

## **CDM and Sustainable Agriculture - Trying to define simplified modalities and procedures for small scale agricultural projects.**

The following document comprises tables with proposed agricultural activities that could be eligible for funding under the Clean Development Mechanism (CDM) of the Kyoto Protocol (KP) to the United Nations Framework Convention on Climate Change (UNFCCC).

The main objective of the following tables is to gather technical input from relevant FAO technical expertise on specific pathways through which agricultural activities in your professional fields can contribute to GHG emission reduction and receive funding under the CDM framework<sup>1</sup>.

We kindly request your input to the following tables as follows:

- **Table 1** gives an overview about agricultural CC mitigation activities (A.1 – A.9) that could be eligible and includes examples (B,C,D) of other, already approved technologies and measures, for comparison.

***TASK 1 → Please add any other agricultural CC mitigation activity for which the following 5 aspects (see list below) could be easily defined!***

- **Table 2** comprises the 5 aspects that have to be defined for approval, for each potentially eligible agricultural activity. One column includes a detailed example for an already approved (non-agricultural) activity, to give you an idea of the required input.

***TASK 2 → Please fill in the cells for the 5 aspects for any of the activities that fall into your area of expertise!***

Briefly, **the 5 aspects (baselines and monitoring being the most important!)** on which we are seeking your guidance are:

1. **Technology/measure:** What would be specific examples for new sustainable technologies, management practice etc. (available) to reduce GHG emissions (e.g. reduced mechanization, low-tillage practices, or use of lighter machinery)?
2. **Baselines:** Could you think of clear, logical and quantifiable procedures for the identification of *baseline emissions*, i.e. the scenario for GHG emissions in absence of the proposed activity/project?
3. **Monitoring plan:** What would be simple, straight-forward monitoring measures /plans/indicators to verify GHG reductions throughout the life time of each respective activity/project?
4. **Project boundary:** What is your idea of reasonable project boundaries (e.g. the physical, geographical boundaries of the agricultural field, including machinery used on the field but maybe excluding machinery used for processing or transportation) for quantifying GHG emission reductions?
5. **Leakage:** Does the project/activity (indirectly) cause an increase in GHG emissions outside its project boundaries?

Please feel free to contact me for any further details/comments/questions:

Ingmar Jürgens, FAO (SDRN), Ext.: 53639, Room: F-823, e-mail: [Ingmar.juergens@fao.org](mailto:Ingmar.juergens@fao.org)

**Thank you very much indeed!**

[Daniele Guidi, (Consultant), ( [ecosolutions@tiscali.it](mailto:ecosolutions@tiscali.it) ) is also closely involved with this task and has been very helpful in writing this document.]

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<sup>1</sup> This means: **WE** try to promote the activities you deal with, to be eligible for funding through flexible financial mechanisms (such as the CDM). **YOU** kindly try to help us with the technical details, ergo: this is a win-win activity!!!

**Table 1:**

<b>Which agricultural activities could reduce GHG (i.e. CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O) emissions? Any other activities you could think of?</b>
This category comprises agricultural projects that both reduce anthropogenic emissions by sources and directly emit less than 15 kilo t of CO <sub>2</sub> eq. p.a.
<b>Improved manure management</b> <i>Baseline:</i>
<b>Reduced enteric fermentation</b> <i>Baseline:</i>
<b>Improved/reduced chemical agri-inputs use (fertilizers, pesticides, herbicides, etc.)</b> <i>Baseline:</i>
<b>Reduced machinery use (and/or lower fossil fuel intensity of conservation agriculture practices)</b> <i>Baseline:</i>
<b>Agonomic planning (selection of seeds and species with low chemical agri-inputs demand and water requirements)</b> <i>Baseline:</i>
<b>Energy from dedicated crops</b> <i>Baseline:</i>
<b>Energy from agricultural residues, animal waste, and other on-farm organic waste</b> <i>Baseline:</i>
<b>CA water management (water saving from improved water retention, reduced evaporation, ecc.)</b> <i>Baseline:</i>
<b>Improved irrigation techniques/technologies (i.e. drip and sprayer irrigation)</b> <i>Baseline:</i>
<b>Improved water management in rice cultivation</b> <i>Baseline:</i>
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...

Table 2:	Example for comparison	Agricultural Activities
	<b>FOR YOUR INFORMATION ONLY!!!</b>	<b>PLEASE FILL IN!!!</b>
	<b>Approved example: Mechanical energy for the user</b>	<b>Your proposed activity to reduce GHG emissions:</b>
<b>Technology / measure</b>	<p>This category comprises renewable energy technologies that supply individual households or users with a small amount of mechanical energy. These technologies include hydropower, wind power, and other technologies that provide mechanical energy, all of which is used on-site by the household or user, such as wind-powered pumps, solar water pumps, water mills and wind mills.</p> <p>Where generation capacity is specified, it shall be less than 15MW. If the generation capacity is not specified, the estimated diesel-based electricity generating capacity that would be required to provide the same service or mechanical energy shall be less than 15 MW. In the case of irrigation where diesel fuelled pumps are used directly, the cumulative rating of diesel-fuelled pumps shall not exceed 15 MW. The size of a diesel-based generator or a diesel pump that would be required shall be justified.</p>	(This category comprises agricultural projects that both reduce anthropogenic emissions by sources and directly emit less than 15 kilo t of CO <sub>2</sub> eq. p.a.)
Boundary	The physical, geographical site of the renewable energy technology and the equipment that uses the mechanical energy produced delineates the project boundary.	
<b>Baseline</b>	<p>The simplified baseline is the estimated emissions due to serving the same load with a diesel generator consumption saved times the emission coefficient for diesel. The diesel emissions displaced annually are calculated either as:</p> <p>(a) The power requirements times hours of operation per year times the emission factor for diesel generator systems in Table I.D.1 OR</p> <p>(b) The diesel fuel consumption per hour times hours of operation per year times the default value for the emission coefficient for diesel fuel (3.2 kg CO<sub>2</sub> per kg of diesel fuel).</p>	<u>How much GHG emissions would occur in absence of the proposed technology?</u>
Leakage	If the renewable energy technology is equipment transferred from another activity, leakage calculation is required.	
<b>Monitoring</b>	<p>Monitoring shall consist of:</p> <p>(a) Recording annually the number of systems operating (evidence of continuing operation, such as on-going rental/lease payments could be a substitute); and</p> <p>(b) Estimating the annual hours of operation for the equipment that uses the mechanical energy produced, if necessary using sampling methods. Annual hours of operation can be estimated from total output (tonnes of grain milled) and output per hour if an accurate value of output per hour is available.</p>	<u>How can you monitor the GHG emission reductions?</u>