

Guideline for preparing A/R-CDM-PDD
(Consideration points for preparing A/R-CDM-PDD)

This document is a part of the report of the project, "The Guideline on A/R CDM (in Japanese)", which was funded by the Forestry Agency of Japan and conducted by Japan Overseas Plantation Center for Pulpwood (JOPP) in 2004.

This guideline is based on the latest draft form for "the emission reduction CDM" as of the end of March 2003, therefore, this is not applicable directly to AR CDM. However, studying emission CDM cases would be a good practice for making AR-CDM PDD in future. (When this report was written, AR-CDM PDD form did not exist. But the draft of AR-CDM PDD was released in September 2004.)

In this guideline, using the Draft CDM-PDD (Ver02) for the emission reduction CDM, we describe what information is requested to be written in the PDD form and which points we have to concern when we write PDD. This guideline is written on the assumption of Indonesian case.

DRAFT
CLEAN DEVELOPMENT MECHANISM
PROJECT DESIGN DOCUMENT FORM (CDM-PDD)
Second Version (Ver02) (in effect as of: XX Month 2003)

Introductory Note

1. This document contains the clean development mechanism project design document (CDM-PDD). The document is in conformity with the relevant modalities and procedures for the Project Design Document for CDM project activities as defined in Appendix B "Project Design Document" to the CDM modalities and procedures (decision 17/CP.7 contained in document FCCC/CP2001/13/Add.2).
2. The CDM-PDD may be obtained electronically from the UNFCCC CDM web site (<http://unfccc.int/cdm>), by e-mail (cdm-info@unfccc.int) or in printed format from the UNFCCC secretariat (Fax: +49-228-8151999).
3. *Explanations* for project participants are in italics.
4. Terms which are underlined with a broken line are explained in the "CDM PDD Glossary of Terms". It is recommended that before or during the completion of the form that project participants consult the most recent version of the "CDM-PDD Glossary of Terms".
5. Project participants should also consult the section "Guidance – clarifications" available on the UNFCCC CDM web site (<http://unfccc.int/cdm>) or from the UNFCCC secretariat by e-mail (cdminfo@unfccc.int) or in print via fax (+49-228-815 1999).
6. The CDM-PDD presents information on the essential technical and organizational aspects of the project activity and is a key input into the validation, registration, and verification of the project as required under the Kyoto Protocol to the UNFCCC. The relevant modalities and procedures are detailed in decision 17/CP.7 contained in document FCCC/CP2001/13/Add.2.
7. The CDM-PDD contains information on the project activity, the approved baseline methodology applied to the project activity, and the approved monitoring methodology applied to the project. It

discusses and justifies the choice of baseline methodology and the applied monitoring concept, including monitoring data and calculation methods.

8. Project participants should submit the completed version of the CDM-PDD, together with attachments if necessary, to an accredited designated operational entity for validation. The designated operational entity then examines the adequacy of the information provided in the CDM-PDD, especially whether it satisfies the relevant modalities and procedures concerning CDM project activities. Based on this examination, the designated operational entity makes a decision regarding validation of the project.

9. The Executive Board may revise the format of the Project Design Document (CDM-PDD), if necessary. Revisions shall not affect CDM project activities submitted for registration prior to the date on which a revised version of the CDM-PDD enters into effect. Versions of the CDM-PDD shall be consecutively numbered and dated.

10. In accordance with the CDM M&P, the working language of the Board is English. The CDM PDD shall therefore be submitted in English to the Executive Board. However, the CDM PDD format is available on the UNFCCC CDM web site for consultation in all six official languages of the United Nations.

11. The CDM-PDD should be completed without modifying its format, headings, font or logo.

12. This form is not applicable to afforestation and reforestation CDM project activities. Please consult the UNFCCC CDM web site for obtaining information regarding the CDM-PDD form for afforestation and reforestation CDM project activities.

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A. General description of project activity

A.1 Title of the project activity:

A.2. Description of the project activity:

(Please include in the description

- the purpose of the project activity

- the view of the project participants of the contribution of the project activity to sustainable development (max. one page).)

Sustainable development is one of the main purposes of CDM. Therefore, it should be clearly stated how the proposed CDM project activity contributes to the sustainable development of the area around the project or the host country.

For example;

- (1) Industrial Plantation: Providing continuously the material (harvested logs) to a local sawmill/pulp factory contributes to provide job opportunities to the local people.
- (2) Agroforestry: providing firewood, fruits and fodder for domestic animals to the locals contributes to give opportunities for new income and ensures the stability of the local economic and social development.
- (3) Environmental Plantation: providing firewood, material for charcoal, increasing biodiversity of the area and diversifying food source ensures food security as well as social development of local community.

Moreover, description of the following topics would be requested;

- Environmental conditions of the project area such as the present vegetation (vegetation before the project starts).
- Legal title to the land and the right to use the land. The possible form of the land use right may be owning, leasing, free of charge, profit share etc.
- Confirmation that Carbon Right of the project participants could be legally accepted by the host country. In some countries, ownership of trees on lease land belongs to land owner, not to project participant. The ownership of the carbon right should be checked.
- Description of technical plantation plan, cash management plan and management system in the case of industrial plantation project. Authority and responsibility on the planning, performance and reporting in the management system should be clarified.

A.3. Project participants:

(In accordance with the use of the term project participant in the CDM modalities and procedures, a project participant is either a Party involved or, in accordance with paragraph 33 of the CDM modalities and procedures, a private and/or public entity authorized by a Party to participate, under the Party's responsibility, in CDM project activities. Project participants are Parties or private and/or public entities that take decisions on the allocation of certified emission reductions (CERs) from the project activity under consideration. At registration, a statement signed by all project participants shall be provided clarifying the modalities of communicating with the Executive Board and the secretariat, in particular with regard to instructions regarding allocations of CERs at the point of issuance.

Please list Party(ies) and private and/or public entities involved in the project activity and provide contact information in Annex 1.

Please indicate at least one of the above as the main contact for the CDM project activity.)

In the case that investor and participant of the project are not the same party, the written agreement is required. Rights, obligations and credit allocation ratio for each party should be clearly described in this agreement.

A.4. Technical description of the project activity:

A.4.1. Location of the project activity:

A.4.1.1 Host Party(ies):

A.4.1.2 Region/State/Province etc.:

A.4.1.3 City/Town/Community etc:

A.4.1.4 Detail of physical location, including information allowing the unique identification of this project activity (*maximum one page*):

- (1) Name of the project area.
- (2) The Map which indicates the position of the project (latitude and longitude) and the project boundaries
- (3) Road map and the way to approach to the project site (for DOE).

A.4.2. Category(ies) of project activity

(Using the list of categories of project activities and of registered CDM project activities by category available on the UNFCCC CDM web site, please specify the category(ies) of project activities into which this project activity falls. If no suitable category(ies) of project activities can be identified, please suggest a new category(ies) descriptor and its definition, being guided by relevant information on the UNFCCC CDM web site.)

Categories for AR CDM were not listed yet. Expected categories are follows:

- (1) Industrial plantation
- (2) Environmental plantation using indigenous tree species.
- (3) Agroforestry
- (4) Multipurpose plantation

A.4.3. Technology to be employed by the project activity:

(This section should include a description on how environmentally safe and sound technology and know-how to be used is transferred to the host Party, [if any])

Describe tree species, plantation technology and how to transfer know-how.

For the environmental contribution by plantations, that would be erosion protection, water conservation and biodiversity increase. plantation technology could transfer to the host country through the capacity building on nursery practice, tending and plantation management.

Concerning that only afforestation and reforestation are applicable to sink CDM projects, we should probably describe the historical land use change in the project area and the reason why it is not forest land before the project starts.

Following items can be used to proof that the project site was not forest land before 31, December 1989.

- (1) Reliable maps, aerophotographs.
- (2) Legal or official documents related to the land use around 1990.
- (3) Testimony from local government and/or local influential persons.

A.4.4. Brief explanation of how the anthropogenic emissions of anthropogenic greenhouse gas (GHGs) by sources are to be reduced by the proposed CDM project activity, including why the emission reductions would not occur in the absence of the proposed project activity, taking into account national and/or sectoral policies and circumstances:

(Please explain briefly how anthropogenic greenhouse gas (GHG) emission reductions are to be achieved (detail to be provided in section B) and provide the estimate of anticipated total reductions in tonnes of CO₂ equivalent as determined in section E below. Max. length one page)

A.4.5. Public funding of the project activity:

(In case public funding from Parties included in Annex I is involved, please provide in Annex 2 [information on sources of public funding for the project activity, including an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties][information on sources of public funding for the project activity from Parties included in Annex I which shall provide an affirmation that such funding does not result in a diversion of official development assistance and is separate from and is not counted towards the financial obligations of those Parties].)

B. Application of a baseline methodology

(Where project participants wish to propose a new baseline methodology, please complete the form for “Proposed New Methodology: Baseline”(F-CDM-PDD-NMB) and subsequently complete the sections A-E of the CDM-PDD to demonstrate the application of the proposed new methodology to the project activity.)

Baseline is a scenario when the project activity doesn't exist. “Net anthropogenic GHG removals by sinks (= claiming amount for credits)” is a difference between “actual net GHG removals by sinks (= removals by the project activity)” and “baseline net GHG removals by sinks”.

B.1 Title and reference of the approved baseline methodology applied to the project activity:

(Please refer to the UNFCCC CDM web site for the title and reference list as well as the details of approved baseline methodologies. If a new baseline methodology is proposed, please complete the form for “Proposed New Methodology: Baseline”(F-CDM-PDD-NMB). Please note that the table “Baseline data” contained in Annex 3 is to be prepared in parallel to completing the remainder of this section.)

There are no approved baseline methodologies for sink CDM as of 31, March, 2004.

After some methodologies are approved, and if the approved methodology is applied to the project, describe which methodology is selected to use.

B.2. Justification of the choice of the methodology and why it is applicable to the project activity:

Describe the reason why the approach which was selected from the three general baseline approaches in paragraph 3.1 of F-CDM-PPD-NMB is applicable to the project, based on the analysis in paragraph 4.1 of . F-CDM-PPD-NMB

- (1) Existing or historical, as applicable, changes in carbon stocks in the carbon pools within the project boundary;
- (2) Changes in carbon stocks in the carbon pools within the project boundary from a land use that represents an economically attractive course of action, taking into account barriers to investment;
- (3) Changes in carbon stocks in the pools within the project boundary from the most likely land use at the time the project starts.

It should be written based on the analysis and discussion in paragraph 4.1.

B.3. Description of how the methodology is applied in the context of the project activity

#Example for carbon emission CDM

There are four approved methodologies on the web site as of March 2004. Each methodology could be applied only when the project is in the particular circumstance described in the documents.

For example, in AM0003, the condition to apply the methodology was mentioned as follows;
 - In the case that the captured gas (Methane) is used to generate electricity, but the credit from the emission reduction by the electric generation is NOT claimed

In AM0004, Grid-connected biomass power generation project, the condition to apply this methodology is stated as follows:
 - Using rice husks which would be burned on fields without the project.
 - There is enough unutilized biomass around the project site.
 - Biomass can not be used for the power generation under BAU condition, due to the disperse distribution.

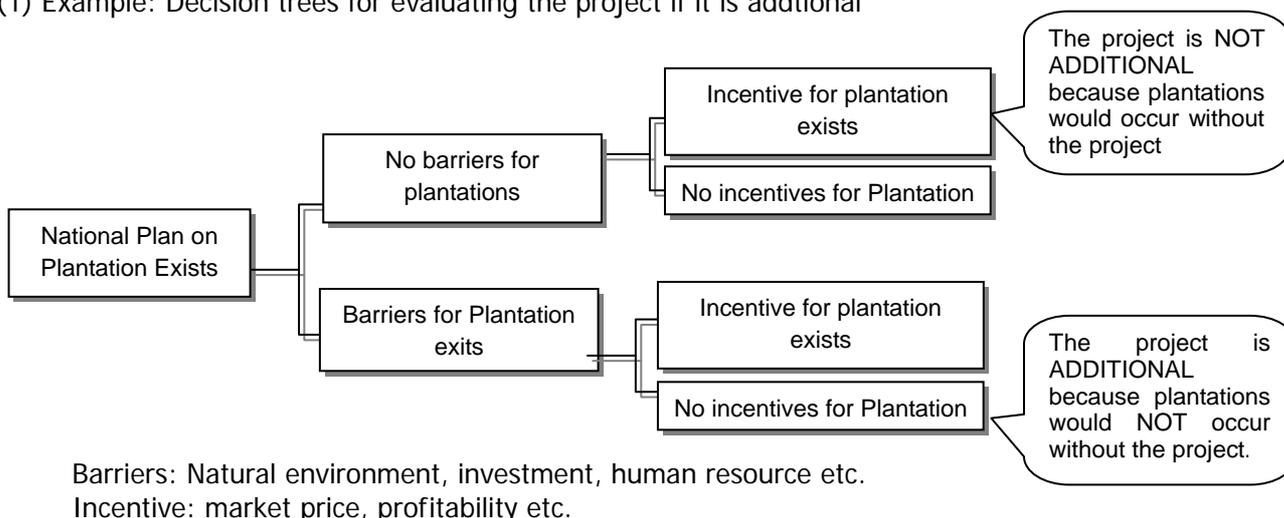
This applicable condition will possibly set in the AR-CDM methodologies. The explanation that the project fits to the apply condition is necessary in this section.

B.4. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity
(i.e. explanation of how and why this project is additional and therefore not the baseline scenario in accordance with the selected baseline methodology)

Describe clearly that the removals by plantations in the project is larger than the removals under the baseline scenario in this section.

For example, explain that the land use change would not occur or that the historical land use pattern would continue without this project (= base line). As evidences would be required, we have to prepare the scientific references, official documents, legal regulation and results of economic analysis.

(1) Example: Decision trees for evaluating the project if it is additional



(2) List up all the potential scenarios of the land use change in the project area and analysis. Then, indicate that the project is NOT the one of those potential scenarios. (= the project is NOT the baseline scenario in the project area)

For example, the land use of the project area has long been agricultural land. In the area under the same condition to the project area, the land use pattern is similar. Thus, without

the project, the land use would not change and plantation would not occur.

- (3) The possible barriers could be financial risks such as lower ROE, IRR and NPV of the project and project risks such as forest fire, pest and disease, land disputes, social instability, and environmental constraints such as unsuitable soil condition and low precipitation.
- (4) Describe how the project scenario is peculiar using statistical data and comparing to the other projects under the same condition.

Example of baseline scenario in Indonesia

In the case of AR CDM project, plantation is economically attractive and already recognized by the local community but there is no action by the local people to implement such kind of plantation activities because of the financial barrier. The local community does not have an easy access to get a credit from financial institutions.

Financial support or initiatives from the CDM project which enable the local community to implement the plantation activities would meet the additionality required to a CDM project. In other words in this case, the current practice by the local people is the baseline (= the project is NOT the baseline scenario).

In other case, there are groups of community such as trans-immigrants who have a financial capacity to establish plantation activities by themselves. The baseline scenario of this case would be the land use change operated by them such as their plantation activities.

#Example of emission CDM

In the approved methodologies of emission CDM, the additionality was explained as follows:

- AM0002 Landfill Gas project at Salvador de Bahia

The project is additional because the project collect larger amount of gas than the amount stated in the agreement.

- AM0003 Electricity generation project by landfill gas at Nova Gerar

The project is additional because the IRR of the project is lower than other projects without CER. (Without counting CER gain, this project is not profitable)

B.5. Description of how the definition of the project boundary related to the baseline methodology selected is applied to the project activity:

The project boundary is a geographical border of the project area in AR CDM and should be indicated clearly by using the following information.

- (1) Name of the place where the project is operated.
- (2) Map of the area, Geographic information (latitude and longitude)
- (3) Total land area
- (4) Details of ownership
- (5) Land tenure status
- (6) Means to clarify the geographic border
- (7) Land use Agreement for the project (term & other conditions).

#Typical situation in Indonesia

If there are no legal documents for ownership or using right on the land, the agreement must be taken between responsible personnel of project, land users and local community. Then the official document can be claimed to the local government. In Indonesia, the local government has the right to issue the legal documents, but we don't have information in the other countries.

B.6. Details of baseline development

Baseline is a point of reference to calculate the CO₂ removed by the project. It is a scenario of the CO₂ removal under the condition without the project. However, CO₂ removal under the baseline scenario can not be measured directly because the baseline scenario is based on the assumption and estimation how the vegetation changes without the project. Baseline removal influences directly to the amount of credit that the project will gain, therefore, the baseline methodologies are strictly examined in EB and Meth Panel.

On the process of setting the baseline, it is necessary to explain how the carbon stock will change without the project considering the natural environment, land use and socioeconomic situation in the area. In the approved methodologies in emission CDM, the baseline scenarios are determined as the landfill facilities will be managed at the present level and the methane emission continues and as the biomass continues to be unutilized and left in the field.

The same viewpoint can be applied for AR-CDM. Baseline should be determined by historical trend or economical analysis.

For example, the degraded land is expanding in the host country because there is no regulation on replantation after harvesting. In such degraded lands, the vegetation has not recovered and it has been grass lands, not forest land, for a long time. Thus, the grass lands could be determined as the baseline. Another example is that this grazing land would not be transferred to the agricultural land or plantation because of its low productivity and inaccessibility.

In the approved methodologies of Emission CDM, most-likely-scenario was selected among some possible scenarios under the condition without the project.

A concrete example is shown in the figure below.

First, list up all possible scenarios, then select one scenario which is most likely and explain why it is selected.

For example, the vegetation of the project area is grassland. There are 4 possible baseline scenarios (figure below).

- (1) The area continues to be grassland and carbon stock doesn't change.
- (2) The area continues to be grassland and carbon stock increases according to the growth of the grass
- (3) The tree species appears to the grassland and the area becomes bush.
- (4) The area becomes forest.

Select one most likely scenario as a baseline from 4 possible scenarios above considering the natural condition and artificial (anthropogenic, or socio-economic) condition.

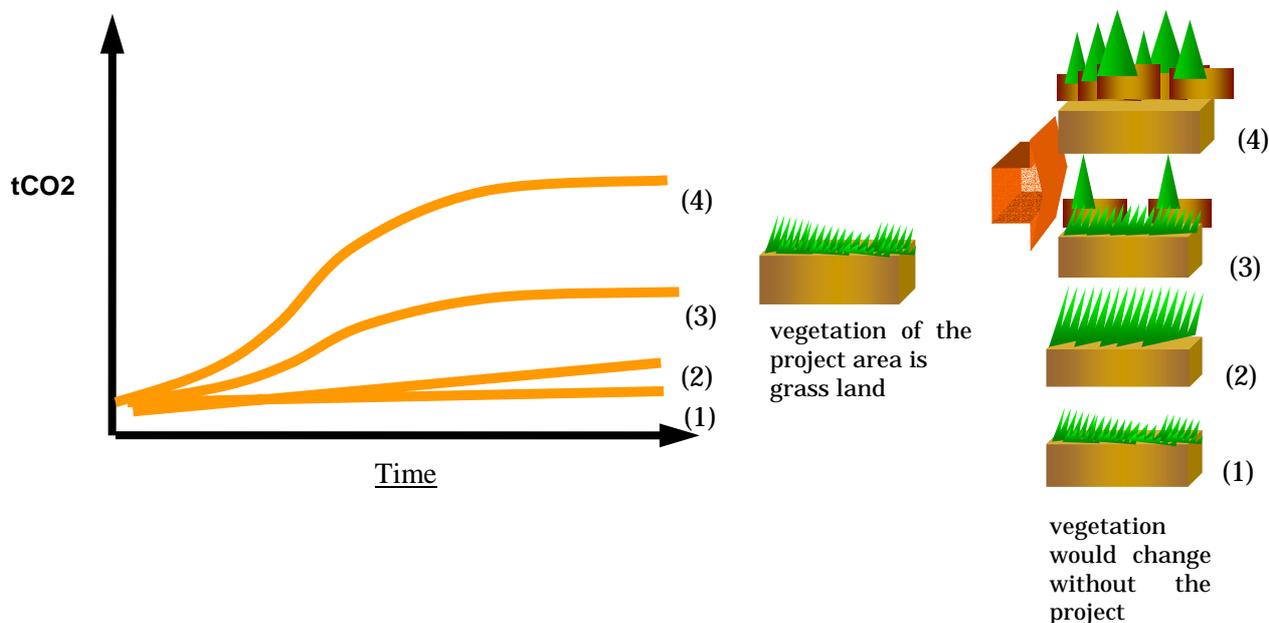
For example,

- (3) and (4) is not adequate scenarios as a baseline of the project area because there is not enough precipitation and soil condition is poor. It is not likely that the area becomes forest.

- Considering the human impact, this area is possibly used as grazing land. Thus, (2) would be the most likely scenario.

- However, the possibility is still exists that the area is not used by local people and grass grow larger.

- To make a "conservative" decision, (2) is selected as the baseline scenario in this project area.



On the process to determine the baseline, vegetation information and emission source data should be collected before the project starts. If there were no suitable data, data in nearby area or research report data could be applied.

Data archives of biomass in Indonesia are IPCC LULUCF-GPG, CIFOR, JICA/Forest Research Development Agency/ACIAR, University, ICRAF (small scale project, slash & burn), IGES, JIFPRO, Universities such as Gajamada, IPP, Parankarava, APN (from this year), etc

B.6.1 Date of completing the final draft of the baseline study (DD/MM/YYYY):

B.6.2 Name of person (s)/entity (ies) determining the baseline:
(Please provide contact information and indicate if the person/entity is also a project participant listed in Annex 1.)

C. Duration of the project activity / Crediting period

The crediting period in AR CDM is different from the emission CDM.

- (1) Project participants have to choose crediting period of 20 years with 2 renewals or 30 years with no renewal.
- (2) In terms of CER types, the project participant should select either tCER or ICER.
 - (a) In the case of tCER, project participant would claim EB to issue the tCER which expires in the next commitment period. The timing of claiming can be defined by the project participant.
 - (b) In the case of ICER, the project participant claims EB to issue ICER which is valid for the whole crediting period at the time defined by the project participant. Any changes in net anthropogenic GHG removal by sink that occur after issuing the ICER should be taken into account.

C.1 Duration of the project activity:

C.1.1. Starting date of the project activity:

(The starting date of a CDM project activity is the date on which the implementation or construction or real action of a project activity begins. Project activities starting as of the year 2000 (1 January 2000) and prior to and the date of the first registration of a clean development mechanism project activity have to provide documentation, at the time of registration, showing that the starting date fell within this period.)

C.1.2. Expected operational lifetime of the project activity: *(in years and months, for example two years and four months would be shown as: 2y-4m)*

C.2 Choice of the crediting period and related information:

(Please underline the appropriate option (C.2.1 or C.2.2.) and complete accordingly)

(Note that the crediting period may only start after the date of registration of the proposed activity as a CDM project activity. In exceptional cases, the starting date of the crediting period may be prior to the date of registration of the project activity as provided for in paras. 12 and 13 of decision 17/CP.7, preamble 5 of decision ##/CP.9 and through any guidance by the Executive Board, available on the UNFCCC CDM web site)

C.2.1. Renewable crediting period (at most seven (7) years per period)

Maximum renewable crediting period of emission reduction CDM is 10 years, but in the case of sink CDM maximum period is 20 years which able to renew twice.

C.2.1.1. Starting date of the first crediting period (DD/MM/YYYY):

C.2.1.2. Length of the first crediting period

(in years and months, for example two years and four months would be shown as: 2y-4m):

C.2.2. Fixed crediting period (at most ten (10) years):

Maximum fixed crediting period of emission reduction CDM is 10 years, but in the case of sink CDM maximum period is 30 years.

C.2.2.1. Starting date (DD/MM/YYYY):

C.2.2.2. Length (max 10 years): *(in years and months, for example: two years and four months would be shown as: 2y-4m)*

Max length is 10 years for emission CDM, 30 years for sink CDM.

D. Application of a monitoring methodology and plan

(Where project participants wish to propose a new monitoring methodology, please complete form "Proposed New Methodology: Monitoring"(F-CDM-PDD-NMM) and subsequently complete sections A-E of the CDM-PDDD I, to demonstrate the application of the proposed new methodology to the project activity.

(The monitoring plan needs to provide detailed information related to the collection and archiving of all relevant data needed to

- estimate or measure emissions occurring within the project boundary,
- determine the baseline, and
- identify increased emissions outside the project boundary.

The monitoring plan should reflect good monitoring practice appropriate to the type of project activity. Project participants shall implement the registered monitoring plan and provide data, in accordance with the plan, through their monitoring report.

Designated operational entities will verify that the monitoring methodology and plan have been implemented correctly and check the information in accordance with the provisions on verification. This section shall provide a detailed description of the monitoring plan, including an identification of the data and its quality with regard to accuracy, comparability, completeness and validity, taking into consideration any guidance contained in the methodology.

Please note that data monitored and required for verification and issuance are to be kept for two years after the end of the crediting period or the last issuance of CERs for this project activity, whatever occurs later.)

D.1. Name and reference of approved monitoring methodology applied to the project activity:

(Please refer to the UNFCCC CDM web site for the name and reference as well as details of approved methodologies. Where project participants wish to propose a new monitoring methodology, please complete the form for “Proposed New Methodology: Monitoring” (F-CDM-PDD-NMM) and subsequently complete , sections A-E of the CDM-PDD to demonstrate the application of the proposed new methodology to the project activity.

If a national or international monitoring standard has to be applied to monitor certain aspects of the project activity, please identify this standard and provide a reference to the source where a detailed description of the standard can be found.

Please fill sections D.2.2 or D.2.3 below in accordance with the approved monitoring methodology selected)

As of May 31, 2004, there are no approved monitoring methodologies for AR CDM. After monitoring methodologies are approved, project participant will be able to apply one of those methodologies. Form of the tables in section D.2.2, D.2.3, and D.2.4 are for emission CDM, those will be revised for AR CDM.

D.2. Justification of the choice of the methodology and why it is applicable to the project activity:

- (1) Describe the category selected in A.4.2., considering the area of the project and natural environment and socio-economic conditions.
- (2) State the reason why don't measurement "not measured carbon pool" which is described in the section 2.6 of PROPOSED NEW METHODOLOGY: MONITORING (F-CDM-PDD-NMM). The not measured Carbon pool is accepted when it is proved that the pool doesn't influence to decrease the net anthropogenic GHG removals by sink. (= that the pool is not the emission source)

D.2. 1. Option 1: Monitoring of the emissions in the project scenario and the baseline scenario

D. 2.1.1. Data to be collected or used in order to monitor emissions from the project activity, and how this data will be archived:
(Monitored data shall be archived for 2 years following the end of the crediting period. Please add rows to the table below, as needed.)*

ID number <i>(Please use numbers to ease cross-referencing to table 5)</i>	Data variable	Source of date	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/paper)	Comment

- (1) The monitoring plan should be established for the whole crediting period. The timing of the first monitoring would be decided by the project participant and then every 5 years according to the verification and certification timing. Project participant should record data.
- (2) State the selected carbon pools to measure from 5 carbon pools (above-ground biomass, underground biomass, litter, dead trees and soil) and describe the measuring methods. Accuracy and cost should be taken into account for measuring the change of carbon pools. Consider also the non measured carbon pools described in D.2.
- (3) Monitoring methods should be sufficient to indicate accuracy, precision, error and uncertainty.

D.2.1.2. Description of formulae used to estimate project emissions (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)
(Formulae should be consistent with the formulae outlined in the description of the baseline methodology)

Official data on biomass in Indonesia may be available from IPCC LULUCF-GPG, CIFOR, JICA/Forest Research Development Agency/ACIAR, IGES, JIFPRO, University of Gajamada, IPP, Parankaraya, APN

D.2.1.3. Relevant data necessary for determining the baseline of anthropogenic emissions by sources of GHGs within the project boundary and how such data will be collected and archived :

(Monitored data shall be archived for 2 years following the end of the crediting period. Please add rows to the table below, as needed.)*

ID number <i>(Please use numbers to ease cross-referencing to table 5)</i>	Data variable	Source of date	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/paper)	Comment

D.2.1.4. Description of formulae used to estimate baseline emissions (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

(Formulae should be consistent with the formulae outlined in the description of the baseline methodology)

Official data on biomass in Indonesia may be available from IPCC LULUCF-GPG, CIFOR, JICA/Forest Research Development Agency/ACIAR, IGES, JIFPRO, University of Gajamada, IPP, Parankaraya, APN

D. 2. 2. Option 2: Direct monitoring of emission reductions from the project activity (values should be consistent with those in section E).

D.2.2.1. Data to be collected or used in order to monitor emissions from the project activity, and how this data will be archived:

Monitored data shall be archived for 2 years following the end of the crediting period. Please add rows to the table below, as needed.*

ID number <i>(Please use numbers to ease cross-referencing to table 5)</i>	Data variable	Source of date	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/paper)	Comment

D.2.4. Treatment of leakage in the monitoring plan

D.2.4.1. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project activity

(Monitored data shall be archived for 2 years following the end of the crediting period (Please add rows to the table below, as needed.)*

ID number <i>(Please use numbers to ease cross-referencing to table 5)</i>	Data variable	Source of data	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/paper)	Comment

- (1) It is necessary that the monitoring plan on socioeconomic and environmental leakage
- (2) Describe the leakage applied in the project according to the potential leakage describing in 4.8 of F-CDM-PDD NMB.

D.2.4.2 Description of formulae used to estimate leakage (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

(Formulae should be consistent with the formulae outlined in the description of the baseline methodology)

D.2.5. Description of formulae used to estimate emission reductions for the project activity (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

(Formulae should be consistent with the formulae outlined in the description of the baseline methodology)

D.3. Quality control (QC) and quality assurance (QA) procedures are being undertaken for data monitored

(data items in tables contained in section sections D.2.2 or D.2.3 above, as applicable)

Data <i>(Indicate table and ID number e.g. 3.-1; 3.-2.)</i>	Uncertainty level of data (High/Medium/Low)	Explain QA/QC procedures planned for these data, or why such procedures are not necessary.

D.4 Please describe the operational and management structure that the project operator will implement in order to monitor emission

reductions, and the leakage effects if applicable, generated by the project activity

D.5 Name of person/entity determining the monitoring methodology:

(Please provide contact information and indicate if the person/entity is also a project participant listed in Annex 1 of this document.)

E. Calculation of GHG emissions by sources

(Please fill this section following the selected baseline and monitoring methodologies)

E.1 Description of formulae used to estimate anthropogenic emissions by sources of greenhouse gases of the project activity within the project boundary:

(for each gas, source, formulae/algorithm, emissions in units of CO₂ equivalent)

E.2 Description of formulae used to estimate leakage, defined as: the net change of anthropogenic emissions by sources of greenhouse gases which occurs outside the project boundary, and that is measurable and attributable to the project activity:

(for each gas, source, formulae/algorithm, emissions in units of CO₂ equivalent)

E.3 The sum of E.1 and E.2 representing the project activity emissions:

E.4 Description of formulae used to estimate the anthropogenic emissions by sources of greenhouse gases of the baseline:

(for each gas, source, formulae/algorithm, emissions in units of CO₂ equivalent)

E.5 Difference between E.4 and E.3 representing the emission reductions of the project activity:

E.6 Table providing values obtained when applying formulae above:

(“The ex post calculation of baseline emission rates may only be used if proper justification is provided. Notwithstanding, the baseline emission rates shall also be calculated ex-ante and reported in the CDM-PDD.”)

F. Environmental impacts

(1) The environmental impact assessment and socio-economic impact assessment should be conducted in accordance with regulation of the host country

(2) In regard of the socio-economic impact assessment, it is important to explain the entire picture of the project to the local people. The following factors should be included:

- (a) Consideration to prevent leakage.
- (b) Avoidance of negative influences to the local people
- (c) Consideration of the effects on the tradition and the culture of local people

(3) Regarding to the environmental impact assessment, hydrology, soil, fauna, flora, rare and endangered species should be described.

F.1. Documentation on the analysis of the environmental impacts, including transboundary impacts:

(Please attach the documentation to the CDM-PDD.)

F.2. If impacts are considered significant by the project participants or the host Party: *please provide conclusions and all references to support documentation of an environmental impact assessment that has been undertaken in accordance with the procedures as required by the host Party.*

G. Stakeholders' comments

In the explanatory text it should be specified to identify the stakeholders consulted with due

consideration of confidentiality. **(Italy on behalf of the European Community and its member states)**

G.1. Brief description of the process on how comments by local stakeholders have been invited and compiled:

(An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilitates comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted. In this regard, project participants shall describe a project activity in a manner which allows the local stakeholders to understand the project activity, taking into account confidentiality provisions of the CDM modalities and procedures.)

G.2. Summary of the comments received:

G.3. Report on how due account was taken of any comments received:

Annex 1

CONTACT INFORMATION ON PARTICIPANTS IN THE PROJECT ACTIVITY

(Please copy and paste table as needed)

Organization:	
Street/P.O.Box:	
Building:	
City:	
State/Region:	
Postfix/ZIP:	
Country:	
Telephone:	
FAX:	
E-Mail:	
URL:	
Represented by:	
Title:	
Salutation:	
Last Name:	
Middle Name:	
First Name:	
Department:	
Mobile:	
Direct FAX:	
Direct tel:	
Personal E-Mail:	

Annex 2

INFORMATION REGARDING PUBLIC FUNDING

Annex 3

TABLE: BASELINE DATA

(Please provide a table containing the key elements used to determine the baseline for the project activity including elements such as variables, parameters and data sources. For approved methodologies you may find a draft table on the UNFCCC CDM web site.)

In the following sections, it is described how to make the new draft form of baseline methodology and monitoring methodology(F-CDM-PDD-NMB, F-CDM-PDD-NMM).

These new methodologies should be proposed together with PDD.

DRAFT
CLEAN DEVELOPMENT MECHANISM
PROPOSED NEW METHODOLOGY: BASELINE (F-CDM-PDD–NMB)
First Version (Ver 01) (in effect as of: XX Month 2003)

Introductory Note

1. A strong link between baseline and monitoring methodologies is to be provided. New baseline and monitoring methodologies shall be proposed and approved together.

2. This form “Proposed New Methodology: Baseline” (F-CDM-PDD–NMB) is to be used to propose a new baseline methodology. This form shall fully and completely describe the methodology. A CDM-PDD, which is to be attached, demonstrates the application of a proposed new methodology to a project activity (see para. 7 below).

3. This form can be obtained electronically from the UNFCCC CDM web site (<http://unfccc.int/cdm>), by e-mail (cdm-info@unfccc.int) or in printed format from the UNFCCC secretariat (Fax: +49-228-8151999).

4. *Explanations* for project participants are in italics.

5. Terms which are underlined with a broken line are explained in the “CDM PDD Glossary of Terms”. It is recommended that before or during the completion of the form that project participants consult the most recent version of the “CDM-PDD Glossary of Terms”. They should also consult the section “Guidance – clarifications” available on the UNFCCC CDM web site (<http://unfccc.int/cdm>) or from the UNFCCC secretariat by e-mail (cdm-info@unfccc.int) or in print (Fax: +49-228-815-1999).

6. The Executive Board may revise this form, if necessary. Revisions shall not affect proposed new methodologies submitted on or prior to the date on which a revised version of the form for “proposed new methodology: baseline” enters into effect. Versions of this form shall be consecutively numbered and dated.

7. This form “Proposed New Methodology: Baseline” shall be submitted to the Executive Board in accordance with “Procedures for submission and consideration of a proposed new methodology”. For the most recent version of the procedures, please refer to procedures page of the UNFCCC CDM web site (<http://unfccc.int/cdm>). This form should be accompanied by:

- (i) “CDM-Proposed New Methodology Form” (F-CDM-PNM);
- (ii) “Proposed New Methodology: Monitoring Form” (F-CDM-PDD-NMM);
- (iii) “Project Design Document (CDM-PDD)” with sections A-E completed, in order to demonstrate the application of the proposed new methodology to a proposed project activity.

The most recent versions of these forms may be obtained from the “forms” section of the UNFCCC CDM web site (<http://unfccc.int/cdm>) or from the UNFCCC secretariat by e-mail (cdminfo@unfccc.int) or in print via fax (+49-228-815 1999).

8. Each proposed new baseline methodology should use a separate “Proposed New

Methodology: Baseline” form and “CDM-Proposed New Methodology Form” (F-CDM-PNM). “Proposed New Methodology: Baseline” forms for several new methodologies may be submitted together with the same CDM-PDD for several components of a proposed project.

9. This form should be completed without modifying its format, headings, font or logo.

10. In accordance with the CDM M&P, the working language of the Board is English. The form “Proposed New Methodology: Baseline” shall therefore be submitted in English to the Executive Board. However, the form will be available on the UNFCCC CDM web site for consultation in all six official languages of the United Nations.

11. For additional guidance on aspects to be covered in the description of a new methodology, please refer to guidance and clarifications by the Executive Board in the “guidance – clarifications” section of the UNFCCC CDM web site and the “CDM PDD Glossary of Terms”.

Comment by the Meth Panel: The Meth Panel could recommend to the EB drafts for definitions for the CDM-PDD glossary for the following terms: Baseline scenario, baseline emissions.

General instructions:

(The baseline for a CDM project activity is the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity. A baseline shall cover emissions from all gases, sectors and source categories listed in Annex A of the Kyoto Protocol within the project boundary. The general characteristics of a baseline are contained in paragraphs 45 to 47 of the CDM M&P.

When drafting a proposed new baseline methodology, project participants shall follow the following steps:..

- (a) Choose and justify why one of the baseline approaches listed in paragraph 48 of the CDM M&P is considered to be the most appropriate;*
- (b) Elaborate a proposal for a new baseline methodology. A baseline methodology is an application of the selected baseline approach contained in paragraphs 48 (a) to (c) of the CDM modalities and procedures to an individual project activity, reflecting aspects such as sector, technology and region. The Executive Board agreed that no methodology is to be excluded a priori so that project participants have the opportunity to propose any methodology which they consider appropriate. The project participant shall take into account guidance by the Board on aspects to be covered by a methodology (please see guidance and clarifications by the Executive Board on the “Guidance – clarifications” web page of the UNFCCC CDM web site);*
- (c) Describe the proposed new methodology using the forms for “Proposed New Methodology: Baseline” (F-CDM-PDD-NMB) and “Proposed New Methodology: Monitoring” (FCDM-PDD-NMM) taking into account guidance given by the Executive Board as well as the information provided in the CDM PDD Glossary of Terms; and Demonstrate the applicability of the proposed methodology, and, implicitly, that of the approach, to a project activity by providing relevant information in sections A-E of a draft CDM-PDD.*

In accordance with guidance provided by the Executive Board, the proposed new baseline methodology shall include, inter alia, the following:

- (a) A basis for determining the baseline scenario:*

- An explanation of how the baseline scenario is chosen, taking into account paragraph 45 (e) of the CDM M&P;
- An underlying rationale for algorithm/formulae (e.g. marginal vs. average.) used in the baseline methodology;
- An Explanation of how, through the methodology, it is demonstrated that a project activity is additional and, therefore, not the baseline scenario (section B.4 of the CDM-PDD form);

(b) Formulae/algorithms which shall specify:

- The type of variables used (e.g. fuel(s) used, fuel consumption rates, etc.);
- The spatial level of data (local, regional, national, etc.);
- The project boundary (gases and sources included, physical delineation);
- The vintage of data (relative to project crediting period);

(c) The data sources and assumptions:

- Where the data are obtained (official statistics, expert judgement, proprietary data, IPCC, commercial and scientific literature, etc.);
- The assumptions used;
- Clearly specify data requirements and sources, as well as procedures to be followed if expected data are unavailable. For instance, the methodology could point to a preferred data source (e.g. national statistics for the past 5 years), and indicate a priority order for use of additional data (e.g. using longer time series) and/or fall back data sources to preferred sources (e.g. private, international statistics, etc.).

Use International System Units (SI units – refer to http://www.bipm.fr/enus/3_SI/si.html).

All algorithms, formulae, and step-by-step procedures for applying the methodology shall be included in completing this form for “Proposed New Methodology: Baseline”. The completed form “shall provide stand-alone replicable methodologies, and avoid reference to any secondary documents.

Proposals should be written in a concise and clear manner. Important procedures and concepts should be supported by equations and diagrams. Non-essential information should be avoided. Information which is related to the application of the proposed new methodology for a project activity may be footnoted for illustrative purposes.

Project participants shall refrain from providing glossaries or using key terminology not used in the documents of the Conference of the Parties (COP) or the CDM glossary and refrain from rewriting the instructions on the form.

These methodologies consist of baseline methodology and monitoring methodology. In the baseline methodology, the method of baseline setting and the demonstration of additionality are explained. And it is described how to make the monitoring plan in the monitoring methodology.

1. Identification of methodology

1.1. Proposed methodology title:

(Provide an unambiguous title for a proposed methodology. Avoid project-specific titles. The title, once approved, should allow project participants to get an indication of the applicability of an approved methodology.)

In drawing up the new methodology, the descriptions shall be generalized instead of project-specific description. For example, the descriptions more generalized shall be requested like “the flora of baseline in the host country” instead of “the flora of baseline in A village, East Kalimantan, Indonesia” .

1.2. List of category(ies) of project activity to which the methodology may apply:

(Using the list of categories of project activities and of registered CDM project activities by category available on the UNFCCC CDM web site, please specify the category(ies) of project activities for which this proposed new methodology may be used. If no suitable category(ies) of project activities can be identified, please suggest a new category(ies) descriptor and its definition, being guided by relevant information on the UNFCCC CDM web site.)

It is described that the proposed methodology may apply what kind of conditions in the actual project. At this stage, it is not clear that the meanings of category(ies) are the small scale CDM or like 13 scopes of emission CDM. For example, these may be the type of plantation (agroforestry, industrial plantation), the site condition of project (climate, vegetation), and/or policy (regulations) of the host country.

1.3. Conditions under which the methodology is applicable to CDM project activities:

(e.g. circumstances, region, data availability, resource availability)

Define that what kind of project type and/or feature which the proposed methodology is applicable, and describe the necessary conditions to be applicable.

2. Overall summary description:

(Summary description of the proposed new methodology. Provide information on how baseline emissions are determined. Provide step by step instructions for the baseline methodology, including how through the methodology, it can be demonstrated that a project activity is additional and therefore not the baseline scenario (detailed explanation of the methodology to be provided in section 6 below)

(Max 1 page.)

In the event of drawing up the setting of baseline scenario and/or demonstration of additionality, the descriptions shall be generalized instead of project-specific description.

In the course of the demonstration of additionality, it may be suggested that the proposed project would not occur in the absence of the A/R CDM. For example, if there is a project which does not satisfy economically the criteria of decision for investment (economical barrier), the economical analyses (IRR or NPV) may be applicable because of the anticipation of the incomes of CERs value. And also, land disputes, social instability, environmental constraints such as soil conditions, low precipitation etc. may become barriers of the project.

The methodologies developed for baseline should be, through the transparent and reasonable way, based on official documents, and/or scientific documents and data. After that, a numerical formula which calculate the volume of CO2 removal shall be express.

3. Choice of and justification as to why one of the approaches listed in paragraph 48 of CDM M&P is considered to be the most appropriate:

3.1. General baseline approach:

(Please check a single option)

Existing actual or historical emissions, as applicable;

Emissions from a technology that represents an economically attractive course of action, taking into account barriers to investment;

The average emissions of similar project activities undertaken in the previous five years, in similar social, economic, environmental and technological circumstances, and whose

performance is among the top 20 per cent of their category. *When checking this baseline approach kindly refer to additional guidance provide by the Executive Board – (see guidance and clarifications by the Executive Board on the “Guidance – clarifications” web page of the UNFCCC CDM web site).*

In choosing baseline methodology, select most suitable one of the three approaches provided below.

- (1) Existing or historical trend: such as land use history data that provide a trend of carbon stock change.
- (2) Economically attractive course of action: Land use may or may not change depending on NPV(net present value) of different activities such as farming, grazing, etc v.s. plantation. (If A/R CDM is implementation in economical farm land where more profits are produced than plantation, this case is proper CDM.
- (3) Most likely land use when project starts: be analyze different land use options with economic, social, biological, cultural aspects to demonstrate most probable one.(E.g. a site has long history of land disputes, the site has been abandoned and has been covered with Alang alang for decades, etc.)

3.2. Justification of why the approach chosen in 3.1 above is considered the most appropriate:

4. Explanation and justification of the proposed new baseline methodology:

(In accordance with the guidance of the Executive Board, a proposed new methodology shall explain how a project activity using the methodology can demonstrate that it is additional, that is, different from the baseline scenario. Project participants shall therefore describe how to develop the baseline scenario and “how the baseline methodology addresses...the determination of whether the project is additional.” In addition, the methodology shall provide elements to calculate the emissions of the baseline. The project participants shall ensure consistency between the elaboration of the baseline scenario and the procedure and formulae to calculate the emissions of the baseline.)

4.1. Explanation of how the methodology determines the baseline scenario (that is, indicate the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity):

(Please state the basic assumptions of the baseline methodology and describe the key analytical steps that should be followed in determining the baseline scenario. Describe how the methodology determines the most likely scenario – the baseline scenario— from among the plausible scenario alternatives.)

In this section, describe analytically how a baseline scenario be determined from among the plural plausible scenarios.

Baseline setting is forecast of carbon stock change under the most likely future land use. Empirical model and theoretical model are two major methods to establish baseline.

The former model is developed through past trend and the latter model is based on scientific peer reviewed papers with project oriented parameters. Following factors should be considered for developing the model.

- Population growth
- Trends of land use changes
- Policy for local farmers(include illegal migrant)
- National and regional plan of A/R
- Land possession conflictions.

The following factors should be considered for setting baseline scenario.

- (a) baseline setting could be done through
 - projection of human use of resources such as firewood collection, shifting cultivation, increase in resource utilization resulting from migration increase.
 - consideration of risks and uncertainties such as forest fires, pests, illegal logging, land disputes, etc.
- (b) simple scenario
 - whether there are actual cases of tree plantation activities in project area, or not.
 - changing trend of marginal tree plantation area.
 - central and local government policies/plans of plantation.
 - trend of land use patterns of rural society.
- (c) socio-economic scenario
 - trend of farming system(including slash and burn).
 - trend of crop prices and timber prices.
 - population growth.
 - trend of land use changes.

4.2. Criteria used in developing the proposed baseline methodology

Describe logical back grounds such as extent of diffusion, economical consideration, other barrier.

4.3. Explanation of how, through the methodology, it can be demonstrated that a project activity is additional and therefore not the baseline scenario (section B.4 of the CDM-PDD form):

(Paragraph 43 of the CDM modalities and procedures stipulates that a CDM project activity is additional if its emissions are below those of its baseline (see guidance by the EB at its fifth meeting). “The baseline for a CDM project activity is the scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity” (paragraph 44 CDM M&P).)

(Please follow a step approach: (1) a description of the baseline scenario determined by applying the methodology, (2) a description of the project activity (unless the most plausible scenario is determined to be the project itself), (3) a demonstration why the project activity would not occur in the baseline scenario and (4) a mitigation analysis showing why the GHG emissions in the baseline scenario would likely exceed GHG emissions in the project scenario. Describe formulae used to calculate emissions in baseline scenario and in the proposed project. (Please report estimates of emission reductions in Section E))

(Types of tools that may be used to demonstrate that a project activity is additional, and therefore, not the baseline scenario include, among others:

- (a) A flow-chart or series of questions that lead to a narrowing of potential baseline scenario options;*
- (b) A qualitative or quantitative assessment of different potential baseline scenarios and an indication of why the non-project option is more likely;*
- (c) A qualitative or quantitative assessment of one or more barriers facing the proposed project activity (such as those laid out for small-scale CDM project activity, (see Appendix B of the simplified modalities and procedures for small-scale CDM project activities - <http://cdm.unfccc.int/pac/howto/SmallScalePA/index.html>);*
- (d) An indication that the project type is not common practice (for example it occurs in less than [$x\%$] of similar cases) in the proposed area of implementation, and is not required by a Party's legislation/regulations (this indication is not sufficient by itself to indicate that*

a project activity is additional)

Any tools used shall be developed so as to be applicable to the project activity. More than one tool may often be necessary. If more than one tool is developed please indicate: (i) whether answers are needed to all, (ii) in which order tools should be applied, and (iii) what the additionality assessment is if different tools give different answers).

(Please also include information on algorithms and formulae, if used.)

In this section, describe more concretely explanation compare with above section 4.1&4.2.

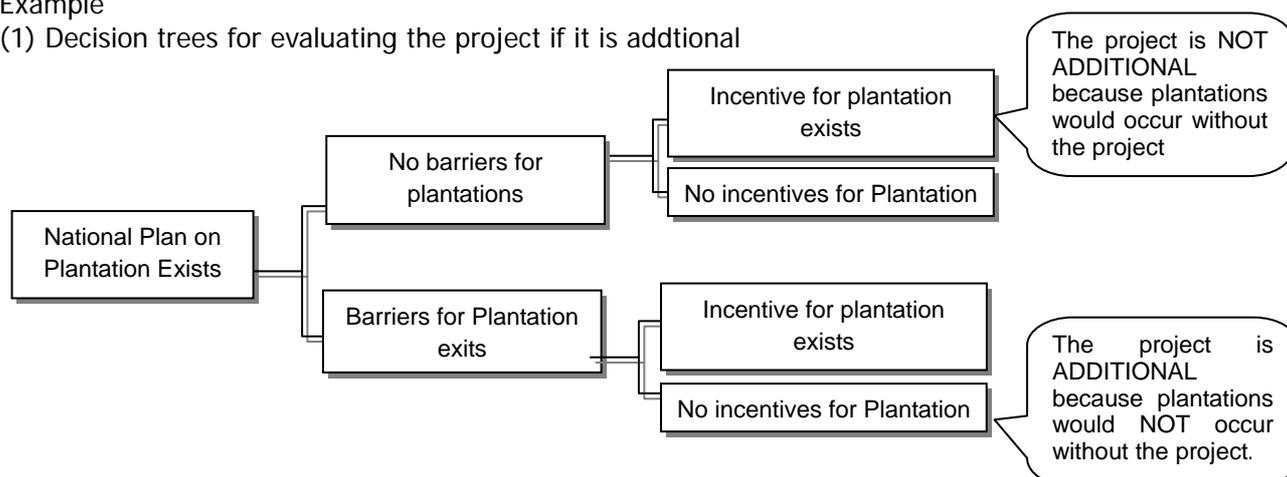
The contents will be include that (1)baseline scenario, (2)project scenario, (3)reason why the baseline scenario is not realized as an actual project. And describe that the CO₂ removal by plantation in the project is larger than the CO₂ removal under the baseline scenario. Then, explain clearly the process to select one baseline scenario, for example screening and/or explanation of picking up among plural candidate baseline scenarios.

The important point is, already explained, that the methodology is different from PDD, namely, in the event of drawing up the setting of baseline scenario and/or demonstration of additionality, the descriptions shall be generalized instead of project-specific description.

EB has given four example of how to demonstrate project's additionality as listed below in the Energy sector, and there may be competent with A/R CDM.

Example

(1) Decision trees for evaluating the project if it is additional



Barriers: Natural environment, investment, human resource etc.

Incentive: market price, profitability etc.

(2) List up all the potential scenarios of the land use change in the project area and analysis. Then, indicate that the project is NOT the one of those potential scenarios. (= the project is NOT the baseline scenario in the project area)

For example, the land use of the project area has long been agricultural land. In the area under the same condition to the project area, the land use pattern is similar. Thus, without the project, the land use would not change and plantation would not occur.

(3) The possible barriers could be financial risks such as lower ROE, IRR and NPV of the project and project risks such as forest fire, pest and disease, land disputes, social instability, and environmental constraints such as unsuitable soil condition and low precipitation.

(4) Describe how the project scenario is peculiar using statistical data and comparing to the other projects under the same condition.

4.4. How national and/or sectoral policies and circumstances can be taken into account by the methodology:

In this section, describe the points which are considered in section 4.1&4.3. The terms and conditions which will be described in this section, should be described in the section 1.3. And it should be explain by the means of not using concrete country names and/or actual local names.

4.5. Project boundary (gases and sources included, physical delineation):

(Please describe and justify the project boundary bearing in mind that it shall encompass all anthropogenic emissions by sources of greenhouse gases under the control of the project participants that are significant and reasonably attributable to the project activity. Please describe and justify which gases and sources included in Annex A of the Kyoto Protocol are included in the boundary and outside the boundary.)

Describe methods and/or how to establish the project boundary. And identify and separate the carbon pools which be able to monitor and ignore, then make the table which express the contents each in the baseline scenario and project scenario.

4.6. Elaborate and justify formulae/algorithms used to determine the baseline scenario. Variables, fixed parameters and values have to be reported (e.g. fuel(s) used, fuel consumption rates).

4.7. Elaborate and justify formulae/algorithms used to determine the emissions from the project activity. Variables, fixed parameters and values have to be reported (e.g. fuel(s) used, fuel consumption rates).

4.8. Description of how the baseline methodology addresses any potential leakage of the project activity:

(Please note: Leakage is defined as the net change of anthropogenic emissions by sources of greenhouse gases which occurs outside the project boundary and which is measurable and attributable to the CDM project activity.)

(Please explain how leakage is to be estimated ex-ante and indicate in the monitoring methodology form (CDM-PDD-NMM) how it is to be monitored ex-post. Explain if leakage will be assumed or calculated either as a relative amount (i.e. percentage) of the total emission reductions due to the project activity or as an absolute amount of emissions. Please describe algorithms, data information and assumptions and provide the total estimate of leakage. Also include formulae and algorithms to be used in section E of the CDM-PDD attached.)

(1) Identify types of measurable activity data related to the GHG emissions which may be affected by the project activities. For example, firewood consumption, lumber for agricultural and constructional uses, and illegal logging data.

(2) As leakage should be measurable, then the activity data being considered for leakage analysis must be available in a limited administrative boundary. In this case, consult with the local authority to define types of activity data, and also identify causes and motivation of the local community within and surrounding the project boundary to do activities related to increase of GHG emissions.

(3) In the A/R CDM, it may be necessary to provide measures for avoiding increase of the emissions (leakage) on this methodology.

4.9. Elaborate and justify formulae/algorithms used to determine the emissions reductions from the project activity. Variables, fixed parameters and values have to be reported (e.g. fuel(s) used, fuel consumption rates):

5. Data sources and assumptions:

5.1. Describe parameters and or assumptions (including emission factors and activity levels):

Explain the reasons why figures to use calculation of CO2 removal, such as expansion factors, densities, and parameters etc. are reasonable. Refer to GPG Annex 3A.1.

5.2. List of data used indicating sources (e.g. official statistics, expert judgement, proprietary data, IPCC, commercial and scientific literature) and precise references and justify the appropriateness of the choice of such data

5.3. Vintage of data (e.g. relative to starting date of the project activity):

5.4. Spatial level of data (local, regional, national):

6. Assessment of uncertainties (Sensitivity to key factors and assumptions):

(Please highlight any factors and assumptions that would have a significant impact on the baseline and/or the calculation of baseline emission levels and how uncertainty related to those assumptions and factors are to be addressed.)

Describe the methods to check following items;

- quantitative assessment of un certainties
- assessment of errors
- identify the origin of uncertainties

7. Explanation of how the baseline methodology was developed in a transparent and conservative manner

DRAFT
CLEAN DEVELOPMENT MECHANISM
PROPOSED NEW METHODOLOGY: MONITORING (F-CDM-PDD-NMM)
First Version (Ver 01) (in effect as of: XX Month 2003)

Introductory Note

1. A strong link between baseline and monitoring methodologies is to be provided. New baseline and monitoring methodologies shall be proposed and approved together.
2. This form “Proposed New Methodology: Monitoring” (F-CDM-PDD-NMM) is to be used to propose a new monitoring methodology. This form shall fully and completely describe the methodology. A CDM-PDD, which is to be attached, demonstrates the application of the proposed new methodology to the project activity (see para. 7 below).
3. This form can be obtained electronically from the UNFCCC CDM web site (<http://unfccc.int/cdm>), by e-mail (cdm-info@unfccc.int) or in printed format from the UNFCCC secretariat (Fax: +49-228-815-1999).
4. Explanations for project participants are in italics.
5. Terms which are underlined with a broken line are explained in the “CDM PDD Glossary of Terms”. It is recommended that before or during the completion of the form that project participants consult the most recent version of the “CDM-PDD Glossary of Terms”. They should also consult the section “Guidance – clarifications” available on the UNFCCC CDM web site (<http://unfccc.int/cdm>) or from the UNFCCC secretariat by e-mail (cdm-info@unfccc.int) or in print via fax: +49-228-815 1999).
6. The Executive Board may revise this form if necessary. Revisions shall not affect proposed new methodologies submitted on or prior to the date on which a revised version of the form “Proposed New Methodology: Monitoring” enters into effect. Versions of the form shall be consecutively numbered and dated.
7. This form for “Proposed New Methodology: Monitoring” shall be submitted to the Executive Board in accordance with “Procedures for submission and consideration of a proposed new methodology”.
For the most recent version of the procedures, please refer to procedures page of the UNFCCC CDM web site (<http://unfccc.int/cdm>). This form should be accompanied by:
 - (i) “CDM-Proposed New Methodology Form” (F-CDM-PNM);
 - (ii) “Proposed New Methodology: Baseline Form” (F-CDM-PDD-NBM);
 - (iii) “Project Design Document (CDM-PDD)” with sections A-E completed, in order to demonstrate the application of the baseline approach chosen and the proposed new methodology to a proposed project activity.

The most recent versions of these forms may be obtained from the “forms” section of the UNFCCC CDM web site (<http://unfccc.int/cdm>) or from the UNFCCC secretariat by e-mail (cdm-info@unfccc.int) or in print via fax (+49-228-815-1999).
8. Each proposed new monitoring methodology should use a separate “Proposed New Methodology: Monitoring” form and “CDM-Proposed New Methodology form” (F-CDM-PNM). “Proposed New Methodology: Monitoring” forms for several new

methodologies may be submitted together with the same CDM-PDD for several components of a proposed project.

9. This form should be completed without modifying its format, headings, font or logo.

10. In accordance with the CDM M&P, the working language of the Board is English. The form “Proposed New Methodology: Monitoring” shall therefore be submitted in English to the Executive Board filled in English. However, the form will be available for consultation on the UNFCCC CDM web site in all six official languages of the United Nations.

11. For additional guidance on aspects to be covered in the description of a new methodology, please refer to guidance and clarifications by the Executive Board on the “guidance – clarifications” section of the UNFCCC CDM web site and the “CDM PDD Glossary of Terms”.

General instructions:

(Monitoring of a CDM project activity refers to the collection and archiving of all relevant data necessary for determining the baseline, measuring anthropogenic emissions by sources of greenhouse gases (GHG) within the project boundary of a CDM project activity and leakage, as applicable.

When drafting a proposed new monitoring methodology, project participants shall:

- (a) Describe the proposed new methodology using the forms for “Proposed New Methodology: Baseline” (F-CDM-PDD-NMB) and “Proposed New Methodology: Monitoring” (FCDM-PDD-NMM) taking into account guidance given by the Executive Board as well as the information provided in the CDM PDD Glossary of Terms;*
- (b) Demonstrate the applicability of the proposed monitoring methodology to a project activity by providing relevant information in sections A-E of a draft CDM-PDD.*

The monitoring methodology needs to provide detailed information on how to establish the monitoring plan related to the collection and archiving of all relevant data needed to:

- estimate or measure emissions occurring within the project boundary,*
- determine the baseline emissions, and*
- identify increased emissions outside the project boundary;*

The monitoring methodology should reflect good monitoring practice appropriate to the type of project activity.

All algorithms, formulae, and step-by-step procedures for applying the methodology shall be included in completing this form. The completed form shall provide independent replicable methodologies, and avoid reference to any secondary documents.

Proposals should be written in a concise and clear manner. Important procedures and concepts should be supported by equations and diagrams. Non-essential information should be avoided. The completed form shall not contain information which is related to the application of the proposed new methodology.

Project participants shall refrain from providing glossaries or using key terminology not used in the documents of the Conference of the Parties (COP) or the CDM glossary and from rewriting the instruction on the form “Proposed New Methodology: Monitoring”.

1. Identification of methodology

1.1. Title of the proposed methodology:

(Provide an unambiguous title for a proposed methodology. Avoid project-specific titles. The title, once approved, should allow project participants to get an indication of the applicability of an approved methodology.)

The most important point to make a baseline methodology is to recognize that the baseline methodology is different from PDD. The baseline methodology is to explain the method for determining the baseline and monitoring plan in some generalized project type. On the other hand, PDD explains the baseline and monitoring in one specific project. Therefore, the description should be generalized such as "The baseline vegetation in the host country is that", instead of "The baseline vegetation in XXX Village in East Kalimantan, Indonesia".

1.2. List of category(ies) of project activity to which the methodology may apply:

(Using the list of categories of project activities and of registered CDM project activities by category available on the UNFCCC CDM web site, please specify the category(ies) of project activities for which this proposed new methodology can be used. If no suitable category(ies) of project activities can be identified, please suggest a new category(ies) descriptor and its definition, being guided by relevant information on the UNFCCC CDM web site.)

As the baseline methodology is generalized, it is possible to apply to the other same type projects. The condition for applying the baseline methodology should be clarified. For example, the condition would be the type of plantations such as industrial plantation, agroforestry, environmental plantation, climate, vegetation type, law and regulation of the host countries.

1.3. Conditions under which the methodology is applicable to CDM project activities:

(For example, circumstances, region, data availability, or resource availability)

2. Proposed new monitoring methodology

(Please provide a detailed description of the monitoring plan, including the identification of data and its quality with regard to accuracy, comparability, completeness and validity.)

Different types of project activities will have different monitoring requirements.

For some project activities, emission reductions are calculated as the difference between the project activity and the baseline emissions. For others emission reductions are monitored directly. Depending on the type of project activity, please fill out their option 1 or option 2.

Option 1 (section 2.2): Please describe the data and information that will be collected in order to monitor the emissions in the baseline scenario and the project scenario.

Option 2 (section 2.3): Describe the data and information that will be collected in order to directly monitor and calculate the emission reductions from the project activity)

- (1) For monitoring methodology to measure the removal and emission, use the general method in forestry or use the method described in Good Practice Guidance 4.3.3.
- (2) Monitoring plan should cover all the crediting period. The first monitoring time is determined by the project participants, then every five years according to the verification time. The data from the project should be recorded.
- (3) Suggestion on the consideration of monitoring methodology
 - (a) sample plot
 - (b) selection of the representative area
 - (c) control plot
- (4) Suggestion on consideration of monitoring plan
 - (a) Subdividing the project area
 - (b) distinguish GHG other than CO₂ from carbon pools
 - (c) Design of the construction of sampling
 - (d) Quality maintenance and quality management

The following tables are for the emission CDM and the format would be revised for the AR CDM.

2. 1. Brief description of new methodology

(Please outline the main points and give a reference to a detailed description of the monitoring methodology.)

2. 2. Option 1: Monitoring of the emissions in the project scenario and the baseline scenario**2.2.1. Data to be collected or used in order to monitor emissions from the project activity, and how this data will be archived:**

(Monitored data shall be archived for 2 years following the end of the crediting period. Please add rows to the table below, as needed.)*

ID number (Please use numbers to ease cross-referencing to table 5)	Data variable	Source of date	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/paper)	Comment

(1) The method for measuring the five carbon pools in the project boundary should be stated. It is necessary to consider the accuracy of the data and its cost when measuring the changes in the carbon pools.

(2) Monitoring method should satisfy to know the accuracy, errors and uncertainty of the data.

2.2.2. Description of formulae used to estimate project emissions (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

(Formulae should be consistent with the formulae outlined in the description of the baseline methodology)

Refer to 4.3.3.5 in Good Practice Guidance.

2.2.3. Relevant data necessary for determining the baseline of anthropogenic emissions by sources of greenhouse gases within the project boundary and how such data will be collected and archived :

(Monitored data shall be archived for 2 years following the end of the crediting period.Please add rows to the table below, as needed.)*

ID number (Please use numbers to ease cross-referencing to table 5)	Data variable	Source of date	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/paper)	Comment

Refer to 4.3.3.1 and 4.3.3.2 in Good Practice Guidance.

2.2.4. Description of formulae used to estimate baseline emissions (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

(Formulae should be consistent with the formulae outlined in the description of the baseline methodology)

2. 3. Option 2: Direct monitoring of emission reductions from the project activity

(Values should be consistent with those in section E of the CDM-PDD form)

“Direct monitoring of removals” seems impossible with current technologies in AR CDM. It may be revised to “direct approach” or “indirect approach” mentioned in 4.3.3.5.5.1 in Good Practice Guidance.

2.3.1. Data to be collected or used in order to monitor emissions from the project activity, and how this data will be archived:

(Monitored data shall be archived for 2 years following the end of the crediting period.Please add rows to the table below, as needed.)*

ID number (Please use numbers to ease cross-referencing to table 5)	Data variable	Source of date	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/paper)	Comment

2.4. Treatment of leakage in the monitoring plan

(Please explain if leakage will be monitored during the implementation of the project activity. If relevant, please explain and justify if leakage will not be estimated ex-post. Explain if leakage will be calculated as the difference between emissions occurring outside the boundaries of the project and emissions in the baseline scenario, or if leakage will be monitored directly.)

Refer to Box 4.3.1 in 4.3.2.3 and 4.3.3.6 in Good Practice Guidance

Possible sources as leakage

- the amount of fuel wood used by the local people
- the number of domestic animals
- the amount of fuel consumption necessary for the road construction outside of the project boundary
- the amount of fuel consumption necessary for the transportation outside of the project boundary

2.4.1. If applicable, please describe the data and information that will be collected in order to monitor leakage effects of the project activity

(Monitored data shall be archived for 2 years following the end of the crediting period. Please add rows to the table below, as needed.)*

ID number (Please use numbers to ease cross-referencing to table 5)	Data variable データ	Source of date	Data unit	Measured (m), calculated (c) or estimated (e)	Recording frequency	Proportion of data to be monitored	How will the data be archived? (electronic/paper)	Comment

2.4.2 Description of formulae used to estimate leakage (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

(Formulae should be consistent with the formulae outlined in the description of the baseline methodology)

2.5. Description of formulae used to estimate emission reductions for the project activity (for each gas, source, formulae/algorithm, emissions units of CO2 equ.)

(Formulae should be consistent with the formulae outlined in the description of the baseline methodology)

2.6. Assumptions used in elaborating the new methodology:
(Please list information used in the calculation of emissions which is not measured or calculated, for example use of any default emission factors)

Some carbon pools and emission sources in the project could be avoidable measuring if there are clear, reliable and persuasive reasons and those pools and sources do not affect to decrease the net anthropogenic GHG removals by sink. (= that the pool is not the emission source or that the emission from the sources is very small...)

2.7. Please indicate whether quality control (QC) and quality assurance (QA) procedures are being undertaken for the items monitored.
(see tables in sections 2 and 3 above)

Data (Indicate table and ID number e.g. 3.-1; 3.-2.)	Uncertainty level of data (High/Medium/Low)	Explain QA/QC procedures planned for these data, or why such procedures are not necessary.

Refer to 4.3.4 in Good Practice Guidance

2.8. What are the potential strengths and weaknesses of this methodology?
(please outline how the accuracy and completeness of the new methodology compares to that of approved methodologies.)

2.9. Has the methodology been applied successfully elsewhere and, if so, in which circumstances?