



**Proposed standardized baseline recommendation form
(Version 02.1)**

**INFORMATION TO BE COMPLETED BY THE TWO SELECTED MEMBERS OF THE PANEL/WORKING GROUP
OR THE WHOLE PANEL/WORKING GROUP**

Title of the proposed standardized baseline:	Standardized Baseline for Methane Emissions from Rice Cultivation in the Republic of the Philippines
Reference number of the proposed standardized baseline:	PSB0050 ¹
Name(s) of the Party or Parties to which the proposed standardized baseline applies:	Republic of the Philippines
DNA submitting the proposed standardized baseline:	Department of Environment and Natural Resources, Republic of the Philippines
Name(s) of the proponent(s) of the proposed standardized baseline: <i>(Parties, project participants, international industry organizations or admitted observer organizations)</i>	Deloitte Tohmatsu Financial Advisory LLC
History of the submission:	26 Jun 2020 - Second submission received 30 Apr 2019 - Initial assessment successfully concluded 12 Apr 2019 - Initial submission received
Date (DD/MM/YYYY) when the recommendation is completed:	31/08/2020
Approach(es) for the development of the proposed standardized baseline:	
<input type="checkbox"/> The approach contained in the “Guidelines for the establishment of sector specific standardized baselines” <input checked="" type="checkbox"/> A methodological approach contained in an approved, proposed new or revised baseline and monitoring methodology (AMS-III.AU. Methane emission reduction by adjusted water management practice in rice cultivation --- Version 4.0) <input type="checkbox"/> A methodological approach contained in an approved, proposed new or revised methodological tool (please specify below the exact reference (title and version) of the relevant tool _____) <input type="checkbox"/> The approach contained in the “Guideline: Establishment of standardized baselines for afforestation and reforestation project activities under the CDM”	
Important conditions under which the proposed standardized baseline is applicable:	
<p>The scope of the standardized baseline is rice cultivation in the agriculture sector in the Republic of the Philippines.</p> <p>This standardized baseline is applicable to the CDM projects in the Republic of the Philippines.</p> <p>In addition to the applicability conditions described in version 04.0 of small-scale methodology AMS-III.AU “Methane emission reduction by adjusted water management practice in rice cultivation”, the following</p>	

¹ Although this standardized baseline is processed as a new standardized baseline (PSB), taking into account EB 105 guidance to adopt a more flexible approach for the eligible time window for DNA to make a submission for the update and with a view to avoid inconvenience to stakeholders, the reference will be indicated as ASB0008-2020 upon approval. This is also in accordance with the understanding of the DNA.

conditions shall apply:

- (a) The standardized baseline is applicable to the CDM projects that aim to change the water regime from continuously to intermittent flooded conditions/alternating wetting and drying in single aeration or multiple aeration in the following types of rice fields in the Philippines that use rice straw on season as an organic amendment:
 - (i) Irrigated rice fields that are continuously flooded on-season and where single cropping is practiced;
 - (ii) Irrigated rice fields that are continuously flooded on-season and where double cropping is practiced;
- (b) The baseline applies to transplanted rice farms that change the water regime during the cultivation period from continuous to intermittent flooded conditions/alternating wetting and drying (single aeration and multiple aeration).

The values are valid from [the date of adoption of updated standardized baseline by the CDM Executive Board] until 19 February 2025. The same values are also applicable for the period that extends from date of expiry of ASB0008 “Methane Emissions from Rice Cultivation in the Republic of the Philippines” i.e. 19 February 2018 to [date of adoption of the updated standardized baseline].

Summary description of the proposed standardized baseline:

The project activities which change the water regime from continuously to intermittent flooded conditions/alternating wetting and drying are deemed automatically additional in the case of the Philippines, as per paragraph 10 (c) of the methodological tool for “Demonstration of additionality of small-scale project activities” (TOOL21).

This standardized baseline provides values for the parameter $EF_{BL,c}$ for “baseline emission factor for continuously flooded fields without organic amendments” (kgCH₄/ha/day or kgCH₄/ha/season)².

Table 1. Specific emission factor for baseline (kgCH₄/ha/season) for Dry Season

	$EF_{BL,c}$	$SF_{BL,w}$	$SF_{BL,p}$	$SF_{BL,o}$	Baseline emission factor (EF_{BL})
For regions where double cropping is practiced	171.40	1.00	1.00	2.88	493.63
For regions where single cropping is practiced	171.40	1.00	0.89	1.70	259.33

Table 2. Specific emission factor for baseline (kgCH₄/ha/season) for Wet Season

	$EF_{BL,c}$	$SF_{BL,w}$	$SF_{BL,p}$	$SF_{BL,o}$	Baseline emission factor (EF_{BL})

² $SF_{BL,w}$ is baseline scaling factor to account for the differences in water regime during the cultivation period, $SF_{BL,p}$ is baseline scaling factor to account for the differences in water regime in the pre-season before the cultivation period, $SF_{BL,o}$ is baseline scaling factor to account for organic amendments. EF_{BL} is the baseline emission factor (kgCH₄/ha/season) after multiplying $EF_{BL,c}$ with all the three scaling factors.

For regions where double cropping is practiced	297.42	1.00	1.00	2.88	856.56
For regions where single cropping is practiced	297.42	1.00	0.89	1.70	449.99
Recommendation to the Board:					
<input checked="" type="checkbox"/> To approve the proposed standardized baseline <input type="checkbox"/> Not to approve the proposed standardized baseline					
Reasons for not approving the proposed standardized baseline (if any):					
Not applicable					
Any other issues arising from the review of the proposed standardized baseline:					
<p>Please refer to Appendix: Findings and resolutions for PSB0050</p> <p>With regard to standardization of additionality, in addition to the information provided by the DNA, other recent information such as UNDP (2015)³ and Sibayan et al (2018)⁴ have been also assessed. According these sources, there were some pilot projects to introduce AWD method to farmers, but farmers tended to go back to continuous flooding owing to insufficient economic incentives at the end of pilot projects⁵. Also, continuous flooding has been the traditional practice and is perceived by most farmers to be risk-free, whereas AWD is perceived as more labour intensive and fraught with risks for production as it required to follow strictly an established irrigation calendar up to harvest. Because of these barriers, continuous flooding is still predominant in the Philippines, therefore it is recommended that AWD can continue to be considered automatically additional.</p>					

³ UNDP (2015): Adaptation and Mitigation Initiatives in Philippine Rice Cultivation (<https://www.undp.org/content/undp/en/home/librarypage/environment-energy/mdg-carbon/NAMAs/adaptation-and-mitigation-initiatives-in-philippine-rice-cultiva.html>)

⁴ Sibayan et al (2018): Effects of alternate wetting and drying technique on greenhouse gas emissions from irrigated rice paddy in Central Luzon, Philippines

⁵ It is stated in UNDP (2015) “Researchers and participants in past pilot projects have generally emphasized the importance of capacity development; however, the overall assessment of capacity development projects up to the present shows a strong tendency to revert to continuous flooding after the projects have ended. Finally, no concrete plans exist for incentivizing farmers to switch to AWD, making promotion of AWD extremely difficult without any further policy interventions”.

Appendix: Findings and resolutions for PSB0050

CL No.	Request for Clarification (CL)	Responses and corrective actions of DNA	Assessment by Meth Panel
1	<p>In PSB, it is stated that “...the baseline will be updated based on new research and publications available at the time of baseline update. In case no updated research is available, the validity of the baseline will be extended for additional period of three (7) years.....”</p> <p>As the number in the parenthesis and number in words is different, the latter (i.e. 3 years) is taken as the basis.</p> <p>Further, the Meth Panel noted that the latest research findings have become available through the 2019 Refinement to the 2006 Guidelines for National Greenhouse Gas Inventories. In the Chapter 5, Volume 4 of 2019 Refinement, there are updates on the baseline emission factors, scaling factors for water management regimes before and during cultivation periods, and conversion factors for organic amendments.</p> <p>The Meth Panel is of the view that the consideration of the latest data from IPCC 2019 may allow proposing longer validity of the PSB.</p>	<p>The statement “...<i>the baseline will be updated based on new research and publications available at the time of baseline update. In case no updated research is available, the validity of the baseline will be extended for additional period of three (7) years.....</i>” was a typo error, and meant to be extended for seven (7) years if no new data is available at the time of baseline update.</p> <p>Latest data from IPCC 2019 Refinement to the 2006 Guidelines were considered, and the PSB has been revised accordingly to allow for longer validity of the PSB as recommended.</p>	<p>Closed. The typo has been corrected by the submitter.</p> <p>The proposed values, the proposed validity and their justifications are deemed acceptable, for the following reasons.</p> <p>Leading experts from rice cultivation in the Philippines i.e. experts from the International Rice Research Institute, the Bureau of Agricultural Statistics, the Philippines Rice Research Institute etc have been consulted by the submitter in the development of this SB.</p> <p>Values reported in two recent research papers i.e. Padre et al. (2018) and Sibayan et al. (2018) are 69.9 (kgCH₄/ha/season) for Dry Season and 328.9 (kgCH₄/ha/season) for Wet Season, whereas emission factor used in this submission are 171.40 for Dry Season and 297.42 for Wet Season. However, as reported by Sibayan et al, there were modifications to crop and land management practices made in the area included in the study that are not normally</p>
2	<p>The letter issued by Philippines Rice Research Institute on 13/12/2018 refers to two recent research papers: Padre et al. (2018) “<i>Site-specific feasibility of alternate wetting and drying as a greenhouse gas mitigation option in irrigated rice fields in Southeast Asia: a synthesis</i>” and Sibayan et al. (2018) “<i>Effects of alternate wetting and drying technique on greenhouse gas emissions from irrigated rice paddy in Central Luzon, Philippines</i>”.</p>	<p>We apologize for any confusion caused on this issue and reiterate that these issues are still relevant. Underlying assumptions about (i) Philippines having a unique climate zone (AEZ 3), (ii) the soil type not interfering with emissions and (iii) scaling factors remain relevant and valid for the baseline emissions.</p>	

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	<p>These papers were not considered in the development of the SB because “<i>they are site specific for areas with climate type 1 and heavy clay soil in the Philippines. In addition, some exploratory modifications were introduced during the study such as dry shallow tillage during fallow period and other crop and field management strategies</i>”.</p> <p>However, the reasons for not considering these papers are not consistent with the underlying assumptions of the proposed SBs, that (i) Philippines has an unique climate zone (AEZ 3), (ii) soil type does not interfere with the emissions, (iii) the only scaling factors considered are (a) continuously flooded on-season single cropping (g = 1) and (b) continuously flooded on-season double cropping (g = 2).</p> <p>Please substantiate the reasons for not using the more recent literature, or make an estimate including these studies in the calculation.</p>	<p>As reported by Sibayan et.al. 2018, there were modifications to crop and land management practices made in the area included in the study that are not normally practiced by Filipino farmers. These are 1) removal of rice straw, 2) dry shallow tillage during the DS fallow period, and 3) an earlier implementation of AWD at 10 Days After Transplanting (DAT) instead of 21 DAT. These crop and land management practices, whether that be in continuously flooded fields or in the isolated cases where AWD is already practiced, are not common practice at all in the Philippines. Accordingly, including the data resulting from these unique studies as part of the standardized baseline will not be representative of national conditions. As such, as indicated by the DNA, these data were not included in the standardized baseline calculations.</p> <p>To the extent that these atypical crop and land management practices were undertaken as part of a CDM Project Activity, the impacts would consequently be captured as part of the Cultivation Logbook required under Section 6.1.2 of the CDM Small-scale Methodology AMS.III-AU ‘Methane emission reduction by adjusted water management practice in rice cultivation’ Version 04.0.</p>	<p>practiced by Filipino farmers. Therefore, Meth Panel considered that the data resulting from this unique study should not be solely dictating the standardized baseline as it is not representative of national conditions.</p> <p>On the other hand, the original study used for establishment of the standardized baseline i.e. Wasmann et al. (2000) and Corton et al. (2000) covers the longer monitoring period (from 1994 to 1999) and well represents the country. Therefore, it is more suitable to use as the basis of the standardized baselines.</p> <p>Unlike other industry sectors, there have been little changes in management practices in the rice cultivation sector. There are only few studies available in this field (only five papers published after 2010 are referred to in IPCC 2019 Refinement) and it was only in 2019 when IPCC has made some updates to emission factor values of 2006 IPCC guidelines. The latest values from IPCC 2019 Refinement to the 2006 Guidelines (particularly, the scaling factor $SF_{BL,p}$) have been applied by the DNA for calculation of the proposed emission factor values.</p> <p>Therefore, taking all the above into account, 7 years validity is deemed</p>

CL No.	Request for Clarification (CL)	Responses and corrective actions of DNA	Assessment by Meth Panel
			reasonable.
3	<p>It is noted that the DOE has assessed elements of QA/QC protocol against the data quality objectives outlines in the QA/QC guidelines. However, the QC report prepared by the DNA is missing.</p> <p>Therefore, the DNA is requested to provide a QC report prepared in accordance with the “Guideline: Quality assurance and quality control of data used in the establishment of standardized baselines”. Refer to para. 15 (c) of the SB procedure (version 05.2).</p>	<p>The QC report is submitted on a separate attachment.</p>	<p>Closed. The QC report has been provided.</p>
4	<p>The PSB should be updated, based on the latest valid version of the methodology/tool (e.g. see pages 3, 5, 6 and 8 of the PSB).</p> <p>Note that the latest valid version of AMS-III.AU is version 4.0, not version 3.0. Also, note that the “Guidelines on the demonstration of additionality of small-scale project activities” has become “TOOL21: Demonstration of additionality of small-scale project activities”. The DNA is requested to update the PSB accordingly.</p>	<p>The PSB has been revised to reflect the latest valid versions of AMS-III.AU (v4.0) and Methodological Tool 21.</p>	<p>Closed. The issue has been appropriately addressed.</p>
5	<p>By definition, the SB should be allowed only for the baseline emission factor, not for the project emission factor (nor the emission reduction factor). Please note that the Board has accepted only the baseline emission factors under ASB0008.</p> <p>Therefore, the DNA may wish to delete the project emission factor/emission reduction factor in the PSB.</p>	<p>The PSB has been revised to reflect baseline emission factors, updated in accordance with AMS-III.AU ver.04.0 and IPCC 2019.</p>	<p>Closed. The issue has been appropriately addressed.</p>

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.1	1 September 2015	Revision to include an editorial improvement.
02.0	1 December 2013	<p>The document title has changed from “CDM recommendation form for proposed standardized baselines” (F-CDM-PSB-REC) to “Proposed standardized baseline recommendation submission form” (CDM-PSBR-FORM).</p> <p>Revision to:</p> <ul style="list-style-type: none">• Reflect updated requirements in the “Procedure: Development, revision, clarification and update of standardized baselines”;• Include an editorial improvement.
01.0	23 March 2012	Initial publication.

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