



**Assessment Report for CDM proposed standardized baseline
(Version 02.0)**

*(To be **used** by the **UNFCCC secretariat** in assessing the quality of a proposed standardized baseline only when requested by eligible DNAs.)*

Title of proposed standardized baseline:	Standardized baselines for cookstoves in Senegal
Reference of proposed standardized baseline:	PSB0025
Name(s) of the Party or Parties to which the proposed standardized baseline applies:	Senegal
Name(s) of the proponent(s) of the proposed standardized baseline:	The Designated National Authority of Senegal
History of the submission & assessment:	<p>1) 03/12/2014: First submission was received</p> <ul style="list-style-type: none"> • 09/12/2014: Initial assessment was finalized and the proposed standardized baseline (PSB) was uploaded on website. • 17/12/2014: Findings were raised in accordance with the requirements of "Guidelines for quality assurance and quality control of data used in the establishment of standardized baselines" (version 2.0) (QA/QC guideline). <p>2) 21/08/2015: Second submission was received</p> <ul style="list-style-type: none"> • 10/12/2015: Further inputs from the DNA were requested. <p>3) 26/02/2016: Third submission was received</p> <ul style="list-style-type: none"> • 22/07/2016: additional submission was considered to be compliant with the approach used to develop the PSB. The submission was sufficient to prepare a final recommendation. • 26/07/2016: The draft standardized baseline (DSB) was sent to the DNA, which agreed to recommend the DSB to the Board for approval.

<p>Conclusion:</p> <p>(a) The quality assurance and quality control system complied with the provisions and data quality objectives of the valid “Guidelines for quality assurance and quality control of data in the establishment of standardized baselines”</p> <p>(b) The approach used by this proposed standardized baseline complied with one of the approaches referred to in the valid “Procedure for development, revision, clarification and update of standardized baselines”:</p>	<p><input checked="" type="checkbox"/> Yes</p> <p><input type="checkbox"/> No</p> <p><input type="checkbox"/> N/A</p> <p><input checked="" type="checkbox"/> One of the four approved approaches:</p> <p><input type="checkbox"/> The “Guidelines for the establishment of sector specific standardized baselines”;</p> <p><input checked="" type="checkbox"/> A methodological approach contained in an approved baseline and monitoring methodology</p> <ul style="list-style-type: none"> - AMS-II.G “Energy efficiency measures in thermal applications of non-renewable biomass” (version 08.0) - AMS-I.E “Switch from non-renewable biomass for thermal applications by the user” (version 07.0); <p><input type="checkbox"/> A methodological approach contained in an approved methodological tool;</p> <p><input type="checkbox"/> The “Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM”.</p>
<p>Date when the assessment report is completed:</p>	<p>26/07/2016</p>

SECTION A. Summary of Proposed Standardized Baseline

A.1. Scope and application of the proposed standardized baseline

1. The proposed standardized baseline (PSB) is developed for
 - (a) Additionality demonstration;
 - (b) Baseline identification;
 - (c) Baseline emission estimation
2. This PSB applies to household cook stove sector in Senegal.
3. The PSB applies to the following measures:
 - (a) Fuel and feedstock switch;
 - (b) Switch of technology with or without change of energy source (including energy efficiency improvement);
 - (c) Methane destruction;
 - (d) Methane avoidance
4. Projects shall use the standardized baseline together with the valid approved methodologies (AMS-II.G and/or AMS-I.E).

A.2. Description of the proposed standardized baseline

5. Key data parameters and data sources:

Key data parameters <i>(e.g. total production of output, kiln technology, fuel type & consumption etc.)</i>	Data sources <i>(e.g. individual facilities, government documents, literature etc.)</i>
Baseline woody biomass consumption per person for cookstove	World Bank Survey 2013
Efficiency of pre-project cookstove	World Bank Survey 2013 Information from the Permanent Inter-State Committee for Drought Control in the Sahel (French acronym: CILSS) PDD

6. The scope and coverage of the data:

- (a) The scope of the standardized baseline is cookstoves in Senegal;
- (b) The data on the above parameters (i.e. baseline woody biomass consumption, efficiency of pre-project stove) represents all regions in the country.

SECTION B. Summary of Assessment

B.1. Assessment process

7. The purpose of assessment conducted by the secretariat is: i) to ensure that the QA/QC system implemented by the DNA complies with the provisions and data quality objectives of the “Guidelines for quality assurance and quality control of data used in the establishment of standardized baselines” (hereinafter referred to as QA/QC guidelines); and ii) to ensure that the PSB complies with AMS-II.G “Energy efficiency measures in thermal applications of non-renewable biomass” (version 08.0) and AMS-I.E “Switch from non-renewable biomass for thermal applications by the user” (version 07.0).

8. The assessment consisted of the following:

- (a) Review of the documents submitted;
- (b) Identification of issues (assessment findings) and drafting of the assessment “findings and resolution” note;
- (c) Communication of assessment findings with DNA and request for their resolution and response;
- (d) Direct communication with DNA;
- (e) Review of the additional documents and/or responses provided by DNA;
- (f) Closing the findings;
- (g) Conclusion of the assessment report.

9. A desk review was performed on the following data/information submitted as part of the PSB.

- (a) First submission dated 03/12/2014;
 - (b) Second submission dated 21/08/2015;
 - (c) Third submissions dated 26/02/2016;
10. Review of the additional submissions clarified all the issues raised by the secretariat.

B.2. Assessment opinion:

11. In accordance with the QA/QC guidelines, the secretariat concluded that all of the following requirements were met by this PSB:
- (a) QC system (resource/procedure) was implemented to check the data quality before/during/or after data collection, as described in the World Bank Survey report.
 - (b) QC activities were clearly documented in the submitted report of the World Bank Survey.
 - (c) Consultation process was clearly documented in the meeting notes and the QC report provided by the DNA.
 - (d) All relevant documents and data were available for assessment.
 - (e) The key data sources were the data from the World Bank Survey conducted in 2013. To reconfirm the data values and statements, other literature have been also been referred to. Thereby, the credibility and accuracy of data sources was checked.
 - (f) The data scope was comprehensive enough to produce “true and fair” representative SB in the sector.
 - (g) The key data and information are consistently presented, e.g. the excel database to determine the baseline fuel wood consumption.
 - (h) The assumptions and conservative approaches for data processing and calculations were justified.
 - (i) There were no confidential data for which data security provisions were necessary.
12. The details of issues (assessment findings) identified by the secretariat and the responses provided by the DNA are provided in Appendix-1 to this document.
13. The secretariat concluded that the PSB complied with the approach of AMS-II.G “Energy efficiency measures in thermal applications of non-renewable biomass” (version 08.0) and AMS-I.E “Switch from non-renewable biomass for thermal applications by the user” (version 07.0).

Appendix 1. Findings and resolutions

CL No.	Request for Clarification (CL)	Reference to general provisions of guidelines on quality assurance and quality control of data used for sector-specific standardized baselines	Responses and corrective actions of DNA	Conclusion (open/closed)
1	<p><u>QC report</u></p> <p>1) In accordance with the “Guideline for quality assurance and quality control of data used in the establishment of standardized baselines”, the DNA is requested to provide QC report, which should elaborate how to ensure the data quality of the samples. Since the sample data source is the World Bank survey, the QC report should include how the World Bank conducted QA/QC activities if feasible.</p>	<p>Traceability</p> <p>As per paragraph 15 k) of the Guideline on Quality assurance and quality control of data used in the establishment of standardized baselines, version 2.0</p>	<p>As per CDM-EB63-A28-Procedure: Development, revision, clarification and update of standardized baselines, Version 03.1, para 12(c), the DNA is required to submit an assessment report on the quality of the data collection, processing and compilation to establish the proposed standardized baseline in accordance with the “Guidelines for quality assurance and quality control of data used in the establishment of standardized baselines”. However further in para 14 it is stated: Notwithstanding the provision in paragraph 12, for a Party with 10 or fewer registered CDM project activities as of 31 December 2010, the assessment report referred to in paragraph 12(c) may be omitted in up to the first three submissions of a proposed standardized baseline regardless of the sector for the Party.</p> <p>For Senegal, therefore it was presumed that a QC report is not required. Nevertheless, referring to the QA/QC guidelines following could be stated about the data used in the establishment of the standardized baseline.</p> <p>Secondary data sources such as data collected by other government authorities and international institutions have been used for the SBL development.</p> <p>Data quality is ensured as the datasets are relevant, complete, consistent, credible, current, accurate and objective.</p> <p>Data was confirmed by the World Bank as being complete. Data was checked by the DNA steering committee for any completeness issues; data was found to be complete.</p> <p>The data used to determine the baseline efficiency comes from the World Bank, which conducted the survey in 2013. This is the most current data available.</p> <p>The data used to determine the household efficiency comes from the 2013 National Census. This is the latest census.</p>	<p>Closed</p>

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			<p>The accuracy was checked by the DNA steering committee reviewing the survey spreadsheets.</p> <p>Reference documents:</p> <ul style="list-style-type: none"> • A report published by the National Agency of Statistics and Demography (ANSD): Recensement Général de la Population et de l’Habitat, de l’Agriculture et de l’Elevage (RGPHAE) 2013. Mars 2014. • Section 2 on the Methodology of the World Bank Survey as found from page 16 to 25 of the Final Report entitled: Réalisation d’une Enquête Nationale portant sur la Consommation et les Pratiques des Ménages en Combustibles Domestiques, Rapport Final, Août 2014. Please find the document attached. <p>Section 2.5, more specifically, on the representativeness of the results of the Final Report of the World Bank Survey.</p> <p>NOTE : The Final Report of the World Bank Survey was only made available to South Pole during our recent visit in the office of the World Bank consultant SEMIS in Dakar, in April-May 2015.</p>	
2	<p>Sample data</p> <p>1) The PSB states that “a simple random sampling of households was done by region” and also “the number of questionnaire randomly extracted from the World Bank survey is equal to 656”. The DNA is requested to elaborate the World Bank survey (e.g. sample size and</p>	<p>Traceability</p> <p>As per paragraph 15 k) of the Guideline on Quality assurance and quality control of data used in the establishment of standardized baselines, version 2.0</p>	<p>The methodology used to conduct the World Bank survey is described in section 2 of the Final Report (page 16 to 25) including section 2.1.5.2 on the sampling size and 2.2 on the survey method.</p> <p>The information can be found in the two documents that have written to the World Bank consultant on 5 June 2014 as mentioned above (i.e. on the background of the data collection activity and on the data extraction procedure to be done from the survey’s 4,500 questionnaires (sampling)).</p> <p>Reference documents:</p> <ul style="list-style-type: none"> • Section 2 on the Methodology of the World Bank Survey as found from page 16 to 25 of the Final Report entitled: Réalisation d’une Enquête Nationale 	Closed

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	survey method) and also describe and justify the method used to randomly extract data from the World Bank survey.		<p>portant sur la Consommation et les Pratiques des Ménages en Combustibles Domestiques, Rapport Final, Août 2014. Please find the document attached.</p> <p>Besides, the minimum value of the sampling size was calculated as 271. However, in order to be conservative a higher number has been chosen and the number of questionnaires randomly extracted from the World Bank survey is equal to 656, which is above the minimum sampling size calculated. The extraction of data was conducted by Papa Lamine Diouf and Denis Valliere on June 5th, 2014 in Dakar, Senegal. The selection of the questionnaires was done randomly and based on the regions in order to cover all Senegal and the urban/rural areas.</p>	
3	<p><u>Excel spreadsheet</u></p> <ol style="list-style-type: none"> 1) In the “calculation” sheet, the cells “C17” and “C18” have wrong values/links). The DNA is requested to correct them. 2) It is noted that in the data excel sheet the fuel consumption (kg/yr) per cookstove type is calculated using the household fuel consumption divided by the number of stoves used. The DNA is requested to justify the reasons why the above method is used (AF~AH & BO~BR cells of data excel sheet). 3) It is noted that data excel sheet includes a wide range of values 	<p>Accuracy, Objectivity</p> <p>As per paragraph 15 f), g) of the Guideline on Quality assurance and quality control of data used in the establishment of standardized baselines, version 2.0</p>	<ol style="list-style-type: none"> 1) The links in the calculation sheet cells C17 and C18 has been corrected. 2) Although only the open fire/traditional stove is likely to be replaced, nevertheless as a conservative approach, weighted average value has been taken to derive the efficiency of the baseline stove. 3) Indeed there is lot of variation in the dataset, nevertheless, comparison with other cited literature indicates that the average value is still conservative. 	Closed

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	<p>for annual fuel consumption. After undertaking correlation analysis as per the provided graphs, the trends observed in household size and total fuel consumption and household size and total fuel consumption are providing results that may require further justification. The DNA is requested to justify the observed data correlation trends.</p>			
4	<p><u>Public consultation report:</u></p> <p>1) In accordance with the “Guideline for quality assurance and quality control of data used in the establishment of standardized baselines”, the DNA is requested to provide a public consultation report.</p>	<p>Transparency</p> <p>As per paragraph 15 j) of the Guideline on Quality assurance and quality control of data used in the establishment of standardized baselines, version 2.0</p>	<p>A two-day workshop was held on 15 & 16 October 2014 in front of the DNA team and all the stakeholders from the improved cookstoves sector. The purpose of the workshop was to conduct training sessions, to present the proposal for the establishment of a SB in the cookstove sector and to get the official approval by the DNA as per section 6 of the TORs.</p> <p>The same stakeholders have participated in workshop 1 (i.e. the decision to choose the cookstove sector), workshop 2 (i.e. the data collection follow up) and workshop 3 (i.e. the presentation of the proposals and the official approval by the DNA).</p> <p><u>Reference documents:</u></p> <ul style="list-style-type: none"> • Agenda of the Final workshop of the project entitled : <i>GIZ Approches normalisées au Sénégal_Agenda_Atelier du 15 & 16 octobre 2014_Version 3, 9 October 2014.</i> Please find the document attached. • TORs of the project entitled : <i>Terms of Reference. Capacity Building on CDM standardized approaches in Senegal</i> 	<p>Closed</p>

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			<p>Please find the document attached.</p> <ul style="list-style-type: none"> • List of participants at the workshops 	
5	<p><u>PSB Form</u></p> <ol style="list-style-type: none"> 1) Equations: the equations for emission reductions and quantity of woody biomass are inconsistent with AMS-II-G (Equation 1, 2 & 5). Please ensure the consistency. 2) Name of the stove: “Sakhanal” in page 12/13 is inconsistent with “Sakkanal” in page 14. Please ensure the consistency. 3) Version of ‘Guidelines for sampling and surveys for CDM project activities and programmes of activities’: the current version is 3 (not 2). Please use the valid version, including the reference link (footnote 14) 4) Total number of households: “1,526,794” in page 13 is different “1,537,389” in Table 3 in the reference. Please ensure the consistency or clarify why 	<p>Consistency</p> <p>As per paragraph 15 c) of the Guideline on Quality assurance and quality control of data used in the establishment of standardized baselines, version 2.0</p>	<p>Editorial correction carried out.</p> <ol style="list-style-type: none"> 1) The equations have been made consistent as per the methodology. 2) The words Sakhanal and Sakkanal both appear in the literature hence have been used interchangeably. 3) The version to the sampling guideline has been updated including the link. 4) The term collective household is used for institutions in the reference document. Hence they have not been included. Moreover, this would not impact the sample size. 5) The version of AMS.IE has been updated. 	Closed

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	<p>the collective households are excluded.</p> <p>5) Please note that AMS-I.E. has a new version (6).</p>			
6	<p><u>Efficiency of Sakkanal cookstove</u></p> <p>1) The efficiency of 0.30 used for Sakkanal cookstove using charcoal cannot be found in the provided data source (http://www.aede-ped.org/rapports/rapp_laura0301.pdf). The DNA is requested to clearly identify the reference for the selected efficiency value. Furthermore, it is not clear from the reference data source which method is used to establish the cookstove efficiency (e.g. Water Boiling Test) and the DNA is requested to clarify what is the method used.</p>	<p>Traceability</p> <p>As per paragraph 15 k) of the Guideline on Quality assurance and quality control of data used in the establishment of standardized baselines, version 2.0</p>	<p>The efficiency of the Sakkanal/Sakhanal stove could be referred from the following link: http://www.cilss.bf/predas/scripts_php/equipements/detailsequip.php?code=12 http://deafrika.net/Reports/Case%20Study%20Synthesis%20Report.pdf</p> <p>As a conservative approach 30% has been adopted for the Sakhanal stove using charcoal.</p>	Closed
7	<p><u>Reference</u></p> <p>1) The link to World Bank. 2005. Implementation completion report is not accessible</p>	<p>Traceability</p> <p>As per paragraph 15 k) of the Guideline on Quality assurance and quality control of data used in the</p>	<p>1. As the link to World Bank study (2005) is not accessible therefore another reference has been included: http://rainforests.mongabay.com/deforestation/archive/Senegal.htm</p> <p>2. The referred source could be accessed at the following link: https://books.google.co.in/books?id=l68aAwAAQBAJ&pg=PA81&lpg=</p>	Closed

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	<p>(footnote 2). Please provide the correct link</p> <p>2) Kristofferson & Bokalders (1986) is not available (footnote 10). If possible, please copy the relevant pages referred in the PSB and send them to the secretariat.</p> <p>The link to registered CPA is not accessible (footnote 11). Please use the public webpage http://cdm.unfccc.int/ProgrammeOfActivities/cpa_db/MHYU3QR7J5E8TZ1OWNK402AVDLBF19/view</p>	<p>establishment of standardized baselines, version 2.0</p>	<p>PA81&dq=ban+ak+suuf+stove&source=bl&ots=OP8r9ZZlYQ&sig=II6Mb4vrxfpEfH0fE7Lq0km9SG0&hl=en&sa=X&ei=d900VbncN9D8ugSg_ICYDw&ved=0CCUQ6AEwAg#v=onepage&q=ban%20ak%20suuf%20stove&f=false</p> <p>3. The reference number of the CPA has been included (CPA 9666-0001).</p>	

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	27 May 2013	Initial publication.
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