development at the local community level. Effective transfer of knowledge on new concepts like SFM, introducing changes to traditional practices, is always a challenging task especially when it comes to sustained, long-term implementation of alternative approaches that often imply significant

changes to community and individual lifestyles. In the specific case of this project, this risk can also be rated as low due to strong mitigating factors. In particular, the strong guidance function and close supervision of local level forest management exerted by the county level forest bureaus will greatly facilitate the introduction of SFM practices. As mentioned earlier, the county governments will play an especially prominent role in organizing and supervising project activity implementation. Accordingly, the county level has taken a decisive role in selecting and designing specific activities in accordance to local conditions and challenges. The high capacity at county level will be a valuable asset in translating the selected SFM tools into practice in the respective communities, facilitating the knowledge transfer and information sharing process and overseeing correct implementation well beyond the project duration.

In addition, the overarching change in forest management responsibilities that is currently happening in China opens a window of opportunity for particularly effective capacity development. The project will be implemented amid an ongoing decentralization of forest management, shifting increasing responsibility to the local community level. Correspondingly, the project's capacity development efforts will in part address new groups of forest managers without the barriers of preconceptions and entrenched practices. This fact decreases the risk of lacking capacity development significantly. In order to fully utilize these favourable capacity development conditions, the project will employ the full range of tested best practices ranging from reiterated, long-term training mechanism to peer-to-peer dissemination of knowledge and experiences. Furthermore, the project will benefit from a range of other capacity development initiatives underway at all levels of forest administration in China, driven by firm policies and supported by national and donor-funded programmes. For example, the extensive Sino-German forestry programmes in several provinces have participatory forestry and capacity building objectives aimed at strengthening capability at village and township levels. In this way, the risks associated with the challenge of capacity development will be reduced to a minimum, therefore justifying the rating "low".

### **3.2.3 Risks deriving from changing natural conditions**

The risks deriving from changing natural conditions become most tangible in the context of climate change. In addition to extreme weather events as well as prolonged and intensifying dry and flooding periods, climate change can also cause or intensify a number of secondary threats like insect infestations or diseases caused. All of these effects of changing natural conditions can reduce the positive effects of the project and decrease the value of expected outcomes and outputs. The risk of climate change, which is increasingly affecting a wide range of development and environmental projects across UN agencies, can only be partially mitigated. However, this particular project has explicitly and actively incorporated climate change impacts into its project design, emphasising an adaptive project design, management structures and implementation arrangements that will allow stakeholders at all levels to amend and adapt SFM approaches as needed to changing biophysical circumstances. The project is not designed to respond rigidly to one threat or another, but puts in place processes and methods that will enable stakeholders to adapt SFM practice that can be translated into practical, improved management for any given context defined by any specific threat.

In addition, the SFM practices to be introduced by the project have proven to increase the resilience of forest to climate change significantly. Well-managed forest stands will also be healthier and more resilient to climate change, **making the mitigation of climate threats not only a reduction of an external risk to project achievements, but an intrinsic objective of the core project activities itself.** Furthermore, forest under SFM are also more resilient against the secondary threats like pests and diseases. Accordingly, the project is very well placed to withstand climatic or other changes in biophysical conditions and achieve its goal

notwithstanding these risks. The overall set of risks connected to changing natural conditions can therefore be comfortably be rated as moderate or in some project areas even low.

### **3.2.4 Fiduciary risk analysis and mitigation measures (NEX)**

The **fiduciary risks**, as per necessary procedure for projects under national execution, have been evaluated separately through a comprehensive fiduciary assessment. The following section provides a summary of the central results of the fiduciary assessment. Additional findings of the assessment are also reflected in the description of implementation arrangements under section 4. The detailed assessment of fiduciary risks, which are overall rated as low and manageable, can be found in the separate fiduciary assessment report.

#### *a) Project execution capacity of National Executing Agency (SFA)*

The National Executing Agency for this project is the State Forestry Administration of China (SFA). Specifically, the SFA's World Bank Project Management Center (WBPMC) will act as the lead department in implementing the projects, supported by various specialized SFA departments. Established in 1990, the major functions of the WBPMC according to SFA departmental responsibility specification include:

- Management of international projects financed by World Bank Group, Asian Development Bank (ADB), European Investment Bank (EIB), GEF, and other international funding organizations;
- Formulation of project management guidelines
- Organization of project implementation;
- Conducting project identification, application, designing and planning, feasibility studies and evaluation, formulating project proposals and implementation plans;
- Organization, coordination and assistance to Provincial Forestry Departments in preparing, designing and applying forest development projects supported by international donors;
- Review and approval of provincial feasibility study reports in collaboration with NDRC and SFA Planning Department;
- Review and approval of provincial annual implementation plans, supervise, evaluate the provincial projects;
- Responsible for Financial Management, supervise fund utilization by provincial and lower level project implementation units;
- Organization of domestic and international tenders and procurement of equipment and physical materials;
- Communication and contact with international donors, invitation and reception of international consultants and experts; personnel training and overseas study tours.

From 1989 to 2013 WBPMC acted as national executing partner for 16 forest development projects financed by international financial and development agencies. Since September 2013 WBPMC has played a fundamental role in coordinating the GEF project preparation. According to the results of WBPMC staff interviews, reviewing relevant management regulations and financial and bookkeeping documents the fiduciary assessment consultant draws following conclusions on WBPMC'S project execution competences:

- (1) **Experience:** WBPMC has more than 20 years of experience as EA for all SFA international forest management and forestry development projects. From 1996-2000, WBPMC already executed GEF forest biodiversity and wetland conservation projects implemented in different provinces. Currently WBPMC is executing 9 projects funded by WB, ADB, and EIB. An effective project management system is already set up within WBPMC.
- (2) **Personnel:** Currently, the Planning Division of WBPMC has 5 staff members<sup>1</sup>, but they are managing and preparing several international projects besides the GEF SFM Project. Their current work load is reaching maximum capacity. For routine management of the project, PMO needs two junior staffs responsible for planning, M&E and financial management. WBPMC also needs to recruit a senior person as project manager responsible for daily PMO operation and guiding the two junior staff.
- (3) **Staff qualification:** Some of the junior PMO staff still lacks experience and skills in managing international projects, they are for example hardly familiar with Result-Based Management. This might affect the project implementation in the first year. Overall, the risk rating for WBPMC staff capacity is however only moderate.
- (4) **Management of FAO/GEF funds:** WBPMC will set up an independent GEF project account for receiving funds from FAO. WBPMC will further channel the funds to the accounts set up by forestry department of Henan, Guangxi, Hainan and Fujian. For ensuring the smooth and timely fund flowing, a tripartite project execution agreement (PEA) will be signed between FAO, SFA (WBPMC) and MOF. Risk rating for fund management system is low.
- (5) **Auditing mechanism:** An effective internal and external fund auditing system is already set up and functioning in a very regular approach. The auditing system ensured that the planned budget specifically allocated to fully support the planned project activities. Risk is very low.
- (6) **Information and documentation Management:** The Planning Division (PMO) has not yet developed an effective information management system, project documents were not yet systematic classified and kept in an easy retrievable way. Publicity strategy for disseminating the GEF project outcomes and models needs to be developed and operated in the first phase of the SFM Project.

In light of these findings, the fiduciary assessment consultant therefore rates the overall project execution capacity for executing the GEF project as a **moderate risk**.

*b) Micro level analysis of financial planning and budgeting capacity of EA*

WBPMC has more than 20 years experiences in executing international cooperation projects in the area of forest resource management and wetland conservation with World Bank, ADB, GEF, etc. An effective financial planning and budgeting mechanism has been well established at WBPMC. The Financial Management in WBPMC strictly follows the National Financial Accounting Regulations which are procedurally very coherent with International Financial Accounting Standard. The internal financial management regulations for guiding the daily

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<sup>1</sup> One interpreter is newly transferred from the International Cooperation Division, WBPMC

book keeping, payments and fund transfer are available within WBPMC and financial divisions of provincial forestry departments.

While executing forest development projects financed by World Bank, ADB, GEF and other donors, WBPMC already prepared very systematic financial planning and budgeting procedures. While interview with WBPMC staff the fiduciary assessment consultant reviewed some of these financial planning and management regulations. According to these documents, annual financial planning and budgeting and relevant budget modifications and readjustments for the governmental and international cooperation projects must be strictly following the overall project implementation plan and annual work plan (AWP) prepared by SFA PMO and PMOs of Henan, Guangxi, Hainan and Fujian based on the overall project design documents (ProDoc). Modified budget and plan must be jointly approved by SFA PMO and FAO.

The existing financial planning and budgeting mechanism within WBPMC is set up according to Chinese National Financial Budgeting Regulations which is coherent with the International Standard. The SFA PMO and Finance Division of WBPMC will be working together for preparing financial planning and budgeting for the GEF Project. The PMO will prepare an annual financial plan with detailed budget line in alignment with the result framework and the budget suggested in the ProDoc, and then hand over the financial plan to Financial Division of WBPMC for implementation. Both PMO staff and Financial Officer of Finance Division need to familiarize with the financial planning and budgeting procedures of FAO. The existing financial and budget management regulations prepared through previous WB, ADB and GEF supported projects provide good basis for development of FAO/GEF project financial management regulations.

The consultant therefore rates the risk in financial planning and budgeting as **low and fully manageable**.

*c) Recommendations for improvement*

In order to ensure the effective management of the GEF project, the fiduciary assessment consultant made the following improvement recommendations:

- (1) A Project Implementation Manual for guiding the systematic project management needs to be developed before the project start;
- (2) A senior project manager with at least 10 years project management experiences and university degree in Forest Engineering and fluent English communication capacity, should be recruited;
- (3) Two junior PMO officer candidates should receive systematic training in project management. Training will focus on RBM, project planning, log-frame, M&E, financial management, etc. Training will be completed during the inception period of the project. FAO Beijing Office can provide support in PMO staff training;
- (4) Technical consultants for supporting the implementation will be recruited strictly following TORs and FAO personnel recruitment procedures;
- (5) Information and documentation management in WBPMC Planning Division should be further improved to ensure the effective information sharing and use. A SFM project result dissemination strategy will be prepared to ensure the effective replication of the SFM best practices and models in EIB project counties and National Strategic Timber Storage Program counties. (detailed recommendations for improvement of project execution capacity see chapter five of this report)

## SECTION 4 – IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

### 4.1 Institutional arrangements

#### *a) General institutional context and responsibilities*

The institutional framework and implementation arrangements including the roles and responsibilities of relevant project stakeholders are described in detail in section 4.2 of this document. FAO will serve as the GEF Agency for this project. The executing partner on the side of the Government of China is the State Forestry Administration (SFA). Under guidance of the SFA at the national level, the project management offices in the Province Forestry Departments will play a prominent role in the coordination of activities at the province level. Ultimate implementation will be led by the county level forest administrations and forest farms, who will oversee and guide the activities applied by household level forest managers from local communities.

In terms of the broader institutional and policy-making environment in China, it should be highlighted that the SFA has firmly established itself as the champion for innovative reform of China's forest management system. SFA has spearheaded a number of initiatives aiming at an increased quality and sustainability of China's approach to its forest resources. It is the leading institutions for the four positive political dynamics described in section 2 that underlie and bolster this project. Importantly, the SFA has also won the institutional support from other powerful policy-making institutions within China's policy-making system. In particular, the policy initiatives that are of crucial importance to this project, e.g. the clear role of forest carbon in the emerging carbon trading system, enjoy the full backing of the powerful National Development and Reform Commission (NDRC), which has lend its approval to the SFA's initiatives on forest carbon trading as well as expansion of forest certification. In sum, the institutional context provides a solid and supportive basis for the envisioned GEF investment.

#### *b) Coordination with other ongoing and planned related initiatives*

This proposed project will be coordinated with a range of ongoing initiatives in China related to forest management, forest carbon and biodiversity management. Regular coordination and consultation mechanism will be incorporated into the project's knowledge exchange mechanisms to be established under project component 3 (see section 2) to maximize synergies and avoid duplication with the work of relevant GEF financed and other initiatives. The project aims to learn from the experiences gained from related initiatives in order to ensure the use of best operational practices and their effective incorporation into the proposed GEF project's framework. In particular, FAO will ensure coordination among its rapidly growing portfolio of GEF projects in China, many of them being biodiversity conservation related projects. This relates in particular to the nearly completed GEF project Securing Biodiversity Conservation and Sustainable Use in Huangshan Municipality and the FAO-GEF project Piloting Provincial-level Wetland PA System in Jiangxi Province.

WWF's ongoing work in promoting forest certification in commercial forests will provide valuable insights for the project areas seeking CFCS certification with support of the GEF incremental investment. Similarly, IUCN aims to conserve forest biodiversity, reduce illegal logging and promote the sustainable use of forest products for the benefit of the rural poor in China through its Livelihoods and Landscapes Strategy and Forest Law Enforcement and Governance activities. The KfW Development Bank-funded Sino-German Afforestation Projects in North and South China (1998-2018) are being implemented in several provinces in-

cluding Henan province, which is one of the GEF project provinces. It provides substantial financial and technical assistance under grant and loan arrangements to achieve effective afforestation of formerly barren and unproductive land and sustainable management of under-managed and underutilized older forest stands. UNDP-GEF projects in China also provide an important body of work with which coordination will also be important. This includes the GEF-funded CBPF-MSL: Strengthening the Management Effectiveness of the Wetland Protected Area System in Hainan for Conservation of Globally Significant Biodiversity (CEO Endorsement March 2013).

With regards to linking forestry activities to the emerging carbon markets, the work of The Nature Conservancy (TNC) in China will be a major source of information and best practices. TNC is currently conducting the first project to create carbon credits from forest activities under the voluntary carbon market. The TNC bamboo forest project in Southern Yunnan Province will provide crucial insight for the GEF project's efforts under the compliance carbon market.

## **4.2 Implementation arrangements**

### **4.2.1 GEF Agency**

In accordance with its comparative advantage as illustrated in section 1, the Food and Agriculture Organization of the United Nations (FAO) will be the GEF Agency for the project. FAO will provide supervision and technical guidance services during the project execution. Administration of the GEF grant will be in compliance with the rules and procedures of FAO, and in accordance with the agreement between FAO and the GEF Trustee.

As the GEF agency for the project, FAO will:

- Manage and disburse GEF funds in accordance with the rules and procedures of FAO;
- Enter into an Execution Agreement with the China State Forestry Administration (SFA) as the national executing agency for the provision of services to the project;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned conservation and sustainable management of the Chimborazo mountain ecosystems;
- Carry out at least one supervision mission per year; and
- Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, on project progress and provide financial reports to the GEF Trustee.

The FAO Representative in China, assisted by the FAO Project Task Manager (see below), will be the Budget Holder (BH) and responsible for the management of the GEF resources and all aspects in the Execution Agreement that will be signed between FAO and SFA. As a first step in project start-up, the FAO Representation in China will establish an interdisciplinary Project Task Force within FAO to guide the implementation of the project. The FAO Representative will in particular be responsible for: (1) disbursement of GEF funds to SFA based on satisfactory reporting on project progress and statement of expenditures; (2) financial reporting and supervision of SFA financial management and use of resources, including clearance of Budget Revisions for submission to TCI/GEF Coordination Unit for

approval; (3) supervision of contracting and procurement processes executed by SFA; and (4) submission of Quarterly Project Implementation Reviews (QPIRs) to the Regional Office for Asia Pacific (RAP) and to the GEF Coordination Unit.

The FAO Representative will in consultation with the LTU and the GEF Coordination Unit give no-objection to Annual Work Plans and Budgets submitted by SFA. Disbursement of GEF funds for the provision of goods, minor works, and services to the project will be carried out by the FAO Representative in accordance with the provisions of the Execution Agreement. The disbursement will be carried out upon submission by the SFA to the FAO Representative of four-monthly financial statements of expenditures, procurement and contract documentation, and disbursement requests based on an updated Annual Work Plan and Budget (AWP/B) including detailed budget for the following four months period to be cleared and approved by the Representative and a Project Progress Report to be approved by the FAO Lead Technical Unit (LTU), the Forestry Management Division (FOMC) of the Forestry Department. The Budget Holder will submit the Project Progress Report to the TCI GEF Coordination Unit for clearance and uploading on the FPMIS.

A Project Task Manager (PTM) will be appointed by FAO in the FAO Office in China, in consultation with the LTU and the GEF Unit. The PTM will, under direct supervision of the FAO Representative in China, support the FAO Representative in the supervision of financial management, project progress, procurement and contracting processes, and in the provision of technical guidance to the project, in close consultation with the LTU, and the Project Task Force. The PTM will be paid from GEF fee resources and will have the following main tasks:

- Review project progress reports from SFA and submit them to the LTU for approval and subsequently to the GEF Coordination in the Investment Centre Division (TCI) for final approval and uploading on the FPMIS;
- Review, provide comments and advise the FAO Representative on giving no-objection to AWP/B in consultation with the LTU and the GEF Coordination;
- Review procurement and contract documentation submitted by SFA for procurement and contracts to be financed by GEF resources and advise the FAO Representative on giving no-objection, in close consultation with the LTU and the GEF Coordination;
- Review SFA project statement of expenditures using GEF resources and Cash Transfer Requests of GEF resources in accordance with the AWP/B and previous Cash Transfer Requests submitted by SFA and advise the FAO Representative on his/her clearance of statements of expenditures and approval of cash transfers in consultation with the LTU and the GEF Coordination;
- Review reports on executed co-financing to be submitted by SFA;
- Conduct periodic supervision missions;
- Prepare quarterly project implementation reviews (QPIRs) to be submitted to the FAO LTU for comments before submitting to the FAO Representative for approval and subsequently to the GEF Coordination for final approval and upload in FPMIS;
- Support the LTU in preparation of the annual Project Implementation Review (PIR) report (Appendix 2);
- Represent FAO in the Project Directive Committee and interview and selection panels for key project positions to be financed by GEF resources;

- In consultation with the FAO Evaluation Office, the LTU and the GEF Coordination Unit, support the organization of the mid-term and final evaluations, contribute to the development of an eventual agreed adjustment plan in project execution approach and supervise its implementation.

The FAO Lead Technical Unit, Forestry Management Division (FOMC), will provide technical advice and backstopping to the project and support the FAO Project Task Manager in responding to requests from SFA for guidance on specific technical issues during project execution. The LTU will:

- review and give no-objection to TORs for consultancies and contracts to be performed under the project and to CVs and technical proposals short-listed by the SFA for key project positions, goods, minor works, and services to be financed by GEF resources;
- supported by the FAO Project Task Manager, review and clear final technical products delivered by consultants and contract holders financed by GEF resources before the final payment can be processed;
- assist with review and provision of technical comments to draft technical products/reports on request from the SFA during project execution;
- review and approve project progress reports submitted by SFA to the FAO Representation in China in coordination with the FAO Project Task Manager;
- support the FAO Representative in reviewing, revising and giving no-objection to AWP/B submitted by the SFA and to be approved by the Project Directive Committee;
- prepare the annual Project Implementation Review report, supported by the FAO Project Task Manager and inputs from the SFA, to be submitted for clearance and completion by the GEF Coordination (TCI) which will subsequently submit the PIR to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The LTU must ensure that SFA has provided information on co-financing provided during the course of the year for inclusion in the PIR;
- field annual (or as needed) project supervision missions;
- review and revise TORs for the mid-term evaluation, participate in review mission including the mid-term workshop with all key project stakeholders, development of an eventual agreed adjustment plan in project execution approach, and supervise its implementation supported by the FAO Project Task Manager.

The **GEF Coordination Unit (TCI)** will review and approve project progress reports, implementation reviews and financial reports and budget revisions. The GEF Coordination Unit will review and clear the annual PIR and undertake supervision missions if considered necessary. The PIRs will be included in the FAO GEF Annual Monitoring Review submitted to GEF by the GEF Coordination Unit. The GEF Coordination Unit will also participate in the mid-term and final evaluations and the development of corrective actions in the project implementation strategy in the case needed to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will in collaboration with the FAO Finance Division request transfer of project funds from the GEF Trustee based on four monthly projections of funds needed.

**The FAO Finance Division** will clear budget revisions, provide annual Financial Reports to the GEF Trustee and, in collaboration with the GEF Coordination Unit, call for project funds on a six-monthly basis from the GEF Trustee.

#### **4.2.2 Executing Partner (national level)**

SFA will be the project Executing Partner directly responsible for technical implementation of project activities, day-to-day monitoring as well as financial management and purchase of goods, minor works, and services (procurement) in accordance with rules and procedures as established in the Project's Operational Manual (see section 3.8.1 above). SFA will enter into an Execution Agreement with FAO allowing for the purchase of goods, minor works, and services needed to execute the project. FAO will ensure that the rules and procedures set out in the Project's Operational Manual are acceptable in accordance with FAO rules and regulations and GEF minimum fiduciary standards, and SFA will follow in particular rules defined in the Execution Agreement. The Execution Agreement will outline in details the roles and responsibilities of SFA and procedures with respect to financial management, procurement, recruitment, project progress reporting, financial reporting and audit, copyright, and other legal aspects of collaboration.

The institutional arrangements for project implementation provide for the use of the existing structure within the SFA, thereby avoiding the creation of new ones, such as a project implementation unit. The technical implementation of the GEF project will be under the Environment Unit. Regular staff of this Unit and of other Directorates and Units at the executive, advisory, support and operational levels in the SFA will assume specific responsibilities under project execution in compliance with all FAO rules and procedures under the execution of the GEF funds.

SFA will submit four-monthly statements of expenditures, procurement and contract documentation for prior clearance, and cash transfer requests based on the updated AWP/B including a detailed budget for the following four month period, and annual audited financial statements to the FAO Representation in China. Further, SFA will prepare and submit to the FAO Representation Project Progress Reports, annual Work Plans and budgets, and all documentation needed for the preparation of the annual PIR.

#### **4.2.3 Provincial level**

The Province Forestry Departments (PFDs) will play a prominent role in the coordination of activities at the province level, taking an intermediary function. On the one hand, the PFDs will collect and provide the necessary information from the project site level and transmit this information to the SFA, supporting SFA's project management and reporting responsibilities and enabling SFA and FAO to react swiftly to changes in project conditions through adaptive project management. The PFDs will use their regular existing reporting procedures with SFA, established in the context of previous internationally funded projects. Existing reporting and information sharing structures are fully sufficient for the purposes of the GEF project.

On the other hand, the PFDs will serve as the transmitter of information and guidance from the national level to the county level project management units. In terms of regular supervision of activities at the county level, PFDs will play a central role in ensuring smooth project implementation. PFDs are in an excellent position to fulfil this role: throughout the entire project preparation process, the PFDs have proven not only their undivided support for the project, but also the implementation capacity necessary to efficiently and effectively guide and manage the project implementation at the provincial level.

#### **4.2.4 County level**

The project management units at the county level, i.e. selected staff of the county level forestry bureaus, will supervise and support the actual and concrete implementation of project ac-

tivities at the project site level. Using their close relationship with local communities and forest managers, county governments will be in day-to-day interaction with the individual forest managers that will practically apply the SFM practices to be supported by the project. The framework of existing service contracts and land-use agreements that PFDs have with local communities, farmers and forest managers will provide a stable structure for supervision and guidance of activities.

#### **4.2.5 Local communities/forest managers**

Ultimate application of practices to be supported under project component 2 lies with the household level forest managers from local communities. In close collaboration with the respective county governments and forest farm administrators, these forest managers will be the recipients of most of the targeted training and capacity development activities supported by the project, empowering them to implement SFM practices effectively and efficiently and thereby paving the way for broader adoption and mainstreaming of these practices not only within the specific project locations, but throughout the far larger area covered by the two baseline initiatives.

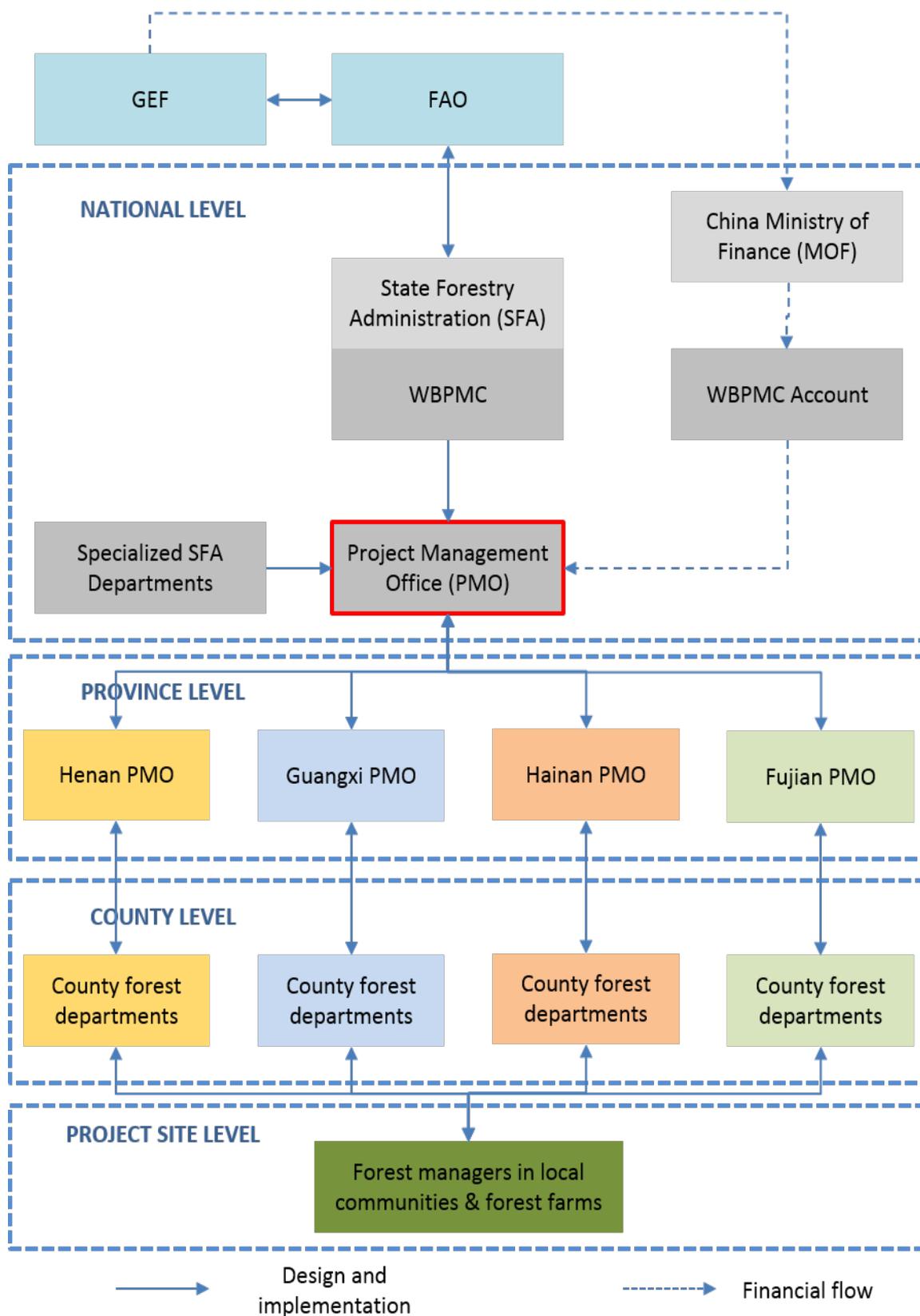


Figure 11: Overall organizational and fund flow structure of GEF SFM project

### 4.3 Financial planning and management

**Distribution between components:** In comparison to the distribution of resources between the three project components, the balance has been slightly adjusted during project preparation. Some resources were moved from the C2-envelope to the C1-envelope and C-3 envelope respectively. The reason for this is the shift of some project activities from C2 to C1 and C3 due to considerations of strategic coherence and stakeholder responsibilities within the framework of the overall project strategy (as described in detail in section 2).

Concretely, the activities concerning the **design and establishment of the necessary monitoring systems**, especially for carbon monitoring, were consolidated under Component 1, explaining the increase in funding for C1. Similarly, **all training activities** were consolidated under component 3, explaining the increase in funding for C3. Beyond the shifting of activities between components, the balance of the funding distribution between types of activities remains the same as envisioned in the PIF.

**Co-Financing:** As already described in section 1.2, the SFA will be listed as primary co-financier since both of the related programmes have their resources pooled and managed at the national level. However, the total co-financing amount includes proportions of resources that are allocated to the provincial level, making the four province governments de facto co-financers. The provinces are therefore also listed as in the table above, without specifying the respective province level amounts of co-financing.

#### 4.3.1 Financial plan (by component, outputs and co-financier)

Component/output	SFA and PFDs (through EIB-GOC loan project)	SFA and Henan PFD (through NSTRP)	FAO	Total Co-financing	% Co-financing	GEF	Total
<b>Component 1: Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local level, creating a basis for enhanced biodiversity conservation and carbon sequestration.</b>	<b>7,650,000</b>	<b>900,000</b>	<b>200,000</b>	<b>8,750,000</b>		<b>1,102,100</b>	<b>9,852,100</b>
O 1.1.1: National and provincial level implementation guidelines facilitating implementation of existing SFM policies, legal provisions and standards.	300,000		40,000	340,000	64%	190,550	530,550
O 1.1.2: Incorporation of implementation guidance on the biodiversity standards for certification (China Forest Certification Scheme, CFCS).	100,000		40,000	140,000	87%	20,600	160,600
O 1.1.3: Incorporation of implementation guidance to improve forest inventory procedures and MRV for carbon sequestration and	50,000		40,000	90,000	81%	20,600	110,600

GHG emission reductions from forests, land-use and land-use change including the existing methodology for obtaining tradable carbon certificates from enhanced SFM.							
O 1.2.1: Local SFM plans (following 1.1.1 provisions) for each project area containing a set of modifications in forest regulations, policies and guidelines.	1,000,000	300,000		1,300,000	88%	169,950	1,469,950
O 1.3.1: Development of overarching national level monitoring system for collecting and processing information on SFM activities in the 4 provinces (envisioned for national roll-out)	2,000,000		40,000	2,040,000	94%	123,600	2,163,600
O 1.3.2: Development of national level framework and action plan for establishment of a forest carbon sequestration and emission reductions monitoring system	2,000,000			2,000,000	94%	123,600	2,123,600
O 1.3.3: Design of local level BD monitoring systems integrated with the national level system and following guidance provided under 1.1.2.	1,000,000	300,000		1,300,000	86%	206,000	1,506,000
O 1.3.4: Design of local level CCM monitoring systems integrated with the national level system and following guidance provided under 1.1.3.	1,000,000	300,000		1,300,000	85%	226,600	1,526,600
O 1.4.1: Several adjustments to national forest policies, legal provisions and/or regulation directly linked to and informed by experiences gained from project implementation at the local level.	200,000		40,000	240,000	92%	20,600	260,600
<b>Component 2: Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.</b>	<b>25,750,000</b>	<b>6,300,000</b>	<b>100,000</b>	<b>32,150,000</b>		<b>4,382,650</b>	<b>36,532,650</b>
O 2.1.1: Strengthened SFM capacity at local level; at least 100,000 ha of economically used forest benefiting from enhanced SFM practices across the 4 provinces.	4,150,000	1,000,000		5,150,000	92%	453,200	5,603,200
O 2.2.1: 42,000 ha of reforestation	11,500,000	2,900,000		14,400,000	90%	1,668,600	16,068,600

estation and forest restoration/rehabilitation yielding 4,770,611 tCO <sub>2</sub> e (project duration).							
O 2.2.2: 87,000 of enhanced carbon management yielding 12,927,948 tCO <sub>2</sub> e (project duration).	6,000,000	1,500,000		7,500,000	90%	860,050	8,360,050
O 2.2.3: Six project sites successfully create carbon credits under the SFM methodology for China's national carbon trading scheme.	100,000		100,000	200,000	83%	41,200	241,200
O 2.3.1: 35,000 ha of additional forest area certified under CFCS with particular focus on CFCS biodiversity requirements.	1,000,000	250,000		1,250,000	77%	381,100	1,631,100
O 2.3.2: 15,000 ha of forest restoration efforts incorporate the planting of rare species.	1,500,000	400,000		1,900,000	79%	494,400	2,394,400
O 2.3.3: Nurseries for rare tree species created or improved.	1,000,000	250,000		1,250,000	88%	175,100	1,425,100
O 2.3.4: Implementation of business models for revenue generation from rare species protection.	500,000			500,000	62%	309,000	809,000
<b>Component 3: Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.</b>	<b>5,250,000</b>	<b>150,000</b>	<b>100,000</b>	<b>5,500,000</b>		<b>1,327,978</b>	<b>6,827,978</b>
O 3.1.1: National level as well as cross-provincial trainings for stake-holders from all project provinces including international experts and exchange at international level	200,000		50,000	250,000	59%	175,100	425,100
O 3.1.2: Provincial and county-level forest bureaus as well as local community forest managers trained in SFM practices with specific focus on CCM and BD benefit creation. [Total number of trainees across the four provinces: 4000]	400,000	100,000	50,000	550,000	57%	411,278	961,278
O 3.1.3: Provincial and county-level forest bureaus as well as local community forest managers trained in the setup and application of carbon as well as biodiversity monitoring systems as	100,000	50,000		150,000	65%	82,400	232,400

designed under component 1.							
O 3.1.4: Improved provision of relevant data and knowledge to project stakeholders.	200,000			200,000	91%	20,600	220,600
O 3.2.1: Mechanisms and communication channels for regular exchange of knowledge and experience incl. peer-to-peer teaching between local forest managers and government administrators at county and provincial level established.	300,000			300,000	83%	61,800	361,800
O 3.2.2: Mechanisms and communication channels for exchange of knowledge and experience between project stakeholders from different provinces established.	150,000			150,000	88%	20,600	170,600
O 3.2.3: Interaction on SFM utilized to strengthen social networks and new social capital among local forest managers (possibly including creation of forest manager associations where suitable).	150,000			150,000	88%	20,600	170,600
O 3.3.1: Project M&E system designed, established and applied throughout the project and across all components, provinces and project sites.	1,000,000			1,000,000	75%	329,600	1,329,600
O 3.3.2: Publication and dissemination of project information and experiences; public awareness raising.	2,750,000			2,750,000	93%	206,000	2,956,000
<b>Project Management</b>	<b>2,000,000</b>			<b>2,000,000</b>		<b>340,000</b>	<b>2,340,000</b>
<b>Total Project</b>	<b>40,650,000</b>	<b>7,350,000</b>	<b>400,000</b>	<b>48,400,000</b>		<b>7,152,728</b>	<b>55,552,728</b>

#### 4.3.2 GEF/LDCF/SCCF inputs

The GEF contribution to the project will be used to support the described activities (see section 2) supporting the generation of global environmental benefits and cannot be adequately funded by local stakeholders at present. These activities will complement the two baseline projects as described in detail in previous sections, leveraging and complementing the existing investments (EIB loan plus public investment). The GEF incremental investment will be used to mainstream SFM principles and practices into the ongoing forestry activities, turning current efforts from a focus on quantity to an approach of quantity with quality.

A major part of the GEF incremental funding will be used under project component 2, supporting the implementation of actual SFM practices in order to demonstrate their feasibility,

efficiency and effectiveness, paving the way for subsequent replication and scaling up. Activities will create significant direct global environmental benefits in terms of biodiversity and climate change mitigation.

### **4.3.3 Government inputs**

Government inputs will be made in the context of national contributions to the EIB-GOC loan project as well as through the publicly financed NSTRP. Total co-financing from the Government of China through SFA and PFDs amounts to **US\$40,650,000 from the EIB-GOC loan project and US\$7,350,000 NSTRP** for an overall total of **US\$48,000,000**.

### **4.3.4 FAO inputs**

FAO as the project's implementing agency will contribute US\$400,000 in cash resources.

### **4.3.5 Financial management of and reporting on GEF resources**

#### *a) Accounting*

The daily financial management of the GEF project will be conducted by the WBPMC Finance Division with support of PMO of the Planning Division. WBPMC Finance Division has already set up an effective and systematic financial management and accounting system following the national accounting norms and standards compliant with international standards. There are four financial officers working in the Finance Division of WBPMC. All of them have university degrees of MSc. and BSc. in Finance Management with 5-20 years working experiences in financial management. Liu Yuying, the Division Chief of Finance Division has been working in the division for more than 15 years and has been involved in the financial management and accounting for WB, ADB, and GEF projects. She and her team will be responsible for preparing financial reports and conducting daily book keeping for project expenses. These documents will be prepared in Chinese and English. Payments, disbursement, payment application, approval and signature will be managed by Financial Division of WBPMC. At the provincial level, each province will nominate a financial officer in the forestry department being in charge GEF project fund management and book keeping.

Assessment of the accounting capacity of SFA PMO: The Financial Accounting System is well established and in effective operation. The management competence and skills of the accountants in Finance Division of WBPMC can meet the overall requirement of GEF project fund management. The risk of financial management and accounting in WBPMC is low.

#### *b) Financial Reporting*

The staff of the WBPMC Finance Division is experienced in producing financial reports for GEF projects. The financial reports are prepared in Chinese and English. PMO staff will be involved in preparing the financial reports. Financial report will be six-monthly prepared by WBPMC PMO and submitted to FAO for fund disbursement. In addition, a monthly financial report will be also prepared by PMO. Monthly financial report includes following information:

- (1) Detailed monthly expenditures of each budget line linked with planned project components and activities;
- (2) Remaining funds from the previous reporting period; budget lines exceeding the original budget plan, explanations for reasons of exceeding the planned budget;

- (3) Estimated budget required in the coming reporting period;
- (4) Application and recommendation for modifying the annual budget.

The financial report will be prepared based on the daily accounting records and receipts submitted by the provincial project sites and eventually also the subcontracted implementing agencies. Classified budget line and activity based expense sheets will be prepared by PMO and fund using agencies. These documents are kept for internal and external auditing. Both the PMO financial officer and financial officers in the Finance Division have full command of financial management software for keeping the daily expenditure records and for establishing the financial summary and balance sheets which were used for producing the financial reports according to the governmental financial reporting format which is also quite coherent with international standard. PMO and PD financial officers in charge of managing the GEF Project funds still need to be familiarized with FAO financial management procedures and regulations as well as financial report formats through practice and training at FAO CN.

In the current WBPMC financial management system, co-signature by division chief and director general in charge is applied. For GEF project the financial report must be jointly co-signed by three persons, namely the NPD (Mr. Yan Zhen), PMO technical coordinator (Mr. Wan Jie) and Division Chief of WBPMC Financial Division (Madam Liu Yuying), reviewing and validating of the accurate checking failures are jointly done by the chief accountant and cashier at the Finance Division before signature and submission to FAO. According to FAO requirement all financial reports will be produced in Chinese and English, the English version will be also co-signed by the authorized persons and submitted to FAO.

Assessment of financial reporting procedures and capacity: WBPMC has already established a systematic financial reporting system, and relevant financial management staff can effectively handle financial reports and relevant accounting. PMO financial officer still lack some experience in conducting daily financial management in accordance to FAO rules and procedures and need limited additional training by FAO CN. Risk is moderate and manageable.

#### **4.4 Procurement**

##### *a) Materials and Equipment*

According to the in-depth analysis conducted in the context of fiduciary risk assessment (see section 3.2.2), WBPMC has extensive experience with procurement of project related materials and equipment for WB, ADB, GEF and other internationally supported projects. Procurement of project materials strictly followed the National Governmental Procurement Law enacted in 2002. The law specifically stipulated the procurement modalities, tendering procedures, contracting arrangement, complaints, procedure inspection, which are all in alignment with international procurement procedures and standards. The SFM project will also follow the guiding procedures specified in the procurement law.

The SFM project procurement will be implemented using the following procedures and rules:

- (1) Preparation of the Procurement Plan: For SFM Project the procurement plan and procurement document must be prepared by PMO based on result framework, Overall Project Implementation Plan and annual implementation plan;
- (2) If the equipment and service procurement volume is larger than 500,000 Yuan and the physical engineering construction volume is more than 1.0 million Yuan open tendering procedures are required. The procurers must announce the procurement through newspapers, webpage and other public media for calling offers from suppliers. For

small volume procurement the principle of inviting offers from “Three Suppliers ” must be applied in the procurement;

- (3) Evaluating and selecting the offers from three shortlisted suppliers by a tender evaluation team consisting of PMO officials, officials from financial division and the Technology Division of WBPMC. The offer with best quality and lower offered prices will be selected according to the tender evaluation criteria and scoring. Audit and Inspection Division of WBPMC will be attending to supervise the evaluation procedures.
- (4) The evaluation result will be publicized for certain days before the PMO finally select the qualified suppliers;
- (5) Organizing the procurement of goods and equipment, inventory registration and hand-over to pilot areas and other benefited users;
- (6) Supervision of utilization of the purchased goods and equipment to ensure they will be exclusively used for conducting the project actives.

The procurement tender procedures follow both international standards and Chinese governmental procurement standards which ensures that procedures are transparent and fair and strictly follow tender evaluation criteria and guidelines. Procurements at provincial level will follow the same procedures. According to PMO, WBPMC can also entrust the SFA Governmental Procurement Center to procure small amount of materials, such as office consumables and small office equipment, in package procurement approach. In light of these findings, the assessed Procurement Risk both by WBPMC and provincial PMOs is low.

#### *b) Recruitment and consultancy service procurement*

For all components of SFM Project outside technical consultants and consultancy services are needed. Both WBPMC and Provincial PMOs already have experiences in recruiting individual and institutional consultancy services. Based on the TORs provided in the Appendices section of this document, WBPMC will initiate the recruiting process according to following procedures:

- (1) PMO will prepare the consultant recruitment and consultancy service procurement plans according to the consultancy tasks and scope of work specified in the project design document (ProDoc). The recruitment plan will include following information: title and position, major tasks and responsibilities, outputs and deliverables expected and minimum qualification requirements, when service is needed, duration of the assignment, consultant deployment schedule, which component budget lines to pay the salaries, etc. ;
- (2) SFA PMO and provincial PMOs will prepare Terms of Reference (TOR) and job descriptions based on the recruitment plan and project design document. Following information will be given in TOR: project background, consultancy tasks, responsibilities and services required, duration of the assignment, expected outputs and deliverables, minimum qualifications and work experience requirements, etc. TOR will be also used as reference document for PMO to pay the consultant honorarium.
- (3) Publicize job vacancy announcement and consultancy service procurement information on website and public media at least for two weeks or directly send to the potential candidates, and invite relevant candidates for CV submission and bidding offers. Consultants who involved in PPG and shown good consultancy performance would be considered and invited as candidates as consultants during the project implementation.
- (4) Interviewing, evaluating and selecting the consultant candidates by the PMO Director, Project Coordinator, Audit and Inspection Division of WBPMC (to supervise the evalua-

tion procedures), and eventually FAO and outside experts will be invited to join the interview team. Criteria for selecting management staff, domestic and international consultants and experts are: evaluation scores given by the interview team members, professional qualification and relevant practical working experiences of candidates are in line with TOR requirements; expected salary from candidates; time availability; former project management and consultancy performance shown in CVs. Practical experiences and previous consultancy activities relevant to the position will be the priority criteria for selection of the candidates. The whole interview and evaluating process will be transparent.

- (5) Signing the consultancy contract with recruited consultants with specific descriptions of major tasks, major expected outputs, time of consultancy inputs. Consultancy TOR will be annexed to the contract;
- (6) Mobilization of consultant inputs, supervising the consultancy process and reviewing and accepting the consultancy reports and outputs before payments.

Both WBPMC PMO and Provincial PMOs have experience in recruiting local consultants and procuring consultancy service. The above mentioned procedures will be strictly applied in recruiting national and local consultants for providing technical services during project implementation. These personnel recruitment procedures and criteria will be also specifically described in the Project Implementation Management Manual (PIM) prepared by WBPMC PMO in consultation with FAO project official in charge. The fiduciary assessment consultant rates the PMO personnel recruitment capacity as moderate and manageable.

## **4.5 Monitoring and Reporting**

### **4.5.1 Oversight and monitoring responsibilities**

Monitoring and evaluation of progress in achieving project results and objectives will be conducted 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 SFA's WBPMC 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. The project Monitoring and Evaluation Plan has been budgeted at US\$ 329,600. The project monitoring and evaluation system will go hand in hand with the biodiversity and carbon monitoring systems to be established under project component 1.

### **4.5.2 Indicators and information sources**

The project indicators are specifically selected to capture progress in improvements of carbon sequestration and emission reductions as well as enhanced biodiversity protection. This further highlights the need to closely integrate the project M&E system with the CCM and BC monitoring systems to be designed and implemented as integral parts of the project strategy.

The monitoring systems to be established as part of the project 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 SFA Project Technical Team 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.

The detailed overview of selected indicators and targets can be found in the full project framework in the Appendices section of this document. The carbon related indicators will follow the in-depth carbon calculations conducted in the context of project preparation to establish the carbon baseline and assess the realistic carbon benefits to be expected from project activities. The target amounts have been listed in section 2.

#### **4.5.3 Reporting schedule**

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

- i. project inception report;
- ii. Annual Work Plan and Budget (AWP/B);
- iii. Project Progress Reports (PPRs);
- iv. quarterly project implementation reports (QPIRs);
- v. annual project implementation review (PIR);
- vi. technical reports;
- vii. co-financing reports; and
- viii. 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, SFA 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):

SFA 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)

SFA will submit to the FAO Representation in China six-monthly project progress reports. The 3<sup>rd</sup> report should accompany the following year’s draft Annual Work Plan and Budget (AWP/B) and the 1<sup>st</sup> and the 2<sup>nd</sup> 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 SFA 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 SFA, 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 SFA 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

SFA will be responsible for collecting the required information and reporting on in-kind co-financing. SFA 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 SFA 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.

**4.5.4 Monitoring and evaluation plan summary**

Type of M&E activity	Responsible Parties	Time-frame	Budgeted costs
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Type of M&E activity	Responsible Parties	Time-frame	Budgeted costs
Inception Workshop (as part of annual project management workshop including M&E system application)	SFA, FAO BH LTO/PTM, LTU	Within two months of project start up	USD 50 000 (annual project management workshop & M&E system application)
Project Inception Report	SFA, 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	SFA, FAO LTO/PTM, LTU	As early as possible after project start up	USD 60 000
Field based impact monitoring including M&E system operating expenses	SFA, PDFs, County level project units, local forest managers	Continually	USD 70 000
Supervision visits and Quarterly Project Implementation Reports - QPIR	FAO LTO/PTM, FAO FLO (Funding Liaison Officer - TCI) with inputs from SFA	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	SFA	four-monthly	None (in-kind co-financing)
Project Implementation Review - PIR	LTU, FAO LTO/PTM; FAO FLO (Funding Liaison Officer - TCI).	Annually	Paid by GEF Agency fee
Co-financing Reports	SFA	Annually	None (in-kind co-financing)
Technical reports	SFA, 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 70 000
Final evaluation	External Consultant, FAO independent evaluation unit in consultation with the project team and stakeholders	At the end of project implementation	USD 70 000
Terminal Report	SFA, LTU, FAO LTO/PTM	At least one month before end of project	
<b>Total (GEF funding)</b>			<b>USD 320 000</b>

#### **4.6 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 SFA 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.

#### **4.7 Communication and visibility**

Project component 3 highlights the importance of communicating the efforts and results of this project broadly for three main reasons. First, to use the project as a catalyst for raising general societal awareness on the importance and value of healthy forest resources and their economic as well as ecologic benefits. Second, to further the ongoing political dynamic towards highlighting the role of forests for China's sustainably development, bolstering political support and helping the emergence of a long-term political vision for China's commercial forestry sector based on the principles of SFM, including biodiversity protection and carbon reduction. Third, to prepare the ground for direct and immediate replication and scaling up of project activities in surrounding areas as well as the wider forestry sector in the project provinces or even beyond the original four provinces. Practically demonstrating the effectiveness of SFM practices remains one of the most powerful instruments for inducing wide-spread adoption. However, broader adoption hinges on good communication and visibility.

For these three reason, component 3 envisions to communicate the project activities and results actively and widely, including lessons learned, milestones achieved and benefits generated. Especially the innovative character of the project activities, breaking new ground on several aspects (see section 2), will be at centre of the communication efforts. Dissemination of information will happen at the national, provincial and county level, using the full spectrum of communication technologies: dedicated websites, regular newsletters, and comprehensive media engagement will be cornerstones of the project's communication strategy. In addition, the structures established in the context of the M&E plan will be directly used to formulate and disseminate targeted recommendations for the policy-making system to inform the further development of policies and strategies at national and local levels well beyond the actual project.

## **SECTION 5 – SUSTAINABILITY OF RESULTS**

### **5.1 Social Sustainability**

Local communities in their intensifying role as managers, owners and beneficiaries of productive forest landscapes in China, are the core addressees, stakeholders and beneficiaries of this project. Almost all project sites, those with land use rights held by local farmers or farmer associations as well as the state-owned forest farms, are managed by local communities. Farmers take on forest management responsibilities either as owners or as government contractors. In both cases, local farmers are the main addressee of the comprehensive training and capacity development activities to be implemented under component 3. Local farmers will benefit significantly from their enhanced forest management knowledge and capacity they stand to gain in the context of the project.

The additional revenue streams created by the project to incentivize SFM, carbon reductions and biodiversity conservation will directly benefit local communities. This includes additional sources of income from forest certification (CFCS) and carbon trading. In addition, the increase in forest value brought about by the project through forest productivity gains and growing of valuable rare timber species will improve the overall socioeconomic situation of the local communities in question. Local co-benefits deriving from the creation of GEBs are thus particularly pronounced in this GEF project enhancing social and socioeconomic 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.

### **5.2 Environmental sustainability**

The project is geared towards the creation of long-term environmental benefits, aiming at sustainable impact that will improve environmental conditions well beyond the scope and duration of the project itself (see section 5.6). The mitigation of environmental risk, especially climate shocks, is embedded in the core objective of the project. Reducing the vulnerability of forest areas against threats at the same time increases the environmental sustainability of the project itself. As an initiative dedicated to the enhancement of environmental sustainability not only for the project, but for the project provinces and for China as a whole, its environmental sustainability has to be categorized as particularly high.

### **5.3 Financial and economic sustainability**

The project's strong alignment with national and provincial level long-term interests and goals and its inseparable linkage with major forestry investments effectively insulates the project from most financial risks. The Government of China has consistently demonstrated its ability and willingness to provide the necessary financial means to fulfil not only its co-financing obligations, but also fund the replication and scaling-up activities that will be discussed under section 5.6. In this light, the financial and economic sustainability of the project has to be seen as solid.

#### **5.4 Sustainability of capacities developed**

The project's significant capacity development efforts (under component 3) are not stand-alone trainings that only produce an impact on the cohort of trainees reached by the project directly. On the contrary, the project's training activities go hand-in-hand with the practical demonstration of the SFM practices in question. Thereby, the developed capacity is applied immediately and concretely, passing knowledge and information to an ever-growing group of individuals well beyond the initial group of trainees.

In addition, knowledge exchange and dissemination mechanisms envisioned to be established by the project are designed as sustainable structures embedded into the local administrative system. Part of the replication and scaling-up activities is to ensure the existence of these knowledge mechanisms beyond project duration. Training structures will also include peer-to-peer learning, including knowledge and experience exchange between farmers and government staff of different project sites within one provinces as well as between different project provinces. The sustainability of capacity developed will be ensured by these peer-to-peer fora for farmers' interaction on past experience and future endeavours.

#### **5.5 Appropriateness of technology introduced**

The set of SFM practices selected by the local government and farmer communities themselves is based on the basis of global expertise and experiences as provided by FAO as a knowledge based organization. The project team provides guidance on the best available and internationally acknowledged SFM practices. However, the decision on what practices to use lies with the project stakeholders at the local level, ensuring the selection of the most suitable among the qualified approaches given local conditions, needs and challenges. In this way, the project aims to achieve a high level of appropriateness of introduced practices both from a global and a local point of view.

#### **5.6 Replicability and scaling up**

Its replicability and potential for scaling-up count among the biggest advantages of this project. By consciously leveraging four major political trends in China's forestry sector (see section 2.1) the project is not only aligned, but closely embedded in the overarching political context, dynamic and fundamental interests in China. Expanding SFM across the country is an explicit goal of China's political leadership. Accordingly, the Government of China is likely to become a strong partner in replication and scaling-up efforts, providing its support to the roll-out of project activities beyond their current scope.

Activities have been selected for their replicability not only in the entire and very significant area of the baseline projects in the four pilot provinces, but also in other parts of these provinces and areas in additional provinces. Project sites represent a diverse spectrum of very different conditions and challenges. Thereby the project will create a broad portfolio of solutions for a range of replication areas. The close linkage between provinces created by the project will also serve as a template for inter-provincial exchange of knowledge and information further facilitating the replication and scaling-up process. In combination, these factors create a promising environment for expanding project activities after and even during direct project implementation.

## APPENDICES

## Appendix 1: Results Matrix

Project outcomes and impacts: <sup>1</sup>

Objective/Impact	Baseline	Outcome indicators	Assumptions
<p><u>Global Environmental Objective:</u></p> <p><b>To enable local communities in four Chinese provinces to effectively employ incentive-based sustainable forest management (SFM) practices in reforestation and forest restoration activities, enhancing carbon storage and sequestration as well as biodiversity conservation.</b></p> <p><u>Project Development Objective:</u><sup>2</sup></p> <p><b>To increase and improve provision of goods and services from forestry in local communities across four Chinese provinces in a sustainable manner, particularly emphasising the long-term resilience of restored and reforested forest areas against environmental pressures. (in line with FAO SO2)</b></p>	<p><u>Component 1:</u></p> <p>“Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local level, creating a basis for enhanced biodiversity conservation and carbon sequestration.”</p> <p>BASELINE:</p> <ul style="list-style-type: none"> <li>• Comparatively advanced policy framework at national level with some remaining weaknesses</li> <li>• Lacking provisions and guidance for translating national level policies to local implementation</li> <li>• Insufficient incorporation of SFM principles in policies and plans at provincial and local level</li> <li>• Gaps in addressing location specific threats (pests, diseases, fires) through appropriate SFM plans</li> <li>• No monitoring systems for SFM,</li> </ul>	<p><u>Component 1:</u></p> <p><b><u>Outcome 1.1</u></b></p> <p>“Improved implementation framework translating the SFM principles and goals embodied in national policies into tangible choices and priorities for on-the-ground SFM activities.”</p> <ul style="list-style-type: none"> <li>• Drafting and successful application of cascading set of implementation guidelines: 1 at national level, 4 at provincial level, 16 at county level</li> </ul> <p><b><u>Outcome 1.2</u></b></p> <p>“Strengthened local level application and coherent planning of SFM practices, including biodiversity conservation and carbon benefit enhancements.”</p> <ul style="list-style-type: none"> <li>• Drafting and successful application of 16 local SFM plans that incorporate three key components: (i) biodiversity criteria and SFM standards; (ii) provision of locally specific incentives for adoption; (iii) specialized management provisions for locally prevalent threats.</li> </ul>	<p><u>Component 1:</u></p> <p>(1) Full political support at national, provincial, and local level for the principles of SFM and appreciation of related benefits (<i>already demonstrated by all stakeholders throughout project preparation</i>)</p> <p>(2) Strong communication and collaboration between government levels (vertical) as well as exchange of best practices at the same government level, province-to-province, county-to-county (<i>foundation and mechanisms already established during project preparation</i>)</p> <p>(3) Technical expertise for drafting of corresponding documents at all level (<i>provision of related technical support is one of the major activities under this project</i>)</p> <p>(4) Willingness, especially at local level, to increase awareness, knowledge, experience, and capacity for SFM implementation</p>

<sup>1</sup> Please insert/delete rows for components as needed

<sup>2</sup> In line with FAO SOs

	<p>BD and CCM in place</p>	<p><b><u>Outcome 1.3</u></b>  “Local monitoring systems guide the application of SFM practices, biodiversity conservation and carbon sequestration efforts.”</p> <ul style="list-style-type: none"> <li>• Drafting and successful application of 16 BD as well as CCM monitoring systems at local level following technical requirements outlined under Outcome 1.1</li> </ul> <p><b><u>Outcome 1.4</u></b>  “Enhanced national level policy, legal and regulatory framework based on feedback of project experiences and identified gaps.”</p> <ul style="list-style-type: none"> <li>• Fine-tuning of all national level policies and plans under direct responsibility of SFA and advice and exchange of ideas with other departments regarding their respective policies relating to forest management</li> </ul>	<p><i>(willingness demonstrated during project preparation; development of necessary capacity will be strongly supported through component 3 of the project)</i></p>
	<p><b><u>Component 2:</u></b>  “Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.”</p> <p><b>BASELINE:</b></p> <ul style="list-style-type: none"> <li>• Extensive reforestation and forest restoration activities are ongoing in all four pilot provinces to serve as basis for project activities (including the two direct baseline initiatives for this project: EIB loan project + NSTRP)</li> </ul>	<p><b><u>Component 2:</u></b>  <b><u>Outcome 2.1</u></b>  “County forestry bureaus and local communities empowered and capacitated to apply a large spectrum of SFM practices selected in accordance with location-specific needs and challenges.”</p> <ul style="list-style-type: none"> <li>• Strengthen SFM capacity at local level empowers and capacitates local communities to successfully apply SFM practices on more than 100,000 ha of economically used forest across four provinces</li> </ul>	<p><b><u>Component 2:</u></b></p> <ol style="list-style-type: none"> <li>(1) General willingness of stakeholders at all levels to test implementation of SFM practices is very high <i>(as proven during project preparation)</i></li> <li>(2) Existing frameworks like CFCS are insufficient by themselves to maximize GEBs, but can serve as solid anchors to closely integrate project activities into existing structures</li> <li>(3) Strong trends are currently changing the overall approach to</li> </ol>

	<ul style="list-style-type: none"> <li>• Many of the ongoing activities do neither follow SFM practices nor explicitly consider BD and CCM implications of forest management (“quantity over quality”)</li> <li>• Practical knowledge about SFM practices is limited, especially at local level</li> <li>• Two national level sets of requirements on BD and CCM, largely compatible with SFM principles, already exist and can be used to guide project activities: (i) BD requirements as part of the CFCS certification scheme; (ii) SFM methodology for creation of carbon credits under the national carbon trading scheme</li> </ul>	<p><b><u>Outcome 2.2</u></b>  “Carbon sequestration enhanced and GHG emissions from forests reduced through reforestation of damaged forest, rehabilitation of degraded forest, as well as enhanced SFM practices leading to emission reductions.”</p> <ul style="list-style-type: none"> <li>• Successful application of SFM practices that directly lead to emission reductions yielding 17.9 million tCO<sub>2</sub>e</li> </ul> <p><b><u>Outcome 2.3</u></b>  “Enhancement of forest biodiversity through protection and conservation of rare and endangered native species.”</p> <ul style="list-style-type: none"> <li>• Successful application of SFM practices that directly lead to the certification of an additional 35,000 ha of forest under the CFCS, including 15,000 ha of rare species planting, nursery creation etc.</li> </ul>	<p>forest management and will be leveraged by project activities: (i) Decentralization of forest management structures; (ii) Emergence of a strong forest certification mechanism; (iii) Creation of a comprehensive forest inventory and carbon monitoring system; (iv) Establishment of a national carbon market</p> <p>(4) High level of embedment of project activities into existing trends and structures will facilitate replication and scaling-up beyond project scope and duration</p>
	<p><b><u>Component 3:</u></b>  “Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.”</p> <p>BASELINE:</p> <ul style="list-style-type: none"> <li>• General institutional capacity in the forest sector is comparably high (albeit differing between the four pilot provinces) and can serve as a solid basis for project activities</li> <li>• Knowledge and practical skills on</li> </ul>	<p><b><u>Component 3:</u></b>  <b><u>Outcome 3.1</u></b>  “Enhanced knowledge and capacity of local farmers and government staff to implement SFM practices, create CCM and BD related GEBs and implement the corresponding monitoring systems.”</p> <ul style="list-style-type: none"> <li>• Enhanced capacity of a minimum of 4000 trainees across the four provinces with regard to SFM practices, BD conservation and CC mitigation in the forest sector</li> <li>• Improved mechanisms for data provision and information exchange successfully</li> </ul>	<p><b><u>Component 3:</u></b></p> <p>(1) Communication and collaboration among project stakeholders at different levels can be strengthened to the necessary degree to effectively implement capacity development mechanisms</p> <p>(2) Existing capacity at the local level is sufficient to serve as a starting point for building SFM, BD and CCM specific capacity</p>

	<p>SFM is limited, especially among local community forest managers and local government officials</p> <ul style="list-style-type: none"> <li>• Capacity and information on biodiversity conservation as well as climate change mitigation through forest management is insufficient</li> <li>• Capacity to set up and apply BD and CCM monitoring systems is small</li> </ul>	<p>established</p> <p><b><u>Outcome 3.2</u></b></p> <p>“System for peer-to-peer teaching and regular exchange of knowledge and experiences between project site staff within and between the four provinces.”</p> <ul style="list-style-type: none"> <li>• Improved mechanisms and channels for knowledge exchange, including peer-to-peer teaching, successfully established and applied</li> </ul> <p><b><u>Outcome 3.3</u></b></p> <p>“Establishment of project monitoring and evaluation system measuring project progress and achievements.”</p> <ul style="list-style-type: none"> <li>• Project M&amp;E system designed, established and applied throughout the project and across all components, provinces and project sites</li> </ul>	
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**Project outputs and outcomes:<sup>1</sup>**

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection
<b>Component 1: Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local level, creating a basis for enhanced biodiversity conservation and carbon sequestration.</b>										
<b>Outcome 1.1</b>										
Improved implementation framework translating the SFM principles and goals embodied in national policies into tangible choices and priorities for on-the-ground SFM activities. BASELINE: Lacking provisions and guidance for translating national level policies to local implementation										
<b>Output 1.1.1</b> National and provincial level implementation guidelines facilitating implementation of existing SFM policies, legal provisions and standards.	No implementation guidelines for translating SFM policies into practice at local level	Interconnected set of implementation guidelines: 1 national 4 provincial 16 county	National: 50% Provincial: 50% County: 50%	National: 100% Provincial: 100% County: 100%	---	---	---	---	Guideline review	Forestry administration at respective government level
<b>Output 1.1.2</b> Incorporation of implementation guidance on the biodiversity standards for certification (China Forest Certification Scheme, CFCS).	No implementation guidelines; no BD incorporation	Full incorporation of BD considerations into implementation guidelines following CFCS requirements	National: 50% Provincial: 50% County: 50%	National: 100% Provincial: 100% County: 100%	---	---	---	---	Guideline review	Forestry administration at respective government level

<sup>1</sup> Please insert/delete columns for project years and rows for outputs and outcomes as needed.

<sup>2</sup> Value in the case of quantitative indicators and description of situation in the case of qualitative indicators. Please insert the year of the baseline

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection
<p><b>Output 1.1.3</b></p> <p>Incorporation of implementation guidance to improve forest inventory procedures and MRV for carbon sequestration and GHG emission reductions from forests, land-use and land-use change including the existing methodology for obtaining tradable carbon certificates from enhanced SFM.</p>	No implementation guidelines; no BD incorporation	Full incorporation of CCM considerations into implementation guidelines following SFM methodology criteria for carbon certification	National: 50% Provincial: 50% County: 50%	National: 100% Provincial: 100% County: 100%	---	---	---	---	Guideline review	Forestry administration at respective government level
<p><b>Outcome 1.2</b></p> <p>Strengthened local level application and coherent planning of SFM practices, including biodiversity conservation and carbon benefit enhancements.</p> <p>BASELINE: Insufficient incorporation of SFM principles in policies and plans at provincial and local level and gaps in addressing location specific threats (pests, diseases, fires)</p>										
<p><b>Output 1.2.1</b></p> <p>Local SFM plans (following 1.1.1 provisions) for each project area containing a set of modifications in forest regulations, policies and guidelines.</p>	No fully-fledged local SFM plans; existing forest management plans do not explicitly incorporate SFM practices and principles	Drafting of comprehensive SFM plans for each of the 16 project areas	All counties at min. 30%	All counties at min. 50%  At least 5 counties finished	All counties at min. 75%  At least 10 counties finished	All counties finished	---	---	SFM plan review	County level forestry bureaus

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection
<p><b>Outcome 1.3</b> Local monitoring systems guide the application of SFM practices, biodiversity conservation and carbon sequestration efforts. BASELINE: No SFM, BD, CCM monitoring systems in place</p>										
<p><b>Output 1.3.1</b> Development of overarching national level monitoring system for collecting and processing information on SFM activities in the 4 provinces (envisioned for national roll-out)</p>	Building-blocks exist, but need to be integrated, gaps filled	Fully functional national level SFM monitoring system established and applied for the 4 pilot provinces	Monitoring system: 50%	Monitoring system: 100%	---	---	---	---	Monitoring system review and application check	SFA
<p><b>Output 1.3.2</b> Development of national level framework and action plan for establishment of a forest carbon sequestration and emission reductions monitoring system</p>	Building-blocks exist, but need to be integrated, gaps filled	Fully functional national level forest carbon monitoring system established and applied for the 4 pilot provinces	Monitoring system: 50%	Monitoring system: 100%	---	---	---	---	Monitoring system review and application check	SFA
<p><b>Output 1.3.3</b> Design of local level BD monitoring systems integrated with the national level system and following guidance provided under 1.1.2.</p>	No local level BD monitoring system in place	Fully functional BD monitoring system established and applied in 16 counties	Monitoring system: 50%	Monitoring system: 100%	---	---	---	---	Monitoring system review and application check	County level forestry bureaus with guidance from SFA certification department

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection
<p><b>Output 1.3.4</b> Design of local level CCM monitoring systems integrated with the national level system and following guidance provided under 1.1.3.</p>	No local level CCM monitoring system in place	<p>Fully functional CCM monitoring system established and applied in 9 counties</p> <p>Advanced monitoring system in accordance to carbon credit certification standards established and applied in 6 counties</p>	<p>Monitoring system: 50%</p> <p>Advanced monitoring system: 30%</p>	<p>Monitoring system: 100%</p> <p>Advanced monitoring system: 50%</p>	---	---	---	---	Monitoring system review and application check	County level forestry bureaus with guidance from SFA carbon market department
<p><b>Outcome 1.4</b> Enhanced national level policy, legal, and regulatory framework based on feedback of project experiences and identified gaps. BASELINE: Comparatively advanced policy framework at national level with some remaining weaknesses</p>										
<p><b>Output 1.4.1</b> Several adjustments to national forest policies, legal provisions and/or regulation directly linked to and informed by experiences gained from project implementation at the local level.</p>	<p>No feedback loop from local level back to national level provisions</p> <p>National level policies with some remaining weaknesses and gaps</p>	<p>All national level provisions reviewed according to feedback from project experience at local level</p> <p>Weaknesses and gaps identified and addressed</p>	---	---	---	First feedback process and start of review	Identification of weaknesses and gaps in national policy framework	Fine-Tuning of national level policies, legal provision	Policy review	SFA; Provincial level Forestry Bureaus
<p><b>Component 2: Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.</b></p>										

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection
<p><b><u>Outcome 2.1</u></b>  County forestry bureaus and local communities empowered and capacitates to apply a large spectrum of SFM practices selected in accordance with location-specific needs and challenges.  BASELINE: Many of the ongoing activities do not follow SFM practices and practical knowledge about SFM practices is limited, especially at local level</p>										
<p><b><u>Output 2.1.1</u></b>  Strengthened SFM capacity at local level; at least 100,000 ha of economically used forest benefitting from enhanced SFM practices across the 4 provinces.</p>	0 ha	100,000 ha	10,000 ha	20,000 ha	30,000 ha	50,000 ha	75,000 ha	100,000 ha	Regular field verification to be conducted by county government; annual verification by provincial forest department	County level forestry bureaus with guidance from provincial level forest departments
<p><b><u>Outcome 2.2</u></b>  Carbon sequestration enhanced and GHG emissions from forests reduced through re-forestation of damaged forest, rehabilitation of degraded forest, as well as enhanced SFM practices leading to emission reductions.  BASELINE: Current forest management not designed to maximize GHG reductions; no monitoring of GHG emission or emission reductions</p>										
<p><b><u>Output 2.2.1</u></b>  42,000 ha of reforestation and forest restoration/rehabilitation yielding 4,770,611 tCO<sub>2</sub>e (project duration).</p>	0 tCO <sub>2</sub> e of added emission reductions through application of SFM practices	4,770,611 tCO <sub>2</sub> e of added emission reductions through application of SFM practices	See year by year carbon calculations in Appendix 7						GHG monitoring system	County level forestry bureau with support and guidance from SFA specialized department

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection
<b>Output 2.2.2</b> 87,000 of enhanced carbon management yielding 12,927,948 tCO <sub>2</sub> e (project duration).	0 tCO <sub>2</sub> e of added emission reductions through application of SFM practices	12,927,948 tCO <sub>2</sub> e of added emission reductions through application of SFM practices	See year by year carbon calculations in Appendix 7						GHG monitoring system	County level forestry bureau with support and guidance from SFA specialized department
<b>Output 2.2.3</b> Six project sites successfully create carbon credits under the SFM methodology for China's national carbon trading scheme.	No carbon credits gained from application of SFM	Creation of certified carbon credits under the national SFM methodology in 6 counties	---	---	---	---	---	Credits certified in 6 counties	National level carbon certificates issued	County level forestry bureau with support and guidance from SFA specialized department
<b>Outcome 2.3</b> Enhancement of forest biodiversity through protection and conservation of rare and endangered native species. BASELINE: Current forest management in many cases not designed to provide biodiversity conservation and habitat protection; no comprehensive monitoring of BD										
<b>Output 2.3.1</b> 35,000 ha of additional forest area certified under CFCS with particular focus on CFCS biodiversity requirements.	0 ha	35,000 ha	Preparation for certification	Preparation for certification	Preparation for certification	First areas certified under CFCS	Certified area increased	Certified area reaches 35,000 ha	CFCS certification awarded	County and province forest departments apply for CFCS CFCS certification board approves areas
<b>Output 2.3.2</b> 15,000 ha of forest restoration efforts incorporate the planting of rare species.	0 ha	15,000 ha	5,000 ha	10,000 ha	15,000 ha	---	---	---	Regular field verification to be conducted by county government	County level forestry bureaus with guidance from provincial level forest departments

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting		
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection	
										ment; annual verification by provincial forest department	
<b>Output 2.3.3</b> Nurseries for rare tree species created or improved.	----	5 nurseries improved, expanded and/or newly created	1 nursery	3 nurseries	5 nurseries	---	---	---		Regular progress reports of nursery managers to county forest bureaus	Nursery managers and county level forestry bureaus
<b>Output 2.3.4</b> Implementation of business models for revenue generation from rare species protection.	No business plans	Business models designed and implemented in at least 3 counties	1 county	2 counties	3 counties	Implementation	Implementation	Implementation		Regular progress reports of beneficiaries to county forest bureaus	Beneficiaries and county level forestry bureaus

**Component 3: Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.**

**Outcome 3.1**

Enhanced knowledge and capacity of local farmers and government staff to implement SFM practices, create CCM and BD related GEBs and implement the corresponding monitoring systems.  
 BASELINE: General institutional capacity in the forest sector is comparably high, however specific capacity on SFM, BD, and CCM insufficient

<b>Output 3.1.1</b>	Knowledge and	200 Provincial and	Establish-	50 trained	100 trained	150 trained	200 trained	---	Training	SFA as training
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Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting		
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection	
National level as well as cross-provincial trainings for stakeholders from all project provinces including international experts and exchange at international level	practical skills on SFM is limited; capacity and information on BD conservation as well as CCM through forest management is insufficient	county-level forest bureau staff trained	ment of training mechanisms							reports; participant feedback and evaluation	organizer
<b>Output 3.1.2</b> Provincial and county-level forest bureaus as well as local community forest managers trained in SFM practices with specific focus on CCM and BD benefit creation. [Total number of trainees across the four provinces: 4000]	Knowledge and practical skills on SFM is limited; capacity and information on BD conservation as well as CCM through forest management is insufficient	4000 Provincial and county-level forest bureau staff as well as local community forest managers trained	Establishment of training mechanisms	500 trained	1000 trained	2000 trained	3000 trained	4000 trained	Training reports; participant feedback and evaluation	SFA as training organizer	
<b>Output 3.1.3</b> Provincial and county-level forest bureaus as well as local community forest managers trained in the setup and application of carbon as well as biodiversity monitoring systems as designed under component 1.	No monitoring systems, no corresponding capacity	4000 Provincial and county-level forest bureaus as well as local community forest managers trained	Establishment of training mechanisms	500 trained	1000 trained	2000 trained	3000 trained	4000 trained	Training reports; participant feedback and evaluation	SFA as training organizer	
<b>Output 3.1.4</b> Improved provision of	No dedicated channels and	Establishment of dedicated mechanisms	Establishment of	Establishment of	Application of	Application of	Application of	Application of	Regular stakeholder	SFA	

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting		
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection	
relevant data and knowledge to project stakeholders.	mechanisms for BD and CCM data and information provision in place	for data and knowledge dissemination on BD and CCM	mechanisms	mechanisms	mechanisms	mechanisms	mechanisms	mechanisms	mechanisms	feedback	
<p><b>Outcome 3.2</b></p> <p>System for peer-to-peer teaching and regular exchange of knowledge and experiences between project site staff within and between the four provinces.</p> <p>BASELINE: No dedicated mechanisms for peer-to-peer knowledge exchange within and between provinces</p>											
<p><b>Output 3.2.1</b></p> <p>Mechanisms and communication channels for regular exchange of knowledge and experience incl. peer-to-peer teaching between local forest managers and government administrators at county and provincial level established.</p>	No mechanisms exist	Peer-to-peer or similar mechanisms established for all project counties and provinces	Preparation	Establishment	Application	Application	Application	Application	Application	Annual progress review; participant feedback	County level with guidance from SFA
<p><b>Output 3.2.2</b></p> <p>Mechanisms and communication channels for exchange of knowledge and experience between project stakeholders from different provinces established.</p>	No mechanisms exist	Regular channel for knowledge exchange between provinces established	Preparation	Establishment	Application	Application	Application	Application	Application	Annual progress review; participant feedback	County level with guidance from SFA
<p><b>Output 3.2.3</b></p> <p>Interaction on SFM utilized to strengthen social</p>	No interactions on SFM	Extensive interactions on SFM through mechanisms established	See 3.2.1 & 3.2.2	See 3.2.1 & 3.2.2	See 3.2.1 & 3.2.2	See 3.2.1 & 3.2.2	See 3.2.1 & 3.2.2	See 3.2.1 & 3.2.2	See 3.2.1 & 3.2.2	Participants feedback	County level with guidance from SFA

Indicators	Baseline <sup>2</sup>	Target	Milestones towards achieving output and outcome targets						Data Collection and Reporting	
			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Means of verification	Responsible for Data Collection
networks and new social capital among local forest managers (possibly including creation of forest manager associations where suitable).		lished under 3.2.1 and 3.2.2								
<p><b>Outcome 3.3</b> Establishment of project monitoring and evaluation system measuring project progress and achievements. BASELINE: No project M&amp;E system</p>										
<p><b>Outcome 3.3.1</b> Project M&amp;E system designed, established and applied throughout the project and across all components, provinces and project sites.</p>	No project M&E system	Fully functional M&E system	Design and establishment	Application	Application	Application	Application	Application	Tracking Tools; Mid-Term Evaluation; Terminal Evaluation	SFA with data collected at all government levels
<p><b>Outcome 3.3.2</b> Publication and dissemination of project information and experiences; public awareness raising</p>	No publication and dissemination	Comprehensive dissemination of SFM related information to the public	Public awareness raising concept designed	Application	Application	Application	Application	Application	Publications and dissemination	SFA

## Appendix 2: Work plan (results based)

*Insert rows, components and outputs as needed*

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
			Q1	Q2	Q3	Q4																				
<b>Component 1: Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local level, creating a basis for enhanced biodiversity conservation and carbon sequestration.</b>																										
Output 1.1.1 National and provincial level implementation guidelines facilitating implementation of existing SFM policies, legal provisions and standards.	<i>Drafting of guidelines, national level</i>	SFA																								
	<i>Drafting of guidelines, provincial level</i>	PFD																								
	<i>Drafting of guidelines, county level</i>	County level forest bureaus																								
Output 1.1.2 Incorporation of implementation guidance on the biodiversity standards for certification (China Forest Certification Scheme, CFCS).	<i>Incorporation of BD into guidelines, national level</i>	SFA																								
	<i>Incorporation of BD into guidelines, provincial level</i>	PFD																								
	<i>Incorporation of BD into guidelines, county level</i>	County level forest bureaus																								
Output 1.1.3 Incorporation of implementation guidance to improve forest inventory procedures and MRV for carbon sequestration and GHG emission reductions from forests, land-use and land-use change including the existing methodology for obtaining tradable carbon certificates from enhanced SFM.	<i>Incorporation of CCM into guidelines, national level</i>	SFA																								
	<i>Incorporation of CCM into guidelines, provincial level</i>	PFD																								
	<i>Incorporation of CCM into guidelines, county level</i>	County level forest bureaus																								
Output 1.2.1 Local SFM plans (following 1.1.1 provisions) for each	<i>Drafting of SFM plans</i>	County level forest bureaus																								

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
			Q1	Q2	Q3	Q4																				
project area containing a set of modifications in forest regulations, policies and guidelines.																										
Output 1.3.1 Development of overarching national level monitoring system for collecting and processing information on SFM activities in the 4 provinces (envisioned for national roll-out)	<i>Establishment of national level SFM monitoring system</i>	SFA																								
	<i>Implementation of local BD monitoring system</i>	SFA																								
Output 1.3.2 Development of national level framework and action plan for establishment of a forest carbon sequestration and emission reductions monitoring system	<i>Establishment of national level SFM monitoring system</i>	SFA																								
	<i>Implementation of local BD monitoring system</i>	SFA																								
Output 1.3.3 Design of local level BD monitoring systems integrated with the national level system and following guidance provided under 1.1.2.	<i>Establishment of local BD monitoring system</i>	County level forest bureaus																								
	<i>Implementation of local BD monitoring system</i>	County level forest bureaus																								
Output 1.3.4 Design of local level CCM monitoring systems integrated with the national level system and following guidance provided under 1.1.3.	<i>Establishment of local CCM monitoring system</i>	County level forest bureaus																								
	<i>Implementation of local CCM monitoring system</i>	County level forest bureaus																								
	<i>Establishment of advanced CCM monitoring system</i>	County level forest bureaus																								
	<i>Implementation of advanced CCM monitoring system</i>	County level forest bureaus																								
Output 1.4.1 Several adjustments to na-	<i>Feedback process</i>	SFA + other level admin-																								

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
			Q1	Q2	Q3	Q4																				
tional forest policies, legal provisions and/or regulation directly linked to and informed by experiences gained from project implementation at the local level.		istrations																								
	<i>Identification of gaps</i>	SFA																								
	<i>Policy improvement</i>	SFA																								
<b>Component 2: Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.</b>																										
Output 2.1.1 Strengthened SFM capacity at local level; at least 100,000 ha of economically used forest benefitting from enhanced SFM practices across the 4 provinces.	<i>Preparation of SFM activities</i>	County level forest bureaus																								
	<i>Roll-out of SFM activities</i>	County level forest bureaus																								
Output 2.2.1 42,000 ha of reforestation and forest restoration/rehabilitation yielding 4,770,611 tCO2e (project duration).	<i>Reforestation and forest restoration</i>	County level forest bureaus																								
Output 2.2.2 87,000 of enhanced carbon management yielding 12,927,948 tCO2e (project duration).	<i>Application of enhanced carbon management</i>	County level forest bureaus																								
Output 2.2.3 Six project sites successfully create carbon credits under the SFM methodology for China's national carbon trading scheme.	<i>Application of SFM methodology</i>	SFA + county level																								
	<i>Application for carbon credits</i>	SFA + county level																								
Output 2.3.1 35,000 ha of additional forest area certified under CFCS with particular focus on CFCS biodiversity requirements.	<i>Preparation of certification</i>	County level forest bureaus + specialized SFA department																								
	<i>Application for certification</i>	County level forest bureaus +																								

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
			Q1	Q2	Q3	Q4																				
		specialized SFA department																								
Output 2.3.2 15,000 ha of forest restoration efforts incorporate the planting of rare species.	<i>Rare species planting</i>	County level forest bureaus																								
Output 2.3.3 Nurseries for rare tree species created or improved.	<i>Nursery enhancement</i>	County level forest bureaus																								
Output 2.3.4 Implementation of business models for revenue generation from rare species protection.	<i>Business model design</i>	County level forest bureaus																								
	<i>Business model implementation</i>	County level forest bureaus																								

**Component 3: Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.**

Output 3.1.1 National level as well as cross-provincial trainings for stakeholders from all project provinces including international experts and exchange at inter-national level	<i>Design and establishment of training</i>	SFA																							
	<i>Implementation of training</i>	SFA																							
Output 3.1.2 Provincial and county-level forest bureau staff as well as local community forest managers trained in SFM practices with specific focus on CCM and BD benefit creation. [Total number of trainees across the four provinces: 4000]	<i>Design and establishment of training</i>	SFA																							
	<i>Implementation of training</i>	SFA																							

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
			Q1	Q2	Q3	Q4																				
Output 3.1.3 Provincial and county-level forest bureaus as well as local community forest managers trained in the setup and application of carbon as well as biodiversity monitoring systems as designed under component 1.	<i>Design and establishment of training</i>	SFA																								
	<i>Implementation of training</i>	SFA																								
Output 3.1.4 Improved provision of relevant data and knowledge to project stakeholders.	<i>Establishment of mechanism</i>	SFA																								
	<i>Implementation of mechanism</i>	SFA																								
Output 3.2.1 Mechanisms and communication channels for regular exchange of knowledge and experience incl. peer-to-peer teaching between local forest managers and government administrators at county and provincial level established.	<i>Preparation and design</i>	SFA + county level																								
	<i>Establishment</i>	SFA + county level																								
	<i>Application</i>	SFA + county level																								
Output 3.2.2 Mechanisms and communication channels for exchange of knowledge and experience between project stakeholders from different provinces established.	<i>Preparation and design</i>	SFA + county level																								
	<i>Establishment</i>	SFA + county level																								
	<i>Application</i>	SFA + county level																								
Output 3.2.3 Interaction on SFM utilized to strengthen social networks and new social capital	<i>Intensified interactions on SFM</i>	SFA + county level																								

Output	Activities	Responsible institution/ entity	Year 1				Year 2				Year 3				Year 4				Year 5				Year 6			
			Q1	Q2	Q3	Q4																				
among local forest managers (possibly including creation of forest manager associations where suitable).																										
Output 3.3.1 Project M&E system designed, established and applied throughout the project and across all components, provinces and project sites.	<i>Design and establishment</i>	SFA																								
	<i>Application</i>	SFA																								
Output 3.3.2 Publication and dissemination of project information and experiences; public awareness raising.	<i>Design and establishment</i>	SFA																								
	<i>Application</i>	SFA																								
<b>Project Management</b>																										
	<i>Overall supervision and coordination</i>	SFA																								
	<i>M&amp;E</i>	SFA																								
	<i>Communication and flow of information</i>	SFA + all levels																								
	<i>Progress tracking</i>	SFA																								
	<i>Financial management</i>	SFA																								

### Appendix 3: Results budget

<b>Component 1: Strengthened institutional, policy and regulatory frameworks for the implementation of sustainable forest management from national to local level, creating a basis for enhanced biodiversity conservation and carbon sequestration.</b>	<b>Component 2: Demonstration and adoption of SFM practices, enhancing carbon storage and improving biodiversity conservation.</b>	<b>Component 3: Training and capacity development; awareness raising and knowledge exchange; monitoring, evaluation and dissemination of best practices.</b>
O 1.1.1: National and provincial level implementation guidelines facilitating implementation of existing SFM policies, legal provisions and standards.	O 2.1.1: Strengthened SFM capacity at local level; at least 100,000 ha of economically used forest benefitting from enhanced SFM practices across the 4 provinces.	O 3.1.1: National level as well as cross-provincial trainings for stakeholders from all project provinces including international experts and exchange at international level
O 1.1.2: Incorporation of implementation guidance on the biodiversity standards for certification (China Forest Certification Scheme, CFCS).	O 2.2.1: 42,000 ha of reforestation and forest restoration/rehabilitation yielding 4,770,611 tCO <sub>2</sub> e (project duration).	O 3.1.2: Provincial and county-level forest bureaus as well as local community forest managers trained in SFM practices with specific focus on CCM and BD benefit creation. [Total number of trainees across the four provinces: 4000]
O 1.1.3: Incorporation of implementation guidance to improve forest inventory procedures and MRV for carbon sequestration and GHG emission reductions from forests, land-use and land-use change including the existing methodology for obtaining tradable carbon certificates from enhanced SFM.	O 2.2.2: 87,000 of enhanced carbon management yielding 12,927,948 tCO <sub>2</sub> e (project duration).	O 3.1.3: Provincial and county-level forest bureaus as well as local community forest managers trained in the setup and application of carbon as well as biodiversity monitoring systems as designed under component 1.
O 1.2.1: Local SFM plans (following 1.1.1 provisions) for each project area containing a set of modifications in forest regulations, policies and guidelines.	O 2.2.3: Six project sites success-fully create carbon credits under the SFM methodology for China's national carbon trading scheme.	O 3.1.4: Improved provision of relevant data and knowledge to project stakeholders.
O 1.3.1: Development of overarching national level monitoring system for collecting and processing information on SFM activities in the 4 provinces (envisioned for national roll-out)	O 2.3.1: 35,000 ha of additional forest area certified under CFCS with particular focus on CFCS biodiversity requirements.	O 3.2.1: Mechanisms and communication channels for regular exchange of knowledge and experience incl. peer-to-peer teaching between local forest managers and government administrators at county and provincial level established.
O 1.3.2: Development of national level framework and action plan for establishment of a forest carbon sequestration and emission reductions monitoring system	O 2.3.2: 15,000 ha of forest restoration efforts incorporate the planting of rare species.	O 3.2.2: Mechanisms and communication channels for exchange of knowledge and experience between project stakeholders from different provinces established.



































Budget Distribution between government levels			
National Level - State Forest Administration		1,752,728	24.50%
Henan Province		1,700,000	23.77%
Guangxi Autonomous Region		1,700,000	23.77%
Hainan Dao Province		800,000	11.18%
Fujian Province		1,200,000	16.78%
TOTAL		7,152,728	100.00%

## **Appendix 4: Terms of Reference (TORs)**

TO BE ADDED

## Appendix 5: Forest Carbon Report and Calculations

### Baseline situation: Forests and forestry activities in the project sites

Data on the status of forests in project sites was gathered by national consultants and provincial government SFA staff between December 2013 and February 2014, following a data collection template developed collaboratively at the consultation workshop in Guangxi in November 2013.

The project sites together contain 793,813 ha of forest land; the distribution by forest type is set out in Figure 1.

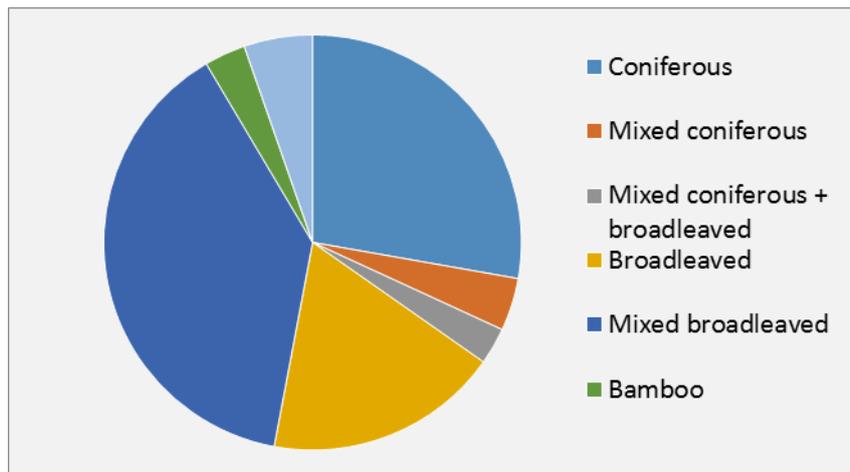


Figure 1: Distribution of forest land by forest type in the project sites.

In order to gauge forest age, structure and growth rates in the project sites, data was also collected on age-class distribution in the project areas. The results, illustrated in Figure 2, show a skewed distribution towards younger age-classes – i.e. growing forest; likely a reflection of the extensive areas of forest planted in the project areas (and more widely across China) over the past 10-15 years.

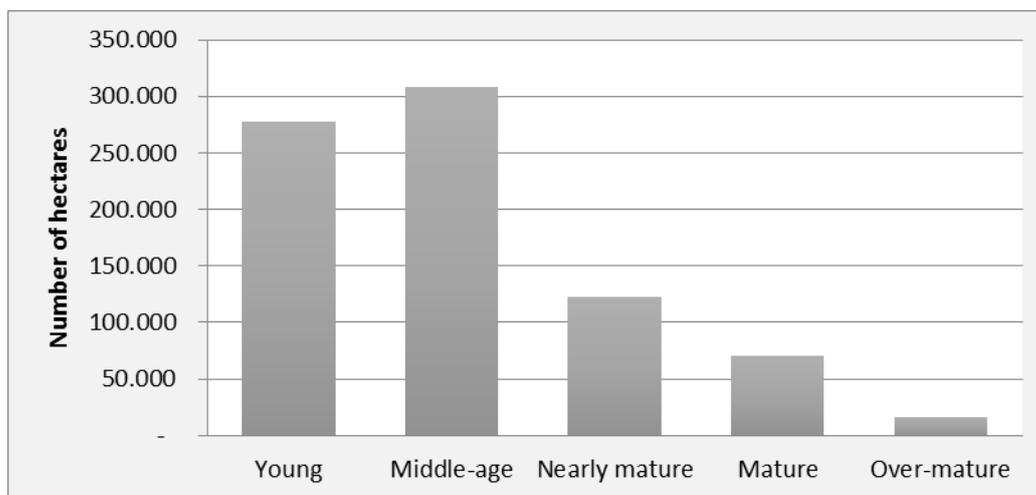


Figure 2: Distribution of forest in project sites by age-class.

The figures in Table 1 show the distribution of forest by management type and highlight the important coverage of commercial forestry activities at the project sites. The table also shows the annual hectare coverage of forest disturbances that impact project site areas.

**Table 1: Distribution of forest in project sites by forest management type.**

		Ha
<b>Forest management</b>	Conservation	413,273
	Commercial forestry, of which:	571,061
	➤ <i>Commercial forestry: fast-growth species</i>	300,783
	➤ <i>Commercial forestry: medium-growth species</i>	103,760
	➤ <i>Commercial forestry: slow-growth species</i>	166,518
	Plantation	259,388
	Natural forest	337,870
	Other use	1,898
		Ha/yr
<b>Forest disturbances</b>	Fire	193
	Pests/diseases	506
	Other disturbances (e.g. weather events)	5,566

### **Baseline situation: Forest carbon stocks, emissions and removals in the project sites**

Figures for forest biomass, carbon stocks and the estimation of emissions and removals were calculated using published data, primarily from Zhao and Zhou (2005)<sup>1</sup>, Zhao and Zhou (2006)<sup>2</sup>, Guo et al. (2010)<sup>3</sup>, Zhang and Xu (2002)<sup>4</sup> and Piao et al. (2005)<sup>5</sup>.

Taking conservative figures (of between 90 and 128 t/ha) for average living forest biomass per forest type (i.e. excluding the two carbon pools of soil carbon and deadwood) and applying the IPCC (2006) carbon fraction of 0.47, total standing forest carbon stocks at the project sites were estimated at 26,462,723 tC, as shown in Table 2 per forest type.

<sup>1</sup> Zhao, M. and Zhou, G.S. (2005). Estimation of biomass and net primary productivity of major planted forests in China based on forest inventory data. *Forest Ecology and Management* 207, 295-313.

<sup>2</sup> Zhao, M. and Zhou, G.S. (2006). Carbon storage of forest vegetation in China and its relationship with climatic factors. *Climatic Change* 74, 175-189.

<sup>3</sup> Guo, Z., Fang, J., Pan, Y. and Birdsley, R. (2010). Inventory-based estimates of forest biomass carbon stocks in China: A comparison of three methods. *Forest Ecology and Management* 259, 1225-31.

<sup>4</sup> Zhang, X.Q. and Xu, D. (2002). Calculating forest biomass changes in China. *Science* 296, 1359.

<sup>5</sup> Piao, S., Fang, J., Zhu, B. and Tan, K. (2005). Forest biomass carbon stocks in China over the past 2 decades: Estimation based on integrated inventory and satellite data. *Journal of Geophysical Research* 110, doi:10.1029/2005JG000014.

**Table 2: Forest carbon stocks in project sites, by forest type.**

<b>Forest type</b>	<b>tC</b>
Coniferous	7,457,920
Mixed coniferous	1,102,035
Mixed coniferous and broadleaved	673,809
Broadleaved	5,114,112
Mixed broadleaved	10,836,527
Bamboo	735,639
Other	542,681
<b>Total standing forest carbon stocks</b>	<b>26,462,723</b>

Emissions from forests in the project sites were calculated by estimating and summing carbon emissions resulting from forest degradation from as a result of fire, pest/disease incidence and commercial forestry activities. The findings are shown in Table 3.

**Table 3: Sources and levels of carbon emissions from forests in the project sites.**

<b>Sources of emissions</b>	<b>tCO<sub>2</sub>e/year</b>
Forest fire	6,646
Pests/diseases	4,364
Other disturbances	48,004
Commercial: fast	6,744,668
Commercial: med	2,505,659
Commercial: slow	4,308,403
<b>Total emissions</b>	<b>13,617,744</b>

Removals of atmospheric carbon from forests in the project sites were calculated by estimating and summing rates of carbon sequestration, using published net primary productivity figures for different age-classes of different forest types (see publication list above). These figures were added to the annual carbon removals resulting from the net forest gain in the project sites over the past 10 years. The findings are shown in Table 4.

**Table 4: Removals of atmospheric carbon from forests in the project sites.**

<b>Age-class/source of removal</b>	<b>tCO<sub>2</sub>e/year</b>
Young	3,056,211
Middle-age	5,652,644
Nearly mature	2,688,620
Mature	1,035,380
Over-mature	171,239
Annual forest gain	64,406
<b>Total removals</b>	<b>12,668,500</b>

Forest carbon stocks, emissions and removals figures are shown per project province in Table 5, showing the project sites to be an overall source of emissions by 905,185tCO<sub>2</sub>e/yr. Over the lifetime of the proposed project, this would amount to forests in the project sites emitting 4,525,927tCO<sub>2</sub>e, and 18,103,707tCO<sub>2</sub>e over a medium-term view of 20 years.

**Table 5: Carbon stocks and carbon emissions/removals balances for the project sites.**

	<b>Standing for- est C stocks</b>	<b>Emissions (tCO<sub>2</sub>e/yr)</b>	<b>Removals (tCO<sub>2</sub>e/yr)</b>	<b>Emissions balance (tCO<sub>2</sub>e/yr)</b>	<b>Emissions over 5 years (tCO<sub>2</sub>e)</b>	<b>Emissions over 20 years (tCO<sub>2</sub>e)</b>
<b>Guangxi</b>	13,683,909	11,577,126	7,939,892	3,637,233	18,186,166	72,744,664
<b>Hainan</b>	5,295,662	565,546	1,644,158	-1,078,612	-8,737,940	-34,951,760
<b>Henan</b>	5,433,853	717,298	2,464,886	-1,747,588	470,761	1,883,045
<b>Fujian</b>	2,049,299	713,715	619,563	94,152	-5,393,060	-21,572,242
<b>TOTAL</b>	<b>26,462,723</b>	<b>13,573,685</b>	<b>12,668,500</b>	<b>905,185</b>	<b>4,525,927</b>	<b>18,103,707</b>

## **Project scenario: Descriptions of forestry activities**

### **Reduced Impact Logging (RIL)**

Conventional logging and other commercial forestry practices are often highly destructive to forest ecosystems. Heavy machinery can compact the soil and destroy vegetation while high-volume harvesting can contribute to erosion and reduce species diversity and regenerative capacity. In addition, excess organic debris can make forests more vulnerable to destruction in the event of fire. Apart from the environmental benefits, RIL has been shown to reduce the percentage of 'lost' logs (those trees that are felled in the forest but not extracted because they are not seen by tractor operators), thereby reducing timber wastage.

Reduced Impact Logging (RIL) can be defined as intensively planned and carefully controlled timber harvesting practices conducted by trained workers in ways that minimize the deleterious impacts of commercial forestry activities. RIL involves a number of practical measures which can include:

1. *A pre-harvest inventory and the mapping of individual crop trees;*
2. *The pre-harvesting planning of roads, skid trails and landings to minimize soil disturbance and to protect streams and waterways with appropriate crossings;*
3. *Pre-harvest vine-cutting in areas where heavy vines connect tree crowns;*
4. *The construction of roads, landings and skid trails following environmentally-friendly design guidelines;*
5. *The use of appropriate felling and bucking techniques including directional felling, cutting stumps low to the ground to avoid waste, and the optimal crosscutting of tree stems into logs in a way that maximizes the recovery of useful wood;*
6. *The winching of logs to planned skid trails and ensuring that skidding machines remain on the trails at all times;*
7. *Where feasible, using yarding systems that protect soils and residual vegetation by suspending logs above the ground or by otherwise minimizing soil disturbance; and*
8. *Conducting a post-harvest assessment in order to provide feedback to the resource manager and logging crews and to evaluate the degree to which the RIL guidelines were successfully applied.*

The implementation of RIL activities not only minimizes damage to surrounding forest, but can also reduce emissions from commercial forestry activities by 30-40% compared to standard practices (Griscom et al., 2014<sup>1</sup>; Putz et al., 2008<sup>2</sup>; VCS, 2013<sup>3</sup>). RIL will be an important activity in this project given the significant levels of emissions resulting from commercial

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<sup>1</sup> Griscom, B., Ellis, P. and Putz, F.E. (2014). Carbon emissions performance of commercial logging in East Kalimantan, Indonesia. *Global Change Biology* 20(3), 923-37.

<sup>2</sup> Putz, F.E., Zuidema, P.A., Plnard, M.A., Boot, R.G., Sayer, J.A., Sheil, D., Sist, P. and Vanklay, J.K. (2008). Improved Tropical Forest Management for Carbon Retention. *PLOS Biology* 6(e166), doi: 10.1371/journal.pbio.0060166.

<sup>3</sup> Verified Carbon Standard (VCS) (2013). Reduced Impact Logging Practices that reduce carbon emissions (RIL-C) methodology. Methodology Version 1.0. Prepared by: TerraCarbon LLC and The Nature Conservancy. <http://www.v-c-s.org/sites/v-c-s.org/files/RIL-C%20Methodology%20Public%20Comment%20Version.pdf>.

forestry activities in the project sites. Through this project, RIL practices will be planned and implemented on areas currently under commercial forestry – i.e. primarily for logging and fuel wood harvesting.

### **Forest restoration**

Much of the forest land in the project sites has been used for commercial purposes for extended periods of time (i.e. more than 30 years), leading to the degradation of many of the forest stands and a general fragmentation of the forest landscapes. The process of forest degradation in these areas leads to the release of GHG emissions to atmosphere as well as the impoverishment of the forest ecosystem and ecosystem service provision. This in turn causes forests to be more vulnerable to shocks and disturbances. Forest restoration is the process of recovering ecosystem structure, function and productivity, and thereby increasing resilience to climate change and other stressors. Forest restoration addresses the recovery of site-level ecosystem functionality as well as wider forest landscape integrity and connectivity.

While some forest types are able to recover more quickly and easily (e.g. systems in which many species can re-sprout from roots and seeds are predominantly wind dispersed), others are slower to regenerate (e.g. systems with species that rely heavily on animal dispersal of seeds from sources outside the site). In more intensively used (e.g. commercial forestry) sites, it is possible that few or no forest seeds remain in the soil and re-sprouting is generally lower, which limit regeneration from within the site. Moreover, compacted and nutrient poor soils, and stressful microclimatic conditions limit seedling establishment and growth in such areas. Finally, the surrounding land-use matrix influences the availability of seeds. Not only is proximity to remnant forest important to recovery as a source of plants and animals, but maintaining some tree cover in agricultural lands through agroforestry systems or hedgerows provides seeds of some trees species and facilitates the movement of animals (Harvey et al., 2008<sup>1</sup>). Management of surrounding agricultural lands therefore strongly influences the rate of recovery within a given site.

For the above reasons, it is important to closely examine the context of forest restoration in order to adopt an appropriate strategy. In sites where natural regeneration is rapid, passive restoration (i.e., simply allowing the system to regenerate naturally) may be sufficient to restore the majority of species present prior to disturbance (Letcher and Chazdon, 2009<sup>2</sup>). In such sites, it is common that large-seeded and later successional species are the slowest to colonize, so restoration efforts should focus on planting seedlings or seeds of such species, particularly when they are of conservation concern.

In sites where recovery is initially slow, another approach is to identify whether there are barriers to establishment that can be removed with comparatively low effort, an approach often referred to as assisted natural regeneration (FAO, 2003<sup>3</sup>). One example of this approach is controlling fire, which can inhibit seedling establishment. Another is marking all naturally

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<sup>1</sup> Harvey, C.A. (2008). Integrating agricultural landscapes with biodiversity conservation in the Mesoamerican hotspot. *Conservation Biology* 22, 8-15.

<sup>2</sup> Letcher, S.G., Chazdon, R.L. (2009). Rapid recovery of biomass, species richness, and species composition in a forest chronosequence. *Biotropica* 41, 608-617.

<sup>3</sup> FAO (2003). *Advancing Assisted Natural Regeneration (ANR) in Asia and the Pacific*. Food and Agriculture Organization of the United Nations Regional Office for Asia and the Pacific (FAO-RAP). RAP Publication 2003/19, Bangkok.

regenerating woody seedlings and then clearing surrounding grasses to reduce competition and fire risk. Not only are these efforts to remove obstacles to natural regeneration without actively planting or seeding much cheaper, they usually leave less of a human imprint on the long-term species composition of the resulting forest (Lamb et al., 2005).

Assisting natural regeneration by removing stresses or by planting native tree seedlings are the most common strategies, which will be implemented through this project degraded forest sites. This approach will contribute to project goals of 1) enhancing forest carbon sequestration; 2) increasing resilience of forest ecosystems to climate change and other shocks; and 3) enhancing forest biodiversity.

### **Project scenario: Reduced forest emissions and enhanced removals resulting from project activities**

Reductions in forestry emissions and enhancement of forest carbon stocks through the implementation of project activities were calculated on the basis of per hectare figures multiplied by the number of hectares of each activity to be implemented at each project site. The results and cumulative figures are presented per province in tables 6.1 to 6.3.

**Table 6.1: Carbon emissions reductions and enhanced removals resulting from the implementation of project activities in Guangxi Province.**

Project site	Activity	Total ha	Emission reduction /ha (tCO <sub>2</sub> e/yr)	Enhanced removals /ha (tCO <sub>2</sub> e/yr)	Reduced emissions (tCO <sub>2</sub> e/yr)	Enhanced removals (tCO <sub>2</sub> e/yr)
<b>Yachang Forest Farm</b>	Reforestation	1,500		22 <sup>*</sup>		31,048
	Tending and thinning	3,000		10		31,048
	Monoculture to mixed stands	2,500		17		43,123
	Forest restoration	1,500		17		25,874
	Reduced Impact Logging (RIL)	16,000	37		609,220	
<b>Tianlin County</b>	Reforestation	2,000		22 <sup>*</sup>		41,398
	Tending and thinning	1,200		10		20,699
	Monoculture to mixed stands	3,330		17		34,464
<b>Xing'an County</b>	Reforestation	1,500		22 <sup>*</sup>		31,048
	Tending and thinning	6,500		10		67,271
<b>Shankou Forest Farm</b>	Tending and thinning	2,600		10		26,908
	Monoculture to mixed stand	1,300		17		22,424
	Reduced Impact Logging (RIL)	4,600	37		168,820	
<b>TOTAL</b>					<b>778,040</b>	<b>375,304</b>

\*Removals calculations for reforestation are calculated at 70% of total potential over the five-year project period, to account for the slower rate of carbon accumulation during early growth.

**Table 6.2: Carbon emissions reductions and enhanced removals resulting from the implementation of project activities in Henan Province.**

Project site	Activity	Total ha	Emission reduction /ha (tCO <sub>2</sub> e/yr)	Enhanced removals /ha (tCO <sub>2</sub> e/yr)	Reduced emissions (tCO <sub>2</sub> e/yr)	Enhanced removals (tCO <sub>2</sub> e/yr)
Minquan Forest Farm	Forest restoration	10,000		17		172,490
	Tending and thinning	9,000		10		93,145
	Reforestation	15,000		22*		336,356
Huangbaishan Forest Farm						
Nanwan Forest Farm	Clearing of dead-wood	3,000		7		20,699
Xin County	Fire management	4,000	73		293,600	
Dengfeng County	RIL	5,000	37		183,500	
	Monoculture to mixed stand	2,000		17		34,498
	Pest management	3,000		9		25,874
<b>TOTAL</b>					<b>477,100</b>	<b>683,060</b>

\*Removals calculations for reforestation are calculated at 70% of total potential over the five-year project period, to account for the slower rate of carbon accumulation during early growth.

**Table 6.3: Carbon emissions reductions and enhanced removals resulting from the implementation of project activities in Fujian Province.**

Project site	Activity	Total ha	Emission reduction /ha (tCO <sub>2</sub> e/yr)	Enhanced removals /ha (tCO <sub>2</sub> e/yr)	Reduced emissions (tCO <sub>2</sub> e/yr)	Enhanced removals (tCO <sub>2</sub> e/yr)
Yangkou Forest Farm	Forest restoration	1,200		17		20,699
	Tending and thinning	1,300		10		13,454
	Reforestation	3,333		22*		74,738
	RIL	1,500	37		55,050	
Chitouban Forest Farm	Forest restoration	1,120		17		19,319
	Reforestation	120		22*		2,070
	RIL	1,500	37		55,050	
Minhou Baisha Forest farm	Monoculture to mixed stands	400		17		6,900
	Tending and thinning	100		10		1,035
Shaowu	Forest restoration	600		17		10,349

<b>Weiming Forest Farm</b>	Reforestation	700	22 <sup>*</sup>	9,100
	Fire management	700	73	51,380
	Tending and thinning	280	10	2,898
	RIL	2,500	37	91,750
<b>Jiangle Forest Farm</b>	Forest restoration	350	17	7,848
	Reforestation	600	22 <sup>*</sup>	10,349
	RIL	2,500	37	91,750
<b>Shunchang Forest Farm</b>	Forest restoration	250	17	4,312
	Reforestation	1,300	22 <sup>*</sup>	29,151
	RIL	3,000	37	110,100
<b>TOTAL</b>				<b>455,080</b>
				<b>212,222</b>

\*Removals calculations for reforestation are calculated at 70% of total potential over the six-year project period, to account for the slower rate of carbon accumulation during early growth.

Table 7 brings together the total annual values for reduced emissions and enhanced removals, along with projections of the same over 1) the five year project period (years 1-6), and 2) the post-project period (years 7-20).

**Table 7: Total carbon emissions reductions and removal enhancement resulting from project activities (per year, over the five-year project period and over the post-project period).**

	Reduced emissions (tCO <sub>2</sub> e/yr)	Reduced emissions: Yrs 1-6 (tCO <sub>2</sub> e)	Reduced emissions: Yrs 7-20 (tCO <sub>2</sub> e)	Enhanced removals (tCO <sub>2</sub> e/yr)	Enhanced removals: Yrs 1-6 (tCO <sub>2</sub> e)	Enhanced removals: Yrs 7-20 (tCO <sub>2</sub> e)
<b>Guangxi</b>	778,040	4,668,240	10,892,560	375,304	2,251,824	5,254,256
<b>Henan</b>	477,100	2,862,600	6,679,400	683,060	4,098,360	9,562,840
<b>Fujian</b>	455,080	2,730,480	6,371,120	212,222	1,273,332	2,971,108
<b>TOTAL</b>	<b>1,710,220</b>	<b>10,261,320</b>	<b>23,943,080</b>	<b>1,270,587</b>	<b>7,623,522</b>	<b>17,788,204</b>

\*Yearly removals calculations for reforestation are calculated at 70% of total potential over the six-year project period, to account for the slower rate of carbon accumulation during early growth.

**Summing the total estimated emissions reductions and enhanced removals, this project will result in total carbon savings of 17,884,842tCO<sub>2</sub>e over the six year project period and 41,731,284tCO<sub>2</sub>e over the post-project period.**