



« 4 per 1000 Initiative: Soils for Food Security and Climate »

*Document Consortium 7-6 (lv)*

## **7<sup>th</sup> Meeting of the Consortium**

*Wednesday 10 November 2021*

15:30 to 18:00 CET

Royal Concert Hall (Glasgow) and on-line event via Zoom

### **DRAFT**

## **“4 per 1000” Implementation Plan**

### **Long version**

During the year 2021, the working groups that had been formed at the end of 2020, one for each objective of the Strategic Plan (24 in all), worked on the collaborative platform as part of the Delphi study.

As announced, the study was conducted in three stages that led to a consensus on the answers to several questions around each objective, namely:

- the problem(s) which is at the origin of the objective,
- the causes of the problem(s),
- the critical success factors and barriers to solve the problem(s),
- and finally, the activities to be deployed to achieve the objective.

More than 4,000 individual responses from the nearly 130 people registered in the 24 working groups (out of the 350 who indicated their willingness to contribute to this exercise) were received through this online work on the collaborative platform, providing essential input to the development of the Implementation Plan.

It is these elements, and in particular the list of activities to be deployed, as well as the proposals for adapting the 2030 and 2050 targets of each objective, but also the complete methodology that the Consortium of Members will have to examine and approve.

### **Next Steps**

The implementation and strategic plans will be adjusted accordingly.

In the coming months, voluntary partners and members will be asked to score the relevance activities, causes, critical success factors, and barriers to identify priorities in order to group them by major theme to facilitate their concrete implementation.

It will be on this basis that the implementation plan of the Initiative will be elaborated and that the objectives of the Strategic Plan will be adapted, when necessary, in the light of the remarks made by the working groups as to their completeness in responding to the challenges. The final documents will be the basis for the elaboration of projects and action plans by the task forces and for tracking progress of the initiative.

As these documents are living documents, there will evolve over time and will be reviewed regularly according to the results obtained during the implementation.



# DRAFT Implementation Plan

Version 14<sup>th</sup> October 2021

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# 1 A1 NDC support - DRAFT Implementation Strategy

## 1.1 Goal A - INCEPTION & CONCEPTUALIZATION

**Facilitate the emergence and ensure the feasibility of methodologies, tools and recommendations that foster stakeholders' ability to implement the Initiative on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

## 1.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	Target 2030	Target 2050
Nationally Determined Contributions (NDCs)	Ensure that the Nationally Determined Contributions (NDCs) of all UNFCCC country Parties contain references to soil health and Soil Organic Carbon (SOC), and that they are taken into account in their sustainable agriculture development programs.	In 2019, out of 196 countries' NDCs, only 13 refer to SOC in relation to agricultural mitigation targets or adaptation actions, and 20 refer to peatlands or wetlands in relation to such targets.  A further 3 NDCs refer to soil carbon without clear linkages to targets.	Enlist 100 % of country parties at the UNFCCC, members or partners of the "4 per 1000" Initiative.	In 2050, ensure that, globally, 100% of all UNFCCC country Parties include Soil Health and SOC in their NDCs and development programs.

## 1.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- NDCs are not the only documents of the UNFCCC processes, consider also National Adaptation Plans.
- References to soil health and SOC in NDCs are not sufficient. The transformational aim is that countries set quantitative targets.
- "Sustainable agriculture development programs" should be widened to "national agriculture, forestry and land use plans and programs".

## 1.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.



Label	Description
NDC support	The Nationally Determined Contributions (NDCs) of all UNFCCC Parties include soil health (SH) and soil organic carbon (SOC) as part of climate change mitigation and are considered in their sustainable agriculture development programs.

## 1.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
In 2019, out of 196 countries' NDCs, only 28 UNFCCC country parties had NDCs that specified SOC, peatland or wetland targets, policies, or measures.	All country members and partners of the "4 per 1000" initiative include soil health and soil organic carbon as quantitative targets in their NDCs and related documents, which is reflected in national agriculture, forestry and land use plans and programs.	All UNFCCC country parties include soil health and soil organic carbon as quantitative targets in their NDCs and related documents, which is reflected in national agriculture, forestry and land use plans and programs.

## 1.6 Activities

N°	Activity	Description
1	Advocate for SH and SOC at UNFCCC	Build a unified voice from the "4 per 1000" member countries at UNFCCC (including the institutions that manage GHG inventories) to increase the visibility and recognition of soil health and soil organic carbon.
2	Analyze gaps and opportunity	Help countries identify their knowledge and capacity gaps in monitoring soil health and soil organic carbon and determining the potential for restoring soil health and carbon sequestration.  There is a need to gain more local information on the impacts of different land use practices on soil carbon sequestration and how they improve national carbon balances.
3	Support NDC development	Countries need to be supported in developing soil health and soil carbon monitoring activities in their NDCs and national policies, involving all relevant stakeholders (farmers, private sector, civil society). The ability to quantify agricultural SOC stocks, monitor them, and effectively communicate the findings to policy makers must be promoted.
4	Strengthen national SH & SOC dialogue	Attention to SH & SOC at country level needs to be promoted through high level meetings organized by scientists, NGOs, and farmers.

## 1.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Most current NDCs do not address soil health and soil	In 2019, only 28 countries had NDCs that specified SOC targets, policies, or	The climate relevance of soil health and soil organic carbon is not sufficiently recognized by governments and therefore

Problem Statement	Description	Consequences
carbon, although they are hugely important for both climate change mitigation and adaptation.	measures. There was no alignment with IPCC accounting standards, which include SOC as one of the carbon pools to be reported in countries' GHG inventories.	not reflected in national development programs. This negatively impacts country ambition and associated clarity, transparency, and understanding. This hinders the mobilization of climate finance, technical assistance, and capacity building.

## 1.8 Causes

These are the root causes of the problem that the implementation needs to address.

N°	Cause	Description
1	Insufficient awareness	Policy makers are overlooking the potential of SOC and SH as important solutions to climate change when setting NDC targets.
2	Insufficient guidelines	There are no strict and specific guidelines on how countries should develop their NDCs. The inclusion of SOC or soil health is voluntary.
3	Science Denial	Despite the overwhelming scientific consensus that immediate massive climate action is needed to meet the goals of the Paris Agreement, policymakers fail to recognize the gravity of the situation but prioritize actions that lead to immediate economic and political gains.
4	SH and SOC not a priority	Countries do not prioritize soil health, soil carbon, and immediate climate change mitigation measures in agriculture, forestry, and land use in their sustainable development goals.
5	Insufficient monitoring	Monitoring systems for soil health and soil carbon are not in place. Developing countries have insufficient resources to improve the measurement of soil organic carbon and to assess the potential of actions for soil carbon sequestration.
6	Insufficient public support	Civil society pressure on policymakers to require SOC and SH inclusion in NDCs is insufficient.
7	Weak emulation among UNFCCC Parties.	Insufficient information provided by UNFCCC, e.g., through a global dashboard, to know what other parties are doing in this particular area.
8	Insufficient science-policy dialogue	Insufficient systematic monitoring of soils to understand how soil C content evolves after a change in management, leading to a lack of understanding between research institutions and policy sectors.

## 1.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	GAFOLUP considered in NDC	Include information on good soil management practices in agriculture, forestry, and land use management in NDCs and National Adaptation Plans to be applied to protect and improve soil health and soil carbon. If agriculture is not an important economic sector in the country, explain how SOC and SH can be considered in urban context, natural environment including deserted areas.
2	High awareness	Have a sufficient level of general awareness to encourage policy makers to take SOC and SH into consideration in the NDCs of the country.
3	National registries	National registries must have adequate and robust data, institutional arrangements, and sufficient human and financial resources to track progress toward NDCs and to include SOC actions as a priority in their NDC plan and national adaptation plans.
4	Soil in UNFCCC regulations	UNFCCC regulations must make it clear to countries that soils play a large and crucial role in countries' carbon footprints. It must be made clear that they must be explicitly and in detail taken into account in national climate protection measures and plans.
5	SH & SOM scientific competence	A country's scientific base must be strong enough to monitor SOC and SH in implementing NDCs and to convince policymakers to act consistently in favor of SOC and SH.

## 1.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barriers	Description
1	Insufficient data	There is a lack of sufficient science-based data, technical equipment, and/or expertise to quantify soil health and soil organic carbon to create the national greenhouse gas inventory for agriculture.
2	Effect of land use on SOC is unclear	For each country, the link between SOC and land management should be clearly identified and communicated. The UNFCCC process and national policy positions should understand that the causal link between SOC and land management is key to providing data on their C stocks and balance.
3	Cost	Financial resources are not available to establish, improve, and maintain soil health and soil organic carbon inventories.
4	Insufficient science policy dialogue	Disjointed institutional arrangements that impede the transfer of scientific knowledge to decision makers in areas related to climate change mitigation and adaptation strategies.
5	SOC considered for adaptation only	SOC practices are seen in the NDCs as better suited to adaptation than mitigation goals. The UNFCCC process and national policy positions also require some countries to adopt a political stance that may hinder direct SOC action.

## 2 A2 Project support - DRAFT Implementation Strategy

### 2.1 Goal A - INCEPTION & CONCEPTUALIZATION

**Facilitate the emergence and ensure the feasibility of methodologies, tools and recommendations that foster stakeholders' ability to implement the Initiative on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 2.2 Original objective and targets (version 2020)

Label	Objective	Baseline 2020	2030	2050
Projects	Foster the emergence of innovative projects centered on soil health and in line with "4 per 1000" ambition and with the help of the set of indicators and criteria for formative project assessment elaborated by the STC.	A call-for-project 2020 introduced with a wider base of contacts and a targeted timing. 5 to 10 high quality projects selected	10 to 20 high quality impact based projects selected and implemented on the ground.	50 high quality impact based projects selected and implemented on the ground.

### 2.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- International funding mechanism is missing.
- The highest economic risk for farmers is during the transition period toward soil regeneration. What they need is an experimental fund to have a financial security in this time. This will support them in implementing regenerative practices.
- Access to funding for local and small-scale projects is crucial.
- A harmonized system for project development, monitoring and evaluation is missing. The "4 per 1000" initiative should give advice to project holders on how to be in line with its principles and goals.
- Efficient documentation of real-life data fosters further development and larger adoption. This will enable a stronger connection between practice (farms), research/science and policy.
- Regular sharing of experiences among project owners facilitates further project development.

### 2.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Project support	Simple mechanisms for funding innovative grassroots projects that are consistent with the "4 per 1000" vision and that meet the indicators and criteria for formative project evaluation developed by the STC are in operation.

## 2.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
<p>A call-for-projects 2020 was introduced with a wider base of contacts and a targeted timing.</p> <p>5 to 10 high quality projects were evaluated as being in line with the "4 per 1000" ambition and reference criteria and indicators.</p>	<p>International funding mechanisms articulated with a harmonized system for project development, monitoring and evaluation, are established that fund projects, including local and small-scale ones, focused on soil health and carbon sequestration with climate change mitigation impacts.</p> <p>The "4 per 1000" call-for-projects and the scientific-technical advice (based on the "4 per 1000" reference criteria and indicators) supports yearly at least 30 projects to find funding and to be in line with the initiative's principles and goals.</p>	<p>Every "4 per 1000" Initiative partner country and organization have access to implement a project on the ground that meets the "4 per 1000" ambition and reference criteria and indicators and are supported by an international mechanism in place from 2030.</p>

## 2.6 Activities

N°	Activity	Description
1	Inventory of funders	<p>Identify prospective investors on soil health and work with them toward establishing an international funding mechanism. (Identification of potential financing streams)</p> <p>Whether it is public funds from one or multiple countries, or private investment, or philanthropy or a mix. There needs to be a pool or resources ready to be effectively and efficiently used to ensure the success of the projects.</p>
2	Agree on M&E standards	<p>Build consensus on criteria and indicators for monitoring and evaluation of projects on soil health and carbon sequestration. (Develop consensus on the soil health indicators to be tracked)</p> <p>The project will need to have a solid scientific foundation for the soil health indicators that will be tracked in the project. This activity might include an in-depth and regionally relevant literature review on appropriate soil health indicators for the project in question.</p>
3	Coaching of applicants	<p>Coaching of landowners/users and field experts on all stages of inclusive project development, in particular in developing countries. (Need to built capabilities in soil carbon sequestration).</p> <p>In order to improve the quality of the potential projects, it would be important to generate capacitation for researchers in the thematic of soil carbon sequestration.</p>

N°	Activity	Description
4	Indicate high impact areas	Identify 50 project sites with highest possible impact on global climate change mitigation.
5	Collaborative platform	Provide access to an electronic platform and support joint project development among network partners with different experience levels. (Strengthen and/or create multi-stakeholder platforms)
6	Promote emergence of seed money initiative	Lobbying funders to allocate seed money to projects positively assessed by the "4 per 1000", to allow feasibility study. Build a favorable environment to newborn projects to facilitate the feasibility of best projects.
7	Promote micro project funding schemes	Collaborate with funding bodies to develop micro-project funding schemes for a many simple local outcome-oriented actions with high collective impact.

## 2.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Grassroots movements do not have the resources to implement local, small-scale projects that drive systems change to promote soil health and carbon sequestration. National and international mechanisms for funding grassroots projects that focus on soil health and carbon sequestration do not exist. The impacts of the few soil projects that have been implemented are not well documented or communicated.	Farmers and grassroots movements have too few options to develop and submit project proposals to improve soil health and carbon sequestration at local and small scale. Currently available funds are destined to large organizations or experienced governments. Decision on funding of projects is attached to political and economic country conditions instead of the potential contribution to global climate change mitigation.	Due to the lack of funds, there is no standardized procedure in place to apply global reference criteria to local conditions for the development and monitoring of soil health and carbon sequestration projects. Grassroot projects at small- and local scale are poorly monitored, their real-life data does not feed into research nor into further project development. Practitioners implementing similar projects around the world don't have sufficient opportunity to share their experiences and validate results under common criteria. Their impact on global climate and soil health efforts remains low and no catalyzed agriculture, forestry and land use that prioritizes soil health and carbon sequestration is achieved.

## 2.8 Causes

These are the root causes of the problem that the implementation needs to address.

#	Cause	Description
1	Inappropriate application procedures	Many project application procedures are too complicated and time-consuming for farmers and grassroots movements. Although there is a real need for strict standards and criteria to demonstrate results, the amount of information needed, as well as the required level of meticulousness in terms of methodology, paperwork, and more, is often simply too much for small projects to comply with.
2	Funds do not match potential	Available funds and their allocation do not match potential. The problems and necessities of countries will differ because of their development. Thus, to reach the "4 per 1000" objectives it should be made a balance between developed and developing countries.
3	Low demand	Landowners (potential beneficiaries) do not recognize the potential benefits of investing in projects for improving soil health and carbon sequestration. (Lack of awareness). If everyone who had land was trying to get involved in the "4 per 1000" goal, we would hear about and be able to identify and then support the projects.
4	Lack of consensus on standards	There is still confusion on how to measure the impact projects - disagreement on how it should be done. Coordination requires agreement on standards and consensus on the criteria and indicators to measure impact. (Lack of consensus on quantification of impact)
5	Short project duration	Soil health and carbon sequestration are only achieved in time scales that exceed the time frame of common project funds. (Profitability to invest in soil health not obvious). There is a lack of overview on successful approaches, SH is long-term (>10 year) beyond project time horizon, promotion of SH approaches at different levels.
6	Low perception benefit	Aim at country level bringing together various investors/donors, government, landowners with exciting propositions, is not achieved. Low perception of economic benefit. (Difficulty to get information about calls in time) decreases. (Fragmented investments.)
7	High transaction cost	Costs for program and project management, which increase as average project volume decreases. Aim at country level bringing together various investors/donors, government, landowners with exciting propositions, is not achieved.
8	Exclusion	Calls are not open to everybody due to awareness, accessibility, and eligibility. (Difficulty to get information about calls in time). Unless there is a network through which these calls can reach potential suiters, it is difficult to compete.
9	Lack of coordination	Funding programs are fragmented and not coordinated. Aim at country level bringing together various investors/ donors, government, landowners with exciting propositions are not achieved.
10	Absence of a reference framework	Absence of a global reference framework for improved targeting of investments and highlighting progress. As a global community we are failing at separating the promising projects from the myriad others, and really channeling our attention and resources to making it succeed.

## 2.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Funding	Sufficient financial and technical resources, and political support available to develop and implement projects. (Political commitment & public support)
2	Skills	Building the capacity of field experts on inclusive project development. Experiences of experts in the field are not at the same level. Some are highly experienced, while others are not. In developing countries, building the capacity of experts is extremely important in writing projects that are impactful and convincing to donors.
3	Commitment	Commitment from key stakeholders for soil health and carbon sequestration.  Commitment to implementing projects on soil health, from organizations and individuals with capacity in terms of knowledge and skill around soil science and administrative and organizational skill will be key.
4	Transaction costs	Cost-effective national, regional, and local MRV systems in place. (Cost effective MRV's)  Cost & social effectiveness of SH projects to be measured, include innovations from the science field on SOC measuring and modelling
5	Multidisciplinary & Integration	Multidisciplinary and integrative research should be promoted by the public competitive calls. In addition, the call should also favor participation of the stakeholder community. Also, socio-economics disciplines should be involved.
6	Local conditions	Focus on local/farm-scale and achievement of global impact. Projects should be applicable at farm scale, if not it won't be reaching the aim of the "4 per 1000 " initiative.
7	Collaboration	Joint project development among network partners with different experience levels facilitated through electronic platforms.  Networking advanced institutions with less advanced ones through electronic platforms can help in developing a sound project that addresses global problems such as soil health. It helps in teaming-up different experiences.
8	Agreed metrics	Achieved consensus on the time frame, criteria, and indicators to measure impact.  Developing a consensus on scientifically sound soil-health indicators is a pre-requisite for implementing high-quality projects
9	Publicity	Communication of results and highlighting of successful projects. (Excitement, Media, Loudness).  Lots of press. The projects must be loud, sexy; with role models that have high visibility: famous actors, radical youth leaders, models, musicians
10	Land tenure sensitivity	Address differences in land tenure. Determine clear and public titles to lands involved in the project for public agreement and to reinforce ownership by the people involved. Projects on community lands must communicate to participants that the land belong to them collectively. Projects on farmers' private land must respect both traditional and legal ownership.



N°	Critical Success Factor	Description
11	Accompaniment	Accompany projects from the idea to the feasibility study with expertise and knowledge of the funder's procedures.
12	Simplicity	Funder's ability to simplify application procedures to serve small local initiatives to make sure that actors of change are encouraged.

## 2.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	COVID 19	Stricter sanitation regulations due to the COVID-19 pandemic while conducting projects. At this point in history, care must be taken to wear masks and social distance during all activities. All materials must be sanitized. This reality makes work difficult and slow. It also prohibits consultation at the site with university and agency experts.
2	No overview	No available overview of all ongoing projects. There are so many projects around the world, even those that actively promote themselves, that picking winning projects takes a lot of analysis: time, effort, money...
3	Limited access	Limited accessibility of project target areas. Poor or impassable roads make it difficult to carry out project activities in the field, making it difficult for many of the populations in need to suffer. This state of the roads accentuates their precariousness.
4	Lack of seeds money	No means for projects holders to initiate their project and give birth to a fundable project. Funders have no seed money for such a purpose but should have.
5	Little micro-project funding	Lack of funding instruments for small local initiatives that need little money but are highly efficient.

### 3 A3 Share experience - DRAFT Implementation Strategy

#### 3.1 Goal A - INCEPTION & CONCEPTUALIZATION

**Facilitate the emergence and ensure the feasibility of methodologies, tools and recommendations that foster stakeholders' ability to implement the Initiative on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

#### 3.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Success Stories	Share relevant emerging ideas, innovations and success stories from all stakeholders (bottom-up and top-down approaches)	1 study / review per year.	5 studies / reviews per year.	10 studies / reviews per year.

#### 3.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Suggest replacing the short tile (label) of the objective “Success stories” by “Share experience”
- Targets are not reflecting the objective. It is not clear what a study is, why it is done, by whom and from whom.
- Considering the experience of the virtual fair we could also replace it by something like all partners and members have one or several exhibition stands on the “4 per 1000” virtual fair for sharing their experience and enrich and update content periodically.

#### 3.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Share experience	Relevant ideas, innovations and success stories from all stakeholders (bottom-up and top-down approaches) are compiled and communicated globally. Webinars offer the opportunity to present and discuss examples of best practice.

### 3.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Currently, success stories are only shared via newsletter and during the annual Forum of partners. Create quarterly webinars featuring teams to present local solutions for regenerative food systems	5 studies / reviews per year. Solicit ideas on topics to feature, then find best practice examples, allow time for Q&A	10 studies / reviews per year.

### 3.6 Activities

N°	Activity	Description
1	Networking and interaction	Identify directions to expand the network through common partners and related goals. (Connecting practices). Identification of suitable local stakeholders with mutual vision and establishing a network.
2	Gather success stories	Organize calls for success stories in different dimensions of the Initiative, in different languages, among different networks, and with clearly defined selection criteria and procedures.
3	Mining of remote systems	Identify target systems that are considered transformative and search actively for successful implementation examples. Enlist potential practices for future measurement, monitoring, reporting and verification, through data collection and management, interview, and site visit.
4	Provide a platform for exchange	Systematic gathering and dissemination of relevant content. Enables feedback mechanisms for lateral experience sharing and problem solving. Use the collaborative platform and organization of virtual fairs for sharing of experiences.
5	Workshops	Present success stories at workshops, such as the CoP-workshops. Such workshops can contribute in exchanging ideas and techniques for wider audiences at regional and national levels.
6	Improve conception of success	Redefine and mainstream a new concept of higher success expanding the economic benefits to climate, environmental (biodiversity, water) and societal (poverty alleviation and equity) benefits. Using a quantifiable definition of success is instrumental to the creation of the carbon market which can be an additional driver for change from an economical point of view besides higher yield and lower cost, but a wider notion of 'success' in terms of more holistic ecological benefits at the beginning may avoid unnecessary cultural alienation.

### 3.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Successful examples of transition to sustainable land and soil management are	Programs that have been widely successful in increasing soil carbon are poorly documented and too scattered to find. Reports are too	Because the economic benefits of moving away from land exploitation are not clear, the transition to sustainable alternatives is perceived as a

Problem Statement	Description	Consequences
not well documented and shared globally.	<p>technical to read and inconsistent measurement tools are used.</p> <p>Positive results tend to be shared only within project or organizational networks and are not publicly available. The inhomogeneity of success indicators makes it difficult to compare different projects and programs, and economic benefits are not always reported.</p>	radical, esoteric, and marginal phenomenon that should not be widely practiced.

### 3.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Insufficient networking	<p>Lack of effective vertical networks across scientists, farmers, and key national stakeholders along the whole value chain, especially in developing countries.</p> <p>There is no lack of networks within each sector, but cross sectors networks are yet to be built.</p>
2	Scarcity of convincing stories	Success stories with economic benefits remain marginal in an agricultural world dominated by land-exploitative systems. Different stakeholders need not only different stories to motivate them, but also guidance and support to change their behavior so that they ultimately benefit.
3	Little incentive	<p>Sharing success stories widely beyond own networks means a lot of work for which there is no incentive.</p> <p>There must be lots of success stories. But sharing those success stories with other people does not give them (project holders) direct benefit.</p>
4	Insufficient evidence	<p>Inconsistent indicators, measurement, and evaluation tools to value a project and economic benefits are always not emphasized.</p> <p>Programs having success with increasing soil carbon lack guidance and support for measuring increases in soil carbon and very often such measurement can be costly for low-budget projects.</p>
5	Growth Paradigm	Environmental sustainability is not considered as economically successful as exploitative practices because economic benefits of regenerative practices are seldom reported. Along the value chains from farmers to business groups, success is always measured by profits. For consumers, success is getting the best or most abundant food at the lowest cost. A different mindset needs to be established for all parties to pursue 'success' measured by both the 'amount of carbon sequestered' and cost-cut and yield-increase as a result.
6	Misconception of success	The dichotomy of environmental and economic benefits gives the public the wrong perception that one must sacrifice economic benefits to achieve environmental goals. Farmers applying the right understanding of soil and plant science in their practices would reap both increase in soil carbon and yield. Economic benefits should also be an important success indicator of regenerative practices.

### 3.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Improved conception of success	Redefine and mainstream a new concept of higher success expanding the economic profit to climate and societal benefits. A new meaning of 'higher success' cannot be defined only through the statistical data of carbon sequestration but other important aspects like social-economic and cultural impacts, etc. It cannot be contrived as a new weapon of cultural imperialism under the disguise of a global ecological crisis.
2	Effective networking	Expand networks to share success stories through common partners and related goals. Build a success community that shares people's knowledge of new and emerging science-based techniques in similar climatic and ecological contexts.
3	Evidence of benefits	Harmonize the quantification of benefits (economic, nutritional, environmental, societal) and put them at the center of the storytelling. Internationally agreed and communicable standards of 'success', 'SOC increment and mitigation effect', 'yield enhancement', 'food nutrition enhancement and cost-cut' must be established through consensus building before stories of success become the new norm for people to follow.
4	Appropriate Targeting	Address different stakeholder groups with tailored stories of their particular interest. It is important to have different stories for different stakeholders to reach the ground: farmers, NGOs, companies, researchers, media, wider public, decision makers.
5	Cross-cultural communication	Facilitate translations and possibility to access information via different channels. Quite a few successful experiences, though measured qualitatively, have been reported in less developed countries and in mainland China and other non-English speaking regions. It is for the world's benefits that their experiences can also be shared through this international platform to create real global impacts.
6	Visibility of success stories	Provide a digital platform to increase visibility of success stories. It is difficult to give project holders direct incentive (e.g. economic incentive). But increase visibility of success story, for example in the web site, could be an incentive because it makes some people happy and excited that his/her effort appears in the web site as success story.
7	Practice recognition	Science-based technique and knowledge of regenerative farming alternatives must be recognized and promoted by a critical mass of practitioners.

### 3.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Insufficient communication means	Variable to poor access to communication means by target group.
2	Low level of inclusion and access	Targets groups may not be part of a network or group of influence to have access to information
3	Language	<p>Science-based regenerative knowledge and practice dissemination to practitioners requires effective communication means.</p> <p>Farmers in less developed areas are seldom bilingual. Lots of translation work need to be done to reach out to the non-English speaking communities to make the Initiative a real global involvement. Lots of work also need to be done to translate the scientific language to get it simplified without falsification.</p>
4	Cultural and sectoral gaps	<p>Cultural barriers between different sectors along the whole value chain. Scientists, businessmen, farmers, government officials, politicians and environmentalists all have different working cultures and languages. All these barriers need to be overcome in order that collaborative platforms can fully function.</p>
5	Digital divide	Other barriers for effective communication and collaboration across sectors are digital and technical gaps. Overcoming such barriers is particularly important if a consensus on success indicators is to be reached.
6	False idea of success	It can be subjective to qualify “a success” or “a failure”. It would be good to build an analysis grid regarding sustainable soil management.
7	Insufficient distinction of a success story	Make the difference between a success story being told and a marketing promotion of an action or a program. It can be assumed, but it needs to be clarified from the beginning.

## 4 A4 Regional Stakeholder Interfaces - DRAFT Implementation Strategy

### 4.1 Goal A - INCEPTION & CONCEPTUALIZATION

**Facilitate the emergence and ensure the feasibility of methodologies, tools and recommendations that foster stakeholders' ability to implement the Initiative on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 4.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Interfaces	Enhance the interfaces "science and practice" (R&D) for policy makers, scientists and producers	1 global (online) meeting a year  1 periodical note a year.	5 regional (online) meetings a year  2 to 3 periodical notes a year.	5 regional (online) meetings a year  5 periodical notes a year.

### 4.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- It is important to bring different countries and regions together.
- Meeting and exchanging is the first step. The desired outcome is establishing operational partnerships between stakeholder groups and countries.
- Events should be regular and systematic.
- We need to demonstrate the added value of such interfaces through demand- and result-oriented concepts that result in building partnerships for action and impact on the ground.
- Objective A4 is strongly interrelated with objective D2 as reflected by identical targets. D2 sets up the objective of establishing regional networks and A4 aims at having these regional networks meet regularly.

### 4.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Regional Stakeholder Interfaces	Policy makers, scientists, and producers meet and exchange ideas to build a regional evidence base for on-the-ground action.

## 4.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
1 global and 1-2 regional (online) meetings a year with respective outcome reports.	1 periodical (online) meeting per year in each region following a long-term concept with in-between collaborative activities	3-5 periodical (online) meeting per year in each region following a long-term concept with in-between collaborative activities

## 4.6 Activities

N°	Activity	Description
1	Organization of stakeholders	Establishment of a regional level within the 4p1000 network (regional councils, focal points, stakeholder involvement, network expansion).  Identify potential stakeholders, inform them about the "4 per 1000" Initiative and the opportunities that the interfaces and regional meetings offer to them and how they can connect.
2	Conception of regional platform	Develop a concept for regional platforms and periodical meetings based on partners' expectations particularly policy makers (launch a poll) and describing justification, purpose, objectives, and operation plan.  Elaborate a convincing business model for the operation of the interfaces, platforms and the organization of the annual regional events that clarifies who benefits from what and who assumes what tasks and costs that can be presented to decision-makers to persuade them to participate.
3	Mobilize support	Conduct public awareness campaigns on the importance of soil health and carbon sequestration  Lobby politicians and decision-makers to mobilize support (human, financial, and technical resources) for investments.  Strengthen networking with other climate related initiatives
4	Organize forums	Organize forums (including scientific seminars and meetings) between diverse stakeholder groups to develop collaboration. (Hold forums targeting knowledge exchange and practical outputs)  Facilitating respectful communication between all levels of stakeholders including researchers and knowledge users (policy and land management) will enable more evidence-based programs to be implemented and more farmers will be able to adopt practices that improve soil health and increase soil carbon.

## 4.7 Problem

This is the key problem that the objective addresses and the transformative target groups seeks to solve.

Problem Statement	Description	Consequences
Lack of opportunities for stakeholder groups and countries to meet, exchange, develop a mutual	The climate crisis is global and can only be resolved by international collaboration and mutual support that takes	Lack of mutual awareness and understanding of interests, needs, activities and constraints causes



Problem Statement	Description	Consequences
<p>understanding, evaluate complementarities in term of skills, capacities, constraints, and opportunities, assess potential for collaboration and mutual support and to develop partnerships for strengthen international and regional collaboration that is essential to solve the global crisis.</p>	<p>advantage of complementarities and honors the polluter pays principle. No individual country has sufficient competences and capacities to assess and realize its potential to contribute to improved soil health and carbon sequestration. Rich countries are the main GHG emitters but often lack the natural resource base that is required to live up to their responsibility. Annual global and regional multi-stakeholder events and professional journals and forum that center on soil health and carbon sequestration where stakeholders get to know each other, exchange, and explore opportunities for coordination of actions and develop partnerships are essential for the success of the “4 per 1000” initiative. At present such events are rare and sporadic and not systematic enough. A corresponding "4 per 1000" virtual blackboard / forum where stakeholders actively share knowledge and experience, advertise their work, and discuss is not well developed. The electronic platform of the Initiative provides the required infrastructure, but more work needs to be done to attract stakeholders and more resources and innovative approaches to efficient networking are required to serve the growing number of members and partners.</p>	<p>stakeholders to miss opportunities for creative thinking, collaboration, and mutual support, which in turn results in high transaction costs, high investment risks and low impact. The lack of regional and global exchange also means that countries and national organizations miss opportunities to forge alliances that allow pooling and sharing of resources to overcome constraints at national level and to make economies of scale.</p>

## 4.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Insufficient awareness	Lack of awareness of importance of soils in policy and among farmers. Insufficient awareness of stakeholders and the public about the relevance of soil health and carbon sequestration. For this reason, the topic does not get the attention and support it deserves.

#	Cause	Description
2	Insufficient coordination	Lack of organization and coordination of stakeholders, countries, and regions.  There is no proper link between various stakeholders and scientists and authorities and policy makers in planning to improve soil management.
3	Insufficient support and funding	The organization of such regional multi-stakeholder platform and meetings requires commitment and financial resources. These resources could be mobilized through projects.
4	Benefit and purpose unclear	Lack of a convincing demand and result oriented concepts that clearly demonstrates the added value of such platforms and events for building partnerships for action and impact on the ground that attracts stakeholders and sponsors.  There is no business model for the operation of the interfaces and the organization of the annual regional events that clarifies who benefits from what and who assumes what tasks and costs that can be presented to decision-makers to persuade them to participate.

## 4.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Awareness of public and policymakers	High public and policy makers awareness about the importance of soil health and carbon sequestration is key to get the public support for investments
2	Organization of stakeholders	Efficient and effective involvement of stakeholders, countries, and regions.  It is essential that potential stakeholders know about the "4 per 1000" Initiative and the opportunities that such interfaces and regional meetings offer to them and how they can connect. Each member has to promote the Initiative when participate to projects and conferences.
3	Sufficient Funding	Identifying and securing funding in projects to organize regional platforms and meetings. Motivate partners and members to host such an event (lower costs)  "4 per 1000" should develop synergies with other networks aimed at tackling climate change. This will strengthen the knowledge and decrease costs.
4	Convincing concept	Availability of concept that demonstrates the added value of such regional interfaces and events to stakeholders and that guides organization  Provide a convincing business model for the operation of the interfaces and the organization of the annual regional events that highlights the added value is available and clarifies who benefits from what and who assumes what tasks and costs that can be presented to decision-makers to persuade them to participate.

## 4.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Ignorance of the importance of soils	Poor understanding of the impacts of practices on soil health and soil organic matter must be overcome to show how good practice can combat degradation and improve food production for the long-term.
2	Lack of definition and standards	Lack of agreed international standards and definitions to guide complex discussions and negotiations that deal with soil health and soil carbon sequestration  Cooperation is needed to develop low-cost, practical indicators to show improvements in soil health and soil carbon over time.
3	Lack of funds	Too little financial maneuvering room, especially in developing countries
4	Role of "4 per 1000" unclear	Lack of a detailed description of the role of the "4 per 1000" initiative in the global system affecting soil carbon stocks (see A6), based on its mission.

## 5 A5 Carbon market - DRAFT Implementation Strategy

### 5.1 Goal A - INCEPTION & CONCEPTUALIZATION

**Facilitate the emergence and ensure the feasibility of methodologies, tools and recommendations that foster stakeholders' ability to implement the Initiative on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 5.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Carbon Markets	Screen, compile and share the best Carbon market mechanisms and compensation schemes on C sequestration	The 3 to 5 best compensation schemes, available in 2020, summarized and presented to members and partners of the Initiative.	Selection of the "4 per 1000" "certified" compensation scheme for adoption and implementation in the 5 regional levels, for agricultural lands and forests.	Global use of the "4 per 1000" "certified" compensation scheme by farmers and foresters.

### 5.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- This is an objective covered by available overview studies (see A5-Library).
- CIRAD has conducted an in-depth analysis of existing options and availability in different contexts (CIRAD: Qualitative data on soil carbon certification schemes in agriculture and forestry).
- The missing overview of the different options is only a small part of the problem. Farmers wish to have more clarity of the benefits of those existing global C compensation schemes and they often have no access to them. Frequently, it is not easy for one single farmer to enter the C market because of the currently low price for each C ton. Therefore, certain NGOs or companies aggregate them to derive credits out of a larger area.
- We have to identify the real gap for farmers. Is it only the access to the C market? Perhaps we need to develop another economic instrument to provide a realistic financial incentive that drives agricultural transformation toward regeneration within the 4p1000 network.
- Real problem: Low market-effective demand for carbon sequestration and high transaction costs
- The answers reflect a broader understanding of the objective"

## 5.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Carbon market	Farmers have efficient and effective access to carbon market mechanisms and carbon sequestration offsets.

## 5.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Qualitative data on soil carbon, carbon markets, and compensation schemes in agriculture and forestry compiled in cooperation with CIRAD and available with open access.	3 to 5 compensation schemes are identified as commendable by the 4 per 1000 initiative and shared among the network through the electronic platform and the initiative's website.	3 to 5 alternative economic instruments that provide a realistic financial incentive that drives agricultural transformation toward regeneration are explored and/or developed.

## 5.6 Activities

N°	Activity	Description
1	Advocate for higher carbon offset prices.	Advocate for establishing higher prices for carbon offset credits. Advocate for increasing certificate prices within the voluntary carbon market.  If demand is insufficient to establish appropriate prices, the supply side must advocate for increasing certificate prices. Emphasizing on the importance of carbon sequestration projects in cleaning up our historic carbon footprint and co-benefits (climate resilience, soil fertility, productivity) are important distinctive features compared to e.g., emissions reduction projects
2	Scheme comparison	Comparative review of compensation schemes, including a stakeholder analysis, and define shared criteria. (Comparison criteria)  It will be important to define shared criteria at the basis of schemes comparison. Criteria must be transparent. The rating of existing schemes and the selection of a favorite one is a step to be elaborated with the community.
3	Adaptation of PA Article 6	Engage in the dialogue and negotiation around Article 6 of the Paris Agreement. (Engage in the dialogue / negotiation around Article 6 (Paris Agreement))
4	Help the rich	Support investors in entering the carbon market by making the voluntary carbon market more transparent for them and by educating them in using this market.
5	Improve access to compensation schemes	Strengthen public-private partnerships within compensation schemes. (Public and private access)

N°	Activity	Description
		The scheme should guarantee the access to both private and public subjects. This is fundamental. Existing schemes often do not promote public-private partnership. Some schemes are more suitable for private subjects and other for public.
6	Alternative markets	Either through subsidies of some sort, or tax incentives, or some other mechanisms, we need to foster the market adoption of projects that sequester carbon while regenerating ecosystems and communities. We could promote an acknowledgement of carbon credits in regional and local policies (e.g., as rewarding criterium) aimed at farmers.
7	Improve legislation	Lobby to assure the introduction of a carbon removal fee that assures that polluters pay the full cost for undoing the damage.
8	Pricing with co-benefits	Improve recognition of co-benefits of increasing SOC sequestration Identifying the co-benefits for SOC by providing price premiums in market mechanisms where there are extra benefits such as socio-cultural or climate resilience gains will help farmers to have confidence to adopt practices that increase SOC.

## 5.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Carbon markets are not attractive to farmers because market effective demand for carbon sequestration is low (low prices), the market is opaque, participation is complicated, and transaction costs are high.	Land users, in particular small-holder farmers, do not perceive the existence of carbon markets as an incentive to adopt good practices that foster soil health and carbon sequestration. Transaction costs are very high relative to the low value of the carbon credits. There exists no clear overview on the differences between established certification schemes and other market mechanisms. A range of competing approaches to designing and delivering carbon market mechanisms exist today. This is confusing to market players and slows the increase of demand.	The role of carbon markets in supporting the out-scaling of good practices that foster soil health and carbon sequestration remains below its promised potential. Demand for carbon certificates is still low and that hampers price increase. Because certification costs are too high, it is only profitable to enter the carbon market with an exceptionally large land area or a high number of aggregated land lots. Cluster approach is, basically, the only solution applied today to involve small farmers, but needs an intermediary able to carry out the project

## 5.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Unrealistic expectations	<p>Market mechanisms focus on technical solutions such as CCS, and on afforestation or reforestation, in which C-stock calculations are relatively straightforward.</p> <p>They are not adapted to the complexities and long-term nature of carbon cycles in the soil.</p> <p>Sequestration rates have not been proved to be sufficiently high to enhance demand.</p>
2	False eco-cost calculation	<p>Global economy follows the imperative of eternal and maximal growth. Compensation schemes are (only) an attempt to offset the costs of land degradation.</p> <p>We have not found a way yet to "price in" actions that are beneficial to climate and soils. Some market schemes are starting to provide premium payments for carbon + ecosystem services credits but this needs more development.</p>
3	Intransparency	<p>Missing accompanying decision support tool for credit buyers and sellers. There are too many certification schemes with little differences and it's difficult for companies to select. There is a need to be able to distinguish the schemes certifying genuine improvements.</p>
4	Costly MRV	<p>Development of methodologies for carbon certification is costly and time intensive.</p> <p>Operational costs for sequestration projects are higher than for emission reduction projects.</p> <p>The high cost of implementation and demanding standards for C sequestration recognition, excludes smaller farmers and foresters in poorer countries from the market.</p>
5	Market fragmentation	<p>Currently the signatories of the Paris Agreement have not agreed on whether and how carbon certificates from sequestration projects can be used to compensate emissions within the compliance market (Article 6). Carbon certificates from sequestration projects can hence only be sold on the voluntary carbon market at low prices or in domestic market schemes in some countries.</p>
6	Inadequate legislation	<p>Governments do not sufficiently push the harmonization of different standards of the voluntary carbon market, the integration of the compliance and the voluntary market, the financial support for the transition phase in the AFOLU sector until being able to demonstrate C sequestration.</p>
7	Unrealistic demand	<p>Demand for carbon removal must be much higher to assure impact. Polluters are not forced to pay the price for assuring the removal of all their CO2 emissions. The legal basis obliging the full elimination of exhaust gases is lacking. Demand for offsets is growing because industries, organizations and some governments are setting 'net-zero' targets. This is likely to increase towards 2050 but there is a need for certifying of SOC offsets to be improved.</p>

## 5.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Methodology for C-stock change	Develop methodologies that enable the quantification of changes in C-stock from soil-enhancing practices and their access to markets. This will enable practitioners to be rewarded for their practices.
2	Markets access	<p>Ease of market access and attractiveness to landowners and managers.</p> <p>Assure systems that will create good incentives and are workable for them.</p> <p>Enable long term visibility on the price of a ton of carbon. in the long terms. Need to see carbon market as a complementary source of revenues, not as the major one.</p> <p>This could include aggregation methods that allow farmers to combine their efforts to reduce transaction costs and make it feasible to participate in markets.</p>
3	Market intelligence	<p>Monitor development and take stock of the situation in the different countries, of the financial solutions and mechanisms that have been put in place to support the change in farmers' practices or any positive steps for reducing greenhouse gases.</p> <p>Take stock of the situation in the different countries, of the financial solutions and mechanisms that have been put in place to support the change in farmers' practices or any positive steps for reducing greenhouse gases.</p>
4	Impartiality & objectivity	<p>Neutrality of Task Force Members.</p> <p>Plenty of Team Members will have direct or indirect incentives to promote carbon market mechanisms that they are engaged with. Maintaining objectivity through this process will be important.</p>
5	Openness to innovation	<p>Open to innovation and out-of-the-box-thinking. (Openness to innovation)</p> <p>Ability to identify innovative solutions to improve market mechanisms.</p> <p>There are new technologies for increasing SOC, new monitoring technologies ... The best carbon schemes in 2030 and 2050 will not look like the ones we have today. We need to anticipate that.</p>
6	Robust and efficient MRV	<p>Robust and efficient MRV. (Robust and efficient MRV of soil carbon)</p> <p>If sampling of soils remain too resource intensive to monitor Soil organic carbon (SOC), we need to utilize the practical options we have: Modeling of SOC with robust scientific models. Uncertainty must be dealt with through conservativeness and not be used as excuse to not conduct projects</p>
7	Foresight	<p>Higher accuracy of climate prediction models to recognize urgency for CO2-removal. (Successful renegotiation of emission reduction pathways)</p> <p>CO2 emissions and emission reduction potential have to be estimated with higher accuracy in order to design emission reduction pathways that lead to certificate shortage, increasing certificate prices and hence strong incentive for emission reduction and sequestration.</p>
8	Co-Benefits	<p>Include ecosystem benefits in payments for carbon sequestration. (Expand the value of Credits to include ecosystem benefits)</p> <p>To fairly price credits that derive from nature-based solutions we need to value the ecosystem benefits that they provide. This will enable a</p>



N°	Critical Success Factor	Description
		practitioner to be properly rewarded as compared to the planting of a forest monoculture.
9	Inclusivity	Level of involvement of stakeholders in current and under-development soil carbon markets. Stakeholders in current and under-development SOC carbon markets are the ones who will have the most precious feedback on carbon schemes.
10	Adaptation of Article 6	Article 6 of Paris Agreement must integrate soil carbon sequestration projects. Article 6 of Paris Agreement must integrate soil carbon sequestration projects. 4p1000 must provide information to help the signatories of the Paris agreement to agree on how to integrate carbon sequestration projects in the compliance markets.

## 5.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Know how	Lack of knowledge on how to participate in carbon markets. According to countries, the compensation mechanisms put in place may not be accessible, or the actors difficult to identify or reach.
2	Competition among certification companies	Competition between private certification companies and 'over-selling' of short-term gains can lead to loss of confidence for farmers.
3	Trade with data	Private companies want to hoard or sell data. Clusters of data held do not create a mechanism to develop international systems
4	Highly restrictive procedures	Long and restrictive procedures for carbon offset projects. For a carbon project to be financed, it takes at least more than 12 months. Project leaders are sometimes tired and give up along the way or do not know the right door to submit their projects.
5	Legal hurdle for CO2 removal	There is no legal basis that forces polluters to pay for the removal of CO2 emissions. There are also little diffused rewarding mechanisms, at regional and local scale, aimed to farmers that develop carbon credits.
6	Uncertainty of C-Sequestration extent	Non-permanence and incertitude on the real quantities of C that can be stored in a specific soil (non-harmonized MRV methods).

## 6 A6 Conceptual Framework for SH and SOC - DRAFT Implementation Strategy

### 6.1 Goal A - INCEPTION & CONCEPTUALIZATION

**Facilitate the emergence and ensure the feasibility of methodologies, tools and recommendations that foster stakeholders' ability to implement the Initiative on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 6.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Reference Framework	Develop a scientific reference framework including socio-economic aspects (research programs, international scientific cooperation and STC) that shows the potential of soil health contributing to carbon sequestration resulting in a positive carbon balance in AFOLU systems.	Start a multi-stakeholder discussion.  Contribution to CIRCASA project and inception of the IRC.	A scientific reference framework elaborated and used.	A scientific reference framework updated and used.

### 6.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- The term "Conceptual framework" is more common than "Reference framework."
- In the targets, we should define for what we plan to use the framework.

### 6.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Conceptual Framework for SH and SOC	Develop a scientific conceptual framework for reference including socio-economic aspects (research programs, international scientific cooperation and STC) that shows the potential of soil health contributing to carbon sequestration resulting in a positive carbon balance in AFOLU systems.

## 6.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Start a multi-stakeholder discussion.  Contribution to CIRCASA project and inception of the IRC.	A scientific conceptual framework elaborated and used for internal and external communication and decision-making.	A scientific conceptual framework updated and used For internal and used for external communication and decision-making.

## 6.6 Activities

N°	Activity	Description
1	Organize Task Force	Assemble a group of motivated, capable, and open-minded experts.
2	Define basic design	Define architecture of the conceptual framework, rules, and principles for its development.
3	Elaborate a list of definitions	Elaborate and manage a list of definitions in multiple languages based on existing international standards.
4	Assure synergy	Build on existing models, concepts, theories and frameworks. Inventory of existing models, concepts, theories, and frameworks.
5	Agile development	Agile development of the conceptual framework in short iterations.

## 6.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
There is no science-based, holistic, conceptual frame of reference that presents our understanding of the fundamental factors and cause-effect relationships that are critical to SH and SOC in a clear and universally understood manner that can be used for "4 per 1000" internal and external communication and decision making.	Without a reference framework, root problems and causes cannot be identified nor tackled. The initiative requires this conceptual framework to be effective in delivering solutions for soil health, food security and climate change.	Most activities of "4 per 1000" are concentrated on increasing the visibility of the initiative and interacting with the network. Result-based target setting remains low. The global problems of soil degradation, food insecurity and climate change remains unsolved.

## 6.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Harmonization	The diversity of soils and management practices worldwide require a greater effort from the scientific community to establish common criteria for evaluating the potential of soils as carbon sinks.
2	Divergent understanding	Different expectations of the stakeholders regarding the "4 per 1000" initiative and the lack of clarity regarding the cause-effect relationships impair the initiative's ability to make decisions and act.
3	Insufficient knowledge	Soil science is a very complex topic that still needs lots of research. Just like climate science needed to create the IPCC at some point, we need a scientific framework to strengthen research, communication, reach-out, tools for operational initiatives.
4	Insufficient consensus	Lack of an international framework to develop common policies (UNCCD does not involve all countries)
5	Lack of awareness	Very often, the practical utility of conceptual frameworks is misunderstood and their relevance for guiding interventions is underestimated. Many ignore that good conceptual frameworks are also extremely useful in practice, not only in research, as they greatly facilitate the understanding of complex issues by laypersons.
6	Silos-thinking	Reasoning is often done in silos. Resulting conceptual frameworks are not holistic and do not cover all dimensions and intervention levels of topic with which the initiative has do deal with.

## 6.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Flexibility	Context-adaptable and data-based determinants for conceptual framework.  Consensual definition of the situations where the potential of C sequestration is more promising: 1) in quantitative terms (low potential of C sequestration on large areas, or high potential on reduced surfaces), 2) in qualitative terms (perennial C sequestration = make C sequestration viable (context-adapted, cheap, easy, resilient)
2	Agroecology centered	Scientific assessment of agroecological practices and its adoption, impact on SOC, productivity and livelihood will provide pathways for sustainable soil and land use management.
3	Interdisciplinarity	Capacity to mobilize experts form a broad range of disciplines (scientists, politicians, practitioners, etc.) that are willing to engage in the development of a holistic conceptual reference framework
4	Living soils concept	It is necessary to go deeper in our knowledge of the role of soil microorganisms for soil health. This is an area where there is a lot to discover.
5	True cost	Scientific Assessment of ecosystem services for the agriculture sector, forest, businesses, and its impact on ecosystems and create mechanisms for payments of ecosystem services that will improve SOC and carbon sequestration.

N°	Critical Success Factor	Description
6	Clear definitions	Comprehensive set of definitions in multiple languages that enable mutual understanding, exchange, and collaboration.
7	Agile development	Appropriate methodology and approach for conceptual framework development using the electronic platform. The availability of a simple and solid architecture and development procedures is key for the development of a conceptual framework that is easy understood and flexible. The methodology should favor an agile development approach. Produce first version fast and make regular updates according to additional inputs and feedback.
8	Simplicity	The reference model should present the key drivers of soil health and soil organic carbon and their cause-effect relationships on a single page so that it can be used by different stakeholders in consultations.

## 6.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Consensus hard to reach	Mass participation complicates reaching consensus. It should work with a limited number of participants from each country well trained in the subject.

## 7 B1 Responsible Investment Plans - DRAFT Implementation Strategy

### 7.1 Goal B - IMPLEMENTATION

**Foster enabling environment and/or framework (business model, trustworthy third-party, tutoring, mentoring, amplify impact, scaling up) for implementation on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 7.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Investment Plans	Encourage the development and implementation of national and/or supranational strategies (including incentive and regulatory mechanisms) and responsible investment plans for soil health derived from the NDCs' targets.	Inventory of strategies and investments plans existing as of 2020.	50% of the UNFCCC country Parties = 98 countries.	100% of the UNFCCC country Parties = 196 countries.

### 7.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Targets should be more specific on SH & SOC
- Targets should indicate the nature of the documents (strategies and investment plans)

### 7.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Responsible Investment Plans	Encourage the development and implementation of national and/or supranational strategies (including incentive and regulatory mechanisms) and responsible investment plans for soil health derived from the NDCs' targets.

## 7.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Inventory of strategies and investments plans existing as of 2020.	50% of the UNFCCC country Parties = 98 countries consider SH & COC in their strategies and investments plans.	100% of the UNFCCC country Parties = 196 countries consider SH & COC in their strategies and investments plans.

## 7.6 Activities

N°	Title	Description
1	Enable economic gain for stakeholders on the ground	First, identify technologies that provide economic benefits to make the mechanism more sustainable OR implement a PES system that is sustainable in the long term, i.e., change local tax policy.
2	Promote common use of key performance indicators	Enable system-level investors to find entrepreneurs and enterprises that can provide impact management evidence on soil health alongside farmers' net income growth.
3	Adapted mechanism with land tenure	Implement mechanisms that consider current land tenure. It is crucial to take land tenure into account and therefore to develop the mechanisms in a participatory manner. Mechanisms must be adapted to land tenure and not the contrary.
4	Invest in innovative projects with impact evidence	Connect financial resources with innovative and profitable projects in regenerative agriculture. Bring capital and know-how to achieve value added products through capital investments in technology and innovation.
5	Changing technical references	The technical references (agronomic and economic research, etc.) must always consider the 4p1000 approach. We can copy gender or environmental approaches that are now automatically considered in the reflections of decision-makers and experts.
6	Label "4 per 1000" as social awareness	Social recognition can mitigate the economic shortcomings of the mechanisms. A label should make it possible to identify those who "act to save the planet". It could also help to put social pressure on others. The label can be developed at different levels: "research", "company", "farmers", "government", "city", "consumers"
7	Assist strategy developers	Provide SH&SOC expertise and assist strategy development

## 7.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Despite their pledges and promises, governments are doing too little, too slowly, to incentivize land users to care	Despite their pledges and promises, governments are doing too little, too slowly, to incentivize land users to care	No real change. Current market rules keep incentivizing modes of production that do not

Problem Statement	Description	Consequences
for soil health and high SOC levels.	for soil health and high SOC stocks.	consider their impacts on soil and public health.

## 7.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Absence of externalities in agri-food price systems	Policy measures are being informed by biased market data. As stated by De Schutter and Vanloqueren (2011), “the absence of full inclusion of externalities in agri-food price systems has enabled the development of industrial farming despite important social and environmental costs and has hindered a comprehensive valuation of the benefits of agroecology. The success of large plantations is, in part, attributable to the fact that the price of food does not reflect the real costs to society resulting from their operations, particularly from the impacts of their modes of production on the soil and climate and on public health”
2	Misconception of Agriculture and Farming	Policymaking and market-building processes are being built upon a misleading definition of Agriculture and Farming, in which farms are understood just as productive enterprises, disconnected from natural ecosystems; ignoring the multi-input, multi-functional, multi-output nature of agriculture.
3	Lack of NGO/CSO activism	GHG and biodiversity have benefited from a strong support by CSO helping to raise the case for international community to federate and commit to tackle the issue. There is no such outcry for soil
4	Soil health concept is not understood	Soil health science is vast and complex. It seems difficult to extract a simple, single message around which public and government could align their policies, making an international coalition more complex to create
5	Viable technical solutions are lacking	The technologies available to enable the "4 per 1000" have a too low economic productivity. On the other hand, 4p1000 actions do not integrate any indirect positive effects to make these technologies more attractive. Finally, the methods of mass dissemination are too inefficient.
6	Land tenure system is a challenge.	The land tenure aspect is fundamental in the 4p1000 approach. These systems are very numerous and the attempts to implement them are currently too little in advance, which diminishes their effectiveness.
7	Guidelines for the consideration of SH and SOC are missing.	Developers of national strategies lack proper guidance and knowhow to make sure that SH and SOC are adequately addressed.

## 7.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.



N°	Critical Success Factor	Description
1	Coordination between stakeholders	Stakeholders involved in the implementations must necessarily be supported to strengthen their linkages.
2	ESG and Soil health Transparency	Investors and consumers could be critical game-changers if ESG and soil health data is put first-hand for them to make better choices.
3	Sustainability of mechanisms	Implementation mechanisms must necessarily take place over a long period of time.
4	Social Recognition	Stakeholders who implement actions enabling "4 per 1000" must necessarily benefit from social recognition
5	Taking the land tenure into account	Implementation mechanisms must be adapted to the land tenure and its functioning. It is an illusion to want to change land tenure rules to allow the mechanisms to work.
6	Expertise of strategy developers	Strategy developers must have sufficient knowledge about SH, SOC and possible solutions.

## 7.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Change the land tenure first	Wanting to change land tenure first is a major obstacle because (i) it takes a long time, (ii) land tenure is very complex and can lead to conflict, and (iii) it distorts the social fabric and makes other actions counterproductive.
2	Lobbying practices promoting status quo	Strong lobbying practices keep delaying policy change and public understanding of the environmental and social issues at stake.
3	Punctual mechanisms over a short period of time	Implementing mechanisms in a short period of time is counterproductive. At best, it can at best allow getting closer at the time of the mechanism, but the impact will disappear with the end of the mechanism.
4	Lack of communication built around successful projects	The lack of a clear and continuous communication strategy built on successes of regenerative Agriculture across the globe creates a barrier, as misleading information on monocultures as agricultural "best practices" is leading the industry.
5	CBA as a decision support tool.	CBA (change-advisory board) is a major decision support tool for donors, governments and even field actors. However, it is essential to move away from this paradigm. It is crucial to use the CBA criteria as a prioritization tool and not as a selection.

## 8 B2 Technology database - DRAFT Implementation Strategy

### 8.1 Goal B - IMPLEMENTATION

**Foster enabling environment and/or framework (business model, trustworthy third-party, tutoring, mentoring, amplify impact, scaling up) for implementation on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 8.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Technology database	Facilitate access to information and capacity development for land managers, in particular women, on how to improve soil health and increase SOC content for all agro-pedo-climatic regions.	Database of good practices on SOC management and capacity development delivered to one region and its sub-regions, as of 2021. Ex: Africa could be the 1st targeted area.  Development of the basis of the database with some major partners.	Database of good practices on SOC management and capacity development delivered in 2 additional regions like Asia and South America. Reviews and assessments conducted every year.	Database of good practices on SOC management and capacity development delivered globally.

### 8.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Short title can be easily confused with B3. Suggest to change it to B2-Technology database
- Considering the targets, the objective is to provide a Technology database, not to facilitate the access to relevant existing databases. Target must be reformulated to avoid misunderstanding. Targets for 2030 and 2050 Need to be reformulated to fit the objective and a reasonable timeframe (urgency of the matter)

### 8.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Technology database	Provide a technology database to facilitate access to information and capacity development for land managers, in particular women, on how to improve soil health and increase SOC content for all agro-pedo-climatic regions.

## 8.5 Proposed revised Targets

Baseline 2020	2030	2050
Presently "4 per 1000" does not provide access to databases with relevant content and existing databases do not systematically indicate the potential impact on soil health and climate.	An advanced and updated database related to SOC, and soil health improvement is delivered in 2 additional regions like Asia and South America. Reviews and assessments are conducted every year.	An advanced and updated data base related to SOC, and soil health improvement is delivered globally.

## 8.6 Activities

N°	Activity	Description
1	Collaborative development	Screen and build upon existing databases, such as WOCAT, and compilations, such as the Technical Manual on SOC management from FAO/GSP.
2	Specify conditions	Identify areas with similar climatic and socio-economic conditions for more precise and specific recommendation of good management practices. (Sub-region identification)
3	Local and indigenous	Consider local and indigenous knowledge and innovations for inclusion in the database. Knowledge of local techniques for restoring degraded land and conserving soil fertility allow activities to be properly started. This knowledge facilitates the modification of local techniques to innovate and adapt them to current conditions.
4	Multiple languages	Enable increasing translations. (Translation and localization) Recruit helpers and coordinators from different regions to translate content of the database and adjust to suit the needs of local land managers. Consider the adoption of graphical schemes for better dissemination.
5	Training of users	Plan provision of training for users of the database.
6	Gather feedback	Continuous collection of feedback for further development of data base.

## 8.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Information on best practices and expertise to improve management of soil organic matter and soil health is difficult to access.	There are different management practices for soil organic matter and soil health globally. However, there are few databases on such contrasted good practices, they are site-specific, and the access to them is limited for producers. There should be a platform where people organize database at different levels and share with the global community in local languages.	Limited access to such database limits knowledge and awareness. Sustainable soil management is not applied extensively enough around the world to the levels that would revert the consideration of agricultural lands from source of GHG to sinks. Diffusion and adoption process is slow and is overflowed by e.g., large deforestation schemes or uncontrolled urbanization.

## 8.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Lack of sustainable investment	Piece-meal / fragmentary initiatives and actions at global scale for the development and maintenance of a technology database. These piece-meal efforts are constrained by several factors like lack of capacity, institutions, resources, knowledge etc. Therefore, communication regarding soil organic matter and soil health has not been holistic.
2	Ignorance of factors determining adoption	Sustainable management practices are site- and technology level specific, many environments and practices around the world lack sufficient knowledge level to advise on certain practices. Similarly, MRV protocols are difficult to follow since SOC increases can only be verified with certitude in the mid- and long term.
3	Insufficient awareness	Because of misunderstanding about the role of soils and their health in climate change mitigation, most donors do not fully recognize the importance of soils. As a result, they are less committed when it comes to investment in building the required capacity.
4	Lack of relevant content	Soil maps at a scale and with an associated database that can be used for soil management are missing in many regions of the world. This is necessary for technology transfer since most of the SSM are site specific.

## 8.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Soil knowledge	Deep and sufficient soil science knowledge. Land managers are informed of the soil situation.  Acquiring knowledge about soils must be the starting point in order to work on it so sufficient information is needed from land users so that they can play their role in soil fertilization and soil management in general. Local

N°	Critical Success Factor	Description
		(autochthonous) soil knowledge (LSK) must be valued and used when defining site sustainability.
2	Training of users	Participatory training of extension services, farmers associations and NGOs on soil health and climate change. NGOs working in this field are the actors closest to the grassroots. Only if they have good information they will be able to sow seeds for a sustainable transformation in favor of soils.
3	Practical evidence	Collection of available real-time evidence jointly with relevant groups (e.g., women farmers). (Evidence)  Success stories of land management practices with quantifiable, scientifically valid, and contrasted evidence are the best way to disseminate and expanding their application.
4	Adaptability	Data base of good practices available should be based on systems thinking and locally adaptable.
5	Sustained funding	Policy makers support the project with the needed resources.  Sustainable funding mechanism to maintain data base.
6	User-friendly interface	The database should be easily accessed with an interface that suits the needs of land managers in the field.
7	Agile development	Continuous development of the database based on user feedback.

## 8.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Communication tools	Multiple languages and illiteracy.
2	Pushback from agroindustry	Large economic interests of agroindustry.  Monopolized food production chains.  Food system is extensively controlled by international corporations, mobilizing local capacity can risk their interests so that it may not be welcomed.

## 9 B3 GAFOLUP Helpdesk - DRAFT Implementation Strategy

### 9.1 Goal B - IMPLEMENTATION

**Foster enabling environment and/or framework (business model, trustworthy third-party, tutoring, mentoring, amplify impact, scaling up) for implementation on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 9.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
GAFOLUP Helpdesk	Develop and implement science-based regional helpdesks for :  (a) the planning of local actions on good AFOLU management practices  (b) the establishment and use of compensation schemes for carbon sequestration  (c) provision of ecosystem services at appropriate levels (principle of subsidiarity)	Help-desk active in one region as of 2021.	Help-desk active in 5 regions.	Help-desk active globally with more countries and sub-regions involved.

### 9.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- no remarks

### 9.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
GAFOLUP Helpdesk	Develop and implement science-based regional helpdesks for (a) the planning of local actions on Good Agricultural, Forestry and Other Land Use Practices (GAFOLUP), (b) the establishment and use of compensation schemes for carbon sequestration and (c) provision of ecosystem services at appropriate levels following the principle of subsidiarity.

## 9.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Help-desk active in one region as of 2021.	Help-desk active in 5 regions.	Help-desk active globally with more countries and sub-regions involved.

## 9.6 Activities

N°	Activity	Description
1	Team of experts, office staff	A useful helpdesk is a competent helpdesk. Great attention must be given to the skills and experiences of selected experts. The helpdesk must have a team of professionals and office staff for communication and networking among the various stakeholders. The team should also include experts who can play a key role in implementing guidelines and certifications.
2	Network of experts/scientists/practitioners	It will be essential to have a complete database consisting of contacts of scientists, practitioners, and experts (individuals and institutions). This network will be instrumental in addressing the functions of the helpdesk.
3	Compiled information and access to technologies	To function effectively the helpdesk will require access to compiled information on the sustainable land use technologies/ practices compiled under various other objectives of 4 per 1000.
4	Provide market intelligence	Better access to markets and better information about prices and conditions.
5	Resource mobilization in each region	Either support fundraising in each region, or collectively grant a funding to globally initiate
6	Develop a regional helpdesk	The development of regional helpdesks is important. The closer it is to the user, the greater the user's trust. Many countries must be represented.
7	User friendly communication systems	Provide regional platforms and use social media for regular interactions and knowledge sharing among stakeholders. The language should be easy for farmers to understand.
8	Provide guidelines	Provide comprehensive technical guidelines to ensure the function of the regional helpdesks. It is expected that these guidelines will be developed under other objectives of "4 per 1000" and made available to the helpdesk.
9	Private sectors participation	Assure participation of the private sectors. It will play a crucial role in the compensation market.

## 9.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
There is no reliable and impartial intermediary to help producers find appropriate technologies, expertise, and advice to participate in carbon markets, take advantage of support programs, or become providers of other ecosystem services. There is a lack of assistance to help producers transition to agroecological practices.	The objective of establishing a helpdesk will address the following problems: Lack of reliable information source of regional and local guidelines / technical back-up advice on good agriculture/ forestry/ alternative land use that can create positive impacts. Lack of access to appropriate sustainable technologies for the given situation Lack of database of experts/institutions and practitioners of improved and sustainable practices. Lack of interaction between investors and practitioners for carbon sequestration, ecosystem services and ecological restoration/ conservation. Lack of common platforms, events and coordination among stakeholders, publicity.	<p>No single source for collaborating between scientists, experts, and practitioners.</p> <p>Low access and dissemination of knowledge and technologies pertaining to sustainable land management, ecosystem services and carbon sequestration.</p> <p>The efforts on these issues will remain scattered and no opportunity to build upon the past experiences and learning's</p> <p>Poor adoption of sustainable practices in land management, ecosystem services and carbon sequestration.</p> <p>This will result in further aggregation of the problem of soil fertility depletion, low crop yields and deteriorating ecosystems.</p>

## 9.8 Causes

These are the root causes of the problem that implementation needs to address.

# Cause	Description - explanation
1 Farmers are not aware	Farmers often are not aware of the positive effects that good AFOLU practices can have on soil ecosystem services.
2 Information is scattered	Information on sustainable agriculture, forestry land management practices and crops suitable for various land and soil parameters is scattered and incomplete. This creates a bottleneck for interested institute's individuals to access and adopt appropriate information.
3 Expertise is difficult to find	Nobody knows who can help! So, they do not start.
4 Available techniques are not communicated	Scientists and Public authorities struggle to communicate to farmers and producers the availability of innovative techniques and related benefits.
5 Extension ignores agroecology	The conventional institutes and extension efforts have a lower focus on the sustainable practices that can improve carbon sequestration and ecosystem services as it is not mandatory.
6 Platforms for exchange between practitioners are scarce.	Lack of common platform for interactions between experts, practitioners, and investors. This is also restricting access to



#	Cause	Description - explanation
		information and knowledge regarding the land use pattern, sustainable technologies, and practices.
7	Seed money is lacking	Funding is crucial to implement. No funding, no scalable.
8	Information on the effect on SH and SOC is not available.	At present there is no single source of information on suitability of crops against soil and land parameters, sustainable practices for carbon sequestration, estimation of carbon, carbon stock management and ecosystem services for a particular region.
9	Practitioners are not organized	Lack of awareness among the practitioners, lack of coordination among the stakeholders and low publicity.

## 9.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Competent staff	A useful helpdesk is a competent helpdesk. Great attention must be given to the skills and experiences of selected experts.
2	Network of specialists	It will be essential to have a complete database consisting of contacts of scientists, practitioners, and experts (individuals and institutions). This network will be instrumental in addressing the functions of the helpdesk.
3	Access to technology information	To function effectively the helpdesk will require access to compiled information on the sustainable land use technologies/ practices compiled under various other objectives of "4 per 1000".
4	Good market intelligence	Better access to markets and better information about prices.
5	Ability to attract funds	Either support fundraising in each region, or collectively grant a funding to globally initiate.
6	Proximity to users	Develop regional helpdesk is important. More is close the helpdesk and more is confident the user. Many countries must be represented.
7	Experienced staff	The help desk will have to depute a team of domain experts and office staff for communication and networking between various stakeholders. The team should also comprise experts who can play a key role in implementing guidelines and certifications.
8	User friendly communication systems	Platforms including social media for regular interactions and knowledge sharing between stakeholders. It will be essential to have a complete database consisting of contacts of scientists, practitioners, and experts (individuals and institutions). This network will be instrumental in addressing the functions of the helpdesk.
9	Availability of guidelines	Comprehensive technical guidelines for regional application will be required for the functioning of the helpdesk. It is expected that these guidelines will be developed under other objectives of 4per 1000 and accessible to the helpdesk.
10	Private sectors involvement	Private sectors would play a crucial role in compensation market.

## 9.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Lack of awareness of the helpdesk	To be effective, the help desks must be recognized and promoted by public authorities and farmers' and producers' associations. Without their endorsement it is difficult to collect many users.
2	Absence of and expert database	The absence of a comprehensive database of scientists, experts, practitioners, and investors is a barrier which will have to be overcome for the functioning of the helpdesk.
3	Poor organization of farmers	Traditional structures and farmers organizations lack the will to adapt to new challenges.
4	Farmers do not have time	Farmers do not have time to contact people and get informed. We must contact and go to farmers to inform them.
5	Poor connectivity	Low or poor access to latest communication networks (e.g., Internet) in remote areas. Farmers do not have means to contact people.
6	Costs	The establishment and smooth functioning of the helpdesk will require adequate financial resources.

## 10 B4 MRV-toolbox - DRAFT Implementation Strategy

### 10.1 Goal B - IMPLEMENTATION

**Foster enabling environment and/or framework (business model, trustworthy third-party, tutoring, mentoring, amplify impact, scaling up) for implementation on the ground**

This is goal to which the objective mainly contributes, while keeping in mind the vision , mission and guiding principles of the "4 per 1000" Initiative.

### 10.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
MRV Tool-Kit	Develop a user-friendly online toolkit (including verified assessment and monitoring tools) on soil health and soil organic carbon.	Collection of existing tools and experts. Compile and launch an online tool-box that will be improved continuously.	Actors in 40 countries use 20% of the tools of the box.	Actors in all countries use 40% of the tools of the box.

### 10.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Status (Baseline 2020) is not fully achieved.
- Objective is actually an activity part of the MRV-goal
- Objective and status should be merged as: Compile a user-friendly online MRV-toolbox within the electronic platform on soil health and soil carbon, including verified cost-benefit-analysis as well as assessment and monitoring tools (decision-support-system), that will be updated and improved continuously.
- Only use the term MRV Toolbox in the short title (label) and text to avoid confusion.

### 10.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
MRV Toolbox	A user-friendly online MRV toolbox as part of a public electronic platform for soil health and soil carbon is available. It includes tested tools for cost-benefit analysis, evaluation, and monitoring (decision support system). The system is linked to freely accessible soil databases worldwide and is continuously updated and improved.

## 10.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Existing tools and experts on MRV are known and active in the 4p1000 network.	Existing MRV-toolkits have homogenized and clearly defined outputs available in the electronic platform.	MRV-toolkit builds an important basis for development and use of dynamic and ecosystemic soil health diagnosis.

## 10.6 Activities

N°	Title	Description
1	Resource mobilization	Raise funds for MRV from public and private investors that fund climate action projects and encourage research in SOC dynamics.
2	Stakeholders' involvement	Identify and involve major MRV-tool developers and users to analyze and match supply and demand for the toolkit.
3	Synergy	Stock taking and evaluation of existing MRV tools including transferability, regional adaptability, and knowledge frontiers.
4	System integration	Support the establishment of a global integrated monitoring system (see GLOSI from FAO). This will be crucial to overcome initialization costs and facilitate large scale comparisons between regions, countries and even commodities. It will also help to support the provision of incentives to farmers implementing regenerative agriculture.
5	Inclusion of ecosystem services	Include MRV-tools for cost-benefit analysis and quantify ecosystem-function benefits resulted from good SOC management. This will encourage financial support greatly.
6	User friendly interfaces	Develop a user-friendly interface for the MRV-toolkit adapted to users' needs and possibilities. Explore what is the most broadly available online devices among farmers in targeted regions to develop a solution tailored to the most broadly available technology.
7	Pro small farm policies	Support the development of policies that provide support for small plots to continuously use MRV. Due to farm size, many small and medium farms, young and beginner farmers, which are so vital to local food resiliency, should always be required to be included and greater portion of funding in all available programs.
8	Training	Organize training modules for MRV-toolkit users. These training modules should be linked to training on soil carbon storage activities.

## 10.7 Problem

This is the problem that the objective addresses.

	Problem Statement	Description	Consequences
Final draft	The availability, reliability, and accuracy of current MRV	While there are a variety of field, laboratory, and remote sensing soil assessment tools, a compilation of the many methods developed does	Different methodologies have not been harmonized to enable robust result comparison. Missing agreement on how to

	<b>Problem Statement</b>	<b>Description</b>	<b>Consequences</b>
	instruments vary from country to country.	<p>not result in a single efficient, state-of-the-art protocol that ensures MRV reliability. There are many tools/techniques proposed by the scientific community, with varying levels of development and complexity, and varying ranges of validity. It is very difficult for a non-expert to select among these instruments. A global consensus on what constitutes good soil management practices with cost-effective and practical tools for land managers to evaluate soil regeneration outcomes remains elusive.</p> <p>This includes establishing third-party verification and monitoring mechanisms to make the system transparent and reliable and to attract investors. This is a prerequisite for evidence-based agriculture and land management practices as an important feedback loop in the system.</p>	<p>measure soil health and soil carbon also leads to confusion and makes positive results from GAFOLUP adoption debatable. This hampers policy action and investments.</p> <p>Different methodologies can also add value and robustness when combined. Instead of harmonization, an alternative consequence can be an additional stage of methodology integration.</p>

## 10.8 Causes

These are the root causes of the problem that implementation needs to address.

#	<b>Cause</b>	<b>Description</b>
1	Invisibility	Soil health and soil carbon need to be measured and cannot be estimated macroscopically.
2	Oversimplification	<p>Classic Soil laboratories over-emphasize soil physical and chemical properties, simplifying the dynamics of plants, soil, and soil organisms.</p> <p>The results discourage perspectives of promoting soil health from an ecosystem perspective. It also has limitations to provide in-situ diagnosis of soil health conditions.</p>
3	Complexity	SOC dynamics are more complex and long-term based than the mere amount of total carbon at one specific time.
4	Regional calibration	MRV-tools are often calibrated only at global instead of regional level.
5	Costliness	Current SOC measurement methods are costly, resource-intensive and time consuming.
6	Lack of standard for SOC	The traditional indexes (carbon mineralization coefficient, microbial biomass: carbon ratio, metabolic quotient, and mean retention time of SOC) require standard quantification and detailed training in terms of calculation and standard units for each index. It is not easy to determinate if: (a) a natural or added SOC is easily mineralizable or

#	Cause	Description
		stable, (b) microbial biomass is growing or decaying after soil amendments, (c) soil biomass promotes biomass production or CO <sub>2</sub> emissions, indicating potential toxic effects of organic amendments and (d) the potential mean retention time of SOC under the assumption that all SOC will be transformed to CO <sub>2</sub> under current soil respiration rates.
7	Multivariate	Soil is a complex ecosystem with interacting biophysical processes leading to functions and properties. Soil health is an integrative concept that can be formalized in different ways.

## 10.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Co-design	Farmers' involvement. (Co-design with farmers) Farmers should have tangible benefits when using the MRV toolkit
2	Open source	Grant open access to the MRV kit and generated data. This allows the community to develop tools further, builds on network effects and contributes to a growing data stock, which makes MRV in the future easier.
3	Accuracy and reliability	The online toolkit is validated with farm-level sampling for multiple regions to provide confidence to users and to incentive providers that the assessment and monitoring tools are useful.
4	Finance-target	Incentivize evaluating and reporting SOC level by land manager by putting values and attracting demands on SOC
5	Stakeholders' inclusion	Overview of relevant models and actors that do long term SH and SOC study and monitoring
6	State-of-the-art	Keep in mind that technologies will change in the next 10 to 30 years. Built the MRV kit around technological trends, which are likely to stay such as remote sensing-based models, drones and airborne direct measurements and modeling. It is recommendable to evaluate how to integrate laboratory and remote sensing data.
7	Context specific	Regional advocates help adapt the toolkits into local context with local resources and available materials as well as demonstrate to frontline parties. This is especially important when the frontline has limited knowledge base or difficulties in reading/comprehending written materials.
8	Synergy	Cross referencing with some established toolkits such as those from FAO's soil global partnership scheme to make a more adaptable toolkit.

## 10.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Skepticism	Contextual considerations regarding the regions' cultural practices and myths can hinder people's acceptance towards new tools. For example, impressions like those that soil is full of pathogens and insects which are mostly harmful to crop yield are deep-rooted in the farming communities.
2	Knowledge transfer	New research-centered approaches and technologies need to become applicable. For this a transdisciplinary approach is needed, which builds on initial research results but is centered around action research incl. field testing of MRV techniques and gathering feedback in a real-life context.  The gap between research and application can be filled by private companies.
3	Infrastructure	Many farmers, from rural USA to subsistence farmers in developing countries, lack access to (high speed/broadband) internet.
4	Policy support	There is a lack of regulations and incentive programs to support the use of MRV-tools. It is necessary that the governments promote the use of these protocols in the field, giving support to the mentioned training.

## 11 C1 Advocacy & Awareness - DRAFT Implementation Strategy

### 11.1 Goal C - PROMOTION

**Raise awareness and advocacy, build trust, encourage partnerships, engagements, and commitments of all stakeholders**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 11.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Advocacy & Awareness	Advocate for soil health and the importance of soils for climate and food security and raise the general awareness on the central role of the "4 per 1000" Initiative	In 2020, no measurement of the assisted-awareness of the "4 per 1000" brand is available. Measurement to be conducted.	100% of assisted awareness-notoriety for the "4 per 1000" brand.	100% of spontaneous awareness-notoriety for the "4 per 1000" brand.

### 11.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Brand is already addressed in C4
- If the objective is advocate, then we should set targets and measure it according to what WE do
- Develop a PR Guide
- Set a number of events addressing the general public as a target
- Need to clarify and clearly formulate the target groups for the different objectives among Goal C

### 11.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Advocacy & Awareness	Decision makers and the public are aware of the interdependence between soil, food security and climate and recognize the central role of the "4 per 1000" initiative as a driver for change.



## 11.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Sporadic events targeting the public on the importance of soils for food security and climate. Strong social media presence and simple PR-Kit (?) available.	Information and educational material on the importance of soils for food security and climate in all UN-languages available on the "4 per 1000" electronic platform. PR-Kit for conducting awareness raising events available for all partners	"4 per 1000" network to conduct at least 50 awareness raising events coordinated as common campaigns per year with public, schools, farmers, land planners and other stake holders and influencers.

## 11.6 Activities

N°	Activity	Description
1	Communication strategy development	Develop a global communication strategy.
2	Elaborate a PR-Kit	Collect and engage in the production of material for social media, TV, radio, newspapers with scientific backstopping. Materials on the positive Impacts of Improving soil health and restoring it through natural processes. Sharing business models etc.
3	Organize campaigns	Enable all interested partners to share the messages and make use of materials created for the information campaign. Materials should allow for partner identity to be expressed.
4	Inclusion in curricula	Advocate for the inclusion of the connection between soil-food security-climate in primary and secondary school curricula. This must be connected to human health as well as impact on cognitive development on children. Low nutrient uptake through soil will result in deficiencies that will and does impact human health (food chain chemicals in soil)
5	Convince agri-food industry	Advocate for the importance of soil health among food industries. Agroindustry controls the food supply chain. Food carbon labelling to ref soil. Identify global leaders and ambassadors - credit those on-board.
6	Influence consumer demand	Historically corporates shift their products according to consumer demand. Consumers decide what they eat, use, and buy. They are the major influencers in this challenge to bring about a global change. Changing trends and health consciousness can be used as tools for pushing this agenda forward.

## 11.7 Problem

This is the problem that the objective addresses.

	<b>Problem Statement</b>	<b>Description</b>	<b>Consequences</b>
Final draft	Decision makers and the public are not fully aware of the interdependence between soil, food security, and climate and the role of the "4 per 1000" initiative as a driver for change.	Lack of awareness on the critical importance of soil health for humanity and ecosystem health. Global society does not acknowledge that soils and climate are interdependent through the global carbon cycle. Currently, soils can be seen as a major source of air pollution because of the high emission of GHGs. However, CO2 and other GHGs are not widely recognized as air pollutants. Also, the role of soil organic matter for soil fertility is not always recognized as important for food security. The "4 per 1000" initiative, despite being internationally known, has not achieved the necessary success to be recognized as a change driver.	The missing awareness of soil health and regenerative soil management has led to the custom of relying on the use of synthetic inputs and high-tech seeds to achieve a good agricultural performance. This results in massive soil exploitation mainly through industrial agriculture. Although farmers and food enterprises around the world are starting to recognize the benefits of regenerative agriculture, its adoption remains low. The transition toward regenerative practices has the reputation of being risky due to the not clearly demonstrated and communicated potential to improve yields and contribute to climate change mitigation. Many organizations and initiatives are working to enhance the commitments required for improving soil health. Because there is no mandate nor strong market, duplication of efforts is common. The required synergy between the different groups is hampered by competition for financial resources.

## 11.8 Causes

These are the root causes of the problem that implementation needs to address.

#	<b>Cause</b>	<b>Description</b>
1	Lack of convincing PR material	Spreading of complex information to the public is challenging and not enough educational courses have been developed or adopted by school systems (No educational courses).  Scientific recommendations are brought to public with the scientific uncertainty which is difficult to understand for the public.
2	Lack of coordination of collective action	There is a lack of collective action with a clear guideline and timeline. In the absence of such a guideline, people tend to follow their own way of thinking, which leads to individual but not collective and effective action.
3	Conflict of interest	Governments set development priorities that compete with soil health and are unaware of the long-term implications of their decisions.
4	Dispersed ownership	Soil management is a task that affects billions of people around the world. As a result, it is difficult to take a unified approach to improving soil health and to inform about efforts in this regard.

#	Cause	Description
5	Pushback of Agroindustry	There is a predominant influence of agrochemical industry in agricultural extension and policymaking.
6	Human-nature disconnection	Because of the technological advances and how our society has evolved since industrialization, people grow up in cities and far from the natural environment. The recognition of oneself being part of nature is mostly lost. The importance of nature conservation and restoration is no longer part of one's own survival but has been degraded to an altruistic activity of society.

## 11.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Mindsets and political Will	Changing the mindset and creating the political will: transforming the Ministry of Agriculture into a Ministry of Sustainable Use of Natural Resources that places soil health at the center of its agenda as the driving force for improving agriculture, promoting agroecology, and holistic land management.
2	Global approach	Continued effort by "4 of 1000" to take a global approach to this problem.
3	Enhanced communication	The initiative needs to be seen to base its advice on objective scientific information and to be open and transparent in its activity. A Communication Strategy is essential.
4	Simplified soil scientific knowledge	Soil scientific knowledge needs to be simplified for the public and decision makers.
5	Promotion of agroecology	Moving to a mosaic of agroecosystems that, each in their own way, stimulate biological synergies between various plant and animal species beneath and upon the earth's surface, from soil fungi to cereals, pulses, and trees, from bacteria or earthworms to large bovines.
6	Engagement in schools	Educating future generations will be key to success.
7	"Producers first" principle	Most of leader consider themselves first and producers at the end. Because we need strong relationship with producers to meet our target, a "producers first" principle might be a major factor to consider at all levels.
9	Initiation of "4 per 1000" principles	The importance of creating business models that can successfully integrate the 4 per 1000 principles and are based on soil as a driving force in future economic and well-being of communities as well as the planet

## 11.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Education	While eco-alphabetization is hugely important, debates on educational reform have been happening for decades and pulling in vastly different directions. It also requires engagement between multiple levels of government, private institutions, teachers, parents, and other stakeholders.
2	Short-term policy	Continuity is hard to achieve in natural resources management policy because legislative periods are too short compared to timescales to restore soil health.
3	Insufficient proof	Impact is difficult to measure. Actions for soil health are not monitored centrally. Collecting scientific data for farmers or maintaining a record may not be easy. Many farmers may also not want to share information.
4	Coordination	Other agendas can confuse strategic messages or be contradictory for the public. Commercial strategies could get hi-jacked by groups with other agendas e.g., anti-meat. It will be important to have a clear, objective, and trusted voice.

## 12 C2 Soil Regeneration - DRAFT Implementation Strategy

### 12.1 Goal C - PROMOTION

**Raise awareness and advocacy, build trust, encourage partnerships, engagements, and commitments of all stakeholders**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 12.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Soil Regeneration	Promote the paradigm shift from "soil exploitation" to "soil regeneration" through agroecology and sustainable land management practices at the level of producers and businesses along value chains.	Globally, contact 10% to 15% of farmer associations / federations per region.  Contact the Top 20 global Food businesses involved in Ag. and or Forestry.	Contact 100% of farmer associations per region.  Contact the Top 50 global Food businesses involved in Ag. and or Forestry.  Contact the Top 20 regionally.	Reach regionally, 100% of smallholder farmers and family-held farms.  Contact the Top 100 global Food businesses involved in Ag. and or Forestry.

### 12.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- be more specific about the stakeholders and the expected behavioral change.

### 12.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Soil Regeneration	Value chain actors in agriculture and forestry, as well as land managers, have undergone a paradigm shift from "exploitation of soils" to "regeneration of soils" and have adopted the science-based principles of agroecology and sustainable land management in practice.

## 12.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Adoption rates of regenerative farming are insignificant. Products from regenerative agriculture play an insignificant role in global food supply chains. The soil exploitation paradigm prevails as a principle for land management.	50% of value chain actors in agriculture and forestry have adopted the principles of agroecology and sustainable land management in practice.	100% of value chain actors in agriculture and forestry have adopted the principles of agroecology and sustainable land management in practice.

## 12.6 Activities

N°	Activity	Description
1	Establish formal dialogue	Establish formal communication with farmers and consumers organizations and agri-food companies using existing networks for their possible roles in climate change mitigation. (Getting in touch with the cooperatives / supply chain players)
2	Engage in policy debate	Engage in high-level discussion panels with relevant policy makers and big players in agri-food and agro-businesses. This may immediately catalyze and break down all political hindrances that might have brought to interrupt our main goal thereby guaranteeing its future perspective.
3	Revise curricula	Transform agronomists', agricultural engineers', and extension specialists' training curricula towards eco-systemic approach of agricultural systems with soil health, plant health, soil organic matter, above- and below- ground biodiversity promotion and climate at its core.
4	Consumer campaigns	Support consumer campaigns to encourage demand for soil- friendly products of low carbon footprint and high nutritional value.
5	Demonstration	Support the establishment and expansion of regenerative demonstration sites for on-farm training. This may include practices such as agroforestry, diversified cropping systems, biochar/compost/ biological inputs production etc..
6	Training of trainers	Strengthen extension and advisory services to monitor and improve soil health for all land users. Assistance such as consultancy and regular soil tests should be provided to producers for easier transition of soil management practices.
7	Develop regenerative practices	Invest into research and technology development. Support projects for knowledge co-creation to develop regeneration adoption strategies. Collect scientific evidence on the benefits and co-benefits of sustainable soil and agricultural system management and create new and innovative solutions for sustainable management through co-creation / co-innovation with farmers/producers and policymakers.

## 12.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
<p>Too few actors of the agri-food sector fully embrace the principles of agro-ecology and adopt practices that lead to soil regeneration.</p>	<p>Soils are considered just a "medium" for plant growth. The focus on short-term top yields and the pressure of cost reduction and output maximization leaves no room for the implementation of regenerative agricultural practices. Regenerative farming is wrongly perceived as providing only long-term benefits in soil health while offering no short-term profits. Due to the prevalence of superficial knowledge of soil and its role in plant yield, farmers are often unaware of the fact that effective management of the interactions within the pedosphere promises better yield, lower costs, and continuous improvement in soil health in the long run.</p>	<p>As a result of widespread "soil exploitation" in agriculture, organic matter inputs are usually too low, leading to serious soil degradation and erosion hazards. Degradation of soil health leads to dependence on costly external inputs and reduces the overall fertility of the soil and thus the health of the crop. Excessive use of synthetic fertilizers, pesticides, and heavy tillage is now considered a major cause of soil biodiversity decline and soil organic matter loss as CO2. Over time, agriculture has become less attractive as an economic activity and a way of life for younger generations in rural areas. All this poses another threat to climate change, food security and food safety. Agricultural innovations in more technologically advanced countries always look for answers in the genetic engineering of seeds instead of looking for the root cause in ecology, as it is easier for agribusiness to make money by selling seeds with promises than to train farmers to change their practices. This dynamic creates a vicious cycle that is detrimental to the promotion of regenerative practices.</p>

## 12.8 Causes

These are the root causes of the problem that implementation needs to address.

# Cause	Description
<p>1 Lack a holistic science-based knowledge</p>	<p>Farmers and producers lack a holistic and update science-based knowledge and understanding of soil and plant management. Such training opportunities are rare. Even if there is opportunity, the training many times is on "conventional" principles based upon outdated scientific understanding of plant physiology and its relationship with soil life and organic matter.</p>
<p>2 No ecosystem accounting</p>	<p>The current pricing ignores the degenerative effect of exploitative production processes and its detrimental effect on soil, plant, and human health in the long run.</p>
<p>3 Too little short-term economic incentive</p>	<p>Farmers are unwilling to shift their paradigm from soil "exploitation" to "regeneration" due to a lack of short-term economic benefits (incentives and demand). Consumers generally look for food with lower price but not for higher nutritional value or lower carbon footprints and environmental impacts. This discourages the transition towards sustainable agricultural</p>

#	Cause	Description
		production. Farmers are afraid of change, and there are no rewards for preventing soil degradation or restoring soil health.
4	Short-sighted policy	Short-term oriented and non-inclusive policy planning on natural resources management that does not regulate land use to avoid soil degradation and conflict between users is a common place for elected governments operating on free-market principles. Consideration of product quality, effects on soil health, human- and animal health and other environmental issues can only be prioritized high enough when they are seen in the context of national security.
5	Industry influence	Agrochemical and agricultural biotechnology industry influence farmers' management decisions and agronomic research strongly. Reductionist science, competitive thinking and profit oriented thinking has led us into the mechanized chemical industrial agriculture. The global agrobusiness complex have transformed farming away from natural methods and approaches based upon sound coherent scientific knowledge. Market thinking has created global food chains with agro-products as commodities consumed far from place of production.

## 12.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Awareness	High awareness of farmers, businesses, policy makers and consumers on soil and climate effects from food production.  Create awareness among farmers and consumers that soil is a living entity, and its 'life' is in the soil biology and organic carbon which has to be protected to ensure sustainable and healthy crop production.
2	Capacity development	All stakeholders need to be equipped with the necessary science-based knowledge, skills, and tools to make the paradigm shift and the awareness of the change in roles demanded of them.
3	Training materials and concepts	Provide farmers organizations materials, tools, and training to improve and exchange their knowledge on science-based soil health management and the concept of agroecology.
3	Conflict management	Successful management of conflicts among stakeholder groups arising from the paradigm change from "exploitation" to "regeneration".  Strong, credible, and communicable evidence that conflicts arising from the paradigm shift among stakeholders across social strata, sectors, regions and nations and continents can be successfully resolved.
4	Fair cost sharing	Faire pricing that considers negative and positive environmental impact on-site and off-site of food production, transportation, and consumption.  Promote transformation into a fair economic system that rewards soil health protection and restoration based on quantitative commitment from governments, businesses, and consumers.
5	Evidence of benefits	Solid science-based, practice-oriented data and knowledge base to inform producers, agri-food businesses, and consumers about the benefits of



N°	Critical Success Factor	Description
		sustainable land management practices and enable soil health monitoring for all.
6	Reduce risk of transition	Economic support to lower the risks and finance investment during the transition period to regenerative practices. Farmers need to be guaranteed adjusted rewards and financial support during the transition years.  Farmers need both tangible(financial) and intangible (recognition of goodwill and far-sightedness) support during the transition years as motivation for change are different for different people.
7	Supporting regulations	Intensified agroforestry, agroecological and climate-smart agricultural practices and technologies and regulations to minimize use of chemical compounds should be integrated, evolved, and mainstreamed into agricultural national policy, strategic plans, and programs.
8	Inclusiveness of process	Bottom-up co-creation of science- and evidence-based knowledge among researchers, industries, and practitioners. This involves workshops, discussion panels, meeting, agricultural producers' organizations' trainships, exhibitions, demonstrations, and other measures. Research findings should be disseminated by coordinating bodies with no vested interests.

## 12.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Scientific discord	Potential of soil carbon sequestration for climate mitigation is contentious in the scientific community.
2	Risk averse behavior	High costs and risks for farmers arise during the transition period to adopt regenerative practices.  It is human nature that change causes anxiety and high cost and risk is always taken as an excuse before strong evidence to prove the otherwise.
3	Agroindustry pushback	Agrochemical and agricultural biotechnology industry play a big macroeconomic role and have strong influence on policy, foreign aid and farmers.
4	No immediate impact	Regenerative management effects on soil are only visible over the medium- to long-term. Response to chemical inputs is immediate and very pronounced compared to non-chemical methods of production. This discourages farmers from switching over to regenerative farming.
5	Unfavorable regulations	It is not uncommon that public policies and subsidies tend to favor industrial, chemical agriculture rather than the regenerative one.

## 13 C3 Increased investments in SH and SOC - DRAFT Implementation Strategy

### 13.1 Goal C - PROMOTION

**Raise awareness and advocacy, build trust, encourage partnerships, engagements, and commitments of all stakeholders**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 13.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Commitment	Convince policy makers and funders to increase commitments and investments in AFOLU in favor of soil health and carbon sequestration.	The Top 20* institutions contacted end of 2020.  <i>* Referring to the 2018 study about potential funders</i>	In 2030, the Top 80* institutions have been reached.	In 2050, every single policy maker or funder have been contacted.

### 13.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- none

### 13.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Increased investments in SH and SOC	Convince policy makers and funders to increase commitments and investments in AFOLU in favor of soil health and carbon sequestration.

## 13.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
The Top 20* institutions contacted end of 2020. * Referring to the 2018 study about potential funders	In 2030, the Top 80* institutions have been reached.	In 2050, every single policy maker or funder have been contacted.

## 13.6 Activities

N°	Activity	Description
1	Identify target groups for awareness creation	It is important to identify the most important target groups that we ought to reach for awareness creation. It is not possible to reach everybody. That must be done phase by phase.
2	Lobbying the relevant policy makers towards 1/4000 strategies	we are constantly working on it. but the policy makers are often "courted" by those who don't want to see change in trends, as it will affect their bottom line.
3	Review of existing commitment policies	What works and what doesn't among places with early adoption of soil healthy policies? How can/should public and private sectors make complementary commitments?
4	Develop contents for awareness creation	We should identify critical areas where we want to create awareness and develop their contents in a way, they are easily understood by our target groups.
5	Proposing template resolutions to relevant parties	Create "best practices" for soil health commitments with a few options for differing situations.
6	Identify innovative awareness creation approaches/methodologies	We must identify cost-effective methodologies or ways to do the awareness creation. How best can we reach our audiences in terms of conveying messages, minimizing costs, etc. must be planned properly.
7	Solicit for resources	Awareness creation and other engagements require resources. We must identify potential sources of resources and approach them.
8	Develop research projects that help in generating evidence	One of the reasons for limited commitment from relevant stakeholders is absence of evidence. Generating new evidence and organizing the already existing ones for this purpose is decisive.

## 13.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Policy makers and donors have limited willingness to invest in	There is limited commitment from policy makers and resource	Globally, soils are not given the attention they deserve. There are no clear and committed policies that give high emphasis to the

Problem Statement	Description	Consequences
maintaining soil health through carbon sequestration.	owners' side to invest in soil health maintenance through carbon sequestration.	importance of soils as sinks and emitters of important greenhouse gases. There is very clear lack of awareness from policy makers as well as donors on the role soils could play in mitigating climate change. Therefore, there is inadequate commitment from all stakeholders in taking soil health maintenance particularly through carbon sequestration as an important intervention in the fight against climate change and enhancing soil productivity and environmental safety. This has led to degradation of soils.

### 13.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Present Bias	Cognitive psychology has shown that individuals and groups tend to weight consequences that are closer to the present time, in relation to the future. To overcome this feature of the human mind, one may create shorter-term commitment structures. Human psychology requires near-term milestones to reach long-term goals. That is, deadlines and milestones help prepare for the future.
2	Agroecology approaches are seen as backwards	Dominance of the Agrarian landscape by Industrial agri-business. The excellent article by food tank on the dismissal display of the US representative sent by Trump to the FAO agroecology forum is like what is happening in SA. These Chemical fertilizer companies are all claiming that Agroecology is not "feeding" the nation and is not profitable.
3	Lack of awareness	Inadequate understanding of soil health and C sequestration potential. Many do not see soils as important carbon and other greenhouse gases sinks and emitters. Many understand soils as medium for plant growth and disregard the many environmental roles of soils. This lack of awareness has affected policies and investments in soil health maintenance-particularly in developing countries like mine.
4	Diffuse responsibility for climate change and soil health	To achieve the broader vision, we need to engage many sectors of many societies around the world, each of whom feel that climate change and soil health are not their responsibility. Governments, small farmers, agribusinesses, activists, conservationists will have to feel that everyone is doing their part.
5	Lack of adequate financial and other resources	In developing countries, resources are limited to make the necessary interventions. Most interventions are project-based, which most of the time stop after the life cycle of the projects comes to an end. The interventions are not sustainable.
6	Conflict of interest	Although most people might agree with the 4p1000 vision of healthy soil, there is labor, cost, and other sources of friction related to changing systems (e.g., investment in new equipment on farms and compost infrastructure in cities). Resources will be needed to support transition from extractive agriculture norms.

#	Cause	Description
7	Limited interest of donors in soils	Most donors believe that investment in soils does not change the livelihood of societies or at least its contribution is indirect. As a result, they are less interested in making huge investments in soils. Many experts working in soils have expressed this concern on various occasions.
8	Lack of clear and implementable policy	There is no clear and implementable policy that guides investment for management of soil health. Soils are most of the time treated under the big umbrella of "Natural Resources", giving mixed attention to soils and often confusing them with 'land'. If there is no clear policy, investment can't be committed.

### 13.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Define measurable goals	Measurable goals for governments and businesses may be defined in relation to a baseline or in terms of absolute numbers (e.g., SOM%).
2	Increase awareness	Awareness is key in making decisions. Relevant stakeholders must have the required level of awareness about the importance of maintaining/improving soil health in climate change mitigation and enhancing soil productivity. The awareness and knowledge gap must be closed.
3	Advocacy	Advocacy work must be done at global level to influence policy makers and donors at different levels. There must be a dialogue at different levels and with different audiences so that everybody gives the value soils deserve on this planet earth. This intervention has been very much limited.
4	Recalculating Agricultural Risk	Financial instruments such as crop insurance must be updated to reflect the new science of regenerative agriculture. Recognizing soil health as a crucial risk mitigation factor will change the incentives for agricultural businesses and therefore for government subsidies and other policies.
5	Generate evidence to convince policy and donors	The scientific community should generate evidence, through research, that show the importance of soil health in solving climate-change related problems and ensuring food security. Evidence is one thing that policy makers and donors most often ask for to make the required commitment.

### 13.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Lack of leadership	Very few local/regional/national leaders are willing to implement policies that are not popular in the short term. Need more guidance in building public support for long term goals.

N°	Barrier	Description
2	Limited resources for awareness creation	Awareness creation requires the use of different approaches to reach concerned stakeholder. This might require resources. Those resources might be limiting the engagement. Therefore, we need to overcome resource limitation.
3	Lack of Scientific Consensus	Harder to demand commitments without scientific backing. Need scientists to more clearly articulate long-term value of individual/local/regional commitments.
4	Lack of the appropriate expertise for advocacy	In some places, we may not have good number of cadres who can do the advocacy. We must produce sufficient and qualified expertise to be successful.
5	Difficulty to get attention	There could be resistance. We must be innovative enough to convince these major stakeholders.

## 14 C4 Branding & Certification - DRAFT Implementation Strategy

### 14.1 Goal C - PROMOTION

**Raise awareness and advocacy, build trust, encourage partnerships, engagements, and commitments of all stakeholders**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 14.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Branding & Certification	Develop and implement "4 per 1000" branding mechanisms (seals, certification, awards, etc), as a benchmark for soil health and SOC build-up	Study on interests and conditions to develop "4 per 1000" branding mechanisms.  Decision upon the branding mechanisms to select to improve the "4 per 1000" branding (target / audience / tools & purpose to be further defined).  Put the tools to be developed, on a timeline.	"4 per 1000" branding mechanisms fully operational.	"4 per 1000" branding mechanisms assessed, updated and fully operational.

### 14.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- none

### 14.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Branding & Certification	Develop and implement "4 per 1000" branding mechanisms (seals, certification, awards, etc), as a benchmark for soil health and SOC build-up.

## 14.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
"Study on interests and conditions to develop ""4 per 1000"" branding mechanisms. Decision upon the branding mechanisms to select to improve the "4 per 1000" branding (target / audience / tools & purpose to be further defined). Put the tools to be developed, on a timeline."	"4 per 1000" branding mechanisms fully operational.	"4 per 1000" branding mechanisms assessed, updated and fully operational.

## 14.6 Activities

N°	Activity	Description
1	Inventory of existing certification	Look for criteria for soil in existing standards.
2	Link to quantification and decision support tool	Develop and refine a comprehensive linked quantification and decision support tool that can meet the current needs of 4p1000 which aims to maintain and increase soil organic carbon through SLM.
3	Define criteria for brand allowing	It will be important to define shared criteria at the basis of brand institution. Criteria must be transparent.
4	Define scope	Define the scope based on analysis of the existing situation.
5	Assure public and private involvement	Both public and private subjects must be involved in the design of brand and branding mechanisms.
6	Positioning of the brand	Clearly specify the position of the "4 per 1000" compared to private schemes. Accreditation body?
7	Promote the scheme	To reach a large recognition of the brand at global level, the brand should be well known. Find sponsorship with this aim could help.
8	Elaborate a viable business model	Define the required means of the "4 per 1000" to carry out its activities.

## 14.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Lack of trustful "brand" for certifying healthy soil management.	Public agencies and civil society are more and more aware of the need for healthy soil management. Therefore, there is a need for a trustful recognition of healthy soil management by farmers and foresters. Today, too many commercial soils carbon certification schemes exist compared to the existing market.	Hard for the civil society, as well as farmers and foresters to identify which schemes is trustful and fit to their needs.



## 14.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Regional differences	The brand would be good. Otherwise, we will see lot of different brands in different countries and consumers are confused. But how can the brand consider regional differences?
2	Too many labels/certifications	Too many labels/certifications regarding agriculture which are quite empty most of time
3	Soil carbon is a new financial asset	Soil carbon is seen as a new financial opportunity by private companies' soil carbon is just seen as an extension from forestry carbon => certification companies do a business as usual, just exploring a new pool of carbon
4	No international branding initiative	international initiatives like the 4p1000 or the GSP didn't not address so far this issue of a trustful recognition of healthy soil management by farmers and foresters.

## 14.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Define simple rules	Rules to allow the brand use must be simple.
2	Soil at the center	Place of soil topic in those certifications. Make sure that the soil is REALLY addressed.
3	Clearly defined scope	Clear identification of the scope.
4	Standardized databases	Standardized data needed for branding mechanisms.
5	Credibility of the brand	Brand must recognize the effort of members.
6	Added value	It must be clear what the added value of the brand is.
7	Build constructive competition	Mechanisms as award can support brand's diffusion.
8	Positioning of the brand	How the 4p1000 interact with existing schemes.
9	Management	How will be done the management of the brand.
10	Widespread of the brand	Take care to brand's targets. "4 per 1000" brand has to be well known by farmers and Agriculture sector, but to be really appealing, has to be known also by consumers.

## 14.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Access to the standards of the certifications	Is there really a standard behind each certification?
2	Competition	Competition with private certification companies.
3	Make well known the brand	One limit could be represented by a well-designed brand mechanism but known by little number of persons.
4	Missing harmonization of tools and databases	Tools and databases addressing SLM objectives generally require the same core information on land use and management practices, soil type, climate etc. but often use different categories and questions.
5	Lack of resources	Management of a brand requires human resources.
6	Make credible the brand	The brand must be perceived as an acknowledgement for subject really engaged in climate issues, not a move of image.
7	No clear target	Clear target and added value of the brand needed.
8	Low identity of the brand	The brand has not to be confused with other commercial brands related to climate, sustainability, etc..
9	Cost of the certification	The "4 per 1000" brand has to keep the certification costs as low as possible, because farmers usually lack financial resources.
10	Boring communication	To reach consumers, a strong and simple message is needed. Just to say that "soil is cool".

## 15 D1 Collaborative platform - DRAFT Implementation Strategy

### 15.1 Goal D - COLLABORATION

**Implement an online collaborative platform that facilitates and supports interaction between partners, with a powerful toolbox, business plan and knowledge management strategy**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 15.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Platform	Facilitate, encourage, enhance and strengthen collaborations and exchanges among stakeholders within and around the Initiative	Collaborative platform 2.0 fully operational for the Secretariat, the STC and the Bureau.  End of 2021/22, platform fully operational for all members and partners.	Collaborative platform 2.0 fully operational for all members and partners of the "4 per 1000" Initiative.	Collaborative platform fully operational.

### 15.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Make the objective more specific to be consistent with the targets by mentioning the collaborative platform.

### 15.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Collaborative platform	An enhanced electronic collaborative platform facilitates, improves, and strengthens collaboration and exchange between stakeholders within and around the initiative.

## 15.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Collaborative platform 2.0 fully operational for the Secretariat, the STC and the Bureau.  End of 2021/22, platform fully operational for all members and partners.	Collaborative platform 2.0 fully operational for all members and partners of the "4 per 1000" Initiative.	Collaborative platform fully operational.

## 15.6 Activities

N°	Activity	Description
1	Explain the benefits of a collaborative platform	We need to get people to understand what a collaborative platform is and why one should be used in a collaborative team or initiative.
2	Regional platforms	2030: setting up sub-Platforms at regional level to coordinate in similar climate and soil conditions.
3	Promoting Governments to Governments cooperation	Enlisting countries to support each other for common actions for Soil data reporting information sharing and stakeholder mobilization
4	Conception of platform	Develop a need-based concept of the collaborative platform that clearly demonstrates the added value for stakeholders
5	Development and implementation	Iterative, agile and demand driven development of the collaborative platform
6	Capacity development	Ensure empowerment of the network of stakeholders and operators of the collaborative platform for sustainability

## 15.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Lack of collaboration and information sharing platforms for unified action.	Lack of cohesion in addressing the global issues facing us today regarding Soil regeneration and soil Health. People working in silo and effort and work being carried out on soil health is lost in the myriad of issues being addressed to combat climate change.	This results in at times untested interventions and failed strategies which leads to feeling of irreparable damage and undermines efforts. Farmers and other stakeholders lack of information and scientific support will lead to continued damaging practices that have already resulted in Soil degradation.

## 15.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Ignorance of the need for a collaborative platform	Not wanting to change and try out new up-to-date information systems delay some initiatives. As a result, their visibility and the visibility of their actions are hindered. The "4 per 1000" initiative has no comprehensive knowledge management concept that demonstrates the added value for stakeholders.

## 15.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factors	Description
1	Expanding scope of platform	It will be critical to ensure maximum participation of wide range of stakeholders that influence changes to land use patterns and thereby soil dynamics. information and scientific support through platform information on pathways to soil pollution to prevent future pollutions and methods for achieving it.
2	Inclusive approach to cover all aspects	To include information on broad range of issues that cover soil degradation with scientific support. Benefits of science and indigenous traditional knowledge. understand all climate zone and issues so key is the availability of knowledge and data for all CZ to make it a to go platform for problem solving for soil.
3	Diffusion of the research results	The results of the research must reach the producers, and they must tend to be simple to use and understand.
4	Added value for stakeholders	Added value must be clear and should meet demand of stakeholders.

## 15.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Lack of resources	Resources are missing in developing countries. Economics, equipment, structure.
2	Language Communication	Ensuring that content and information is exchangeable in several languages for easier access.
3	People's mentality, unwillingness to change	If people refuse to change, to try new ways to collaborate and to be transparent, there will be no solutions to the problem.

## 16 D2 Regional networks - DRAFT Implementation Strategy

### 16.1 Goal D - COLLABORATION

**Implement an online collaborative platform that facilitates and supports interaction between partners, with a powerful toolbox, business plan and knowledge management strategy**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 16.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Outreach	Contribute to the inception, development and outreach of regional networks	1 to 2 "4 per 1000" regional meetings organized every year	5 regional meetings organized every year or every two years	5 regional meetings organized every year

### 16.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

1. We suggest a small change in the wording of the objective: Contribution to the establishment, development, and expansion of regional networks
2. We suggest revising the targets and focus on regional networks and not on meetings for the following reasons
  - a. targets do not match the description of the objective,
  - b. meetings are indicators not results or outcomes,
  - c. the purpose of a network (network is a group of caring, dedicated people who are committed to maintain a relationship with other persons to support a given set of activities), a meeting is a means
  - d. the problem statements from feedback underline the need for a regional 4p1000 networks.
3. Objective A4-Interfaces is already pointing to regional meetings

### 16.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Regional networks	Contribution to the establishment, development, and expansion of regional networks.

## 16.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
1 to 2 "4 per 1000" regional meetings organized every year	"4 per 1000" regional networks established in all regions and active in member countries.	"4 per 1000" regional networks established in all regions and active in all countries.

## 16.6 Activities

N°	Label	Description
1	Establish "4 per 1000" knowledge exchange platform.	Identifying potential participants, organized in regions. It will be important to cast a wide net that includes many kinds of people and organizations, moving beyond personal networks for greater diversity and inclusion
2	Development of outreach materials	People will want to see a compelling case for participation, with engaging materials, probably including a combination of text, images, and video.
3	Assess needs and expectations	Launch a poll to identify expectations of 4p1000 members from regional meetings feedbacks will help to define the scope pf regional meetings
4	Become financially more independent from EU countries.	Widen the source of financial resources, maybe try creating foundation.
5	Meeting planning & follow-up	How to bring people together in the most effective way? When/where/how? How to make it meaningful for people? How to connect meetings with ongoing activities?
6	Use more languages	More languages than English and French should be used

## 16.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
The absence of regional "4 per 1000" networks.	The absence of regional networks is making information on SOC very difficult to be shared through experience of the various stakeholders. This has led to the fact that SOC work is done with no focus without coordination.	Lack of information or data hence possible influential results are missing or not shared with the public.  Duplication of activities this result in waste of time and resources.

Problem Statement	Description	Consequences
		<p>A failure to exchange information and resources constitutes an opportunity cost limiting or slowing progress toward the 4p1000 vision.</p> <p>Unbalanced representation of regions makes it hard to convince regional partners to adhere to the initiative.</p>

## 16.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Formalized structures for local knowledge exchange do not exist	Although now many new approaches are built by many different stakeholders, no good solution for local farmer communities exists to my knowledge.
2	People don't know each other across regions and sectors	As the healthy soil movement grows, it is harder to keep track of everyone involved, particularly in disparate regions or across economic sectors (e.g., nonprofit vs ag business).
3	The Initiative dominated by France	The Initiative was launched and is financed mainly by the French government that would lead to bias in priorities and activities.
4	Communication challenges	International communication can be challenging due to differences in language, time zones, cultures, etc.
5	The initiative is not aware and does not use regional networks	The initiative is not aware and does not use regional networks.

## 16.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Emphasize international status	Increase worldwide activities.
2	Regional and local focal points	A local spokesperson for regenerative farmers should exist. Identification of regional focal point of the "4 per 1000" among members.
3	Positive Output for Participants	Shared Sense of Purpose. There must be a clear motivation to engage with the online collaboration platform for individuals and organizations, beyond the emotional sense of belonging. This could be access to funding opportunities, information, or other resources, but the network should have a clear benefit to participants.



<b>N°</b>	<b>Critical Success Factor</b>	<b>Description</b>
4	Increase independent resources and support	Increase independent resources in income or at least reduce dependence on EU countries.
5	Diversity and Inclusion	Engagement of regional stakeholders, diversity, and inclusion. Potential participants must be contacted and engaged in the ongoing development of a network, despite differing access to technology and education. Participation must bring together a variety of constituencies with differing experiences and perspectives.
6	Enhance regional activities	Be more present in regions, do more region specific "marketing" and awareness and networking. Maybe create regional centers / hubs.
7	Use of regional languages	Enhance the communication in different languages. Some regional farmers do not know English or French.

## 16.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

<b>N°</b>	<b>Barrier</b>	<b>Description</b>
1	No regional hub	lack of members to be regional focal point
2	Regionalization is resource demanding	Focus in one region annually to strengthen the presence and move to another region each year.
3	Undefined benefits to participation	With all the task forces working simultaneously on related work streams, it may be difficult to conduct outreach for a collaborative platform that is not yet defined or developed
4	Information overload/attention deficit	The contemporary world can cause individuals working on climate solutions to experience burnout or exhaustion that prevents participation in an additional activity. Particularly during the Covid pandemic, it may be hard to engage people in additional online work.
5	Language	The Initiative should use other languages different from English and French

## 17 D3 Mobilize Youth & Seniors - DRAFT Implementation Strategy

### 17.1 Goal D - COLLABORATION

**Implement an online collaborative platform that facilitates and supports interaction between partners, with a powerful toolbox, business plan and knowledge management strategy**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 17.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Mobilize Youth & Seniors	Mobilize youth & senior networks on agriculture and forestry that support producers and local action groups in their transition to agro-ecology, including sustainable land management practices.	Define the most active youth & senior networks in each of the 5 regions. Contact the most active ones, globally.	Active partnership with regional youth & senior networks in the 5 "4 per 1000" regions.	Active partnership with regional youth & senior networks in the 5 "4 per 1000" regions.

### 17.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- none

### 17.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Mobilize Youth & Seniors	Mobilize youth & senior networks on agriculture and forestry that support producers and local action groups in their transition to agro-ecology, including sustainable land management practices.

### 17.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Define the most active youth & senior networks in each of the 5	Active partnership with regional youth & senior	Active partnership with regional youth & senior

Baseline 2020	Target 2030	Target 2050
regions. Contact the most active ones, globally.	networks in the 5 "4 per 1000" regions.	networks in the 5 "4 per 1000" regions.

## 17.6 Activities

N°	Activity	Description
1	Partner with CSO, FBOs and CBOs	Develop partnerships with CSO, FBOs and CBOs to capitalize on their know-how, experience, and trust to organize actions on the ground.
2	Differentiate case scenarios	Given the different target regions and potential contexts of implementation define several case scenarios in which different aspects and parameters will need to be considered. These need to be included in the guidance/protocol of implementation.
3	Mobilize youth and seniors to get involved	Organize attractive campaigns to get them onboard. Define a very easy-to-follow protocol of implementation including all the information needed to understand the why, the what, the how, and the when.
4	Formation of committed youth teamwork	An important field is learning teamwork, solving challenges, designing feasible proposals... and committing to the implementation of viable work for the communities.
5	Lobby for an adjusted curriculum	Lobby for a curriculum for problem solving and change.
6	Develop educational material	Develop educational material for equipping youth and seniors with the fundamentals.
7	Capacity development	Provide training opportunities for youth and seniors for improved, knowledge and the development of technical and social skills.
8	Launch social media campaigns	Intense use of social media to reach youth and to develop ownership of the process.
9	Mobilize support of experimental projects	Creating spaces for creativity, inspiration, unconventional thinking and experimentation.
10	Advocate for favorable conditions for change	Instill urgency and give tools to advocate for regenerative agriculture to those who are empowered to implement it.  Convince policymakers to create favorable conditions for decentralized, self-determined and self-responsible climate action. Taking action should be unbureaucratic, provide maximum freedom for creativity, facilitate learning and sharing of experience.
11	Incentive scheme definition	Definition of a long-term up-front incentive scheme for farmers. The industries contributing to climate change should also finance mitigation activities rather than expecting farmers to finance the implementation to then being able to compensate for their emissions.
12	Generate income opportunities	Develop and disseminate alternative business models to ensure that supporting producers and citizens in the transformation process, caring for the commons, and providing other regenerative services are profitable enough to earn a decent living.

N°	Activity	Description
13	Develop youth - seniors' interfaces	Develop and implement concepts to realize the synergetic potential of merging the drive and power of youth with the experience of seniors.

## 17.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Young people and seniors are not sufficiently engaged in climate action.	Massive engagement of young people and seniors is crucial to bring along the required system-change. The productive population is too busy to participate sufficiently in the change and the establishment is tied up in conflict of interest. Without the youth to lead and drive the change, and the seniors to support the process, the change will not be enough to solve the crisis, to establish a system of stewardship for sustainable natural resource management and adopt a sensible new way of life.	<p>Lack of engagement will further delay the required system change and increasing the risk of catastrophic climate change.</p> <p>High cost for system change and climate mitigation will increase and further increase the risk of system collapse.</p> <p>Low involvement undermines ownership of the process and will make it more difficult to cope with the consequences of climate change and to switch to a new way of life - "happy with less".</p> <p>Pressure on policymakers will not build up as strong and fast as is required assure that regulations are put in place for meeting the climate targets and getting climate change and get development under control.</p> <p>Lack of active and self-determined forward-looking action by youth undermines the overall creativity of our societies that is indispensable for change. It diminishes our chances of success.</p>

## 17.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Disinterest towards the agricultural sector	Disinterest in some population groups towards the agricultural sector. NOT all young people (especially those who live in the city) are interested in the countryside. Even for some, life in the countryside is something totally alien to the realities of young people. Governments attitude to take care of all societal problems.
2	Lack of knowledge about the importance of SH and SOC.	Lack of knowledge of the importance of healthy carbon-rich soils and how to restore them. With each harvest, soils are being robbed of their carbon content. They say we have less than 60 harvests with the current degrading content of soils. Soils must be regenerated to

#	Cause	Description
		restore the carbon back into the soils, and this will require human intervention.
3	Inappropriate educational system	Education is focused on performance in a competitive environment that leaves little room for the development of alternative lifestyle.
4	Lack of awareness of the gravity and urgency of the situation	Lack of awareness of the gravity and urgency of the situation.
5	Mixed and distorted messaging	Scientific findings about the likely course of climate change and the likely consequences of different scenarios resulting from our behavior (action and inaction) are not communicated with the necessary clarity and honesty by the establishment. The consensus of the scientific community is not taken seriously enough and is watered down by a polarizing pro-contra presentation in the media. Climate deniers are hugely overrepresented in the public debate.
6	Little room for experimentation	Society is not providing the space and opportunities to youth for self-determined self-reliant action and experimentation. Bureaucracy discourages creative people. Governments attitude to take care of all societal problems. The only way citizens can act is through the ballot box and protest.
7	Low proportion in elections	Especially in the industrialized countries, young people make up only a small part of the electorate.
8	Pushback from politics and corporates	Politics and corporate continue pushing the growth and increasing debt that is driving unsustainable resource exploitation. To defend their short-term interest, they do not encourage and support youth engagement in climate action and do little to prepare the next generation for what's to come. Both policy and corporates continue to suggest that we are dealing with a complicated problem, and it only takes a technical fix that will be found and allow us to continue our way of life. They deny the complexity of the situation.
9	Analysis paralysis	Action by our system is guided by the desire to maintain the status quo. Most attempts to deal with the crisis continue to follow the assumption that the situation is complicated and requires a technical fix that will emerge provided we have continued growth. This is absurd. It denies the fact that we are dealing with a complex situation and have a limited time frame to solve it. Pretending in a complex situation to be in a complicated situation is doomed to failure. The approach carries a high risk of losing valuable time through endless analysis "Analysis Paralysis" and limited resources are wasted on purely mental exercises that fail in real world.

## 17.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Alternative and relevant youth life projects	It is vitally important that children and young people in their school stage clearly define their personal life projects and that in one way or another they respond effectively with creativity and alternativeness to current challenges and particular needs.
2	Imagination and courage to experiment	Action needs to be guided by a clear vision of the future. The challenge is complex not complicated. To succeed in complex situation, one needs to have to courage to invest into safe to fail experiments, learn from the system's reaction and promote what works - "The proof of the pudding lies the eating". We need a mindset of emerging practice. Good practice is for complicated and best practice for simple situations.
3	Robust incentive schemes for farmers	Farmers need guaranteed long-term incentive schemes that support their up-front investment in regenerative agriculture.
4	Income opportunities in the regenerative sector	Capacity to create job and income opportunities for work in the regenerative sector trough the provision of eco-system services and for helping producers and citizens.
5	Tailored communication strategies	In each region, farmers will face different challenges. New proposals need to consider how these interact with existing pressures so that they adapt to a realistic way of approaching each specific context.
6	Efficient and effective use social media	Efficient and effective use social media to for youth dialogue.
7	Facilitate implementation	Guidance needs to be very easy to follow, facilitating access to required resources for implementation too. If implementation is not simple farmers might simply give up as they already must to deal with multiple pressures. A "plug-and-play" kind of concept might enhance engagement.
8	Partnering with CSOs, FBOs and CBOs	Partnering with Civil Society Organization (CSOs), Faith Based Organizations (FBOs), Community Based Organizations (CBOs) that invest in youth and community development.
9	Resources	Youth & senior networks on agriculture and forestry need the right resources (coms strategy, engagement tools) to be effective in engaging farmers.
10	Climate change in curricula	Include climate change and sustainable global natural resource management as a main subject in curricula.
11	Monitoring and Improvement	Record activities, outcomes, and actions arising from the different network interventions so that it is possible to identify what are the required resources to enhance the achievement of objectives.

## 17.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Skepticism	Risk adverse behavior and conflict of interest rooted in the ambition to preserve the present lifestyle.
2	Insufficient understanding	Insufficient understanding of the situation on options to deal with it.
3	Traditional education	Education focused on performance to serve in a competitive economy without social impact.
4	Already existing economic pressures	Existing economic pressures that leave little room for developing an alternative lifestyle.
5	Insufficient understanding	Many youths have little factual knowledge about climate change and how it will impact their future.
6	Insufficient knowhow	Youth might have the creativity and power to act but success also depends on the available competence.
7	Low reward for engagement	Work in the renewable sector does not pay well and is not enough to support a living.

## 18 D4 Partnerships & Alliances - DRAFT Implementation Strategy

### 18.1 Goal D - COLLABORATION

**Implement an online collaborative platform that facilitates and supports interaction between partners, with a powerful toolbox, business plan and knowledge management strategy**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 18.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Strategic Partnerships	Develop strategic partnerships and coalitions with relevant global networks and Initiatives.	Refer to the 2018 study about potential funders. Reach 20% of the most relevant global networks, Initiatives.	Sign a partnership with 10 to 20 of them.	Partnership with 50 of the most relevant and global networks, Initiatives.

### 18.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Replace the term coalition by alliance. Alliance is more about mutual interests or benefit, while coalition is more about doing some action.
- Make sure this objective is clearly distinct for A2 and F2. A2 is more about promoting project on the ground, F2 about the activities of the "4 per 1000" initiative. D4, this objective, is more about larger projects improving the enabling environment for change by the development and improvement of global facilities with competent partners.

### 18.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Partnerships & Alliances	Partnerships and alliances with relevant global funding and implementing organizations, networks, and initiatives contribute to the core and global facilities and thereby enhance the support and enabling environment for transformative action on the ground.



## 18.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Refer to the 2018 study about potential funders. Reach 20% of the most relevant global networks, Initiatives.	Partnerships with 20 of the most relevant and global networks, Initiatives.	Partnerships with 50 of the most relevant and global networks, Initiatives.

## 18.6 Activities

N°	Activity	Description
1	Identify relevant activity areas	Provide a database of core competences of partners. Screen the the "4 per 1000" strategy with task force members and identify thematic areas for potential partnerships.
2	Convincing / marketing of the importance of the initiative to organizations	Increasing knowledge and information regarding the objectives of the initiative and its relevance to current climate change and U.N. SDG goals. Organize and participate in conferences and seminars. Prepare information material that uses common language and make sure that it is consistent with the terms used in the strategic documents.
3	Targeted networking	Organize and engage regional "4 per 1000" networks to reach target organizations in the public and private sector and developing a list of interested individuals and decision-makers. Incentives: Making part of professional knowledge enhancement / development for employees of partners or sponsors.
4	Project identification	Ideation for the identification of potential projects in areas of common interest with selected partners and illustrate how the joint action could contribute to their ambitions. Sponsors and partners have their own specified sectors and goals identifying projects that will best attract and aligned. Incentivizing them to join as partners or sponsors. How it would enhance and fulfill Benefits to CSR and CC adaptation policies of sponsors and partners.
5	Joint project development	Develop project concept notes with interested partners.
6	Mobilize resources	Convince donors to invest.
7	Develop project and secure funding	Develop and submit full project proposals with partners, negotiate and secure funding.
8	Project management	Assure projects are successfully implemented. Project identified to partners will have to be fulfilled in accordance with timelines and strategic plan shared. Ensuring projects are implemented in accordance with the strategy in place with sponsor.
9	Monitoring & Evaluation	Define indicators and track progress considering common "4 per 1000" indicators. Third party evaluation. Preparing input and output criteria. Creating output reporting system.
10	Reporting to donors and dashboard	Report to donors, the beneficiaries, public and "4 per 1000". Reporting systematically to partners and gaining trust and confidence of sponsors.

## 18.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
The "4 per 1000" Initiative has not sufficient resources to implement its strategy.	Without effective partnerships with competent organizations and initiatives, it is not possible to develop regional roadmaps to increase support for transformative action on the ground and build transformative alliances to build, improve and maintain the enabling environment for change by developing and providing facilities for training, networking, knowledge sharing, learning, monitoring, reporting, and other needed support services.	Limited impact of the "4 per 1000" initiative on the ground.

## 18.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Label	Description - explanation
1	Purpose of the "4 per 1000" is not clear	Not understanding the necessity of the project. The purpose of the "4 per 1000" is not obvious to outsiders and newcomers.
2	Relevance to other key corporate goals	The initiative must define clear, ambitious, and realistic qualitative and quantitative targets that clearly demonstrate its uniqueness and potential tangible impacts on climate change, food security, and soil health.
3	Insufficient relationships	Lack of Identifying relevant groups. Lack of goal oriented systematic relationship building with all partners of the initiative. It is not clear what they expect from the initiative and what they can contribute.
4	Inability to develop Strategizing partnerships	Inability to develop Strategizing partnerships
5	Insufficient shared knowledge about partners	The members of the forum know too little about the core competences and ambitions of the other partners.
6	Insufficient inclusion and participation	Difficulties to make sure that partners get the same level of attention and fully participate in decision making. Lack of team building.
7	Lack of incentive to partner	Lack of incentive to partners.
8	Weak Marketing and knowledge sharing	Weak Marketing and knowledge sharing.

## 18.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Clear purpose	Regardless of what activity is undertaken, it must always be clear why it is relevant to the "4 per 1000" vision, how it relates to the reference framework (A6) and what impact it is likely to have on beneficiaries.
2	Professional planning and management	Systematic and coordinated approach throughout the entire project cycle from ideation to completion.
3	Respect on interest of partners and donors	Make sure that the action is in line with the interest (vision, mission) of partners and donors and proposed projects contribute to their goals and objectives.
4	Ambitious but realistic	Strick a good balance between being ambitious to be attractive and being realistic to avoid deception.
5	Competence and intention of partners	Make sure that partners involved have the required core competences and share the values and principle of the initiative.
6	Public Relationships	Have and attractive and up-to-date website, a lively presence in social media that focus on the work of partners and impact at the level of beneficiaries. Be present at all relevant events.
7	Sharing task with regional networks	Establishment of regional "4 per 1000" networks and sharing of responsibility and resources.

## 18.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Awareness of decision makers	Low level of knowledge and information at the level of decision makers and donors about the relevance of SH and SOC and the vision and goals of "4 per 1000" and the potential it offers for development and problem solution.
2	Costs	Insufficient resources to organize and follow up on related activities.
3	"4 per 1000" jargon	Like many professional network "4 per 1000" is using terms that are not commonly understood or a difficult to explain to third parties.
4	Greenwashing	The motivation of partners to join the initiative differs.

## 19 E1 MRV catalogue - DRAFT Implementation Strategy

### 19.1 Goal E - FOLLOW UP

#### **Establish an international science-based framework recognized by all stakeholders for the assessment of impact through Monitoring, Reporting & Verification**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 19.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Monitoring, Reporting and Verification	Screen and evaluate monitoring tools (remote sensing, database, sensors, etc) and methodologies that estimate state and change of soil organic carbon content at various scales	Identification of the 5 major players.	Complete overview of the 20 major players and their methods of screen monitoring tools.	"4 per 1000" catalog about all the methods of screen monitoring tools.

### 19.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- The objective should not be formulated as an activity but as an aim. "A catalogue of MRV tools (remote sensing, databases, sensors, etc) that provide accurate and reliable information about SOC stock change at various scales for all world regions is publicly accessible.
- We suggest formulating more ambitious targets since, a) the objective can be reached with little investment, b) fundamental for many other objectives in which carbon accounting and informed decision making are mentioned.
- We suggest merging this objective with B4 and assure that activities are complementary to E2."

### 19.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
MRV catalogue	A catalogue of MRV tools (remote sensing, databases, sensors, etc) that provide accurate and reliable information about SOC stock change at various scales for all world regions is publicly accessible.

## 19.5 Proposed revised Target

Baseline 2020	Target 2030	Target 2050
Identification of the 5 major players.	Complete overview of the 20 major players and their methods of screen monitoring tools.	"4 per 1000" catalog about all the methods of screen monitoring tools.

## 19.6 Activities

N°	Activity	Description
1	Needs and gap analysis	Assess needs, offer and gaps (MAGIC dedicated management cluster). We have developed a management cluster dedicated to the formulation of MRV's and guiding the PGS methodologies. They will be implementers and will be creating a Center of Excellence for skills, technology, technical competencies, and expertise transfer.
2	Fill gaps	Advocacy and partnership building for collaborative R&D of new tools for SOC and SH. There are several answers that highlight specific R&D needs.
3	Gather information	Identify, classify, and evaluate tools to monitor the state of soil health, the dynamics of carbon in soils and the state of plant health.
4	Define Standards	Elaborate and agree on indicators, protocols, and standards for SOC and SH monitoring.
5	Define Ontology	Build an ontology for regenerative agriculture, host on open-access servers, have a steering committee that oversees the development of the ontology.
6	Provide catalogue	Iterative / agile development and updating of the catalogue. Use tools like d3.js // firebase // Flutter to build Webapps /smartphone apps to visualize in real-time what we are doing.

## 19.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
An unbiased, comprehensive review of existing, trusted, and affordable tools for tracking changes in SOC and soil health (SH) at different scales, for different environments and purposes, that meet agreed-upon standards does not exist.	Regenerative agriculture through the adoption of agroecological practices will only be accepted when we manage to monitor, report, and verify increase in soil carbon (carbon harvesting). So far, no tools for MRV exist.	1. Limited reliable and robust evaluations of the baseline scenario in some agricultural systems. 2. Limitations in assessment the changes in soil organic content under different managements or environmental situations. Available monitoring tools can be inappropriate in some systems because of lack of adjustments in temporal or spatial scales between the soil system and the monitoring method. 3. Insufficient data to monitor/evaluate changes of soil organic carbon in soils at different scales. 4. Cannot benefit from UNFCC and CDM carbon funding schemes. 5. Farmers are reluctant to

Problem Statement	Description	Consequences
		change their practices for fear of losing production yields and not finding their short-term way financially. 6. Suboptimal choice of appropriate solution by users.

## 19.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Lack of tools	Affordable and appropriate tools are scarce. Many countries lack the necessary capacity and competency. Foreign consultants on the subject have also not delivered any satisfactory MRV framework.
2	Complexity	High complexity of some monitoring systems that require specific expertise not always available in all the working groups.
3	Lack of evaluation	Lack of comprehensive, need oriented evaluation of existing tools. Identify, test, and analyze existing monitoring tools and methodologies to control soil carbon content.
4	No ontology	No ontology exists as unified basis to describe our data.
5	No agreed minimal dataset	No agreement on a set of indicators for monitoring SOC and Soil Health (SH).
6	Lack of specifications	Lack of comprehensive specification of tools (concepts, methodology, cost, skills requirement, infrastructure, data management, applicability range, purpose, indicators, accuracy, user friendliness, scalability, interoperability & integration). there is no matching best statement. However, there are 12 responses that reflect the need for information indicated in brackets.
7	Diversity of offer	Diversity of concepts, solutions, and actors. Many players implementing different approaches. Difference in definitions, interpretations and methodologies are not always well documented. Approaches for onsite measurements and for remote sensing based approached need to be defined, agreed, and applied globally into standards.

## 19.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Evaluation and rating	Define the criteria making it possible to "rate" the various tools and methods highlighted to be able to classify them.
2	Ontology	Use the tools of the semantic web / ontologies to describe our knowledge space. Every downstream tool can use this to store its data. This allows for re-usage, comparability, exchangeability and searchability of all data that we generate.

N°	Critical Success Factor	Description
3	Minimal data set	Create an agreed list of SOC and soils health indicators (minimal data set) and protocols. Methods must be transparent, clearly described and comply with recent academic advances and international standards.
4	Specifications	Create a comprehensive specification of tools. There is no matching best title. However, many responses indicate different aspects that should be considered in the description of tools to allow comparison and facilitate the selection of tools.
5	Diversity	Conduct systematic research and selection tools for all needs. Some monitoring can be addressed to non-scientific users such as technicians, farmers or even citizens (citizen science) so it is important to provide them user-friendly methods with clear instructions without compromising accuracy of the assessment.
6	Urgency	MRV catalogue is key to success. Version 1 should be online rapidly. ("1 per 4000" MRV toolbox)
7	Fill gaps	Invest into the development of tools to fill gaps. Research is needed to build tools that allow for a cheap, easy-to use and reliable soil carbon measurement tools.

## 19.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Lack of tools	One of the difficulties will be to find tools, sensors, methods that can be used on a large scale; under various pedoclimatic conditions.
2	Complexity	This barrier is related to the CSF of standardization and user-friendly. Too complex methods/tools may discourage their use by non-specialist users.
3	Lack of means	It is difficult to mobilize means to conduct comparison and evaluation.

## 20 E2 Global Soil Monitoring - DRAFT Implementation Strategy

### 20.1 Goal E - FOLLOW UP

**Establish an international science-based framework recognized by all stakeholders for the assessment of impact through Monitoring, Reporting & Verification**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 20.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Soil Monitoring	Monitor independently, and in near real time, SOC and soil health at the global, regional and national levels	Identification of the 5 major players.  Inception of the real-time SOC monitoring dashboard.	Real-time SOC monitoring dashboard operational.	Real-time SOC monitoring dashboard adopted at regional and sub-regional scales.

### 20.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Simply at all levels?
- Neutral and timely monitoring of soil health and soil organic matter at all levels, from global to field level.
- It is an extremely ambitious and complex objective. Therefor realistic targets should be formulated with care (smaRt), while keeping in mind the mission of 4p1000 and its mandate.
- It is important to draw a clear line between this objective and related objects (B4, E1, F3) while keeping in mind the relevance of this objective for the others"

### 20.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Global Soil Monitoring	Soil organic carbon and soil health are monitored in near real time at global, regional, and national levels.



## 20.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Identification of the 5 major players.	Inception of the real-time SOC monitoring dashboard.	Real-time SOC monitoring dashboard operational. Real-time SOC monitoring dashboard adopted at regional and sub-regional scales.

## 20.6 Activities

N°	Activity	Description
1	Assess needs	Clarify expectations stakeholders and clients / target group and define corresponding information products / services, assess market effective demand, list of required indicators, data requirements, and define time frame.
2	Assess technical options	Develop a list of technologies and systems exist that can be part of the solution and assess their performance.
3	Gaps Analysis	Evaluate gaps at all levels of the system and assess priorities.
4	Explore potential partners	Identify partners who have the required skills and can contribute to a global system. (Development of list players in the field)
5	Team building	Establishment and organization of a team of experts with complementary skills. (Bring together collaboration regionally and globally)
6	Conception	Outline the system architecture, develop approach and business model and governance modalities for its operation for a collaborative, inclusive and realistic solution that meets key expectation of stakeholders and considers limitations in terms of technologies, data, competences, and the enabling environment.
7	Resource mobilization	Mobilize financial, political, and in-kind support for systems development and the enabling environment.
8	Systems development	Step by step collaborative agile systems development.

## 20.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
SOC and soil health assessments at national and regional levels are not always available.	Lack of a publicly accessible, independent, up-to-date, and sufficiently detailed soil health and SOC information system that enables improved planning, implementation, and evaluation of global, regional, and national	1. Insufficient awareness of the importance of soil health and SOC for climate and food security and the urgency with which the issue needs to be addressed. 2. Poor assessment of risks, needs, and potentials leads to poor decision making and targeting of

Problem Statement	Description	Consequences
	climate and food security interventions.	interventions and waste of invested resources. 3. Poor assessment and learning processes limit the performance of the innovation system. 4. Poor assessment of development, status and trends hinder accountability that is a prerequisite for the widespread adoption of carbon sequestration and soil eco-service compensation schemes.

## 20.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Lack of recognition	The role of soil, its enormous importance as a carbon sink or emission source, and the concept of soil health are often not yet fully recognized.
2	No agreement on indicators	The selection of parameters that best reflect soil health will vary by soil, climate, and management. It will be difficult or inefficient to work with universal indicators, so the development of regional indicators will be necessary.
3	No agreement on standards	The measurement methods for SOC assessment or for soil health criteria are not harmonized. In fact, heterogeneous methods are used to measure SOC or soil health, sometimes making the results non-comparable.
4	Lack of support	Soil monitoring systems are not a high priority and operators usually have to compete for inadequate funding for overall soil and agricultural research.
5	Lack of soil data	Often, national authorities do not have data or do not share it with other stakeholders.
6	Complexity	Due to insufficient soil condition models, large-scale and efficient analyses cannot be performed. For working with agricultural models, their architecture should find the best compromise between model complexity (number of parameters) and performance: acceptable accuracy aimed at producing indicators/trends, ease of use and coping with patchy data.
7	Fragmentation and competition	Fragmentation and competition between service providers remains a problem.
8	No consensus on soil health concept	The concept of soil health is new and complex. Soil health as such is difficult to comprehend and to define. There is still a lack of agreement on the whole concept.
9	Cost of data collection	Monitoring of SOC change at plot level is costly and changes can only be expected after 5 to 10 years. Possibilities to use remote sensing and other low-cost solutions need to be further developed.
10	Insufficient competence	Lack of skills and competences at all stages and levels remains an issue.

## 20.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical success Factor	Description
1	Recognition of the concept of soil health	The central importance of the health of soils, the origin of all life on earth, must be recognized. Healthy soils are essential for sustainable agriculture, healthy food, regulation of the ecosystem and in particular the gas balance of the atmosphere.
2	Agreed minimal data set	Agreement on key soil health and SOC indicators is critical. It should be minimal but enough to generate clear and accurate information regarding soil health and carbon dynamics. Complexity is a danger; pragmatism for worldwide applicability should be favored.
3	Cope with diversity of methods	Different methods of soil carbon analysis must be comparable. The standard protocols are wet methods (cheaper and produce toxic waste), loss on ignition (cheap but inaccurate) and elemental analysis (more expensive but with accurate results).
4	Impartial support	Adequate independent and impartial support and governance are required. It is necessary that governments of each country provide the human and financial resources necessary to meet the objectives.
5	Data availability	Unrestricted public access to rich, and high-quality soils data at local, regional, and national level for evidence-based communication messages on soil health and carbon sequestration is required.
6	Agile development	Agile approach to development that addresses complexity, starts simple, can adapt to changing conditions, clearly communicates its limitations, and continuously learns through interaction with users and research.
7	Collaboration and inclusion	Service providers at different levels need to work together to enable synergy and complementarity and to find a common solution. It is essential to work with a reduced number of scientific experts and members of the governments of each member country to ensure that the objectives can be achieved.
8	Agreement Soil health concept	There must be a commonly accepted concept of soil health.
9	Affordability	Solution must have a low cost of data gathering, processing and diffusion of information. Innovative SOC measurement technologies (NIRS/MIRS/LIBS, etc.) need to be tested/intercompared and their cost should be assessed.
10	Capacity development	Develop competences at all levels and stages of the system, from data acquisition to the interpretation of results.

## 20.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Diversity of methods	There are several methods for determining soil organic carbon, and each has its own advantages and limitations. The comparability of observations with different methods remains poor.

N°	Barrier	Description
2	Lack of funds	Funding needs to be reallocated from agriculture research into climate mitigation strategy.
3	Data scarcity	There is a lack of relevant and qualitative agricultural data. Public policies should include soil analysis in their program,
4	Fragmentation and competition	Several public and private models coexist. Integrate the existing tools and adapting their use into a reliable MRV toolkit is a huge but mandatory work.
5	Research for research's sake	Researchers will conduct research because there is a gap in the research but don't necessarily consider the policy impacts on landowners and how to mobilize climate solutions.
6	Uncertainty of observations	Due to the variability in the terrain, the determination of soil properties is subject to large uncertainties.
7	Excessive bureaucracy	Carbon stocks have been reported on through national researchers that often fail to connect landowners and carbon markets.

## 21 E3 Impact Assessment Tools - DRAFT Implementation Strategy

### 21.1 Goal E - FOLLOW UP

**Establish an international science-based framework recognized by all stakeholders for the assessment of impact through Monitoring, Reporting & Verification**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 21.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Impact Assessment	Contribute to the improvement of impact assessment tools (EX-ACT (Ex-Ante Carbon-balance Tool); CBP (Carbon Benefits Project) tool, etc) in line with the ambition of the "4 per 1000" Initiative, including socio-economic dimensions.	Contact and explore possible collaboration with the developers of existing tools.	Collaboration with 2 developers of the impact assessment tools.	Collaboration with 4 developers of impact assessment tools.

### 21.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- By looking at the feedback, it appears that E3 and E1 are easily confounded.
- E1 is focusing on monitoring of SOC change
- This objective is about impact assessment. In theory there are two ways to look at it. A) Focus on the effect of SOC change. In a first step the focus is on the impact of SOC change on soil health and in a second step on the impact of both, SOC and SH, on the environment and livelihoods. B) Look at the impact of the change of land use, technologies, and other interventions on SOC. However, this is already covered by E2 soil monitoring.
- We suggest focusing on A) Focus on the effect of SOC change. In a first step the focus is on the impact of SOC change on soil health and in a second step on the impact of both, SOC and SH, on the environment and livelihoods
- Feel free to express your thoughts on this issue."

### 21.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Impact Assessment Tools	Tools for impact assessment of measures that are in line with the objectives of the "4 out of 1000" initiative and include the socio-economic dimension are available and are continuously improved.

## 21.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Contact and explore possible collaboration with the developers of existing tools (EX-ACT (Ex-Ante Carbon-balance Tool); CBP (Carbon Benefits Project) tool, etc.)	Collaboration with 2 developers of the impact assessment tools.	Collaboration with 4 developers of impact assessment tools.

## 21.6 Activities

N°	Activity	Description
1	Inventory of IAT tools	Benchmark existing soil carbon measure methods and their level of readiness as a measure of impact.
2	Development of a scientific and comprehensive frame of reference	In Carbon Action MRV system is developed together with international networks
3	Build a Global Soil Reference Database	Build a global soil reference database of → Measured indicators (carbon and other soil health indicators) associated with their contextual data → Clusters of pedo-climatic contexts, land uses and land covers → Context-dependent reference values
4	Training of users	Provide training on an ad hoc basis on use of the CBP/WOCAT platform of tools. Funds would be needed per training.
5	Develop solutions for gap filling and overcoming barriers to implementation	Implement consistent MRVs to provide quality-assessed data to evaluate IAT output and help remedy 'deficiencies' in the empirical tools.
6	Awareness raising	Create wide support for soil health increasing SLM activities leading to possible investments (PES).
7	Explore correlations	Research for improved understanding of correlations between carbon soil performance (carbon storage and carbon dynamic), other soil health indicators (biodiversity, etc.) and the soil clusters.
8	Develop interfaces with carbon market	Address carbon offset market with measurement of Soil carbon sink. Develop interfaces to ensure compliance with carbon market requirements. Deliver a fact-based evaluation of the carbon performance of a land parcel as a carbon sink: - Carbon current stock vs Carbon storage capacity (i.e., standard storage capacity within a given soil cluster) - Carbon characterization (stable, active, labile) - Carbon storage dynamic (past and perspectives)

## 21.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Limited availability and applicability of impact assessment tools for monitoring, reporting and verification of soil carbon improvement practices for addressing soil health, climate change and food security challenges.	Assessment of the impact of soil organic carbon (SOC) improvement practices is constrained by limited availability of reliable and widely adopted tools for measuring soil organic carbon. Although some tools have been developed, they have not been widely tested under different field conditions for wider application in the field. This problem is compounded, in part, by limited field sites and long-term data for validation of tools and limited resources to test the tools due to limited focus on soil carbon, which has not been a major component of the carbon trade.	Limited availability and applicability of tools for assessing the impact of soil organic carbon improvement practices poses challenges in quantifying, monitoring and verification of soil carbon stocks and stock changes. This has serious implications for: assessing the status of soil organic carbon stocks; justifying soil carbon emission reductions (verified emissions units); and designing and managing soil organic carbon stocks.

## 21.8 Causes

These are the root causes of the problem that implementation needs to address.

# Cause	Description
1 Insufficient interest in soil sciences	Very few subsidies allowed for soil research (e.g., 0.3% of the investments in environment sciences in the UK and France, vs water $\pm 60\%$ and air $\pm 40\%$ ). Very complex and multidimensional topics (geology, biology, chemistry, physics, medical, nutrition, etc.)
2 Insufficient region-specific data	Lack of region-specific soil information, activity data and socio-economic data to support IAT modelling at (sub)national scale; data quality/accuracy.
3 Few robust tools for measuring impact	Most of the tools developed have not been widely and adequately tested using data from different geographical locations and farm environments.
4 Insufficient land use history information	Dynamic models can form part of easy-to-use soil carbon calculators if land use history and good soils data are available. An example is COMET Farm for the US.
5 Uncertainty about the soil health one-health nexus	Lack of knowledge on the links between soil carbon, soil health, plant health and human health
6 Non-linearity of SOC stock changes	SOC stocks change slowly and non-linearly with SLM until a new equilibrium is reached; worldwide default of 20 years is unrealistic (i.e. pragmatic in view of data scarcity).

#	Cause	Description
7	Promoting the wrong tools	If tools are to be promoted as accurate, they must be independently assessed. There is currently a leap of faith to use tools developed by a chosen few.
8	Assumptions underpinning of empirical IAT models	Re-consider structure of IAT approaches and assumptions (while realizing that these are basically embedded in the UN and other conventions)
9	Limited resources	Many tools have not been properly tested because of limited financial resources and technical expertise to do the work.

## 21.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Access to a SOC knowledge base	Build knowledge and database on Agricultural Soil Carbon. Develop in situ soil analysis with selected measures tools and share massively.
2	Have a frame of reference	Adherence to a scientifically sound and comprehensive frame of reference that is approved by the world scientific community.
3	Impact assessment tools successfully evaluated against MRV	Predictions of impact assessment tools successfully evaluated against findings of cost-effective MRV campaigns
4	Training guided by tool developers	Most tools are easy to use but generally require some training. Work with existing tool providers to provide training.
5	Use of proxy indicators to fill data gaps	Look for proxy indicators for Carbon Sequestration and Dynamic. Evaluate possible proxies (e.g., in situ carbon measures, predictive models, other indicators such as soil biodiversity, soil health, ...)
6	MRV embedded in policy agenda and connected to existing solutions	MRV for SOC embedded in (inter)national agricultural/biodiversity policy agenda, providing the support for improving impact assessment tools, and subsequent payment for environmental services.
7	Further development of tools	Further development of tools to provide a complete set. Support improvement of soils information in tools such as CBP. ISRIC originally provided the soils data layer currently used in the CBP tools which is based on the HWSD. Work could be done to improve this default data layer and link the CBP tools with other data sources such as Trends.Earth products.
8	Coherence with requirements of carbon markets	Predictions of IAT-tools accepted as evidence for net C-sequestration on 'carbon market'.

## 21.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.



N°	Barrier	Description
1	Non-compliance with international standards	Differences in approaches and scientific insights leading to a multitude of tools and philosophies.
2	Limited focus on climate-mitigation aspects	Benefits of adoption of region-specific SLM appear mainly related to improving soil health, biodiversity, and livelihood, rather than actual climate mitigation. Role of farmer community in improving soil health and food security under-valued.
3	Insufficient funding	Funding needs to be sought to improve impact assessment tools
4	Insufficient peer reviewed information on impact assessment tools	There have been ensemble type modelling exercises on GHGs, but they fail to identify the right and wrong models.
5	No soil and land directive	Unlike water and air, there is no soil and land directive at any geographical level (France, EU, worldwide).
6	Insufficient incentive to participate in impact assessment	Lack of incentives for esp. 'poor' farmers to participate in SOC / soil health improving activities; timescale of return on investment.
7	Insufficient training	Training needs to be given on tool use
8	Limited access to data	Sharing soil data among scientific community and industry is key to accelerate the knowledge and develop relevant solutions.

## 22 F1 Twin Regions - DRAFT Implementation Strategy

### 22.1 Goal F - CROSSCUTTING ACTIONS

**Highlight the pertinence of the "4 per 1000" Initiative by initiating and supporting concrete and result-oriented actions on the ground and increase resource mobilization to ensure the long-term viability of the Initiative.**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 22.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Twin-Regions	Launch a pilot project based on "Twin-Regions" concept for large scale climate actions	Launch a twin pilot project that verifies the relevance of the "Twin-Regions" concept for large scale climate actions in 24 municipalities in 3 distinct regions in Europe (Germany, France and Spain) and Africa (DRC, Benin, Mali).	Adoption of twin-regions concept in municipalities of 20 countries.	Adoption of twin-regions concept in municipalities in all countries.

### 22.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Revise objective to match targets.
- Are targets ambitious enough and should we not include carbon balance in quantitative terms?

### 22.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
Twin Regions	The concept of "Twin Regions" to unleash the synergistic potential of cooperation between contrasting regions to combat climate change, restore ecosystems, and improve livelihoods, is being adopted worldwide.

## 22.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Pilot project under development to implement the "Twin Regions" concept for large-scale climate actions in 24 municipalities in 3 distinct regions in Europe (France, Germany, and Spain) and Africa (Benin, DRC, Mali).	Adoption of twin-regions concept in municipalities of 20 countries.	Adoption of twin-regions concept in municipalities in all countries.

## 22.6 Activities

N°	Activity	Description
1	Baseline and potential	Land conditions need to be assessed to identify suitable practices that achieve the highest possible emission reduction and carbon sequestration. Key land-use system may be derived from expert judgement. A quantitative land-user survey of >250 households is required.
2	Awareness	Startup activities are required to raise awareness and support at local, subnational, national, regional, continental, and global level. Youth and seniors will play a crucial role.
3	Stakeholders	A committee of stakeholders from both regions should be established to identify the actions necessary to implement climate actions.
4	Overcome cultural differences	Create set of rules for the development of projects including different cultures and languages etc...
5	Pilot and upscale	A series of pilot actions to verify potential and clarify open questions needs to be launched. This must include the assessment of co-benefits and potential risks.
6	Payment for Environmental Services (PSE)	All projects must be registered for payments for environmental services before the project is completed. The inclusion of a project in the PES is a source of motivation and promotes the participation and inclusion of the local population in the actions and decisions of the project. The PES puts local actors to work.
7	Polluter pays	A transparent and sound system must be developed with the help of public finance and GHG life cycle analysis experts to tax citizens of the global north to fund soil carbon restoration/sequestration activities in the global south.

## 22.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
The lack of global solidarity and collaboration prevents effective and efficient use of available resources to bring down GHG concentrations. The required scale for nature-	A global approach is required to solve the global crisis. The largest global share of anthropogenic greenhouse gases (GHG) is emitted in the northern hemisphere.	The consequence is the waste of limited resources in low-yield areas and precious time to solve the crisis and prevent the destruction of humanity. It is the denial of harnessing the potential

Problem Statement	Description	Consequences
based carbon drawdown from the atmosphere does not match the national area of largest emitters. In contrast, the global south cannot realize its sequestration potential due to poverty. There is untapped synergetic potential that can be realized through joint international climate action.	Most large emitters have a relatively small land area and/ or an unfavorable climate, while large countries in the global south are responsible for a very small number of GHG-emissions. This limits the possibilities of large emitting countries to draw down carbon from the atmosphere through nature-based solutions, including soil carbon preservation and restoration, in their own national territory. In addition, the costs for nature-based solutions is much lower in the global south. Therefore, available resources could be used more efficiently by investing in massive climate action in these countries.	of global cooperation to address the crisis. It is missing an opportunity to tackle GHG concentrations in time. The opportunity lies in collective action between rich, privileged people living in countries with "large emissions on with low sequestration potential (small area, suboptimal climate)" and poor, under privileged people living in countries with "small emissions but large sequestration potential". Complementarities and synergies remain untapped. Thus, in all regions, valuable resources are inevitably increasingly wasted in absurd climate adaptation measures that lead to exacerbation of the problem and ultimately fail miserably.

## 22.8 Causes

These are the root causes of the problem that implementation needs to address.

#	Cause	Description
1	Passivity	Citizens are not sufficiently concerned nor empowered to act for solving the climate crisis. This has several reasons. People do not care and are unaware. They do not want to change their lifestyle. They have a hard time to imagine a different life. Citizens are not sufficiently empowered to shape their habitat. Driven by fear they lack imagination, creativity, courage, and alternative perspective. They feel powerless.
2	Polluter pays	Lack of financial mechanism to cover the cost drawdown CO2 and GHG from the atmosphere equivalent to the emitted CO2 and GHG following the polluter-pays principle.
3	Global North	Most high GHG emitters are in the global north (OECD) where industrialization has developed predominantly.
4	Cultural differences	Projects involving different cultures and geographic conditions are more complex than national ones. Evaluating strengths and weaknesses at one site is already a task. Creating a formative assessment for 40 different projects, in a multitude of languages, cultures and taking into consideration site specific issues, is a much bigger problem.
5	Mistrust in developing countries	Industrialized countries believe that money invested nationally will be more easily monitored. Simultaneously there is a belief that developing countries lack the transparency, accountability, and stability to implement large-scale projects successfully. (Lack of trust)
6	Incapacity of policy and private sector	The required climate action resulting from radical paradigm shift and system change must be driven by citizens because policy and the private sector have failed to achieve the necessary impact.

#	Cause	Description
7	Global South	Poverty and low industrialization maintain GHG emissions in many countries of the southern hemisphere low. Poverty also leads to less intensive land management. Yields are low and soil can be degraded due to lack of fertilizer and other input.
8	Fragmented investments	Potential synergies between climate mitigation and SDGs through international investments are not fully utilized.
9	Global impact	Investing in the global south in nature-based solutions is not sufficiently recognized and supported as a global priority action for solving the climate crisis efficiently. There is a belief that climate change must be addressed through technological solutions that are too advanced for developing countries to implement. There is ignorance of the fact that many nature-based carbon drawdown solutions are perfectly suited for these countries.
10	Lack of awareness of the problem and how to solve it	There need to be investments in explaining the problem and solution (a simple solution is preferable) to the people.

## 22.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Solidarity	The success of environmental protection actions is rapid in a group movement. The solidarity around these actions is favorable to this success. This project is based on solidarity between the populations of the North and the South to improve their climatic conditions.
2	Empowerment and participation	Massive involvement of citizens needs to be ensured. Stakeholders from each twin region need to get engaged, and to STAY engaged. This requires going beyond traditional approaches and involving participatory methodologies that really tap into the purpose of the project, like Dragon dreaming, U-theory, etc..
3	Partners	It is critical to identify partner-organizations in developing countries that have the knowhow, track record and relationships to lead the effort in their communities. This will be a keystone to building trust in the project and ensuring its success.
4	Adaptation	Measures implemented in the twin-regions must be adaptable to climate change scenarios. For the actions of the restoration of degraded lands and the conservation of the organic fertility of the soils to be successful, the climatic conditions must be favorable. The rise in temperature which is an effect of climate change is a cause of soil drying out.
5	Good practices	Good practices describe an implementation system that integrates land-use mapping, yield-gap assessment through on farm surveys and crop modeling to assess potential yields, surveys to investigate demographic, social, cultural, and economic factors that promote or hinder the successful implementation of carbon sequestration measures, including narrowing of yield gaps.
6	Emission reduction	Northern regions should reduce their CO2 emissions following the adoption of green energy sources.

N°	Critical Success Factor	Description
7	Funds	Sufficient funds must be available for continuing project development, piloting, upscaling.
8	Polluter pays	The principle of polluter-pays, based on the willingness of end-consumers to adjust their lifestyle, should be reinforced as a source of funds for project activities. Industrial development in SSA regions should be based on green energy due to technology transfer and financing from northern countries.
9	Success communication	Getting the word out, that the project was successful is going to be hard work and complicated. The project is going to need multilingual media teams both on the ground and off. Another umbrella team will be needed to make sure that the stakeholders and the public get those results.

## 22.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1	Prejudice	Putting in place a multi-lingual and multi-cultural team in place that will be able to convey and quantify success with different stakeholders is going to be difficult and costly.
2	Missing urgency	People do not reflect on the urgency for climate action in their daily life. Policy makers also underestimate this urgency in their programs.
3	Solution awareness	People from northern regions and SSA regions are not aware of the role of agriculture and soils for the solution of the climate crisis.
4	Missing nutrients	Soil carbon sequestration is hampered in many regions by nutrient imbalance. Low CEC and other soil properties of SSA soils may prevent effectiveness of additional P supply; soil science expertise is crucial.
5	Bureaucracy	Administrative constraints might slow down or impede project deployment.
6	MRV	Standardizing soil monitoring to compare results is going to be complex.
7	New mechanism to invent	Such solidarity mechanism does not exist and need to be invented with the adequate means.

## 23 F2 "4 per 1000" Resource Mobilization - DRAFT Implementation Strategy

### 23.1 Goal F - CROSSCUTTING ACTIONS

**Highlight the pertinence of the "4 per 1000" Initiative by initiating and supporting concrete and result-oriented actions on the ground and increase resource mobilization to ensure the long-term viability of the Initiative.**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 23.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Resource Mobilization	Enhance <b>Resource Mobilization</b> to ensure the long term viability of the Initiative	Total annual budget 2020: 961 K Euros  (including core budget of 721 K Euros)	Manage a 2 to 5 million Euros budget.	Manage a 10 to 20 million Euros budget.

### 23.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- Revise objective to match targets.
- Are targets ambitious enough and should we not include carbon balance in quantitative terms?
- We got too little feedback to develop a compete the implementation strategy
- Consider A2 and D4 to assure that the objective is specific and to avoid overlap.

### 23.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
"4 per 1000" Resource Mobilization	The "4 per 1000" initiative has mobilized sufficient resources to ensure its long-term viability.

## 23.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Total annual budget 2020: 961 K Euros (including core budget of 721 K Euros)	Manage a 2 to 5 million Euros budget.	Manage a 10 to 20 million Euros budget.

## 23.6 Activities

N°	Label	Description
1		
2		
3		

## 23.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Funds at "4 per 1000" are not sufficient to carry out the core activities needed to achieve desired impact.		Little impact of the initiative on the ground.

## 23.8 Causes

These are the root causes of the problem that implementation needs to address.

# Cause	Description
1 "4 per 1000" is a novel and kind of vanguard approach	Resources are often focusing on "bottom line" and immediate results and don't see the point about anticipating and planning for something that is not in their current cultural landscape
2 Often complex and multi social-cultural environment	Communities are often in a survival mode and don't see the point about mobilizing for long term viability - officials or companies in charge are ignorant of life on the ground, and how does the resources operate
3 Funding not geared for preparatory or foundation phases	Funders are often unprepared to support the preliminary and preparatory phases of an innovative, trans formative or a new concept or paradigm
4 New, rare and scarce skills and competencies	Resource mobilization in novel or stressed environments have to count on such skills & competencies who have also to work together and cooperate. difficulty in "synchronizing" different levels of education or cultural background.
5 Competition and winner take all mentality	Resource mobilization in such culture represents an anti-climax among participants



#	Cause	Description
6	Technologies unsuitable to local conditions	Difficulty in transfer of technology to users, as usually expensive, require costly maintenance, and often are not prepared to go the route of "local contents manufacturing.
7	Communities' readiness to cope with sudden change and transformation	The current system of unsustainable production and consumption is deeply seated in community culture and mind sets - a new innovative move often is creating anxiety and stress - social support is unavoidable.
8	Perceptions, and assumptions towards a "new venture	Anything new is a huge risk for communities to adopt a different way to function, implement of operate - the messages and advocacy is often "flying over their heads"

### 23.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Title	Description
1			
2			
3			
4			
5			

### 23.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Description
1		
2		
3		
4		

## 24 F3 "4 per 1000" Dashboard - DRAFT Implementation Strategy

### 24.1 Goal F - CROSSCUTTING ACTIONS

**Highlight the pertinence of the "4 per 1000" Initiative by initiating and supporting concrete and result-oriented actions on the ground and increase resource mobilization to ensure the long-term viability of the Initiative.**

This is goal to which the objective mainly contributes, while keeping in mind the vision, mission, and guiding principles of the "4 per 1000" Initiative.

### 24.2 Original objective and targets (version 2020)

From the strategic plan version 2020, for comparison. Please provide feedback if you estimate that the new version needs to be improved.

Label	Objective	Baseline 2020	2030	2050
Dashboard	Provide a <b>"4 per 1000" dashboard</b> delivering near real time quantitative information on progress of the Initiative, taking into account partners and members and their actions	Develop Key Performance Indicators (KPIs) as a baseline.	By the end of 2021 the dashbord will be operational and regularly updated.  In 2025 the dashboard will be recognized as an international standard.	Dashboard is generally and internationally used as a reference by the community of practitioners.

### 24.3 Remarks form the study team

Summarized remarks on the objective and targets form the study team:

- While the objective of E2 is monitoring soils F3, this objective; is focusing on progress of the initiative. This must be kept in mind when completing the different sections.

### 24.4 Proposed revised Objective

This is the objective for which the Task Force members are designing solutions and building alliances to develop and operate global facilities to achieve the 2030 and 2050 targets as soon as possible.

Label	Description
"4 per 1000" Dashboard	Provide a "4 per 1000" dashboard delivering near real time quantitative information on progress of the Initiative, considering partners and members and their actions.

## 24.5 Proposed revised Targets

Baseline 2020	Target 2030	Target 2050
Develop Key Performance Indicators (KPIs) as a baseline.	By the end of 2021 the dashboard will be operational and regularly updated.  In 2025 the dashboard will be recognized as an international standard.	Dashboard is generally and internationally used as a reference by the community of practitioners.

## 24.6 Activities

N°	Activity	Description
1	Definition, normalization, and prioritization of targets	Collect targets, normalize similar targets, and assign priorities to each target (high, medium, low).
2	Definition and prioritization of requirements	Follow the targets, define the system requirements to achieve the targets and assign priorities for each requirement (high, medium, low).
3	Agile development	Development in short iterations, e.g., 2 weeks. Deploy new version after each iteration.
4	Extensive testing	Permanent testing in pace with development.
5	Data management	Preparation of data to be presented.
6	Active Reporting	Keep stakeholders involved, actively supply them with information and progress of the initiative.

## 24.7 Problem

This is the problem that the objective addresses.

Problem Statement	Description	Consequences
Lack of transparency	Results are not or difficult to obtain, progress not visible.	Acceptance of stakeholders diminishes; the benefit of the initiative will be questioned.

## 24.8 Causes

These are the root causes of the problem that implementation needs to address.

# Cause	Description - explanation
1 Insufficient reporting	Progress reports are insufficiently prepared and distributed
2 Missing dashboard	There is no easy-to-use tool to access the results and progress of the initiative.
3 Dashboard difficult-to-use	Due to difficult usability dashboard is accessed by experts only

# Cause	Description - explanation
4 KPIs not clearly visible	Too many indicators resp. important indicators hard to distinguish
5 Inadequate server infrastructure	Availability and/or response time of server-infrastructure not sufficient.
6 Unattractive information provided	The information is difficult for users to understand or is in an unattractive format.
7 Lack of standardized data	Database used to feed the dashboard might be derived from unstandardized data and methods.

## 24.9 Critical Success Factors (CSFs)

These are the areas where things need to go right to achieve the objective.

N°	Critical Success Factor	Description
1	Easy-to-use dashboard	Easily accessible, user-friendly interface on PCs, notebooks, and mobile devices.
2	Prioritization of KPIs	Put most important, global KPIs (key performance indicators) on frontpage, allow to drill down into more detail and access KPIs with lower importance.
3	Personalization of user interface	Participants will have different fields of interest and according to that the importance of KPIs will differ. Therefore, the frontpage should be adaptable to the requirements of the user.
4	Short response times	Fast data extraction and preparation. Fast filtering and drilling into tons of data.
5	Active reporting	Regular progress reports distributed by e-mail; content adaptable to user requirements.
6	Information of interest to users	Information should be of interest to users and should be quick and easy to read.

## 24.10 Barriers

These are the obstacles and barriers that must be overcome to reach the objective.

N°	Barrier	Title	Description
1	Cost	Cost	The cost of development, maintenance and operation of the dashboard are underestimated
2	Requirements unclear	Requirements unclear	Requirements are not widely analyzed and not broadly based
3	Lack of acceptance	Lack of acceptance	The acceptance will diminish when the platform is not sufficiently user-friendly and stable.
4	Different stakeholder interests	Different stakeholder interests	Stakeholders are diverse and each has different interests