

# Ruuts Protocol Expert Review -

Soil Carbon Sequestration Methodology

## Final Report – June 2021

Consultant: Carbon Group



## Executive Summary

The expert review of the RUUTS Protocol was carried out by the consulting firm Carbon Group Agroclimatic Solutions (CG), from April 7 to June 15, 2021. The process was divided into the following phases: first review of the original protocol by the CG technical team - identification of aspects to correct and improve - proposals and recommendations for improvement; first modification by the Ruuts team; second review by CG - analysis of compliance with recommended improvements; second modification by the Ruuts team; Final review by CG. The main aspects analyzed included: tenure, land use and activities included in the projects under the protocol; productive practices included in the baseline and improved scenarios; greenhouse gas emission sources and updated estimation methodologies; applicable field sampling methodologies; statistical methodologies for determining sample size; statistical methodologies for determining changes in carbon stock in the soil; correspondence of methodologies according to updated international standards and protocols. Proposals and suggestions regarding these aspects were made, for the most part incorporated into the protocol. The final version of the revised Protocol is organized in a clear and coherent way, based on pre-existing Protocols (FAO, 2019; Australian IFC, 2018; IPCC Guidelines, 2019), while adding original adaptations to favor its implementation in the field.

## OBJECTIVES

Technically review the Ruuts Protocol so that the final product combines scientific robustness in the estimates of mitigation of greenhouse gas emissions and applicability on a production scale

## DEVELOPMENT

## 1. Shape corrections

- Corrections and writing suggestions (see file “Comentarios\_1a\_rev”). Examples: lines 267-274; 477-479; 585-587; etc.
- Changes made by the Ruuts team

## 2. Glossary and abbreviations

- Inclusion of missing concepts and acronyms. Examples: reversals, additionality
- Location at the beginning of the Protocol
- Changes made by the Ruuts team

## 3. Roles in the project and ownership (section, 3; lines 312-394)

- Suggestions in clarifying roles: Landowner, Field Manager, Project Owner; EOVS Monitor; Verifiers; EOVS QA Savory Institute, Scientific Advisory Group.
- Suggestions to clarify legal aspects of land tenure.
- Changes made by the Ruuts team; roles are now clearly defined.

## 4. Land uses and eligible activities (section, 4; lines 405-468)

- Suggested clarification regarding farming systems and integrated systems
- Incorporation of wetlands, integrated systems, silvopastoral systems as eligible lands (l. 410-412)
- Exclusion of uses according to local scientific criteria (l.421)
- Changes made by the Ruuts team; eligible uses and practices are now clearly defined.

## 5. Additionality (section, 4.4; lines 470-499)

- Suggested clarification of the concept of additionality regarding the adoption of new practices vs. common practices/business as usual.
- Interpretation of “common practices”
- Definition of additionality in Glossary
- Changes made by the Ruuts team

## 6. Temporary limits (section, 5.2; lines 668-699)

- Clarifications and differentiations regarding the start time of projects, permanence time, and baseline scenario delimitation period.
- Changes made by the Ruuts team

## 7. Baseline definition from comparison with neighboring field(s) of contrasting management (section, 5.2; lines 668-699)

- Clarifications.
- Description of how to select and describe comparative management scenario in annex C

- Changes made by the Ruuts team

## 8. Short-term monitoring (section, 7.2)

- Clarifications regarding the spatial scope of short-term monitoring (I.827-828)
- Changes made by the Ruuts team

## 9. Long-term monitoring and soil sampling (section, 7.3)

- Proposal to modify the sampling methodology in georeferenced stations.
- Suggestion Minimum sampling of 5 simple samples per sampling station.
- Suggestion Minimum number of samples per CEA to 20
- Review and correction of the SOC Variance estimation methodology by CEA (general variability increase).
- Inclusion of a methodology for estimating the number of samples by MDD (minimum difference to detect).
- Suggestion to focus on Equivalent Mass Estimation Methodologies by percentile 10 and not by depths (Wendt and Hauser; requires samples in different strata and spline functions).
- Clarification of requirements to laboratories.
- Proposal to discard the “Loss on Ignition” methodology due to its known limitations in certain types of soil.
- Changes made by the Ruuts team; need to correct the sample size estimation formula online 864 (“d” is not MDD but admissible error).

## 10. Credit calculations (section, 10.3)

- Suggestion to avoid discounting for uncertainty (given the expected variability in SOC) since it can significantly limit grantable credits.
- Check and correction of variance estimation methodologies
- Changes made by the Ruuts team

## 11. Emission sources and calculations (section, 7.3)

- Proposal to modify emission factors based on IPCC 2019 (before 2006).
- Inclusion of CO<sub>2</sub> emissions due to urea decomposition.
- Inclusion of emissions associated with the burning of biomass/grasslands.
- Changes in livestock emission factors (from national to Tier 1 IPCC) so as not to limit the applicability of the protocol in other countries.
- Changes in fuel combustion emission factors (equation 50, line 1651) so as not to limit the applicability of the protocol in other countries.
- Suggestion to limit emissions to farm activities and not to products (equation 50, line 1651)
- Changes made by the Ruuts team

## 12. Independent verification. Additional details (final section)

- Verification of the GHG declarations related to the projects of the RUUT Program.
- Verification will be carried out following ISO 14064-3: 2020, Specification with guidance for validation and verification of greenhouse gas claims. Said standard details the requirements for the verification of GHG declarations related to GHG inventories, GHG projects, and carbon footprints of products. Describes the process for verification or validation, including verification or validation planning, assessment procedures, and assessment of GHG claims of organizations, projects, and products.

## Conclusions

- Proposals and suggestions of form and content were made, for the most part incorporated into the protocol.
- The final version of the revised Protocol is organized in a clear and coherent way, based on pre-existing Protocols (FAO, 2019; Australian IFC, 2018; IPCC Guidelines, 2019), and adding original adaptations to favor its implementation in the field.
- It is expected that this protocol can be implemented in the field in pre-existing projects and new projects, and that in turn the information generated contributes to its continuous improvement.