



NIVA WP 3 –JRC D3 interview

Date: 18 January 2021 - 14h 30 – 16 h 15

Location: Teams meeting

Stakeholder description

1. Organisation name: Joint Research Centre – Unit on Land resources
2. Person name: removed for privacy reasons
3. Person position /role : scientific officer, project coordinator of IACS65, work on soil health, soil contamination
4. What is the general purpose of the organisation?

The Joint Research Centre (JRC) is the European Commission's science and knowledge service which employs scientists to carry out research in order to provide independent scientific advice and support to EU policy.

General objective of JRC is policy support (support through evidence, policy assessment, proposing new solutions).

The Unit on Land resources has 4 teams: Soil, Environmental Ecosystem benefits assessment, life cycle assessment, Raw materials.

Our Unit on Soil has a big portfolio called Healthy Soils of activities:

- IACS65 project: use of IACS data for soil modelling
- AG Soil project: for environment-friendly food system
- Environment Soil : about soil biodiversity, fertility, productivity
- Soil part of LUCAS survey: soil bio-chemical conditions, pesticides and micro-plastics.

5. What are the activities related to agriculture in general ? What are the activities requiring use of data about agriculture?

My main focus is on IACS 65 project that is organised in 6 WP:

- WP1 : discovery –accessibility of IACS data : it is about metadata, GeoPortal specific entry point; Vlado and Katalin are working on it
- WP2: interoperability : discussion paper , survey among MS; some pilots on crop production, LULUCF and statistics in future
- WP3 : demonstration on practical use ; first focus is on soil health (erosion, organic carbon, contamination by pesticides, degradation index)
- WP4 : exploration of the full potential of IACS data beyond administration and control: it is about exploring how IACS data that is not yet covering 100% of agricultural land might be “extrapolated” to whole agricultural territory, e.g. by combining it with other data such as Corine land Cover
- WP5 : collaboration with Member States
- WP6 : project coordination

IACS65 project is about IACS data that is geospatial and not personal data. In practice, it focuses on LPIS and GSAA. The principle is to keep restricted scope in order to make easier to convince MS to share data. New CAP is not yet voted but there is no controversy about the article 65 on data sharing.

The project is not about controls for payments; it is about exploiting the richness of IACS data that is very valuable.

Additionally, JRC is building an EU soil observatory – on 5th Dec there was formal launch of this – will be located at JRC – this soil observatory will be collecting different kinds of data; one of which will be IACS – the soil observatory becomes a reference point for soil scientists and green data (relevant to EU green deal) and also for policy makers – the idea is to share the data and make the data available – publicly available.

User experience – User requirements

1. What current IACS data do you need?

- Reference Parcels as defined in LPIS & Agricultural Parcels as defined in the GSAA

They are in the target features for interoperability with their boundaries, area and Land Cover information.

The Land Cover information is of interest for the LULUCF register that will compare across several years the difference of uses between big categories, mainly arable land, permanent crops, grassland and forest. There is some discussion about good definition of “grassland”.

Some initial work has been done and Pavel Milenov made a presentation one year ago about this topic.

- Landscape features

They are in the target features for interoperability (as EFA). Grass margins & stone walls (landscape features – located geographically in IACS) are required for the modelling of different soil-related parameters such for instance erosion, biodiversity and degradation.

- Agricultural parcels

They are also in the target features for interoperability with the information coming from farmer's declaration. We need current data but also historical data.

We need information about crop type, for all our various outputs (erosion, degradation, soil modelling, soil biodiversity, soil pollution). Concerning the type and number of individual crops: there is no standard classification used by soil biodiversity scientists. In our case, we will be using LUCAS land cover classes.

We need also information about crop rotation (erosion, degradation, pollution). We are targeting to get data between 5 and 10 years ago for the crop rotations but in practice, it will depend on data availability.

We need also data about cover crops (intermediary crops between 2 main crops) for soil erosion and degradation.

- Farmer declaration as performed yearly through the GSAA (Geospatial Aid Application)

We need more detailed data that might be coming from farmer declaration in GSAA. Some of these categories might come from the field-book as kept by the farmers. These elements are not purely required in the IACS legislation, they might be specific to some other CAP 2nd Pillar schemes.

- Use of fertilizers
 - We can know how much fertilizers have been sold but we need to know where and when the products have been applied
 - For soil modelling (with focus on N and P), soil biodiversity
 - There is some discussion about standardised list (e.g. for the FAST system) ; at least, distinction between N, P, K for mineral fertilizers and manure
- Use of plant protection products (PPP), such as pesticides
 - We can get some data from soil sample analysis from the LUCAS surveys but we don't know if presence of pesticides is due to current or previous agricultural practice or coming from neighbour parcel. This is why we need data about PPP on agricultural parcels, with application timing or frequency, application mode, type of product
 - For soil biodiversity, soil pollution
 - We have a list of around 100 most popular pesticides and we ask laboratories to look only after them when making analysis. This list is probably public and might be shared with NIVA.
- Tillage:
 - What is its frequency? is it practiced following contour lines? (soil conservation, may be in rural development measures)
 - Useful for soil erosion or degradation, soil biodiversity
- Management type:
 - conventional /organic / regenerative for soil biodiversity
 - organic or agro-ecology for soil pollution
 - information if organic or not should be mandatory in new CAP
- Water management, irrigation system: for soil modelling, soil biodiversity
- Cropping practice: mono-crop, crop rotation for soil biodiversity
- GMO use for soil biodiversity

- Vegetation cycle (sow/grow/harvest) for soil erosion or degradation
- Plant residues (% left) for soil erosion and degradation
- Other conservation practices, such as agroforestry for soil erosion and degradation
- Practices on grassland (grazing or cutting) for soil modelling
- Date since the field was established for soil pollution

We will make our soil variable computation at least once a year, the objective is to see the impact of various practices. So we will require GSAA data at least once a year.

- Animals

We have a component about sewage sludge (where? when? How much? Has there be pre-treatments?) but this component has been suspended in the project.

Data from IACS about animals would be useful. The IACS65 WP4 should work on the topic of combining LPIS –GSAA data for sewage sludge.

Data about animals would also be very useful for JRC studies about ground water quality (out of IACS65 scope).

- Beneficiaries, entitlements, payments,

This administrative data is not in the scope of the IACS65 project; MS are less willing to share such kind of data, discussion is more delicate about these topics.

I think all data is interesting for JRC – we look not just at soil, but also for example ground water quality – crop quality and control etc. The scope is large for the whole directorate which is linked to sustainable resources and knowledge advancement.

2. What potential future IACS data do you need?

- Farm Registry

Effectively, most of data foreseen by the Farm Registry Use Case will become mandatory with the new CAP. We are very interested by data about fertilisers, plant product protection, agricultural practices ... but the fact to have data at farm level is not important for us, we just need to get it at parcel level.

- Crop classification & Traffic lights (EO monitoring)

Anybody can access Sentinel data and make processes on it. So, data from EO monitoring may be published without any confidentiality issue. Results from EO monitoring represent the field truth.

- Geotagged photos

We use also this technology in the LUCAS survey. These photos are shared, ESTAT is managing the database; there is work on automatic interpretation.

- Agro-environmental indicators

JRC is supporting this kind of work.

Opinion about data sharing principles

1. What data do you think should be publicly available for use?

IACS data with geographic information should be shared and made publicly available for everyone. It is information you can see from a car when riding in countryside or through Remote Sensing, as available in Copernicus S1 and S2.

2. What data do you think should not be shared and should only be used by Paying Agencies?

- What has made you feel this way/why do you think this way?

Some GDPR related measures will be applying to data on beneficiaries. It is then very delicate to be shared and some additional measures should be considered.

Data about public payments on private persons: MS have to publish payments (over a given threshold), they should have a Registry of Beneficiaries. Data about payments is already published.

3. Who do you think most benefits from partially or open data sharing?

- Can you explain why you feel this way?

Denmark has an open data policy and made some presentation about the concrete benefits of open data for various sectors (real estate, environment, industry ...).

Regarding IACS data, main beneficiaries should be citizens in the end. The new monitoring approach should contribute to ensure quality of food.

4. Do you have any idea about how the process of data sharing from farmer to wider stakeholder groups can be improved?

Make a global but simple list of the required data, get it validated through case studies and try to get it agreed. Code of conducts may be a good way to formalise this agreement.

Start simple, try to get people on board.