The "4 per 1000: soils for food security and climate" Initiative

First Meeting of the Forum

17 November 2016
Marrakesh

The Forum meeting was opened by H.E. Stéphane **Le Foll**, the Minister of Agriculture, Agrifood and Forestry of the French Republic.

The French Agriculture Minister recalled in his opening remarks the importance of giving practical expression to the initiative launched at COP21 in Paris. He restated the twin benefits of storing carbon in soils:

- An increase in soil fertility and, as a result, in the world's capacity to produce foodstuffs, thereby feeding the planet.
- Partial compensation for the emission of gigatons of carbon into the atmosphere in the form of greenhouse gases from fossil fuel reserves, thereby offering an impact on the climate.

Adding that all the planet's soils have a potential for carbon storage, he emphasised that the Initiative was an opportunity to work on agricultural models, moving away from intensive agriculture involving extensive use of inputs and mechanisation and towards a form of agriculture more focused on natural processes and ecosystems. In short, there was, he said, a need to move on from a green revolution to a doubly green revolution.

For the minister, the purpose of the day's event was to set the Initiative and its associated models in motion.

Update on the governance of the Initiative

The governance organisation as set out in the Declaration of Intention for the formation of a "4 per 1000" Consortium was presented.

The Initiative is to be organised around four bodies:

1- The **Forum**, which brings together all the partners, i.e. the signatories of the Declaration of Intention for the Initiative, opened for signatures at COP21 in Paris. This is the consultative and partnership body.

2- The **Consortium**, which is formed by the non-profit partners of the Forum and brings together all the signatories of the Declaration of Intention creating the "4 per 1000" Consortium, opened for signatures in November 2016 prior to COP22 in Marrakesh. This is the decision-making body that defines goals, means and budget.

3- The **Scientific and Technical Committee,** which is appointed by the Consortium responding to proposals by the Executive Secretariat. It has 14 members with international reputations for scientific and technical expertise, and it provides a satisfactorily representative mix for geography, gender and disciplines relevant to the "4 per 1000" Initiative. This is the scientific body notably responsible for the orientations of the international research and cooperation programme and the

development of the set of reference criteria on which evaluation of "4 per 1000" actions is to be based.

4- The **Executive Secretariat**, headed up by Paul **Luu** with a team that will ultimately have five members. This is the body responsible for the operational work required for the organisation and operation of the Initiative.

As of the date of the meeting, membership status was as follows:

- More than 200 partners had signed the Paris Agreement (33 countries), thereby becoming members of the Forum.
- More than 80 signatures had been submitted for the Declaration of Intention of the Consortium, each signature representing a member of the Consortium.

Presentation of the "Science-Research" component by the Initiative's scientific partners: **Philippe Mauguin** (CEO, INRA), **Michel Eddi** (CEO, CIRAD), **Jean-Paul Moatti** (CEO, IRD), **Lini Wollenberg** (CGIAR) and, absent and excused, **Professor Rattan Lal** (Ohio State University).

Mr Mauguin, speaking on behalf of the group of partners, described the progress made on the research programme in support of the "4 per 1000" Initiative since its launch a year earlier, and the prospects for the future.

The core issue relates to the sequestration of carbon in soils.

According to the latest data in the international scientific literature (Wollenberg *et al*. 2016, Lal 2016, Pan *et al*. 2009), it will be impossible to keep the temperature increase to under 2°C without storing carbon in soils. Soil carbon storage could amount to up to 1.4 billion tonnes of carbon, or 4.8 per 1000 given the land areas that can be envisaged. This figure is in the order of magnitude of the target set for the "4 per 1000" Initiative.

International experts consider that funding soil carbon storage would remain competitive for remuneration of around USD100 per tonne of CO_2 stored.

If maximum possible soil storage is achieved, whether by halting deforestation or undertaking forest replantation, CO_2 emissions and storage could be balanced.

One of the difficulties is the need for long-term storage.

If the defined targets are to be met, it will be necessary to increase current storage by 32% according to the Rothamsted model. On the basis of that model, the work done by Liny Wollenberg has demonstrated the possibility of achieving an increase of 1% per year in yields.

The effort can and must be made everywhere and it must be effective, making use of all virtuous approaches: conservation agriculture, organic fertilisers, reduced tillage, agroecology, and so on.

Discussion with the floor

A number of comments were made during the discussion with the floor, notably the following:

- It is necessary to take non-technical aspects into consideration in order to ensure that all those involved are on board. In particular, the ethnological and sociological sciences can assist in engaging local populations with very different lifestyle habits (the peoples of Amazonia, for example).

- It is necessary to involve farmers and to trust their knowledge of their land and the ways of farming it.
- It is imperative to remove existing political barriers against certain types of practice capable of storing carbon in soils.
- Increasing numbers of farmers are engaging in alternative systems of production, with varying degrees of success. In addition to the fact that they are a minority, they are isolated, often ignored by those that keep to more traditional modes of production. If they are to progress, they will need moral support and highly practical technical advice and in this connection the setting up of a platform for contacts between practitioners in the field would be particularly valuable. Moreover, for the Initiative to motivate all actors and avoid being limited to a small, already convinced minority, it will be necessary for soil carbon storage to offer additional revenue to those engaging in it. Over and above the fact that soil carbon storage can offer gains in soil fertility, and by the same token extra crop yields likely to generate additional profit over the medium term (ten years at least), it can be seen to be imperative to look at the possibility of remunerating soil carbon storage in order to interest the sceptics.

Presentation of the "Projects" component using practical examples on the ground in a range of contexts.

The desired aim is dual in nature:

- Presentation of projects set up by the partners in the field.
- On-site testing of the reference criteria for project evaluation ("pilot projects").

Practical examples presented:

- A ***"pilot project for restoration of degraded pastures"*** (GEF funding, FAO and GRA support) in Uruguay by **Walter Oyancabal** from Uruguay's Ministry of Livestock Farming and Fisheries.

  In connection with an ambitious INDC entailing extensive involvement by the agricultural sector (livestock farming), the Uruguayan government has set up a platform for a grouping of livestock farms. Mr. Oyancabal described the restoration project envisaged for these farms, the intention being to improve knowledge of the dynamics of improving soil carbon storage and to enhance the productivity of pastures that were initially overgrazed and therefore seriously degraded. Various approaches will be trialled, deployed and transferred. Similarly, the tools for measurement, surveillance and reporting (MRV) will be developed and assessed. The project's promoters are identifying their requirements for assistance, notably with regard to measurement of variations in carbon storage, whether on the basis of assignments of specialists, provision of technology or the dispensing of training. All these are needs that the "4 per 1000" Initiative can endeavour to meet.

- The ***"Agroecology project for France: an example of a transverse national policy generating multiple co-benefits, including for soils"*** by **Pierre Schwartz** from the French Ministry of Agriculture.

  Pierre Schwartz described certain measures under the Common Agricultural Policy (CAP) that are of benefit for improving carbon storage in agricultural soils. He went on to set out a number of measures in the French agroecology project that are aligned

with "4 per 1000" goals, i.e. the agroforestry plan for support, training and advisory services for the implementation of agroforestry systems, the "plant protein" plan for the promotion of farm self-sufficiency in fodder and the exploitation of legumes, the "Producing Differently" training programme, the launch of the Economic and Environmental Interest Grouping (French GIEE) option for the formation of groups of farms and other actors in the agricultural world with a focus on agroecology projects, 30% of which are centred on farmland. The "4 per 1000" Initiative can foster the sharing of experience not only on projects but also on the application of policies such as those described by Pierre Schwartz.

- The ***"Pilot project for agroecology in West Africa (ECOWAS)"*** by Dr **Ablassé Bilgo**, an expert in climate change and agriculture at the Directorate of Agriculture and Rural Development, Abuja, Nigeria.

  Mr. Bilgo described the far-reaching call for projects launched for the support of the agroecology transition with funding from the French Development Agency (AFD) in five countries: Côte d'Ivoire, Mali, Togo, Burkina Faso and Senegal. The aim is to encourage the emergence, adoption and spread of ecologically intensive agricultural practices on family holdings, along with modes of management and organisation conducive to such adoption. The plan is to fund 15 projects at ± €400,000 with 20% co-financed by the promoter of the project.

  This call for projects is targeted at consortia formed by operators in the development field, collectives of agricultural producers and/or research or training bodies and local government. A series of actions are eligible at all points of the value chain from production to market.

  These projects must lead to exchanges and capitalisation along with a contribution to the definition of public policies for agroecological intensification.

- The ***"Global Soil Partnership (GSP)"*** by **Eduardo Mansur**, Director, Forestry Assessment, Management and Conservation Division (FOM) at the FAO.

  Many soils are degraded and require restoration.

  Since the launch of the "4 per 1000" Initiative by France, the importance of soil quality has been linked to the climate debate.

  The speed of change in levels of storage of organic matter in soil makes it difficult to visualise the effects at local level. Despite this, it is necessary to monitor ongoing changes in the system.

  EX-ACT is a tool developed by three FAO divisions. It provides ex-ante estimates of the impact of agricultural and forestry development projects on greenhouse gas emissions and carbon sequestration, indicating their effects on carbon balance.

  It is based on methods of calculation that take land use and farming practices into account. It measures the benefits provided by a given project, comparing the situation without the project and the situation with the project in place.

  It enables governments to envision a comprehensive map of the various parameters under surveillance.

A conference will be held in Rome on 20-23 March 2017 to assess the current state of progress on soil carbon storage and the impact on the climate.

In addition, the FAO reaffirms that it is able to provide financial support for partnerships whose aim is to foster soil carbon storage.

Workshop segment

The workshops were attended by a diverse range of actors: researchers, agricultural organisations, NGOs, financial institutions, governments, international institutions, etc. The discussions were intensive and enabled partners to gain a better grasp of the "4 per 1000" Initiative.

The rapporteurs for each workshop reported back on the work done in their groups.

Workshop no. 1: Contribution to NDC definition and implementation

It is important and urgent to be in a position to provide a reliable demonstration of the impacts and benefits of carbon sequestration in soils (systems of measurement, reporting and surveillance) and to increase the degree of certainty with which carbon sequestration in soil can be assessed. Participation by stakeholders and transparency are preconditions for the Initiative's long-term success.

There is major potential for assistance in defining and implementing NDCs. This can be said because 41 governments have included soils in their NDCs (out of 114 NDCs submitted), 8 have included mitigation aspects, pointing to the potential co-benefits, and 27 have a focus on the restoration of degraded land.

The "4 per 1000" Initiative can make an effective contribution to the development of a general framework for soils in an NDC, based around both components: research and action.

An information platform, or hub, developed by the Initiative would make it possible not only to facilitate implementation in the short term but also to build shared long-term visions and strategies, in addition knowledge sharing.

National greenhouse gas inventories provide a good basis but tools offering enhanced resolution need to be developed. Guidelines should be given to all countries and proxies provided for those without the resources to collect specific data.

International organisations such as the FAO can help link up these initiatives and connect them with international programmes such as the SDGs.

There must also be links to the activities of the scientific community, with the Global Research Alliance (GRA), for example.

In summary: The desire is for a robust system providing a range of benefits, which would represent substantial value-added. Creation of a "4 per 1000" hub is strongly recommended to support the Initiative, based in research and focused on action.

Workshop no. 2: Expectations regarding project evaluation reference criteria

There are two mutually complementary ideas here: the idea of a set of reference criteria, parameters to be taken into consideration in guiding a project, and the idea of indicators, figures representing targets to be achieved or, conversely, limits not to be exceeded.

For the participants, the reference criteria must take account not only of the beneficial effects of the methods employed in a project but also of possible negative impacts (changes in land

use, loss of biodiversity, etc.). Furthermore, they must permit evaluation not only of projects but also of the project construction process.

There is a need for application of straightforward, transparent, dynamic criteria and the adoption of a systemic approach. The criteria must be multidimensional, covering the environmental, social and economic aspects. They must be easily understood.

The participants emphasised the need to engage all stakeholders and to foster consensus. They suggested that the proposal to be made by the STC should undergo broad-based consultation before it is adopted.

And lastly, they recommended the construction of a system of indicators compatible with what is already available. Before taking them as a basis, existing means should be assessed in order to retain only those elements that work and improve those that do not.

This set of criteria is necessary for the assessment of the reliability of projects and their impacts, notably in order to avoid potential negative effects (for example, vigilance is needed on natural resources, water pollution and so on).

Three domains need to be considered: the environment, the economy and society.

The criteria must make it possible to monitor changes in the levels of organic matter stored in soils and to communicate on the progress made by the "4 per 1000" Initiative.

Nevertheless, it is also necessary to seek to ensure that the criteria also take into consideration the actions and means employed and not only the results in terms of storage levels. This is so because it will be many years before an increase in soil carbon becomes objectively measurable. More rapid assessments are necessary. Also, it is well known that there are other sets of criteria that function very satisfactorily on the basis of "best-efforts" obligations rather than mandatory targets; specifically, this is the case for organic farming production.

In summary: The desired set of reference criteria must be a comprehensive, multidimensional tool covering the environmental, social and economic goals and issues. It must be straightforward and dynamic. Its construction must involve all stakeholders and it must start out from what is already available.

Workshop no. 3: The collaborative platform and the networking of actors

The whole range of actors must be able to contribute to the platform to ensure that it will meet their needs as far as possible: not only scientists and technicians but also farmers, NGOs, service providers, advisors and policymakers.

Account must be taken of categories of actors that have specific needs: indigenous populations, smallholders, women, advisors to farmers, markets, and so on.

The purpose of the platform will be to fill the gap between the work done by the STC and practical application on the ground and to build ties between the various actors involved in the Initiative.

It is important for communication to go not only from researchers to practitioners in the field but also from practitioners to researchers, because "experts" in farming practices conducive to soil carbon storage can be found at every level; in this context, "downstream" and "bottom-up" approaches are highly mutually complementary.

The need is to ensure integrated communication enabling:

- Overlap between topics,

- "Silo" connections,
- Information synthesis for each "silo" rather than simply a succession of items of information.

Two-way communication should be encouraged: collection of data and experience and dissemination of information.

In summary: It is important to involve the stakeholders in the construction of the platform (design, test, review). Inclusion of farmers is of key importance and the formation of farmers' committees would be useful. It must enable information to be collected from all involved and to disseminate information.

Workshop no. 4: What funding is available for projects aligned with the goals of the Initiative?

The "4 per 1000" Initiative can facilitate the construction and funding of projects in practical ways:

- by providing tools for demonstrating results,
- by improving knowledge through research and experience on the ground,
- by developing information systems based on knowledge of soil management acquired in the field (peer-to-peer),
- by identifying available sources of finance,
- by simplifying procedures.

Instruments must be developed at various levels (e.g. farmers, policymakers).

Projects must be integrated (and not focused solely on soil carbon). They must provide incentives, i.e. benefits for farmers in terms of income, resilience to climate-related hazards and sustainability: this is key to project ownership in the field.

It is important for regulations to be consistent with the application of methods conducive to soil carbon storage.

Similarly, a way must be found to ensure that farming practices are focused on the long term.

The funding to be applied must come from both public and private sources, of which a number are available. The option of using Carbon Credits was mentioned but most participants felt that the problem would not be to find finance but to secure its distribution and effective application.

In summary: The expectations for the funding aspect of projects fall into several categories: networking, facilitation of the setting up of projects, provision of tools for project evaluation and monitoring, knowledge and the sharing of information. It is of key importance that projects should offer social and economic benefits along with resilience and sustainability for farmers in order for them to feel a sense of ownership over the long term. In addition, alongside the variety of funding sources, it is important that those sources should be secure and effective.

An overview paper covering the four workshops will be drafted and circulated to members (see appended document)

Forum Conclusions