CCBA
PROJECT DESIGN DOCUMENT FOR PROJECT ACTIVITIES (CCBA-PDD)
Version 04

CONTENTS

History of the document

Version	Date	Nature of revision
01	19 Feb 2008	This CCBA PDD template has been developed by TÜV SÜD in support to CCBA. TÜV SÜD refrains from responsablities related to the completeness and accurate inclusion of CCBA indicators to this form.
		For AR projects: If the CCBA PDD is used in combination with an AR-CDM PDD, it is recommended to briefly indicate in the CCBA PDD, which chapter of the AR-CDM PDD already contains the relevant information - avoiding in this manner the dublication of information.

I. Basic Data:

1) The title of the CCB Standards project activity:

>> Multiple-purposes Reforestation on Degraded Lands in Longyang, Yunnan, P.R China

2) The version number of the document:

>> Version 01

3) The date of the document:

>> Date of the document: 03/23/2008

II. General Section:

G1 Original Conditions at Project Site (Required)

G.1.1 Describe the location of the project and basic physical parameters (e.g., soil, geology, climate).

>> See CDM-AR-PDD section A.4 and section A.5.1.

G.1.2 Describe the types and condition of vegetation at the project site:

>> see CDM-AR-PDD section A.5.1 and table A-3, Land use and land cover of the project land.

G.1.3 Current carbon stocks at the project site(s), using methodologies from the Intergovernmental Panel on Climate Change's Good Practice Guidance (IPCC GPG) or other internationally approved methodologies (e.g. from the CDM Executive Board):

>> see CDM-AR-PDD section C.1, C.2, C.3, C4, C5.

G.1.4 Description of communities located in and around the project area, including basic socioeconomic information (using appropriate methodologies such as the livelihoods framework).

>> see CDM-AR-PDD table G-1 Socio-economic profile in the project area.

G.1.5 A description of current land use and land tenure at the project site.

>>see CDM-AR-PDD table A-7, land tile and land tenure.

G.1.6 Description of current biodiversity in the project area and threats to that biodiversity, using appropriate methodologies (e.g., key species habitat analysis, connectivity analysis), substantiated with reference (evidence) where possible.

>> see CDM-AR-PDD section A.5.2.

G.1.7 List of all IUCN Red List threatened species (which encompasses endangered and vulnerable species) and species on nationally recognized list (where applicable) found within the Project boundary.

>> Based on baseline survey no protected or endangered species and IUCN species have been found on the proposed project lands. These lands currently have low biodiversity, and 916.6 ha of lands are currently covered by invasive species.

G2 Baseline Projections (Required)

G.2.1 Description of the most likely land-use scenario in the absence of the Project activity. Identify whether the scenario assumes that existing laws or regulations would have required that project activities be undertaken anyway:

>> see CDM-AR-PDD section C.5.1.

G.2.2 Provide a projection of future carbon stock changes in the absence of the project, based on the land-use scenario described above. The timeframe for this analysis can be either the project lifetime or the project accounting period, whichever is more appropriate.

>>see CDM-AR-PDD section C.7 and table C-9 estimated baseline net GHG removals by sinks.

G.2.2a If there is evidence that non-CO_2 greenhouse gas (GHG) emissions such as CH_4 or N_2O are more than 15% of the baseline GHG fluxes at the project site (in terms of CO_2 equivalents), they must be estimated.

>>There will be no significant GHG emissions by sources that are increased as a result of the implementation of the A/R CDM project activity within the project boundary, because:

- The site preparation, thinning as well as the logging in the proposed A/R CDM project activity will be conducted manually, without using machinery tools that consume fossil fuel;

- There will be no burning activities during site preparation thus GHG emissions from slash and burn activity are nil;

- No irrigation will be used in the proposed A/R CDM project activity.

Therefore, $GHG_E = N_2O_{direct-Nfertilizer}$

At the first 4 years of after planting, compound synthetic fertilizer, with a nitrogen content of 10%, will be applied. The amount of fertilizer to be applied is 50g per tree at the time of planting, 100g per tree in the second year, 150g per tree in the third year, and 200g per tree in the fourth year. The total amount of nitrogen to be applied per year was calculated based on the amount per tree, planting density and planting area. Using formula (1) and (3) in A/R Methodological tool "Estimation of direct nitrous oxide emission from nitrogen fertilization"[1], the direct N_2O emissions were then estimated to be 490 tCO_2 e, including 49 tCO_2 e in 2008, 98 tCO_2 e in 2009, 147 tCO_2 e in 2010 and 196 tCO_2 e in 2011. During the estimation, default values 0.01 and 0.1 from 2006 IPCC Guidelines were used for emission factor for emissions from N inputs (EF_1) and fraction that volatilises as NH3 and NOx for synthetic fertilizers, respectively.

G.2.3 Description of how the "without-project" scenario would affect local communities in the project area.

>> Agriculture is the main sources of income for local communities in the project area. However, due to severe soil erosion, agricultural production has suffered very much from flood, drought and other disasters, food productivity is very low. The mean annual income per capita in the project area is only USD143 with the lowest is USD74. Therefore, without project the local communities would keep on maintaining the impoverished life.

G.2.4 Description of how the "without-project" land-use scenario would affect biodiversity in the project area.

>> Although there is no significant negative impact to biodiversity, but without the project the land-use will be maintained the current land use such as keep on barren and grazing, so it will degrade further. This will have the negative impacts to habitat of wild animals and plants as well have negative effect to biodiversity.

G.2.5 Description of how the "without-project" land-use scenario would affect water and soil resources.

>>this reforestation lands are located on the upreach of Nujiang (Salween), due to the previous deforestation activities happened in from 1950's – 1980's together with the grazing activities and fuelwood collection the land are severly degraded and suffered from the soil erosion. The sediments directly go to the Nujiang are increasing every year. Therefore, if there is no such a reforestation project, with current degrading situation, the soil erosion will become more severe.

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[1] http://cdm.unfccc.int/EB/Meetings/033/eb33_repan16.pdf

G3 Project Design & Goals (Required)

G.3.1 Provide a description of the scope of the project and a summary of the major climate, community and biodiversity goals.

>> The purpose of the proposed A/R CDM project activity is to realize multiple socio-economic and environmental benefits (climate change mitigation, local community development, biodiversity conservation and soil erosion control) through restoring forest vegetation on degraded lands. Specific objectives include:

● To establish a buffer zone between the nature reserve and the surrounded communities by restoring forests at the fringe of the reserve, and alleviate pressure of communities on the nature reserve;

● To suppress the invasive weed, Eupatorium, and prevent its expansion toward the nature reserve, and as a result, to alleviate threat of the invasive species to the biodiversity conservation.

● To mitigate the soil erosion in the upper reaches of the Nujiang River and Lanchangjiang River, two important international rivers.

● To contribute to climate change mitigation by removing CO_2 from atmosphere through the growth of planted trees.

● To increase income and alleviate poverty of local communities.

G.3.2 Describe each major project activity (if more than one) and its relevance to achieving the project's goals.

>> To achieve the objectives, the project design is strictly follow the CCB standards in which:

● 1324.2 ha of reforest land will be planted us native tree species such as the Yunnan Pine, Szemao Pine and Armandi Pine considering the native forest which can maintain and improve the local biodiversity value, in addion, some plantations are directly happened in the Gaoligong Nature Reserve, it is helpful for the habitats restoration also address the biodiversity conservation.

● In 30 years project crediting period, 223,189 tCO2-e of CER will be generated by the tree growing.

● 20% of the carbon credits will directly go to local communities and they also benefit from the labor provide during the plantation process, in addition, the local people will have all the timber and no-timber products in their own land during the project implementation and after the project.

G.3.3 Provide a map identifying the project location, where the major project activities will occur, geo-referenced boundaries of the project site(s).

>> See the section A.4.2 and the annex 3 of the CDM-AR-PDD document.

G.3.4 Provide a timeframe for the project's duration. Describe the rationale used for determining the Project lifetime. If the accounting period for carbon credits differs from the project lifetime, explain.

>> see section A.5.4 table A-5 and table A-7 of CDM-AR-PDD document. For time to be planted for each land parce land Forest Management.

G.3.5 Identify likely risks to climate, community and biodiversity benefits during the project lifetime. Outline measures that the project plans to undertake to mitigate the risks.

>> **Risk analysis and countermeasures:**

● **Fire and pest risk:** This can be alleviated through technical and awareness training to local farmers/communities, strengthening patrolling and monitoring a certain number of forest guard will be hired by the project, as well as building the fire-break belt. Furthermore, a mixed species arrangements will be adopted to reduce fire and pest risks.

● **Site and soil preparation:** To prevent soil erosion, reduce GHG emission and protect existing carbon stocks, site burning and overall tillage will not be employed during the site and soil preparation. Existing non-tree vegetation will be slashed manually along landform contour with a width 100 cm and piled on-site. Small holes (with diameter and depth 30 cm) will be dug for tree planting. Holes will be arranged in a triangle form on slope along contour. Site and soil preparation will be conducted in the spring (April-May) 2008. Therefore the site and soil preparation will have minor negative impacts on original soil and vegetation.

● **Fertilization:** At the first 4 years of after planting, compound synthetic fertilizer, with a nitrogen content of 10%, will be applied. The amount of fertilizer to be applied is 50g per tree at the time of planting, 100g per tree in the second year, 150g per tree in the third year, and 200g per tree in the fourth year. The fertilizer will be applied within the small planting hole rather than overall dispersing, so that the potential risk of the fertilization application can be reduced to minimum.

● **Pesticide:** improper pesticide application would be harmful to natural environment, including polluting soil, water and air conditions, as well as the habitat of the wildlife. However under the proposed A/R CDM activity, the environmental friendly measures will be adapted such as mixed species arrangement, seed and seedling quarantine. Especially the biological measures to control pests and diseases will be adopted. Therefore, the pesticide application will be limited.

None of these risks and/or negative impacts is considered to be significant.

G.3.6 Document and defend how local stakeholders have been or will be defined.

>>If the land owner of the site is village, the local stakeholders of this site should cover all relevant village families. If the site is private, the stakeholder of this site is someone certain.

G.3.7 Demonstrate transparency by: making all project documentation publicly accessible at, or near, the project site; only withholding information when the need for confidentiality is clearly justified; informing local stakeholders how they can access the project documentation; and making key project documents available in local or regional languages, where applicable.

>> All processes are jointly efforts with the local partners fully participation, so each documents will copied to them for archiving in regional language. We also conducted GIS training to them so they also know how to use the GIS data generated from the project. At the same time, full copies of documents are stored in a synthesis information system in the provincial carbon sequestration office, which is also opened to the local stakeholders.

G4 Management Capacity (Required)

G.4.1 Document the management team's experience implementing land management projects. If relevant experience is lacking, the proponents must demonstrate how other organizations will be partnered with to support the project.

Longyang Forestry Farm was founded in 1959 with 9 plantation areas and one nursery combination, belongs to a public service unit but responsible for the management respectively. The full time employees of Longyang Forestry Farm are 44, in which 7 people are responsible for operation, the rest of them are techinicians, during the plantation, the temporary labor will be employed by the Farm due to the cost saving. In 2006, the total income of the Longyang Forestry Farm is 268million RMB, mainly from the timber and seedlings selling. Untill now, the farm has established 40,000*mu* planted forest accumulatively. The annual timber products are 4000m^3.

The total management area are reaching 137,800*mu*, where the forest land are 124,500*mu*, wood land 1,300*mu,* shrub land 15,900 *mu*, barren land 6,500*mu*. The forest composition is *Pinus Armandi* pure stand, *Pinus Yunnanensis* pure stand and *Eucalyptus* pure stand, and conifer-broadleaf mixed forest and other broadleaf forest.

The vertical gradient is from 1640m – 3655m. Most of the management areas are above 2000m. So during the 50 years experience in forest management and plantation, the forestry farm is experienced in forest restoration in different environment gradients.

G.4.2 Demonstrate that management capacity is appropriate to the scale of the project.

The Forestry Farm has 9 plantation areas and 1 nursery and it covers12 townships in Longyang County. The full time employees of Longyang Forestry Farm are 44, in which 7 people are responsible for operation, the rest of them are techinicians.

The forestry farm already had experiences in forest restoration, forest management activities. From 1959, the forestry farm has already conducted 40000mu reforestation project accumulatively, and the total management area is over 137,800mu.

During the projectd implementation, the local forestry bureau, local forestry resources management station will offer training and guidance of during the planting, tending and harvesting period, in the meantime will fully participated in the project design and monitoring processes.

G.4.3 Document key technical skills that will be required to successfully implement the project and identify members of the management team or project partners who possess the appropriate skills.

>>see section A.5.4 of the CDM-AR-PDD document. The longyang Forestry Department with long term reforestation experience will supervise the implementation of the project. The Longyang forestry farm is the local operation entity of the project which has all appropriate skills during 50 years similar plantation project implementation.

G.4.4 Document the financial health of the implementing organization(s).

>>see the annex of the finance report of Longyang forestry Farm.

G5 Land Tenure (Required)

G.5.1 Guarantee that the project will not encroach uninvited on private property, community property, or government property.

>> Detailed information please sees the table A-7 in the PDD. The land will be automatically owned by the same local communities after expiring of the first land owner certification follow the Chinese law. Under the contractual arrangement in the proposed A/R CDM project activity, local communities and the implementing entity involved have the right to use the lands. They own the timber and other wood and non-wood forest products, and have the legal right to harvest and sell the products. However, they should have the license, which is issued by the local government, to harvest the timber.

This project will not encroach uninvited on private property, community property and government property. There is no land ownership/tenure conflict.

G.5.2 Guarantee that the project does not require the relocation of people or any relocation is 100% voluntary and fundamentally helps resolve land tenure problems in the area.

>>The project does not require the relocation of people.

G.5.3 Describe potential "in-migration" of people from surrounding areas, if relevant, and explain how the project will respond.

>>There will be no potential "in-migration" people from surrounding areas.

G6 Legal Status (Required)

G.6.1. Guarantee that no laws will be broken by the project.

>> All designing of the project are fully obey the current Chinese laws officially published.

G.6.2. Document that the project has, or expects to secure, approval from the appropriate authorities.

>> To effectively promote and govern CDM project activities in China, the Chinese government issued the *Measures for Operation and Management of Clean Development Mechanism Projects in China* on Oct 12, 2005, effective immediately. Based on the *Measures*, the Chinese Government allows any sponsor to apply, invest in, and implement a CDM project activity as long as it meets basic requirements stipulated in the *Measures*.

G7 Adaptive Management for Sustainability (1 Point)

G.7.1 Demonstrate how management actions and monitoring programs are designed to generate reliable feedback that is used to improve project outcomes.

>> see section E.1.1 of the CDM-AR-PDD document for the Monitoring plan of forest establishment, forest management and the project boundary.

G.7.2 Describe the a management plan for documenting decisions, actions and outcomes and sharing this information with others within the project team, so experience is passed on rather than being lost when individuals leave the project.

>> To ensure that this project could maintain a good running status for a long time, the plan as section E.1.2 of the CDM-AR-PDD document said for documenting decisions, actions and outcomes and sharing this information with others will be conducted in the project execution period.

G.7.3 Demonstrate how the project design is sufficiently flexible to accommodate potential changes and that the project has a defined process in place to adjust project activities as needed.

>> All parcels to be planted within the project boundary had historically been forested lands before 1950s-1980s. However, the areas suffered several large-scale events of deforestation since then, mainly caused by unreasonable policies. The first large scale of deforestation occurred during the "Steel and Iron Campaign" in 1958-1959, followed by continuous damage and/or agricultural cultivation during "Cultural Revolution" period (1966-1976).

Some lands were deforestated in early 1980s due to an unsuccessful land tenure reform in which lands including remaining forests were allocated to individual household or villager groups who immediately harvested all forests allocated to them without any measurement for regeneration because they did not have confidence in the land tenure reformation. Due to these deforestation events, the project lands had become non-forested lands by the mid 1980s. Nevertheless, human intervention did not halt on these lands, but continued as fuelwood and over-grazing. Due to the consecutive human interventions and severe soil erosion, the lands have severely degraded. Currently, the lands are degraded barren lands of low productivity or grazing lands, covered with some grasses, sparse tiny shrubs and spotted trees. Most of lands are occupied by invasive plant. Since all lands within the project boundary are legally forestry lands, the current grazing activities are illegal. The crown cover of the spotted trees is below 20% that is the threshold of forest definition in China, and will not exceed 20% with continuation of current management such as grazing, fuel wood collection, as well as soil erosion. Due to lack of seed sources and impacts of vegetation especially the invasive plant, natural encroachment of trees is unlikely to occur.Another potential change will be land ownership changes, the vallige owned land chang into private. But we have already interviewed each household of the collective land tenures, and even in the collective land, the household will gain the benefits from the project, so there is no conflict as the collective land change to private owned land.

The land ownership change will affect the project.However in this project, this is not a problem. First there are several change patterns, the collective land change to single family owned, the changing of the land owner. For the first situation, we have already done the survey during the baseline inventory, and get the confirmed answer from the local people. For the second situation, within the land ownership transition, the project team will keep records and ask for the admition of the project concept, if failed; the project team will find an alternative parcel.

Even there will be some geologic disaster take chang to the forest, it couldn't take havoc. As the area wll not be much wide we can recuperate by replanting.

G.7.4. Demonstrate an early commitment to the long-term sustainability of project benefits once inicial project funding expires, including e.g. a new project; securing payments for ecosystem services; promoting micro-enterprise; and establishing alliances to continue sustainable land management.

>> Localed in far away mountainous area, the land-use of afforestation/reforestation sites has no any changes, since deforested in 1950s-1980s. As the lands to be afforested or reforested are histie.once the project started, there willn't be any other use except foresting. So the benefits of the forest will sustain for a long time.

G8 Knowledge Dissemination (1 Point)

G.8.1. Describe how they will document the relevant or applicable lessons learned.

>> Interview with local communities indicated that local farmers/communities are usually short of access to quality seed sources and lack skills for producing high quality seedlings and for successful tree planting, as well as for preventing planted trees from being subject to fire, pest and disease attack. This is one of the important barriers of local communities in planting trees on their lands. In the proposed project activity, the local forestry agencies as well as companies/farms will organize the training for local communities to assist them in understanding and evaluating the issues of hosting the proposed A/R CDM project activity, both on-site and off-site such as seed and seedling selection, nursery management, site preparation, planting models and Integrated Pest Management.

G.8.2. Describe how they will disseminate this information in order to encourage replication of successful practices. Examples include: undertaking and disseminating research that has widereaching applications; holding training workshops for community members from other locales; promoting "farmer to farmer" knowledge-transfer activities; linking to regional databases; and working with interested academic, corporate, governmental or non-governmental organizations to replicate successful project activities.

>> **Education to local communities and institution**

This project is a long-term education project, especially in the project idea promotion. We held many training workshops in Kunming Baoshan and local village. To get the idea of this project, as well promote the project concepts. Additionally, in order to let the local people understand the project more, we prepare many leaflets and booklets for explain the related concepts and the multipal benefits of this project.

>> **Information system construction**

It is essential to have a GIS based information system for the project related documents archiving, such as the baseline survey and monitoring. It is also very useful for the information sharing, such as the uploading of updated information during the project implementation. So funded by The Nature Conservancy, the project team developed a GIS based carbon sequestration information management system. The function of the system is to archive all the related documents generated from the project survey, the socio-economic information, and analyze the GHG removal from the project implementation. It is also helped on the tree species design process. Besides this, a series GIS training towards the local partners were conducted too.

>> **Wide-participated of government agencies and no-government orgnizations for the project replications**

This project sponsored by Conservaiton International, The Nature Conservancy, and Yunnan Forestry Department. After the discussion and analysis, totally 8 counties were listed as the first priorities to develop the A/R CDM project considering the CCB standards. We also incorporate China Academy of Forestry Science and Winrock International during the project design and CCB standards training. In the project survey process, Yunnan Forestry Science Insititute, Yunnan Forestry Planning and Inventory Institute, county

forestry department were fully involved in all processes. In addition, to ensure the successful implementation of the project, the local carbon sequestration office was authorized and keeps on managing this kind of particular projects and for the future project development.

III. Climate Section

CL1 Net Positive Climate Impacts (Required)

CL.1.1 Estimate the net change in carbon stocks due to the project activities. The net change is equal to carbon stock changes with the project minus carbon stock changes without the project (G2). Alternatively, any methodology approved by the CDM Executive Board may be used. Define and defend assumptions about how project activities will alter carbon stocks over the duration of the project or the project accounting period.

>>see table A-9 and annex work table of the CDM-AR-PDD document for detail
information.

CL.1.2 Factor in the non-CO_2 gases CH_4 and N_2O to the net change calculations (estimated in CL.1.1.) if they are likely to account for more than 15% (in terms of CO2 equivalents) of the project's overall GHG impact.

>> There will be no biomass burning, no machinery to be used either for site preparation, planting, or for forest management. Therefore, emissions due to biomass burning, Fossil fuel burning from machinery using are not taken into account.

At the first 4 years of after planting, compound synthetic fertilizer, with a nitrogen content of 10%, will be applied. The amount of fertilizer to be applied is 50g per tree at the time of planting, 100g per tree in the second year, 150g per tree in the third year, and 200g per tree in the fourth year. The total amount of nitrogen to be applied per year was calculated based on the amount per tree, planting density and planting area. Using formula (1) and (3) in A/R Methodological tool "Estimation of direct nitrous oxide emission from nitrogen fertilization"[2], the direct N_2O emissions were then estimated to be 490 tCO_2 e, including 49 tCO_2 e in 2008, 98 tCO_2 e in 2009, 147 tCO_2 e in 2010 and 196 tCO_2 e in 2011. During the estimation, default values 0.01 and 0.1 from 2006 IPCC Guidelines were used for emission factor for emissions from N inputs (EF_1) and fraction that volatilises as NH3 and NOx for synthetic fertilizers, respectively.

CL.1.3 Demonstrate that the net climate impact of the project (including changes in carbon stocks, andnon-CO_2 gases where appropriate) will give a positive result in terms of overall GHG benefits delivered.

>> see Section D of CDM-AR-PDD.

CL.2 Offsite Climate Impacts ("Leakage") (Required)

CL.2.1 Estimate potential offsite decreases in carbon stocks (increases in emissions or

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[2] http://cdm.unfccc.int/EB/Meetings/033/eb33_repan16.pdf

decreases in sequestration) due to project activities.

>> see section D.2 of the CDM-AR-PDD document. There willn't be any change in offsite carbon stock due to project activities.

CL.2.2 Document how negative offsite impacts resulting from project activities will be mitigated and estimate the extent to which such impacts will be reduced. Estimate the extent to which the negative offsite impacts will be reduced adequately.

>> see section D.2 of the CDM-AR-PDD document.

CL.2.3 Subtract any likely project-related unmitigated negative offsite climate impacts from the climate benefits being claimed by the project. The total net effect, equal to the net increase in onsite carbon stocks (calculated in the third indicator in CL1) minus negative offsite climate impacts, must be positive

>>See section GL.1.1.

CL.3 Climate Impact Monitoring (Required)

CL.3.1a Describe the initial plan for how they will select carbon pools and non-CO_2 GHGs to be monitored.

>> As there will be no slash and burn site preparation, overall ploughing, N-fertilizer application and flood irrigation as well as no machinery tools to be used within the project boundary, hence no significant GHG emissions by sources as results of the proposed project activity.

Source	Gas	Included/ excluded	Justification / Explanation
Combustion of fossil fuels used for vehicles	CO_2	Included	Potential significant emission source due to transportation
	CH_4	Excluded	Potential emission is negligibly small as per the methodology applied
	N_2O	Excluded	Potential emission is negligibly small as per the methodology applied
Use of fertilizers	CO_2	Excluded	Not applicable
	CH_4	Excluded	Not applicable
	N_2O	Included	Potential significant emission source due to use of synthetic fertilizer in the proposed A/R CDM project activity

CL.3.1b State if the corresponding measurements and the sampling strategy (including monitoring frequency) are set in the monitoring plan.

>> see the section E.2.of the CDM-AR-PDD document.

> CL.3.1c Show that all potential pools are included (aboveground biomass, litter, dead wood, belowground biomass and soil carbon). Pools to monitor must include any pools expected to decrease as a result of project activities.

>> The Consolidated afforestation and reforestation baseline and monitoring methodology "Afforestation and reforestation of degraded land" (AR-ACM0001/version 01)[3] is applied.

Carbon Pools	Selected (answer with yes or no)	Justification / Explanation
Above ground	Yes	Major carbon pool subjected to the project activity
Below ground	Yes	Major carbon pool subjected to the project activity
Dead wood	No	As there is only a few pre-project living trees and the lands to be planted are degraded and degrading or in a low-level steady state, carbon stocks in dead wood in the baseline scenario can be expected to decrease more or increase less, relative to the project scenario. Therefore based on applied methodology, this pool can be conservatively omitted.
Litter	No	As the lands to be planted are degraded and degrading or in a low-level steady state, carbon stocks in litter in the baseline scenario can be expected to decrease more or increase less, relative to the project scenario. Therefore based on applied methodology, this pool can be conservatively omitted.
Soil organic carbon	No	As the lands to be planted are degraded and degrading or in a low-level steady state, and comply to the applicability conditions set in A/R Methodological tool "Procedure to determine when accounting of the soil organic carbon pool may be conservatively neglected in CDM A/R project activities"[4] as follow: a) The lands to be planted are not organic soils (e.g., peat-lands), or wetlands; b) The rate of loss of carbon stocks in mineral soils due to erosion within the project boundary is not be permanently increased above baseline rates by the proposed CDM A/R project activity: As elaborated in Section A.5.4, trees will be planted with low density (1667 trees per hectare) and

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[3] http://cdm.unfccc.int/EB/Meetings/038/eb38_repan07.pdf

[4] http://cdm.unfccc.int/EB/Meetings/033/eb33_repan15.pdf

		small hole site preparation (30 cm in diameter or 0.07 m^2). Therefore, the vegetation and surface soil disturbed by site preparation is estimated to be around 1.2% of the total land surface. In addition, the holes will be dug following land contour.
		c) Fine litter (woody twigs less than 2mm diameter, bark and leaves) will not be collected and removed.
		As a result, the soil organic carbon stocks in the baseline scenario can be expected to decrease more or increase less, relative to the project scenario. Therefore based on applied methodology, this pool can be conservatively omitted.

CL.3.1d Describe if relevant non-CO$_2$ gases are monitored if they account for more than 15% of the project's net climate impact expressed in terms of CO$_2$ equivalents.

>> As there will be no slash and burn site preparation, overall ploughing, and flood irrigation as well as no machinery tools to be used within the project boundary, hence no significant GHG emissions by sources as results of the proposed project activity.

CL.4 Adapting to Climate Change & Climate Variability (1 Point)

CL.4.1 Identify likely regional climate change and climate variability impacts, using available studies.

>>After entering the 90's, affected by the broad environmental circumstances, the temperature and precipitation are increasing which affectes the agriculture a lot.
It is analyzed by the local meteorological office for the 50 years climatology, the severe draughts are the biggest threats, it cause 50% loss in the total amount. And the flood is occurred every year in this region. Extrem cold weather will damage the rice growth. Moreover, the hail is also a problem in this area. Local governments have made records and conducted studies on such natural disasters as a result of the extreme climate changes. It helps to clarify the trend of climate change and to develop responsive and preventive measures.

CL.4.2 Demonstrate that the project has anticipated such potential impacts and that appropriate measures will be taken to minimize these negative impacts.

>> Before project implementation, we have conducted thorough inventories and surveys on the climate, vegetations, site conditions of the project areas, as well as the economy, cultures, production and livelihood practices in the adjacent communities of the project areas. Some of the grievances that we may encounter in the course of project implementation are projected. We come to understand that such natural disasters as landslide, debris flow, draughts and floods, and hails, etc., as a result of extreme climatic changes, are the critical factors that can affect the project implementation and its

effectiveness. Correspondingly, we have also developed countermeasures against these issues.

- Those indigenous tree species that are most adaptable to local climatic, soil, water and temperature conditions will be chosen for afforestation. Primary forests that share the same conditions as those in the planting plots of the project will be chosen as seed trees. The nursery sites will also be located in the vicinity of the planting sites where the conditions are very much the same.
- Based on the actual site conditions, afforestation will be implemented in patterns of mixed patches.
- During planting operations, minimal-disturbance planting pits will be prepared. Neither slash-and-burn nor full-tillage will be practices to avoid damaging primary vegetation. No canals will be opened and gravity irrigation will not be practiced so as to avoid changing surface runoff.
- After planting operations are completed, soils will be timely recovered in the planting pits to reduce and avoid erosion.

- In the case of unavoidable natural disasters, rescue measures, such as enrichment planting will be done in areas where young trees and seedlings are affected so that the loss from such damages will be minimized to the maximum extent.

CL5 Carbon Benefits Withheld from Regulatory Markets (1 Point)

CL.5.1 Demonstrate that at least 10% of the total carbon benefits generated by the project into regulated GHG markets will not be sold. Projects can sell these carbon benefits in a voluntary market or retire them.

>>No

IV. Community Section

CM1 Net Positive Community Impacts (Required)

CM.1.1a Describe the appropriate methodologies used (e.g. the livelihoods framework) to estimate the net benefits to communities resulting from planned project activities.

>> PRA methodology was used during the socio-economy survey includes following processes:

(1) **Seminar of farmers**. To get comprehensive information of the historic and current situation and existing problems in local communities, as well as to understand the need and desire of local farmers, a meeting of farmers was held in each village. Main topic include, inter alia:

- Introduction of the project objective, main activities, benefits and potential risk, as well as the modalities and procedures of the CDM A/R project activity;

- Introduction of the survey team, objective, task, methods and main activities of the survey, and how the local communities to involve in the investigation;

- Question and discussion;

- Election of farmers' representatives who will directly participate in the survey. The representatives shall include same proportion of women and ethic minority people;

(2) **Participating survey**. 5-10 farmers' representatives from each villager to assist the survey including at least 2 females.

- Mapping of resources: land use, land cover, land tenure, land ownership, land use right, and their boundary shall be mapped under the assistance of farmers' representatives;

- Current social-economic information, including population, income and sources, fuel wood collection, grazing activities, etc.

- Important events: Important historic events related to community development, resource management, in particular the changes of land use and land cover, by interviewing with elders and past and current village leaders. These information shall be verified

- Favorable tree species by scoring;

- Favorable collaboration arrangement.

(3) **Questionnaire**. Questionnaire forms were developed and distributed among different stakeholders, including farmer households, villages, township governments, forest farm, local forest stations and forestry bureau, nature reserve and NGOs. The questionnaire forms were collected and analyzed to understand the local socio-

economic profiles, land use, land tenure, income and sources, land management ways, awareness, technical know-how, favorable tree species, technical and financial barriers, need and desire of farmers in the ways to participating in the proposed A/R CDM project activity from relevant stakeholders.

(4) **Semi-structure interview:**

- Group interview on seminar of farmers described above

- VIP interview to village leaders, elder villagers, head of ethnic minorities and other important peoples.

- Special group interview including interviewing of women, rich farmer household, poor household and households immigrated from outside. 10-15 households were interviewed in each village.

> CM.1.1b Include a credible estimate of net benefits changes in community wellbeing given project activities. This estimate must be based on clearly defined and defendable assumptions about how project activities will alter social and economic wellbeing over the duration of the project

>> Local farmers/communities expresses their strong interests to participate in the proposed A/R CDM project activity because they thought that through participating in the project activity they can obtain the following benefits:

- ✓ Income generation by selling wood and non-wood products: 50-80% of income from wood and non-wood forest products will belong to farmers who offer lands;

- ✓ Income generation by selling carbon credits: 20% of income from carbon trading will be allocated to local farmers;

- ✓ Income generation from increased employment: Local farmers can get additional income by participating site preparation, planting and forest management, etc.

- ✓ Greening their grasslands/barren lands that can improve local environment, shelter cropland and reduce drought, flood and other natural disasters.

- ✓ Learning good practice on tree planting and forest management from technical training.

PRA survey indicates that all farmer households willing to participate the proposed A/R CDM project activity. All households interviewed prefer to cooperate with forest farm by contractual arrangements rather than simply lease lands to the forestry farm. Local farmers/communities indicated that without the proposed A/R CDM project activity it is impossible for them to plant trees on the project area due to the huge pre-investment, lack of technical unknown how, organizational barriers and low economic return in terms of the degraded remote lands.

During the PRA process, the scoring assessment on tree species also indicates that local farmers/communities prefer tree species in following order: Nepal alder, armandi pine, yunnan pine, birch, etc.

CM.1.1c Compare the "with project" scenario with the baseline scenario of social and economic wellbeing in the absence of the project. The difference (i.e., the net community benefit) must be positive.

>> see the section G.1 of the CDM-AR-PDD document and the report of social and economic investigate.

CM.1.2a Document local stakeholder participation in the project's planning. If the project occurs in an area with significant local stakeholders, the project must engage a diversity of stakeholders, including appropriate sub-groups, underrepresented groups and women living in the project vicinity.

>> The project has coducted a socio-economy survey which applied the PRA methodologies. Please see the section H.1 and the socio-economy report.

CM.1.2b Describe how stakeholders in the project's area of influence will have an opportunity before the project design is finalized, to raise concerns about potential negative impacts, express desired outcomes and provide input on the project design. Project developers must document stakeholder dialogues and indicate if and how the project proposal was revised based on such input.

>> Comments from local farmers, villages and companies/farms, etc. are summarized as follow:

1. Primary stakeholders

(2) Farmers/communities

Local farmers/communities expresses their strong interests to participate in the proposed A/R CDM project activity because they thought that through participating in the project activity they can obtain the following benefits:

- ✓ Income generation by selling wood and non-wood products: 50-80% of income from wood and non-wood forest products will belong to farmers who offer lands;

- ✓ Income generation by selling carbon credits: 20% of income from carbon trading will be allocated to local farmers;

- ✓ Income generation from increased employment: Local farmers can get additional income by participating site preparation, planting and forest management, etc.

- ✓ Greening their grasslands/barren lands that can improve local environment, shelter cropland and reduce drought, flood and other natural disasters.

✓ Learning good practice on tree planting and forest management from technical training.

PRA survey indicates that all farmer households willing to participate the proposed A/R CDM project activity. All households interviewed prefer to cooperate with forest farm by contractual arrangements rather than simply lease lands to the forestry farm. Local farmers/communities indicated that without the proposed A/R CDM project activity it is impossible for them to plant trees on the project area due to the huge pre-investment, lack of technical unknown how, organizational barriers and low economic return in terms of the degraded remote lands.

During the PRA process, the scoring assessment on tree species also indicates that local farmers/communities prefer tree species in following order: Nepal alder, armandi pine, yunnan pine, birch, etc.

(3) Longyang Forestry Farm and Longyang Conservation Post

Both the forestry farm and the conservation post that mainly focuses on reforestation, forest management and conservation are very interested in participating in the proposed A/R CDM project activity. They would like to invest in the reforestation because:

✓ It can get income from sale of CERs that have no market risk

✓ It can get income from wood and non-wood forest products produced on lands owned by them;

✓ The commercial loan and carbon fund can alleviate their financial pressure from pre-investment, without the proposed A/R CDM project activity such fund sources are difficult to obtain.

✓ Without the proposed A/R CDM project activity, they would be unwilling to invest in the reforestation on both the communities' lands and their own lands due to the unacceptably low economic revenues.

With regard to the financing arrangements, the farm prefers to rent lands from local farmers/communities and pay labor costs in addition to land lease costs. However, they would also accept the share holder arrangement as the project promoted. With regard to the tree species, the farm would like to Armandi pine, Yunnan pine and Szemao pine based on the site conditions and the economic value.

2. Secondary stakeholders

(1) Local forestry departments: Forestry Bureaus and forestry stations of Longyang county and Yunnan Province view that the proposed A/R CDM project activity will increase forest resources, improve the local environment and increase income of local farmers/communities. They would provide technical training and consultation to farmers/communities and planting entity, and supervise the implementation of the proposed A/R CDM project activity.

(2) Local Governments: County and township/town governments in Longyang County consider that the proposed A/R CDM project activity can improve local economy and alleviate local poverty especially for the ethnic minorities, and at the same time benefit to globally climate change mitigation and biodiversity conservation as well as improve soil erosion control.

(3) Gaoligongshan Nature Reserve: The reserve believe that the proposed A/R CDM project activity will benefit to the biodiversity conservation by suppressing invasive pest pant, establishing buffer zone outside of the reserve, enhancing forest connectivity, reducing pressure on the nature resources by providing sustainable fuel wood to the local communities. The reserves also propose to use native species as much as possible, establish mixed forests, avoid a large area of pure plantation, be cautious to use pesticide and fertilizer, avoid site burning.

CM.1.3a Formalize a clear process for handling unresolved conflicts and grievances that arise during project planning and implementation.

>> 1 The solution is developed for the conflicts could happen among the project stakeholders for avoiding the threats to the project implementation, assuring the benefits of project stakeholders, maintaining the implementation of the project.

2 The conflicts refers to the events that the project participants are no longer have the willing to implement the project due to the divergence of opinion, and willing to secede their lands from the project.

3 A project management committee (Committee in below) with the members of the representatives from Tengchong Forestry Bureau, Tengchong Carbon Sequestration Project management office, Sujiang Forestry Farm, relative local villagers will be established for the conflicts solution. Once the conflicts happen, the committee will held a specific meeting and come to an agreement.

4 Solving procedure:

(a) The villagers raise the conflicts to the project management committee,

(b) A working group organized for investigating of the conflicts by committee,

(c) The working group come to a proposed solution and submit to the committee,

(d) Committee meeting and conflicts mediate based on the contract inside the project,

(e) Mediate failure, seek for legal approach.

CM.1.3b Include a process for hearing, responding to and resolving community grievances within a reasonable time period. This grievance process must be publicized to local stakeholders.

>> During project design and before project implementation, participatory RRAs were carried out in the communities selected for project implementation. In-depth surveys on the socio-economics, landuse, land tenure, income level and sources, status of land resources management, technical know-how, tree species of preferences, technical and financial difficulties, as well as the needs of local households for participating project implementation were conducted. Opinions of involved communities were solicited on a broad basis and feedback and solutions to the issues raised were offered in a timely manner.

（See section CM.1.2 and section CM.1.3c）

CM.1.3c Describe how the project management will attempt to resolve all reasonable grievances raised, and provide a written response to grievances within 30 days. Document Grievances and project responses.

>> The comments received from the PRA survey were fully taken into account as follows:

➢ More intensive training courses will be held at local communities so that local farmers can fully understand the carbon credit and the trueness of the transaction.

➢ Participation of local farmers/communities and companies/farms is on a voluntarily basis.

➢ Choice of financing arrangements was based on the preference of local farmers/communities.

➢ Preferences of local farmers/communities were taken into account in the selection of tree species;

➢ All tree species used are taking into account the local communities advices and combining with the environment situation;

➢ Compound and/or organic fertilizers will be applied through small holes rather than overall dispersion;

➢ Use of chemical pesticides will be limited. Rather, disease and pest will be controlled by mixed tree species arrangement and other biological measures;

➢ Slash and burn site preparation and overall ploughing for soil preparation will not be used.

CM2 Offsite Community Impacts (Required)

CM.2.1 Identify potential negative offsite community impacts that the project is likely to cause.

>> No significant negative offsite community impacts have been identified.

CM.2.2 Describe how the project plans to mitigate these negative offsite social and economic impacts.

>> Although there is no significant negative offsite community impact, the monitoring plan including the mitigation measures to address any potential risks will be implemented.

CM.2.3 Evaluate likely unmitigated negative offsite social and economic impacts against the social andeconomic benefits of the project within the project boundaries. Justify and demonstrate that the net social and economic effect of the project is positive.

>> The project does not create any negative offsite social and economic impacts beyond the project areas. On the contrary, as part of the seeds and seedlings, as well as labour forces

will be mobilized from the adjacent communities of the project sites, these
opportunities will bring them substantial economic benefits. Therefore, this project will
create positive impacts on the social and economic aspects for both the communities in and
outside the project sites.

CM3 Community Impact Monitoring (Required)

CM.3.1 Define the initial plan for how they will select community variables to be monitored, and the frequency of monitoring. Potential variables include income, health, roads, schools, food security, education and inequality. Include in the monitoring plan, community variables at risk of being negatively impacted by Project activities.

>> As the Chinese government organizes nationwide annual statistical surveys on the
demography, economics, production and livelihood, medical care, education and transport
activities, these survey activities will basically cover all of he project communities. The
monitoring results will essentially include these indicators, besides these the addional
income generated from this project will be taken into account. Details please see the
Monitoring SOPs developed by the project team.

CM4 Capacity Building (1 Point)

CM.4.1 Explain how the capacity building is structured to accommodate the needs of communities, not only of the project.

>>During the project design and implementation, the capacity buildings were conducted in
multiple ways. First the training of the basic concept of the project and methodologies
during the baseline survey and socio-economic survey trainings are conducted to the
stakeholders. We also collect the requirements from the field such as the community people
and the local forestry staff. During this process, the GIS application, baseline survey, socio-
economy survey, monitoring methods were defined. In addition, considering the long
process of the project, there are some particularly trainings considering using the CCB
standards such as the biodiversity conservation during the site preparation, forest tending
and management skills will be carried out to the project implement entities.

The trainings we have already done by the project team are:
- Project idea promotion. The project team held different trainings in Kunming the
capital city of Yunnan which invited the experts of CCB developers, State forestry
Administration, research institutes to promote the A/R CDM concepts as well the CCB
applications. The local partners and potential partners from government agencies,
institutes, and universities are widely involved. The project team also prepare leaflets
for the local communities.
- Baseline Survey training. This training covered the participators of the baseline survey
includes the forest farm staff, forest bureau staff, NR staff and the local communities.

The training aimed on teaching the project participators to familiar with the baseline survey SOP.

- GIS application training. This training was particular to the forestry farm staff and forestry bureau. The project team has developed a GIS-based information management system to store the relative information generated from the project implementation. So it is essential to train the project participants to understand how to use the GIS system.

Following trainings will be conducted by the joint efforts with the local partners and experts from high level are:

- Site preparation skills. We will hold traings on the site preparation during the project implementation by considering the biodiversity conservation, in order to minize the impacts to the previous vegetation, the plantation belts will be used and the natural regeneration will be taken care of to reduce the negative impacts to the original vegetations.
- Forest tending and management. The local experts and experts from universities and Yunnan Forestry Bureau will be invited to train the local people how to tend and management of the planted forest to make sure the well growth of the planted forest.
- Project monitoring. The local people who are going to engaged in the project will be received the training on how to collect the relevant information which described in the PDD monitoring parts.

CM.4.2 Explain how the capacity bulding is targeted to a wide range of groups, not just elites.

>>All the training activities regarding forestry techniques will be conducted for the community villagers through village meetings. We have already defined different villagers from the income analysis. The target people have been catogarized to different groups. A certain portion of the each group will be select to attend the training courses. This will help to benefit the most stakeholder groups in terms of training production skills in forestry.

CM.4.3 Explain how the capacity bulding is targeted to women to increase their participation.

>>In all the project sites, women often play an important role in the production activities for agriculture, forestry and other sideline industries. Women will participate as much as possible in various types of training for production skills. It is particularly so in NTFP production, as women plays a dominant role in the later-stage management.

CM.4.4 Explain how the capacity bulding is aimed to increase community participation in project implementation.

>>All of the training courses are specific to the needs. Meanwhile, the production and livelihood activities of the communities depend, to a considerable extent, on the project implementation. In particular, NTFP production (cultivation of edible mushrooms) demands for more forest resources. Therefore, all these capacity building activities will contribute to promoting community participation in project implementation.

CM5 Best Practices in Community Involvement (1 Point)

CM.5.1 Demonstrate that the project was developed with a strong knowledge of local customs and that, where relevant, project activities are compatible with local customs.

>>During project design, participatory interviews were conducted with key figures. The surveys on the folkways and customs of the communities, agricultural seasonality calendars and historical events were also carried out. The distribution of community resources is clarified, and so is the distribution of the land parcels for religious purposes. Participatory approaches were also employed to select the project sites and tree species for afforestation to make sure that the project activities are compatible with local customs and practices.

CM.5.2 Show that local stakeholders will fill all employment positions (including management) if the job requirements are met. Explain how stakeholders will be selected for positions and where relevant, must indicate how traditionally underrepresented stakeholders and women, will be given a fair chance to fill positions for which they can be trained.

>> In the course of project implementation, through such project activities as planting, weeding, tending, thinning and logging, approximately 750,000 workdays of job opportunities will be created. Besides, 26 long-term positions for forest patrolling will be provided. These job positions will be equitably filled up through full participation of the stakeholder groups in the communities, including the women and those stakeholders who have been under-represented in traditional practices. These stakeholder groups all have their own community organizations. All the wage jobs and long-term positions will be allocated to the stakeholder groups in accordance with the reasonable request, identity and their own conditions of the participants.

CM.5.3 Demonstrate that the project complies with international rules on worker rights.

>> The project will conclude labor agreements that comply with international rules on worker rights to clarify the rights and obligations of both contracting parties.

CM.5.4 Comprehensively assess situations and occupations that pose a substantial risk to worker safety

>> Possible risks for the workers for the project:
- Falling rocks triggered during site preparation, transplanting, tending and patrolling may cause personal injuries;
- Forest fires and the suppression operations may bring risks to workers;
- Application of chemicals and pesticides for pests & diseases control may cause poisoning of people;
- Tools and falling trees during thinning operations may injure people.

CM.5.5 Decribe the plan in place to inform workers of risks and to explain how to

minimize such risks. Where worker safety cannot be guaranteed, project
proponents must show how the risks will be minimized using best work practices.

>> Safety operation regulations and instruction will be formulated to cope with possible risks that may endanger the health of workers. Before performing each work procedures, the safety assurance staff of the project will call on all the people to conduct safety publicity and awareness education and inform people of the potential risks and effective measures to avoid such risks in the jobs. During project implementation, the safety assonance staff will participate in full length the supervision of project implementation so that the potential risks can be detected in time and accidents avoided.

V. Biodiversity Section

B1. Net Positive Biodiversity Impacts (Required)

B.1.1 Decribe the appropriate methodologies used to estimate changes in biodiversity as a result of the project. Base this estimate on clearly defined and defendable assumptions. Compare the "with project" scenario with the baseline "without project" biodiversity scenario completed in G2. The difference (i.e., the net biodiversity benefit) must be positive.

The project sites have very low biodiversity value due to the long term human interfering, thus the seed belt has been destroyed by the local people, and therefore, it is hard for the natural regeneration. From the baseline survey, there is no IUCN redlist or national protected species found in the proposed reforestation lands.

Although there is no significant negative impact to biodiversity, but without the project the land-use will be maintained the current land use such as keep on barren and grazing, so it will degrade further. This will have the negative impacts to habitat of wild animals and plants as well have negative effect to biodiversity.

To address the biodiversity conservation value of this project,

- The reforestation activities will be happened in a biodiversity significance context area although the parcels biodiversity value is low currently. With the sucefful of the project, it is help for the native species reintroduce, habitats restoration as well establish the biological corridor in the adjacent areas of the nature reserve. In addition, it will help enhance wildlife vitality through fostering genetic exchange, to enhance the connectivity between forest areas so that the ecosystem integrity and health can be improved, and the conservation of threatened species and biodiversity enhanced.

- Native tree species are applied in the reforestation purpose. So it would hrough establishing 1342.2 ha of multiple use forests in the eroded lands in the adjacent areas of nature reserves located in the upper reaches of the main tributaries of the Mekong and Salween rivers.

B.1.2 Describe possible adverse effects of non-native species on the area's environment, including impacts on native species and disease introduction or facilitation. If these impacts have a substantial bearing on biodiversity or other environmental outcomes, the project proponents must justify the necessity of using non-native species over native species.

>> No non-native species/invasive species will be used.

> B.1.3 Identify all IUCN Red List threatened species and species deemed threatened on nationally recognized lists that may be found within the project boundary. Project proponents must document how project activities will not be detrimental in any way to these species.

>> All the project plots are degraded lands. There is no presence of any endangered species on the annexes to the IUCN Red Books, nor the presence of any rare and endangered species listed for key national/local protection.

> B.1.4 Identify all species to be used by the project and show that no known invasive species will be used.

>> Table B.1 Species used in the proposed project

Pinus Yunnanensis
Pinus Armandi
Pinus Khasya

All the tree species are native ones selected through community participation and none of them belongs to invasive species.

> B.1.5 Guarantee that no genetically modified organisms will be used to generate carbon credits.

>> Guarantee that no genetically modified organisms will be used.

> **B2 Offsite Biodiversity Impacts (Required)**

> B.2.1 Identify potential negative offsite biodiversity impacts that the project is likely to cause.

>> No significant negative offsite biodiversity impacts have been identified.

> B.2.2 Describe how the project plans to mitigate these negative offsite biodiversity impacts.

>> No significant negative offsite biodiversity impacts have been identified.

> B.2.3 Evaluate likely unmitigated negative offsite biodiversity impacts against the biodiversity benefits of the project within the project boundaries. Justify and demonstrate that the net effect of the project on biodiversity is positive.

>> No significant negative impacts have been identified due to the environmental-friendly techniques adopted in the proposed project activity, e.g., avoidance of slash and burn and overall tillage, choice of native tree species and their mixed spatial arrangement, etc.

> **B3 Biodiversity Impact Monitoring (Required)**

> B.3.1 Describe the initial plan for how they will select biodiversity variables to be monitored. Potential variables include species abundance and diversity, landscape connectivity, forest fragmentation, habitat area and diversity, etc. Clarify the frecuency of monitoring. Include in the monitoring plan, biodiversity variables at risk of being negatively impacted by project activities.

>> It is planned that biodiversity monitoring will be carried out based on a five-year cycle to cover plants species, small and large mammals, birds and insects. Various biodiversity indicators for different biotic communities will be used for analysis. As this project will not exert negative impacts on biodiversity, it is therefore not necessary to monitor such impacts.

B4. Native Species Use (1 Point)

> B.4.1 Show that the project will only use species that are native to the region, or justify that any non-native species used by the project are superior to native species for generating concrete biodiversity benefits.

>> All the tree species selected for this project are native species.

B5 Water & Soil Resource Enhancement (1 Point)

> B.5.1 Identify project activities that are likely to enhance water and soil resources.

>> Afforestation activities are one of the effective measures for erosion control.

> B.5.2 Credibly demonstrate that these activities are likely to improve water and soil resource compared to the baseline, using justifiable assumptions about cause and effect, and relevant studies.

>> Due to the consecutive deforestation, subsequent over-use of fuelwood collection, illegal grazing and frequent fire, most lands are severely degraded and suffer from serious soil erosions that directly threaten the streams and rivers below. If the current situation remains as it has been, the lands will degrade further and the soil erosion will become more and more severely. The forest restoration will improve soil and water erosion control in this area.