








Methods&tools for advisory services

AKIS-in-Practice!

SIEX a digital tool for farm advisory








Keywords/Tags

-  DATS
-  Decision support tools
-  Training
-  Advisors
-  Farm data



Potential users

-  Advisors
-  Farmers and foresters
-  Policy makers
-  Agrotech companies
-  Developers and other IT professionals



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The variety and multitude of information held by the regional administrative systems about the primary sector as a whole, at the level of the farm holdings and by the diversity of the farming systems in Spain, represents a potential of knowledge from which framers and advisors can benefit in view of grounding decision making for farm management on tailored and up-to-date relevant knowledge.

Besides, from the policy perspective, this bulk of information is fundamental for evidence-based policy making and it allows addressing some requests of the EU Regulation for the CAP programming period 2023-2027 (e.g. Reg. (UE) 2021/2116) for an integrated administration and control system that is challenging particularly for regionalized countries.

In fact, this integrated system should include comprehensive, reliable and comparable data about for example, the agricultural parcels, geo-spatial and animal-based applications, payment entitlements, identity of beneficiaries, and control and penalty mechanisms, to allow monitoring and assessing the performance and progress, particularly, of the agri-environmental and climate policy towards EU objectives and of the impacts of the strategic plans.

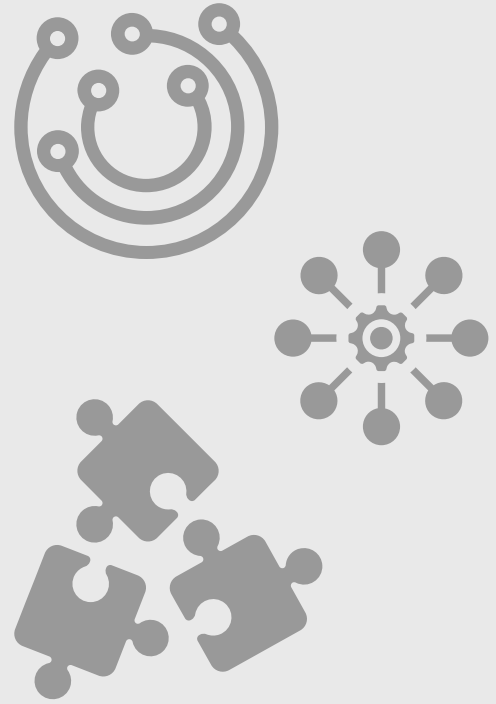
However, the fragmentation of this information across the different regional administrative and data systems is likely to lead narrowing its potential to support the decision making by the different AKIS actors.



SOLUTION

Systematizing the numerous national and regional digital databases and administrative registers already operational throughout Spain by a Datawarehouse complemented by Digital Advisory Tools and Services (DATS), technologies that include computer and mobile phone applications and services available by individual devices or via the web.

This a set of interconnected databases enables a wider and multiple use of the diverse array of farms data by the advisors to deliver farmer-focused decision support service and/or by the policy makers and implementers for administrative/communication tasks.



IN PRACTICE

The managing authority of the Spanish CAP SP established the Agrarian Holding Information System (SIEX) that it is based on the interoperability between the different available information sources of the agricultural, livestock and forestry sectors: the Autonomous Registers of Agricultural Holdings (REA), the Digital Farm Notebook (CUE) and other public registers.

In accordance with Spanish regulation which establishes and regulates the Information System for agricultural and livestock farms and agricultural production, as well as the Regional Registry of agricultural farms and the Digital Farm Notebook (CUE), the information contained in SIEX provides support and supply of information to the Integrated System of the CAP SP for verification of compliance with the minimum requirements and the eligibility requirements and commitments of surface-based interventions, and it pursues interoperability with other databases and administrative records dependent on other departments that are relevant for the characterization of agricultural holdings in Spain.

Through its interconnection with the different technical services, the CUE will make a Nutrient Agricultural Sustainability Tool (FaST to be established under the CAP SP) available to farmers, that provides customized nutrient management plans and recommendations on crop fertilization and the duty application of established standards for sustainable nutrition in agricultural soils.

In general, the objectives of SIEX are:

- Enable an efficient planning, implementation, management and evaluation (including monitoring and performance evaluation) of the CAP SP 2023-2027



- Simplify record keeping and farm management, based on the collection of evidence and relevant statistics to support decision-making at farm level
- Ensure building-up statistical data series for the purposes of the National Statistical Plan and the auditing and control checks for compliance with national and European Union regulations

It consists of two main components (figure 1):

- A** The Agricultural, Livestock and Agricultural Production Information System (SIEX) already in place within the Central Administration platform.
- B** The regional platforms that regard the Autonomous Register of Agricultural Holdings (REA) and the Digital Farm Notebook (CUE).

Figure 1: SIEX operating diagram



This digital platform includes the following type of information about the farm and its farming system/accounts:

- Structural information about the farms (country and Regions, classification of farming system, ...)
- Structural information about the farmer (education level, gender, type of farmer, statistic identification code and others)
- Structural information about the entity/association (i.e. integrated pest management partnerships, breeders' associations, agrifood cooperatives, advisors' organization, certification body, ect) (name, statistic identification code and others)

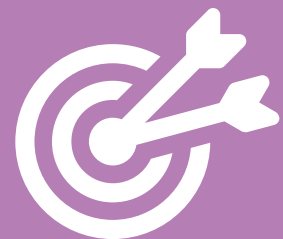
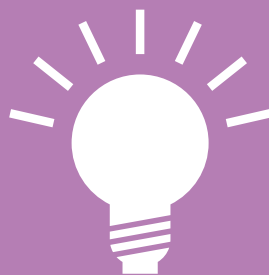


- Information about the farming activities (statistic identification code, farming system and cultivations, varieties and productions, types of certifications, use of the agricultural areas and tenure regimes, ect)
- Quality schemes
- Diversified activities of the farm
- Vineyard register
- Structures of the farm
- Productions plans and data
- Phytosanitary plans and data
- Fertilization plan and data
- Irrigation practices and systems

The System is still under development, and, following the needs assessment of the potential end users, it will be accessible by public data use profiles that will give aggregate information at several levels (crop, municipality, province, etc.) always ensuring compliance with data protection regulations.

In view to ensure the best advantage and use of SIEX, some training courses for advisors are carried out since its establishment.

Moreover, the early implementation of the digital farm notebook occurred some difficulties that lead deciding to reinforce training and advice for the implementation of these digital tools, for example, by CAP interventions supporting the digitalization of advisory services and the exchange of knowledge, information and training.





R E P L I C A B I L I T Y

The Ministry of Agriculture, Fisheries and Food established SIEX through a specific royal decree, as obligatory for all the agricultural farms in Spain. The Decree sets the minimum content of the Autonomous Register of Agricultural Holdings and the Digital Farm Notebook and the chronology of their incorporation in SIEX along with of the other sources of information (e.g. electronic register of transactions and operations with plant protection products, Official Agricultural Machinery Registers of the Autonomous Communities, data on CAP payments, ect).

Moreover:

- SIEX platform is funded by the national plan of recovery and resilience, under the direction of the Ministry of Agriculture, Fisheries and Food of Spain
- Main functionalities are decided based on public surveys aimed at capturing expectations and needs of potential end users
- To ensure the interoperability of SIEX with the sourcing digital repositories and databases, the Ministry of Agriculture, Fisheries and Food of Spain signed individual protocols with the entities providing the information (e.g. Agro-Tech companies running Digital Notebooks)
- Training courses by potential end users are needed. That's why some CAP interventions are giving support to the farmers

Replications of this practice implies the review/assessment of conditionalities and interoperability of existing regulatory framework, Geographic Information Systems (GIS), databases, registries that share information from farmers and the necessary computer development.





B E N E F I T S

- Systematization and standardization of different sources and types of information about a relevant number of agrarian holdings
- Improvement of data quality management
- Better Statistics (agrarian, environmental and sustainable development, etc.). All the information collected in SIEX will allow obtaining the data necessary for the development, preparation and dissemination of the different statistical operations contained in the National Statistical Plan and the European Statistical Program, reducing the response burden of informants, the costs and contributing to the broader objective of reducing administrative burdens
- Better agricultural policies and management of CAP aid
- DATS are promoted and developed in the meantime
- Great opportunity for agrotech companies that are developing new digital tools
- Improvement of the advisory service due to having better data
- Promotion of the digitalisation in the sector and the adoption of precision agricultural tools to promote economic and environmental sustainability
- Public-private partnership and open data





- [FAIRshare's inventory of DATS](#)
- [SIEX FEAGA website](#)
- [SIEX Technical documentation \(ES\)](#)
- [Minimum information of the farm holdings \(ES\)](#)
- [Training course on SIEX \(ES\)](#)
- [Digital Farm Notebook developed by Spanish Agrifood Cooperatives \(ES\)](#)
- [Royal Decree 1054/2022, of 27 December, establishing and regulating the Agrarian and Livestock Holding and Agrarian Production Information System, and the Regional Agrarian Holdings Registers and the Digital Notebooks of Agrarian Holdings \(ES\)](#)
- [Royal Decree 1047/2022, of December 27, which regulates the management and control system of the interventions of the Strategic Plan and other aid of the Common Agricultural Policy \(ES\)](#)



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