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Which accountability framework and transformational potential of a multi-stakeholder initiative? The case of the 4‰ Initiative

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Launched during COP21, the "4 per 1000 Initiative: Soils for Food Security and Climate" (4‰ Initiative), an integral part of the Lima-Paris Action Agenda (LPAA), is aimed at increasing soil organic carbon (SOC) stocks by adopting a wide range of recommended management practices (such as agro-ecology, agroforestry, cover crops, mulching, no tillage). The initiative will contribute both to climate mitigation efforts, through soil carbon sequestration, and to adaptation and food security, by improving soil fertility and agricultural productivity. By the end of 2016, the terms for the implementation of the 4‰ Initiative should be defined so that it can be operational by early 2017.

Two parameters make its success a critical issue:

(i) the need to better frame multi-stakeholder initiatives (LPAA, food security initiatives, etc.) in order for them to become real drivers of change;

(ii) the need to ensure the integration of agriculture into climate negotiations according to clear terms which go beyond the goal of carbon efficiency to take into account of the multidimensional nature of change in farming systems.

RECOMMENDATIONS

This Policy Brief analyses the emergence of the 4‰ Initiative and the controversies associated with it, and proposes two recommendations:

1. **The ambitions of the 4‰ Initiative need to be scaled down and specified** in two ways:
   (a) by acknowledging that the 4‰ Initiative can only partially address food security and climate issues. Where food security is concerned, its main contribution is only to increase agricultural productivity and stability, while taking account of the spillover effects on the socioeconomic structure of farms; where mitigation is concerned, it has to be acknowledge that increasing SOC stocks is only a temporary solution to increase carbon storage and cannot be a substitute for emissions reduction policies;
   (b) by assuming the institutional and normative dimension of the initiative: the aim is not so much to generate a large number of projects which, together, would transform agricultural sectors, but rather to contribute to increasing the credibility and legitimacy of farming practices and systems that are currently overlooked in discussions.
2. **The governance of the 4‰ Initiative must take into account four requirements:**
   (a) confirming the originality of the initiative in relation to other similar approaches, detailing how the action plan will be backed up by an international research programme enabling innovation, learning and the clarification of a normative framework;
   (b) acting as an intermediary between climate finance mechanisms and farmers' groups, in order to facilitate the development of pilot experiments;
   (c) articulating the initiative with agricultural policies in the countries of both the North and the South in order to foster the transfer of successful experiences in the form of public policies;
   (d) setting out a robust accountability framework, which guarantees that projects will be effective in terms of their main goals without having any adverse impacts on food security (in all its dimensions), land rights or biodiversity.

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1. THE EMERGENCE OF THE 4‰ INITIATIVE

The idea of storing carbon in agricultural soils in order to tackle climate change is nothing new. In the climate negotiations, this issue was addressed indirectly in the early 2000s. Listed by the IPCC, the agricultural practices effective in reducing emissions associated with land use, land-use change and forestry have, however, been little used within the framework of the Kyoto Protocol due to difficulties verifying the changes in SOC stocks they produce. Scientific research conducted in parallel has progressively revealed the "dual benefit" that could be generated by an increase in SOC stocks: for mitigation, but also for increased soil fertility and, consequently, for adaptation and food security, especially in intertropical zones where soils are seriously degraded.[1]

The French scientific community is closely involved in these issues, both on the international scene, through its contributions to the IPCC, and in the national debate, by piloting, contributing to or indirectly informing several studies on this question. It was when examining one of these, produced by INRA, that the French Minister for Agriculture, Stéphane Le Foll, launched the idea of the 4‰ Initiative in March 2015. The goal then was to develop an international research programme in order to identify and validate technical options for increasing carbon storage in agricultural soils, "with a view to *extremely effective* measures against climate change". Just over a month later, this research programme was supplemented by an action plan in order to be integrated into the COP21 "Agenda of Solutions". Over and above the objective of storing more carbon and improving soil fertility, reference is made to the challenge of agricultural production and, more broadly, of food security.

This political use of proposals initially made by scientists[2] was accompanied by several inevitable reductions and simplifications, which are now just some of the challenges facing the deployment of the 4‰ Initiative: failure to take into account the kinetics of storage or the soil depths to be considered, assimilating soil fertility restoration with an increase in productivity and with food security, etc.

2. THE SCIENTIFIC AND POLITICAL UNCERTAINTIES OF THE 4‰ INITIATIVE

In this context, civil society and scientific stakeholders alike have highlighted the scientific, operational and political uncertainties associated with the initiative in order to question its relevance and scope. Although these uncertainties do not lessen the value of the 4‰ Initiative, they indicate that both its goals and its governance need to be specified.

At the scientific level, the uncertainties concern several points. First, it is important to recognise that the annual storage potential for SOC varies according to soil, climate conditions and crop types, and that it is far from reaching 4‰ annually everywhere. The most common estimates consider that the potential for agricultural soils stands at between 0.5 and 1.2 GtC/year, or the equivalent of 10 to 30% of the annual increase in atmospheric carbon stocks.[3] Moreover, emissions associated with SOC storage must be taken into account, in particular due to stoichiometry problems: SOC can only be stored by simultaneously increasing levels of nitrogen, phosphorus, potassium and other soil nutrients, which is often achieved by adding mineral fertilisers whose production emits greenhouse gases. SOC storage is also highly reversible, with the opposite change in practices potentially releasing as much CO_2 as the initial change succeeded in storing. The *measurement* of stock variations over periods of less than five years also poses significant challenges, especially because the processes governing SOC dynamics are still poorly understood. Finally, an approach focusing on SOC ignores other greenhouse gases associated with agricultural practices, especially methane, which is primarily generated by livestock farming, and nitrogen oxides, which have a higher global warming potential than CO_2.

In spite of these difficulties, the potential impact of changes in agricultural practices over the next five to ten years on soil fertility and SOC storage, under different soil and climate conditions and for numerous practices, is now well documented.[4] Moreover, although many uncertainties still surround the specific mechanisms linking changes in

1. Lal, R. (2004). Soil Carbon Sequestration Impacts on Global Climate Change and Food Security. *Science*, 304 (5677), 1623-1627.
2. Wesemael B. v., Stocking M., Francesca B., *et al.* (2015). A Strategy for Taking Soil Carbon into the Policy Arena. *In*: S. A. Banwart, *et coll.* (Eds.), *Soil Carbon: Science, Management and Policy for Multiple Benefits*. CAB International, pp. 60-81.
3. Lal, R. (2016). Beyond COP 21: Potential and challenges of the "4 per Thousand" initiative. *Journal of Soil and Water Conservation*, 71 (1), 20A-25A.
4. Smith, P. (2004). Carbon sequestration in croplands: the potential in Europe and the global context. *European Journal of Agronomy*, 20 (3), 229-236, Lal R., 2006. Enhancing Crop Yields in the Developing Countries through Restoration of the Soil Organic Carbon Pool in Agricultural Lands. *Land Degradation & Development*, 17 (2), 197-209.

farming practices, increased SOC stocks, fertility and mitigation, there is no doubt that the reverse dynamics of a reduction in organic carbon in agricultural soils would result in a loss of fertility and a substantial increase in greenhouse gas emissions, fully justifying the deployment of an initiative focusing on agricultural soils.

At the operational level, concentrating on increasing SOC stocks could lead the 4‰ Initiative's action plan to encourage projects that impact on other important aspects. For example, food security is based on four pillars—availability, access, quality and stability—of which only the first and, to a lesser extent, the second and fourth, are directly affected by an increase in SOC stocks. Some cropping practices that increase SOC stocks, such as no-till, may also have significant impacts on biodiversity if they are accompanied by an increase in herbicide use. Other practices conducive to SOC storage also foster farm expansion or specialisation dynamics, whose impact on agricultural income, its stability and the accessibility of a range of different food products should be taken into account. Large-scale soil remediation projects could also come up against land rights issues in some of the countries of the South where land tenure security has not yet been guaranteed for all rural populations.

Finally, at the political level, the capacity of the 4‰ Initiative to *mobilise* stakeholders and to develop specific projects in the field should be questioned. The results of similar voluntary multi-stakeholder initiatives conducted over the last 15 years are mixed, to say the least: either they have had no effect, or they have contributed to give new legitimacy to business as usual practices through an essentially discursive operation.[5]

3. IMPLICATIONS FOR THE GOALS AND GOVERNANCE OF THE 4‰ INITIATIVE

The uncertainties identified show that the goals of the initiative need to be specified in two ways.

First, the 4‰ Initiative should not be made to do more than is feasible. Although increasing SOC stocks has a multifunctional dimension, its scope can only be limited: where mitigation is concerned, sequestration potential is moderate and does not constitute a permanent sink. The deployment of the 4‰ Initiative should not therefore hinder the search for other solutions that are crucial to reducing emissions. Where adaptation and food security are concerned, improving soil fertility, especially in the intertropical zones, is a key challenge. However, alone, it cannot resolve the different food security challenges facing these regions.

In terms of governance, scaling down the goals of the initiative implies examining four highly interdependent requirements.

(1) In order for the 4‰ Initiative to contribute to increasing the credibility and legitimacy of technical options with high transformational potential, but which have so far been overlooked, it is first necessary to maximise exchanges between the research programme and the action plan by creating a dynamic interface between the two (which could take several forms, including a digital platform). The research programme needs to enhance the action plan by providing the results of innovative experiments, clarifying controversies or fostering learning and accountability through ex ante, mid-term and ex post evaluations of the action plan's projects.

(2) To ensure these projects actually happen, the initiative must act as an intermediary between the developers of innovative projects and funders. This implies first identifying and stimulating these projects in order to then facilitate their access to finance and, conversely, to make funders aware of their existence.

(3) The initiative must also be clearly capable of producing agricultural policy changes, in the countries of both the North and the South, in order to facilitate the scale change of successful experiments, in the form of public policies sending the right signals to economic actors consistent with the changes desired. The governance framework and the activities of the 4‰ policy initiative should enable interactions between stakeholders corresponding to these two requirements.

(4) Finally, a robust accountability framework must be developed, based first on an explicit normative framework, and second on a mechanism for the effective monitoring of projects at all stages (ex ante, mid-term and ex post). Given the context in which the 4‰ Initiative is being deployed, this normative framework should address the following issues:

- (a) because the 4‰ Initiative is intended to be a tool for change in agricultural systems, the regulatory framework must approach these systems dynamically. The criteria should thus focus more on changes in agricultural practices and their impacts (towards a reduction in chemical inputs, an increase in fallow periods, and extensive use of organic rather than mineral fertilisers, etc.) than on inclusion or exclusion criteria. This will ensure that the 4‰ Initiative

5. Biermann F., Chan S., Mert A. *et al.* (2012). The overall effects of partnerships for sustainable development: more smoke than fire? *In*: P. Pattberg, *et coll.* (Eds.), *Public-private Partnerships for Sustainable Development: Emergence, Influence and Legitimacy*. Cheltenham, Edward Elgar, p. 69.

is simultaneously a tool for mitigation in industrial agriculture and for adaptation in family farming, especially in southern countries;

- (b) because it is to be deployed at the global level, the 4‰ Initiative needs a normative framework that can be adapted to a wide range of different contexts, from degraded soils in the intertropical zones, where adaptation and food security are the priority, to fertile soils in temperate plains, were mitigation is far more important;
- (c) finally, because increasing SOC stocks cannot be the only indicator with a view to achieving changes in agricultural systems, the 4‰ Initiative's regulatory framework must not only cover changes in SOC stocks, but also continue to ensure that the achievement of this goal has no adverse impacts on the different dimensions of food security (availability, access, stability and diversity), on critical environmental variables (especially water and biodiversity) and on respect for land rights, particularly customary rights.

This regulatory framework, which will need to be further clarified, will lay the foundations for the monitoring and evaluation of projects benefiting from the legitimacy of the 4‰ Initiative. These evaluations, conducted by the initiative's scientific and technical committee (STC), could proceed as follows:

- (a) where the risk of a reduction in food security for the farmers concerned by the project (risk anticipated ex ante, or confirmed by the first elements measured mid-term or ex post) is deemed to be present or high, the STC should exclude the project in question from the 4‰ Initiative;
- (b) if the risk that the project will not help to increase SOC stocks (or at least to maintain them in the face of generalised degradation) is too high, the STC should exclude the project, since it would not meet the initial objective of mitigation;
- (c) if there is a risk that the project will have adverse impacts on the other environmental and social dimensions described above, its validation, even as a pilot experiment, should be questioned.

Ex ante, these evaluations would send a strong signal to project developers, not so that they provide ex ante proof, which is impossible, but to ensure they design and justify their projects in full knowledge of this range of objectives. Ex post, such evaluations will also be essential to the initiative's goal of learning, over and above a form of validation and legitimisation.

The initiative's research programme should help to specify, adjust and consolidate this evaluation framework and to validate the measurement and evaluation methodologies (the "metrics") that will form the basis of the STC's decisions. These metrics should help to assess the impacts on the different above-mentioned criteria for practice changes in order to be consistent with the initiative's goal of change, but also with minimising measurement costs for project developers.

In this way, efforts to specify goals and governance methods for the 4‰ Initiative will create a breeding ground for the success of this multi-stakeholder initiative, which will then serve as a reference for other similar initiatives included in the LPAA with a view to COP22.