

CDM Validation Protocol and Findings Overview

Niger Acacia Senegal Plantation Project

1st Version

26 July 2013

Ernst & Young et Associés

Subject: Validation of a CDM Project	Accredited DOE : ERNST & YOUNG et Associés (France)
Project Participants: <ul style="list-style-type: none"> • Achats Services International • International Bank of Reconstruction and Development (IBRD) as Trustee of the Spanish Carbon Fund (CSF) • Kingdom of Spain-Ministry of Agriculture, Food and Environment and Ministry of Economy and Competitiveness 	Project Site(s): The project sites are distributed in six different regions in Niger, namely Tillabéri, City of Niamey, Dosso, Maradi, Zinder and Diffa.
Project title: Niger Acacia Senegal Plantation Project	
Applied Methodology / Version: AR-ACM0003 Afforestation and reforestation of lands except wetlands version 1.0.0	Scope: 14
First PDD Version: Date of issuance: 28 October 2011 Version No.: 01 Date of GSP: 24 Jan 12 - 08 Mar 12	Final PDD version: Date of issuance: 23 July 2013 Version No.: 1
Estimated Annual Emission Reduction: 24,957 tCO ₂ e	
Assessment Team Leader: Thomas Roulleau Assessment Team Member: Antonia Orsoni Experts : Raphael Manlay	Technical Reviewer : Thomas Legrand
Summary of the Validation Opinion: The review of the project design documentation and the subsequent follow-up interviews have provided ERNST & YOUNG with sufficient evidence to determine the fulfillment of all stated criteria. In our opinion, the project meets all relevant UNFCCC requirements for the CDM. Hence ERNST & YOUNG is recommending the project for registration by the CDM Executive Board.	

Glossary

AR	Afforestation and Reforestation Project Activities
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
EIA / EA	Environmental Impact Assessment / Environmental Assessment
ER	Emission reduction
GHG	Greenhouse gas(es)
GPG LULUCF	Good Practice Guidance for Land Use, Land Use Change and Forestry.
IRL	Information Reference List
MP	Monitoring Plan
PDD	Project Design Document
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard

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INTRODUCTION

Objective

The validation objective is an independent assessment by a Third Party (Designated Operational Entity = DOE) of a proposed project activity against all defined criteria set forth by the registration under the Clean Development Mechanism (CDM). Validation is part of the CDM project cycle and results in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CDM Executive Board (CDM-EB). The ultimate decision on the registration of a proposed project activity rests with the CDM-EB and the Parties involved.

The project activity covered by this validation report has been submitted under the project name “Niger Acacia Senegal Plantation Project”.

Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of CDM project activities the scope is set by:

- The Kyoto Protocol, in particular § 12 and modalities and procedures for the CDM
- Decision 2/CMP.1 and Decision 3/CMP.1 (Marrakech Accords)
- Further COP/MOP decisions with reference to the CDM (e.g. decisions 4-8/CMP.1)
- Decisions and specific guidance by the EB published under <http://cdm.unfccc.int>
- Clean development mechanism validation and verification standard (VVS) Version 03.0
- Guidelines for Completing the Project Design Document (CDM-PDD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- Baselines and monitoring methodologies (including GHG inventories)
- Management systems and auditing methods
- Environmental issues relevant to the sectoral scope applied for
- Applicable environmental, social impacts, and aspects of CDM project activity
- Sector specific technologies and their applications
- Current technical and operational knowledge of the specific sectoral scope and information on best practice

The validation is not meant to provide any consulting towards the project participants (PP). However, stated requests for clarifications, corrective actions, and/or forward actions may provide input for improvement of the project design.

Once ERNST & YOUNG received a first PDD version, it was made publicly available at the UNFCCC webpage to start a 45 day global stakeholder consultation process (GSP). The original PDD and the modified PDD will form the basis for the final evaluation. Information on both PDD versions is presented on page 2.

METHODOLOGY

The project assessment applies standard auditing techniques to assess the correctness of the information provided by the project participants. The assessment is based on the version 03.0 of the “Clean Development Mechanism Validation and Verification Standards”. The work starts with the appointment of the team covering the technical scope(s), sectoral scope(s) and relevant host country experience for evaluating the CDM project activity. Once the project is made available for the stakeholder consultation process, members of the team carry out the desk review, follow-up actions, resolution of issues identified, and finally preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control before submission to the CDM-EB.

In order to ensure transparency, assumptions are clear and explicitly stated; the background material is clearly referenced. ERNST & YOUNG developed methodology-specific checklists and protocol customized for the project. The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team, and the results from validating the identified criteria.

The validation protocol serves the following purposes:

- It organizes details and clarifies the requirements a CDM project is expected to meet;
- It ensures a transparent validation process where the validator has to document how a particular requirement has been validated, as well as the results of the validation and any adjustments, if any, made to the project design.

The validation protocol consists of two tables. The different columns in these tables are described in the figure below.

Validation Protocol Table 1: Conformity of Project activity and PDD				
CHECKLIST QUESTIONS	MoV*	COMMENTS	Draft Conclusion	Final Conclusion
<i>The checklist is organized in sections following the arrangement of the applied PDD version. Each section is then further sub-divided. The lowest level constitutes a checklist Question / criterion.</i>	<i>Gives reference to the means of verification : MoV = Mean of Verification, DR = Document Review, I = Interview</i>	<i>The section contains the discussion on the conformance of the project to the checklist question. It is further used to explain the conclusion reached.</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (<input checked="" type="checkbox"/>), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification. Forward action request to highlight issues related to project implementation that requires review during the first verification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.</i>

Validation Protocol Table 2: Resolution of Corrective Action and Clarification Requests			
Draft report clarifications and corrective action requests by validation team	Ref to PDD	Summary of project owner response	Final conclusion
<i>If the conclusions from table 1 are a Corrective Action, a Clarification or a Forward action Request, these should be listed in this section.</i>	<i>Reference to section of the PDD</i>	<i>The responses given by the BioCarbon Fund or other project participants during the communications with the validation team should be summarized in this section.</i>	<i>This section should summarize the discussion on and revision to project documentation together with the validation team's responses and final conclusions. The conclusions should be reflected in Table 1,</i>

			<i>under “Final Conclusion”.</i>
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The completed validation protocol is enclosed in Annex 1 to this report, and the resolution of Corrective Action and Clarification Requests is enclosed in Annex 2.

Appointment of the Assessment Team

The verification team has been appointed according to the experience in GHG verification, experience in the forestry sector, and relevant host country experience required amongst team members for verifying the GHG removals achieved by the project activity.

- Assessment Team Leader (ATL)
- Auditor (A)
- Experts (E)

The verification team consisted of the following members:

Name	Qualification	Experience in GHG verification	Experience in the forestry sector	Experience in the host country
Thomas Roulleau	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Antonia Orsoni	A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Raphael Manley	E		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Thomas Roulleau graduated as an engineer at AgroParisTech (INAPG) in Environmental Economy. During his training, he specialized in CO₂ market and credits (EU-ETS, Voluntary market), carbon projects development (CDM, JI), and forestry projects. He joined the Paris office of ERNST & YOUNG in 2007 after a first work experience at Lafarge (CDM development, global carbon strategy).

Antonia Orsoni graduated as an engineer at AgroParisTech (INAPG) in Environmental Economy. During her training, she specialized in carbon projects development (CDM, JI), and forestry projects. She joined the Paris office of ERNST & YOUNG in 2011 after a training period at Environment Resources Management (Sustainability & Climate Change business unit: CDM development, global carbon strategy).

Raphaël Manlay was trained as an engineer at AgroParisTech-ENGREF, the School of Forestry, Agricultural and Environmental Engineering of the Paris Institute of Technology for Life, Food and Environmental Sciences (created after the merging of INA-PG, ENSAIA and ENGREF). He did his PhD in environmental sciences at both AgroParisTech-ENGREF and at the Institute of Research for Development (IRD) in Senegal. He is now a lecturer at AgroParisTech-ENGREF, where he teaches in the European Erasmus mundus MSc course “Sustainable tropical forestry”. He is an associate scientist at IRD in the joint research unit Eco&Sols.

Review of Documents

The first version of the PDD was submitted to the DOE in December 2011. The first PDD version submitted by the PP and additional background documents related to the project design and baseline have been reviewed to verify the correctness, credibility, and interpretation of the presented information. Furthermore, a cross-check between information provided and information from other sources (if available) has been done as initial step of the validation process. A complete list of all documents and proofs reviewed is attached as Annex 3 to this report.

Follow-up Interviews

A site visit was performed between 20/02/2012 and 25/02/2012 by ERNST & YOUNG, including interviews and physical site inspection with project stakeholders to confirm relevant information, and to resolve issues identified in the first document review.

The table below provides a list of all persons interviewed during this site visit

Name	First name	Organization
Assadeck	Mohamed	APC Coordinator
Boureima	Wankoye	ASI (CEO)
Hamadou	Souley	PAC (Biocarbone first coordinator)
Kamaye	Maazou	CNEDD (Executive secretary)
Zakou	Mounkalia	UGSP/ASI (Biocarbone projects coordinator)
Adamou	Mamoudou	UGSP/ASI (Biocarbone project technical assistant)
Madai	Abatcha	UGSP/ASI (Biocarbone expert – monitoring & evaluation)
Adamou	Ibro	DGEFF (National Director)
Torres	Danny	ONFi (expert)
De Bassompierre	Adrien	World Bank
Abdoulaye	Alio	PAC DOSSO (regional coordinator)
Moussa	Ali	PAC TILABERI (regional coordinator)
Oumarou	Siaka	TILLABERI Regional environmental director
Amadou	Boubacar	Dosso Regional environmental director
Abdou	Ibrahima	Dosso (“agent biocarbone”)
Abdou	Yaou	Tillaberi (“agent biocarbone”)
Oumarou	Ali	Niamey-Tillaberi (“agent biocarbone”)
Local villagers involved in the project activity: Villages of Lido, Boulkki, Kogorou, Goubey, Birni Falla, Tchida, Dabarey, Kone Beri.		
Regional Coordinators, Biocarbon “Agent”, Field officers of the regions of Maradi, Zinder and Diffa		

In the village visited, most of the villagers involved in the plantation of the village were present during the interviews. They were all invited to answer and comment the DOE’s questions.

Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions, clarifications, and any other outstanding issues which needed to be clarified for ERNST & YOUNG’s conclusion on the project design. The CARs and CLs raised by ERNST & YOUNG were resolved during communication between the World Bank, the ONF international and ERNST & YOUNG. To guarantee the transparency of the validation process the concerns raised and responses that were given are documented in more detail in the validation protocol in Annex 1.

The final PDD version submitted the 23/07/2013 served as the basis for the final assessment presented. Following the CARs and CLs raised by ERNST & YOUNG, there have been different versions of the PDD but still this final version of the PDD is called version 01.

The PDD for global stakeholder comments initially used the methodology AR-AM0004 ver. 4 “Reforestation or afforestation of land currently under agricultural use”. Since November 2012, this methodology is not active anymore. The methodology has been replaced by the methodology AR-ACM0003 “Afforestation and reforestation of lands except wetlands Version 1.0.0”. The PDD has been updated accordingly. The change in methodology and the corrections of the validation process resulted in a cut of estimated annual emission reduction from 31,975 tCO₂e to 24,957 tCO₂e.

The latest change in the PDD refers to an update in the PDD template. Consequently, the final PDD version is the first version under the updated template.

Internal Quality Control

As final step of a validation activity the final documentation, which includes the validation report and the validation protocol, has to undergo an internal quality control by the Quality Internal Controller. In this particular case, the review process was carried out by Thomas Legrand, who is the technical Reviewer, with the relevant expertise in the auditing process.

After confirmation of the PP, the validation opinion and relevant documents are submitted to the EB through the UNFCCC web-platform.

SUMMARY

The assessment work and the main results are described below in accordance with the VVS reporting requirements. The reference documents indicated in this section and in Annex 1 are stated in Annex 3.

Approval

Requirements of VVS (§§38 – 44)

The project participants are “Achats Services International”, “International Bank of Reconstruction and Development (IBRD) as Trustee of the Spanish Carbon Fund (CSF)” and the Kingdom of Spain-Ministry of Agriculture, Food and Environment and Ministry of Economy and Competitiveness. The host Party Niger meets the requirements to participate in the CDM.

The DNA of Niger issued a LoA in August 2008 authorizing “Achats Services International” participant (Annex 3 ref. 25). The DNA of Spain issued a LoA in June 2013 authorizing “International Bank for Reconstruction and Development as trustee of BioCarbon Fund” (Annex 3 ref 24).

ERNST & YOUNG received these letters from the project participants and considers the provided letters authentic.

It has been confirmed that letters of approval refer to the precise proposed CDM project activity title in line with the title in the PDD “Niger Acacia Senegal Plantation Project”.

Both letters also indicate that the participating Parties are Parties to the Kyoto Protocol, and that the participation in the project is voluntary.

The LoA of Niger also confirms that the proposed CDM project activity contributes to the sustainable development of Niger.

Based on the information given in these letters, the approval is considered as unconditional with respect to these items. The requirements of VVS (§§38 – 44) are met.

Participation

Requirements of VVS (§§45 – 48)

The participants of the project activity were approved by the corresponding Parties, which is confirmed with the issued LoAs. The means of validation used are the same as described in the approval section, specifically in regard to the approval process of the project activity. The requirements of VVS (§§45 – 48) are met.

Project design document

Requirements of VVS (§§ 62-63)

The PDD complies with the relevant form and guidance provided by UNFCCC. The most recent version of the PDD template was used. ERNST & YOUNG considers that the guidelines for the completion of the PDD in their most recent version were followed. Relevant information was provided by the participants

in the applicable PDD sections. Accuracy and completeness were assessed through the checklist included in Annex 1 of this report. The requirements of VVS (§ 62) are met.

Project description

Requirements of VVS (§§64-69)

The following description of the project in the PDD was verified during the on-site audit:

“This first Nigerien A/R CDM project activity (NASPP) aims to restore deforested and highly degraded land in the Sudano-Sahelian zone of the Republic of Niger by empowering rural communities to adopt sustainable agro-forestry practices by establishing plantations using native species *Acacia senegalensis* (*Acacia Senegal*). This project represents the first effort in Niger to establish *Acacia Senegal* plantations on a large scale in regions where dry forests are unable to regenerate by natural means. The sale of emission reduction credits from the carbon sequestered in plantations will make the project more viable by providing an additional revenue stream that will supplement income from the sale of Arabic from the acacia tree. [...]

Rural communities covered under the Community Action Program¹ (CAP) will be involved in the establishment of plantations, maintenance, harvest, and sale of gum from plantations. The major benefits of this public/private partnership to rural communities will be the technical transfer of know-how and training to be provided by ME/E/LCD and market access for the sale of Arabic gum to be guaranteed by ASI so as to ensure the project’s sustainability. In addition, ASI will take responsibility for managing the distribution of tCER revenue to rural communities, corresponding to their share of carbon sequestered. ASI and ME/E/LCD will constitute the main technical and extension support for the project. In return, the rural communities have agreed to develop plantations in accordance with the standards and technologies recommended by ME/E/LCD.

Rural communities (mostly women) have expressed high interest in participating in the NASPP and have decided to establish plantations on 8,472 ha by 2013. By 2010, they have already planted 5,170 ha.

A total of about 8,472 ha of *Acacia* plantations will be developed under the project, which is expected to produce around 4,600 tons of Arabic gum each year at full capacity and sequester about 135,770 tCO₂e by 2012 and over 313,008 tCO₂e by 2017 i.e. an annual average GHG emission reduction of 24,957 tCO₂e.”

The information presented in the PDD on the technical design is consistent with the actual planting and implementation of the project activity as confirmed by:

- Review of data and information (Annex 3 ref. 74 to 92). This was verified with other independent sources if available.
- An on-site visit has been performed and relevant stakeholders and personnel with knowledge of the project were interviewed.
- Finally, information related to similar projects or technologies as the CDM project activity have been used (if available) to confirm the accuracy and completeness of the project description.

¹ The CAP is a national development program of the World Bank aiming to establish and operationalize decentralized, participatory, and transparent financing mechanisms that empower poor communities to take charge of their own development, with the support of local authorities

The project description, as included to the PDD, complies with the requirements of the CDM. The requirements of VVS (§§64-69) are met.

Baseline and monitoring methodology

Applicability of the selected methodology

Requirements of VVS (§§70-77)

Compliance with each applicability condition as listed in the chosen baseline and monitoring methodology AR-AM003 *"Afforestation and reforestation of lands except wetlands"* (version 1.0.0), and related tools *"Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities"* (version 01) and, *"Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities"*, (version 03.0.0) has been demonstrated. The results of the assessment are detailed in the Annex 1. The requirements of VVS (§§70-77) are met.

The chosen baseline and monitoring methodology is applicable to the project activity. Emission sources, which are not addressed by the applied methodology, and which are expected to contribute more than 1% of the overall expected average annual emission reductions, have not been identified.

Project boundary, pools and eligibility

Requirements of VVS (§§82-87)

The project boundary was assessed through physical site inspection, interviews and secondary documents received on the design of the project.

The **project area will** cover a total of 8,472 ha. The geographical project boundary as defined in the field was found to be consistent with the indications in the last version of the PDD and the provided digital boundary files.

The boundaries were validated during the validation process using standard audit techniques; details of all observations are presented in the Annex 1. Over the 26 parcels with tracked GPS boundaries at the time of validation, a selection of parcels has been performed. During the site visits, the audit team has checked 8 parcels (Boulkki, Kogorou, Goubey, Birni Falla, Tchida, Dabarey, Kone Beri) totaling 1 687 ha (20% of georeferenced project area). The project sites are broadly distributed across the whole territory of Niger. In the 8 parcels visited, a verification of the GPS boundaries has been performed, and no significant differences of parcels area was detected. The identified boundaries as documented in the PDD and the attached digital boundary files are adequately defined for the project activity. Due to travel conditions and time restriction, the selected parcels are located in three regions (Dosso, Tillaberi and Niamey) among the five regions covered by the project activity. For the region not visited by the DOE team, in depth review of site/region-related documentation have been performed. In addition, during the site visit interviews with the regional coordinators, representatives and field agents for the regions of Diffa, Zinder and Maradi have been conducted.

The requirements of VVS (§§82-87 and 163-166) are met.

Approach for addressing non-permanence

The issuance of tCER has been selected as the approach for addressing non-permanence. The requirements of VVS (§§ 173-175) are met.

Legal title to the land and right of use

As indicated in the PDD, “the land tenure commission (Cofu), the National authority in the matter, and their subsidiaries at departmental and local level, (CofuDep and CofuB), conducted different missions to each potential project areas in order to clarify their legal status and delivering land legal acts. With land tenure defined, a contract among land owners (privates or communities) and the office cluster (grappe) were signed”.

Three types of land property were identified and secured (Annex 3 ref. 39 to 53):

1. Private property (crops farms);
2. Vacant lands (or state property) and;
3. Classified forests.

As mentioned in the PDD, in project sites, three types of contract were established:

1. Land Title (Titre foncier): The Land Title is the document that guarantees, secures and protects the right of private owner. The holder is recognized as the only true owner of the land concerned.
2. Acts of customary holdings (Actes de détention coutumière): allows recognizing and formalizing land rights of an individual or group of individuals who valorize a land for a relatively long time, without ownership title or any kind of legal recognition of rights on this land. The delivery of any instrument of customary holdings, issued by the village chief (President of Land Commission Base = COFOBs), participates in securing land sites.
3. Titles of Rural Concession (Titre de concession rural): is an administrative contract giving to the cluster (grappe), under determined conditions, the right to occupy and / or temporarily use a public domain.

Under the terms previously described, 17,137 ha has been secured, among which are located the 8,472 of this project. Besides, all the contracts with local communities of the total project area have been collected and verified.

Moreover, it is clearly established in the contracts that ASI receives 20% of Arabic Gum and Carbone Credit revenues whereas the remaining 80% are given to the communities.

The **carbon pools** and the relevant emissions sources and gases have been selected in line with the applicable methodology and this information is included accordingly in the PDD. The requirements of VVS (§§ 167-169) are met.

In regard to **eligibility of lands** (Annex 3 ref. 54 to 71), the project proponent performed an assessment of the project area which complies with the requirements of the most recent Eligibility Procedure as defined by the EB. The land eligibility has been demonstrated using three images per site, imagery dating from 1988, 2000, 2003 and 2006. The characteristics of the images used are the following:

- Sensors: Landsat 7 ETM + and Landsat 4-5
- Resolution: 30m
- Treatment: Images downloaded from the site of the USGS are radiometrically calibrated and orthorectified. No further treatment was necessary to allow their use.

In addition, Spot 4 imageries (B&W/10m) before 1990 for the project area have been analyzed to confirm the absence of forest on a representative sample of three sites (Gouriabon, Begorou and Tchida) based on their vegetation type.

The eligibility assessment process has been verified and no anomaly was revealed. During the site visit, interviews with local authority and the villagers confirmed the eligibility of the land. The requirements of VVS (§§ 170-172) are met.

Algorithm and/or formulae used

The calculations of baseline stocks and removals, project emissions, leakage and the expected net anthropogenic GHG removals by sinks have been verified. Corresponding calculations were carried out with the Excel tool TARAM. Correctness of calculations has been verified step by step for all calculations sheets.

The values and estimates presented in the PDD are reasonable based on the documentation reviewed. The sources used in the PDD are correctly quoted and interpreted. All assumptions and data indicated in the PDD and all relevant sources were checked and confirmed. Detailed information on the verification of parameters used in the equations can be found in Annex 1.

The requirements of the methodology have been correctly applied and all values used are considered reasonable in the context of the proposed CDM project activity. Data sources are quoted correctly. Hence, the calculation of baseline stocks and removals, project emissions, leakage and the expected net anthropogenic GHG removals by sinks can be considered correct. The requirements of VVS (§§ 96-98) are met.

Baseline stocks and greenhouse gas removals by sinks

The stratification of the baseline is based on GIOES & APOR (2006) and BUNEC (2006) who demonstrated that the project landscape is composed of severely degraded and still degrading discrete areas. In consequence, only **one stratum is identified for the baseline scenario: degraded/degrading area with very poor vegetation.**

In accordance with the applied methodology, the *ex-ante* stratification for the project scenario is based on the project planting/management plan. Therefore, **two strata will be considered in the project scenario.** The stratification criterion is based on planting density:

- **Stratum 1:** planting of *Acacia senegalensis* at a density of **313 trees per hectare**
- **Stratum 2:** planting of *Acacia senegalensis* at a density of **400 trees per hectare**

This ex-ante stratification is considered as reasonable.

Project emissions

As stated in the applied methodology, the CO₂ emissions are accounted as a change in carbon stock. CH₄ and N₂O emissions are not included in this project activity, as no burning of biomass will take place.

Leakage

It is assumed that no leakage results to displacement of pre-existing activities as the project activity allows the establishment of intercrops during first 6 years of the plantation.

Net anthropogenic greenhouse gas removals by sinks

The estimates on the expected anthropogenic removals which are likely to be achieved by the planned reforestation activities under the project scenario have been verified. The sources were reviewed and confirmed during the onsite visit and are considered as reasonable. The requirements of VVS (§§ 96-100) are met.

Over the crediting period of 30 years, total net anthropogenic removals of 748 712 tCO₂-e are expected. The calculations of the net anthropogenic GHG removals were carried out with TARAM Excel spreadsheets. It has been verified that all calculations are correct and in compliance with the applied AR-CDM methodology, and that the steps of the calculations are fully traceable and adequate for the project conditions.

Additionality

Requirements of VVS (§101)

The additionality of the project has been demonstrated in the PDD using the “Combined Tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” Version 01.

The analyses presented in the PDD were assessed based on a document review, interviews onsite and additional documents (Annex 3 ref. 72 to 82). The data, rationales, assumptions, justifications and documentation provided were checked using local knowledge and sectoral expertise.

Further analysis of the additionality is summarized below.

The project is considered additional as the degraded lands which are reforested under the project activities would have remained without forest cover.

Start date and prior consideration of the CDM

The starting date of the project activity is after 31 December 1999. The starting date corresponds to the invoice related to the first purchase of seeds on December 21st 2005 (Annex 3 ref.13). The letter of prior consideration of the project activity has been provided.

Since the project start date is 2005, guidance on the early consideration (https://cdm.unfccc.int/EB/049/eb49_repan22.pdf) applies. In accordance with this guidance, the project proponents have provided the following evidences of continuous actions in order to obtain CDM status (Annex 3 ref. 14 to 23):

- Letter of Intent (LoI) related to the the sale/purchase of emission reductions to be generated under the project signed in June 2005,
- Signature of the purchase agreement between BioCarbon Fund and ASI (December 2006), clearly demonstrating that the Biocarbon Fund decided to finance up-front the cost of the project activity in order to recover the carbon credits
- Approval of Niger Acacia Senegal Plantation Project by BioCarbon Fund to purchase carbon credit (2007)
- Reception of the Letter of Approval of Canada, initial project participant, in August 2008
- Contract signed between ERSNT & YOUNG and the World Bank for the CDM validation of the project
- Contract signed between ONF international and the World Bank in 2009 for the review and completion of the PDD and services up to the registration of the project, services completed in December 2012
- Amendment to the ERPA between the World Bank and ASI[following completion of PDD and change in project area] (2011)
- Amendment of the contract between the World Bank and ONF International for additional services in 2010, then screenshot of amendment of the contract in 2012 and 2013

The requirements of VVS (§§ 105-112) are met.

Identifications of alternatives

The following alternative land use scenarios to the project activity have been evaluated:

- Alternative 1: Continuation of pre-existing activities (*i.e* wandering cattle, subsistence agriculture and fuelwood collection)
- Alternative 2: Improvement of agricultural activities, including the use of trees
- Alternative 3: Reforestation activities not undertaken in the framework of the CDM

Based on the desk review and on the interview performed during the site visit, the 3 land use scenarios mentioned are considered as credible, complete, and in compliance with applicable legal and regulatory requirements. Moreover, the national and sectoral policies are considered and listed in the PDD. The requirements of VVS (§§113-116) are met.

Barrier analysis

The following barriers have been considered:

1. investment barriers
2. technological barriers
3. barriers due to social conditions
4. barriers due to ecological conditions

The barriers have been justified as follows:

1. Investment barriers, other than economic/financial barriers

The economy of rural communities involved in the proposed A/R CDM project activities relies currently on agriculture activities; crops for subsistence and a few incomes and transhumant grazing activities. Investment barriers are linked to very strong difficulties faced by the rural communities to get access to credit for the plantation costs due to the following reasons:

- the bank and financial institutions network in Niger is very poor;
- the quality of credit portfolio is bad in rural areas with high interest rates
- the lack of producer organizations that could negotiate with banking and financial institutions

2. Technological barriers

Rural communities have strong difficulties to access *Acacia Senegalensis* quality seed sources, and they lack of skills regarding the production of good quality seedlings, and successful tree planting, pruning, and tapping. The technical assistance planned in the CDM project activities is considered as necessary for the project implementation.

3. Barriers due to social conditions

Rural communities have traditionally been involved in the production of goods that can be sold directly on local markets. Farmers lacked training for efficient production techniques and know-how related to the improvement of gum quality. Moreover, they lacked organization and knowledge about gum market. Rural communities do not have the knowledge to manage complex Arabic gum production process from investment to production and international marketing. The assistance provided by the project participant is necessary to help rural communities dealing with this barrier.

4. Barriers due to ecological conditions

The project area is characterized by severe degradation processes, inducing very poor soil fertility and moving towards desertification. The climate is arid with severe episodes of drought. The technological support and training in plantation and collection of Arabic gum in extreme agroecological conditions, provided by the investors thanks to a CDM project implementation is necessary to face this barrier.

The existence and the significance of these barriers have been verified during the site visits through field investigations and interviews with the local population, and the local authorities. The requirements of VVS (§§ 124-127) are met.

Following the barriers analysis step, the list of alternative contains only one land use scenario: Continuation of the pre-project land-use. The requirements of VVS (§§ 88-95) are met. Therefore, the common practice analysis has been applied.

The PDD identifies the baseline scenario as “Continuation of the pre-project land use”. This baseline scenario was determined by using the “Combined Tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities”.

The information included in the PDD was validated by a document review, the on-site visit of the project area. The sources referenced in the PDD have been quoted correctly.

Field visits and interviews confirmed the chosen baseline approach as per CDM Modalities and Procedures: “Existing or historical, as applicable, changes in carbon stocks in the carbon pools within the project boundary”. In this project, the historic land use applicable to the project area prior to project start would also be the likely future land use in absence of the project.

Field visits and interviews confirmed that no reasonable alternative baseline scenario was excluded in the analysis of baseline scenarios. Based on the demonstration presented in the PDD and references, the identified baseline scenario is considered as reasonable. Taking the definition of the baseline scenario into account, ERNST & YOUNG confirms that all relevant CDM requirements, including relevant national and sectoral policies and circumstances, were correctly taken into account.

As requested in the items 101-104 of VVS, ERNST & YOUNG confirms that:

1. All the assumptions and data used by the project participants are listed in the PDD, including their references and sources;
2. All documentation used is relevant for establishing the baseline scenario and correctly quoted and interpreted in the PDD;
3. Assumptions and data used in the identification of the baseline scenario are justified appropriately, supported by evidence and can be deemed reasonable;
4. The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

Therefore, the requirements of VVS (§§ 101-104) are met.

Common practice analysis

ASI has already undertaken a large forest plantation of Acacia Senegal in Niger. However, this first example covers 1200ha instead of the 8472 ha of the project activities. Consequently, the proposed A/R CDM project activities present a much larger scale than the existing similar forest plantations (ratio of 10).

The project activity is not common practice. The requirements of VVS (§§128-130) are met.

Monitoring plan

The monitoring plan presented in the PDD complies with the requirement of the methodology and the CDM Modalities and Procedures. The assessment team checked all parameters presented in the monitoring plan against the requirements of the methodology; no deviations relevant for the project activity have been found in the monitoring plan. For the monitoring of carbon stock changes the requirements and parameter list as per methodology were followed. The monitoring arrangements described in the monitoring plan have been reviewed by the assessment team on paper and through interviews with the relevant personnel. These works and the site visit confirm that the proposed monitoring plan is feasible within the project design. Moreover, the means of implementation of the monitoring plan are considered as sufficient to ensure the emission reductions achieved by/resulting from the proposed CDM project activity can be reported ex post and verified. Data Management procedures and QA/QC procedures have been described in the PDD and are considered as in line with best practices.

Therefore, the project participants will have the ability to implement the monitoring plan. The requirements of VVS (§§ 131-133) are met.

Timing of management activities, including harvesting cycles, and verifications

The management activities do not lead to any peak in carbon stocks. Therefore, there will be no coincidence of verification and peak in carbon stocks. The requirements of VVS (§ 176-178) are met.

Sustainable development

The LoA of the Host Country Niger clearly presents a statement that the project assists the Republic of Niger to achieve sustainable development. The requirement of VVS (§§ 50-52) are met.

Local stakeholder consultation

The public consultation has been performed following two steps. In the first step, the different stakeholders have been informed and sensitized about the Project. During the second step, consultation sessions with stakeholders have been organized at the local level. Supporting documents of these meetings performed in the villages before the plantation have been provided. All the local villagers interviewed during the site visit confirmed that these meetings occurred in their villages. During these meetings, they have been invited to provide comments on the project activity.

The summary of comments presented in the PDD was cross checked confirmed with interviews with stakeholders during the onsite visit and it is found to be complete.

Hence the local stakeholder consultation was adequately performed according to the requirements of VVS (§§ 138-140).

Environmental and socio-economic impacts

Environmental Impact Assessment is not requested by the host country for this type of project activity. Moreover, an analysis has been performed by the project proponent on socio-economic impacts and environmental impacts of the project, including impacts on biodiversity and natural ecosystems, and impacts outside the project boundary. Only one negative impact might emerge because of the high use of water in dry season for seedlings production, which could lead to competition for water resources with neighboring communities. Nevertheless, this impact is minimized since nurseries are distributed in different sites strategically selected and, a monitoring strategy has been implemented to identify and compensate potential impact on the water resource. The requirement of VVS (§§134-137 and 179-183) are met.

COMMENTS BY PARTIES, STAKEHOLDERS AND NGOs

ERNST & YOUNG published the project documents on the UNFCCC website for comments during a 45 day period.

The following table presents all gathered key information:

webpage:	http://cdm.unfccc.int/Projects/Validation/DB/YFWGX3MUOH7XJRE3W8CFT7H5D2873M/view.html
Dates of the global stakeholder consultation process:	24 Jan 12 - 08 Mar 12
Comment submitted by:	<p>i) The losses due to pruning has not been estimated in ex-ante calculations of net removals</p> <p>ii) The pre-existing woody vegetation within the project area needs to be accounted for as per relevant CDM guidelines</p> <p>Submitted by: Abhirup Sen, abhirupsen@gmail.com</p>
Response by ERNST & YOUNG:	<p>i) Losses due to pruning have been included in the table 12 of the final version of the PDD</p> <p>ii) The lands within the project boundaries are severely degraded and will remain degrading in absence of the project activities, this is reflected in a low average carbon stock in pre-existing vegetation, only 4.63 tCO₂/ha, (see table of baseline scenario in the PDD). However, as described in the PDD, pre-existing vegetation is not burned, and the pre-existing woody vegetation, if any, is left standing. In the new methodology used, AR-AM0003, left standing pre-existing biomass is not removed from project carbon stock.</p>

The requirements of VVS (§34-36) are met.

Modifications between the PDD for global stakeholder comments and the PDD submitted for registration.

The PDD for global stakeholder comments initially used the methodology AR-AM0004 ver. 4 “Reforestation or afforestation of land currently under agricultural use”. Since November 2012, this methodology is not active anymore. The methodology has been replaced by the methodology AR-ACM0003 “Afforestation and reforestation of lands except wetlands Version 1.0.0”. The PDD has been updated accordingly. The change in methodology and the corrections of the validation process resulted in a cut of estimated annual emission reduction from 31,975 tCO₂e to 24,957 tCO₂e.

In addition, the PDD has been updated in compliance with the new version of the Project Design Document form for Afforestation and Reforestation CDM project activities.

Following the changes in methodology and PDD form, the validation report has been modified. To ensure transparency, the history of the Corrective Action Requests and Clarification Requests has been maintained in the table 2 below.

MODALITIES OF COMMUNICATIONS

The Modalities of Communications were provided and validate the corporate identity of all project participants. The requirements of VVS (§§53-61) are met.

VALIDATION OPINION

BioCarbon Fund

Niger Acacia Senegal Plantation Project

Validation conclusion

Further to BioCarbon Fund's request, we have performed a review of the CDM project activity "Niger Acacia Senegal Plantation Project"², "The Project", to obtain reasonable assurance that the project was prepared in accordance with all relevant CDM requirements for the validation of A/R CDM projects ("the CDM Requirements") consisting in:

- The Kyoto Protocol, in particular § 12 and modalities and procedures for the CDM
- The CDM applied methodology : AR-ACM0003 Afforestation and reforestation of lands except wetlands version 1.0.0
- Clean development mechanism validation and verification standard (VVS) Version 03.0
- Guidelines for Completing the Project Design Document (CDM-PD), and the Proposed New Baseline and Monitoring Methodology (CDM-NM)
- Decisions and specific guidance by the EB published under <http://cdm.unfccc.int>

It is the responsibility of BioCarbon Fund to prepare and provide the Project Design Document (PDD) and supporting documents. Over the crediting period of 30 years, total net anthropogenic removals of "The Project" are expected to account for 748 712 tCO₂-e.

It is our responsibility to express an opinion on the Project on the basis of our procedure. Our procedure were conducted in compliance with the international standard ISAE 30003 of IFAC, the "Clean development mechanism validation and verification standard", the CDM Modalities and Procedure and the applied methodology. Our independence is defined by our professional code of ethics and internal independence procedure.

Nature and scope of our procedures

Project components or issues covered by the validation process are previously detailed and our notifications are presented in Annex 1.

We performed the following procedure to be able to express an opinion:

- Review of PDD version submitted by the Project Participant and additional background documents related to the project design and baseline have been reviewed to verify the correctness, credibility, and interpretation of the presented information. A complete list of all documents and proofs reviewed is attached as Annex 5 of the document attached to this report.

² The project activity "Niger Acacia Senegal Plantation Project" as described in the Project Description version 01 dated 23/07/2013.

³ ISAE 3000: "Assurance Engagement other than reviews of historical data", International Federation of Accountants, International Audit and Assurance Board, December 2003.

- Interviews and physical site inspection with project stakeholders between 20/02/2012 and 25/02/2012 to confirm relevant information and to resolve issues identified in the first document review. A complete list of all persons interviewed in this context is provided in Annex 5 of the document attached to this report.
- Resolution of Clarification and Corrective Action Requests (CLs and CARs) during communication between the BioCarbon Fund and ERNST & YOUNG. To guarantee the transparency of the validation process the concerns raised and responses that were given are documented in more detail in the validation protocol in Annex 1 and in the Annex 4.
- All the requirements of the VVS and other UNFCCC documents have been covered during the validation.

As final step of a validation activity the final documentation, which includes the validation report and the validation protocol, has to undergo an internal quality control by the Quality Internal Reviewer.

Opinion – Validation conclusions

In our opinion, the Project meets, in all material aspects, the CDM Requirements and is recommended for registration by the CDM Executive Board.

29/07/2013, Paris-La Défense, France.

ERNST & YOUNG et ASSOCIES

Environment and Sustainable Development



Christophe Schmeitzky

Annex 1: Validation Protocol

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
A. Description of Project Activity				
Are the title of the project, the version number of the PDD, the completion date of the PDD, the project participants, the Host Party(ies), the sectoral scope and selected methodology(ies), and the estimated amount of annual average GHG removals by sinks described?	DR	The required data have been provided.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.1. Purpose and general description of project activity				
Does the PDD clearly describe the purpose of the project, how it is undertaken (what by whom?) and the project proponent's view of the project's contribution to sustainable development?	DR,I	The project activity has been described (objective, implementation, participation of parties involved). The project's contribution to sustainable development has been described: technical transfer of know-how and training and, reliable sources of revenue to rural communities from the sale of Arabic gum and tCER through a facilitated market access.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the PDD provide a brief description of the existing or historical land-use scenario and the baseline scenario?	DR,I	The PDD provides a brief description of the baseline scenario.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Have the estimates of net anthropogenic removals over the chosen crediting period been provided?	DR	The estimates of net anthropogenic removals over the chosen crediting period have been provided.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.2. Location and boundaries of the project activity:				
Has the location of the project including Host Party, Region/State/Province and City/town/community been defined?	DR,I	The project sites are distributed in six different regions of the Republic of Niger. The location of each site has been provided (cluster, municipality, department and region)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

* MoV = Mean of Verification, DR = Document Review, I = Interview

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Is the project boundary under control of the participants geographically delineated?	DR,I	<p>The GPS coordinates (longitude & latitude) of each project sites have been reported in the PDD as requested.</p> <p>Corrective Action Request 1 Several mistakes in the longitude and latitude of project sites were detected. Correct the table 3 in section A.2.4.</p> <p>Corrective Action Request 2 The site of Kayatawa and Bringuidjiram are overlapping, and the limits of the site of Birninfalla are not clear (two polygons overlapping?). Please correct the GPS boundaries of these sites. During the site visit, it was observed that some roads were included in the GPS boundaries. Please exclude the roads of the GPS boundaries.</p>	CAR/CL	<input checked="" type="checkbox"/>
Does each discrete area of land have a unique identification?	DR,I	<p>Corrective Action Request 3 The GPS location of each discrete planting site shall be specified in the PDD. Some plantation sites are composed by several plantations discrete areas. Each of these discrete planting sites shall have a unique identification.</p>	CAR/CL	<input checked="" type="checkbox"/>
A.3. Environmental conditions				
Has a description of the present environmental conditions of the project area (including climate, hydrology, soils, ecosystems) been included?	DR	<p>A description of climate, hydrology, soils and ecosystem has been included, largely copied and pasted from SE/CNEDD, Programme d'Action National pour l'Adaptation aux Changements Climatiques, July 2006</p> <p>Clarification Request 1 This is a general description of present environmental conditions of Niger. More details on the environmental conditions of the project sites and more recent region-specific data are required, particularly regarding precipitation. Quote as citations the paragraphs copied from SE/CNEDD, 2006.</p>	CAR/CL	<input checked="" type="checkbox"/>
Is the description of rare and endangered species and their habitats provided, if any?	DR	None of the species identified in the project sites (environmental and social study) are found in the red list.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
A.4. Technologies and/or measures				
Is the existing or historical land-use scenario detailed? where applicable, including a list of the equipment and/or systems in operation at that time	DR,I	The description of technologies and/or measures in the baseline scenario has been provided.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is the baseline scenario as established in section B.5 below detailed? Where applicable, with an indicative list of equipment and systems that would have been in place in the absence of the project activity	DR	The baseline scenario is the continuation of pre-existing activities as established in section B.5.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is the scope of activities/measures that would be implemented within the project activity detailed? Including a list of the species and varieties selected for the project activity, and where applicable equipment and systems that will be installed and/or modified within the project activity.	DR,I	Five steps have been described: production of high quality seedling nursery, preparation of sites, plantation, pruning and gum harvesting. Seeds were initially provided by ISICRAT and later by the ME/E/LCD. . Corrective Action Request 4 The PDD should specify where the seeds came from during the project.	CAR/CL	<input checked="" type="checkbox"/>
Have the technology to be applied and the required know-how been adequately described?	DR,I	During the site visit the skills & knowledge achieved during training sessions (nursery care, “demi lune” preparation of site, planting and pruning) were verified. Trainings were provided by UGP agents. These persons were first trained by the ME/E/LCD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the project result in a transfer of technology to the host country?	DR,I	A transfer of know-how to the communities is made by the ICRISAT and ME/E/LCD. This transfer, consisting essentially in assistance and training on site, was verified during site visits.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.5. Parties and Project participants				
Have the Parties and project participants participating in the project been listed in the table as required?	DR,I	Corrective Action Request 5 The name of the project participants should be consistent with the name of the organization in Annex 1.	CAR/CL	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl						
Have all involved Parties provided a valid and complete letter of approval and have all private/public project participants been authorized by an involved Party?	DR	<p>The Letters of Approval from Canada and Niger were provided during site visit. The letters are considered as valid and complete.</p> <p>In 2011, Canada formally withdrawn from the Kyoto agreement. Spain became a project participant. The LoA of Spain has been provided.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						
<p>Do all participating Parties fulfill the participation requirements as follows:</p> <ul style="list-style-type: none">- Ratification of the Kyoto Protocol- Designated a National Authority- Host Party DNA communicated minimum values for forest definition	DR	<p>The requirements are fulfilled by both Niger and Canada.</p> <p>For Niger, the minimum values for forest definition are:</p> <table><tr><td>A single minimum tree crown cover value between 10 and 30 per cent</td><td>A single minimum land area value between 0,05 and 1 hectare</td><td>A single minimum tree height value between 2 and 5 metres</td></tr><tr><td>30</td><td>1</td><td>4</td></tr></table> <p>http://cdm.unfccc.int/DNA/index.html</p> <p>NB: The requirements are fulfilled by Spain.</p>	A single minimum tree crown cover value between 10 and 30 per cent	A single minimum land area value between 0,05 and 1 hectare	A single minimum tree height value between 2 and 5 metres	30	1	4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A single minimum tree crown cover value between 10 and 30 per cent	A single minimum land area value between 0,05 and 1 hectare	A single minimum tree height value between 2 and 5 metres								
30	1	4								
A.6. Description of legal title to the land, current land tenure and rights to tCERs / ICERs issued for the proposed A/R CDM project activity										
Does the project consider and describe the current legal title to the land?	DR,I	<p>Three categories of land ownership have been described:</p> <ul style="list-style-type: none">4. Private property (crops farms);5. Vacant lands and;6. Classified forests.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>						

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Are the current land tenure and land use properly described?	DR,I	<p>Land tenure is described for the three categories of sites. The COFODEP (Commission foncière départementale) investigated on site to clarify the land ownership of each project area. Both the local state authority (“préfet”) and the land owner signed an official agreement determining the right to the land. The COFODEP investigation has been described by local communities interviewed.</p> <p>During site visit, the contractual agreements have been checked. Land owners and/or chiefs of the village have been interviewed to attest the validity of such document.</p> <p>Corrective Action Request 6 The control of the land by the project proponents is not clearly explained in the PDD. Please describe the work performed by the COFODEP and give more details about the contractual agreements set in order to guarantee the control of the land.</p> <p>Corrective Action Request 7 Provide the missing land ownership certificate of the site of Koné Béri which has been visited during the site visit.</p>	CAR/CL	<input checked="" type="checkbox"/>
Has it been made clear who has the right to access the sequestered carbon?	DR,I	<p>Corrective Action Request 8 The right to access the sequestered carbon is not clearly described. The PDD should specify that a contract was signed between ASI and each commune in which it is written ASI receives 20% of the Arabic Gum and Carbone Credit revenues whereas the resulting 80% are given to the communities.</p> <p>Clarification Request 2 The PDD should precise how the revenues allocation formula was discussed among the community stakeholders and how it was made publicly available.</p>	CAR/CL	<input checked="" type="checkbox"/>
A.7. Assessment of the eligibility of the land				
Has the latest version of the “Procedures to demonstrate the eligibility of lands for afforestation and reforestation CDM project activities” been applied?	DR	The latest version of the “Procedures to demonstrate the eligibility of lands for afforestation and reforestation CDM project activities” (EB35 Annex18) is used.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Is adequate evidence provided which : (a) Demonstrate that the land at the moment the project starts does not contain forest by providing transparent information that: (i) Vegetation on the land is below the forest thresholds (tree crown cover or equivalent stocking level, tree height at maturity in situ, minimum land area). (ii) All young natural stands and all plantations on the land are not expected to reach the minimum crown cover and minimum height chosen by the host country to define forest. (iii) The land is not temporarily unstocked, as a result of human intervention such as harvesting or natural causes.	DR,I	The study from GIOES & APOR (2006) covered a project area that is not fully consistent with the project area of the proposed project activity. Therefore, a satellite imagery assessment has been performed by ONFi to confirm the land eligibility of all the project area. 7 plantations sites have been visited during the site visits. Interviews and on site assessment confirmed on the sites visited the eligibility of the project area. However, the assessment method is not described, and metadata (incl. resolution, bands and source) for satellite images is not provided in the PDD. Furthermore, examination of some Landsat views and recent high resolution images accessed through Google Earth suggest that patches of forest exist within some sites (e.g. Gouriabon and Bégorou). See Clarification Request 3 in next row.	CAR/CL	<input checked="" type="checkbox"/>
Is adequate evidence provided which : (b) Demonstrate that the activity is a reforestation or afforestation project activity: (i) For reforestation project activities, demonstrate that the land was not forest by demonstrating that the conditions outlined under (a) above also applied to the land on 31 December 1989. (ii) For afforestation project activities, demonstrate that for at least 50 years vegetation on the land has been below the thresholds adopted by the host country for definition of forest.	DR,I	GIOES and APOR (2006) assess the land cover with Landsat satellite imagery of 1990, 2000 and 2006. Another ONFi satellite imagery analysis would confirm the absence of forest of added parcels. No forest would have existed within the project boundary since 31 December 1989. Interviews during the site visit confirmed the eligibility of the project area. However, some questions remain regarding the methods used (see previous row). Clarification Request 3 The following information should be provided : 1. A description of the assessment method that ensures that no forest existed on December 1989 and at the project start 2. Information on the nature and quality of images (resolution, sensors, algorithms for image processing) 3. A clarification on how the different approaches (APOR, ONFI) have been articulated.	CAR/CL	<input checked="" type="checkbox"/>
A.8. Approach for addressing non-permanence				
Has the approach to address non-permanence been specified (tCER, ICER)?	DR	The issuance of tCER has been selected as the approach for addressing non-permanence.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
A.9. Public funding of the project activity				

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Is an indication on public funding (from Annex I countries) included in the PDD? Is Annex 2 fulfilled with information on sources of public funding from Parties?	DR	It is reported in the PDD that no public funding or funding from Official Development Assistance (ODA) or other official sources are involved in this project. The project has been funded under the PAC ("Programme d'Action Communautaire") which has been funded by the World Bank via the International Development Association. However, a letter from the Country Manager for the World Bank in Niger confirmed that the International Development Association funding is not used to purchase emissions reductions from the proposed project activity and therefore has not been diverted for these purposes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B. Application of the selected approved baseline and monitoring methodology				
B.1. Reference of approved methodology				
Are the title and the reference of the baseline methodology applicable to the project activity defined?	DR	A/R Large-scale Methodology: AR-ACM0003 " <i>Afforestation and reforestation of lands except wetlands</i> " The title and the reference of the applied methodology have correctly defined.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Has the most current version of the methodology been used (consider also PDD formats, eligibility procedure, AR add. tool)?	DR	The last versions of the methodology, PDD guideline, tools and procedures have been used	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.2. Applicability of the methodology				
Does the project activity meet each applicability criteria of the selected methodology: (a) The land subject to the project activity does not fall in wetland category; (b) Soil disturbance attributable to the afforestation and reforestation (A/R) clean development mechanism (CDM) project activity does not cover more than 10 per cent of area2 in each of the following types of land, when these lands are included within the project boundary: (i) Land containing organic soils; (ii) Land which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 1 and 2 to this methodology.	DR, I	The project meets the applicability criteria of the methodology and tools because: - the lands do not fall into wetland category; - the lands do not contain organic soils; - the lands are not subjected to land use and management practices or receive inputs. These conditions have been observed during the site visit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Does site preparation cause significant longer-term net decreases of soil carbon stocks or increases of non-CO ₂ emissions? Justify	DR,I	<p>According to the PDD, site preparation will only consist in punctual soil preparation before tree plantation, called “half moon”. In the PDD, it was estimated that the disturbance would represent 2 to 3,5% of the project area. However, during visit, different types of “half-moon” have been observed on the project area (half-circle vs half-disk area). Depending on the type of “half-moon”, up to 20 % of the project area has been disturbed.</p> <p>Clarification Request 4 It should be justified that site preparation did not cause significant long-term decreases of soil carbon stocks or increase of non-CO₂ emissions from soil. Publication on ploughing impacts on soil under similar conditions could be mentioned. Estimates on the percentage of soil disturbed should be re assessed due to the difference observed on site on the half-moon types.</p>	CAR/CL	<input checked="" type="checkbox"/>
B.3. Carbon pools and emission sources				
Are the selected carbon pools and GHG sources compliant with the methodology and appropriately justified?	DR	The selected carbon pools and GHG sources are compliant with the methodology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.4 Description of ex ante stratification				
Is the ex-ante stratification of the baseline and the project presented in the PDD? On which parameters is the stratification based?	DR,I	The ex-ante stratification of the baseline and the project are presented in the PDD. As recommended by the methodology, the baseline stratification of the proposed project area is done according to major vegetation types and the <i>ex-ante</i> stratification for the project scenario is based on the project planting/management plan.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is it stratified according to major vegetation types for baseline net GHG removals by sinks?	DR	The baseline stratification is done according to major vegetation types. One stratum is identified: degraded/degrading area with very poor vegetation.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is the stratification based on the project planting for actual net GHG removals by sinks?	DR,I	<p>The <i>ex-ante</i> stratification for the project scenario is based on the project planting/management plan using the planting density as a criterion:</p> <ul style="list-style-type: none"> • Stratum 1: planting of <i>Acacia senegalensis</i> at a density of 313 trees per hectare • Stratum 2: planting of <i>Acacia senegalensis</i> at a density of 400 trees per hectare 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.5. Establishment and description of the baseline scenario				
Has the latest version of the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” been applied?	DR	See section B.6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is the baseline scenario transparently described?	DR,I	The baseline scenario, the continuation of pre-existing activities, is clearly described.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
B.6 Demonstration of additionality				
Has the latest version of the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” been applied?	DR	The latest version of the tool has been applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
STEP 0. Preliminary screening based on the starting date of the A/R activity.				
If the project participants claim that the afforestation or reforestation CDM project activity has a starting date after 31 December 1999 but before the date of its registration: a) Has evidence been provided that the starting date of the A/R CDM project activity was after 31 December 1999, b) and that the incentive from the planned sale of GHG emission allowances was seriously considered in the decision to proceed with the project activity (documentation that was available to third parties at, or prior to, the start of the project activity).	DR,I	The starting date of the project is on April 27 th 2006, the evidence from the starting date is the invoice related to the first purchase of seeds. However, the date of the first invoice of seeds does not correspond to April 27 th 2006, but to December 21 st 2005. See CAR22 Evidences of prior consideration have been provided during site visit: a letter of Intent for the potential purchase of emissions reductions has been sent by the World Bank to the project participant (ASI) on June 28 th 2005.	CAR/CL	<input checked="" type="checkbox"/>
STEP 1. Identification of alternative land use scenarios to the proposed A/R CDM project activity				
Have realistic and credible land-use alternative(s) [currently existing or that existed some time since 31 Dec. 1989] been identified (sub-step 1a), at least including: <ul style="list-style-type: none"> Continuation of the pre-project land use. AR of the land within the project boundary performed without being registered as the A/R CDM project activity If applicable, forestation of at least a part of the land within the project boundary of the proposed A/R CDM project at a rate resulting from <ul style="list-style-type: none"> legal requirements; or extrapolation of observed forestation activities in the geographical area with similar socioeconomic and ecological conditions to the proposed A/R CDM project activity occurring in a period since 31 December 1989, as selected by the PP. 	DR,I	Step 1 led to identify the three following plausible scenarios mentioned in section B.6: <ul style="list-style-type: none"> Continuation of pre-existing activities Intensification of agriculture activities, including the use of trees Reforestation activities not undertaken under the CDM 	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Are the alternative(s) in compliance with all mandatory applicable legal and regulatory requirements (sub-step 1b)? If that is not the case, an alternative can only be considered if applicable legal or regulatory requirements are systematically not enforced or the non-compliance with those requirements is widespread, i.e. prevalent on at least 30% of the area of the smallest administrative unit that encompasses the project area;	DR,I	The compliance of the 3 alternatives with legal and regulatory requirements has been covered in the PDD All the 3 alternatives are compliant with legal and regulatory requirements.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
If an alternative does not comply with all mandatory applicable legislation and regulations, are those applicable mandatory legal or regulatory requirements systematically not enforced and is that non-compliance with those requirements widespread (based on an examination of current practice in the region in which the mandatory law or regulation applies) ? (i.e. prevalent on at least 30% of area of the smallest administrative unit that encompasses the project area).	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the list of plausible scenarios contain more than one scenario?	DR,I	The three alternatives listed in the PDD are plausible scenarios.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
STEP 2. Barrier analysis				
In case of applying step 2 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevents the different alternatives from occurring	DR,I	Four major types of barriers were identified as preventing strongly the implementation of the proposed activities in the baseline scenario: 1. investment barriers 2. technological barriers 3. barriers due to social conditions 4. barriers due to ecological conditions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
In case of applying step 2 (barrier analysis): Is transparent and documented evidence provided on the existence and significance of these barriers?	DR,I	<ul style="list-style-type: none"> • Investment barriers prevent the implementation of reforestation activities or more intensive agriculture because these activities require funds that project participants do not have or cannot have access to. According to on-site visit interviews with local communities, the lack of fund is cited as the main barrier of implementation of plantation without the project activities. • “ From oral interviews with rural communities and from the decree N°196 of 2003, it appears that rural communities have strong difficulties to access <i>Acacia Senegalensis</i> quality seed sources.” This statement has been confirmed by the interviews of rural communities during the site visit. • According to a study from Ministry of Hydraulic, Environment and Fight Against Desertification, farmers lacked training for efficient production techniques and know-how related to the improvement of gum quality. Moreover, they lacked organization and knowledge about gum market. • Documentations attest the extreme agroecological conditions, perhaps, the only barrier that affects the proposed project activity, such as alternative scenarios. <p>However, at least in Maradi and Zinder regions, some farmer-based natural regeneration activities have occurred. See Clarification Request 5 below.</p>	CAR/CL	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Is the project implemented on land in where there are no other on-going or planned A/R activities? What are the proofs?	DR,I	<p>Based on the studies of BUNEC (2006) and GIOES & APOR (2006), there would be no other on-going or planned AR activities.</p> <p>However those sources are dated from the project start in 2006. In the literature, it was found that other initiatives of afforestation and natural management occurred , in the Maradi and Zinder regions, where the “Farmer-managed natural regeneration” initiatives (see Garrity D. P., Akinnifesi F. K., Ajayi O. C., Weldesemayat S. G., Mowo J. G., Kalinganire A., Larwanou M. & Bayala J., 2010. Evergreen Agriculture: a robust approach to sustainable food security in Africa. Food Security, 2 (3), 197-214.; Reij C., Tappan G. & Smale M., 2009. Agroenvironmental Transformation in the Sahel. Another Kind of “Green Revolution”. IFPRI. 52 p) might be inducing AR activities in some project sites even without project activity.</p> <p>Clarification Request 5 Specify in the PDD that none of the project’s site has been part of one of these other initiatives. Present in the PDD these initiatives, specify their differences with the project activity, and justify that for none of the project sites, the farmer-managed natural regeneration activities could be considered as the baseline scenario.</p>	CAR/CL	<input checked="" type="checkbox"/>
Is the A/R CDM project activity implemented on degraded lands, which are expected to remain degraded or to continue to degrade in the absence of the project, and hence the land cannot be expected to revert to a non-degraded state without human intervention;	DR,I	<p>The project area is categorized by FAO (2005) under severe to very severe degraded area. In addition, the site-by-site analysis from GIOES & APOR (2006) concluded that the whole project area has been in process of degradation for at least 20 years. According to the PDD, the A/R CDM project activity is implemented on degraded lands, which are expected to remain degraded or to continue to degrade in the absence of the project.</p> <p>However:</p> <p>1. GIOES and APOR’s work is based on an analysis dated 2000, and thus does not take into account the impact of the increase in rainfall on vegetation since this date in the Sahel.</p> <p>See for instance</p> <ul style="list-style-type: none"> a. Seaquist J. W., Hickler T., Eklundh L., Ardo J. & Heumann B. W., 2009. Disentangling the effects of climate and people on Sahel vegetation dynamics. Biogeosciences, 6 (3), 469-477 b. Hellden U. & Tottrup C., 2008. Regional desertification: A global synthesis. Global and Planetary Change, 64 (3-4), 169-176). <p>2. The excerpt from the 2002 DSCF-DE study provided in GIOES & APOR (2006) does</p>	CAR/CL	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
		<p>not suggest a high pressure on woody resources at all project's sites, contrary to what GIOES & APOR (2006) claims.</p> <p>3. Some areas of the project in Maradi and Zinder are likely to be impacted by the "Farmer-managed natural regeneration" initiatives that have been reported efficient in reversing land degradation</p> <p>See for instance:</p> <ul style="list-style-type: none"> a. Garrity D. P., Akinnifesi F. K., Ajayi O. C., Weldesemayat S. G., Mowo J. G., Kalinganire A., Larwanou M. & Bayala J., 2010. Evergreen Agriculture: a robust approach to sustainable food security in Africa. Food Security, 2 (3), 197-214. b. Reij C., Tappan G. & Smale M., 2009. Agroenvironmental Transformation in the Sahel. Another Kind of "Green Revolution". IFPRI. 52 p. <p>Clarification Request 6</p> <p>Bring evidence that none of the following factors questions the hypothesis that the land will remain degraded or will continue to degrade in the absence of the project activity:</p> <ul style="list-style-type: none"> 1. recent trends in increased annual rainfall or predictions on future trends in annual rainfall 2. actual pressure on woody resources at all project's sites 3. influence of the "Farmer-managed natural regeneration" initiatives (Maradi and Zinder regions) 		
In case of applying step 2 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	DR,I	The identified barriers preventing the implementation of the proposed A/R CDM project activities do not prevent the continuation of the pre-existing activities which represent the most plausible baseline scenario.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
STEP 3. Investment analysis				
In case of applying step 3 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
STEP 4. Common practice analysis				
Is the project activity a common practice in the region? Has a common practice analysis been carried out in line with the requirement of the CDM and are there essential distinctions between them. Are there fundamental and verifiable changes in circumstances when compared to other projects (e.g. explain why the proposed CDM AR project cannot use e.g. political benefits granted in other projects)	DR,I	<p>The largest forest plantations of <i>Acacia Senegalensis</i> in Niger belong to ASI and represent 1.200 ha whereas the project activities will establish more than 8.472 ha. The scale is not similar.</p> <p>There is no similar project to the NASPP existing in Niger.</p> <p>During site visit, it was mentioned that Acacia Senegal plantations or regenerations have been performed in the PRGN project.</p> <p>Corrective Action Request 9 Provide more information about other Acacia Senegal initiatives in Niger, including the PRGN. Explain what are the differences between these others initiatives and the project activity.</p>	CAR/CL	<input checked="" type="checkbox"/>
B.7 GHG removals by sinks				
B.7.1 Explanation of methodology				
Are the methods or methodological steps for calculating baseline net GHG removals by sinks, actual net GHG removals by sinks, leakage and net anthropogenic GHG removals by sinks explained and compliant with the methodology?	DR	The methods and methodological steps for calculating baseline net GHG removals by sinks, actual net GHG removals by sinks, leakage and net anthropogenic GHG removals by sinks are explained in section B.7.1 and further information is provided in section B.7.3 in compliance with the methodology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Are all methodological choices justified?	DR	Methodological choices are justified. It mainly depends on the availability of data.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Are the parameters and assumptions made for calculation clearly expressed?	DR	<p>The baseline net GHG removal is set zero based on the following assumptions:</p> <ul style="list-style-type: none"> - no growing trees or woody perennials exist and - no trees / perennials are expected to grow, <p>Given the uncertainties on the recent trends in vegetation and desertification processes in the Sahel, information from verifiable scientific sources supporting this equilibrium hypothesis should be provided. See remarks in B.5. and clarification requests.</p> <p>Corrective Action Request 10 Provide evidence that no trees / perennials will reach the forest threshold due to ongoing degradation (See Clarification Request 6).</p>	CAR/CL	<input checked="" type="checkbox"/>
B.7.2 Data and parameters fixed ex ante				
Is a compilation of information on the data and parameters that are not monitored during the crediting period because they remain fixed included following the table form provided in the PDD guidelines?	DR	<p>Data and parameters fixed ex-ante are provided in a tabular form as requested in the PDD form.</p> <p>S_t (Anticipated standard deviation of carbon stock measures in Block h) has not been defined in a tabular form in the Data and parameters that are available at validation.</p> <p>The value applied (1.645) and the risk level α for the statistic $z\alpha/2$ do not match the methodology.</p> <p>The value applied (3) for the BEF is said to be derived from IPCC default in LULUCF GPG 2003, Table 3A.1.10. However, the value applied should follow the “Guidelines on conservative choice of default data for estimation of biomass stocks and change in woody vegetation (v01)-EB46-Annex para 4”.</p> <p>Corrective Action Request 11 Describe S_t (Anticipated standard deviation of carbon stock measures in Block h) in a tabular form. Revise the values applied for $z\alpha/2$ and BEF.</p>	CAR/CL	<input checked="" type="checkbox"/>
B.7.3 Ex ante calculation of net anthropogenic GHG removals by sinks				
Are the relevant equations for ex ante calculation of baseline net GHG removals by sink used according to the methodology and sufficiently documented?	DR	<p>The carbon stock of the baseline is conservatively considered to be zero based on two main assumptions. In particular, it is assumed that no growing trees or woody perennials exist.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Are the relevant equations for ex ante calculation of GHG removals by sink and actual net GHG removals by sink used according to the methodology and sufficiently documented?	DR	The relevant equations for ex ante calculation of GHG removals by sink and actual net GHG removals by sink are consistent with the methodology and sufficiently documented.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Are the calculations of ex-ante actual net removals for the crediting period consistent with the approach in the selected methodology and adequately defined? Does the PP use the last version of the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”.	DR	The calculations are consistent with the methodological tool.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		<p>Data on <i>Acacia senegal</i> were taken from Senegal (and not in Sudan as mentioned in the PDD), by Deans et al (1999) because this study would present the most reliable data and was done with trees growing in very similar environmental and forest management conditions. However, discarding of the Poupon reference is made on an analysis that is not verifiable. Checking with Poupon’s PhD thesis is likely needed. Table 9 and the Taram simulation assume annual growth between 19 and 30 years to be constant and equal to that measured by Deans et al. (1999). However, the growth measured by these authors was on plantations aged 18 years or less. The extrapolation beyond 18 years is thus not justified and probably leads to an overestimation of individual tree biomass at the end of the project.</p> <p>Assumptions in the Taram spreadsheet for C content of biomass and Root:shoot ratio are consistent with methodology and GPG LULUCF.</p> <p>Pruning is taken into account, however, no harvesting in the project activities are taken into account.</p> <ul style="list-style-type: none"> • The Stock change method is used. <p>Table 10: (1) does not explicitly describe dependence between columns; (2) is not consistent with the Taram spread sheet (folders SM1 and SM2), (3) is not consistent with regard to the stock value per ha for strata 2 (density plantation 313 ind ha-1) and year 1 (2006) (announced: 1.42 tDM ha-1; expected: 1.99 according to column 2).</p> <ul style="list-style-type: none"> • Equation 3 for the calculation of $C_{ABi,j,t}$ is based on an allometric model linking AGB to DBH or height. However, the model described $f_j(QBH_t, H_t) = G_{w,j,t}$ is not an 	CAR/CL	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
		<p>allometric model since $G_{w,ijt}$ is the “average annual above-ground biomass increment for stratum i, species j, at time t”.</p> <p>Corrective Action Request 12 Revise equation 3 and further description of calculations to remove reference to allometric model.</p> <p>Clarification Request 7 Explain how the growth model illustrated in D1.1.2 has been built from Poupon, since the figure derived from Poupon's article in D.1.1.2 is not realistic at all.</p> <p>Corrective Action Request 13 Indicate that Deans et al (1999) work was done in Senegal and not Sudan.</p> <p>Corrective Action Request 14 Perform in the PDD Table 10 Section D1.1.2 and in Taram the following modifications:</p> <ul style="list-style-type: none"> (1) Choose annual growth values beyond 18 years either in a conservative way or following the “Guidelines on conservative choice of default data for estimation of biomass stocks and change in woody vegetation”. (2) Check the stock value per ha for strata 2 (density plantation 313 ind ha-1) and year 1 (2006). 		

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
<p>Does the PP respect the specific conditions of one of the following methods:</p> <p>(a) Stock change method; This method is applicable when temporary or permanent sample plots are used. Under this method, first the carbon stock in trees at a point of time is estimated and then the change in carbon stock in a year is calculated on the basis of two successive stocks.</p> <p>(b) Increment method; This method is applicable when permanent sample plots are used and are remeasured on successive verifications. Under this method, first the change in carbon stock between two successive verifications is estimated and then the carbon stock at a given point of time in a year is calculated on the basis of the change in carbon stock and the previous value of carbon stock at a given point of time.</p> <p>(c) Default method; This method is applicable only for estimation of carbon stock and change in carbon stock in trees in the baseline when any of the methods (a) and (b) above cannot be applied for lack of data, or when the mean tree crown cover in the baseline is less than 20% of the threshold crown cover reported by the host Party under paragraph 8 of the annex to decision 5/CMP.1.</p>	DR	The project participants used the Stock change method.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the PP correctly apply the equations and default values provided in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”?	DR	The equations and default values have been correctly applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the PP use the last version of the tool “Estimation of carbon stocks and change in dead wood and litter in A/R CDM project activities”?	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the PP correctly apply the equations and default values provided in the tool “Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities”?	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Are all aspects related to direct and indirect GHG emissions and removals captured in the project design?	DR,I	The methodology only considers non-CO2 GHG emissions resulting from burning of biomass attributable to the project activity. The PDD takes into account these aspects.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Does the PP use the tool “Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity” in one of the following conditions: (a) When fire is used for site preparation and/or to clear the land of harvest residue prior to replanting of the land, all of the non-living biomass (e.g. pre-project shrubs, post-harvest residue) gets fully and instantly burnt; (b) When fire is used for controlled burning, live trees are not affected.	DR,I	No burning of biomass is attributable to the project activity.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the PP correctly apply the equations and default values provided in the tool “Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity”.	DR	n.a.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Are the GHG calculations documented in a complete and transparent manner?	DR	GHG calculations are documented in a complete and transparent manner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Have conservative assumptions been used to calculate project GHG emissions and removals?	DR	Conservative assumptions have been used to calculate project GHG emissions and removals	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Are the calculations of ex ante leakage for the crediting period consistent with the approach in the selected methodology and adequately defined?	DR,I	The PP did not refer to the “Guidelines on conditions under which increase in GHG emissions attributable to displacement of pre-project crop cultivation activities in A/R CDM project activity is insignificant.”	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Have the emissions from $LK_{Agric,t}$ been estimated adequately and in line with the methodology requirements and has sufficient evidence been provided on input values for the following calculations? - Leakage due to conversion of lands with a) conversion of grazing and b) conversion of cropland - Leakage due to displacement of fuelwood collection	DR,I	<ul style="list-style-type: none"> Based on baseline and socio-environmental studies (GIOES & APOR, 2006 and H. Kimba, 2006 respectively) the risks of activities displacement are very low and there is not risk of decreasing carbon stocks or increasing GHGs emissions outside the project boundaries. Leakage due to conversion of lands for cropland: according to the PDD, as the locally derived carbon stock is lower than carbon stock in crops leakage is set to be zero. However, the calculations assumptions should be clarified. <p>Clarification Request 8 Explain how the 2.25 tdm/ha of crops biomass has been calculated based on the referenced literature and justify the root-shoot ratio of 0.2.</p>	CAR/CL	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Has all relevant data for leakage estimation been collected and archived?	DR,I	See CLs and CARs above.	CAR/CL	<input checked="" type="checkbox"/>
B.7.4. Summary of ex ante estimates of GHG removals by sinks				
Are the Net anthropogenic removals by sinks calculated as suggested by the methodology?	DR	Net anthropogenic removals by sinks are calculated as requested by the methodology.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Are the calculations correctly summarized in a table?	DR	Information are summarized in the table.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
B.8. Monitoring Plan				
B.8.1. Data and parameters to be monitored				
Has data to be collected for monitoring of forest establishment and management been listed adequately?	DR,I	<p>Data and parameters are listed in a tabular form as requested.</p> <p>In Annex 4 section 4.1</p> <ul style="list-style-type: none"> (1) mentions 26 compartments (2) reports different longitudes for original grid nod between text and Figure 3, (3) is unclear about how many trees per sample plot will be measured for height and how height will be used for estimation of biomass. <p>Corrective Action Request 15</p> <p>In Annex 4 section 4.1</p> <ul style="list-style-type: none"> (1) revise number of compartments (should be 14) (2) revise longitude of original grid nod, (3) clarify how many trees per sample plot will be measured for height and how height will be used for estimation of biomass. <p>Corrective Action Request 16</p> <p>Correct in the section E.4 the monitoring frequency of the Sample plot ID. The sample plot ID has not been assigned before the start of the project.</p>	CAR/CL	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
In the collection of data for the monitoring of the project boundary, forest establishment or of forest management, do any measurements not follow typical forest measurement, practices and if so have they been adequately described?	DR,I	<p>In Annex 4 section 4.1 c) Plan of inventory:</p> <ul style="list-style-type: none"> (1) the breast height is set to 137cm, while the typical value (including for use in allometric models) is 130 cm. (2) the girth limit for the use of either a measuring tape or a slide calliper for the measure of DBH is not quantified. <p>In the PDD and Annex 4 the terms “block” and “compartment” are used probably as substitutes to stratum, which reduces transparency of the document.</p> <p>Corrective Action Request 17 In Annex 4 section 4.1 c) Plan of inventory, (1) match height of DBH measurement to typical forest mensuration. (2) quantify the girth limit for the use of either a measuring tape or a slide calliper for the measure of DBH</p> <p>Clarification Request 9 Define the terms “block” and “compartment”. If these terms do not differ from “strata” replace them by “strata”.</p>	CAR/CL	<input checked="" type="checkbox"/>
B.8.2. Sampling design and stratification				
Have the conditions for ex-post strata update (within in GIS data base) been included in the PDD / Monitoring Plan?	DR,I	The conditions for ex-post strata update (within in GIS data base) have been included in the PDD / Monitoring Plan.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is the sampling framework, including sample size, plot size, plot shape, and plot location specified in the PDD?	DR,I	The sampling framework is detailed in the PDD and in the Annex 4-Monitoring Plan.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is the sample size / no. of permanent plots and their allocation among strata calculated according to methodology requirements?	DR,I	<p>The sample size / no. of permanent plots and their allocation among strata are not calculated according to methodology requirements.</p> <p>The development on the relation between the proportion (z) of inventory plots (an unclear variable) and the coefficient of variation (C_v) is not clearly needed for the calculation of number of needed plots.</p> <p>Equation for the calculation of number of needed plots (n):</p> <ul style="list-style-type: none"> 1. differs from Equation 60 of the methodology (the value of parameter t that probably stands for the parameter $z\alpha/2$ is set to 1.645, while the ar-am-tool-03-v2-“Calculation of the number of sample plots for measurements within 	CAR/CL	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
		<p>AR CDM project activities" indicates a value of 1.9599 for alpha = 0.1 (90%CL) as recommended in Methodology.</p> <p>2. is not applied according to methodology requirements for the calculation of distribution of sample plots between strata (the sample size for each strata was derived from the strata area and from the total number of plots, which is not what is recommended in the methodology use of in Equation 61 required).</p> <p>3. contains undefined (L, t) parameters and an ill-defined variable (N, which is the maximum number of sample plots in the project area and not the inventory unit)</p> <p>Estimation of average CO2 stock in Table at bottom of section E2 used for calculation of distribution of sample plots between strata will need updating depending on stand model revisions (see Corrective Action Request 14)</p> <p>Corrective Action Request 18 Revise calculation of the number of sample plots and their distribution between strata. (1) Remove or (2) justify and clarify the development on the relation between the proportion (z) of inventory plots (an unclear variable) and the coefficient of variation (C_v), and indicate source for the Table below the Density paragraph.</p>		
Does the PDD/Monitoring plan include in line with the methodology indications on - plot localizing, - monitoring frequency - indications on measurements and estimation of carbon stock changes over time in plots? (<i>omission of baseline trees and non tree biomass</i>) - monitoring of GHGe by sources increased as a result of the project activity?	DR, I	<p>Plot location, monitoring frequency, measurements and estimation of carbon stock changes are included in the PDD/monitoring plan, They are in line with the methodology, except the identification of trees with metallic tags; which does not comply with the methodology that requires invisible local markers. No GHGe increase as a result of the project activity is considered to occur; however soil preparation can cover a substantial fraction of the project area (see Clarification Request 4).</p> <p>Clarification Request 10 Explain how the trees of the sample plots are not likely to be treated differently from the rest of the plantation.</p>	CAR/CL	<input checked="" type="checkbox"/>
B.8.3. Other elements of monitoring plan				

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Have the SOPs and quality control/quality assurance (QA/QC) procedures applied been adequately described according to the methodology requirements?	DR,I	Corrective Action Request 19 The Quality Control/Quality Assurance (QA/QC) procedures have not been adequately described in the PDD section E.6 and Annex 4. The section in the Annex 4 about QA/QC are copies of the methodology. The project proponent is entitled to develop how the QA/QC procedures will be implemented for the project activity.	CAR/CL	<input checked="" type="checkbox"/>
Have QA/QC procedures been defined appropriately and are explanations of procedures (including their absence) reasonable?	DR,I	See Corrective Action Request 19 above.	CAR/CL	<input checked="" type="checkbox"/>
In regard to uncertainties, has the assessment followed guidance provided by IPCC 2000 and GPG-LULUCF (compare Tier 1 / Tier 2 of GPG)? Does the assessment include all relevant calculations (ex ante, monitoring) and coefficients used?	DR,I	See Corrective Action Request 19 above.	CAR/CL	<input checked="" type="checkbox"/>
Have Standard Operating Procedures been defined for each step of the field measurements (e.g according to BEF or allometric equations method)? Do they include field team training, test plots, re-check of plots, documentations of steps through time, training of new personnel? (section III.11.2.1)	DR,I	See Corrective Action Request 19 above.	CAR/CL	<input checked="" type="checkbox"/>
Have procedures for field data verification been defined and do they comply with methodology requirements (10-20% of randomly selected plots, error <5 % accepted, overall measurement error shall be defined) (section III 11.2.2)	DR,I	See Corrective Action Request 19 above.	CAR/CL	<input checked="" type="checkbox"/>
Are procedures defined for Verification of data entry and analysis in line with methodology requirements? (section III 11.2.3)	DR,I	See Corrective Action Request 19 above.	CAR/CL	<input checked="" type="checkbox"/>
Are procedures defined for data maintenance and archiving in line with monitoring requirements? (section III 11.2.4)	DR,I	See Corrective Action Request 19 above.	CAR/CL	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Has the operational and management structure that the project operator will implement in order to monitor actual removals and leakage by the project been adequately defined?	DR,I	<p>The monitoring plan details the operational and management structure that NASPP project will implement in order to monitor actual net GHG removals by sinks. However, in Annex 4 Section 8 (1) Table 4 is unclear (void cells, unclear structure), (2) The last sentence of Section 8.3 needs updating.</p> <p>Corrective Action Request 20 In Annex 4 Section 8, revise Table 4 and update last sentence. The table 5 should be updated as the dates do not correspond to the reality of the project implementation schedule.</p> <p>Corrective Action Request 21 The financial support that will be provided for the monitoring is not considered as secured. The contract between ASI, CAP and the Ministry of Environment is limited to one year (that can be renewed). The project proponent is expected to provide more evidences that the financial needs for the monitoring will be available. Moreover, the operational and management structure is not clear enough and should be clarified (i.e : who will perform the monitoring on the field ? who will check the result of the monitoring...). At the time of the validation, ICRISAT has not played any role in the project since 2008. Therefore, its role in the monitoring is very uncertain.</p>	CAR/CL	<input checked="" type="checkbox"/>
C. Duration and Crediting Period				
C.1 Duration of the project activity				
C.1.1 Start date of the project activity				

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Does the starting date reflect the date of implementation (or when real action began that resulted in changes to the actual net removals) and has it been adequately justified?	DR,I	<p>The starting date mentioned in the PDD is 27 April 2006. The PDD mentioned that this date corresponds to the purchase of seeds which officially launches the project activities. However, the evidences of the purchase of seeds provided are dated from 21 December 2005.</p> <p>Corrective Action Request 22 The starting date should be corrected and justified as the start of real action (Cf. CDM glossary).</p> <p>Clarification Request 11 Provide the evaluation report of the World Bank on the PAC I and PAC II.</p>	CAR/CL	<input checked="" type="checkbox"/>
C.1.2 Expected operational lifetime				
Has the expected operational lifetime been defined?	DR	The expected operational lifetime has been defined: 30 years.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2. Crediting period of the project activity				
C.2.1. Type of crediting period				
Is the project fixed or renewable?	DR	The project selected a fixed crediting period of 30 years.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
C.2.2. Start date of crediting period				
Does the crediting period start at the starting date?	DR	<p>The crediting period starting in 2006 should correspond to the starting date.</p> <p>See CAR 22</p>	CAR/CL	<input checked="" type="checkbox"/>
C.2.3. Length of crediting period				
Does the project have an appropriate crediting period length defined? Renewable crediting period is a maximum of 20 years renewed at most twice / fixed crediting period is maximum 30 years.	DR,I	The project selected a fixed crediting period of 30 years.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
D. Environmental Impacts				

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Has an analysis of the environmental impacts of the project activity been adequately documented, including (i) impacts on biodiversity and natural ecosystems (e.g. hydrology, soils, and pests) and (ii) impacts outside the project boundary?	DR,I	<p>A field study has been conducted on plantations sites. The analysis of the environmental impacts is provided.</p> <p>The direct environmental impacts awaited from the implementation of the project are enumerated and interrelations between the activities source of impact and the components of the milieu are described.</p> <p>Corrective Action Request 23 Impact of the scheduled reforestations and different stand models on water, soils and other relevant biotic aspects shall be discussed in the PDD as well as impacts on other areas outside the project boundary.</p>	CAR/CL	<input checked="" type="checkbox"/>
If any negative impact is considered significant by the project participants or the host Party, has a statement that the project participants have undertaken an environmental impact assessment in accordance with the procedures required by the host Party (including conclusions and references to supporting information) been provided?	DR,I	<p>Based on the matrix provided, no significant negative impact has been revealed.</p> <p>Clarification Request 12 Provide more explanations why the potential negative impacts can be considered as not significant.</p> <p>Clarification Request 13 Provide the source of the matrix mentioned in the PDD.</p>	CAR/CL	<input checked="" type="checkbox"/>
Are the planned monitoring and remedial measures to address significant environmental impacts adequately described?	DR,I	<p>Measures are listed to address potential negative impacts.</p> <p>Clarification Request 14 No measure refers to the impact on water. Provide measure to mitigate the impact on water or justify why such measure are not necessary.</p>	CAR/CL	<input checked="" type="checkbox"/>
E. Socio-Economic Impacts				
Has the analysis of the socio-economic impacts of the project activity been sufficiently described?	DR,I	<p>Additionally to the “Environmental and Social Impact Study of the plantation Project in the framework of CAP” by Kimba (2006), the analysis of the social impacts is detailed in the environmental and social impacts study from the economic and financial analysis of Acacia senegal plantations in Niger carried out by the “Bureau Nigérien d’Etudes et de Conseils”. Socio-economic impacts are sufficiently detailed.</p>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
Does the analysis adequately include (where applicable) information on local communities, indigenous people, land tenure, local employment, food production, cultural and religious sites and access to fuelwood and other forest products?	DR,I	The Kimba analysis adequately includes information on relevant topics such as local communities, job employment, land tenure, access to fuelwood and other forest products. The BUNEC socio-economic study analyzes land uses prior to the project, value of natural production (from agriculture, grazing and forestry), and potential values of the future production on each site. Institutional and commercial context has been described. The study is performed at national and regional levels.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Are potential impacts outside the project boundary analyzed?	DR,I	No potential impacts outside the project boundary are analyzed. Corrective Action Request 24 The analysis of potential impacts outside the project boundary should be included in the PDD.	CAR/CL	<input checked="" type="checkbox"/>
If any negative impact is considered significant by the project participants or the host Party, has a statement that the project participants have undertaken a socio-economic impact assessment in accordance with the procedures required by the host Party (including conclusions and references to supporting information) been provided?	DR,I	Based on the matrix provided, no significant negative impact has been revealed. This was confirmed by the interviews performed during the site visit.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Has an adequate description of the planned monitoring and remedial measures to address significant socio-economic impacts been provided?	DR,I	N/A	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
F. Local Stakeholder Consultation				
Has a description of how stakeholder comments have been invited and compiled been provided and has it been undertaken in an open and transparent manner that facilitates comments being received and has the project been described in a manner that allows local stakeholders to understand the project?	DR,I	The strategy of the applied public bidding consists of two steps: Information and sensitization about the Project and, consultation sessions with stakeholders. Stakeholder's consultation has been described during on site interview.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Have stakeholders who made comments been identified and has a summary of the comments been provided?	DR,I	Points of interest of rural communities and difficulties of comprehension from stakeholders are listed. During site visit, it has been verified project participants are easily able to raise issues and interact with project developers.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Has an explanation on how due account has been taken regarding the received comments from stakeholders been provided?	DR,I	Stakeholders on site address their concerns directly to the UGP agent on field who bring the information to the most relevant persons. Stakeholders interviewed were satisfied and though their claims are listened and taken into account.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

CHECKLIST QUESTIONS	MoV *	COMMENTS	Draft Concl	Final Concl
G. Approval and authorization				
Are the letters of approval from each Party involved available?	DR	The letters of approval have been provided	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Annex 2: Findings Overview

Draft report clarifications and corrective action requests by validation team	Ref to PDD	Summary of project owner response	Final conclusion									
Corrective Action Request 1 Several mistakes in the longitude and latitude of project sites were detected. Correct the table 3 in section A.2.4	A.2	<p>Project team 31/08/2012: The PDD has been modified.</p> <table><tr><td>Chéri</td><td>11° 25' 09" E</td><td>13° 24' 07" N</td></tr><tr><td>Kayatawa</td><td>11° 28' 51" E</td><td>13° 23' 49" N</td></tr><tr><td>Bringuidjiram</td><td>11° 28' 14" E</td><td>13° 24' 57" N</td></tr></table> <p>Auditors 07/09/2012: The table 3 in section A.4.2 has been corrected.</p>	Chéri	11° 25' 09" E	13° 24' 07" N	Kayatawa	11° 28' 51" E	13° 23' 49" N	Bringuidjiram	11° 28' 14" E	13° 24' 57" N	<input checked="" type="checkbox"/>
Chéri	11° 25' 09" E	13° 24' 07" N										
Kayatawa	11° 28' 51" E	13° 23' 49" N										
Bringuidjiram	11° 28' 14" E	13° 24' 57" N										
Corrective Action Request 2 The site of Kayatawa and Bringuidjiram are overlapping, and the limits of the site of Birninfalla are not clear (two polygons overlapping?). Please correct the GPS boundaries of these sites. During the site visit, it was observed that some roads were included in the GPS boundaries. Please exclude the roads of the GPS boundaries.	A.2	<p>Project team 31/08/2012: New GPS coordinates have been provided for the sites of Kayatawa, Bringuidjiram and Birninfalla. The PDD have been updated accordingly.</p> <p>Auditors 07/09/2012: Kayatawa and Bringuidjiram’s boundaries were corrected. However, in the new Birninfalla’s boundaries provided, there are still about 20 hectares located in Nigeria. Please Provide Arcmap files for new polygons. Since roads are wider than 6m in some places and do not restrict to tree inter-row, their extension has an impact on plantation surfaces.</p> <p>Project team 01/10/2012: Birninfalla’s boundaries were corroborated and corrected, keeping only the area located in Niger. GIS database was updated with internal roads and new polygons were generated, Shape files with these modifications are provided in attached file. These changes have led to a reduction of the total eligible area from 17,137 has to 16, 715 ha. The total project area for the period 2006- 2012 remains unchanged (8,472 ha).</p> <p>Auditors 20/05/2013: The sites’ boundaries have been corrected accordingly. The CAR is closed.</p>	<input checked="" type="checkbox"/>									
Corrective Action Request 3 The GPS location of each discrete planting site shall be specified in the PDD. Some plantation sites are composed by several plantations discrete areas. Each of these discrete planting sites shall have a unique identification.	A.3	<p>Project team 31/08/2012: The PDD have been updated to distinguish all plantation areas included in a single project site for TAM, LIDO and SIMIRI.</p> <p>Auditors 07/09/2012: The GPS locations of all discrete planting sites have been specified in the PDD.</p>	<input checked="" type="checkbox"/>									

<p>Clarification Request 1</p> <p>This is a general description of present environmental conditions of Niger. More details on the environmental conditions of the project sites and more recent region-specific data are required, particularly regarding precipitations. Quote as citations the paragraphs copied from SE/CNEDD, 2006.</p>	A.3	<p>Project team 31/08/2012: The PDD have been updated regarding precipitations: “Information from last 30 years shows an apparently increase of rainfalls in all regions, nevertheless, studies covering a longer time period and using advanced techniques that allow homogenize and analyze the spatial variation, show an alternation of wet and dry periods, and demonstrate that, although in recent years there has been a recovery of rainfall after the great drought of the late 60’s, it is not enough to recover the previous values.” (Ozer <i>et al.</i> 2010)</p> <p>Auditors 07/09/2012: The paragraphs copied from SE/CNEDD, 2006 are still not quoted as citations. Please reference the information provided.</p> <p>Project team 01/10/2012: Quotation to reference from SE/CNEDD is added in section A.3.3</p> <p>Auditors 16/05/2013: The clarification request is closed.</p>	<input checked="" type="checkbox"/>
<p>Corrective Action Request 4</p> <p>The PDD should specify where the seeds came from during the project.</p>	A.4	<p>Project team 31/08/2012: All seeds used were initially provided by ICRISAT, which is a Centre of internationally renowned research, and then in a second stage (from 2009) seeds are provided by the Tree Seed Centre, a national organism specialized in certified seed The PDD has been updated including information about the seeds suppliers over the time of the project.</p> <p>Auditors 07/09/2012: The information provided is considered as sufficient.</p>	<input checked="" type="checkbox"/>
<p>Corrective Action Request 5</p> <p>The name of the project participants should be consistent with the name of the organization in Annex 1.</p>	A.5	<p>Project team 31/08/2012: The PDD has been modified.</p> <p>Auditors 07/09/2012: The modification is considered compliant with the requirements.</p>	<input checked="" type="checkbox"/>
<p>Corrective Action Request 6</p> <p>The control of the land by the project proponents is not clearly explained in the PDD. Please describe the work performed by the COFODEP and give more details about the contractual agreements set in order to guarantee the control of the land.</p>	A.6	<p>Project team 31/08/2012: The land tenure commission (Cofo), the National authority in the matter, and their subsidiaries at departmental and local level, (CofoDep and CofoB), conducted different missions to each potential project areas in order to clarify their legal status and delivering land legal acts. With land tenure defined, a contract among land owners (privates or communities) and the office cluster (grappe) were signed. The PDD has been modified.</p> <p>Auditors 07/09/2012:</p>	<input checked="" type="checkbox"/>

		The information provided is considered as sufficient.	
Corrective Action Request 7 Provide the missing land ownership certificate of the site of Koné Béri which has been visited during the site visit.	A.6	Project team 31/08/2012: The land ownership certificate of the site of Koné Béri has been provided. Auditors 07/09/2012: The document is consistent site visit observations.	<input checked="" type="checkbox"/>
Corrective Action Request 8 The right to access the sequestered carbon is not clearly described. The PDD should specify that a contract was signed between ASI and each commune in which it is written ASI receives 20% of the Arabic Gum and Carbone Credit revenues whereas the resulting 80% are given to the communities.	A.6	Project team 31/08/2012: Information has been added to the PDD: as a common point of these contracts, is established that ASI receives 20% of Arabic Gum and Carbone Credit revenues whereas the remaining 80% are given to the communities. The descriptive brochure provided to local communities prior to the project implementation has been provided in local dialect. Auditors 07/09/2012: The information provided is considered as sufficient. The brochure cannot be understood by auditors, as no translation is provided.	<input checked="" type="checkbox"/>
Clarification Request 2 The PDD should precise how the revenues allocation formula was discussed among the community stakeholders and how it was made publicly available.	A.6	Project team 31/08/2012: The PDD has been updated describing that “before starting project the sale of carbon credits and gum Arabic, the Unit of project Management and Monitoring (UGSP) has conducted field missions to ensure that communities understand their rights and obligations and clearly establish how the funds received will be managed and distributed within the community (allocation of income)” In addition, the records of field mission in the site of LIDO describe the revenues allocation formula decided during community stakeholder’s consultation. The report on the biocarbone initiative in the regions of DOSSO and ZINDER has been provided to describe the information provided to the communities about the project and the lessons learned. Auditors 07/09/2012: The information provided is considered as sufficient and clearly referenced.	<input checked="" type="checkbox"/>
Clarification Request 3 The following information should be provided : 1. A description of the assessment method that ensures that no forest existed on December 1989 and at the project start 2. Information on the nature and quality of images (resolution, sensors, algorithms for image processing)	A.7	Project team 31/08/2012: The PDD has been updated: 1. A first study made by GIOES and APOR (2006), demonstrates that the whole project area does not contain forest considering the parameters fixed by the Nigerien DNA for the definition of forest, even for “classified forests” 2. Information provided 3. Clarifications provided	<input checked="" type="checkbox"/>

<p>3. A clarification on how the different approaches (APOR, ONFI) have been articulated.</p>		<p>Auditors 07/09/2012 According to GIS experts, the Landsat imageries used (resolution of 30 meter during the dry season) are not systematically enough accurate to conclude without field photographs. In addition, the "GIOES and APOR 2006 Situation Reference III Eligibile 1989-2000" on page 2 specifies that the quality of imageries should be used carefully. It is therefore necessary for the plantations sites for which the eligibility in 31 december 1989 is not demonstrated to make new analysis on more accurate spot images (5 m in colors, 2.5 m in black & white). The new analysis must be done at least on the 3 following plantation sites : Gouriabon, Chabare, Begorou.</p> <p>Project team 01/10/2012 The group of experts responsible of the land eligibility assessment, agrees that Landsat imageries may be not enough accurate for land cover classification when deciduous forest are present, nevertheless, with spot images this difficulty, although can be reduced, it does not disappear. On the other hand, although only recent land pictures are available, the visual correlation between Imagery and land photographs properties can be extrapolate to older ones, in fact, it was part of the analyses done by the photo-interpreter.</p> <p>Secondly, there is no doubt that Spot imageries (specially SPOT5 dataset) would be the most appropriate to detect forests areas (30 percent of minimum tree crown cover, for a minimum of 1 ha composed by a minimum tree height at maturity of 4m), but since the project extent, it would be necessary 20 images, with a price around €5400 each, it could lead to an additional and unviable cost of 108.000 €.</p> <p>It should also be noted that the study of GIOS and APOR 2006 states (on the same note, page 3) that these constraints (from using Landsat imageries) have not prevented to reach interesting results for analysis and information needs expressed in the terms of reference (land eligibility).</p> <p>Additionally, even if for very small and less dense forested area Landsat data have not the best accuracy detection; this dataset seems to be a good compromise between price and accuracy. Indeed, even if the resolution cell is only 30mx30m, Landsat is very efficient for forest detection due to its Red and Infra red spectral measurement which is necessary for Forest/Non forest discrimination.</p> <p>Project team 14/05/2013 Finally, only Spot 4 imagery (B&W/10m) is available before 1990 for the project area. Then, an analysis of the following three sites was carried out: Gouriabon, Begorou and Tchida.</p>	
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		<p>Only in the site Gouriabon has been found some forest patches, covering 6% of the project area on this site.</p> <p>More details about interpretation of images are provided in the PDD and in the attached file.</p> <p>Auditors 16/05/2013 Due to the cost of satellite imagery, a selection of 3 representative sites has been suggested to the PP. The absence of forest before 1989 is confirmed for Tchida and Begorou sites, and consequently for all sites with similar typological class. Discontinuous forest patches have been observed in Gouriabon. These forest patches have not been included to the parcel boundary and are considered not significant. Consequently, the absence of forest before 1990 is confirmed for the whole project area.</p>	
<p>Clarification Request 4 It should be justified that site preparation did not cause significant long-term decreases of soil carbon stocks or increase of non-CO₂ emissions from soil. Publication on ploughing impacts on soil under similar conditions could be mentioned. Estimates on the percentage of soil disturbed should be re assessed due to the difference observed on site on the half-moon types.</p>	B.2	<p>Project team 31/08/2012: Based on Perret & Josh (2008) publication and FAO (1999 and 2001) reports, it has been justified that site preparation did not damage significantly the soil.</p> <p>Auditors 07/09/2012: Indicate where exactly in the publications cited scientific evidence is presented showing that the type of soil preparation techniques applied in the project does not cause significant long-term decreases of soil carbon stocks or increase of non-CO₂ emissions from soil.</p> <p>Project team 05/10/2012: The first reference does not refer directly to soil carbon stock, but in page 5, where is described the “demi lune” technique, is established that it increases agricultural production through increased water infiltration into the soil, so it can be inferred that this increase in production has a direct positive impact on the supply of organic matter to the soil. Indeed, In the same page is also mentioned that 250 000 ha of degraded lands have been recovered by using techniques as “demi lune”. Meanwhile, the second reference, in page 51, gives data on carbon sequestration in soil from similar techniques to those used in the project proposed, such as “conservation tillage”</p> <p>Auditors 16/05/2013 The clarification request is closed.</p>	<input checked="" type="checkbox"/>
<p>Clarification Request 5 Specify in the PDD that none of the project’s site has been part of one of these other initiatives. Present in the PDD these initiatives, specify their differences</p>	B.6	<p>Project team 31/08/2012: Ø See CL6</p>	<input checked="" type="checkbox"/>

with the project activity, and justify that for none of the project sites, the farmer-managed natural regeneration activities could be considered as the baseline scenario		<p>Auditors 07/09/2012: Since demonstration is not made in CL6 about the possible overlap between the project area and zones having benefit or likely to benefit from FMNR-like practices, the Clarification Request is pending.</p> <p>Project team 05/10/2012: The farmer managed natural regeneration (FMNR) is a traditional practice carried out by farmers in Niger by adopting and improving ancestral techniques of woodland management. Such practices consist in the integration of trees into annual food crop systems in order to obtain fuelwood, building materials, food and fodder. In contrast to forestry plantations, this practice does not plant trees but promotes the regeneration of desired species in a very low density (10-50 trees/ha) which does not lead to a forest condition according the National definition. Compared to the proposed project activity NASPP, FMNR presents many differences, both from the point of view of their objectives and operational.</p> <p>Although there is no evidence of FMNR activities within the project boundaries, there is no doubt that it may be a baseline scenario, in such case, it would fall in alternative 1 (Agriculture activities) as described in section B.5 of the PDD.</p> <p>See also CL6</p> <p>Auditors 16/05/2013 The argumentation is considered as sufficient, the clarification request is closed.</p>	
<p>Clarification Request 6 Bring evidence that none of the following factors questions the hypothesis that the land will remain degraded or will continue to degrade in the absence of the project activity:</p> <ol style="list-style-type: none"> 1. recent trends in increased annual rainfall or predictions on future trends in annual rainfall 2. actual pressure on woody resources at all project's sites 3. influence of the "Farmer-managed natural regeneration" initiatives (Maradi and Zinder regions) 	B.6	<p>Project team 31/08/2012: The three issues raised have been argued.</p> <p>Auditors 07/09/2012:</p> <ol style="list-style-type: none"> 1. The controversy on the role of decreasing rainfall as a driver of desertification is acknowledged. However, (1) the PDD choses the "pessimistic" point of view, although this point of view is in the PDD supported by publications from a restricted diversity of teams in journals with audience lower than those in which opposite views have been expressed; (2) no evidence is provided that the criticism about the link between the regreening of the Sahel and the actual reversing of the degradation processes is relevant for the project (the dominance of <i>Leptadenia pyrotechnica</i> and <i>Calotropis procera</i> is not demonstrated at each site of the project area); (3) the importance of the recent increase in rainfall is understated by a comparison with rainfall trends for the 1921-2007 period (Ozer et al 2010) that possibly does not fully cover a mid-term 	<input checked="" type="checkbox"/>

		<p>oscillation.</p> <ol style="list-style-type: none"> 2. As acknowledged by authors, low pressure on woody resources concerns about a fifth of the total area (also visible in Figure 12). At these sites there is thus no evidence of a human-induced desertification from depletion of woody resource. 3. The demonstration for the absence of impact of local initiatives (FMNR-like) not related to the project activity on the reversing of degradation in the project area is not convincing. No evidence is provided that FMNR is targeted at existing cropland only; anyway the project area includes some land previously cropped. Furthermore, examination of 2012 Spot images in Google Earth suggest high tree density around or in some of the project sites in the Zinder, Maradi and Diffa regions (Chabaré, Kafourka, Karghéri (northern part), TAM blocs 1 and 2, Grémadi, Yacoubari). Distribution of most tree crowns suggests the presence of anthropogenic parklands. So some sites are likely to lie at the vicinity of FMNR-like zones. <p>Based on the 3 points above, for project sites located in the regions of Maradi, Zinder and Diffa, additional evidences are expected to prove that the lands are degraded and/or still degrading. If no additional evidences are provided, the following sites should be removed from the project : Kafourka , Yacoubari, Grémadi, TAM Bloc2 and Karguéri (only the small north strip).</p> <p>For the other project sites, the degraded and/or still degrading state is considered as demonstrated.</p> <p>Project team 05/10/2012:</p> <p>For all sites land degradation is supported using existing local and international documented land degradation studies, i.e. Hountondji et al 2004, Brauch and Spring 2009 at National level, and GIOES and APOR 2006 at local level. It should be noted that latter study was not only based on Imagery analysis, but also on local interviews and others local studies (« Etude du développement à long terme de la zone pastorale et des zones avoisinantes au Niger entre 1970 et 2000 » ; « Lutte contre la désertification au Niger : utilisation des images satellites pour le suivi d'impact. cas de PASP et PDRT » ; « analyses de la Direction de la Statistique et de la Cartographie Forestière (DSCF) sur la situation des forêts au Niger »).</p> <p>Additionally, as NASPP project was conceived from the beginning as a CDM project, sites were chosen in a way that they met the eligibility criteria (Absence of forest, degraded or under degradation areas, possibility of community involvement and without land title problems).</p> <p>All the evidences provided are in compliance with the "Tool for the identification of degraded or degrading lands for consideration in implementing CDM A/R project activities"</p> <p>Nevertheless, Additional evidences indicating land degradation in the different</p>	
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		<p>project regions are added in the PDD.</p> <p>For the reasons mentioned above, project developer keeps the idea of addressing the land eligibility (condition number 1 of the Applied methodology) from the point of view of the land degradation, however, If the DOE does not consider these arguments enough, the second option of this applicability condition may be used (<i>Lands to be afforested or reforested are degraded and the lands are still degrading or remain in a low carbon steady state</i>). This is also easily to verify from the baseline study.</p> <p>Project team 14/05/2013: It should be noticed that with the new methodology (AR-ACM0003) the above condition is no longer necessary</p> <p>Auditors 16/05/2013 This CL initially resulted from the applicability condition of the previous methodology used (AR-AM0004). However, the argumentation is still valid in the new version of PDD using the methodology AR-ACM0003 to demonstrate that the continuation of pre-existing activities will not lead to the reforestation of the lands. The argumentation and support documentation provided are considered sufficient enough. The CL6 is closed.</p>	
Corrective Action Request 9 Provide more information about other Acacia Senegal initiatives in Niger, including the PRGN. Explain what are the differences between these others initiatives and the project activity.	B.6	<p>Project team 31/08/2012: Information about other Acacia Senegal initiatives in Niger has been provided and referenced.</p> <p>Auditors 07/09/2012: The information provided is considered as sufficient and clearly referenced.</p>	<input checked="" type="checkbox"/>
Corrective Action Request 10 Provide evidence that no trees / perennials will reach the forest threshold due to ongoing degradation (See Clarification Request 6).	B.7	<p>Project team 31/08/2012: Ø See CL6</p> <p>Auditors 07/09/2012: See CL6. Pending</p> <p>Project team 05/10/2012: See CL5 and CL6</p> <p>Auditors 16/05/2013 See CL6</p>	<input checked="" type="checkbox"/>
Corrective Action Request 11	B.7.3	Project team 31/08/2012:	<input checked="" type="checkbox"/>

Describe S_t (Anticipated standard deviation of carbon stock measures in Block h) in a tabular form. Revise the values applied for $\alpha/2$ and BEF.		The PDD has been modified. Auditors 07/09/2012: The modifications are considered as sufficient.	
Corrective Action Request 12 Revise equation 3 and further description of calculations to remove reference to allometric model.	B.7.3	Project team 31/08/2012: The PDD has been modified. Auditors 07/09/2012: The calculation of the new estimations for the annual biomass increment is not explained. All equations should be renumbered with a unique number and in increasing order as they appear. Project team 05/10/2012: Equations are renumbered with a unique number and in increasing order in the PDD. Auditors 16/05/2013: The revision has been performed adequately.	<input checked="" type="checkbox"/>
Clarification Request 7 Explain how the growth model illustrated in D1.1.2 has been built from Poupon, since the figure derived from Poupon's article in D.1.1.2 is not realistic at all.	B.7.3	Project team 31/08/2012: The PDD has been modified. Auditors 07/09/2012: The correction performed has been verified and is correct.	<input checked="" type="checkbox"/>
Corrective Action Request 13 Indicate that Deans et al (1999) work was done in Senegal and not Sudan.	B.7.3	Project team 31/08/2012: The PDD has been modified. Auditors 07/09/2012: The correction is considered as sufficient.	<input checked="" type="checkbox"/>
Corrective Action Request 14 Perform in the PDD Table 10 Section D1.1.2 and in Taram the following modifications: (1) Choose annual growth values beyond 18 years either in a conservative way or following the "Guidelines on conservative choice of default data for estimation of biomass stocks and change in woody vegetation". (2) Check the stock value per ha for strata 2 (density plantation 313 ind ha ⁻¹) and year 1 (2006).	B.7.3	Project team 31/08/2012: The modifications in the PDD and in Taram have been performed. Auditors 07/09/2012: The correction is considered as sufficient.	<input checked="" type="checkbox"/>
Clarification Request 8	B.7.3	Project team 31/08/2012:	<input checked="" type="checkbox"/>

Explain how the 2.25 tdm/ha of crops biomass has been calculated based on the referenced literature and justify the root-shoot ratio of 0.2.		The source of the figure for crop biomass has been provided. Auditors 07/09/2012: The project authorizes the agriculture to continue during 6 years. Therefore the leakage due to agricultural activities can be neglected.	
Corrective Action Request 15 In Annex 5 section 4.1 (1) revise number of compartments (should be 14) (2) revise longitude of original grid nod, (3) clarify how many trees par sample plot will be measured for height and how height will be used for estimation of biomass.	B.8.1	Project team 31/08/2012: The PDD has been modified. Auditors 07/09/2012: The modifications are considered as sufficient.	<input checked="" type="checkbox"/>
Corrective Action Request 16 Correct in the section B.8.1 the monitoring frequency of the Sample plot ID. The sample plot ID has not been assigned before the start of the project.	B.8.1	Project team 31/08/2012: The monitoring frequency of the sample plot ID has been provided. Auditors 07/09/2012: Information provided is sufficient enough for the validation of the project. The sample plot ID has not been assigned and should be clearly defined for the verification	<input checked="" type="checkbox"/>
Corrective Action Request 17 In Annex 5 section 4.1 c) Plan of inventory, (1) match height of DBH measurement to typical forest mensuration. (2) quantify the girth limit for the use of either a measuring tape or a slide calliper for the measure of DBH	B.8.1	Project team 31/08/2012: Annex 5 section 4.1 c) has been modified. Auditors 07/09/2012: The report by Ichaou (2010) that will supposedly provide the allometric model for estimating standing biomass from field measures on individual trees does not refer explicitly to basal diameter. Justify why the height of measurement will be only 0.20 and not 1.30cm. Project team 05/10/2012: As Acacia senegal ramifies profusely from lower heights to 1.30m, measurements of diameter at 1.30m is not always possible, for this reasons, authors use basal measurements (Pupon, 1977,Ichaou 2010) This latter specifies in page 9 that “Le modèle à élaborer permettra de calculer la biomasse aérienne totale à partir des mesures du diamètre à la base...” Auditors 16/05/2013 The additional information provided is considered as sufficient.	<input checked="" type="checkbox"/>
Clarification Request 9 Define the terms “block” and “compartment”. If these terms do not differ from “strata” replace them	B.8.1	Project team 31/08/2012: The term “compartment” has been removed and “block” defined.	<input checked="" type="checkbox"/>

by "strata".		<p>Auditors 07/09/2012: The modifications are considered as sufficient, except in the appendix 6, in the last part entitled annexe 10 where the term "compartment" is still used. Please correct the annex 10.</p> <p>Project team 05/10/2012: The term "compartment" is changed by Block in annex 10.</p> <p>Auditors 16/05/2013 The modifications have been performed accordingly.</p>	
Corrective Action Request 18 Revise calculation of the number of sample plots and their distribution between strata according to methodology. (1) Remove or (2) justify and clarify the development on the relation between the proportion (z) of inventory plots (an unclear variable) and the coefficient of variation (C_v), and indicate source for the Table below the Density paragraph.	B.8.2	<p>Project team 31/08/2012: The revision has been performed</p> <p>Auditors 07/09/2012: However, m_{ps} is not explained and the legend does not match the first equation of the subsection for the variable st_i. For the second equation n_i is not explained in the legend.</p> <p>Project team 05/10/2012: Terms m_{ps} and n_i are described and the error in parameter st_i is corrected</p> <p>Auditors 16/05/2013 The corrections have been performed.</p>	<input checked="" type="checkbox"/>
Clarification Request 10 Explain how the trees of the sample plots are not likely to be treated differently from the rest of the plantation.	B.8.2	<p>Project team 05/10/2012: Metallic tags may be as inconspicuous as desired if they are of a small size and if they are placed strategically in the tree (e.g. base). A system of polar coordinates for each tree, taken from a land mark, could be an alternative system, but this would rise greatly the measurement time and thus costs. Additionally, after planting, major forest management activities affecting carbon stocks, will not take place (thinning or clear cutting); Therefore, there is no risk that sample plots are treated differently from the rest of the plantation.</p> <p>Auditors 16/05/2013 The explanation is considered as sufficient.</p>	<input checked="" type="checkbox"/>
Corrective Action Request 19 The Quality Control/Quality Assurance (QA/QC) procedures have not been adequately described in the PDD section E.6 and Annex 4. The section in the Annex 4 about QA/QC are copies of the methodology. The project proponent is entitled to develop how the QA/QC procedures will be implemented for the	B.8.3	<p>Project team 31/08/2012: The Quality Control/Quality Assurance (QA/QC) procedures have been described in Annex 4 section 7 of the PDD.</p> <p>Auditors 07/09/2012: The modifications are considered as sufficient.</p>	<input checked="" type="checkbox"/>

project activity.			
Corrective Action Request 20 In Annex 5 Section 8, revise Table 4 and update last sentence. The table 5 should be updated as the dates do not correspond to the reality of the project implementation schedule.	B.8.3	Project team 31/08/2012: The table 4 has been removed from the PDD and the table 5 has been updated. Auditors 07/09/2012: The last sentence of Annex 5 Section 8 has not been updated (“ Target date for an operational Monitoring Unit is December 2007.”). Table 4 (prev Table 5) refers to DBH while Annex 5 section 4.1 now refers to basal diameter; additionally some sentences (“To be hired by Achats Services International”, “ this will only start in 2009”) are ambiguous regarding timing of activities that are supposed to have started. These sections should be updated. Project team 05/10/2012: Ambiguous sentences regarding timing of activities are updated and reference to basal diameter instead of DBH are corrected Auditors 16/05/2013 The table has been corrected accordingly. The Corrective action is closed.	<input checked="" type="checkbox"/>
Corrective Action Request 21 The financial support that will be provided for the monitoring is not considered as secured. The contract between ASI, CAP and the Ministry of Environment is limited to one year (that can be renewed). The project proponent is expected to provide more evidences that the financial needs for the monitoring will be available. Moreover, the operational and management structure is not clear enough and should be clarified (i.e : who will perform the monitoring on the field ? who will check the result of the monitoring...). At the time of the validation, ICRISAT has not played any role in the project since 2008. Therefore, its role in the monitoring is very uncertain.	B.8.3	Project team 31/08/2012: An engagement letter from ASI attests ASI will cover financial needs for the monitoring. Auditors 07/09/2012: The document provided is considered as sufficient.	<input checked="" type="checkbox"/>
Corrective Action Request 22 The starting date should be corrected and justified as the start of real action (Cf. CDM glossary).	C.1	Project team 31/08/2012: Ø Auditors 07/09/2012: The starting date has not been corrected to reflect the start of real action. Project team 01/10/2012 The starting date was corrected according to the date of seed purchase	<input checked="" type="checkbox"/>

		Auditors 16/05/2013 The starting date of the project has been corrected.	
Clarification Request 11 Provide the evaluation report of the World Bank on the PAC I and PAC II	C.1	Project team 31/08/2012: Evaluation report provided Auditors 07/09/2012: The information provided is considered as sufficient.	<input checked="" type="checkbox"/>
Corrective Action Request 23 Impact of the scheduled reforestations and different stand models on water, soils and other relevant biotic aspects shall be discussed in the PDD as well as impacts on other areas outside the project boundary.	D	Project team 31/08/2012: The PDD has been modified: "As explained in section A.5.4 the proposed project activity is implemented under two stand models, which are chosen according to type of soils, this aims to reduce soil impacts and enhance water disponibility per plant and finally, optimize growth of acacia" Auditors 07/09/2012: The modifications are not considered as sufficient, particularly on the impacts outside the project boundaries and on water availability. It is therefore necessary to show that the runoff of water slowed by half moons will have no significant impact on the downstream area. To do this, you must show that the selected volumes will be small compared to precipitation that will run off. If this demonstration is not possible, you should include in the monitoring plan the monitoring of impacts on human activities dependent on downstream water and vegetation on the larger planting sites. Control plots nearby plantation area should be monitored as well. Project team 05/10/2012: In section D.2 of the PDD is explained that the negative impact expected outside the project boundaries on water availability is due to use of groundwater for seedlings production, and is also explained the measures carried on in order to mitigate this impact Auditors 16/05/2013 A new strategy of water impact monitoring has been implemented as indicated in B.8.3 "In order to assess possible impacts of land preparation on water balance, control plots will be identified in the lower part of the watershed and the potential affected communities will be consulted at the moment of verification in order to know if water resources have been impacted."	<input checked="" type="checkbox"/>
Clarification Request 12 Provide more explanations why the potential negative impacts can be considered as not significant.	D	Project team 31/08/2012: The PDD has been modified including explanations on the reasons to neglect potential negative impacts.	<input checked="" type="checkbox"/>

		<p>Auditors 07/09/2012: Information provided is not considered as sufficient. The project proponent should further justify the mitigation of potential negative impacts on water availability. Cf. CAR 23.</p> <p>Project team 05/10/2012: See CAR 23</p> <p>Auditors 16/05/2013 The PDD has been updated, see CAR23, as a measure of prevention, a monitoring of this potential impact.</p>	
Clarification Request 13 Provide the source of the matrix mentioned in the PDD.	D	<p>Project team 31/08/2012: Ø</p> <p>Auditors 07/09/2012: Pending</p> <p>Project team 05/10/2012: The matrix of interrelationship between impact source and milieu components was created by the author of the Environmental Impact Assessment based on the results of this study, nevertheless the matrix is not in the final report and for this reason there is no source in the PDD.</p> <p>Auditors 16/05/2013 Environmental impact assessment documentation has been reviewed during site visit. Similar tables have been reviewed (same methodology and template). It can be assumed that the matrix is taken from the EIA.</p>	<input checked="" type="checkbox"/>
Clarification Request 14 No measure refers to the impact on water. Provide measure to mitigate the impact on water or justify why such measure are not necessary.	D	<p>Project team 31/08/2012: Ø</p> <p>Auditors 07/09/2012: Pending. Cf. CAR 27</p> <p>Project team 05/10/2012: See Corrective Action Request 23</p> <p>Auditors 16/05/2013 The PDD has been updated to take into account the potential impact of land preparation activities on the water runoff reducing downstream water availability for population and vegetation.</p>	<input checked="" type="checkbox"/>
Corrective Action Request 24	E	Project team 31/08/2012:	<input checked="" type="checkbox"/>

The analysis of potential impacts outside the project boundary should be included in the PDD.		<p>Ø</p> <p>Auditors 07/09/2012: Pending</p> <p>Project team 14/05/2013: Potential impacts outside the project boundaries are included in section D of the PDD</p> <p>Auditors 16/05/2013 The PDD has been updated accordingly. Potential negative impacts outside the project boundary are considered, particularly impacts on water.</p>	
Corrective Action Request 25 In some plantation sites such as in Goulbal, there are some large patches of pre-existing vegetation, inside which there not trace of plantations. For these continuous areas which are not planted, the project proponent should create a new stratum in the project scenario.	Additional CAR	<p>Project team 14/05/2013: Although it is true that in some places are noted some patches showing different types of pre-existing vegetation, this does not necessarily imply that the growth of acacia will be influenced by these differences, however if it happens, a post stratification will be conducted during the monitoring phase as established in section B.8.3.</p> <p>Auditors 16/05/2013 The patches of pre-existing vegetation identified have been removed from from the eligible area of project. Addition ex-post measures are planned. Consequently, the approach is considered consistent.</p>	<input checked="" type="checkbox"/>
Corrective Action Request 26 The mortality is not included in the calculation of the ex-ante emissions reductions. Even if the project proponent declare that he will replace plants if more than 10% of the plants are dead, this has not been taken into account in the calculation (replaced plants will face a delay in growth).	Additional CAR	<p>Project team 14/05/2013: Mortality is not included in the calculations of the ex-ante emissions reductions since measures to offset mortality are carried on (planting of three seedlings per hole or replanting). In the case of replanting, this activity is carried on as soon as possible (first year) so differences in growth could be negligible.</p> <p>Auditors 16/05/2013 The justification is considered as consistent.</p>	<input checked="" type="checkbox"/>
Corrective Action Request 27 The form of the PDD and the methodology should be updated. The project proponent should use all form and procedures of the VVS track. Moreover, you should number all the pages of the document.	Additional CAR	<p>Project team 14/05/2013: The form of PDD has been updated with the last version (CDM-AR-PDD) - Version 05) and applying the new consolidated methodology (AR-ACM0003) Likewise, pages of the PDD were numbered.</p> <p>Auditors 16/05/2013 The PDD has been updated accordingly.</p>	<input checked="" type="checkbox"/>

Annex 3: Information Reference List

Ref	Document or Type of Information
1	Interviews: See list on page 10 of the validation report
2	PDD - Niger Acacia Senegal Plantation Project
3	PDD_NASPP_revised
4	PDD_NASPP_Final_130723
5	CCB - Niger Projet de plantations d'Acacia senegal - Standard CCB- Rapport volet communautaire
6	CCB - Niger Projet de plantations d'Acacia senegal - Standard CCB- Rapport volet biodiversité
7	"Reforestation or afforestation of land currently under agricultural use" - AR-AM0004 / Version 04
8	"Afforestation and reforestation of lands except wetlands"- New Meth-ACM0003_ver01.0.0
9	TARAMV1.3 - NASPP
10	TARAMV1.3 - NASPP_Revised 070513
11	Carbon NASPP - Calculation CO2 pre existing vegetation
12	Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM
13	Starting Date: Seedling purchase invoices and seedling purchase letter
14	BIOCF - Niger- Niger Acacia Senegal Plantation Project ERPA - <i>Bio Carbon Fund ("BioCF") Clean Development Mechanism Verified Emission Reductions Purchase Agreement between Achat Service International S.A. and IBRD for the NASPP</i>
15	Letter of Intent (LoI) related to the the sale/purchase of emission reductions to be generated under the project signed in June 2005
16	Signature of the purchase agreement between BioCarbon Fund and ASI (December 2006), clearly demonstrating that the Biocarbon Fund decided to finance up-front the cost of the project activity in order to recover the carbon credits
17	Approval of Niger Acacia Plantation Project by BioCarbon Fund to purchase carbon credit (2007)
18	Reception of the Letter of Approval of Canada, initial project participant, in August 2008
19	Contract signed between ERSNT & YOUNG and the World Bank for the CDM validation of the project
20	Contract signed between ONF international and the World Bank in 2009 for the review and completion of the PDD and services up to the registration of the project, services completed in December 2012
21	Amendment to the ERPA between the World Bank and ASI[following completion of PDD and change in project area] (2011)
22	Amendment of the contract between the World Bank and ONF International for additional services in 2010, then screenshot of amendment of the contract in 2012 and 2013
23	LOA NASPP Canada
24	LOA Niger DNA
25	LOA Spain NASPP
26	NASPP Raport de mission Lac Tchad
27	NASPP- International Development Association IDA confirmation of non diversion of ODA
28	CBD CLEARING-HOUSE of the Republic of Niger_2011_Centre d'échange d'informations du Niger
29	FAO/AQUASTAT_2005
30	Le gommier et la gomme arabique Acacia Senegal (L.) Wild_1997_Ndièngou

31	Quelles perspectives pour les gommiers en zone de savane d'Afrique Centrale ? In: Jamin Jean-Yves (ed.), Seiny Boukar L. (ed.), Floret Christian (ed.). Savanes africaines: des espaces en mutation, des acteurs face à de nouveaux défis. Actes du colloque, Garoua, Cameroun, 27-31 mai 2002 _ 2002_Mallet et al.
32	Recueil des fiches techniques en gestion des ressources naturelles et de productions agro-sylvo-pastorales _2006_ Ministère de Développement Agricole
33	DMN Données Pluviométriques par région*
34	Facture données pluviométrie*
35	Engagement d'ASI dans la surveillance du projet NASPP*
36	Mission de revue à mi-parcours*
37	Rapport interne d'achèvement de la première phase du PAC*
38	Réalisations financières du volet biocarbone PACII
39	Convention Tri-Partite ASI-PAC-DGEEF
40	Contrat de Sous-Projet Achat Crédits de Réduction d'émissions de Carbone Vérifiées et de Gomme Arabique _ASI & Boukki
41	Contrat de Sous-Projet Achat Crédits de Réduction d'émissions de Carbone Vérifiées et de Gomme Arabique _ASI & Kogourou
42	Titre de concession rurale - Dosso- Binin Falla
43	Titre de concession rurale - Dosso - Loga - Kogourou
44	Titre de concession rurale - Dosso - Loga - Bouki
45	Titre de concession rurale - Dosso -Goubey
46	Titre de concession rurale - Dosso - Maoureydey Moussa
47	Titre de concession rurale - Dosso -Lido
	Titre de concession rurale -Tillabéri - Gassangourgné
48	Titre de concession rurale - Zinder - Kafourka
49	Titre de concession rurale - Maradi - Chabare
50	Titre de concession rurale - Diffa - Chéri
51	Ordonnance N° 93-015 du 2 mars 1993. Fixant les principes d'Orientation du Code Rural _1993_ Ministère de Développement Agricole Secrétariat Permanent du Code Rural
52	Loi N° 2004-040 du 8 juin 2004. Portant régime forestier au Niger _2006_ GIOES&APOR
53	Détention Coutumière Koné-Béri*
	Landsat imageries
54	Geographical Satellital Coordonnates _Coordonnees_ Mission_ Validation _02_ 2012
55	Geographical Satellital Coordonnates_ Boukki
56	Geographical Satellital Coordonnates_ Tchida
57	Geographical Satellital Coordonnates_ Lido
58	Geographical Satellital Coordonnates_ Koneberi
59	Geographical Satellital Coordonnates_ Kogorou
60	Geographical Satellital Coordonnates_ Goubey
61	Geographical Satellital Coordonnates_ Dabrey
62	revised Project site Polygons _130515
63	Situation de référence des sites de l'initiative biocarbone dans le cadre du programme d'Actions Communautaires _2006_ GIOES&APOR
64	GIOES and APOR 2006 Situation Reference III Eligiblite 1989 2000
65	GIOES and APOR Etude Complementaire Extension Sites _II
66	Report on the State of Environment of Niger _2005_ Ministère de Transport et de l'aviation civile Direction de la Météorologie Nationale

67	Programme d'Action National pour l'Adaptation aux Changements Climatiques_2006_SE/CNEDD
68	Stratégie Nationale et le Plan d'Action en matière Diversité Biologique (SNPA/DB)_1998_SE/CNEDD
69	Niger – Severity of Human Induced Soil Degradation. National Soil Degradation Maps_2005_FAO
70	Eligibility-Forest_discrimination methodology
71	Eligibility- Revised SPOT imagery
72	NASPP Analyse financière 2006 BUNEC
73	State of the world's forests. FAO_2005_FAO
74	Securitizing the ground, grounding security. Desertification Land Degradation and Drought. UNCCD issue paper N°2_2009_Brauch HG. And Spring U.O
75	Guide des semences d'Acacias des zones sèches. FAO_1983_Doran et al.
76	La redynamisation de la filière gomme arabique au Niger: un exemple d'initiative privée. Bois et Forêts des Tropiques_2005_Rossi
77	Human Development Report. Human and income poverty. Population living below \$2 a day_2009_UNDP
78	Accès aux marchés pour les pauvres. Stratégie 2005-2006_2005_SNV
79	Atelier sur le partenariat entre organisations paysannes et institutions de microfinance. Synthèse de l'atelier_2008_Wampfler B.
80	Niger. Etude Diagnostique sur l'Intégration Commerciale_2006_English P.
81	Analyse climatique de la région de Gouré, Niger oriental : récentes modifications et impacts environnementaux. Cybergeo : European Journal of Geography_2005_Ozer P.
82	Etude scénario de référence des sites du Volet Plantation d'Acacia senegal du PAC dans le cadre de l'Initiative Biocarbone_2006_GIOES
83	ÉTUDE D'IMPACT ENVIRONNEMENTAL ET SOCIAL_2006_H.Kimba
84	Arbres et arbustes du Sahel, leurs caractéristiques et leurs utilisations_1983_Maybell Von
85	Exploitations et état des ressources naturelles au Niger. Draft version 0.5_2000_OSS/CNED/CeSIA
86	Best development techniques and approaches for agricultural improvements in the Sahel. Norwegian University of Life Sciences_2007_Aune J.B.
87	Mise en évidence des zones touchées par la désertification par télédétection à basse résolution au Niger. Cybergeo : European Journal of Geography_2004_29 Hountondji Y-C et al.
88	La situation de la communication pour le développemnt au Niger (état des lieux) Tome 1
79	Production de matière sèche d'Acacia senegal (L.) Willd dans une savane Sahélienne au Sénégal. Geo-Eco-Trop 3 (209-228)_1977_Poupon
80	Construction de tarifs de biomasse pour l'évaluation de la disponibilité ligneuse en zone de savanes au Nord-Cameroun. En Savanes africaines : des espaces en mutation, des acteurs face à de nouveaux défis_2002_Smekkala et al.
81	Nutrient and organic-matter accumulation in Acacia senegal fallows over 18 years. Forest Ecology and Management_1999_Deans J.D
82	Combination effect of crop design and crop densities in the system of Millet/cowpea rotation in the sahel, west Africa. American-Eurasian_2010_Saidou K.S. et al.
83	Les ressources forestières naturelles et les plantations forestières au Niger. Programme de partenariat CE-FAO (1998-2002)_1999_Laoualy M. and Mahamane A.
84	Comments from Global Stakeholder Consultation
85	Exploitations et état des ressources naturelles au Niger. Draft version 0.5_2000_OSS/CNED/CeSIA
86	Best development techniques and approaches for agricultural improvements in the Sahel. Norwegian University of Life Sciences_2007_Aune J.B.
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90	Nutrient and organic-matter accumulation in Acacia senegal fallows over 18 years. Forest Ecology and Management_1999_Deans J.D
91	Combination effect of crop design and crop densities in the system of Millet/cowpea rotation in the sahel, west Africa. American-Eurasian_2010_Saidou K.S. et al.
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93	Comments from Global Stakeholder Consultation

