

# PS Validation Report

Client: Yunnan Mengxiang Bamboo  
Industry co., LTD.

**Project: Bamboo Afforestation  
Project in Xishuangbanna,  
Yunnan Province**

19 August 2013

Report No. GR13W0003D

JACO CDM CO., LTD.

## Validation Report

Date of first issue: 19 August 2013		Project No.:	
Approved by: Michio HIRUTA CEO, President of JACO CDM		Client ref.:	
Client: Client Name: Yunnan Mengxiang Bamboo Industry co., LTD.			
<p>Summary:</p> <p>JACO CDM Co., Ltd. has performed the validation of "Bamboo Afforestation Project in Xishuangbanna, Yunnan Province" (herein after the "Project").</p> <p>The purpose of the Project is to implement a Panda Standard (PS) AFOLU project in Xishuangbanna, Yunnan Province of P. R. of China. The project lands have been un-forested land before 1980s. It is expected to produce 634,472tCO<sub>2</sub>e of long-term CER within 30years crediting period, with an annual mean of 21,149 tCO<sub>2</sub>e.</p> <p>The validation is the independent third party assessment of the project design, and is the requirement for all PS projects. The project's compliance with the relevant PS and host country criteria are validated in order to confirm that the project design is sound and reasonable and meet the stated and identified criteria.</p> <p>This validation report summarizes the findings of the validation.</p> <p>The validation consisted of the following three steps:</p> <ul style="list-style-type: none"> <li>i) desk review of the project design, the baseline and the monitoring plan etc.,</li> <li>ii) follow-up interviews with project stakeholders</li> <li>iii) the resolution of outstanding issues and issuance of the final validation report and the opinion.</li> </ul> <p>The responses to 1 Corrective Action Request and 20 Clarification Request to the PF version 1.0 (10/07/2013) were satisfactorily provided by the project participants and the original PF was revised. In addition, 3 FARs are raised and these are to be considered at verification.</p> <p>In summary, it is JACO CDM'S opinion that the Project as are described in the revised PF Version 02 (01/08//2013) meets all relevant PS requirements for the PS and host country criteria, and correctly applies the PS Methodology category F-V "Forestation of degraded land using species including bamboo.</p> <p>Hence, JACO CDM requests the registration of the "Bamboo Afforestation Project in Xishuangbanna, Yunnan Province".</p>			

Report No.: GR13W0003D		
Report title: PS Validation Report Bamboo Afforestation Project in Xishuangbanna, Yunnan Province		
Work carried out by: Teruo FUKUDA, Akihide MADENOKOJI		
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## Validation Report

### Abbreviations

AFD	French Development Agency
A/R	Afforestation and Reforestation
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CERs	Certified Emission Reduction
CGCF	China Green Carbon Foundation
CL	Clarification Request
DBH	Diameter Breast Height
DNA	Designated National Authority
DOE	Designated Operational Entity
DRC	Development and Reform Commission
EIA	Environmental Impact Assessment
EPB	Environmental Protection Bureau
ER	Emission Reduction
ERPA	Emission Reduction Purchase Agreement
FAR	Forward Action Request
FSR	Feasibility Study Report
GHG	Green House Gas(es)
GPG	Good Practice Guidance
IPCC	Intergovernmental Panel on Climate Change
KP	Kyoto Protocol
LULUCF	Land Use, Land Use Change and Forestry
MP	Monitoring Plan
NDRC	National Development and Reform Commission
NGO	Non Governmental Organization
ODA	Official Development Assistance
PF	Project Form
PO	Project Owner
PP(s)	Project Participant(s)
PRA	Participatory Rural Appraisal
PRC	People's Republic of China
PS	Panda Standard
SD	Sustainable Development
SOC	Soil Organic Carbon
SOP	Standard Operating Procedures
TNC	The Nature Conservancy
UNFCCC	United Nations Framework Convention on Climate Change
WD	Wood Density

## Validation Report

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## Validation Report

### 1. INTRODUCTION

#### 1.1 . Objective

Yunnan Mengxiang Bamboo Industry co., LTD. (the “Client”) has commissioned JACO CDM to validate the “Bamboo Afforestation Project in Xishuangbanna, Yunnan Province” (hereinafter the “Project”).

The validation serves as design verification and is a requirement for all Panda Standard (PS) projects. The purpose of a validation is to have an independent third party assess the project design. In particular, the project’s baseline, the monitoring plan (MP), and the project’s compliance with relevant PS and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria.

Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified GHG removals.

#### 1.2. Scope

The validation scope is defined as an independent and objective review of the project form (PF), the project’s baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against PS requirements, rules and associated interpretations. JACO CDM has, based on the PS Version 1.0 employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and GHG removals. The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

The validation was conducted by the following validation team through the assessment of the PF and the additional documents listed in the Chapter 5 “References”, also by the interviews with persons listed in the same Chapter.

The validation team consists of a validation team leader and validation team member(s) and following tasks have been assigned for the leader and the member(s):

**Table 1 Tasks assigned to validation team leader/member(s)**

	Assigned tasks
Team leader	<ul style="list-style-type: none"> <li>(a) To plan and make effective use of human resources during the function;</li> <li>(b) To represent the validation team in communications with PPs and organize and direct team members;</li> <li>(c) To understand the validation functions and lead the team to reach conclusions on various aspects of validation process; and</li> <li>(d) To Prevent and resolve conflicts, if any, prepare and complete the validation report and handle all the possible follow-up actions, as appropriate.</li> </ul>
Team member	<ul style="list-style-type: none"> <li>(a) To plan and organize the work effectively and conduct the work within the agreed time schedule, to prioritize and focus on matters of significance;</li> <li>(b) To collect information through effective interviewing, listening, observing and reviewing documents, records and data;</li> <li>(c) To verify accuracy of collected information and confirm the sufficiency and appropriateness of gathered evidence to support audit findings and conclusions and prepare audit reports; and</li> <li>(d) To communicate effectively, either through personal knowledge of the language or through help of an interpreter.</li> </ul>

The members of the validation team are indicated below.

The result of validation team activity was reviewed by the internal verifier.

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### Validation Team

Teruo FUKUDA	Validation team leader
Akihide MADENOKOJI	Validation team member

### Internal Verifier

Tokunori MORI	Technical Expert
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### 1.3. GHG Project Description

The proposed PS A/R project activity is going to plant 3582.34 hm<sup>2</sup> *Dendrocalamus giganteus* in Jinghong city, Menghai county and Mengla county of Xishuangbanna prefecture. The natural region of the project area is the low and humid mountain valley areas in north tropics-South Asia subtropical zone, which enjoys special location and unique natural conditions, and is helpful for the growth of *Dendrocalamus giganteus*. The project is expected to produce 634,472 tCO<sub>2</sub>eVERs within a crediting period of 30 years, at an annual average of 21,149 tCO<sub>2</sub>eVERs. Both the operating entity (Mengxiang bamboo industry Co., LTD.) and local farmers hold a view that the proposed PS A/R project activity, through the above-mentioned activities, will contribute to poverty alleviation and environment improvement (biodiversity conservation and soil erosion control), thus contribute to sustainable development.

## 2. METHODOLOGY

The validation consists of the following three phases:

- I. A desk review of the project design documentation
- II. Follow-up interviews with project stakeholders
- III. The resolution of outstanding issues and the issuance of the final validation report and opinion.

In order to ensure transparency, a validation protocol was customized for the project, according to the PS Version 1.0. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organizes, details and clarifies the requirements a PS project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of three tables. The different columns in these tables are described in Figure 1. The validation protocol is enclosed in Appendix A to this report.

Findings established during the validation can either be seen as a non-fulfillment of validation protocol criteria or where a risk to the fulfillment of project objectives is identified. Corrective Action Requests (CAR) are issued, where:

- i) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- ii) The applicable PS requirements have not been met; or
- iii) There is a risk that emission reductions cannot be monitored or calculated.

The validation team may also use the term Clarification Request (CL), which would be where:

- iv) Information is insufficient or not clear enough to determine whether the applicable PS requirements have been met.

**Figure 1 Validation protocol tables**

<b>Validation Protocol Table 1: Mandatory Requirements</b>			
<b>Requirement</b>	<b>Reference</b>	<b>Conclusion</b>	<b>Cross reference</b>
<i>The requirements the project must meet.</i>	<i>Gives reference to the legislation or agreement where the requirement is</i>	<i>This is either acceptable based on evidence provided (OK), or a <b>Corrective Action Request (CAR)</b> of risk or non-compliance with stated</i>	<i>Used to refer to the relevant checklist questions in Table 2 to show how the specific requirement is</i>

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	<i>found.</i>	<i>requirements. The corrective action requests are numbered and presented to the client in the Validation report.</i>	<i>validated. This is to ensure a transparent Validation process.</i>
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<b>Validation Protocol Table 2: Requirement checklist</b>				
<b>Checklist Question</b>	<b>Reference</b>	<b>Means of verification (MoV)</b>	<b>Comment</b>	<b>Draft and/or Final Conclusion</b>
<i>The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organized in seven different sections. Each section is then further sub-divided. The lowest level constitutes a checklist question.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found.</i>	<i>Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.</i>	<i>This is either acceptable based on evidence provided (OK), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). <b>Clarification</b> is used when the validation team has identified a need for further clarification.</i>

<b>Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests</b>			
<b>Draft report clarifications and corrective action requests</b>	<b>Ref. to checklist question in table 2</b>	<b>Summary of project owner response</b>	<b>Validation conclusion</b>
<i>If the conclusions from the draft Validation are either a Corrective Action Request or a Clarification Request, these should be listed in this section.</i>	<i>Reference to the checklist question number in Table 2 where the Corrective Action Request or Clarification Request is explained.</i>	<i>The responses given by the Client or other project participants during the communications with the validation team should be summarized in this section.</i>	<i>This section should summarize the validation team's responses and final conclusions. The conclusions should also be included in Table 2, under "Final Conclusion".</i>

### 2.1. Review of Documents

The Project Design Document submitted by Yunnan Mengxiang Bamboo Industry co., LTD. and additional background documents related to the project design and baseline were reviewed. Documents reviewed are listed in Chapter 5 "References". The validation findings stated hereafter are based on the original PF Version 1.0, dated 10/07/2013 /1a/.

### 2.2. Follow-up Interviews

The validation team, Teruo FUKUDA and Akihide MADENOKOJI conducted on-site assessment in the period from 22 July 2013 to 25 July 2013 and performed interviews with project

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stakeholders to confirm selected information and to resolve issues identified in the document review. Meeting with representatives of Yunnan Mengxiang Bamboo Industry co., LTD. (the "PO") /50/-/57/ and consultant from Yunnan Academy of Science & Technical Information (the "Consultant") /58/ were held. Interviews to Xishuangbanna Forest Department, local DRC and villagers were conducted. /60/-/66/ The main topics of the interviews are summarized in Table 2.

**Table 2 Interview topics**

Interviewed organization	Interview topics
PP (Yunnan Mengxiang Bamboo Industry co., LTD.) Consultant (Yunnan Academy of Science & Technical Information)	<ul style="list-style-type: none"> <li>➤ Organization of the company</li> <li>➤ Project Overview (boundary, species, control of lands)</li> <li>➤ Project starting date</li> <li>➤ Current status of the project</li> <li>➤ Feasibility Study</li> <li>➤ Project Design</li> <li>➤ Methodology</li> <li>➤ Additionality</li> <li>➤ Monitoring</li> <li>➤ Additional benefits</li> </ul>
Xishuangbanna Forest Department Local DRC	<ul style="list-style-type: none"> <li>➤ Overview of the Project area</li> <li>➤ Selection of species (bamboo)</li> <li>➤ EIA &amp; Sustainable development aspect of the project</li> <li>➤ Project approval</li> <li>➤ Forestation in Xishuangbanna</li> <li>➤ Law, Regulation</li> <li>➤ Stakeholder Consultation</li> </ul>
villagers	<ul style="list-style-type: none"> <li>➤ How the villagers were informed about the implementation of the project</li> <li>➤ Social and environmental impacts by the project</li> <li>➤ History of the lands</li> <li>➤ Current land use</li> <li>➤ Biodiversity information</li> <li>➤ Income</li> <li>➤ Training for forestation</li> </ul>

### 2.3. Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions and clarification and any other outstanding issues which needed to be clarified for JACO CDM's positive conclusion on the project design. The Corrective Action Requests and Clarification Requests raised by JACO CDM were resolved during communications between the Client and JACO CDM.

To guarantee the transparency of the validation process, the concerns raised and responses given are summarized in chapter 3 below and documented in more detail in the validation protocol in Appendix A.

Since modifications to the Project design document were necessary to resolve JACO CDM's concerns, the Client decided to revise the documentation. After revised PF Version 02 /1b/ was submitted and reviewed, JACO CDM issued the final validation report and opinion.

### 2.4. Internal Quality Control and Assurance

The draft validation report including the initial validation findings underwent a technical review before submitted to the project participants to ensure independence, impartiality, transparency, credibility and indiscrimination of the assessments.

## 3. VALIDATION FINDINGS



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In the following sections the findings of the validation are stated. The validation findings for each validation subject are presented as follows:

- 1) The findings from the desk review of the original project form and the findings from interviews during the follow up visit are summarized. A more detailed record of these findings can be found in the Validation Protocol in Appendix A.
- 2) Where JACO CDM had identified issues that needed clarification or that represented a risk to the fulfillment of the project objectives, a Clarification or Corrective Action Request, respectively, have been issued. The Clarification and Corrective Action Requests are stated, where applicable, in the following sections and are further documented in the Validation Protocol in Appendix A. The validation of the Project resulted in 1 Corrective Action Request and 20 Clarification Requests.
- 3) Where Clarification or Corrective Action Requests have been issued, the exchanges between the Client and JACO CDM to resolve these Clarifications or Corrective Action Requests are summarized.
- 4) The conclusions for each validation subject are presented.

The validation findings relate to the project design as documented and described in the PF.

### 3.1. Project Overview

#### 3.1.1. Discussion

##### Project type and project activity

The proposed PS A/R project activity is going to plant locally breeding bamboo *Dendrocalamus giganteus* in 3582.34 ha of Jinghong City, Menghai County and Mengla County of Xishuangbanna prefecture. The natural region of the project area is the low and humid mountain valley areas in north tropics-South Asia subtropical zone. The project is expected to produce 634,472 tCO<sub>2</sub>eVERs within a crediting period of 30 years, at an annual average of 21,149 tCO<sub>2</sub>eVERs.

The project activity is expected to contribute to the sustainable development of the project area, specially:

- (1) Improvement of soil and water conservation;
- (2) Enhance biodiversity conservation by increasing forest ecosystem landscape connectivity;
- (3) Contribute to the alleviation of climate change;
- (4) generate income for the local farmers and promote the local community development.

Baseline survey results show that the project lands are far away from commercial area and the project land will remain degrading state or continue its degradation. /15/-/17/

Bamboo specie is *Dendrocalamus giganteus*.

##### Time boundary

In 2009, the project loan agreement of biological carbon sequestration forestation and biodigester construction was signed between the project owner and AFD (French Development Agency). /5/ The project was approved by Yunnan provincial DRC in 2009. /5/

The project baseline investigation and soil preparation were initiated during 01-04, 2010. /4/,/15/

It was confirmed by the site preparation record /4/ that the project start date is 25/02/2010 and it complies with the Panda Standard (PS-AFOLU) which specifies the start date is not earlier than 1st January, 2005. (CL 1) Crediting period is 30 years from 25/02/2010.

##### Project boundary

The project is located in Xishuangbanna prefecture, south of Yunnan province, north latitude 21°10'~ 22°40'and east longitude 99°55'~ 101°50' respectively, it involves Jinghong City, Menghai county and Mengla County.

The project area was determined by following ateps.

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1st step: select initial plots by remote sensing satellite imagery in different periods

2nd step: forestry based digital information in different periods, such as stand maps, covering maps of used land, etc.

3rd step: field survey and record coordinates using hand-held GPS

4th step: input the topographic maps to the GIS

5th step: determine the project plots.

24 project plots in 16 villages of 8 townships of 3 counties in Jinghong city, Menghai county and Mengla county were selected. Total area of the project is 3582.34 ha.

Satellite image /6/, coordinates data for 24 plots /7/ and GIS shp file /8/ were provided. **(CL 3)**

There are 4 strata as described in PF section 4.1.

The validation team visited 4 plots (JH-0207, MH-0314, MH-0108 and ML-0323) and checked the GPS coordinates of typical boundary points.

It was confirmed that GPS coordinates and provided information are consistent and correct.

### Project description

The validation team confirmed from the interviews with local forest bureau, PO and villagers that there are no rare animals and endangered species in the project area. **(CL 4)**

The proposed Panda standard afforestation and reafforestation project is undertaken by the following agencies,

- Yunnan designing institute of forestry survey and planning,
- TNC China project office,
- Yunnan CDM service center and Xishuangbanna Tropical botanic garden,
- Chinese academy of sciences.

These agencies are responsible for preparing the proposed Panda standard afforestation and reafforestation project, executing quality control, etc.

### Species selection and progress arrangement

The validation team confirmed from the interview with Xishuangbanna forest bureau that the local government approved the project on the condition of planting bamboo based on the reasons below. /60/-/62/ **(CL 6)**

- growing fast
- keeping water
- multiple use such as paper, furniture, etc.
- income to local people (can be cut yearly)
- no damage on environment (local specie, not require much fertilizer, less water required than *Eucalyptus*)

Annual afforestation area is as follows.

2010	2158.36 ha
2011	1423.98 ha
Total	3582.34 ha

The density of *Dedrocalamus giganteus* is 250 clumps/ha and the spacing is 5m x 8m.

Among 24 project lands, 4 project lands are inter-planted with *Eucalyptus* which takes the form of 2 rows of *Eucalyptus* with the row space of 3 x 2.6 m and a row of *Dendrocalamus giganteus* with its row space unchanged. **(CAR 1)**

### Bamboo management

Fourth year after planting, bamboo shoots become larger bamboos. These bamboo shoots can be cut at the age of 7 when their indicators such as moisture content and fibre condition reach the timber standard. Hence, the bamboos are cut at the age of 7 years. After 7 years, the bamboos are cut, bamboo shoots grow and the carbon stock reaches equilibrium condition as shown in the table of PF Section 1.6.

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### Project participant

Project participant is Yunnan Mengxiang Bamboo Industry Co., LTD.

### Emission reduction ownership

The project is funded and constructed by Yunnan Mengxiang Bamboo Industry co.,LTD. The project lands are state-owned (approx. 60%) and collectively-owned (approx. 40%). The local government treats the state-owned land as a part of investment reckoning in the stock of Yunnan Mengxiang Bamboo Industry co., LTD, while the collectively-owned land is rented by with a constant tenure of 50 years. All bamboo products planted on the land and generated carbon sink belong to the Yunnan Mengxiang Bamboo Industry co., LTD. (CL 7)

As for the state-owned lands, the land use right are confirmed by the certificate provided to Yunnan Mengxiang Bamboo Industry co., LTD from local government. /9a/

As for collectively-owned land, the land use right are confirmed by the agreement signed between Yunnan Mengxiang Bamboo Industry co., LTD and relevant communities. /9b/,/10/

## 3.1.2. Findings

### Corrective Action Request 1

It was observed during the on-site visit that in the Oubigejiao plot (total 154.46ha) approx. 60ha is a mixed plantation of Eucalyptus and bamboo. It is to be explained in the PF.

### Response

Four of the project lands (Dajianshan, Erdongshan, Oubigejiao and Mansuola) are inter-planted with *Eucalyptus*, which takes the form of two rows of *Eucalyptus* with the row space of 3m×2.6m and a row of *dendrocalamus giganteus*, with its row space unchanged. The purpose is to study the effect to the growth of each species. The carbon stock in Eucalyptus will not be counted as the project carbon sink.

The PF will be revised.

### Conclusion

The validation team confirmed that the description is added to the PF and the carbon stock in Eucalyptus will not be counted as the project carbon sink volume.

### Forward Action Request 1

- (1) The area of mixed project lands is to be clearly delineated and stratified.
- (2) The sample plot design should suitably take into account of the mixed area (bamboo & Eucalyptus) in the monitoring plan.

### Clarification Request 1

Evidence of the start date is to be provided.

### Response

Example of the report indicating the site preparation will be provided.

### Conclusion

Example of the report indicating the site preparation for the plot MH-0301 dated February, 2010 was provided. It was confirmed that the project start date in PF (25/01/2010) is correct

### Clarification Request 2

Relevant parts of the following documents are to be provided.

- (1) Agreement between PO and AFD.
- (2) Notice of the Second Batch Foreign Loan --- by NDRC (2009)
- (3) Approval for FSR of AFD Loan --- by Local DRC
- (4) FSR of the project

### Response

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Following documents will be provided.

- (1) Agreement of AFD loan (31/05/2010)
- (2) Notice of the Second Batch Foreign Loan Alternative Projects Plan issued by NDRC (2009)
- (3) Approval of the FSR for AFD loan by Yunnan provincial government (07/01/2010)
- (4) Feasibility study report (FSR) for AFD loan (12/2009)

### **Conclusion**

The validation team was provided with the documents, FSR and approval by local government, etc. It was confirmed that the project was approved by the local DRC in 2009 based on the AFD agreement between the project owner and AFD.

### **Clarification Request 3**

- (1) The boundary coordinates information is to be provided.
- (2) GIS shp file is to be provided.

### **Response**

The boundary coordinates information and GIS shp file will be provided.

### **Conclusion**

The boundary coordinates information and GIS shp file will be provided. The validation team checked the GPS coordinates of the project area by sampling and confirmed the data is consistent with the provided shp file.

### **Clarification Request 4**

Information about the presence of any rare or endangered species is to be provided.

### **Response**

The project areas are far from such area with rare or endangered species.

### **Conclusion**

It was confirmed from the interviews with local government, PO and villagers during on-site visit that there are no rare or endangered species. /60/-/66/

### **Clarification Request 5**

Please explain about the difference between the baseline information of the table in section 1.6 (p 12 of PF) and table 4-8 (p43 of PF).

### **Response**

The baseline removals data in section 1.6 is the result of the baseline calculation excel sheet. This shows the estimated growth in each year if the project had not been implemented. On the other hand, table 4-8 indicates the carbon stock monitored data in the scattered trees (total 27,240.7 tCO<sub>2</sub>e) at the project start time.

[Project removals at 2010] – [stock of the scattered trees at the project start] = [estimated net GHG removals at 2010] = 58380.7 – 27,240.73 = 31,139.97

### **Conclusion**

OK, it is confirmed that the biomass stock at 2010 is calculated in accordance with the PS methodology Category – F-V “Forestation of degraded land using species including bamboo” (Bamboo methodology).

### **Clarification Request 6**

The reason of selecting specie is to be explained.

### **Response**

*Dendrocalamus giganteus* was selected based on the reasons below.

- growing fast
- keeping water
- multiple use such as paper, furniture, etc.
- income to local people (can be cut yearly)

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- no damage on environment (local specie, not require much fertilizer, less water required than *Eucalyptus*)

### **Conclusion**

The validation team confirmed from the interviews with local forest bureau that the local government approved the project activity on the condition of planting bamboo. This is based on the Yunnan government policy to protect water and soil runoff. /11/, /60-/62/

Specie selection is also in line with the “12<sup>th</sup> 5 years plan for Xishuangbanna Thai Autonomous region Economic and Social Development”. /12/

### **Clarification Request 7**

(1) Please provide the evidences of the land ownership.

(2) It is to be confirmed with evidence that the control over all the project area is already established.

(3) Please inform to whom the credit of the project belongs.

### **Response**

(1)(2) The project lands are state-owned and collectively-owned. As for the state-owned lands, the land use right are confirmed by the certificate provided to Yunnan Mengxiang Bamboo Industry co., LTD from local government. As for collectively-owned land, the land use right are confirmed by the agreement signed between Yunnan Mengxiang Bamboo Industry co., LTD and relevant communities.

(3) The credits belong to the PO company.

### **Conclusion**

(1)(2) Evidences are received. /9/,/10/

(3) It was confirmed from the interviews with PO and consultant that the credits belong to the PO company.

### **3.1.3. Conclusion**

CAR 1 was resolved.

CL 1 to CL 7 was clarified.

The Project complies with the PS requirements.

## **3.2. Methodology applied**

### **3.2.1 Discussion**

#### **(1) Methodology**

The project applies the approved methodology PS-AFOLU and PS methodology Category – F-V “Forestation of degraded land using species including bamboo”.

#### **(2) Methodology eligibility**

##### **Applicability of Bamboo methodology**

It is demonstrated in the PF that the project activity complies with the applicability conditions stipulated in PS methodology Category – F-V “Forestation of degraded land using species including bamboo”

(i) The proposed afforestation activity is conducted on degraded land.

Xishuangbanna baseline survey report /15/ shows that the proposed project area is degraded. It was also confirmed from the interviews with PO, local government forest bureau and villagers during on-site visit that the project areas are degraded lands.

(ii) The project activity is implemented on mineral soils without organic soils.

Xishuangbanna baseline survey report /15/ shows that the project land is latosolic red soil without organic soils.

(iii) The land does not fall into wetland.

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Xishuangbanna baseline survey report /15/ shows that the project area are hilly area and not wet land.

(iv) Bamboo to be forested by the PS project activity has a potential to reach 2 m high and minimum 2 cm culm diameter.

It was confirmed by the on-site visit that the bamboo forested by the project activity is at least 2m high and has minimum 2 cm culm diameter.

(v) Water inundation is not allowed.

It was confirmed by the on-site visit that the water inundation is not applied due to project site configuration.

(vi) Project will not produce more forage compared with baseline scenario.

Forage will be reduced along with the growth of bamboo.

(vii) Project will provide at least same benefits as baseline.

It was confirmed from the interviews with PO and villagers that the project area was barren land has not been used, hence the project will provide more benefits than baseline.

(viii) Project will not result in the displacement of households or villages.

It was confirmed from the interviews with PO and villagers that there is no displacement due to the implementation of the project activity.

(ix) Litter shall remain on site and not be removed in the PS project activity.

It was confirmed from the interviews with PO and villagers that litter will not be used, remain on site and not be removed.

(x) Ploughing /ripping/scarification

It was confirmed from the interviews with PO and on-site visit observation that land preparation follows the land contour.

Hence, the proposed project activity satisfies the applicability conditions of the PS methodology Category – F-V “Forestation of degraded land using species including bamboo”.

### Land eligibility demonstration

Land eligibility is appropriately demonstrated based on “Procedures to demonstrate the eligibility of lands for afforestation and reforestation CDM project activities” (CDM EB 35 Annex 18) /33/ (CL 8)

### **(3) Sources of GHG emission and carbon pools**

GHG emission sources and carbon pools comply with the PS methodology Category – F-V “Forestation of degraded land using species including bamboo”.

#### **3.2.2. Findings**

##### **Clarification Request 8**

(1) Please provide the baseline survey report.

(2) Please provide the history of the vegetation of the project land.

(3) It is to be confirmed whether the project is reforestation project or afforestation project<sup>1</sup>.

##### **Response**

(1) Baseline survey report will be provided.

(2) There is no written history about the vegetation of the project land. It was confirmed from the interviews with local government, PO and villagers that the project area had not been forest since at least 1980's.

---

<sup>1</sup>: CDM EB35 Annex 18, section 1 requires:

(b) Demonstrate that the activity is a reforestation or afforestation project activity:

(i) For reforestation project activities, demonstrate that the land was not forest by demonstrating that the conditions outlined under (a) above also applied to the land on 31 December 1989.

(ii) For afforestation project activities, demonstrate that for at least 50 years vegetation on the land has been below the thresholds adopted by the host country for definition of forest.

## Validation Report

(3) In PS there is no project type of “reforestation” which is defined in CDM project activity. The PS “land eligibility” of the bamboo methodology (methodology category F-V) specifies following requirements:

(a) Demonstrate that the land at the moment the project starts does not contain forest by providing transparent information at the Start Date of the PS forestation project activity.

(b) The project Proponent must provide documented evidence in the Project Form of the historic land use within the Project geographic boundaries over the 10 years prior to the Start Date.

### **Conclusion**

(1) Baseline survey report “Xishuangbanna baseline survey report” and its attached record were provided.

(2) It was confirmed from the interviews with local government forest bureau and villagers that the project area had been barren land past 50 to 100 years. /60/-/66/

It was also confirmed from the interviews with local villagers that the project land had not been forest more than approx. 50years.

(3) It was confirmed from the PS methodology F-V that there is no definition of “reforestation” in PS standard. Hence, the reforestation and afforestation are not differentiated in PS.

### **3.2.3 Conclusion**

CL 8 was clarified.

The Project complies with the PS requirements.

## **3.3. Additionality**

### **3.3.1. Discussion**

Based on the PS Bamboo methodology /32/, the additionality of the project is demonstrated based on the Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19) /36/

#### **Comply with laws and regulations**

It is confirmed from the document /12/,/13/ and the interviews with local forest bureau /60/,/61/ that the project activity planting *Dendrocalamamus giganteus* complies with the states and local government policy. (ref. **CL 6**)

#### **Common practice**

There are small scale bamboo forests in Xishuangbanna planted by farmers. However, it was confirmed from the interviews with PO, consultant and local government forest bureau that a large scale bamboo plantation is the first case in Xishuangbanna. The project areas are remote areas from commercial area and not attractive for bamboo plantation. Forestation activity on these areas is somehow financially attractive due to its carbon sink revenue which enables the PO to loan AFD for the proposed project activity. Hence, the project activity is considered to exceed common practice.

#### **Implementing barriers**

The barrier analysis is described in accordance with the 5 steps indicated in the Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19)

- step 1: screening based on the starting date of the A/R project activity

The starting date of the project activity is confirmed by the project preparation record of 02/2010 /4a/ and the date is after 01/01/2005. Hence the starting date complies with the PS-AFOLU requirements.

- step 2: Identification of alternative land use scenario

As indicated in the baseline survey report /15/ and satellite imagery map of 1988 /6/, the project land has been degraded non-forest barren lands since at least 1989. It was also

## Validation Report

confirmed from the interviews with PO, local government forest bureau and villagers that the project area had been barren land past 50 to 100 years. /60/-/66/

Hence, plausible alternative scenarios are appropriately described in the PF as below.

- (a) The proposed project is not conducted as a PS project
- (b) The lands keep its original state or keep degrading

### - step 3: barrier analysis

It was confirmed from the interviews with PO, consultant and local government DRC & forest bureau that there are investment barriers for the implementation of the proposed project activity as explained below. /50/,/51/,/58/,/60/-/62/

- (a) A/R project has low investment benefit: The project area is far from commercial area and PO is facing difficulties of marketing. In addition to that the cost of managing the project is increasing. It was confirmed from the interviews with local DRC and local government forestry bureau that there is no other bamboo forestation project in Xishuangbanna.
- (b) The risk of the project is big, hence it is hard for the PO company to get loan from commercial banks.
- (c) Farmers in the project areas are mainly minority people and their income is below the poverty level. Hence, it is impossible for farmers to invest to the project.

### - step 4: Common practice --- refer to above of this section.

Based on above assessment, the proposed project activity is confirmed additional as per the Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19) /36/

### **3.3.2. Findings**

#### **Clarification Request 9**

It is to be confirmed about the additionality approach applied.

#### **Response**

Explanation will be added in the PF about PS additionality based on PS-AFOLU standard and the Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19) /36/

#### **Conclusion**

It was confirmed that the additionality approach is clearly indicated in the revised PF in accordance with PS-AFORU standard /31/ and bamboo methodology /32/.

### **3.3.3. Conclusion**

CL 9 was clarified.

It was confirmed that the proposed project activity is additional as per the PS-AFOLU standard and the Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19) /36/

## **3.4. Net emission reduction/ net anthropogenic GHG removals by sinks**

### **3.4.1. Discussion**

#### **(1) Baseline scenarios**

##### Identification of baseline scenario

Currently, the project areas are barren lands with low productivity, mainly covered by herbs, shrubs, and scarce trees. In accordance with the local land use plan, all land within the project boundary are forestry land, so all kinds of grazing within the boundary is illegal. The baseline survey /15/,/16/ shows that the current land scarce tree cover is only 1.5%, less than 20%, fall short of the Chinese forest definition standards.



## Validation Report

In addition, affected by long distance from the provenance, firewood cutting and water and soil erosion, natural update possibly cannot allow the project land to reach 20% forest cover. In view of a high cost and low yield of afforestation and reforestation on the barren lands, the project lands is almost non-forest lands in recent decades.

For the sake of restoring the forest, Chinese government then launches several projects like Grain for Green Project, encouraging farmers to yield the slope land for afforestation by subsidizing them, Key Area Fast-growing and High-yield Plantation Project, Natural Forest Protection Project , Nature Reserves and Wildlife Protection Project and so on. These projects, although, do not focus on those degraded lands; instead, they focus on developing forestry.

It was confirmed from the interviews with PO, consultant and local government forest bureau that the proposed project is so remote that strong market competitiveness lacks and hard to be incorporated into national afforestation plan. Besides, it's hard for the local farmers to loan from commercial banks to do afforestation and reforestation projects.

Therefore, without the proposed project, these lands will keep degrading. /50/,/51/,/58/,/60/-/62/  
Categorization of baseline carbon strata

It was confirmed by the baseline survey report /15/ and on-site visit that vegetation and grazing conditions are major factors influencing baseline scenario category.

Baseline carbon strata are categorized based on the baseline survey report as described in PF table 4-2 as below. /15/

Strata categorization and individual area

Strata number	Strata name	Quantity of lands	Area (ha)	Rates (%)
BSL-I	grazing carbon stratum of grass, shrub and scattered trees	5	792.63	22.13
BSL-II	non-grazing carbon stratum of grass, shrub and scattered trees	5	542.80	15.15
BSL-III	grazing carbon stratum of grass and scattered trees	11	1596.03	44.55
BSL-IV	non-grazing carbon stratum of grass and scattered trees	3	650.88	18.17
Total	4 strata	24	3582.34	100.00

### (2) Baseline scenario net GHG emission reduction/ removal

$$\Delta C_{BSL} = \sum \Delta C_{TREE\_BSL,t}$$

Where

$\Delta C_{BSL}$  Baseline net removals; t CO<sub>2</sub>e

$\Delta C_{TREE\_BSL,t}$  Change in carbon stock in baseline tree biomass within project boundary in year t,tCO<sub>2</sub>e ;

t 1, 2, 3, ... t\* years after the start of the PS project activity

In the baseline calculation, PF applies the following conditions:

- (i) in baseline scenario, variation of carbon stock above-ground and underground non-tree biomass in the baseline scenario is not considered (∵ bamboo methodology (a) below);
- (ii) in baseline scenario, dead wood and litter carbon storage variation are not considered (∵ bamboo methodology (b) below).
- (iii) in baseline scenario, the soil organic carbon storage variation is not considered (∵ bamboo methodology (c) below).
- (iv) in baseline scenario, since shrub coverage of all carbon strata is less than 5% in all strata,

## Validation Report

the shrub biomass may be assumed to be zero (∵ bamboo methodology (a) below).  
 (v) natural regeneration is far from provenance due to lush vegetation and heavy litter.

The validation team confirmed that above conditions (i) – (iv) are in accordance with the following Bamboo methodology (section 3.3). /15/

- (a) Changes in carbon stock of above-ground and below-ground biomass of non-tree vegetation may be conservatively assumed to be zero for all strata in the baseline scenario;
- (b) It is expected that the baseline dead wood and litter carbon pools will not show a permanent net increase. It is therefore conservative to assume that the sum of the changes in the carbon stocks of dead wood and litter carbon pools is zero for all strata in the baseline scenario;
- (c) Since carbon stock in soil organic carbon (SOC) is unlikely to increase in the baseline, the change in carbon stock in SOC may be conservatively assumed to be zero for all strata in the baseline scenario.

As for natural regeneration (v), the validation team observed by the site visit of Hekai plot (MH-0108) where the growing conditions are very poor due to lack of proper maintenance. and The condition is considered nearly the baseline condition and the validation team confirmed that the natural regeneration to reach to the forest definition level is not likely to happen.

Therefore, baseline scenario net emission reduction equals, without the proposed project, scattered tree carbon storage variation within the project boundary.

In line with the baseline survey, the number, age, species of the scattered tree should be categorized and counted by the following steps,

### Scattered tree biomass calculation

Based on the growing curve of hard broadleaf forest and soft broadleaf forest, the average volume V is calculated, then, based on V, Biomass expansion factor and root ratio, biomass above and underground will be obtained, through carbon content and conversion factor, scattered tree carbon storage variation can be worked out.

Growing curve equation is based on the national inventory data. (/45/, p141)

Hard broad leaf forest:

$$V = 0.9741 (1 - \exp^{-0.0314 \times A})^{4.2366}$$

Soft broad leaf forest:

$$V = 1.12599 / (1 + 9.000025/A)^{6.8837}$$

Where

A: age of trees

Based on the field measurements of all the scattered trees in the project area, baseline biomass stock variation is calculated taking into account the scattered tree will grow until the age of 20 which is a default value indicated in the Bamboo methodology PS F-V section 3.3. /32/

BEF, WD and Root to shoot ratio are based on national inventory data. (/45/, p60, 61)

The calculated baseline CO2e variation for all the project area is as below. /3/

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	total
771.4	939.6	1109.9	1141.7	1294.1	1440.3	1579.3	1710.3	1580.1	1689.6	1641.7	949.5	721.2	16568.8

### **(3) Project scenario net GHG emission reduction/ removals**

Project net GHG removals are calculated by the following formula as per Bamboo methodology. /36/

$$\Delta C_{WP} = \Delta C_p - GHG_E$$

Where,

$\Delta C_{WP}$  Project net removals; t CO<sub>2</sub>e

## Validation Report

$\Delta C_p$  Sum of the carbon storage variation of the selected carbon pool within the project boundary; t CO<sub>2</sub>e

$GHG_E$  Increase in GHG emissions within the project boundary as a result of the PS afforestation project; t CO<sub>2</sub>

$$\Delta C_p = \sum \Delta C_t$$

Where,

$\Delta C_t$  carbon storage variation of selected carbon pools, in year t; t CO<sub>2</sub>e

t 1, 2, 3, ... t\*years after the start of the PS project activity; yr

Carbon storage variation of selected carbon pools in year t is calculated as below using the Bamboo methodology.

$$\Delta C_t = \Delta C_{\text{BAMBOO\_Proj,t}} + \Delta C_{\text{TREE\_PROJ,t}} + \Delta C_{\text{DW\_PROJ,t}} + \Delta C_{\text{LI\_PROJ,t}} + \Delta C_{\text{SOC\_AL,t}} + \Delta C_{\text{HWP\_PROJ,t}} - C_{\text{TREE\_BSL}} - C_{\text{SHRUB\_BSL}}$$

Where,

$\Delta C_t$	Carbon storage variation of selected carbon pools, in year t; t CO <sub>2</sub> e	
$\Delta C_{\text{BAMBOO\_Proj,t}}$	Carbon stock variation of bamboo tree biomass in project scenario, in year t; t CO <sub>2</sub> e	Ref (A) below.
$\Delta C_{\text{TREE\_PROJ,t}}$	Carbon stock variation of non-bamboo tree biomass in project scenario, in year t; t CO <sub>2</sub> e	0
$\Delta C_{\text{DW\_PROJ,t}}$	Carbon stock variation of dead woods biomass in project scenario, in year t, t CO <sub>2</sub> e.	Not considered
$\Delta C_{\text{LI\_PROJ,t}}$	Carbon stock variation of litters biomass in project scenario, in year t, t CO <sub>2</sub> e.	Not considered
$\Delta C_{\text{SOC\_AL,t}}$	Carbon stock variation of SOC biomass in project scenario, in year t, t CO <sub>2</sub> e.	Not considered
$\Delta C_{\text{HWP\_PROJ,t}}$	Carbon stock variation of harvest wood product (bamboo) in project, in year t; t CO <sub>2</sub> e.	Not considered
$C_{\text{TREE\_BSL}}$	Carbon stock of baseline woods biomass at the start of the project (t CO <sub>2</sub> e).	Ref (B) below
$C_{\text{SHRUB\_BSL}}$	Carbon stock of shrub biomass at the start of the project (including small bamboo bundle) (t CO <sub>2</sub> e).	Not considered*
t	1, 2, 3, ... t*years after the start of the PS project activity	—

\* :  $C_{\text{SHRUB\_BSL}}$  is not considered in accordance with the Bamboo methodology.

(A) Estimation of bamboo biomass carbon storage variation ( $\Delta C_{\text{BAMBOO\_Proj,t}}$ )

It is confirmed that  $\Delta C_{\text{BAMBOO\_Proj,t}}$  is estimated using the formula of the bamboo methodology taking into following conditions.

- Equilibrium year of bamboo is 7 years.

This is confirmed from the interviews with consultant and PO. After 7 years, harvesting of the bamboo of the project activity starts. It is confirmed that the calculation of carbon storage variation is consistent with this schedule.

- Biomass prediction model of bamboo is based on the published document “Biomass and its regression models of artificial *Dendrocalamus giganteus* within different stand ages in Xishuangbanna” by TANG Jian-wei et. Al (Journal of Central South University of Forestry & Technology Dec. 2011)

The biomass prediction model is derived using 12 to 19 samples and the regression coefficient ( $R^2$ ) values for bamboo culm are more than 0.967. Hence, the coefficient value complies with the value of 0.85 stipulated in A/R CDM methodological tool “Demonstrating appropriateness of volume equation of above ground tree biomass in A/R CDM project activities” (EB 67 Annex 24) (CL 12)

## Validation Report

However, the number of data set is not complying with the same tool and this is to be reviewed at verification stage. (FAR 2)

Amount of carbon sinks of the project activity is calculated as below.

Year	1	2	3	4	5	6	7
Carbon sinks t/ha	7.4	14.8	22.1	29.5	36.9	44.3	51.6

After 7 years, the carbon stocks reaches equilibrium condition, hence the net GHG removals become zero.

(B) Estimation of carbon stock of baseline tree biomass at the start of the project ( $C_{TREE\_BSL}$ )

Based on the scattered tree measurement results, the carbon stock of baseline biomass at the start of the project is estimated using the formula of national inventory as below. /18/

Application of the formula is in line with A/R methodological tool “Demonstrating appropriateness of volume equations for estimation of above ground tree biomass in A/R CDM project activity”. (EB 67 Annex 24) /41/, /45/

Soft broad leaf forest:  $W = 0.09571 (D^2H)^{0.847291}$

Hard broad leaf forest:  $W = 0.6131 (D - 0.9678)^2$

The estimated result of the carbon stock of baseline tree biomass is 27,240.7 tCO<sub>2</sub>e. /15/

It is confirmed that the GHG removals are correctly estimated based on these conditions. /2/,/3/

### (4) Leakage

No leakage occurs in this project.

### (5) Uncertainty

It is confirmed that the uncertainty level is 10% at 90% confidence interval as per the PS-AFOLU requirements.

### (6) PS carbon credit calculation

If the uncertainty level (UNC) at 90% confidence interval is greater than 0.1 (=10%), the credit will be adjusted by multiplying the factor of  $(1 - (1 - UNC))$ . The provision is complying with the PS standard.

### (7) Net emission reduction /removals

Base on above estimate of GHG removals and baseline, net GHG removals during 30 years operation is 634,472 tCO<sub>2</sub>e. /2/,/3/

## 3.4.2 Findings

### Clarification Request 10

Please provide GHG calculation excel sheet.

#### Response

GHG calculation excel sheet was provided.

#### Conclusion

GHG removals calculation excel sheet was provided. The calculation is transparent and complies with the PS requirements.

### Clarification Request 11

The formula of growing curves for hard broad leaf forest and soft broad leaf forest are to be justified.

#### Response

## Validation Report

The formula is based on the Chinese national inventory. The evidence will be provided.

### **Conclusion**

The calculation formula for growing curves for hard broad leaf forest and soft broad leaf forest was provided. /18/

### **Clarification Request 12**

The biomass prediction models in table 4-6 are to be justified with evidences.

### **Response**

The biomass prediction model is based on the published document. /19/

### **Conclusion**

It was confirmed that the biomass prediction model is derived using 12 to 19 samples and the regression coefficient ( $R^2$ ) values for bamboo culm are more than 0.967. The coefficient value complies with the value of more than 0.85 stipulated in A/R CDM methodological tool “Demonstrating appropriateness of volume equation of above ground tree biomass in A/R CDM project activities” (EB 67 Annex 24)

### **Forward action Request 2**

The number of data for the volume equation set of the scattered trees is not complying with the CDM A/R volume equation tool /41/ and this is to be reviewed at verification stage.

### **Clarification Request 13**

It is to be confirmed how the harvesting and also growing bamboo shoot of the bamboo forest is taken into account in the GHG removal calculation.

### **Response**

The bamboo harvesting starts after 7 years. After that, the number of cutting bamboos and growing of bamboo shoot will be the same and reaches equilibrium condition.

### **Conclusion**

It was confirmed from the interview with PO and the consultant that the bamboo harvesting starts after 7 years. After that, the number of cutting bamboos and growing of bamboo shoot will be the same and reaches equilibrium condition. Hence, net GHG removals from 2018 to 2039 are zero.

### **Clarification Request 14**

It is to be confirmed that there is no displacement caused by the project activity.

### **Response**

The project land is forest land and other activities including grazing are illegal and not allowed.

### **Conclusion**

It was confirmed from the interviews with PO, local government and villagers that the project areas are degraded barren land and there is no activity. Therefore, there is no activity displacement.

### **3.4.3. Conclusion**

CL 10, CL 11, CL12, CL 13 and CL 14 are clarified. The project complies with the PS requirements.

FAR 2 is raised regarding the regression formula for volume equation of bamboo.

## **3.5 Permanence and risk mitigation**

### **3.5.1 Discussion**

## Validation Report

### (1) Risk assessment

Risk assessment is conducted in accordance with PS-AFOLU standard. In the project activity fire risk is applied. It is considered that other risks are unlikely and appropriate

It was confirmed that the formula is correctly applying the PS- AFOLU standard.

According to the PS bamboo methodology, fire risk in Yunnan Province is 0.079%.

Therefore, the RISK is as below as per bamboo methodology. **(CL 15)**

$$\begin{aligned} \text{RISK} &= \text{RISK}_{\text{fire}} + \text{PT}/30 \times 5\% = \text{PT} \times F_{\text{fire}} + \text{PT}/30 \times 5\% = 30 \times 0.079\% + 30/30 \times 5\% \\ &= 2.37 + 5 = 7.37\% \end{aligned}$$

### (2) Risk mitigation

Based on above assessment (1), number of PS credit during 30 years is calculated as below after deduction 7.37% buffer is as below.

$$\text{PSCt} = 634,472.40 \times (1 - 7.37\%) = 587,711.8 \text{ tCO}_2$$

### 3.5.2 Findings

#### Clarification Request 15

The formula and the values for calculation risk are to be justified with evidences.

#### Response

It was confirmed from the PS bamboo methodology table 4.

(fire risk data)

#### Conclusion

The risk assessment is correctly calculated as per PS bamboo methodology.

### 3.5.3 Conclusion

CL 15 is clarified.

RISK is suitably calculated as 7.37% and PS credit during 30 years is calculated as below after deduction 7.37% buffer is 587,711 tCO<sub>2</sub>e.

### 3.6. Monitoring Plan

#### 3.6.1. Discussion

##### 3.6.1.1. Monitoring frequency

Monitoring frequency is 10 years and it complies with the requirements of PS bamboo methodology.

##### 3.6.1.2. Monitoring of project implementation

###### (1) Monitoring of Project Boundary

Project boundary is monitored using GPS and GIS as per the requirements of PS bamboo methodology.

###### (2) Monitoring of afforestation activity

The monitoring will be conducted by SOP. The monitoring activity is planned to be conducted using "Plot afforestation Monitoring card". The card includes necessary items for monitoring the project implementation and appropriate.

###### (3) Operating procedure and quality control/quality assurance (QA/QC)

The QA/QC procedures include:

- Reliable field investigation based on SOP, trainings

## Validation Report

- Field data collection by sample plots including 15% remeasurements by another team
- Approve input data and analysis for reliable carbon storage data including provisions about abnormal monitored data
- Data maintenance and filing

It was confirmed from the interviews with PO and consultant that appropriate QA/QC provisions are taken for the reliable monitoring.

### 3.6.1.3. Sample design and stratification

(1) Sample volume:

Sampling volume will be decided based on the PS bamboo methodology which specifies that the targeted precision level for tree biomass estimation shall be  $\pm 10\%$  of the mean at a 90% confidence level and Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities (version 02.0.0) EB67 Annex 23) /40/

(2) Plot size

It is stated in PF that plot size is 20m x 20m. (CL 17)

(3) Plot location

Permanent sample plots are designed with procedures of randomly selected start point. (ref. FAR 1)

### 3.6.1.4. The monitoring of baseline scenario / carbon removals

It was confirmed that the baseline monitoring is not required by PS bamboo methodology.

Hence monitoring of scattered tree is not planned and it complies with the PS bamboo methodology.

### 3.6.1.5. The monitoring of project scenario emissions/ carbon removals

(1) Calculate the changes of carbon stock in project boundary

Following data are monitored:

Wi: ratio of project carbon stratum i to total area

Apj: area of plot p in stratum i

DBH: breast height diameter or eyebrow-diameter

BA: age of bamboo

A: whole area of the project

T: time span between two continuous monitoring

By above measurements, the volume of bamboos is calculated using the equations in table 4-6 of PF.

(2) The measurement and estimation of carbon storage change

The measurement and estimate of carbon storage change procedures are based on "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities (version 02.1.0) (EB60 Annex 13)" and appropriate.

### 3.6.1.6. Leakage monitoring

Leakage monitoring will not be conducted and it is in line with PS bamboo methodology.

## 3.6.2. Findings

### Clarification Request 16

(1) GIS and calculation of project area are to be demonstrated during the on-site visit.

## Validation Report

- (2) SOP for monitoring is to be explained.
- (3) Monitoring activity (DBH measurements) is to be demonstrated during the on-site visit.

### **Response**

- (1) Arc GIS is used.
- (2) SOP for monitoring will be established before training of monitoring staff.
- (3) DBH is measured by measurement tape.

### **Conclusion**

It was confirmed that PO and consultant are capable of reliable monitoring activity.

### **Clarification Request 17**

Actual sampling design is to be confirmed and plot design is to be justified.

### **Response**

Sampling design will be reviewed and justified before the project monitoring based on the A/R CDM methodological tool "Calculation of the number of sample plots for measurements within A/R CDM project activities (version 02.1.0) (EB58 Annex 15)" /42/

### **Conclusion**

Sampling design based on the A/R CDM methodological tool is appropriate.

### **Forward Action Request 3**

Actual sampling design is to be justified at the verification stage.

### **3.6.3. Conclusion**

CL 16 and CL 17 are clarified.  
The project complies with the PS requirements.

## **3.7. Additional benefits**

### **3.7.1. Discussion**

#### (1) Social impacts

It was confirmed from the interviews with local government DRC, forestry bureau and villagers that the following major social benefits of the project activity are expected.

- income increase
- employment
- strengthen social cohesion
- technical training for plantation
- women and minority group involvement

#### (2) Environmental impacts

- Conservation of biodiversity and ecosystem: it was confirmed from the interviews with local government forestry bureau and villagers that the project will contribute to enhance biodiversity conservation by increasing forest ecosystem landscape connectivity

- Erosion control: It is confirmed from the interviews with local government forestry bureau that the bamboo forest contribute to absorb much water and the bamboo root system prevent land erosion. Hence the local government recommend bamboo plantation. /60/,/61/

#### (3) Stakeholder comments

Yunnan Academy of Scientific and Technical Information, Yunnan Forestry Bureau, Yunnan Green Environmental Foundation, Xishuangbanna Forestry bureau, etc conducted a research about socio-economic conditions during in February, 2010 before implementing the project.

The report of this research was provided. /21/ (**CL 18**)

It was confirmed from the interviews with villagers that stakeholder comments were conducted as below: (**CL 20**)



## Validation Report

- Notice about the project by paper on the notice board of each village
- Explanation about the project activity by PO and local government staff
- Enquiry by questionnaire distribution

Based on the socio-economic condition survey report /21/ and the interviews with villagers /63/-/66/ that the stakeholder comments procedures are appropriate and the project is beneficial for villagers. Major benefit is income by plantation work provided by villagers including women. It was also confirmed from the interviews with villagers that there is no negative impact by the project activity.

### **3.7.2. Findings**

#### **Clarification Request 18**

Socio-economic impact analysis report is to be provided.

#### **Response**

The report "Xishuangbanna bamboo forestation project survey report (Yunnan Social Science Research Institute, 02/2010)" is provided. /21/

#### **Conclusion**

The report was provided.

#### **Clarification Request 19**

Environmental impacts analysis report is to be provided, if available.

#### **Response**

There is no environmental analysis report.

#### **Conclusion**

OK

#### **Clarification Request 20**

The procedures for stakeholder consulting are to be explained with evidences.

#### **Response**

Stakeholder comments were conducted as below:

- Notice about the project by paper on the notice board of each village
- Explanation about the project activity by PO and local government staff
- Enquiry by questionnaire distribution

Stakeholders comments are included in the report "Xishuangbanna bamboo forestation project survey report" (Yunnan Social Science Research Institute, 02/2010) /21/

#### **Conclusion**

It was confirmed that the stakeholder consultation process is appropriate.

### **3.7.3. Conclusion**

CL 18, CL 19 and CL 20 were clarified.

The project complies with the PS requirements.



## Validation Report

### 5. REFERENCES

#### Category 1 Documents:

*Documents provided by the Client that relate directly to the GHG components of the project:*

- /1a/ PF Version 01 (17/08/2012)
- /1b/ PF Version 02 (11/01/2013)
- /2/ GHG removal calculation sheet
  - project area
  - biomass calculation formula of bamboo
  - carbon storage variation
  - GHG removals ( $\Delta C_{wp}$ )
  - Carbon storage variation of the selected carbon pools ( $\Delta C_p$  &  $\Delta C_t$ )
  - Carbon storage variation ( $\Delta C_t$ )
  - Tree baseline changes ( $\Delta C_{baseline}$ )
  - Risk mitigation
- /3/ Baseline calculation sheet
  - shrub
  - natural trees
  - project area of each district
  - Baseline strata: area and number of plots in each strata
  - Scattered trees
  - BSL-I
  - BSL-I
  - BSL-III
  - BSL-IV
  - Baseline
  - Net emission reduction/ removals
- /4a/ Evidence of the starting date (preparation of planting bamboo)
- /4b/ Contract of plantation preparation between PO and farmers (20/02/2010 ~)
- /5a/ Feasibility study report (FSR) for AFD loan (12/2009)
- /5b/ Notice of the Second Batch Foreign Loan Alternative Projects Plan issued by NDRC (2009)
- /5c/ Approval of the FSR for AFD loan by Yunnan provincial government (07/01/2010)
- /5d/ Agreement of AFD loan 31/05/2010
- /6/ Project area map (Satellite image) for 1988, 1998 & 2008
- /7/ Project area monitoring data (GPS data excel sheet)
- /8/ Project area GIS data (shp file)
- /9a/ Land ownership certificate (State government land)
- /9b/ Certificate of use right for the project area owned by state government) provided by Menghai county government to PO
- /10/ Contract document of forestation between community and PO (Example of Menghai communities)
- /11/ Announce of land emphasis area of protection of water and soil runoff by Yunnann People's government (29/10/2007)
- /12/ Outline of 12<sup>th</sup> 5 years plan for Xishuangbanna Thai Autonomous region Economic and Social Development (07/2011)
- /13/ 10 years development policy of Yunnan Xishuangbanna Thai Autonomous region (2009 ~2020) (05/2010)
- /14/ Brochure of the PO company (Yunnan Mengxiang Bamboo Industry Co., LTD)(2013)
- /15/ Xishuangbanna baseline survey report (Yunnan Green Environment Development Foundation, 04/2010)
- /16/ Xishuangbanna baseline survey record (02/2010)
- /17/ Xishuangbanna land utilization data for 24 plots (02/2010)

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- /18/ Guide for biomass calculation by State Forestry Department (Feb, 2011)
- /19/ Biomass and its regression models of artificial *Dendrocalamus giganteus* within different stand ages in Xishuangbanna, by TANG Jian-wei et. al (Journal of Central South University of Forestry & Technology Dec. 2011)
- /20/ Standard Operation practice (trial) (Yunnan Mengxiang Bamboo Industry Co., LTD)
- /21/ Xishuangbanna bamboo forestation project survey report (Yunnan Social Science Reserch Institute, 02/2010)

### Category 2 Documents:

*Background documents related to the design and/or methodologies employed in the design or other reference documents.*

- /30/ Panda Standard version 1
- /31/ Panda Standard Sectoral Specification for Agriculture, Forestry (PS-AFOLU) (2011)
- /32/ Panda Standard, Methodology Category – F-V “Forestation of degraded land using species including bamboo”
- /33/ Procedures to demonstrate the eligibility of lands for afforestation and reforestation CDM project activities (version 01) (EB35 Annex 18)
- /34/ Guidance on application of the definition of the project boundary to A/R PS project activities (version 01.0) (EB44 Annex 16)
- /35/ Tool for the identification of degraded or degrading lands for consideration in implementing CDM A/R project activities (version 01) (EB41 Annex 15)
- /36/ Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19)
- /37/ Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities (version 02.1.0) (EB60 Annex 13)
- /38/ Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity (version 04.0.0) (EB65 Annex 31)
- /39/ Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities (version 01.1.0) (EB60 Annex62)
- /40/ Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities (version 02.0.0) EB67 Annex 23)
- /41/ Demonstrating appropriateness of volume equations for estimation of above ground tree biomass in A/R CDM project activity (EB 67 Annex 24)
- /42/ Calculation of the number of sample plots for measurements within A/R CDM project activities (version 02.1.0) (EB58 Annex 15)
- /43/ IPCC Good Practice Guidance for Land Use, Land Use Change and Forestry
- /44/ IPCC GPG LULUCF: Annex A Glossary
- /45/ UNFCCC CDM project ref. 3561 “Reforestation on degraded lands in Northwest Guangxi”

### Persons interviewed:

*Persons interviewed during the validation, or persons contributed with other information that are not included in the documents listed above.*

- /50/ Zhang Kai Fu: Deputy GM, Yunnan Mengxiang Bamboo Industry Co., LTD.
- /51/ Fu Jun: Yunnan Mengxiang Bamboo Industry Co., LTD.
- /51/ Hou Ming Zhang: Yunnan Mengxiang Bamboo Industry Co., LTD.
- /52/ He Yong: Yunnan Mengxiang Bamboo Industry Co., LTD.
- /53/ Ye De Zhi: Yunnan Mengxiang Bamboo Industry Co., LTD.
- /54/ Yang Li Jun: Yunnan Mengxiang Bamboo Industry Co., LTD.
- /55/ Yang Yan Lian: Yunnan Mengxiang Bamboo Industry Co., LTD.
- /56/ Fang Zheng Dong: Yunnan Mengxiang Bamboo Industry Co., LTD.
- /57/ Yue Jian Dong: Yunnan Mengxiang Bamboo Industry Co., LTD.
- /58/ Wang Xiao Li: Chief Researcher, Yunnan Academy of Science & Technical Information, consultant
- /59/ Wang Xiang: Interpreter
- /60/ Gou Bing: Deputy Director, Xishuangbanna Forestry Bureau

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- /61/ Zhu Qi Lin: Manager, Xishuangbanna Forestry Bureau
- /62/ Guo San: Xishuangbanna, local DRC
- /63/ Ba Da: Villager, Gelan He town
- /64/ Biao Er: Villager, Gelan He town
- /65/ Zhang Yong: Villager, Luode Village
- /66/ Wang Jing Yong, Villager, Luode Village

## APPENDIX A

Panda Standard - AFOLU project

VALIDATION PROTOCOL

**Project: Bamboo Afforestation Project  
in Xishuangbanna, Yunnan Province**

Panda Standard Version 1.0

**TABLE 1 MANDATORY REQUIREMENTS FOR PS A/R PROJECT ACTIVITIES**

Requirement	Reference	comments	Conclusion
1. The emissions reduced or removed by the project activities must not be double-counted.	Panda Standard Section I. (4)	It was confirmed from the interview with project participants that the project activity is not double-counted.  There is no bamboo methodology in GHG removals scheme other than PS scheme.	OK
2. The project design document shall be in conformance with the PS format	Panda Standard Section 1. (4)	PS form:	OK
3. PS project activity must be located within the boundaries of People’s Republic of China (PRC)	Panda Standard Section III	Yes	OK
4. Start date: generally no earlier than January 1, 2005.  In case of AFOLU project, to be evaluated case by case and may be accepted with an earlier date provided PP can demonstrate that GHG mitigation was an objective of the activity from its inception.	Panda Standard Section III	25/02/2010  <b>CL 1</b> <b>Evidence of the start date is to be provided.</b>	OK
5. Crediting period: crediting period for each type of activity is to be as per PS sectoral specification	Panda Standard Section III	30 years from 25/02/2010	OK
6. Additionality: - One or several barriers to implementation (Investment, technological or prevailing practice) - Regulatory/ regal requirements - Common practice Other additionality tool applied?	Panda Standard Section III	Ref. Section 3.  It was confirmed that the proposed project activity is additional as per the PS-AFOLU standard and the Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19)	OK
7. Additional benefits: Impacts on the environment and local communities must be assessed, mitigated and monitored in accordance with the PRC’s domestic laws.  In addition, the additional benefits for the environment and local communities shall be assessed, monitored, reported and verified using 3 <sup>rd</sup> party auditors charged with validation and period	Panda Standard Section III	Ref. Section 7.  It was confirmed that there are additional benefits of socila and environmental benefits.  Also, it was confirmed that the stakeholder consultation procedures are appropriate.	OK

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verification. (Guidelines: PS sectoral spec)			
8. Validation and verification report: PS standard template is to be used.	Panda Standard Section IV	The PS standard template is not yet published.	The validation report will be made based on the AR CDM template. The report will be submitted by JACO CDM to PS technical committee via PS secretariat. Email: secretariat@pandastandard.org



TABLE 2 REQUIREMENTS CHECKLIST

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>SECTION 1: PROJECT OVERVIEW</b>					
<b>1.1. Project title</b>					
A.1.1. Does the title of the project clearly enable to identify the unique PS activity?	/1/	DR	The title of the project is "Bamboo Afforestation Project in Xishuangbanna, Yunnan Province" . It is clearly identify the unique PS activity.	OK	OK
A.1.2. Are there any indication concerning the version number of the PF and the date of issue?	/1/	DR	Version no. 1.0 Date: 10/07/2013	OK	OK
A.1.3. Is this consistent with the time line of the project's history?	/1/	DR	Yes	OK	OK
<b>1.2. Project type and project activity</b>					
1.2.1. Does the PF clearly describe the purpose and transparent overview of the project?	/1/	DR	Yes	OK	OK
1.2.2. Does the PF clearly describe how the project is undertaken?	/1/	DR	Yes	OK	OK
1.2.3. Does the PF clearly describe the PPs view on the contribution of the project to sustainable development of the Host Party or the district?	/1/	DR	Yes	OK	OK
1.2.4. Is the project approved by local or national authority?	/1/ /5/	DR	(Clarification Request 2: Approval by the local DRC is to be provided.)	(CL 2)	OK
1.2.5. Is all information consistent with details provided by further chapters of the PF?	/1/	DR	Yes	OK	OK
<b>1.3. Time boundary</b>					
1.3.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	/1/ /4//5/	DR	<b>Clarification Request 2: Relevant parts of the following documents are to be provided.</b> (1) Agreement between PO and AFD. (2) Notice of the Second Batch Foreign Loan --- by NDRC (2009) (3) Approval for FSR of AFD Loan --- by Local DRC (4) FSR of the project	CL2	OK
1.3.2. Is the expected operational lifetime clearly defined	/1/	DR	Yes. Operational lifetime is defined as 30 years.	OK	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>and reasonable?</b>					
<b>1.3.1. Is the beginning of crediting period so defined as the start of the A/R project activity? Is the assumed crediting time clearly defined and reasonable (Renewable crediting period of max. two x 20 years or fixed crediting period of max. 30 years?)</b>	/1/ /4a/	DR	Yes. The beginning of the crediting period is the start of the A/R project activity.	OK	OK
<b>1.4. Project boundary</b>					
<b>1.4.1. Has the location of the project including host Party, region and town/community been described?</b>	/1/ /7/ /8/	DR	<b>Clarification Request 3</b> <b>(1) The boundary coordinates information is to be provided.</b> <b>(2) GIS shp file is to be provided.</b>	CL 3	OK
<b>1.4.2. Has an appropriately detailed geographic delineation of the project boundary including a unique identifier been included?</b>	/1/ /7/ /8/	DR	ditto	CL 3	OK
<b>1.5. Project description</b>					
<b>[Environment]</b>					
<b>1.5.1. Has a description of items on the present environmental conditions of the proposed project area including description below? (i) Climate, (ii) Hydrology, (iii) Soils, (iv) Ecosystems the presence of any rare or endangered species and their habitats been included?</b>	/1/ /15/ /60/- /66/	DR	<b>Clarification Request 4</b> <b>Information about the presence of any rare or endangered species is to be provided.</b>	CL 4	OK
<b>1.5.2. Are the presence of any rare or endangered species and their habitats been described?</b>	/1/ /15/	DR	ditto	CL 4	OK
<b>[Technologies and/or measures]</b>					
<b>1.5.3. Have the species and varieties to be grown been adequately described?</b>	/1/	DR	<b>Corrective Action Request 1</b> <b>It was observed during the on-site visit that in the Oubigejiao plot (total 154.46ha) approx. 60ha is a mixed plantation of Eucalyptus and bamboo. It is</b>	CAR 1	OK  FAR 1

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
			to be explained in the PF. <b>Forward Action Request 1</b> The sample plot design should suitably take into account of the mixed area in the monitoring plan.		
1.5.4. Does the project design describe, Environmentally safe and sustainable technologies and know-how which will be employed by PPs?	/1/	DR	Yes	OK	OK
1.5.5. Does the project participant propose new methodologies or amendments to the monitoring methodologies for project activities? In this case, project participants submit to the PS Technical Committee for consideration and get approval?	/1/	DR	NA The project applies the approved methodology published in the PS website.	NA	NA
1.5.6. Does the project design describe , other technical information that may be used to assess the applicability of the selected baseline and monitoring methodology to the proposed A/R PS project activity?	/1/	DR	NA	NA	NA
<b>1.6. Ex-ante Estimation of Net Emission Reduction/Removals</b>					
1.6.1. The ex-ante estimation indicated in this section is consistent with other part of the PF?	/1/ /3/	DR	<b>Clarification Request 5</b> Please explain about the difference between the baseline information of the table in section 1.6 (p 12 of PF) and table 4-8 (p43 of PF).	CL 5	OK
<b>1.7. Project participants:</b>					
1.7.1. Are the PPs in the project listed in the table as required?	/1/ /14/ /11-/ /13/ /60-/ /62/	DR	Yes. The project participant is Yunnan Mengxiang Bamboo Industry co., LTD. <b>Clarification Request 6</b> The reason of selecting specie is to be explained.	CL 6	OK
<b>1.8. Emission reduction ownership</b>					
1.8.1. Have details of the legal title to the land, land tenure and sequestration rights been described adequately?	/1/ /9/ /10/	DR I	Yes. <b>Clarification Request 7</b> (1) Please provide the evidences of the land	CL 7	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
			ownership. <b>(2) It is to be confirmed with evidence that the control over all the project area is already established.</b> <b>(3) Please inform to whom the credit of the project belongs.</b>		
<b>Section 2: METHODOLOGY APPLIED</b>					
<b>2.1 Methodology</b>					
<b>2.1.1. Are the latest version of methodological tools, procedures, guidelines and guidance applied?</b>	/1/ /30/ /32/	DR	Yes, Following PS standard and relevant CDM A/R methodologies are applied. PS version 1, Panda Standard Sectoral Specification for Agriculture, Forestry and Other Land Use (PS-AFORU), Methodology Category – F-V: Forestation of degraded land using species including bamboo Ver 1.0	OK	OK
<b>2.1.2. Is the selected baseline methodology in line with the baseline methodologies provided in the PS.</b>	/1/ /32/	DR	ditto	OK	OK
<b>2.2 Methodology eligibility</b> Project participants shall provide evidence that the land within the project boundary is eligible as a PS A/R project activity following the steps outlined below. PS-AFOLU					
<b>[Eligible conditions]</b>					
<b>2.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?</b>	/1/ /16/ /32/	DR	It was confirmed that the project activity complies with the applicability conditions stipulated in PS methodology Category – F-V “Forestation of degraded land using species including bamboo”  (i) The proposed afforestation activity is conducted on degraded land.  Xishuangbanna baseline survey report /15/ shows that the proposed project area is degraded.  It was also confirmed from the interviews with PO,	OK	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
			<p>local government forest bureau and villagers during on-site visit that the project areas are degraded lands.</p> <p>(ii) The project activity is implemented on mineral soils without organic soils. Xishuangbanna baseline survey report /15/ shows that the project land is latosolic red soil without organic soils.</p> <p>(iii) The land does not fall into wetland. Xishuangbanna baseline survey report /15/ shows that the project area are hilly area and not wet land.</p> <p>(iv) Bamboo to be forested by the PS project activity has a potential to reach 2 m high and minimum 2 cm culum diameter. It was confirmed by the on-site visit that the bamboo forested by the project activity is at least 2m high and has minimum 2 cm culum diameter.</p> <p>(v) Water inundation is not allowed. It was confirmed by the on-site visit that the water inundation is not applied due to project site configulation.</p> <p>(vi) Project will not produce more forage compared with baseline scenario. Forage will be reduced along with the growth of bamboo.</p> <p>(vii) Project will provide at least same benefits as baseline. It was confirmed from the interviews with PO and villagers that the project area was barren land has not been used, hence the project will provide more benefits than baseline.</p> <p>(viii) Project will not result in the displacement of households or villages. It was confirmed from the interviews with PO and villagers that there is no displacement due to the implementation of the project activity.</p> <p>(ix) Litter shall remain on site and not be removed in the PS project activity.</p>		

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
			<p>It was confirmed from the interviews with PO and villagers that litter will not be used, remain on site and not be removed.</p> <p>(x) Ploughing /ripping/scarification</p> <p>It was confirmed from the interviews with PO and on-site visit observation that land preparation follows the land contour.</p> <p>Hence, the proposed project activity satisfies the applicability conditions of the PS methodology Category – F-V “Forestation of degraded land using species including bamboo”.</p>		
<b>[Land eligibility demonstration]</b>					
<b>2.2.2. Is it demonstrated that the land at the moment the projects starts is not a forest</b>	/1/	DR	<p>PS-AFOLU indicates that the lands to be forested are not forest over 10 years prior to the start date of the project and requires to demonstrate land eligibility with documented evidences.</p> <p>Land eligibility is demonstrated satellite images and field survey report.</p> <p><b>Clarification Request 8</b></p> <p><b>(1) Please provide the baseline survey report.</b></p> <p><b>(2) Please provide evidences of the history of the project land.</b></p> <p><b>(3) It is to be confirmed whether the project is reforestation project or afforestation project .</b></p>	<b>CL 8</b>	OK
<b>2.2.3. Has the latest version of the PS to define the eligibility of lands for PS-AFOLU project activities been properly applied?</b>	/1/ /31/ /32/	DR	<p>Yes, as stated in 2.2.1 above, the eligibility conditions of lands are indicated in accordance with PS-AFOLU, Methodology Category F-V version 1.0 is applied.</p>	OK	OK
<b>2.3 Determine the sources of GHG emission and carbon pools</b>					

\* : CDM EB35 Annex 18, section 1 requires:

(b) Demonstrate that the activity is a reforestation or afforestation project activity:

(i) For reforestation project activities, demonstrate that the land was not forest by demonstrating that the conditions outlined under (a) above also applied to the land on 31 December 1989.

(ii) For afforestation project activities, demonstrate that for at least 50 years vegetation on the land has been below the thresholds adopted by the host country for definition of forest.

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>2.3.1. Are the sources of GHG emission and carbon pools selected in accordance with the requirements of the selected methodology?</b>	/1/ /32/	DR	Yes, the sources of GHG emission and carbon pools are selected in accordance with the requirements of PS Methodology Category F-V version 1.0.	OK	OK
<b>Section 3: ADDITIONALITY</b>					
<b>3.1. (Option a) Demonstration of additionality by triple test method (if the “Combined Tool to identify the baseline scenario and demonstrate additionality in A/R PS project activities” is applied, proceed to paragraph B.6.(b) and this section can be left blank.)</b>					
<b>3.1.(a).1. Is it demonstrated that the project activity complies with triple test method procedures stipulated in PS-AFOLU?</b>	/1/ /32/	DR	<b>Clarification Request 9</b> It is to be confirmed about the additionality approach applied.	<b>CL 9</b>	OK
<b>3.1.(Option b: A/R PS approach) Identification of the baseline scenario and demonstration of additionality using the “Combined Tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” (If required by the selected approved methodology)</b>					
<b>3.1.(b).1. Does the baseline scenario satisfy the applicability conditions?</b>	/1//5/ /15/	DR	Yes, The selected baseline scenario is “keep the land use degrading status quo” satisfy the baseline scenario of the applied baseline methodology (bamboo methodology section 3.1).	OK	OK
<b>3.1.(b).2. Has the baseline been determined based on the specified 5 steps of the tool?</b> <b>Step 0: Preliminary screening</b> <b>Step 1: Identification of alternative land use scenario</b> <b>Step 2: Barrier analysis</b>	/1//5/ /15/	DR	Yes The barrier analysis is described in accordance with the 5 steps indicated in the Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19) - step 1: screening based on the starting date of the	OK	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<p><b>Step 3: Investment analysis</b></p> <p><b>Step 4: Common practice analysis</b></p>			<p>A/R project activity</p> <p>The starting date of the project activity is confirmed by the project preparation record of 02/2010 /4a/ and the date is after 01/01/2005. Hence the starting date complies with the PS-AFOLU requirements.</p> <ul style="list-style-type: none"> <li>- step 2: Identification of alternative land use scenario</li> </ul> <p>As indicated in the baseline survey report /15/ and satellite imagery map of 1988 /6/, the project land has been degraded non-forest barren lands since at least 1989. It was also confirmed from the interviews with PO, local government forest bureau and villagers that the project area had been barren land past 50 to 100 years. /60/-/66/</p> <p>Hence, plausible alternative scenarios are appropriately described in the PF as below.</p> <ul style="list-style-type: none"> <li>(c) The proposed project is not conducted as a PS project</li> <li>(d) The lands keep its original state or keep degrading</li> </ul> <ul style="list-style-type: none"> <li>- step 3: barrier analysis</li> </ul> <p>It was confirmed from the interviews with PO, consultant and local government DRC &amp; forest bureau that there are investment barriers for the implementation of the proposed project activity as explained below. /50/,/51/,/58/,/60/-/62/</p> <ul style="list-style-type: none"> <li>(d) A/R project has low investment benefit: The project area is far from commercial area and PO is facing difficulties of marketing. In addition to that the cost of managing the project is increasing. It was confirmed from the interviews with local DRC and local government forestry bureau that there is no</li> </ul>		



Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
			<p>other bamboo forestation project in Xishuangbanna.</p> <p>(e) The risk of the project is big, hence it is hard for the PO company to get loan from commercial banks.</p> <p>(f) Farmers in the project areas are mainly minority people and their income is below the poverty level. Hence, it is impossible for farmers to invest to the project.</p> <p>- step 4: Common practice --- There are small scale bamboo forests in Xishuangbanna planted by farmers. However, it was confirmed from the interviews with PO, consultant and local government forest bureau that a large scale bamboo plantation is the first case in Xishuangbanna. The project areas are remote areas from commercial area and not attractive for bamboo plantation. Forestation activity on these areas is somehow financially attractive due to its carbon sink revenue which enables the PO to loan AFD for the proposed project activity. Hence, the project activity is considered to exceed common practice.</p> <p><u>Conclusion</u></p> <p>Based on above assessment, the proposed project activity is confirmed additional as per the Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19) /36/</p>		
<p><b>3.1.(b).3. Does the baseline scenario sufficiently take into account relevant national and/ or sectoral policies and circumstances such as historical land uses, practices, and economic trends.</b></p>	<p>/1/5/ /15/</p>	<p>DR</p>	<p>Yes, as described above, the baseline scenario sufficiently take into account relevant national and/ or sectoral policies and circumstances such as historical land uses, practices, and economic trends.</p>	<p>OK</p>	<p>OK</p>
<p><b>3.1.(b).4. Is the baseline determination compatible with the available data?</b></p>	<p>/1/5/ /15/</p>	<p>DR</p>	<p>ditto</p>	<p>OK</p>	<p>OK</p>
<p><b>3.1.(b).5. Are all literature and sources clearly</b></p>	<p>/1/5/ /15/</p>	<p>DR</p>	<p>Yes</p>	<p>OK</p>	<p>OK</p>

Checklist Question referenced?	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>3.4.(Option c: Performance standard approach)</b>					
3.4.1. Is the performance standard approach procedures are correctly applied to the project activity?	/1/	DR	NA		
<b>SECTION 4: NET EMISSION REDUCTION/ NET ANTHROPOGENIC GHG REMOVALS BY SINKS</b>					
<b>4.1. Baseline scenarios: Identify the project boundary and strata</b>					
4.1.1. Is the project boundary clearly identified?	/1/	DR	The validation team confirmed from the project area map (1988, 1998 & 2008) /6/, project area monitored data project area GIS shp file and interviews with consultant that the project boundary is clearly identified. Also the validation team checked a few typical coordinates by GPS during the on-site visit that the project coordinates are correctly monitored and recorded.	OK	OK
4.1.2. Is the strata of the project activity conforming to the methodology?	/1/ /15/	DR	<p>It was confirmed by the baseline survey report /15/ and on-site visit that vegetation and grazing conditions are major factors influencing baseline scenario category. Baseline carbon strata are categorized based on the baseline survey report as described in PF table 4-2, below.</p> <p>BSL-I: grazing carbon stratum of grass, shrub and scattered trees                      BSL-II: non-grazing carbon stratum of grass, shrub and scattered trees                      BSL-III: grazing carbon stratum of grass and scattered trees                      BSL-IV: non-grazing carbon stratum of grass and scattered trees</p> <p><b>Ref. CAR 1. (Section 1.5.3 above)</b></p>	<b>CAR 4</b> OK	<b>FAR 1</b>

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>4.1.3. Is the description of the application of the approach to identify the most plausible baseline scenario appropriate? (separately for each stratum)</b> - selection of approved methodology to identify the baseline scenario - Is the application of baseline determination steps, if applicable, appropriate and transparent? - justification of key assumptions and rationales -relevant documentation or references	/1/ /15/ /50/ /51/ /58/ /60/ /62/	DR I	It was confirmed from the interviews with PO, consultant and local government forest bureau that the proposed project is so remote that strong market competitiveness lacks and hard to be incorporated into national afforestation plan. Besides, it's hard for the local farmers to loan from commercial banks to do afforestation and reforestation projects. Therefore, without the proposed project, these lands will keep degrading.	(CL 8)	OK
<b>4.1.4. Identified baseline scenario for each stratum: The most plausible baseline scenario is to be identified.</b>	ditto	DR I	Ditto	(CL 8)	OK
<b>4.1.5. Has the baseline been determined using conservative assumptions where possible?</b>	ditto	DR I	Ditto	(CL 8)	OK
<b>4.1.6. Has the baseline been established on a project-specific basis?</b>	/1/ /15/	DR	Yes, the baseline is established on a project-specific basis based on the baseline survey results.	OK	OK
<b>4.1.7. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies and circumstances such as historical land uses, practices, and economic trends?</b>	/1/ /15/ /50/ /51/ /58/ /60/ /62/	DR	It was confirmed from the baseline survey report, interviews with PO, Local government and villagers that the project baseline scenario sufficiently takes into account relevant regulations and historical land uses, practices and economic trends. The baseline scenario "Keeping the land use degrading status quo" is appropriate and complies with the methodology F-V.	OK	OK
<b>4.2. Baseline scenario and net GHG removals by sinks</b> The validation of estimated baseline net GHG removals focuses on transparency and completeness of calculations.					
<b>4.2.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline removals?</b>	/1/ /15/ /32/	DR	The validation team visited 4 project plots of BSL-I to III, is provided with photographs of BSL-IV and confirmed that the following baseline indicators (i) – (iv) are appropriate as per bamboo methodology F-V.  As for another indicator, natural regeneration (v), the validation team observed during the site visit of Hekai	OK	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
			<p>plot (MH-0108) where the growing conditions are very poor due to lack of proper maintenance, thus it is considered as nearly the baseline condition. The validation team confirmed that the natural regeneration to reach to the forest definition level is not likely to happen.</p> <p>(i) in baseline scenario, variation of carbon stock above-ground and underground non-tree biomass in the baseline scenario is not considered.</p> <p>(ii) in baseline scenario, dead wood and litter carbon storage variation are not considered.</p> <p>(iii) in baseline scenario, the soil organic carbon storage variation is not considered.</p> <p>(iv) in baseline scenario, since shrub coverage of all carbon strata is less than 5% in all strata, the shrub biomass may be assumed to be zero.</p> <p>(v) natural regeneration is far from provenance due to lush vegetation and heavy litter.</p> <p>Therefore, baseline scenario net emission reduction equals, without the proposed project, scattered tree carbon storage variation within the project boundary.</p>		
<b>4.2.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline removals?</b>	/1/	DR	The baseline boundaries are the same as project area 3,582.34 ha and clearly defined in PF section 4.1.	OK	OK
<b>4.2.3. Are the GHG calculations documented in a complete and transparent manner?</b>	/1/	DR	<p><b>Clarification Request 10</b> Please provide GHG calculation excel sheet.</p> <p><b>Clarification Request 11</b> The formula of growing curves for hard broad leaf forest and soft broad leaf forest are to be justified.</p>	CL 10 CL 11	OK OK
<b>4.2.4. Have conservative assumptions been used when calculating baseline?</b>	/1/	DR	Ditto	CL 10	OK
<b>4.2.5. Have the project baseline(s) and the project removals been determined using the same appropriate methodology and conservative assumptions?</b>	/1/	DR	Ditto	CL 10	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>4.3. Actual net GHG removals by sinks</b> The validation of predicted project GHG removals focuses on transparency and completeness of calculations.					
<b>4.3.1. Are all aspects related to direct and indirect GHG removals captured in the project design?</b>	/1/ /45/	DR	<b>Clarification Request 12</b> The biomass prediction models in table 4-6 are to be justified with evidences.  <b>Clarification Request 13</b> It is to be confirmed how the harvesting and also growing bamboo shoot of the bamboo forest is taken into account in the GHG removal calculation.	CL 12  CL 13	OK  OK
<b>4.3.2. Are the GHG calculations documented in a complete and transparent manner?</b>	/1/	DR	Yes, the GHG calculations are documented in a complete and transparent manner by the excel sheet.	OK	OK
<b>4.3.3. Have conservative assumptions been used to calculate project GHG removals?</b>	/1/	DR	Yes	OK	OK
<b>4.3.4. Are uncertainties in the GHG removals estimates properly addressed in the documentation?</b>	/1/	DR	It is clearly indicated in section 4.5 and 4.6.	OK	OK
<b>4.3.5. Have all relevant greenhouse gases and source categories listed in PS been evaluated?</b>	/1/	DR	Yes, ref project PF section 2.3.	OK	OK
<b>4.4. Estimated Leakage</b> It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.					
<b>4.4.1. Are potential leakage effects beyond the chosen project boundaries properly identified in accordance with PS A/R methodologies?</b>	/1/	DR	<b>Clarification Request 14</b> It is to be confirmed that there is no displacement caused by the project activity.	CL 14	OK
<b>4.4.2. Have these leakage effects been properly accounted for in calculations?</b>	/1/	DR	Ditto	(CL 14)	OK
<b>4.4.3. Are the calculations documented in a complete and transparent manner?</b>	/1/	DR	Ditto	(CL 14)	OK
<b>4.4.4. Have conservative assumptions been used when</b>	/1/	DR	Ditto	(CL 14)	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>calculating leakage?</b>					
<b>4.4.5. Are uncertainties in the leakage estimates properly addressed?</b>	/1/	DR	Ditto	(CL 14)	OK
<b>4.5. Uncertainty</b>					
<b>4.5. Are uncertainties in choosing key parameters properly addressed in the documentation?</b>	/1/ /32/	DR	Yes It is defined in the project PF that the uncertainty of the project equals 10% carbon sink of the project. The value is in line with the bamboo methodology F-V.	OK	OK
<b>4.6. PS carbon credit calculation</b>					
<b>[Data and parameters fixed ex ante]</b>					
<b>4.6.1. Are the data and parameters fixed ex ante are indicated in accordance with the requirements of the selected methodology including applicable tool(s)?</b>	/1/ /2/ /32/	DR	Yes, the data and parameters fixed ex ante are indicated in accordance with PS methodology F-V. <b>(CL 10)</b>	<b>(CL 10)</b>	OK
<b>[Ex ante calculation of net anthropogenic GHG removals by sinks]</b>					
<b>4.6.2. Is the calculation formula complying with the methodology?</b>	/1/ /2/ /32/	DR	Yes, the calculation formula complies with the PS methodology F-V. <b>(CL 10)</b>	<b>(CL 10)</b>	OK
<b>B.7.3.1. Will the project result in increased net GHG removals by sinks than the baseline scenario?</b>	/1/	DR	Yes, the project results in increased net GHG removals by sinks. The net GHG removals (tCO <sub>2</sub> e) are as below. Baseline: (Baseline stock: 27240.7) Baseline change during 30 years: -16568.8 Project net GHG removals during 30 years: 651041.2 1st year (GHG removal – baseline stock) =58380.70 – 27240.73 =31139.97 2-7 year=96897.42 x 6 = 581384.52 8th year=38516.72 Net GHG removals: 651041.2 – 16568.8 = 634,472.4	OK	OK
<b>4.7. Net emission reduction/ removals</b>					

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
4.7.1 Is the form required for the indication of project emission reductions correctly applied?	/1/	DR	Yes, the form required for the project GHG removals is correctly applied. (CL 10)	(CL 10)	OK
4.7.2. Are the figures provided consistent with other data presented in the PF?	/1/	DR	Yes, the figures provided are consistent with other data in the PF.	OK	OK
<b>SECTION 5: PERMANENCE AND RISK MITIGATION</b>					
5.1. Risk assessment: Does the risk assessment comply with the relevant PS-AFOLU rules?	/1/	DR	<b>Clarification Request 15</b> The formula and the values for calculation risk are to be justified with evidences.	CL 15	OK
5.2. Risk mitigation: Does the risk mitigation comply with the relevant PS-AFOLU rules?	/1/	DR	ditto	(CL 15)	OK
<b>SECTION 6. MONITORING</b>					
<b>6.1 Monitoring frequency and monitoring parameters</b>					
6.1.1. Is the monitoring frequency complying with the methodology?	/1/	DR	The monitoring frequency is specified as 10 years in the project and the value complies with the bamboo methodology "Every 3-10 years".	OK	OK
6.1.2. Are the data and parameters are appropriate in accordance with the applied methodology including the applicable tool(s)?	/1/	DR	<b>Clarification Request 16</b> (1) GIS and calculation of project area are to be demonstrated during the on-site visit. (2) SOP is to be explained. (3) Monitoring activity (DBH measurements) is to be demonstrated during the on-site visit.	CL 16	OK
6.1.3. Are the description of the monitoring plan contains all necessary parameters? Are data and parameters are described in accordance with the PF form?	/1/ /32/	DR	The monitoring plan conforms to the formula of PF section 4.3.	OK	OK
6.1.4. Are the means of monitoring described in the monitoring plan complies with the requirements of the methodology including applicable tool(s)?	/1/ /32/	DR	The means of monitoring described in the monitoring plan complies with the requirements of the monitoring methodology.	OK	OK
<b>6.2. Monitoring of the project implementation</b>					
6.2.1. Does the selected monitoring methodology	/1/	DR	Yes, the PS methodology F-V requires the monitoring	OK	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>require the monitoring of forest establishment?</b>			of project implementation as below: (1) monitoring the boundary PS forestation project activity (2) monitoring of the forest management		
<b>6.2.2. Is the information described on how geographic coordinates of the project boundary are established, recorded and archived?</b>	/1/	DR	Yes the PS methodology describes as below: (1) measuring geographical positions using GPS or other verifiable approaches, (2) input the measured geographical positions in to GIS system and calculate the eligible area of each stratum.	OK	OK
<b>6.2.3. Does the PP apply default data in estimation of the net anthropogenic GHG removals by sinks which results in conservative value?</b>	/1/	DR	The PP applies the published document “Biomass and its regression models of artificial <i>Dendrocalamus giganteus</i> within different stand ages in Xishuangbanna, by TANG Jian-wei et. al (Journal of Central South University of Forestry & Technology Dec. 2011)	OK	OK
<b>[Operational and management structure It is checked that project implementation is properly prepared for and that critical arrangements are addressed. ]</b>					
<b>6.2.4. Is the authority and responsibility of project management clearly described?</b>	/1/	DR	The validation team confirmed that the project is managed by PO (Yunnan Mengxiang Bamboo Industry Co., LTD.)	OK	OK
<b>6.2.5. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?</b>	/1/	DR	The monitoring, measurement and reporting will be done by consultant (Yunnan Academy of Science & Technical Information)	OK	OK
<b>6.2.6. Are procedures identified for training of monitoring personnel?</b>	/1/	DR	Yes, PF section 6.2	OK	OK
<b>6.2.7. Are procedures identified for monitoring, measurements and reporting?</b>	/1/	DR	Ditto	OK	OK
<b>6.2.8. Are procedures identified for data maintenance and storage?</b>	/1/	DR	Ditto	OK	OK
<b>6.2.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?</b>	/1/	DR	Ditto	OK	OK
<b>6.2.10. Are procedures identified for project performance</b>	/1/	DR	Ditto	OK	OK



Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
reviews before data is submitted for verification, internally or externally?					
<b>[QUALITY CONTROL &amp; QUALITY ASSURANCE]</b>					
6.2.11. Are procedures identified to ensure reliable field measurements? The procedure includes development of standard operating procedures (SOPs) for each step of the field measurements, collecting reliable data, training and provisions for documentation for future verification.	/1/	DR	The procedures to ensure reliable field measurements are described in PF section 6.2.	OK	OK
6.2.12. Are procedures identified to verify field data collection?	/1/	DR	Ref. PF section 6.2.	OK	OK
6.2.13. Are procedures identified to verify data entry and analysis?	/1/	DR	ditto	OK	OK
6.2.14. Are procedures identified for data maintenance and storage taking into account the long-term nature of A/R project activities under the PS?	/1/	DR	ditto	OK	OK
<b>6.3. Sampling plan and stratification</b>					
6.3.1. Are the ex ante strata indicated appropriately?	/1/	DR	<b>Clarification Request 17</b> Actual sampling design is to be confirmed and plot design is to be justified.	CL 17	OK FAR 3
6.3.2. Is the application of the ex post stratification procedures explained?	/1/	DR	ditto	(CL 17)	OK
6.3.3. Is the sampling design described properly?	/1/	DR	Ditto	(CL 17)	OK
<b>6.4. Monitoring of the baseline net GHG removals by sinks (If required by the selected approved methodology)</b>					
6.4.1 Is the monitoring of baseline required by the selected baseline methodology?	/1/	DR	NA	NA	NA
6.4.2. If required, are data and parameters comply with the requirements of the methodology?	/1/	DR	NA	NA	NA

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>6.5. Monitoring of the actual net GHG removals</b> <b>It is established whether the monitoring plan provides for reliable and complete actual net GHG removals.</b>					
<b>6.5.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the actual net greenhouse gas removals by sinks during the crediting period?</b>	/1/	DR	Yes, the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the actual net greenhouse gas removals by sinks in accordance with the PS methodology.	OK	OK
<b>6.5.2. Does the monitoring plan provide for changes in circumstances within the project boundary that affect legal title to the land or right of access to the carbon pools?</b>	/1/	DR	Yes, it is described in PF section 6.2.1.	OK	OK
<b>6.5.3. Does the monitoring plan specify the technique and methods for sampling and measuring individual carbon pools and GHG removals by sinks included in the actual GHG removals by sinks that reflects commonly accepted principles and criteria concerning forest inventory?</b>	/1/	DR	(ref. CL 17)	(CL 17)	OK
<b>6.5.4. Are the choice of project GHG indicators reasonable?</b>	/1/	DR	Yes, the project GHG indicators are in accordance with the PS methodology F-V and reasonable.	OK	OK
<b>6.5.5. Will it be possible to monitor / measure the specified project GHG indicators?</b>	/1/ /2/ /18/	DR	Yes. The specified project GHG indicators are: Wi: ratio of project carbon stratum (plot) i to total area, Apj: area of plot p in stratum, DBH: Breast height diameter or eye brow diameter, BA: Age of bamboo A: whole area of the project T: time span bewteen 2 continuous monitoring  By above measurements, the volume of bamboos is calculated using the equations in table 4-6 of PF.	OK	OK
<b>6.5.6. Will the indicators enable comparison of project data and performance over time?</b>	/1/	DR	Yes.	OK	OK

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
6.5.7. Does the project participant specify 3- 10 year monitoring frequency?	/1/	DR	Yes, the project specify 10 years monitoring frequency as per the methodology.	OK	OK
6.5.8. Do the project management plan and the monitoring plan ensure that a systematic coincidence of verification and peaks in carbon stocks is avoided?	/1/	DR	As indicated in the PF section 1.5.2 (6) “Bamboo management”, harvesting of bamboo can be conducted all year around, better to do in spring and winter after age of 7. Hence, there is no systematic coincidence of verification and peaks in carbon stocks.	OK	OK
<b>6.6. Monitoring of Leakage</b> It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.					
6.6.1. Does the monitoring plan clearly identify the leakage indicators?	/1/	DR	NA as per methodology for PS Bamboo project.	NA	NA
6.6.2. Have relevant indicators for GHG leakage been included?	/1/	DR	NA	NA	NA
6.6.3. Will it be possible to monitor the specified GHG leakage indicators.	/1/	DR	NA	NA	NA
6.6.4. Does the monitoring plan specify the procedures for the periodic review of implementation of the activities and measures to minimize leakage?	/1/	DR	NA	NA	NA
<b>SECTION 7: ADDITIONAL BENEFITS</b>					
<b>7.1. SOCIO-ECONOMIC IMPACTS</b> Documentation on the analysis of the socio-economic impacts, including impacts outside the project boundary will be assessed, and if deemed significant, a socio-economic impact assessment should be provided to the validator.					
<b>7.1.1. Analysis of Socioeconomic impacts</b>					

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>7.1.1.1. Is the analysis documented about the socio-economic impacts, including impacts outside the project boundary?</b> This analysis should include, where applicable, information on, inter alia, local communities, indigenous people, land tenure, local employment, food production, cultural and religious sites, and access to fuel wood and other forest products.	/1/ /21/	DR	<b>Clarification Request 18</b> Socio-economic impact analysis report is to be provided,	CL 18	OK
<b>7.1.2. Socio-economic impact assessment</b>					
<b>7.1.2.1. If any negative impact is considered significant by the project participants or the host Party, a statement is required including that the project participants have undertaken socio-economic impact assessment adequate to scale, in accordance with the procedures required by the host party, including conclusions and all references to support documentation.</b>	/1/ /21/	DR	ditto	(CL 18)	OK
<b>7.1.3. Planned monitoring and remedial measures to address significant impacts</b>					
<b>7.1.3.1. Have identified socio-economic impacts been addressed in the project design?</b>	/1/ /21/	DR	ditto	(CL 18)	OK
<b>7.1.3.2. Does the project participant indicates planned monitoring and remedial measures to address significant impacts on socio-economic impacts.</b>	/1/ /60- /62/	DR	It was confirmed from the interviews with PO and local government staff that the socio-economic impacts monitoring will be conducted regularly.	OK	OK
<b>7.2. ENVIRONMENTAL IMPACTS</b>					
Documentation on the analysis of the environmental impacts, including impacts on biodiversity and natural ecosystems, and impacts outside the project boundary will be assessed, and if deemed significant, an EIA should be provided to the validator.					

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>7.2.1. Analysis of environmental impacts</b>					
7.2.1.1. Is the analysis documented about the environmental impacts, including impacts on biodiversity and natural ecosystems, and impacts outside the project boundary? This analysis should include, where applicable, information on, inter alia, hydrology, soils, risk of fires, pests and diseases.	/1/	DR	<b>Clarification Request 19</b> Environmental impacts analysis report is to be provided, if available.	CL 19	OK
<b>7.2.2. Environmental impact assessment</b>					
7.2.2.1. If adverse effect is considered significant by the project participants or the Host Party, is the statement included that the project participants have undertaken EIA in accordance with the procedures required by the host party, including its conclusions and all references to support documentation?	/1/	DR	Ditto	(CL 19)	OK
<b>7.2.3. Planned monitoring and remedial measures to address significant impacts</b>					
7.2.3.1. Have identified environmental impacts been addressed in the project design?	/1/	DR	Ditto	(CL 19)	OK
7.2.3.2. Does the project comply with environmental legislation in the host country?	/1/	DR	Ditto	(CL 19)	OK
7.2.3.3. Does the project participant indicate planned monitoring and remedial measures to address significant impacts on environmental	/1/	DR	Ditto	(CL 19)	OK
<b>7.3. STAKEHOLDER COMMENTS</b> The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.					
<b>7.3.1. Brief description of how comments by local</b>					

Checklist Question	Ref.	MoV*	Comments	Draft Concl	Final Concl.
<b>stakeholders have been invited and compiled:</b>					
7.3.1.1. Have relevant stakeholders been consulted?	/1/	DR	<b>Clarification Request 20</b> The procedures for stakeholder consulting are to be explained.	CL 20	OK
7.3.1.2. Have appropriate media been used to invite comments by local stakeholders?	/1/	DR	Ditto	(CL 20)	OK
7.3.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	/1/	DR	Ditto	(CL 20)	OK
<b>7.3.2. Summary of the comments</b>					
7.3.2.1. Is a summary of the stakeholder comments received provided?	/1/	DR	CL 20	(CL 20)	OK
<b>7.3.3. Due account for comments</b>					
7.3.3.1. Has due account been taken of any stakeholder comments received?	/1/	DR	CL 20	(CL 20)	OK
<b>Appendix</b>					
Is the description of Appendix appropriate and consistent with the details of other chapters of PF?	/1/	DR	Yes.	OK	OK

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**Table. 3 Resolution of Corrective Action and Clarification Requests**

Draft report clarifications and corrective action requests by validation team	Ref. to checklist question table 2	Summary of project owner response	Validation team conclusion (incl.: Summary of the significant changes between PF for GSC and PF for registration request)
<p><b>Corrective Action Request 1</b> It was observed during the on-site visit that in the Oubigejiao plot (total 154.46ha) approx. 60ha is a mixed plantation of Eucalyptus and bamboo. It is to be explained in the PF.</p>	<p>Table 2, 1.5.3</p>	<p>Four of the project lands (Dajianshan, Erdongshan, Oubigejiao and Mansuola) are inter-planted with <i>Eucalyptus</i>, which takes the form of two rows of <i>Eucalyptus</i> with the row space of 3m×2.6m and a row of <i>dendrocalamus giganteus</i>, with its row space unchanged. The purpose is to study the effect to the growth of each species. The carbon stock in Eucalyptus will not be counted as the project carbon sink. The PF will be revised.</p>	<p>OK The validation team confirmed that the description is added to the PF and the carbon stock in Eucalyptus will not be counted as the project carbon sink volume. <b>Forward Action Request 1</b> <b>(1) The area of mixed project lands is to be clearly delineated and stratified.</b> <b>(2) The sample plot design should suitably take into account of the mixed area (bamboo &amp; Eucalyptus) in the actual monitoring.</b></p>
<p><b>Clarification Request 1</b> Evidence of the start date is to be provided.</p>	<p>Table 1 No.4</p>	<p>Example of the report indicating the site preparation will be provided.</p>	<p>OK Example of the report indicating the site preparation for the plot MH-0301 dated February, 2010 was provided. It was confirmed that the project start date in PF (25/01/2010) is correct</p>
<p><b>Clarification Request 2:</b> Relevant parts of the following documents are to be provided. (1) Agreement between PO and AFD. (2) Notice of the Second Batch Foreign Loan --- by NDRC (2009)</p>	<p>Table 2 1.3.1</p>	<p>Following documents will be provided. (1) Agreement of AFD loan (31/05/2010) (2) Notice of the Second Batch Foreign Loan Alternative Projects Plan issued by NDRC (2009)</p>	<p>OK The validation team was provided with the documents, FSR and approval by local government, etc. It was confirmed that the project was approved by the local DRC in 2009 based on the AFD</p>

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Draft report clarifications and corrective action requests by validation team	Ref. to checklist question table 2	Summary of project owner response	Validation team conclusion (incl.: Summary of the significant changes between PF for GSC and PF for registration request)
(3) Approval for FSR of AFD Loan --- by Local DRC (4) FSR of the project		(3) Approval of the FSR for AFD loan by Yunnan provincial government (07/01/2010) (4) Feasibility study report (FSR) for AFD loan (12/2009)	agreement between the project owner and AFD.
<b>Clarification Request 3</b> (1) The boundary coordinates information is to be provided. (2) GIS shp file is to be provided.	1.4.1	The boundary coordinates information and GIS shp file will be provided.	OK The boundary coordinates information and GIS shp file will be provided. The validation team checked the GPS coordinates of the project area by sampling and confirmed the data is consistent with the provided shp file.
<b>Clarification Request 4</b> Information about the presence of any rare or endangered species is to be provided.	1.5.1	The project areas are far from such area with rare or endangered species.	OK It was confirmed from the interviews with local government, PO and villagers during on-site visit that there are no rare or endangered species.
<b>Clarification Request 5</b> Please explain about the difference between the baseline information of the table in section 1.6 (p 12 of PF) and table 4-8 (p43 of PF).	1.6.1	The baseline removals data in section 1.6 is the result of the baseline calculation excel sheet. This shows the estimated growth in each year if the project had not been implemented. On the other hand, table 4-8 indicates the carbon stock monitored data in the scattered trees (total 27,240.7 tCO <sub>2</sub> e) at the project start time. [Project removals at 2010] – [stock of the scattered trees at the project start] = [estimated net GHG removals at	OK It is confirmed that the biomass stock at 2010 is calculated in accordance with the PS methodology Category – F-V “Forestation of degraded land using species including bamboo” (Bamboo methodology).



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Draft report clarifications and corrective action requests by validation team	Ref. to checklist question table 2	Summary of project owner response	Validation team conclusion (incl.: Summary of the significant changes between PF for GSC and PF for registration request)
		2010] = 58380.7 – 27,240.73 = 31,139.97	
<p><b>Clarification Request 6</b> The reason of selecting specie is to be explained.</p>	1.7.1	<p><i>Dendrocalamus giganteus</i> was selected based on the reasons below.</p> <ul style="list-style-type: none"> <li>-growing fast</li> <li>- keeping water</li> <li>- multiple use such as paper, furniture, etc.</li> <li>- income to local people (can be cut yearly)</li> <li>- no damage on environment (local specie, not require much fertilizer, less water required than <i>Eucalyptus</i>)</li> </ul>	<p>OK</p> <p>The validation team confirmed from the interviews with local forest bureau that the local government approved the project activity on the condition of planting bamboo. This is based on the Yunnan government policy to protect water and soil runoff. /11/, /60-/62/</p> <p>Specie selection is also in line with the “12<sup>th</sup> 5 years plan for Xishuangbanna Thai Autonomous region Economic and Social Development”. /12/</p>
<p><b>Clarification Request 7</b> (1) Please provide the evidences of the land ownership. (2) It is to be confirmed with evidence that the control over all the project area is already established. (3) Please inform to whom the credit of the project belongs.</p>	1.8.1	<p>(1)(2) The project lands are state-owned and collectively-owned. As for the state-owned lands, the land use right are confirmed by the certificate provided to Yunnan Mengxiang Bamboo Industry co., LTD from local government. As for collectively-owned land, the land use right are confirmed by the agreement signed between Yunnan Mengxiang Bamboo Industry co., LTD and relevant communities. (3) The credits belong to the PO company.</p>	<p>OK</p> <p>(1)(2) Evidences are received. /9/,/10/ (3) It was confirmed from the interviews with PO and consultant that the credits belong to the PO company.</p>

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<p><b>Clarification Request 8</b></p> <p>(1) Please provide the baseline survey report.</p> <p>(2) Please provide the history of the vegetation of the project land.</p> <p>(3) It is to be confirmed whether the project is reforestation project or afforestation project.</p>	<p>2.2.4</p>	<p>(1) Baseline survey report will be provided.</p> <p>(2) There is no written history about the vegetation of the project land. It was confirmed from the interviews with local government, PO and villagers that the project area had not been forest since at least 1980's.</p> <p>(3) There is no project type of "reforestation" which is defined in CDM project activity in PS. The PS "land eligibility" of the bamboo methodology (methodology category F-V) specifies following requirements:</p> <p>(a) Demonstrate that the land at the moment the project starts does not contain forest by providing transparent information at the Start Date of the PS forestation project activity.</p> <p>(b) The project Proponent must provide documented evidence in the Project Form of the historic land use within the Project geographic boundaries over the 10 years prior to the Start Date.</p>	<p>OK</p> <p>(1) Baseline survey report "Xishuangbanna baseline survey report" and its attached record were provided.</p> <p>(2) It was confirmed from the interviews with local government forest bureau and villagers that the project area had been barren land past 50 to 100 years. /60-/ /66/</p> <p>It was also confirmed from the interviews with local villagers that the project land had not been forest more than approx. 50years.</p> <p>(3) It was confirmed from the PS methodology F-V that there is no definition of "reforestation" in PS standard. Hence, the reforestation and afforestation are not differentiated in PS.</p>
<p><b>Clarification Request 9</b></p> <p>It is to be confirmed about the additionality approach applied.</p>	<p>3.1.(a) 1</p>	<p>Explanation will be added in the PF about PS additionality based on PS-AFOLU standard and the Combined tool to identify the baseline scenario</p>	<p>OK</p> <p>It was confirmed that the additionality approach is clearly indicated in the revised PF in accordance with PS-</p>

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		and demonstrate additionality in A/R CDM project activities (version 01) (EB35 Annex 19) /36/	AFORU standard /31/ and bamboo methodology /32/.
<p><b>Clarification Request 10</b> Please provide GHG calculation excel sheet.</p>	4.2.3	GHG calculation excel sheet was provided.	<p>OK</p> <p>GHG removals calculation excel sheet was provided. The calculation is transparent and complies with the PS requirements.</p>
<p><b>Clarification Request 11</b> The formula of growing curves for hard broad leaf forest and soft broad leaf forest are to be justified.</p>		The formula is based on the Chinese national inventory. The evidence will be provided.	<p>OK</p> <p>The calculation formula for growing curves for hard broad leaf forest and soft broad leaf forest was provided. /18/,/45/</p>
<p><b>Clarification Request 12</b> The biomass prediction models in table 4-6 are to be justified with evidences.</p>	4.3.1.	The biomass prediction model is based on the published document. /19/	<p>OK</p> <p>It was confirmed that the biomass prediction model is derived using 12 to 19 samples and the regression coefficient (<math>R^2</math>) values for bamboo culm are more than 0.967. The coefficient value complies with the value of more than 0.85 stipulated in A/R CDM methodological tool “Demonstrating appropriateness of volume equation of above ground tree biomass in A/R CDM project activities” (EB 67 Annex 24)</p> <p><b>Forward action Request 2</b></p> <p><b>The number of data sets to derive the volume equation of the scattered</b></p>

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			<b>trees is not complying with the CDM A/R volume equation tool /41/ and this is to be reviewed at verification stage.</b>
<p><b>Clarification Request 13</b>  <b>It is to be confirmed how the harvesting and also growing bamboo shoot of the bamboo forest is taken into account in the GHG removal calculation.</b></p>	4.3.1.	The bamboo harvesting starts after 7 years. After that, the number of cutting bamboos and growing of bamboo shoot will be the same and reaches equilibrium condition.	OK It was confirmed from the interview with PO and the consultant that the bamboo harvesting starts after 7 years. After that, the number of cutting bamboos and growing of bamboo shoot will be the same and reaches equilibrium condition. Hence, net GHG removals from 2018 to 2039 are zero.
<p><b>Clarification Request 14</b>  <b>It is to be confirmed that there is no displacement caused by the project activity.</b></p>	4.4.	The project land is forest land and other activities including grazing are illegal and not allowed.	OK It was confirmed from the interviews with PO, local government and villagers that the project areas are degraded barren land and there is no activity. Therefore, there is no activity displacement.
<p><b>Clarification Request 15</b>  <b>The formula and the values for calculation risk are to be justified with evidences.</b></p>	5.1	It was confirmed from the PS bamboo methodology table 4. (fire risk data)	OK The risk assessment is correctly calculated as per PS bamboo methodology.
<p><b>Clarification Request 16</b>  <b>(1) GIS and calculation of project area are to be demonstrated during the on-site visit.</b>  <b>(2) SOP is to be explained.</b>  <b>(3) Monitoring activity (DBH measurements) is to be</b></p>	6.1.2.	(1) Arc GIS is used. (2) SOP for monitoring will be established before training of monitoring staff. (3) DBH is measured by measurement	OK It was confirmed that PO and consultant are capable of reliable monitoring activity.

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demonstrated during the on-site visit.		tape.	
<b>Clarification Request 17</b> <b>Actual sampling design is to be confirmed and plot design is to be justified.</b>	6.3.1	Sampling design will be reviewed and justified before the project monitoring based on the A/R CDM methodological tool “Calculation of the number of sample plots for measurements within A/R CDM project activities (version 02.1.0) (EB58 Annex 15)” /42/	OK Sampling design based on the A/R CDM methodological tool is appropriate.  <b>Forward Action Request 3</b> <b>Actual sampling desing is to be justified at the verification stage.</b>
<b>Clarification Request 18</b> <b>Socio-economic impact analysis report is to be provided.</b>	7.1.1.1.	The report “Xishuangbanna bamboo forestation project survey report (Yunnan Social Science Research Institute, 02/2010)” is provided. /21/	OK The report was provided.
<b>Clarification Request 19</b> <b>Environmental impacts analysis report is to be provided, if available.</b>	7.2.1.1.	There is no negative environmental impact by the project.	OK
<b>Clarification Request 20</b> <b>The procedures for stakeholder consulting are to be explained with evidences.</b>	7.3.1.1.	Stakeholder comments were conducted as below: - Notice about the project by paper on the notice board of each village - Explanation about the project activity by PO and local government staff - Enquiry by questionnaire distribution Stakeholders comments are included in the report “Xishuangbanna bamboo forestation project survey report”	OK It was confirmed that the stakeholder consultation process is appropriate.

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		(Yunnan Social Science Research Institute, 02/2010) /21/	
<p><b>Forward Action Request 1</b>            (1) The area of mixed project lands is to be clearly delineated and stratified.            (2) The sample plot design should suitably take into account of the mixed area (bamboo &amp; Eucalyptus) in the monitoring plan. (ref. CAR 1)</p>	1.5.3	The sample plot design will be implemented by suitably taking into account of the mixed area in the monitoring plan.	Will be assessed in the verification stage.
<p><b>Forward action Request 2</b>            The number of data sets to derive the volume equation of the scattered trees is not complying with the CDM A/R volume equation tool /41/ and this is to be reviewed at verification stage. (ref. CL 12)</p>	4.3.1	The number of data sets to derive the volume equation will be checked at the verification stage.	Will be assessed in the verification stage.
<p><b>Forward Action Request 3</b>            Actual sampling desing is to be justified at the verification stage. (ref. CL 17)</p>	6.3.1	Actual sampling design will be reviewed at the verification stage, taking into account the A/R CDM methodological tool. /42/	Will be assessed in the verification stage.