



Reference Criteria and Indicators for Project Assessment

Proposal from the Scientific and Technical Committee of the 4 per 1000 initiative¹

The 4 PER 1000: SOILS FOR FOOD SECURITY AND CLIMATE initiative, part of the Paris-Lima Action Plan and called "Initiative" hereinafter, comprises an international research and scientific cooperation program and an action plan aimed at increasing soil organic carbon (SOC) sequestration, in order to increase food security, mitigate and adapt to climate change. Its overarching goal is to assist contributing countries and non-state organizations to develop evidence-based projects, actions and programs, referred to as "projects" hereafter, to promote and encourage actions towards reducing greenhouse gas emissions through protecting and increasing SOC stocks, the target rate of a 4/1000 (0.4%) per year being an aspirational goal.

The Scientific and Technical Committee (STC) of the Initiative, established at the first meeting of the Consortium members during COP22 in Marrakech, will provide scientific and technical support to Consortium members. Following the terms defined by the Consortium, the principal mandate of the STC is to propose a set of reference criteria, hereafter referred to as '**4/1000 reference criteria**', for the formative assessment of projects to meet the principles and goals of the Initiative as defined in the Paris Declaration and the UN Sustainable Development Goals (SDGs), with particular focus on SDG 2 on zero hunger, SDG 13 on climate action and SDG 15 on land conservation and restoration.

A project on soil organic carbon submitted to the STC for expert advice, hereafter referred to as '**a SOC project**', should include a set of well-defined actions, hereafter defined as '**SOC project actions**', that will reduce losses or increase SOC stocks. Each project action should have clearly defined temporal and spatial scales. The **SOC project actions** should be aimed primarily at increasing SOC or reducing losses, following changes in land management and/or land use management options. The project proposers will be asked to assess the anticipated co-benefits, possible trade-offs and community benefits of the project based on the 4/1000 Reference Criteria.

Formative assessment of projects

An ensemble of criteria, indicators, methods and units of measurement, has been developed by the STC to provide guidance to project proposers and provide formative assessment of projects. The formative assessment will provide guidance for actions, and recommend improvements, to ensure that the projects are consistent with the aims of the Initiative, and that methods are in place to monitor progress during project implementation.

The assessment will provide narrative advice aimed at improving the quality of the project before it is implemented and during implementation. The post project stage will not be included in project assessments. The depth and quality of the advice will depend on the quality of the information provided about the project.

¹ Members of the STC are: Farshad Amiraslani, Claire Chenu, Magali Garcia Cardenas, Martin Kaonga, Lydie-Stella Koutika, Jagdish Lada, Beata Madari, Cornelia Rumpel, Yasuhito Shirato, Pete Smith, Brahim Soudi, Jean-François Soussana, David Whitehead and Lini Wollenberg. For the writing of the two technical papers the STC has benefited from the expertise and collaboration of Jean-Luc Chotte and Claire Weill.

Four steps for SOC project assessment

The proposed **SOC project assessment** approach comprises four sequential steps, with each step being defined by distinct category of reference criteria. Assessment will proceed to the next step only if the criteria are met for the previous step. If not, the project proposer will be informed of the reasons why the project is not assessed fully. Then, depending on the level of technical information provided, and on the expertise available within the STC, technical advice will be provided to the proposer to improve the project. If Step 1 is successful, Step 2 will be completed and if successful, the SOC project assessment will enter in the third and fourth final steps of assessment.

Step 1: Safeguard Criteria will be used to ensure that actions to increase SOC do not restrict human rights, or negatively affect land rights and poverty alleviation. If a SOC project, or a SOC project activity, does not satisfy all safeguard criteria the STC will **stop the assessment** of the project, or the corresponding project activity, and the project holders will be informed.

Step 2: Direct Reference Criteria will be used to assess the direct effects of projects on i) SOC stocks and land degradation neutrality (SDG 15), ii) climate change adaptation and iii) climate change mitigation (SDG 13), and iv) food security (SDG 2). A project or activity needs to contribute at least a positive impact to soil organic carbon (i.e. less SOC lost, or increase of SOC, compared to business as usual), and have no harmful impact on the other direct reference criteria. Otherwise, it will not be considered further by the STC.

Step 3: Indirect Reference Criteria will be used to assess indirect effects of projects on a range of other economic, social and environmental dimensions, including welfare and well-being (SDG 12), biodiversity and ecosystem services (SDG 15), water and nutrient cycles (SDG 6), etc. If, compared to a business-as-usual baseline, the project is likely to result in strong negative impacts on social, economic or environmental dimensions, it will be negatively evaluated on the corresponding criteria.

Step 4: Cross-cutting Dimensions of projects will be reviewed using **cross-cutting criteria**, including training and capacity building, participatory and socially inclusive approaches.

Projects that have undergone the full assessment for the four steps will also receive recommendations for further improvement. The full assessments will be send to the Executive Secretariat.

Development of the assessment methodology

Noting the diversity of regional circumstances and the wide-ranging nature of the assessments, the methodology provides only a general framework. For each reference criterion, a set of default indicators will be agreed and, for each indicator, a default evaluation method will be proposed. Project proposers will have the possibility to suggest alternative indicators for a given reference criterion, or alternative evaluation methods for a given indicator based on the need to adapt the default methodology to the specific features of the particular system e.g. specific biophysical, ecological or socio-economic characteristics of the project. Validation of alternative criteria or alternative evaluation methods will be part of the assessment process undertaken by the STC.

The default methodology, including the set of reference criteria, of default indicators and of associated default evaluation methods will be published online by the STC. These will provide sufficient details to allow project proposers to undertake a self-assessment, prior to formal submission of the project to the STC. In particular, further work will be done to refine the methodology before the project begins and during implementation. In addition, online FAQs to facilitate a better understanding of the default methodology will be developed and published by the STC and to encourage proposers to undertake **self-assessment** prior to formal submission to the STC. **Formal submissions** of a project to the STC will be open at set times each year and the Executive Secretariat of the Initiative will organise the assessment process by the STC, noting that further advice by **external scientific reviewers** may be solicited by the STC as necessary.

Prior to **online publication**, the default methodology will be elaborated by the STC (see below), and will then be subjected to a discussion and review process with 4 per 1000 Initiative partners of all Forum colleges. This review will be based on preliminary testing of the evaluation methodology, using a small number of **case studies** proposed by 4 per 1000 Forum partners, and selected from contrasting world regions with different degrees of development, i.e. projects already implemented to new project proposals. This discussion and review process will allow the default indicators and default evaluation methods to be refined, and ensure that the assessment methodology can be applied readily or adapted for application for the majority of projects. The review process will provide estimates of **the costs of a self-assessment** for projects, to favour, when possible, low cost evaluation methods and avoid unnecessary evaluation costs. Finally, the review process will attempt to analyse *ex-ante* possible flaws in the information provided by project proposers.

The 4 per 1000 project assessment methodology will be **revised periodically**, based on both progress in the scientific literature, and on the experience gained through the assessment of multiple projects.

Reference criteria and their links to SDGs

Table 1 shows the list of 13 reference criteria to be used for the four steps of **SOC projects assessments** and their main links with the SDGs.

Table 1. Assessment steps, reference criteria types, criteria and their links with the SDGs

Step	Type	Criterion	Main links with the SDGs (#)
1	Safeguards	1.1 Human rights	1,5 & 16
		1.2 Land tenure rights	1 & 16
		1.3 Poverty alleviation	1
2	Direct	2.1 Soil conservation and land restoration	15
		2.2 Soil organic carbon stock increase	15
		2.3 Climate change mitigation	13
		2.4 Climate change adaptation	13
		2.5 Food security	2
3	Indirect	3.1 Biodiversity	15
		3.2 Water resources	6
		3.4 Welfare and well being	3, 8 & 12
4	Cross-cutting	4.1 Inclusive and participatory approach	12 & 17
		4.2 Training and capacity building	4 & 17

Default indicators and associated method principles are provided below for each reference criterion in the four categories.

Safeguard criteria

Safeguard criteria are used to detect proposed **SOC projects** that may potentially harm human rights, or negatively affect land rights and poverty alleviation, in **Step 1** of a **SOC project assessment**.

Safeguard criteria	Main dimensions to be covered				Default indicator	Default method
1.1 Human rights	Children	Gender	Minorities	Forced/unpaid work	Size and fraction of local population affected (negative, neutral, positive)	The project holder needs to provide elements of evidence before the project begins
1.2 Land tenure rights	Land grabbing	Conflicts	Population displacement	Litigation Equity		
1.3 Poverty alleviation	Farmers income distribution	Subsidies and taxes distribution	Other revenues distribution	Employment rate		

The assessment will bind to the Paris declaration of the 4 per 1000 initiative which ‘recalls the necessity of protecting existing legitimate land rights, including informal rights, and their holders, in coherence with the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (CFS 2012) and the Principles for Responsible Investment in Agriculture and Food Systems (CFS 2014)’.

The following references will be used to further develop indicators and methods for safeguard criteria:

Human rights (UN): International Covenant on Civil and Political Rights, International Covenant on Economic, Social and Cultural Rights, ILO Convention 169 relative to Indigenous and Tribal People, Guiding Principles on Business and Human Rights.

Local tenure rights: International Covenant on Economic, Social and Cultural Rights (ICESCR), art. 2.1; Committee on World Food Security Voluntary Guidelines on the Responsible Governance of Tenure.

Land use: Free Prior and Informed Consent principles, UN REDD guidelines.

Direct criteria

Direct criteria are used to assess direct effects of projects on i) soil organic carbon and land degradation neutrality (SDG 15), ii) climate change adaptation and, iii) climate change mitigation (SDG 13), and iv) food security (SDG 2) in **Step 2** of a **project assessment**.

Direct criterion	Main dimensions to be covered			Default indicator	Default method
2.1 Soil conservation and land restoration	Land restoration	Agricultural practices	Forestry practices	Fraction of land under recognised conservation/ restoration practices.	Land use and management survey; nature and duration of practices
2.2 Soil organic carbon stock increase	Baseline issues	Soil depth	Indirect accounting	Top SOC stock relative change per year (% or per mille) compared to baseline. Permanence, no leakage and additionality of improved practices.	IPCC Tier 1-3; validated MRV methods
2.3 Climate change mitigation	N ₂ O and CH ₄ emissions	Fossil energy	Life cycle assessment	Any increase in CO ₂ equivalents from N ₂ O, CH ₄ and fossil energy per unit land (and per unit production) should not be greater than the soil carbon sink increase in CO ₂ e. No production leakage caused by a reduction in productivity.	IPCC Tier 1-3; validated MRV methods
2.4 Climate change adaptation	Production stability	Resilience to extreme events		Inter-annual yield and agricultural/forest production variability reduced compared to baseline management. Reduced production losses under extreme droughts/ floods/ heatwaves compared to baseline management. Reduced irrigation needs.	Space for time: documented examples showing how similar changes in land use/management have reduced variability and increased resilience
2.5 Food security	Supply & stability	Access	Safety and quality	Yields and agricultural productivity increase on average, or at least are not impaired. Micro-nutrients contents and food safety of plant and animal products are preserved or improved.	Space for time: documented examples showing how similar changes in land use/management have preserved or increased agricultural productivity, micro-nutrients contents and food safety of plant and animal products. Direct field surveys for yields and livestock production.

The following references will be considered to further develop indicators and methods for direct criteria:

Voluntary Guidelines for Sustainable Soil Management. ITPS, Global Soil Partnership and FAO, Rome 2017.

IPCC (2006). IPCC Guidelines for national greenhouse gas inventories. Report of the Intergovernmental Panel on Climate Change, Cambridge, UK: Cambridge University Press.

Mohr, A., Beuchelt, T., Schneider, R., & Virchow, D. (2016). Food security criteria for voluntary biomass sustainability standards and certifications. *Biomass and Bioenergy*, 89, 133-145.

Indirect criteria

Indirect criteria are used to assess indirect effects of **SOC projects** on a range of economic, social and environmental dimensions in **Step 3** of a **SOC project assessment**.

Indirect criterion	Dimensions to be covered				Default indicator	Default method
3.1 Biodiversity	Landscape beta diversity	Plant functional diversity	Protected, patrimonial and endangered species	Crop and animal genetic diversity	Shannon diversity indices. Protected/endangered/patrimonial species habitats conserved	<i>Before the project:</i> space for time; <i>During the project:</i> surveys of habitats
3.2 Water resources	Soil infiltration	Annual evapo-transpiration	Nitrogen and phosphorus losses Pesticides losses	Tree cover fraction	Water balance for aquifers and streams; N and P loads to water bodies	<i>Before the project:</i> space for time; <i>During the project:</i> hydrological and nutrients surveys
3.3 Welfare and well-being	Access to education	Access to health	Access to sanitation	Access to communications	Potential changes compared to business-as-usual	Surveys (<i>reference to be provided</i>)

The following references will be considered to further develop indicators and methods for indirect criteria:

Biodiversity criteria for evaluating development assistance projects. World Resources Institute (<https://www.cbd.int/doc/guidelines/fin-wri-gd-lns-en.pdf>; accessed online, Nov. 2, 2017)

Hashimoto, T., Stedinger, J. R., & Loucks, D. P. (1982). Reliability, resiliency, and vulnerability criteria for water resource system performance evaluation. *Water resources research*, 18(1), 14-20.

Guidelines Poverty and Livelihoods Analysis for Targeting in IFAD-supported Projects (2008) (<https://www.ifad.org/.../b7fc45f9-a4a8-49e3-a12a-00db4b7921f1>; accessed online, Nov. 2, 2017)

Cross-cutting criteria

Crosscutting criteria of **SOC projects** will be reviewed, including training and capacity building, participatory and socially inclusive approaches in **Step 3** of a **SOC project assessment**.

Cross-cutting criteria	Dimensions to be covered		Default indicator	Default method
4.1 Inclusive and participatory approach	Participatory approach	Inclusiveness	Fraction of stakeholders engaged in the project, inclusiveness of participation	Surveys (reference to be provided)
4.2 Training and capacity building	Technical training	Socio-economic capacity building	Fraction of stakeholders trained or provided opportunities for capacity building	Surveys (reference to be provided)

The following references will be considered to further develop indicators and methods for cross-cutting criteria:

A framework for an inclusive local development policy. Background information.
<http://www.make-development-inclusive.org/toolsen/InclusivedevelopmentwebEnch4.pdf>