Using the modern technology for land records in Ghioroc, Arad County

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Abstract This paper aim was to study the use modern technologies for updating cadastral plans of the municipality Ghioroc, Arad County, to have a clear record of each parcel of land for its effective use. From surveying made on 05.03.2012, it was found that commune Ghioroc land has an area of 3909 hectares of which: 2641 hectares of arable land; 687 ha of pastures; 39 ha grassland; 536 ha vineyards and 6 ha orchards. Non-agricultural lands have an area of 506 ha of which: 325 ha forestry land; 124 ha of water and reeds; 233 ha communication routes and railways; 150 ha of land with buildings and courtyards; 149 ha unproductive land. Number of positions in the land register at the beginning of 2013 was 2039 of which: Ghioroc 594; Cuvin 550; Miniş 274.

Key words land registry, agricultural land, non-agricultural land, agricultural register

Land value, and once the state’s interest in investigating it, would be a calm notion meaningless, without existence of ownership (1). Development of agriculture as a branch of the national economy is dependent on a good record of land (2,3).

Two negative aspects that marked cadastral and land registry system are noted, caused by the land laws without correlation with other laws, issues, despite the possibility of remedial remain so far: first the excessive fragmentation of land resulting in the emergence of a large number of owners, secondly, the lack of concrete information on the situation and the value of each parcel of property (5,6,7).

Through Caesar Project funded by the European Union, were demarcated general cadastre works in more villages from our country including village Ghioroc located in the east of Arad County (fig. 1).

Fig. 1 Zone framing plan
Ghioroc is the capital of village with the same name, being dubbed by locals “Seaside home” because of its settlement, just on Matca channel, at the base of Zârand Mountains.

Material and Method

For introducing general cadastre in Ghioroc commune, were used dual-frequency GPS devices L1 and L2, and the method used was static method (4); orthophotomap or cadastral plan on scale 1:2000 for the built-up area; plan with representation of cadastral sectors and sheepfold and for a primary identification of buildings in unincorporated area.

Quarters and sheepfold limits coincide with the boundaries that define buildings. It was made a shp file containing sheepfold and quarter’s boundaries in the form of polygons. Each polygon will have as attribute the number of sheepfold or quarter.

To ensure a uniform accuracy of the entire cadastral plan, digitized elements were verified by surveying made in features of the points of sheepfold (quarter).

Results and Discussions

In determining the limits of buildings have sought to ensure appropriate scale precision 1:5000 for unincorporated area (“extra muros”) and 1:2000 for the built-up area.

Buildings fenced boundaries were determined as follows:
- The vectorization of existing plans by verifying and updating them in the land;
- By surveying in situations where there were no cadastral map/topographical or orthophotomap.

After conducting surveying and their processing in Autocad, new plans have result which includes: sheepfold number, parcel topographically number, category of use, the owner's name.

As a result of determination made on 05.03.2012 it was found that on the Ghioroc commune
land have an area of 3909 hectares of which: 2641 hectares of arable land; 687 ha of pastures; 39 ha grassland; 536 ha vineyards and 6 ha orchards.

Non-agricultural lands have an area of 506 ha of which: 325 ha forestry land; 124 ha of water and reeds; 233 ha communication routes and railways; 150 ha of land occupied by buildings and courtyards; 149 ha unproductive land.

Number of agricultural positions in the land register at the beginning of 2013 was 2039 of which: Ghioroc 594; Cuvin 550; Miniş 274.

**Conclusions**

It requires updating cadastral plans for each community in the country for updating land situation, to use their effectiveness.

It is recommended to use modern technology which shortens the time needed for execution.

The aim is to have a clear evidence of land and owners for each locality.

**References**