

## Quality control (QC) report

Sector	Institutional and Commercial Kitchens
Name of DNA	Uganda (Ministry of Water and Environment Climate Change Department / DNA Secretariat)
Primary Person Responsible for QC Procedures	Mr. Chebet Maikut
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Implementation Dates of QC Procedures	01-01-2014 till date
Please describe how your QC procedures were implemented	
A feasibility study was conducted prior to the development of SBL followed by stakeholder consultation. This helped in identifying key sources of data and information. Further cross-checks through other sources was carried out.	
Please specify how the credibility of the data sources was checked.	
<p>Secondary data sources such as data collected by other government authorities and international institutions have been used for the SBL development. The data used comes from the following sources:</p> <p>Data collected by other government authorities;</p> <ul style="list-style-type: none"> <li>- Ministry of Energy and Mineral Development;</li> <li>- Ministry of Education and Sports;</li> <li>- Uganda Bureau of Statistics;</li> </ul> <p>Data collected by research institutes, private-sector organizations (e.g. market research), academic research, or international institutions;</p> <ul style="list-style-type: none"> <li>- East African Community (EAC);</li> <li>- Food and Agriculture Organization (FAO);</li> <li>- United Nations Population Fund (UNFPA);</li> <li>- Global Village Energy Partnership (GVEP)</li> </ul> <p>Further, to reinforce certain data value(s) and statements, other literature predominantly coming from peer reviewed international journals has also been cited, such as:</p> <ul style="list-style-type: none"> <li>- Agricultural Engineering International: CIGR Journal;</li> <li>- International Journal of Scientific and Research Publication (IJSRP);</li> <li>- Open journal of Forestry;</li> <li>- Journal of Sustainable Forestry;</li> <li>- Current Science;</li> <li>- Research Journal of Applied Sciences;</li> <li>- Boiling Point.</li> </ul> <p>Thereby the credibility of data source is confirmed.</p> <p>Furthermore, a stakeholder consultation was also carried out that provided with information towards development of the SBL</p>	

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Please specify how the accuracy of the data was checked
In order to check the accuracy of data, cross-check with other sources has been performed. Wherever significant variation has been observed, average values have been taken (in particular for per capita fuelwood consumption).
Please specify how the consistency was achieved in particular where multiple secondary data sources were used
<p>For ensuring consistency, it is required that the data be presented with the same definition/scope in the same format and make the datasets compatible with each other. Further, consistency in time series of data is to be ensured.</p> <p>Therefore, in order to determine the baseline fuel wood consumption, the per capita per year value in mass terms has been taken. It is understood that the data available on per capita firewood consumption is not exhaustive and disintegrated for various regions. However, enough research is available over the past few years to suggest that biomass is the key source of energy for cooking needs and consumption levels have relatively remained unchanged because there has been only a marginal improvement in baseline cooking techniques.</p> <p>To account for the socio-economic/regional variations, apart from the national level values, sub-regional values have also been included (wherever available).</p>
Please specify how the "Standard for data coverage and validity of standardized baselines" was complied with
<p>The Standard sets the requirements on the coverage period and currentness of the data used to develop standardized baselines and requirements on validity of approved standardized baselines and thus the frequency of update of standardized baselines.</p> <p>In this particular case, data vintage has not had much impact on the per capita fuelwood consumption. Research of available literature indicates that biomass is the key source of energy for cooking needs and consumption levels have relatively remained unchanged because there has been only a marginal improvement in baseline cooking techniques.</p> <p>Further, the Biomass Energy Strategy (BEST), 2013, Uganda, by the Ministry of Energy and Mineral Development indicates the following: household fuelwood consumption – 20.9 million tonnes; charcoal consumption – 1.5 million tonnes; Population projection for 2015 – 39,112,000. Based on this too, the per capita fuelwood consumption comes to 0.764 tonnes/year/capita (assuming charcoal to wood consumption as 6).</p>
Please specify how the completeness was achieved
The completeness of data has been achieved through sourcing from multiple credible sources.
Please specify how the transparency was achieved
No confidential data was used.
Please specify major issues and uncertainties identified during the QC procedures
No major issues or uncertainties were identified.
Please specify major corrective actions taken during the QC procedures
No major corrective actions were required.
Please justify the conservativeness of the approaches taken during the QC procedures
<ul style="list-style-type: none"> <li>- As a conservative alternative it is assumed that all the institutional stoves distributed / sold are working at design conditions to calculate efficiency of baseline cooking systems.</li> <li>- For the lack of credible data sources, the number of commercial institutions is not cited. However, this is conservative in the given context of weighted average efficiency computation.</li> </ul> <p>The per capita consumption will vary depending on the nature of institution and the access to the firewood. The SBL</p>



development has tried to encompass the variations and establish the standardization for these factors in conservative manner. The basic underlying principle of analysis being that daily human requirements of cooked food must be addressed irrespective of the nature of institution or setup.

Although, sub-regions have been included, however, even the averaging of cited national level values is higher than the proposed SBL value.

Please summarize key findings and present a plan to improve the data quality in the future

The intent of this exercise is to establish the additionality argument and standardize the baseline emission factors related to biomass consumption and efficiency for institutional cookstoves. The institutions included are: schools, prisons, health institutions, restaurants etc. The cooking requirements at these institutions depend on (a) Type of institution i.e. if these are day schools they will only cook one meal and in case these are residential institutions they must cater to all day cooking requirements. (b) Type of cooking technology that is currently in use and it is observed that majority institutions have not adopted institutional stoves.

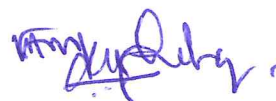
An exhaustive survey of institutional cooking practices and firewood requirements would provide an insight into the exact firewood consumption patterns and baseline efficiencies but is deemed to be only marginally beneficial for the following reasons:

- As observed through literature review, the cooking practices at majority institutions is the traditional 3 stone stoves or open fires. An exhaustive survey may only reveal the number of institutions which adopted institutional stoves and are still using these cookstoves. As a conservative alternative it may be assumed that all the institutional stoves distributed / sold are working at design conditions to calculate efficiency of baseline cooking systems.
- The biomass consumption levels at various institutions depend on availability of firewood and their ability to buy or collect the firewood. Understanding the shortage of money (in prisons and government schools) and sometimes shortage of firewood, the countrywide institutional survey will provide the actual biomass consumption values and will not account for suppressed demand component. On the other hand, extrapolation of existing 'control user' surveys provide a range of firewood consumption pattern across the country.

Therefore an exhaustive countrywide survey would increase the accuracy of available data and trends only by marginal factor and is thereby not a cost-effective option. Thereby the standardized baseline has been prepared based on the available information and data.

13/05/2015

Date to finalize this report



Signature of DNA