Notes from the RTOACC meeting 11./12.7.2013, IFOAM, Bonn

A) Points made in the Group Work at the RTOACC meeting:

QUESTION 1: Why should smallholders take part in Carbon credit schemes, what are the benefits?

a) Challenges:

It requires additional education and knowledge.

Smallholders need to aspire for something better than subsistence, this is currently often lacking.

Higher standards on administration and record keeping are needed.

It requires increased collaboration between farmers.

Additional financial support is needed.

Smallholders need to take some risk and uncertainty.

b) Opportunities:

Additional income; resp. carbon credits could also be used directly in exchange for inputs/to buy inputs.

Yields and resilience increase.

There are economies of scale – but this can also rather be a challenge to smallholders than an opportunity, as it would work in favour of larger land holdings.

Collaboration is supported, with neighbours and within communities.

Skills are increased, technological transfer takes place.

Extension services are set up.

Smallholders get to know tools to make their own farm research and their own experiments on how to further develop/improve production.

There are incentives to convert to organic production.

Farmers switch to less intensive production and this may lower their production costs.

Diversification of the farm production: food, energy, fuel, carbon credits, already short-term.

This leads to empowerment, independence of the farmers, they become less dependent on one buyer if they primarily focused on one crop only that was bought by one cooperation, for example. They are also empowered in relation to banks and insurance – annual monitoring increases their credit worthiness, increases the trust of banks and insurances towards them.

Smallholders participate as they have the right to participate.

Smallholders need to be addressed as any action on them has a huge aggregate effect, as most farmers worldwide are smallholders.

Smallholders take care of the landscape and should be paid for that.

A caveat: carbon credits are NOT about solving someone else's problems –but there is common responsibility.

QUESTION 2: How to make best use of existing monitoring, verification practices from organic agriculture?

If it comes to tons of CO2e – the organic MRV is not applicable.

Organic farms focus on different aspects: they are more efficient in N use, organic farmers are more educated, organic farmers know more about soil systems, nutrient cycles, etc. This is assured with the organic MRV – but CO2e reductions are not.

This could be captured by using lower default values for emission factors for organic systems than for conventional ones. For this, use peer reviewed data to get default values (conservative ones) to reward organic farmers for their actions.

One key problem there: How can people that already do good practices be rewarded and not only the bad ones that change bad practices to good ones (cf. Additionality)? One idea from soil carbon: do not only reward the build-up of carbon stocks but also the carbon stocks that already have been built up.

We need well trained specialists for inspections that combine organic and CO2 – but there are clear synergies in MRV of both together; just make use of the basic data that is anyway around from the organic certification and add some extra criteria that give accurate measures for GHG emissions.

Institutions of organic MRV, extension etc. are well-established, this could be used for carbon credits as well. Take the sugar cane CDM methodology AMS-III.BE as an example: organic certification reduces monitoring costs as the presence of an organic certificate can be used to prove that no burning takes place in the project.

On the other hand, there is also a lack of consistency between organic and other certification schemes.

A particular challenge for MRV is the diversity of farm conditions; how to address those? – E.g. low input farmers that are not certified organic vs. organic farmers.

New markets for climate conscious consumers could develop, maybe parallel to organic markets – new market opportunities.

Carbon credits can pay for the conversion/initial phase of organic production.

QUESTION 3) How to keep costs of carbon crediting low without compromising on quality?

Do Programs of Activities / regional approaches instead of farm based approaches; Use cooperative models: farmers associations, etc.

Take a more practices based approach: monitor the implementation of those instead of measuring carbon.

Use the data from other monitoring schemes, in the EU e.g. the CAP schemes, e.g. from the cross-compliance, etc. – use this data as much as possible.

Monitoring with satellite data; this is maybe for the future, it also depends on the costs for high resolution that is in principle already possible. Also for soil carbon. On landscape level, nothing else will work at relatively low cost and high reliability.

Use mobile phones for monitoring.

Combine with existing schemes, use data that is already collected to derive the necessary information for the carbon calculations; certification bodies can do certifications for different standards at the same time.

Train local auditors and avoid flying in auditors from abroad.

Sell carbon credits alongside the products.

B) Some notes on the presentations from various institutions

1) Synthesis from the groups work from the previous day

Here we had first some summary from the previous day, then we had some discussion partly focusing on the position of IFOAM wrt carbon credits:

IFOAM's stance on carbon credits:

- IFOAM favours offsetting
- IFOAM opposes large financial corporations getting involved with carbon trading
- IFOAM sees carbon trading as a vehicle for supporting smallholder organic farmers
- IFOAM sees climate smart/organic agriculture as the solution for food security and global warming

At the same time, it is important to ask how the financing works and who is the broker of the carbon credits. IFOAM wants to see a high percentage of the carbon credit revenues going to farmers.

The IFOAM position on carbon credits (as explained by A. Leu. It needs approval from him): IFOAM principally supports carbon credits, but as part of VCM scheme, with a balanced set of other criteria of sustainability.

A main message to the Gold Standard: Why covering sustainability in the agricultural production via Rainforest Alliance /FSC and not via integrating organic principles or standard in their carbon credit schemes? Organic Agriculture is the "Gold Standard" for sustainable agriculture – so referring to it is the perfect fit for the Gold Standard for carbon credits.

Other Discussion (points made by André Leu)

- It is important to communicate the benefits of organic farming on the product itself e.g. biodiversity, climate change, welfare, etc. Also the social benefits – fair trade, poverty alleviation.
- "Organic food is not 'too expensive'. Conventional food is 'too cheap'!"

- André mentioned that the Forestry Stewardship Commission, who IFOAM shares a building with, are the best of the bunch. However, their systems are having a negative effect on the social and natural environment and a lot of their promotion is 'greenwash'. REDD is a poor scheme.

- André talked about an 'Organic Wild Harvest' certification.

- IFOAM is working in Bhutan, a country aiming to be the first 'Organic Nation'. 80% of the country is forest, which is planned to be categorised under IFOAM's 'Organic Wild Harvest' programme.

- Also working in Bangladesh, particularly the mangroves and the bamboo growing areas, as Organic Wild Harvest.

- The developing world is responsible for 25% of the world's emissions. The 75% emitted by the developed world is predominantly through forest clearing.

- 80% of agricultural land is grazing. Mostly savannah. And mostly burnt.

- Organic agriculture (not burnt) has the highest levels of soil organic carbon and therefore sequestration.

- André said IFOAM are contributing to policy/legal frameworks at a high level e.g. UN meetings. The resistance has been from developing world nations because they want their income to be unrestricted, not tied to climate friendly projects.

- André asked the group if we would be interested in IFOAM playing the role of a neutral, organic, carbon credit broker. Talks are already underway for IFOAM to develop this service.

- We also discussed the role of satellite monitoring of farms – using regular satellite imagery to monitor and make changes to weeding, fertilising, soil type.

2) Louis Bolk Institute

See presentation.

Additional notes:

Finance: fully private, no governmental basic funding, but the government gives project based funding.

All the projects presented are from the Netherlands

"Farmers & Climate": a lot of exchange between farmers and researchers, they learn a lot from each other, 50% organic, 50% non-organic, running since 2 years. Difficulties to motivate organic farmers, as it is generally thought that conv. Farmers learn more from org than the other way round

"Buffer farmers": doing activities related to soil and soil fertility and often have a background in protection of water, water quality and this is often related to climate change

"Credits for Carbon Care": it is designed as a voluntary system. Goal: all stakeholders come together in a system that allows paying farmers for carbon sequestration. It is based on a two-tiered payments: do not only pay for soil carbon increases but also for high carbon stocks due to actions in previous years before the

program started: payments for stocks and flux (details, see slides). The also investigate who may pay for this (e.g. diary companies – would they be willing to do this?).

“Clover for Climate”: dedicated to conventional farmers, in order that they learn about the advantages of grass-red clover mixtures.

“Nothing but good about the crisis”: motivated by the observed contradiction between urgency (allowable temperature increase till 2100: 1.5-2 deg) vs. behaviour (expected increase 3-5 deg by 2100). Personal leadership: this is understood as having the knowledge and the capability “to make the right choices”.

“Network Organic: climate neutral”: also interesting what happens, when you get 60 farmers together, where each has some specific experience and knowledge – they learn much from each other and also research and farmers have fruitful exchange.

3) CEDECO

Projects in Guatemala, Nicaragua, Costa Rica (Soil gas emissions from N fertilization is lower in org than in conventional (by 40-60%)). They will start in Mexico a project with FiBL on sugar cane: conversion to organic. They also have such a project in Paraguay.

With partners in Spain: apply CamBio2 on Olive production in Spain, first application outside Southern Americas.

They do carbon footprints for companies. This is crucial to attract funds for their smallholder projects.

Question: in general, independent broker for organic carbon credits – would this be an option to make the processes more efficient, to streamline carbon credits in organic agriculture? Yes. This would be a good thing. IFOAM could take this role as a neutral body. As a non-profit organisation the main goal would be to insure that as much as possible from the carbon finance goes to the smallholders. This is currently in development within IFOAM.

They start again working in Cuba. Establish a global strategy for adaptation and mitigation for agriculture, mainly in livestock and rice, and some other crops.

4) ZALF

See presentation.

Additional notes:

“INKA BB”: Important for adaptation is the Sensitivity. They focus on the weak points in farming systems. In organic agriculture, this is legumes. So they focused on how legume-grass swards react under climate change (project region: in Brandenburg, very dry, increasing water scarcity is forecasted).

They chose the RCP 8.5 scenario for climate forecasts: this is the most pessimistic one, but not unrealistic. Increase in vegetation period allows more cuts. Cutting time becomes earlier and yields at the third cut go down significantly.

A huge challenge for organic farms: to grow legumes in their crop rotations also under these adverse climate development, still getting decent yields. Main problem is red-clover. One lesson is to search for other

legumes that are better adapted. Key message: legumes are a key vulnerability for organic farms and can reduce their adaptive capacity. We need more research to develop strategies to deal with this!

A problem due to change in water dynamics: N fixation rates go down under water scarcity. Wet winters: there may be additional N leaching.

Additional remark: Risk due to climate change in sandy soils: incomplete decay of organic matter, water can then less easily penetrate to deeper layers but rather evaporates: a key challenge in sandy soils: assure complete decay of organic matter.

Key challenge: how well does organic actually perform as an adaptation strategy? We need to collect all this knowledge and act accordingly: knowledge transfer to farmers, more research on key knowledge gaps.

Use the new platform TIPI to share such information.

Also: take up new approaches: e.g. take up precision farming also in organics to become more efficient in resource use! Use satellite data for this: identify good and bad soil areas and use this plus GPS information to make cultivation more precise. It is cheap and works for all scales.

5) Soil Association

See presentation.

Additional notes:

“Low Carbon Farming”: project in the UK for British farmers, very practical. Three-years project since 2011. Soil Association is the main organic charity in the UK: both consulting, licensing.

Twitter is really popular among farmers in the UK – used as an exchange tool.

Economic benefits from low carbon farming: how much can be saved by switching from synthetic fertilizers to legumes, etc. See them as abatement costs – these would then even be negative abatement costs: thus think about how to get those measures supported! But calculating GHG abatement costs is not part of this project.

There is another initiative in the UK estimating marginal abatement costs, also for farm activities.

FCAT: why one more tool? – Most tools around just calculate footprint – then nothing more comes. FCAT calculates and then suggests measures for improvements. The tool takes about 2 hours to fill in. So it’s simpler than other tools. Web-based, can be filled in by the farmers, you get a final ranking graph. Such a tool should be used in farmers’ schools.

6) SEAE / UPO

See presentation.

Additional notes:

SEAE: information activities, advocacy: Workshop covered many areas from soil management to adaptation in Latin-American countries. SEAE became member of REDAGRES, mainly a research network, focus on Latin-America.SEAE magazine is published four times a year – spring issue 2013 on OA and Climate

Change, articles on adaptation in Mediterranean areas (translation from the English version in the EU-IFOAM adaptation brochure, 2013), and other topics.

UPO (University): research work. A multinational project with people from Spain, Austria, Canada, Columbia, Nicaragua, Cuba, United States.

Specific project: Assessing the carbon footprint of organic and conventional crops and cropping systems in Spain. In Spain, agriculture is about 10-12% of total emissions (direct emissions). IPCC tier 1, thus this assessment is not adapted to Mediterranean conditions. Hypothesis: emissions from agriculture are much larger – aim of the project is to estimate those emissions and to see, whether organic farming would work as a mitigation strategy – always focusing on Mediterranean conditions.

Huge LCA of 80 farm pairs, based on farm interviews, Ecoinvent and IPCC values, partly adapted for Mediterranean conditions (Soil carbon, N2O), org and conventional, as similar as possible. Focusing on GHG, no health effects of pesticides, etc.

(sorry, but for the following; I missed quite a bit as I was slow in making my notes – please improve!)

Two meta-studies on N2O emissions and Soil carbon of different management practices in Mediterranean conditions. Several assumptions, e.g. to assess sequestration over 100 years, assume that carbon sequestration is 50% lower (as data covers only first 20 years, but the rates go down afterwards). This is a reasonable rule of thumb to simply assess carbon sequestration, they found.

In the LCA study mentioned above: Also assess the effect of the yield gap between org and conv on product based emissions. Per ha, org emissions are usually lower than conventional, only in rice it is the other way round (as organic fertilizer on wet rice has more emissions than synthetic fertilizers). These values are based on IPCC values plus the information from farmers in the interviews. Emissions per product are less different between org and conv, and for some crop types org has higher per kg emissions than conv, for others not. Huge difference in rice (conv lower than org as well). But add carbon sequestration, which is higher in organic, thus also per kg, the total balance is better in org than in conv.

Emissions from manure are not included in the organic system, as they are assumed to be allocated to the livestock production (common LCA practice). And most organic fertilizers were manure, only few composting was involved. But there will be some emissions, also from on farm storage. They plan to account for this in a sensitivity analysis.

7) IFOAM

See presentation.

Additional notes:

Presentation on which information on climate smart agriculture the IFOAM presents to the UN bodies. One focus is to getting across an ecosystems-based approach and the fact that OA is innovative and science-based. First, they tell what OA is and what IFOAM is and which role it has. Also, OA is not only certified OA, IFOAM deals with all sustainable agricultural systems such as agro-ecology, etc. OA is not only about growing luxury products for rich people. Key is also to get across the (adaptation) benefits of increasing soil organic matter. Get across the role of water retention capacity: this is crucial, as we simply cannot provide as

much irrigation as would be needed to cope with climate change given we do not change the water holding capacity of soils. Tigray study: good example to show the effects of organic agriculture and its potential to improve food security. Key to get across: the multiple benefits of OA.

8) ART

See presentation.

Additional notes:

ART is one of the Swiss governmental agricultural research stations.

"GHG inventory": ART does the CH GHG inventory, tier 2. CH4 model is good and straightforward, N2O is much more intricate, the ammonia part therein is quite good. Important: everything is linked – also the CH4 is partly linked to N2O. In the future a more profound integration of the individual processes is intended (e.g. if you reduced CH4 from animals, you may get more CH4 from the manure). Also key: acting on single emission factors has often small effects or induces side effects in other processes. It is thus much simpler to act on overall efficiency (e.g. N-use efficiency). This is e.g. a benefit of organic agriculture, as the systems are N-limited, thus there is a need to be N-efficient. For soil carbon, they want to improve the model for the inventory, they thus compare different models (Roth-C, Yasso07, ICBM) that are around and want to choose the best and further improve it, e.g. to include compost, etc. Models will be validated with data from long term field trials among them the DOK-trial in Switzerland. Key for soil carbon storage seems to be C-input from crop residues. Different allometric functions are tested to reliably simulate carbon inputs to soils.

"Single farm model": activity data for running the model is limited since the single farm model is integrated in an overall agro-environmental monitoring framework. Workload for farmers to supply the needed data for the whole program is already very high and additional data cannot be elevated. On the other hand, the single parts of the model (energy, N, etc.) are quite powerful and can be used as inputs in GHG modelling. Currently, there are 300 farms, it is about to be increased to 800 farms. Linked to this model, there is an educative game for farmers/schools for farmers: "Emission impossible" (http://www.emission-impossible.ch/home.html), collaboration with the Zurich University of the Arts (http://www.emission-impossible.ch/home.html). The game runs for three years, each year you have to reduce GHG emissions, you can choose crops, livestock activities, tractor sizes, etc. and it is linked to an economic model, so you need to be profitable at the same time.

"GHG emissions related to food consumption in Switzerland": This is based on a food chain approach, motivated by the Swiss Agricultural Climate Change Strategy, where up to a third of planned emission reduction should come from changes in consumption behaviour. Partly based on LCA data. Currently, numbers used are highly uncertain. Import and export of food products are also considered and imports account for one third to half of the emissions related to food consumption! Policy measures to mitigate greenhouse gas emissions from agriculture and food consumption must therefore take into account these imported emissions.

"LCA Analysis": LCA analysis are conducted by the LCA group at ART (http://www.agroscope.ch/oekobilanzen/index.html?lang=en) which is also involved with the SOLIBAM-Project (http://www.solibam.eu/modules/addresses/viewcat.php?cid=1).

9) The Organic Research Centre, Elm Farm

Round Table on Organic Agriculture and Climate Change

See presentation

The Progressive Farming Trust trading as the Organic Research Centre, Elm Farm, is the main research institute for organic food and farming systems in the UK. Most of the projects are carried out on commercial farms with a strong participatory element.

Relevant projects in recent years have included the development of the Public Goods Tool, a rapid assessment tool to provide an overview of a farm's performance against a range of environmental, economic and social criteria. The tool uses a range of qualitative and quantitative indicators (e.g. NPK and energy balance, plus questions relating to soil and water management). ORC are also leading a work-package within the Defra Greenhouse Gas Platform which is developing improved emissions factors (IPCC Tier 2/3) for UK agriculture, to allow for monitoring of progress toward the ambitious reduction targets set within the UK Climate Change Act. Recent work has focussed on the issue of communicating uncertainty associated with GHGs and a range of methods were compared at a recent workshop.

In another, related project the ORC have explored the potential for financial benchmarking data to be extended for the purpose of environmental assessment. Results have indicated the need to find a balance between the level of detail and the amount of time on-farm required for an assessment. The Research Centre are also working on a Defra funded project looking at how biodiversity assessment, in addition to social and economic indicators can be included within and agricultural LCA framework. ORC have also been comparing intensive specialised organic systems with lower intensity diverse systems, within the SOLIBAM (Sustainable, Organic and Low Input Integrated Breeding and Management) project, part of the FP7 programme.

Additional remark (Adrian Muller): there has been the issue of sugar cane tops brought up by André. Actually, the sugar cane CDM methodology AMS-III.BE accounts for incomplete combustion of the biomass via an IPCC default value of 0.8 or local values, if available. This thus covers at least part of the tops that are not burnt also in pre-harvest burning. The biomass quantity this 80% are taken from is the biomass that in principle could be burnt, not to total biomass (see https://cdm.unfccc.int/filestorage/y/2/GI5RNF9PJ08OLTYWMCA3D1V2ZE47KS.pdf/eb70_repan25.pdf?t=OUl8bXB4a2x4fDBctPF2vEm4UabxInxx0bAg, Paragraph 15, explanation of "C_f").


Round Table on
Organic Agriculture and
Climate Change