



## NIVA WP 3 –JRC D5 interview

Date: 02 February 2021 - 15h 30 – 16 h 45

Location: Teams meeting

### Stakeholder description

1. Organisation name: Joint Research Centre of the European Commission – Unit D5 (Food Security)
2. Person name:
3. Person position /role:

removed for privacy reasons: technical officer – in charge of development of concepts, methods and tools for CbM & quality assessment

removed for privacy reasons: scientific project officer in charge of IACS data sharing

4. What is the general purpose of the organisation?
  - To support, with technical solutions, the implementation of CAP (On the spot checks and checks by monitoring, for compliance, prevention and reporting;/ management and quality assessment of GI in IACS (LPIS, GSAA)
  - Agri environmental indicators: assessment of agricultural impact on environment
  - Agri impact on climate
  - Crop monitoring and forecasting
  - Food security (for 3<sup>rd</sup> world countries, such as Africa, North Korea ...)
  - Food Systems (project linked to Farm to fork initiative with main focus on traceability, security and safety of agro-food products. Modelling of all triggers in the system – including natural, technology and social-economic factors. A complex work, it has just started
  - Rural Lab: it is cross-cutting activity, new methods (use of AI, new data capturing methods)

Our unit is conducting both exploratory and applied research.

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

We are developing the methods and assisting the design of tools that are needed by MS to conduct some of the processes related to monitoring (incl. early-warning) and compliance checks of CAP payments and for assessing LPIS quality: Geodata and Technology for the Common Agricultural Policy (GTCAP).

We need IACS data from EU MSs to develop and test the technical methods, as well as to demonstrate the best practices on real-case examples. The access to data is not an issue, as the collaboration with the EU MSs is subject to a special regulatory provisions, linked with CAP compliance checks (Article 48 of Regulation (EU) No 1306/2013). This allows for the establishment of a dedicated and internal information exchange flow, in close collaborative manner. We can ask in a systematic way or for specific purposes; PA may provide direct access to data (if available through WMS/WFS) or use file transfer.

For these controls, from LPIS, we need mainly reference parcels perimeters, agricultural land cover, mapped landscape features, and associated thematic alphanumeric data (ex. areas with natural constraints); from GSAA, we need agricultural parcels with basic attributes (ID, declared land use) and, if needed, the link with the associated farms and agricultural practices (through the identifier in the farmer application). We don't need, nor require, any personal data.

We are mainly interested by the Land Use & Land Cover information and by the representation geometry. Sometimes, we are getting thematic information (ex. LU) derived from Cadastre.

- New CAP control system

Regarding Check by Monitoring (CbM), we develop methods aiming to help MS to design their new check by monitoring system.

If data is openly available (as in Catalonia), we prefer to use that option. They just provide the link to the relevant metadata and resource. If we need a more specific data or intermediate version, we make a specific request.

The new system to be put in place for AMS is in discussion within the Commission ; there are some ideas but everything is still to be decided.

We have interest also in spatial data related to CAP second pillar – agri-environmental support measures, targeted at agroforestry, cultivation practices, nature protection, or organic /conventional crops. (sometimes in IACS, due to area related measures) .

- LULUCF

LU & LC information is required for LULUCF. According to Regulation (EU) 2018/841, removals and emissions from agriculture are accounted. The LC information is of interest: grassland (important for removals), forest (frequently in CAP for reforestation), peat land, wetlands. Even the LC/LU types might be in IACS, as some MS decided to produce a full coverage of the country, not only the agricultural area.

The LC information about grasslands is in IACS. It has been required for long time for compliance; Most of the agricultural area is declared for first pillar and accounted in IACS.

In the context of IACS65, (with collaboration of 3 units of JRC), one of the pilot projects is about the use of IACS information in LULUCF – There is a case study on going in Bulgaria (there should be results by end of March, or mid-April.)

We did a study with DG CLIMA in the past (outcomes still valid), assessing the use of IACS data for LULUCF and making a semantic mapping between LPIS-GSAA concepts and the LULUCF ones. Within the study, there was a dedicated interaction with some MS, for the possibility to collect additional farmer data, such as type of tillage or use of fertilizers. The report on this study may be found on:

<https://publications.jrc.ec.europa.eu/repository/bitstream/JRC102591/lbna28036en2.pdf>

The LULUCF reporting has to be done each year. The obligation of using geographically explicit data, such as IACS, is introduced for the reporting from 2021 onwards (before, national statistics are normally used).

- Environmental applications

There are policy-makers in the Commission (DG ENV, DG AGRI) who would like to know environmental impact of different farming practises – they need indicators for policy impact – e.g. practices such as ecological farming, landscape features (are indicators for good environmental practises), pollinator, species distribution, biodiversity indicators.

Data is mainly coming due to second pillar measures that may vary quite a lot according to countries. Each MS has its local practices and its own list of measures.

So far we have been working with aggregated data (FADN) or statistical data; we have now to figure out how to disaggregate the data. There may be need for individual decision (farmer level).

We are not yet very involved but we would like to push some projects.

- Agricultural statistics

Eurostat issued a report (2016) on the use of administrative data (i.e. data coming from public administration) for statistical purposes. Linked to this initiative feasibility studies on reusing IACS data in agricultural statistics were conducted in a number of Member states (At, Bg, Cr, Fi, Hu, It, Lt, Pl, Ro, Si). Eurostat organised a big campaign to encourage use of IACS data. Some pilots were conducted in NSI about mapping IACS data to statistics.

In practice, the use of IACS data is the choice of the MS, it depends on the collaboration between PA and NSI. This Use Case is in practice in several MS.

*NOTE: WP3 has interviewed NSI Slovenia on this topic*

- Soil health

*NOTE: WP3 has interviewed Piotr Wojda on this topic*

- Other

LPIS data has been used for urban development and infrastructure studies.

IACS data is used for assessing ecosystem services.

In-house DG ENV services are currently in development, based on Copernicus and Sentinel data but they also need in-situ data, including IACS.

IACS data is relevant for almost everything related to land.

- Geotagged photos

They are part of the workflow for the AMS. The whole system we work with is designed not as a control system but as a system that can provide up to date information to the farmers to correct his declaration and to implement the practises he intended to – it's more of a support system

They have also interest for research; it is a way to experiment in-situ data. The technology might be used to complement LUCAS survey.

To assist MS, we have developed a general method about how to collect geotagged photos. These guidelines are available on:

[https://marswiki.jrc.ec.europa.eu/wikicap/images/f/ff/Geotagged\\_JRC\\_ReportV5b.pdf](https://marswiki.jrc.ec.europa.eu/wikicap/images/f/ff/Geotagged_JRC_ReportV5b.pdf)

There is the issue of automatic recognition that is important to deal with the thousands of geotagged images. Technology is required.

## Opinion about data sharing principles

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

There is no official position. Discussion is still on going, there are big debates due to GDPR. In my opinion, anonymised geospatial data (geometry + key attributes) could be fully accessible.

The protection should be placed where you can take measures. There is nothing to be protected on the geometry of agricultural parcel as there is nothing on data subjects (persons).

If some personal data may be linked to the agricultural parcel, the protection has to be put on the linkable data not on the geometry.

There are some concerns from lawyers about satellite images that might lead to farmer identification and so raise issues on personal data. However, the Commission has spent millions of euros for Sentinel images that are openly available; it is too late to put any protection on these images.

### 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?

In theory, every data that does not contain personal or sensitive (economic) information should be shared to better satisfy ICT and data intensive technologies. However, the extent of data sharing is defined by the national legislation of the MS. For example, for sake of transparency some MS publish subsidies received by individual farmers. Others don't provide access even to the coordinates of reference parcels.

Timing may be an issue for GSAA. Publishing data at the beginning of the campaign year when the farmers submit their declarations with crop types/groups may compromise their economic interest. However, it should not be forgotten that an early assessment by Sentinel images is possible). At the end of the campaign year, once control is done, this aspect is not relevant anymore. However, the data is still useful for many purposes (training classification algorithms, monitoring agricultural practices (e.g. crop rotation) or LC, LU change).

Like to official statistics, we do not disclose any individual information (only aggregates). Sharing the data directly received from the Paying Agencies is out of our scope (we have the right to access information needed for performing our tasks and research purposes). In Slovenia, most farmers are physical persons.

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

Our scope is limited to GSAA and geotagged photos.

IACS data sharing initiative is envisaging following solutions:

- Have a separate viewer in INSPIRE GeoPortal => provide specific identity to IACS data
- Encourage PA to contact their national INSPIRE structures that might help them to prepare IACS data sets for INSPIRE and to assign correct key words (e.g. "LPIS" is not adapted for orthoimages)
- Mirroring of metadata: this would enable IACS data to be visible on several platforms (INSPIRE, Agricultural Data Space, Agri Food portal, if relevant, EU open data portal); this might help to have different channels to access data.
- Even if MS have very protective national rules and can't share IACS data with everyone, this is not a reason to escape supporting the data discovery with publishing proper metadata. Eventual restricted access or use should be reported in the appropriate metadata element. This would help to discover and get data more quickly (for authorized users) in case of emergency, when such data is needed for quantifying and planning community support..
- LU & LC data hold complex information, derived in particular context. For IACS data, it is collected for specific purpose. Producer should provide enough detail (e.g. through lineage) to make users understand the nature of data, for example, the LC/LU class conceptualizations and their epistemological context. We are involved in the ISO TC211 WG 7 on Land Cover and Land Use. The Land Cover Meta Language (ISO 19144-2) is recommended by INSPIRE and is a good way to describe and translate LC classification. Close collaboration with data providers is lost in digital system => need for good data documentation.