

## APPLYING GIS AND REMOTE SENSING TECHNIQUES AT THE IMPLEMENTATION OF THE EU AREA BASED SUBSIDY SYSTEM IN ROMANIA

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The aim of the study is to make researches on pilot areas to be able to decide the detailed techniques how the remote sensing control can be managed with the use of the Land Parcel Identification System (LPIS) as the GIS reference system on way, which is the most suitable for the needs of the Integrated Administration and Control System (IACS) in Romania. The results will help to clarify for the administration how the GIS databases and interactions could be managed in IACS including activities based on remote sensing. Theoretical decisions must be made during developing the IACS GIS can be supported based on the lessons learned from the implementation of the pilot projects of LPIS and remote sensing control.

Area aid claim management means the full IACS annual workflow, starting with the preparation of the application dossiers, handling the claims, data processing, controlling on administrative and on-the-spot way, and executing the payment. During the CwRS the crop type can be defined and the area of an agricultural parcel can be measured based on time series of multi spectral satellite images, with different resolution. A very high resolution (pixel size is smaller than 1.5 meters) satellite image is always used, for measuring the area. The advantage of this high level technical solution is, that compared to the needs of the on-the-spot measurement, it is cost effective, time saving, also objective and deterrent and the processing is independent from the time. The method is fully accepted and supported by DG AGRI because well documented and objective, and on the other hand, it is rather easy to manage for a paying agency. The GIS in the IACS should facilitate the geographical identification of the agricultural parcel, with the support of the identification procedure used by the farmer at the declaration stage, and helping the administration with spatial data and database handling to reach transparency. The GIS should manage the agricultural parcel that is in any case reflected in the standard, alphanumeric part of the IACS database.

The following results and technical conclusions based on mainly the pilot studies the are defined:

- The functions of the LPIS in the IACS-GIS and the use of the LPIS by the farmers and by the administration is defined
- The structure of the area aid declaration and the parcels related CwRS code system developed includes the implementation of the new agricultural parcel definition according to article 2 (1bis) of Commission Regulation (EC) No. 796/2004. The importance of the cluster map during the interpretation process was approved.

**Keywords:** area based subsidies, Integrated Administration and Control System, Land Parcel Identification System, control with remote sensing,