

**"Babeş-Bolyai" University Cluj-Napoca**  
**Faculty of Geography**  
**Department: Human Geography**

**PhD Thesis**  
- Summary-

**Copăceni Village (Cluj County)**  
**Micro-territorial analysis**

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Keywords: Copăceni, households, rural geography, infrastructure, agricultural land

## INTRODUCTION

In this study, I wish to bring a new approach to a topical issue, the village, through the degree of detail of the analysis, the accuracy of qualitative and quantitative information that it provides. The research on rural areas in Romania managed to solve particular problems of theoretical and methodological papers and were developed on the functional classification of villages either nationally or regionally, they sought features of rural settlements such as clustering and dispersion rural settlements, their altitude distribution, industrial development and more villages, but an examination of the village itself, a dissection of each component reaching rural indispensable to the smallest cell constituent, household, was not accomplished.

Microscale is a category that allows the detailed analysis. At this level you can individualize the basics, mutual relations, fundamental processes, interference between them. It is a structure more vulnerable to change than other levels with a lower level of detail. Some features of this category may include instability, responsiveness, rapid integration of change compared to the macroscale characterized by heterogeneity and stability.

Through this paper I wish to highlight in the first stage of the territorial specific issues such as elements of the landscape, the demographic potential, socio-cultural and economic characteristics and technical infrastructure. Special attention will be allocated on specific traits in rural Transylvania, household characteristics, configuration, level of equipment and

not least the degree and type of land use.

This work will be a rich and rigorous inventory issues that directly concern human and socio-economic elements of the locality analysis. All information collected will be aggregated into a geospatial database and will be presented successively by different sets of map (thematic maps) with respect to topics covered in that section.

Its purpose is to collect all the information regarding Copăceni village in a single file and their integration into a geography database with the possibility of further use in local government. A problem which currently faced administrative system resides precisely in disorganization information in the sense of non-compact structure and well structured to assist in streamlining and reduction of errors caused precisely by these conditionings, so there are welcome applications that GIS provides and implementation on local institutions .

## RURAL SETTLEMENT GEOGRAPHY

„Geography as a science, traditionally developed in two directions: physical geography, which deals with the study of the natural environment (natural environment) and human geography who studies population settlements and activities of the people, all of them closely related to natural environmental factors". (Erdeli, G. et al, 1999)

In another approach, human geography studies how the environment is both space and condition and consequence of human activities.<sup>1</sup>

In 1976, Vancouver hosted the first conference on physical and spatial organization of human life, as well as international and national actions required to accommodate the increasing number of population in urban and rural communities, conference organized by the United Nations. Vancouver Declaration on Human Settlements defined as "the totality of the human community, with all the social, material, organizational, spiritual and cultural contained. Structure of human settlements consists of physical elements and services, which provides support material. Physical components include: shelter (safety, privacy and protection) and infrastructure (complex network designed to deliver or remove goods, energy and information)".<sup>2</sup>

Rural Geography according Dictionary of Human Geography (Erdeli G. et al., 1999) is "a branch of geography human settlements component that deals with studying in rural areas. It includes issues of economic activities in rural areas, patterns, origins and characteristics of

---

<sup>1</sup> Gregory D., Johnston R., Pratt Geraldine, Watts M.J., Whatmore Sarah, (2009), *Dictionary of Human Geography*

<sup>2</sup> [www.unescop.org](http://www.unescop.org)

rural settlements, demographic and structural changes of the rural population, recreational aspects of rural, urban environmental impact of the massive growth to the detriment of rural areas. ". This branch of geography, in turn, interact and interfere with other sub-areas of investigation, such as transport geography, geography of social welfare, geography resources, habitats geography, social geography, regional geography, spatial planning, political geography, economic geography, etc.

The concept of rural area (in accordance with the aims and spirit of the European Charter of Rural Area) envisages an inner or coastal area, including villages and small towns where most of the land is used for:

- Agriculture, forestry, aquaculture and fisheries;
- Economic and cultural activities of the inhabitants of these areas (crafts, industry, services, etc..)
- Management of non-urban areas or nature reserves amusement;
- Other uses such as accommodation

The village is a rural type setting, which, unlike the city, has a lower demographic potential and is marked by the dominance of the specific activities of the primary sector (agriculture), lower levels of utilities with poor diversification, low transportation network, low level of education and a significant spiritual life and customs. It is ideal for preserving natural and cultural values, where modernity is found in few places, but keeping the essence of realms where time is not measured in hours, but the time of day, season specific and pace of work is influenced by rhythm ongoing biological processes. Is the result of centuries of life experience, traditions, customs and culture preserved for generations constituting national heritage, a treasure which enhances the beauty of these places and attractiveness.

Population, the social component of quantitative and qualitative aspects, estate, territorial economic component and hearth are considered major elements of complex areas closely connected to each other and "organized to meet the basic needs of the rural community of states in general (eg. biological needs, social, spiritual, and strategic defense)." (V. Surd, 2002)

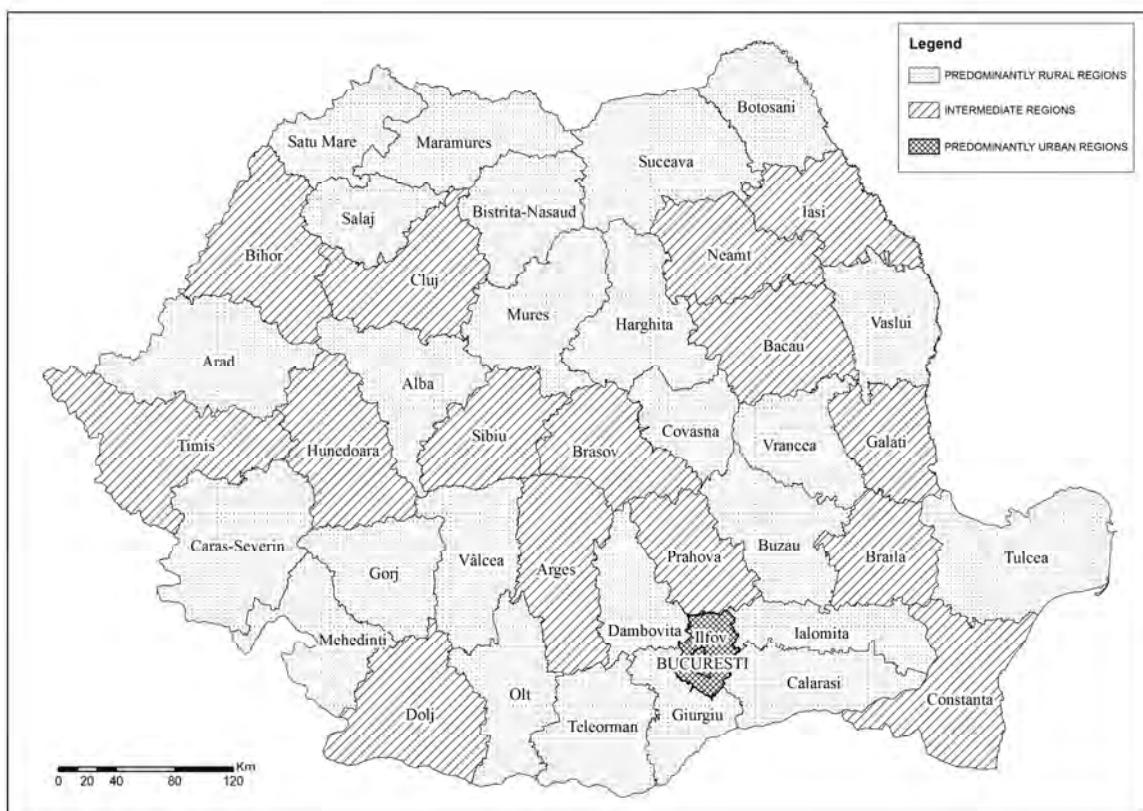
"Physiognomy and structure of rural core, expressing relationships or interacting effects of terrain morphology of place and social and economic factors in one time or another in their history. Therefore, the structure of the cores of the village, in many cases reflect the stages of their evolution over time through their active and continuous adaptation to the new social, economic and political situation of a region or another of the world. "(V. Cucu, 1981 )

Classification settlements primarily is based on the characteristics of the geographical location of the settlement, on shape orstructure (texture) of them.

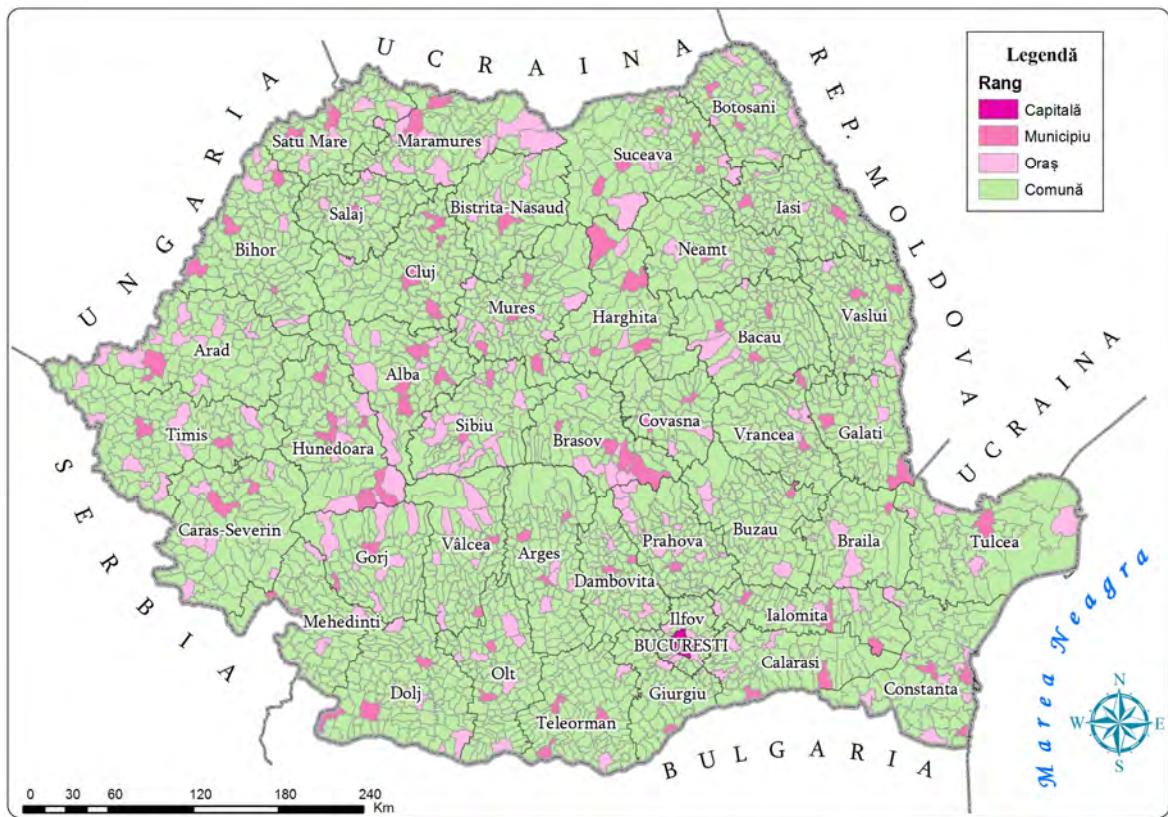
The various forms of activity in relation to local conditions, regional and national requirements generates a complex that ensures the existence question and answer residents, while those requirements outside the settlement limits.

These types of activities constitute a settlement function. The classification of rural settlements will take into account the growing types of activities village life.

European Charter of Rural Space, adopted by the Council of Europe defines rural functions, namely economic function, ecological and social function.



**Figure 1 Urban-rural typology used on county, applying the new methodology of OECD**



**Figure 2 Administrative organization of Romania territory**

In recent decades, EU countries have used several definitions of rural / urban, which differed considerably from one country to another, which is why the idea of uniform criteria for defining rural, established a common methodology as better defining rural areas. OECD (Organization for Economic Cooperation and Development) uses a single indicator to distinguish rural from urban settlements, namely: the number of inhabitants / km. Rural settlements are considered those where population density exceeds 150 inhabitants. / Km. At EU level, the average population density is 115 instead. / Km, the criterion used to tie villages to cities is the density of 100 persons. / Km. Romania, in terms administrativeste divided into 42 counties (including Bucharest), 320 towns and cities, 103 municipalities, 2,861 communes that comprise 12,957 villages.

## RESEARCH METHODOLOGY

The basis of any research a particular role is to address appropriate methods of the study, methods that emphasize the thread sequence whose final actions and represent the most

efficient desideratum analysis. The use of methods is possible only when the subject and scientific goals are well defined. Geographical methodology is essential in understanding the principles and rules underpinning of the research and development of scientific theories.

The empirical scientific research involves observing the different situations in order to systematically record variablelor measurements that will reflect their properties.

Data collection represents all the ways in which primary and secondary data are sought, obtained, and then systematized, grouped and arranged to be used for subsequent analysis. The primary data are given for a particular purpose, of his own study, unlike secondary procured from other sources. The main advantage of primary data is that it is made in a specific manner, adapted to the case study, so that can be considered in terms of best quality. In contrast, secondary data are often the only data available that addresses a particular research topic or the most appropriate topic.

The programs used to create the database and presenting the results in the form of thematic maps are:

- Database: ArcGis 9.3; Global Mapper 11.0; AutoCad 2007; Ocad 9.0;
- Thematic maps: Arc Gis 9.3; Adobe Illustrator CS5.

The screenshot shows four overlapping windows of ArcMap displaying data from the 'Gospodarii\_membri\_final' shapefile. Each window contains a table with various columns representing demographic and socioeconomic data.

FID	Shanx	Nr_oces	Nume	Gen_capFam	Varsta_cap	Varsta_int	Gen_c_2	Varsta_c_2	Gen_c_3	Varsta_c_3	M_7	M_7_13	M_14_17	M_18_25	M_26_36	M_40_64
0	Polygon	6	Hort Manaila	M	74	7					0	0	0	0	0	0
1	Polygon	7	Ilieu Eusebiu-Sorin	M	45	0					0	0	0	0	0	1
2	Polygon	8	Crean Eugenia	F	61	8					0	0	0	0	0	0
3	Polygon	9	Chirorean Constantin	M	75	7					0	0	0	0	0	0
4	Polygon	12	Ghisa Maria	F	72	7					0	0	0	0	0	0
5	Polygon	13	Harscu Aurel	M	53	6					0	0	0	0	1	1
6	Polygon	5	Muresan Valer	M	63	6					0	0	0	0	0	1
7	Polygon	4	Muresan Ioan	M	66	7					0	0	0	0	0	0

M_65	F_7	F7_13	F_14_17	F_18_25	F_26_36	F_40_64	F_65	TOT_M	TOT_F	Total memb	Nr_Gener	Fara_grad	Observatii	Pop_act_F	Pop_act_M	Pop_act_T	Copii_tot	>65
1	0	0	0	0	0	0	1	1	1	2	1		0	0	0	0	0	2
0	0	0	0	0	0	0	0	6	1	0	1		0	1	1	0	0	0
0	0	0	0	0	0	0	1	0	0	1	1		1	0	1	0	0	0
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0	0	0	0	0	0	0	0	1	0	1	1		0	0	0	0	0	1
0	0	0	0	0	2	0	1	0	2	3	5		3	2	5	0	0	0
0	0	0	0	0	0	0	0	0	1	0	1		0	1	1	0	0	0
1	0	0	0	0	0	0	1	0	1	1	2		1	0	1	0	0	1

Ocup_cap	Agricult	Ind_con	Servicii	P_stat	P_Cap	P_bogal	Prescolar	Elev	Student	Somer	Ajut_Scc	Fara_ocup	Detinut	In_Ro	In_W	Spania	Italia
4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0
1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0

In_W	Spania	Italia	Anglia	Austria	Franta	SUA	Danemarca	Belgia	Australia	Ziller	Salariati	Gimnaziu	Sc_prof	Lices	Postliceu	Facultate	Decedat
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0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2

Figure 3 The structure of shapefile: *Gospodarii\_membri\_final*

The figure consists of four separate Excel spreadsheets, each showing a table of data with various columns and rows. The columns represent different attributes, such as FID, Shape \*, Id, Nr\_gosp, Numele\_fam, Supr\_cstr, Cod\_mat, An\_edif, Deceniu, Sup\_cstr\_2, Cod\_mat\_2, An\_edif\_2, Deceniu1, Tot case 1, Tot\_secons, Grajd, Sura\_fan, Garaj, and nr\_anexe. The data includes values like 55, 9, 1968, 7, etc., for the first spreadsheet, and 12, 0, 0, 0, etc., for the others.

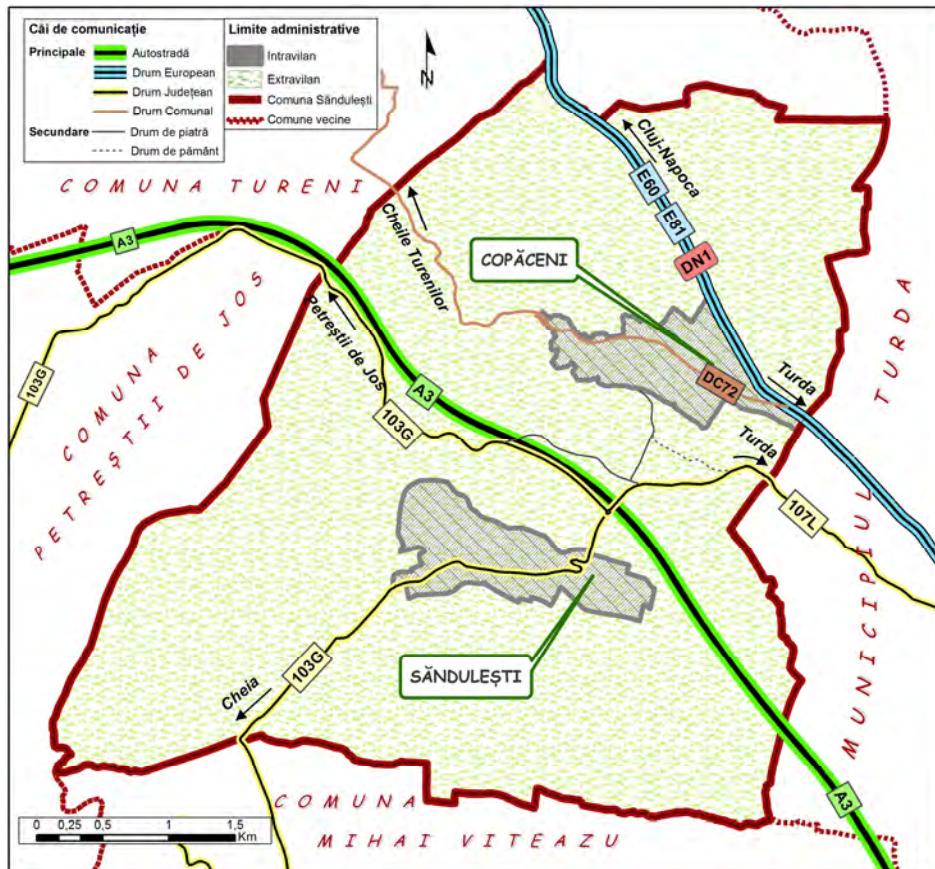
**Figure 4 The structure of shapefile: Gospodarii\_bunuri\_final**

## OVERVIEW OF COPĂCENI VILLAGE

From the administrative point of view, the commune includes two villages Săndulești: Săndulești, Copăceni common residence, located at a distance of 2 km.

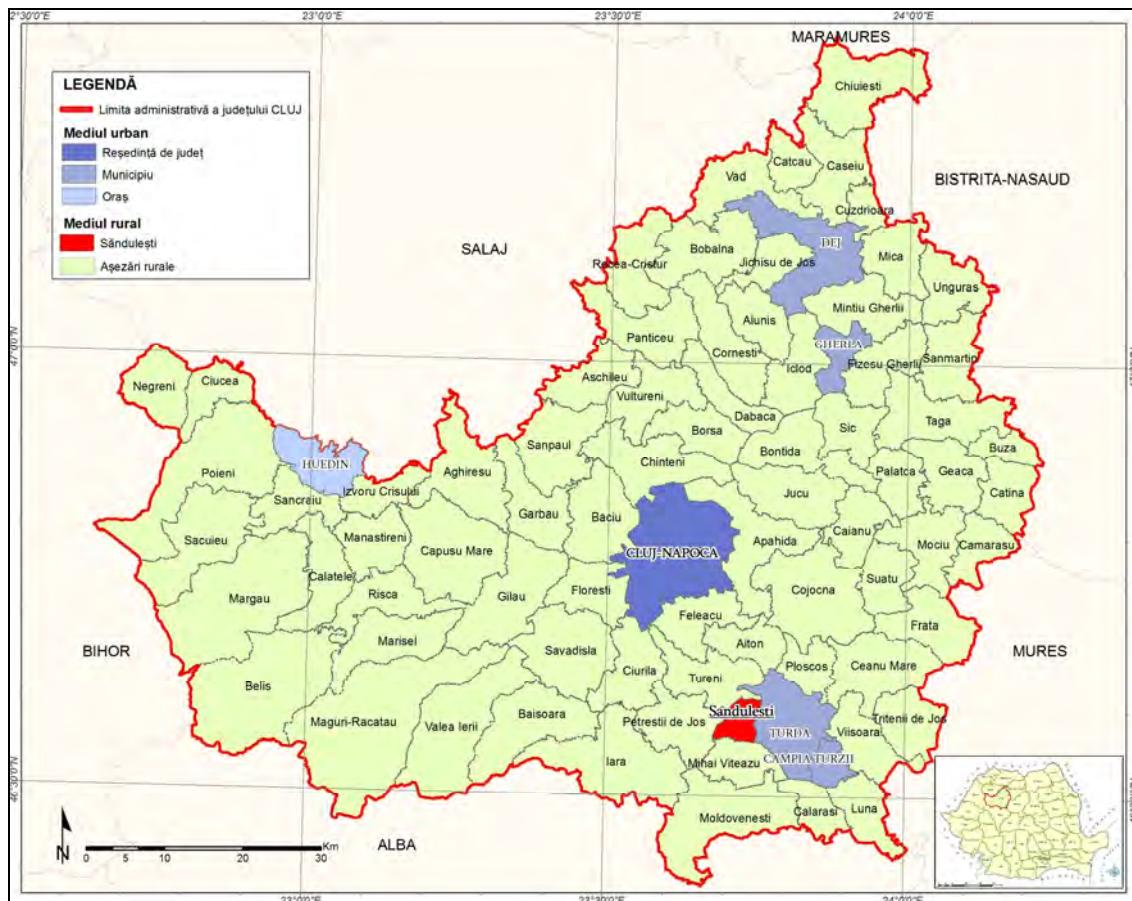
Geographic coordinates of the village are:  $46^{\circ} 34'49''$  north latitude and  $23^{\circ} 43'20''$  east longitude, respectively in the south of Cluj County and bordering territories of the following administrative-territorial units:

- ◆ West - Petreștii de Jos
- ◆ Nord și Nord-West - Tureni
- ◆ East - Turda
- ◆ South - Mihai Viteazu.



**Figure 5 The administrative structure of Săndulești**

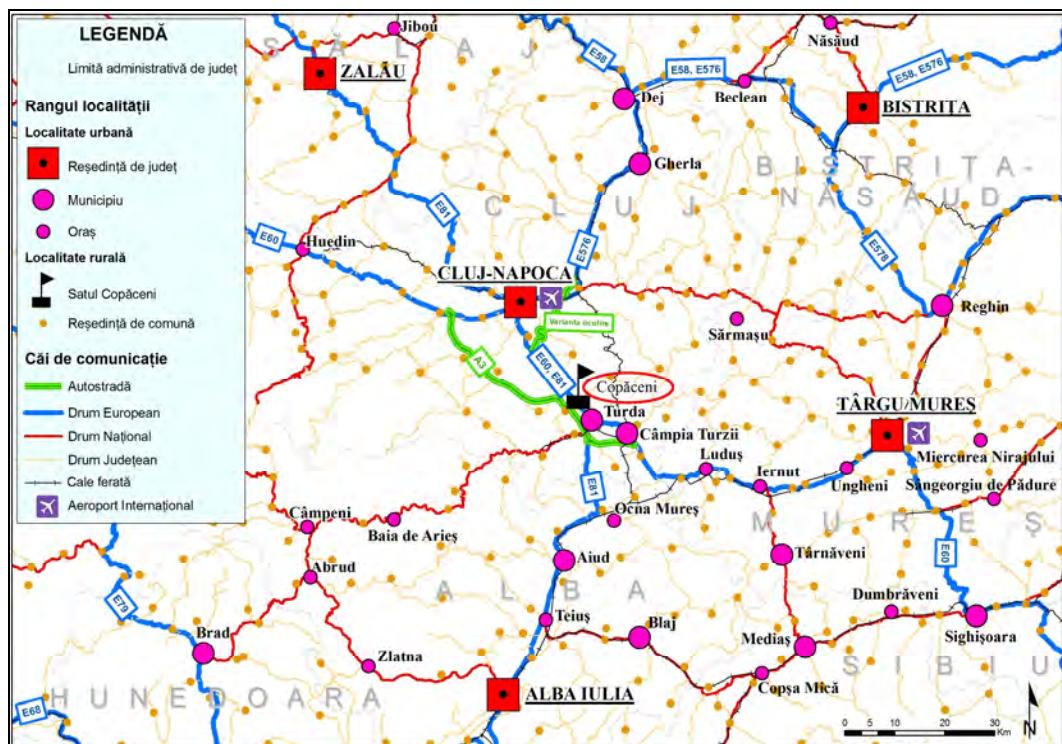
Săndulești commune covers an area of 22.48 km<sup>2</sup>, accounting for 0.34% of the total area of Cluj county (6674 km<sup>2</sup>) and is also the smallest administrative unit communal County, where the average only in rural areas , is 82.27 km<sup>2</sup>, including the largest territorial municipalities include: Măguri-Răcătău, Marge, Belis, Poieni Valley yesterday. If we include the area of urban centers (Cluj-Napoca, Turda, Dej, Gherla Turzii and Huedin), this value reaches 82.36 km<sup>2</sup>. Nationally, common Săndulești ranks in terms of territory position 123, the average area of a municipal administrative units being 75.03 km<sup>2</sup> if we include urban settlements that only 95.35 km<sup>2</sup> rural areas.



**Figure 6 Location of Săndulești in Cluj County**

Copăceni village location along the major thoroughfares of Romania, DN1-E60-E81, has a special significance for the village ensuring good road links.

Regarding the connection to the village center, Săndulești, this is achieved by the national road DN1 (3 km), county roads and DJ 1071 103G (3.5 km), but there is also a shorter way but possible be driven only in good weather, access accomplished through a segment of unpaved road (dirt road) crossing the village pasture by DJ 1071.



**Figure 7 The transport network and the location of the village Copăceni**

The development of altitudinal relief plays an important role in the development of human activities, extension of residential areas, climate and plant floors layout and land management processes applicable to calculate the suitability of various crops.

The slope represents the morphometric feature that expresses the degree of inclination of the surfaces in the composition of landforms. Gradient slopes is subject to specific values of denudational processes, structural-petrographic typology, degree of development of landforms and current orfodynamics.

**Tabel 1 Classification of slopes and the area occupied**

Slope	Surface (km <sup>2</sup> )	Surface (%)
0° - 6°	5037	54,20
6° - 15°	3142	33,81
15° - 25°	499	5,37
25° - 35°	396	4,26
over 35°	220	2,37
<b>Total</b>	<b>9294</b>	<b>100,00</b>

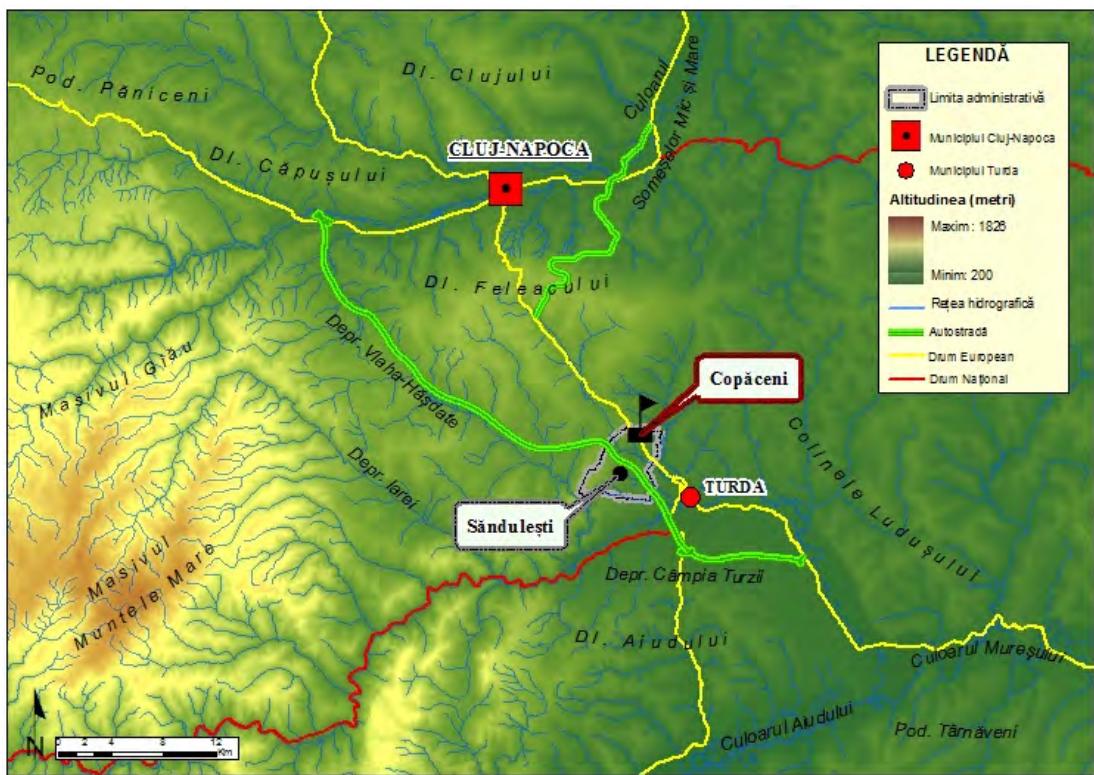


Figure 8 Geographical location

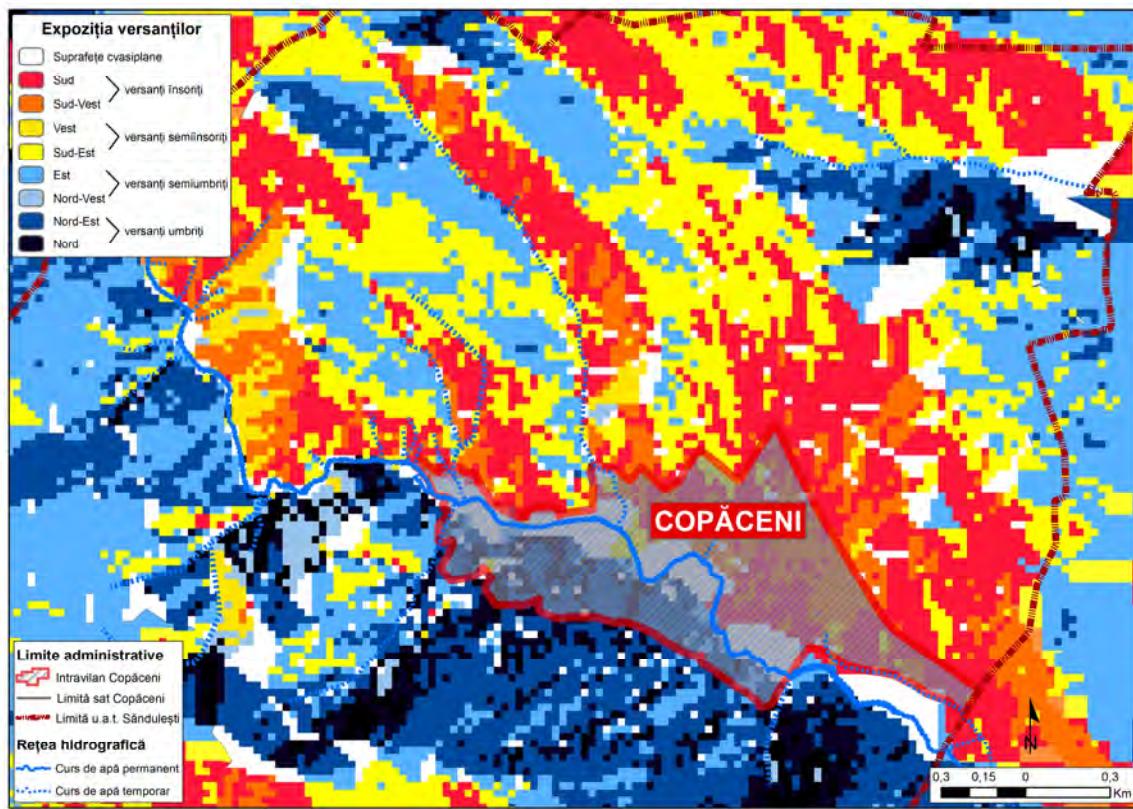


Figure 9 Slope map of Copăceni and its proximity

Taking into account the main directions of the slopes exhibition were particularly following types of surfaces (inclined) sunny (S, SV), poor sunshine (SE, V), poor shady (E, NV), shady (N, NE):

- Sunny - 26.06%;
- Poor sunny - 21.01%;
- Poor shady - 20.36%;
- Shaded - 22.57%.

About 10% of the village Copăceni consists of almost flat land.

## Toponyms

The toponym is a linguistic form used to identify a geographical location, often used as a benchmark for assignment of a geographic space locations, for example identifying a parcel of land. Geographical spread of toponyms contains intrinsic information on their origin, closely linked to a specific territory in connection with the dialects used or have been used in that territory.

The administrative area of the village Copăceni have kept a number of place names, related to the landforms, the river, to the use of land, categoriilor of use or form of ownership.

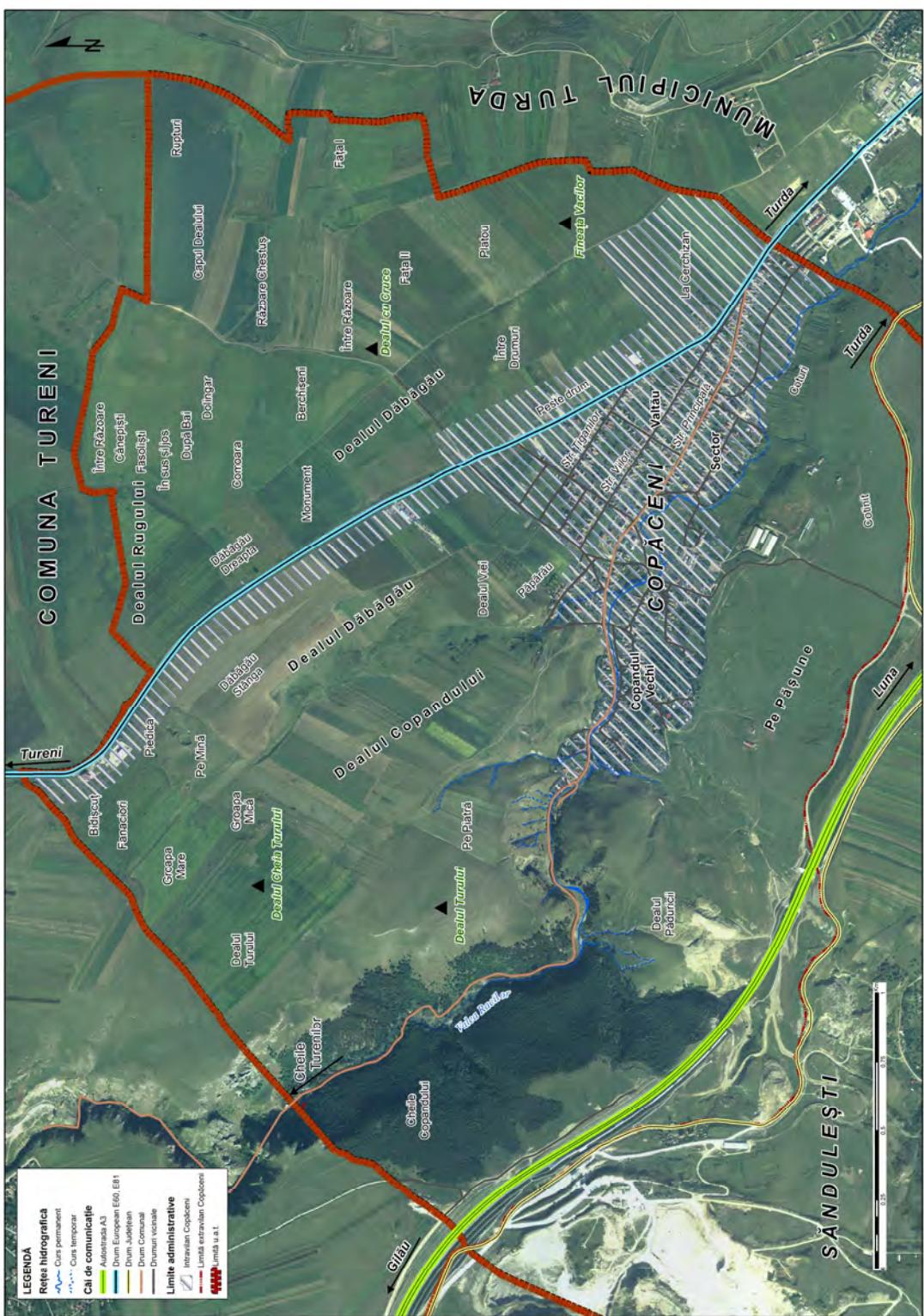


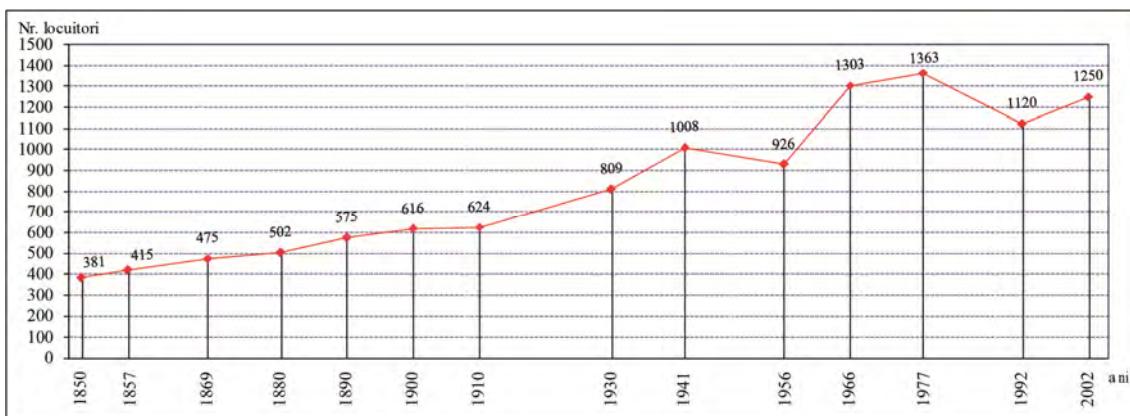
Figure 10 The toponyms of Copăceni village

## THE EVOLUTION OF THE POPULATION AND OF THE TERRITORY

Population is the main component of productive forces, the socio-economic conditions expression of both the past and the present, the dynamism of the whole society, where the human factor is the central element of economic and social activities, to which other components of a settlement revolve.

The first element of the population of transylvanian statistics is „Statistica românilor ardeleni din 1760-1762” material developed by Dr. Virgil Ciobanu, one of the researchers of great probity in Transylvania during his years in Vienna (1906-1914) and subsequent published in Cluj National History Institute Yearbook, Volume III, 1924-1925. This document reveals information on "the number of Orthodox Christians and joined the former Transylvania".

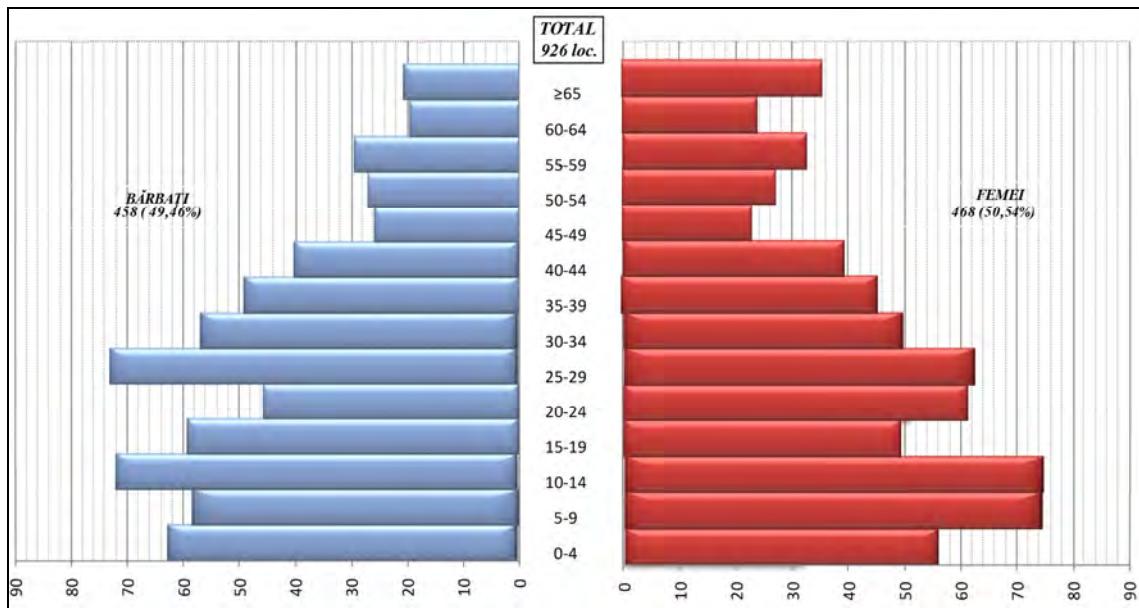
This statistic was made by Baron Adolf von Buccow Nicholas, general commander of Transylvania, later president of the government of this province between 1762-1764, with Baron von Moringer Lambert and Fr. L. Dietrich and kept in the archives of war in Vienna in December 1762 under the title "Tabellae Dismembraitonis Templorum Unitorum et non Unitorum in Principatu Transilvaniae existentium, ab auditorium Annis comission in 1760, 1761 and 1762 successive developed et Authentic extradited".



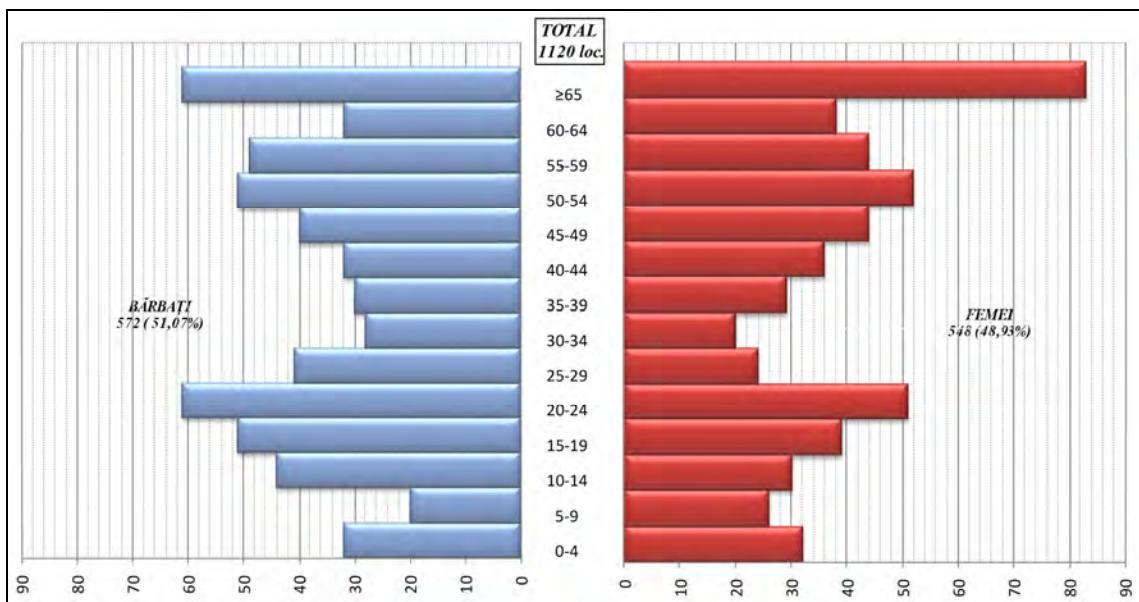
**Figure 11 Numerical evolution of Copăceni village population: 1850-2002**  
(source: Cluj County Statistics Department)

Numerical evolution of population rhythms were dictated for economic, historical and political events. Since 1850, when we have statistical information by the year 1941 Copăceni village population has steadily increased, from 381 residents to 1008, then between 1942 and 1956, knows a slight decline (926 inhabitants), and in 1966 the statistical results express a

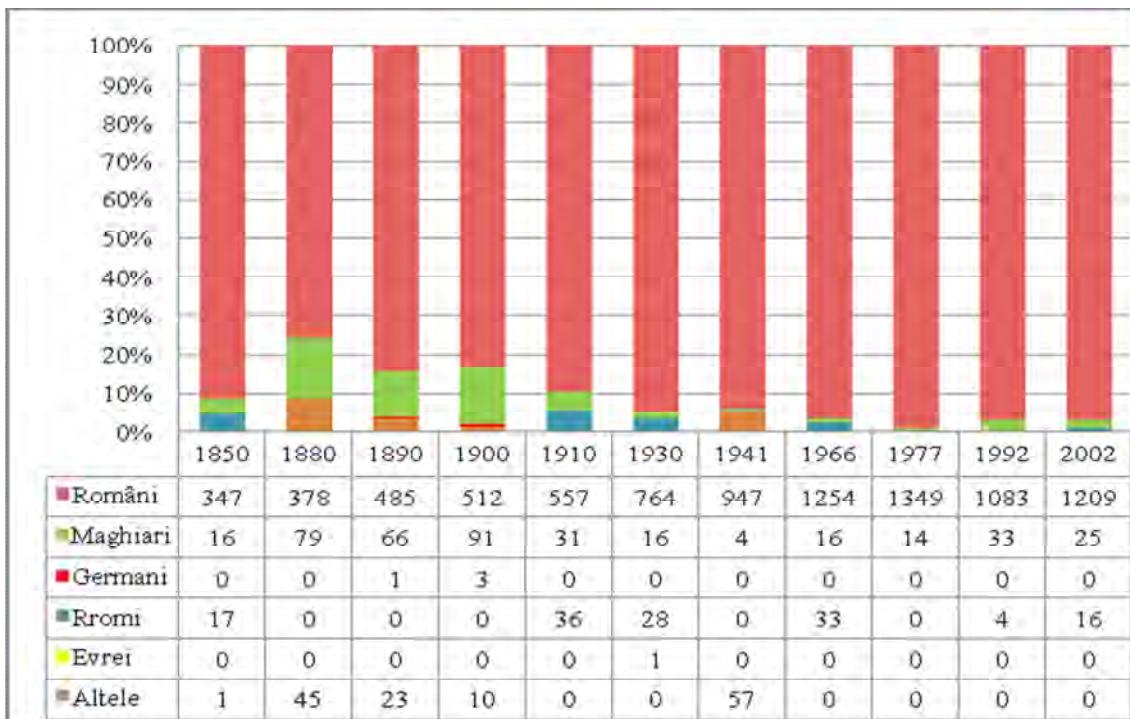
strong demographic development (1303 inhabitants), evolving surprised also in 1977 (1363 inhabitants).



**Figure 12 Population pyramids by gender and age in 1956, Copăceni**  
(source: Cluj County Statistics Department)



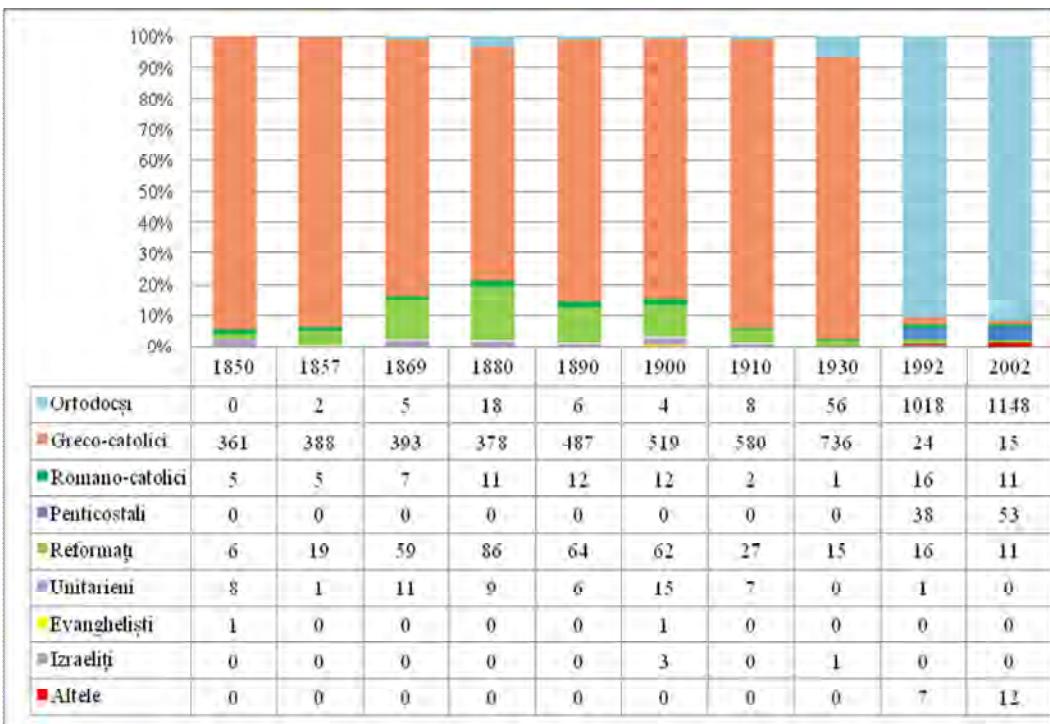
**Figura 13 Population pyramids by gender and age in 1992, Copăceni**  
(source: Cluj County Statistics Department)



**Figure 1 The ethnic structure of Copăceni village: 1850-2002**  
 (source: Cluj County Statistics Department)

Regarding Copăceni village, ethnic minorities were the most important and yet are represented by hungarians and gypsies, but did not reach the percentage recorded in many villages of Transylvania: in 1850 the village is recorded in the presence of 16 (4.20%) hungarians and 17 gypsies (4.46%) in 1880- 79 hungarians (15.74%) in 1890- 66 hungarians (11.48%) in 1900 - 91 hungarians (14.77%), in 1910 - 31 Hungarians (4.97%) 36 Gypsy (5.77%) in 1930 - 16 hungarians (1.98%), 28 gypsies (3.46%) in 1941- 4 hungarians (0.40%) in 1966-16 hungarians (1.23%) 33 gypsies (2.53%) in 1977-1914 hungarians (1.03) in 1992- 33 hungarians (2.95) in 2002-25 hungarians (2.00%).

For the period 1948-1990 we have no official statistical information, however, as can be seen in the figure below, there is a clear majority of the population of the Greek Catholic rite between 1850-1930 (from 1850 to 94.75% 1857 to 93.49%, 1869 to 82.74%, 1880 to 75.30%, 1890 to 84.70%, 1900 to 84.25%, 1910 to 92.95%, 1930 to 90.98%), later, in 1992, to be represented only 24 Greek Catholics (2.14%) and 15 (1.20%) in 2002. Also, since 1992, a new denomination notes, the Pentecostal, whose followers benefit in 2009 and a church - „Biserica lui Dumnezeu Apostolică”.



**Figure 15 The religious structure of Copăceni village: 1850-2002**  
(source: Cluj County Statistics Department)

## THE DIAGNOSIS OF CURRENT SITUATION OF SPECIFIC RURAL INFRASTRUCTURE IN COPĂCENI

Infrastructure term was first used in 1927 to refer collectively to the roads, bridges, railways, and similar public works that are indispensable to the functioning of industrial economies.

During the Second World War was developed by military strategists to indicate extensive logistical elements of war. Subsequently, economists coined the term in economic literature and used in alternation with the phrase "overhead capital".

Gradually "infrastructure" has become a popular word, but often continue to be used in a very vague sense. Distinctions such as "social infrastructure", "economic infrastructure", "hard infrastructure", "soft infrastructure", "physical infrastructure", "institutional infrastructure" were set in order to emphasize a particular aspect of those attributes that "infrastructure" contains.

The existence of adequate physical infrastructure is a prerequisite for any sustainable economic development. To assess the current situation of Copăceni village infrastructure will be analyzed following:

- Public facilities;
- The infrastructure of utilities;
- Cultural activities;
- Economic activities.

The classification of public facilities is based on the following criteria (V. Surd, 2002):

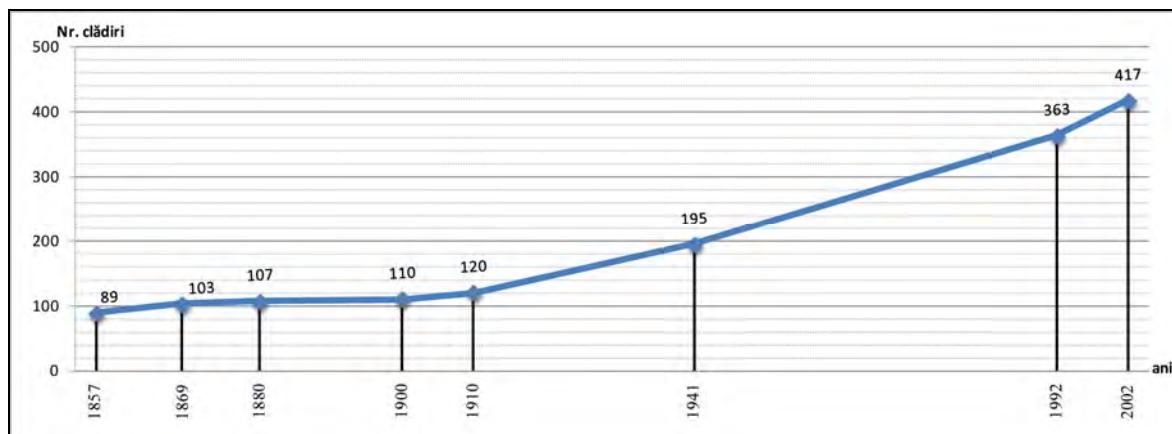
- destination;
- use;
- rank.

Copăceni village has the following members of the public network facilities:

- - School "Simion Balint" classes I-VIII - also contains a nursery;
- - Places of Worship: Orthodox Church, Pentecostal Church;
- - Human Dispensary;
- - Small and medium sized enterprises.

An important component of rural development resources, with direct impact on the degree of civilization of the rural village, is the physical infrastructure. Infrastructure helps reduce transport costs (road infrastructure), access to clean water and a clean environment (water and sewerage network) access to information (TV, internet), to facilitate communication (fixed and mobile) per overall the quality of life.

In about 150 years, the housing structures of Copăceni underwent remarkable changes, if in 1857 there were 89 residential buildings in 2002 there was a total of about 80% more housing.



**Figure 16 The evolution of houses: 1857-2002**  
(source: Cluj County Statistics Department)

## THE ANALYSIS OF COPĂCENI HOUSEHOLDS

The household is the basic component of any society in all historical periods, changes be its political, social or economic events that directly impacts daily activities developed in a household with repercussions on an indeterminate period of time.

In order to analyze households located across the Copăceni village will be made statistics of the population (number of persons, age and gender of household members, age and gender of household head, employment status, etc.), the construction (house, annexes household) from the statements recorded in the Agricultural Register for the year 2011-2012 and also using field survey (employment status and educational level - studies).

Agricultural Register is the official document of recording primary data of households, namely:

- a) the head of the household and its members;
- b) the land they own, regardless of title, by category of use, areas planted with major crops and the number of trees by species;
- c) livestock species and categories existing in early, the annual change in the number of cattle, pigs, sheep and goats;
- d) residential buildings and other household structures;
- e) cartage and mechanical equipment;
- f) tractors and agricultural machines.

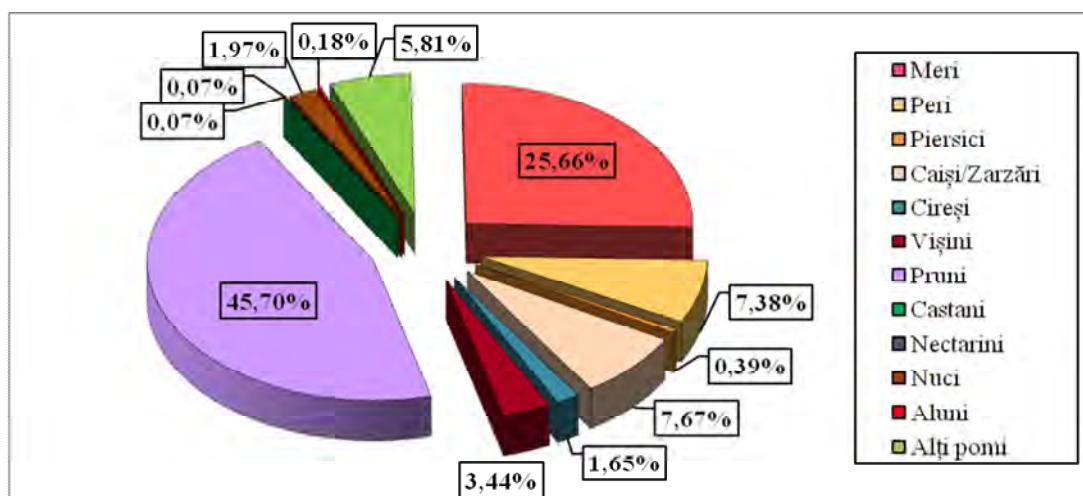
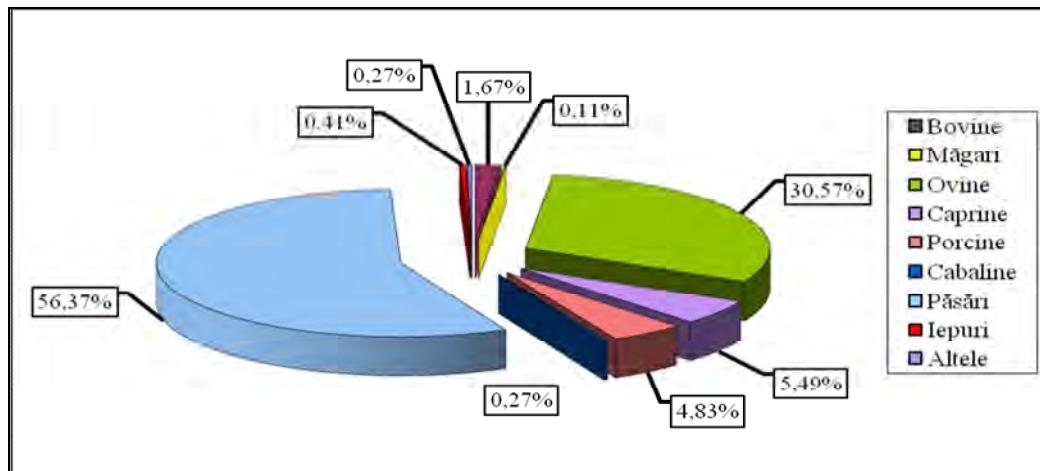


Figure 17 Species of fruit trees, Copăceni 2012

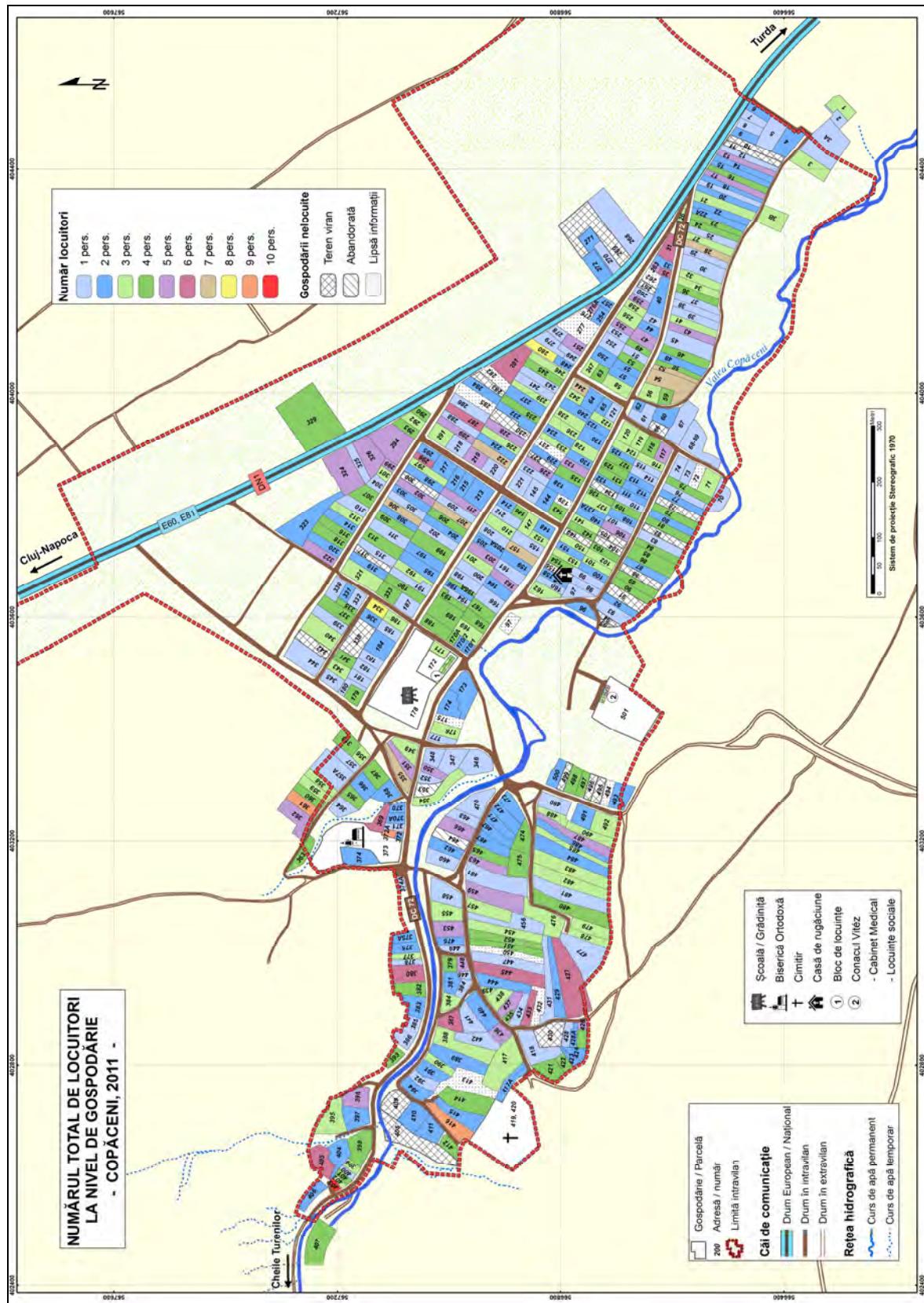
In Copăceni village were identified in 2790 fruit trees, of which 45.70% plums (1275) and 25.66% apple (716). Among other trees find: apricot (214 - 7.67%), pears (206 - 7.38%), cherry (96 - 3.44%), nuts (55 - 1.97%), cherry (46 - 1.65%), peaches (11 - 0.39%), hazel (5 - 0.18%) and chestnut (2 - 0.07%).

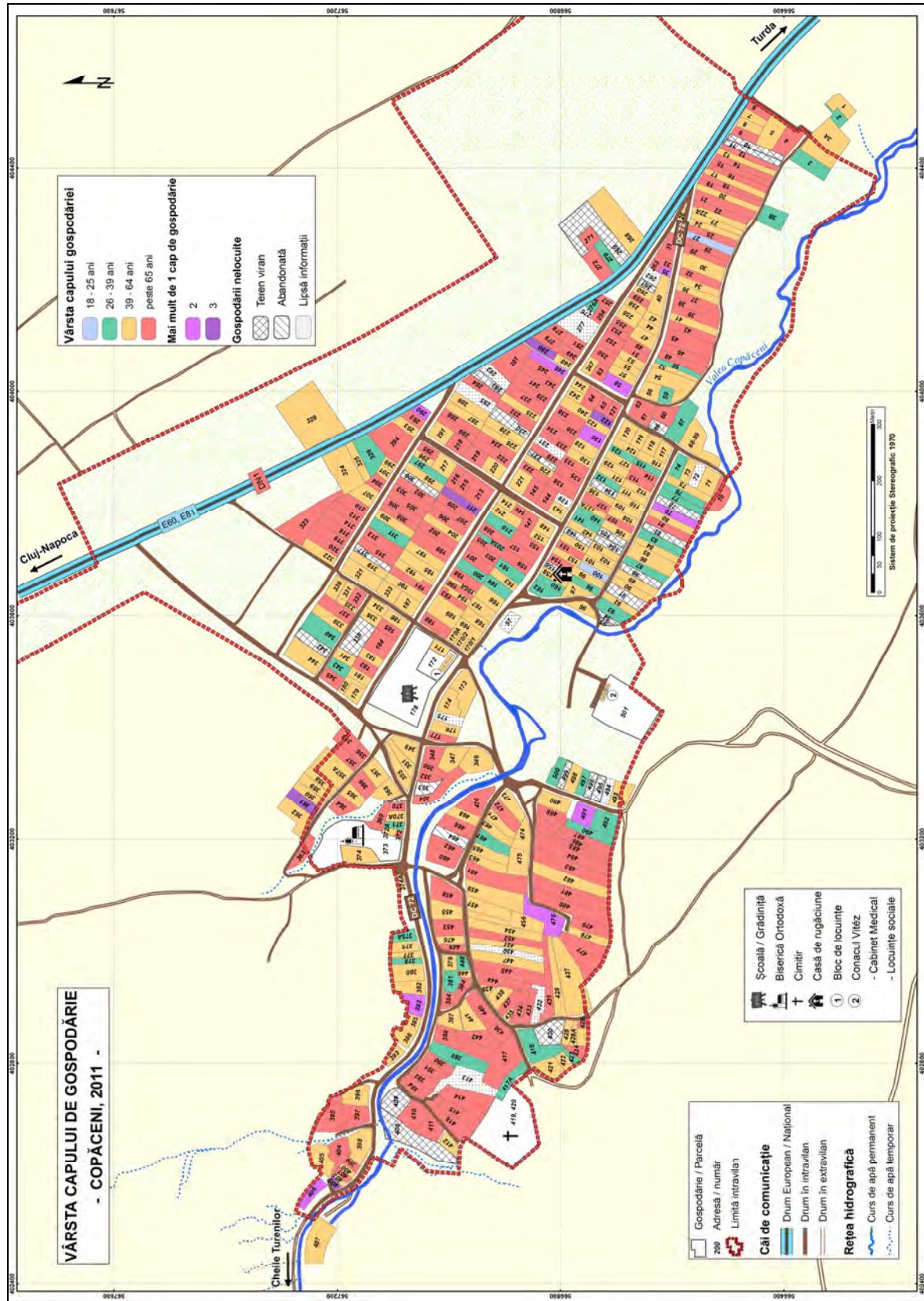
To determine the number of animals used were appropriate information Chapter VII of the General Agricultural Register "Pets and / or wild animals bred in captivity under the law. The situation at the beginning of the semester "where you can just have it recorded data on livestock, the total species and the main groups of age and sex, the existing locality.

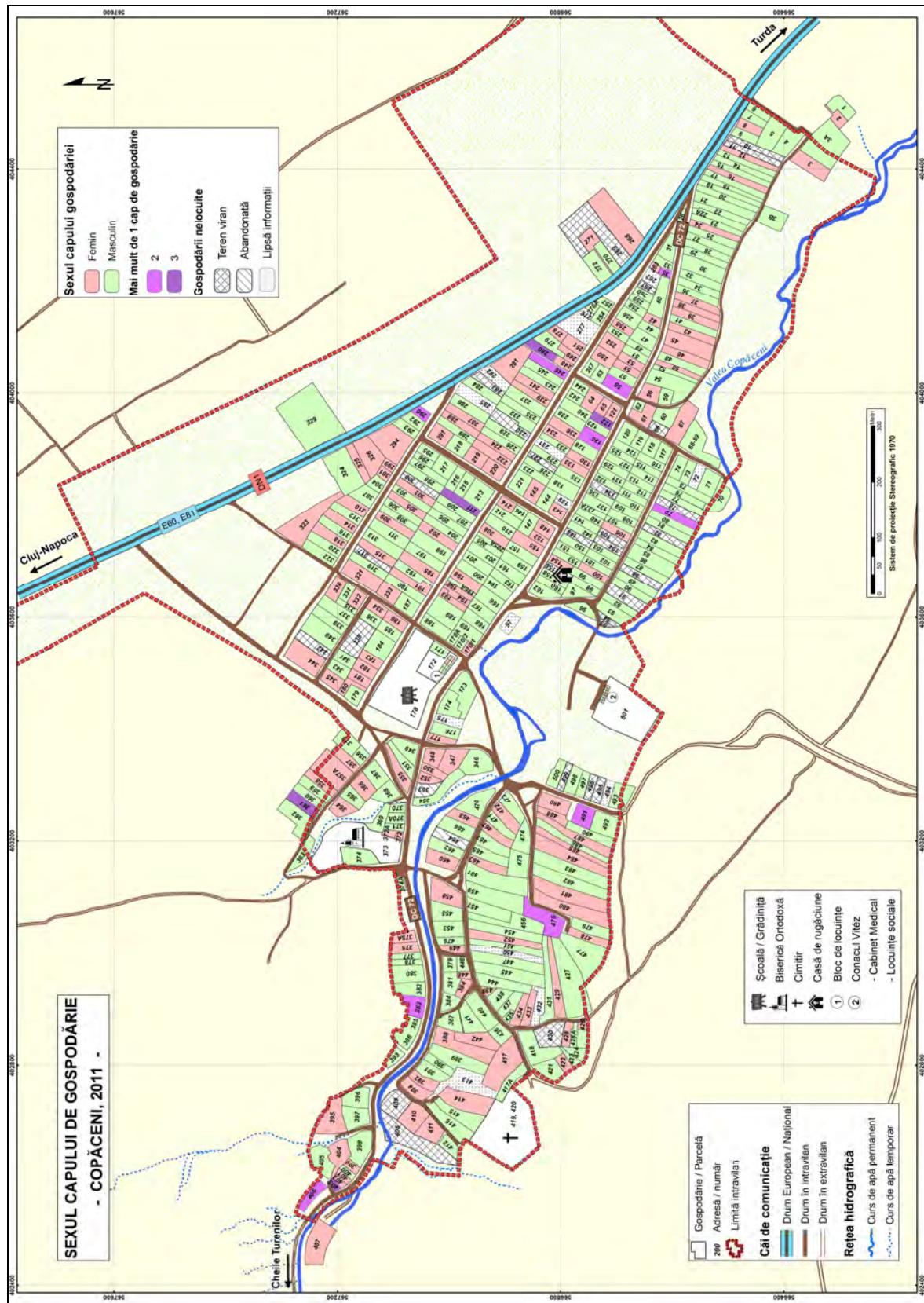


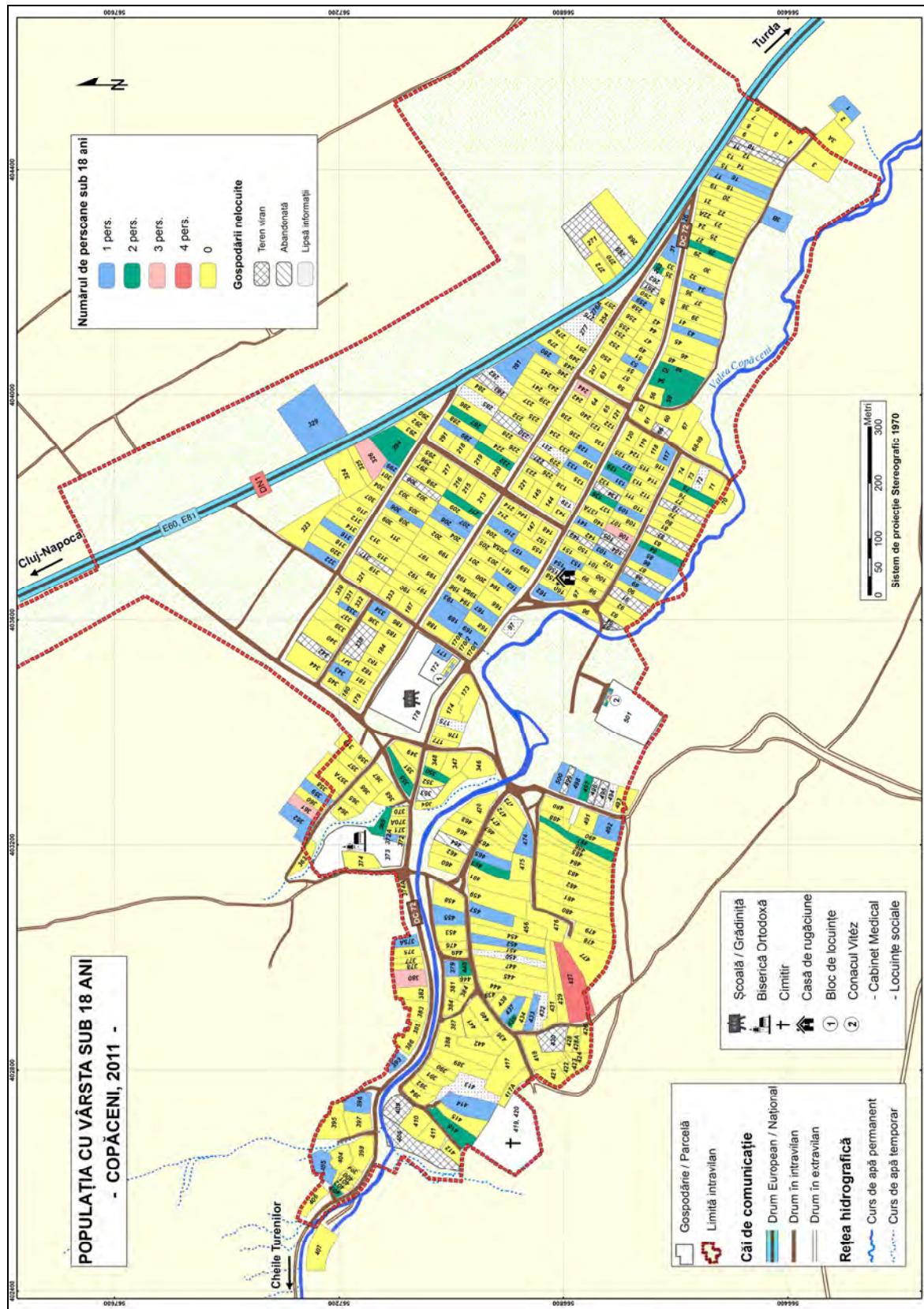
**Figure 18 Total number of animals, Copăceni 2012**

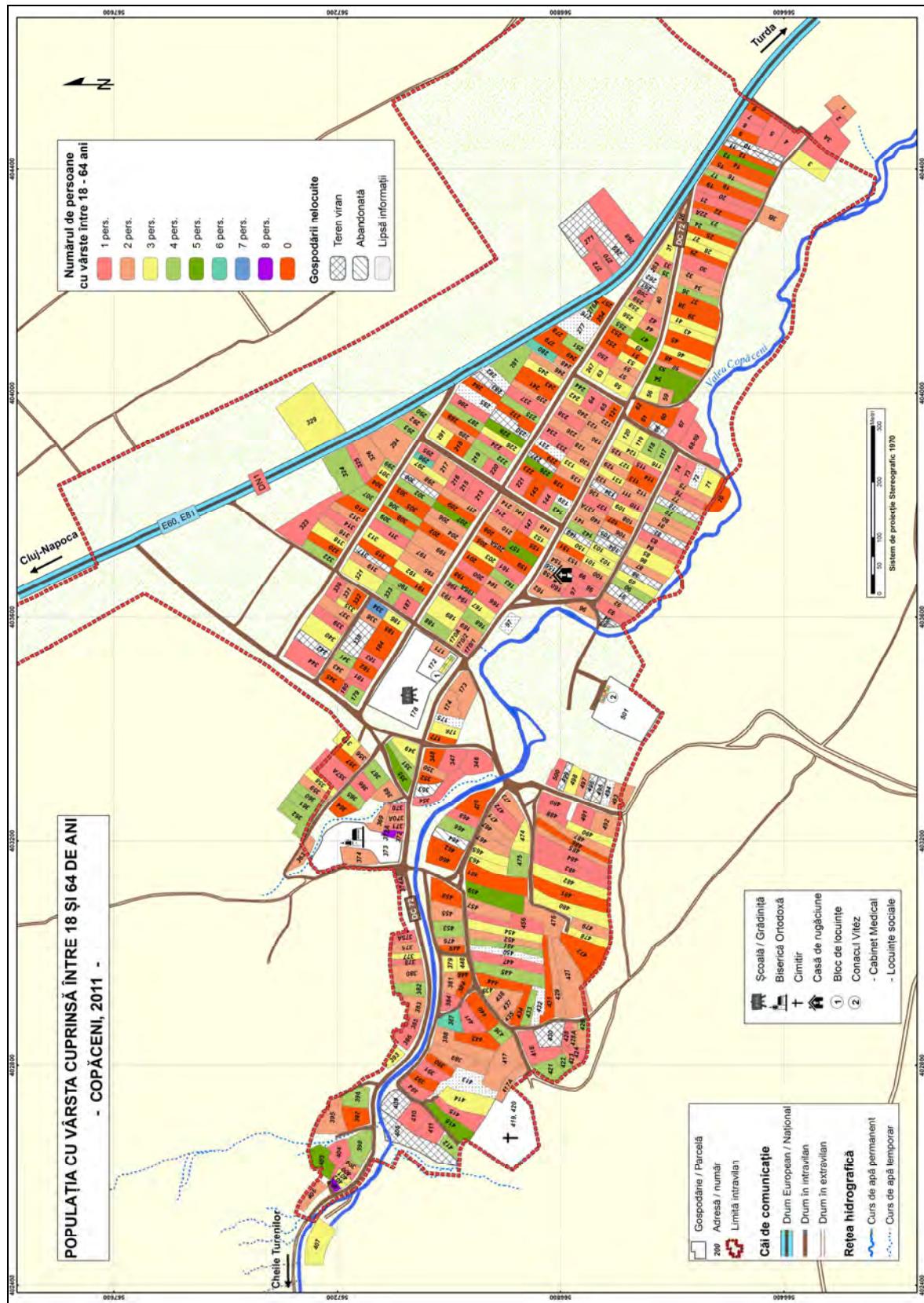
In the following pages there will be presented a set of thematic maps as a result of different processes to collect all datas in a single file (database) about various elements analyzed at the household level.

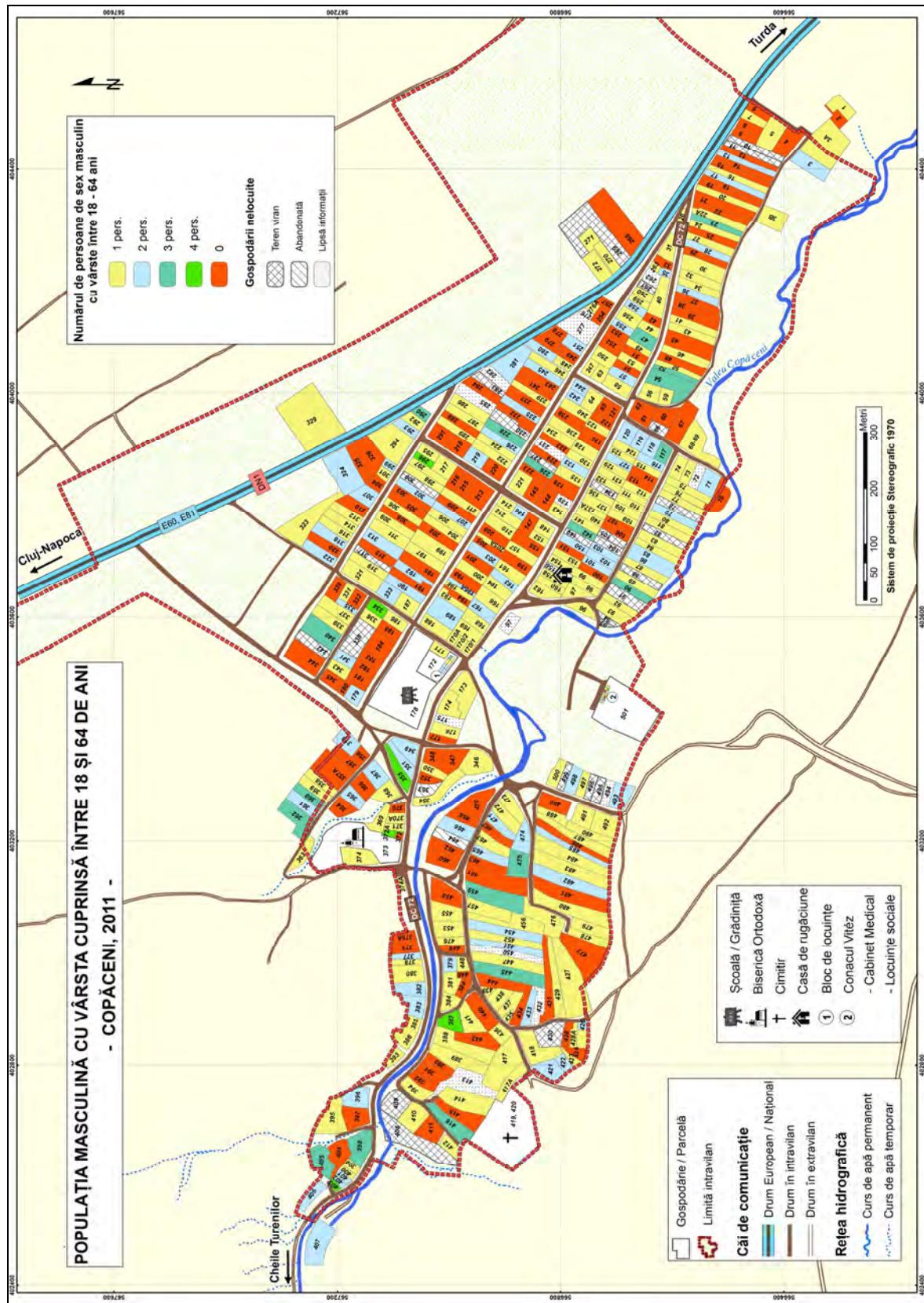


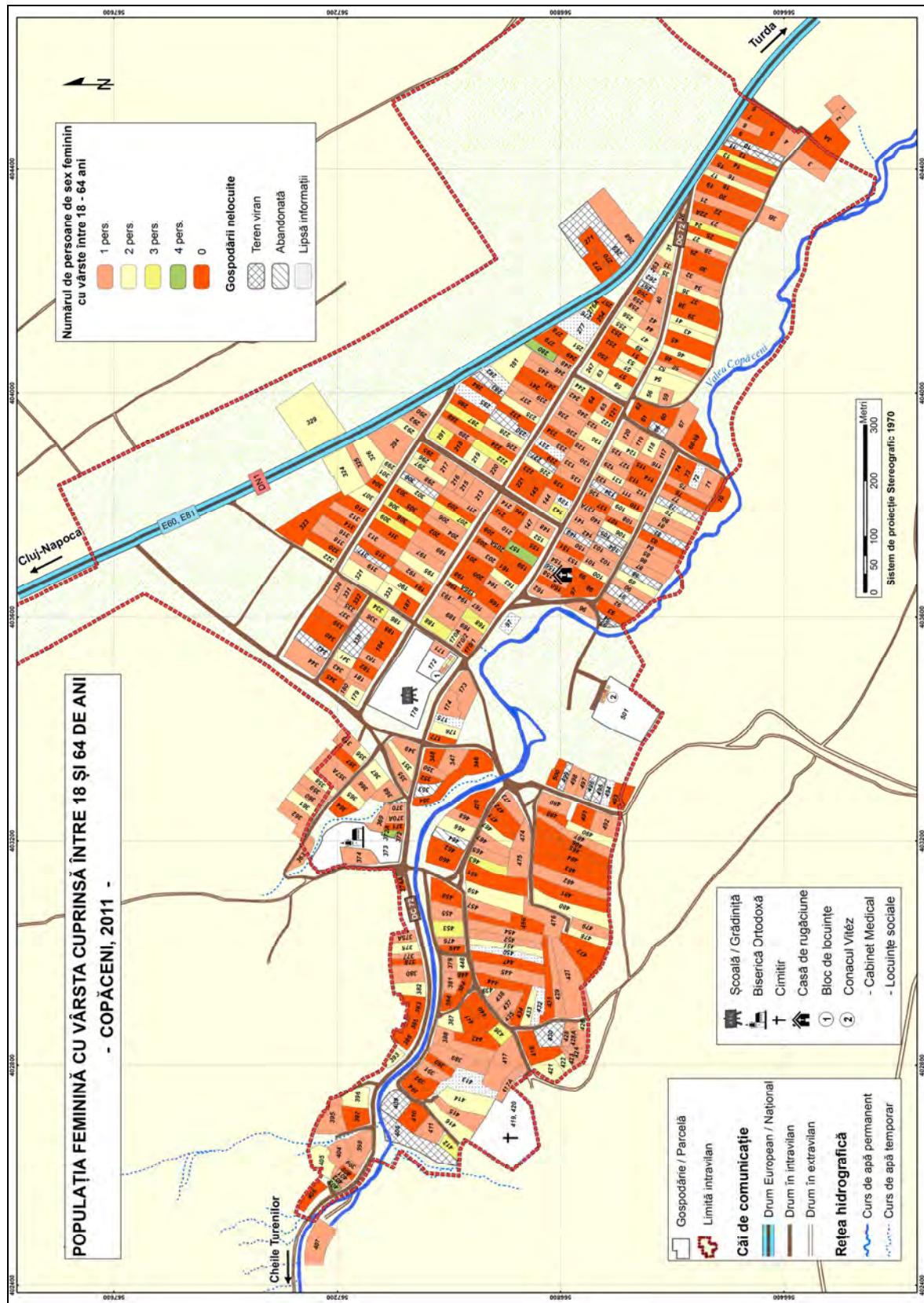


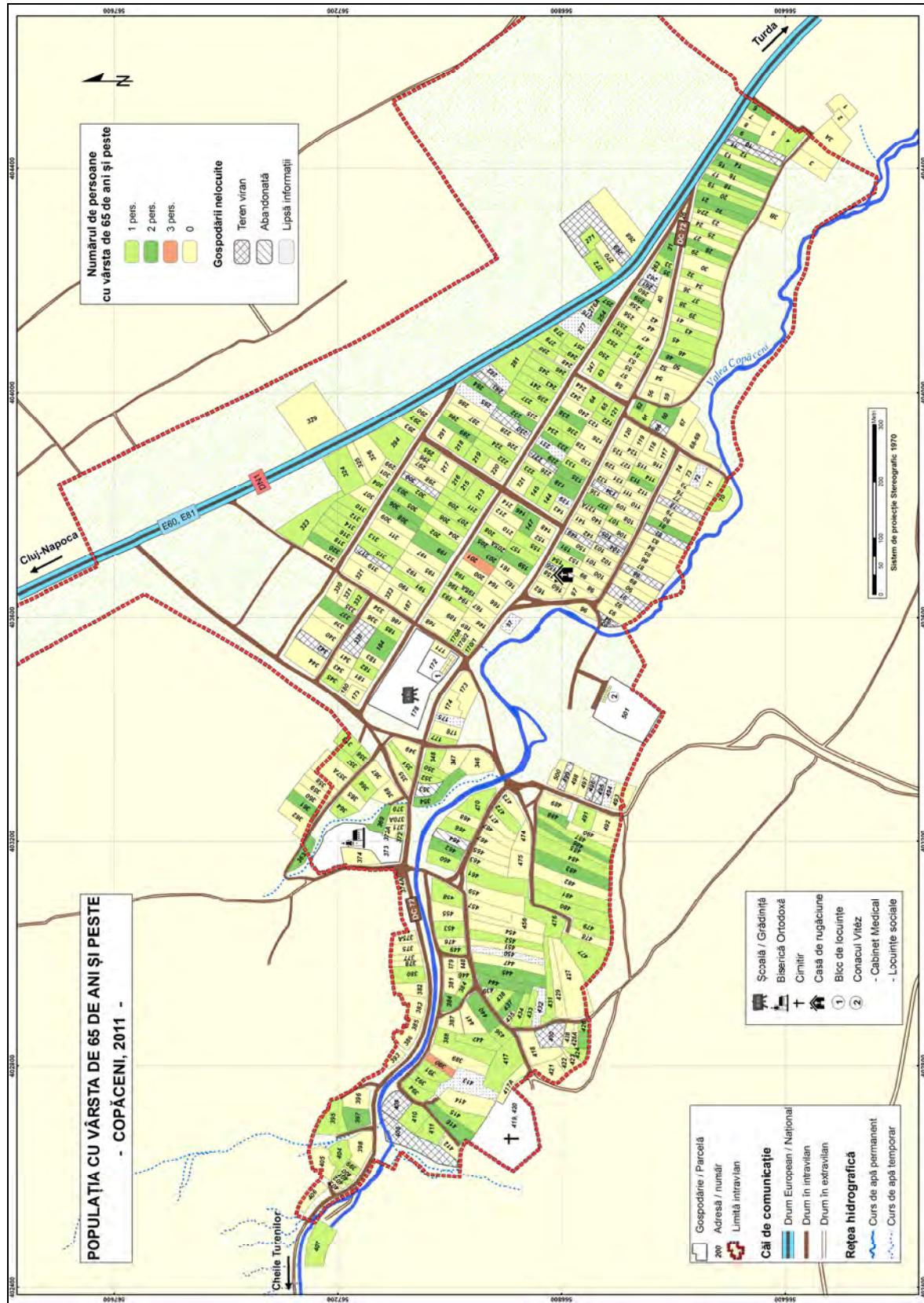


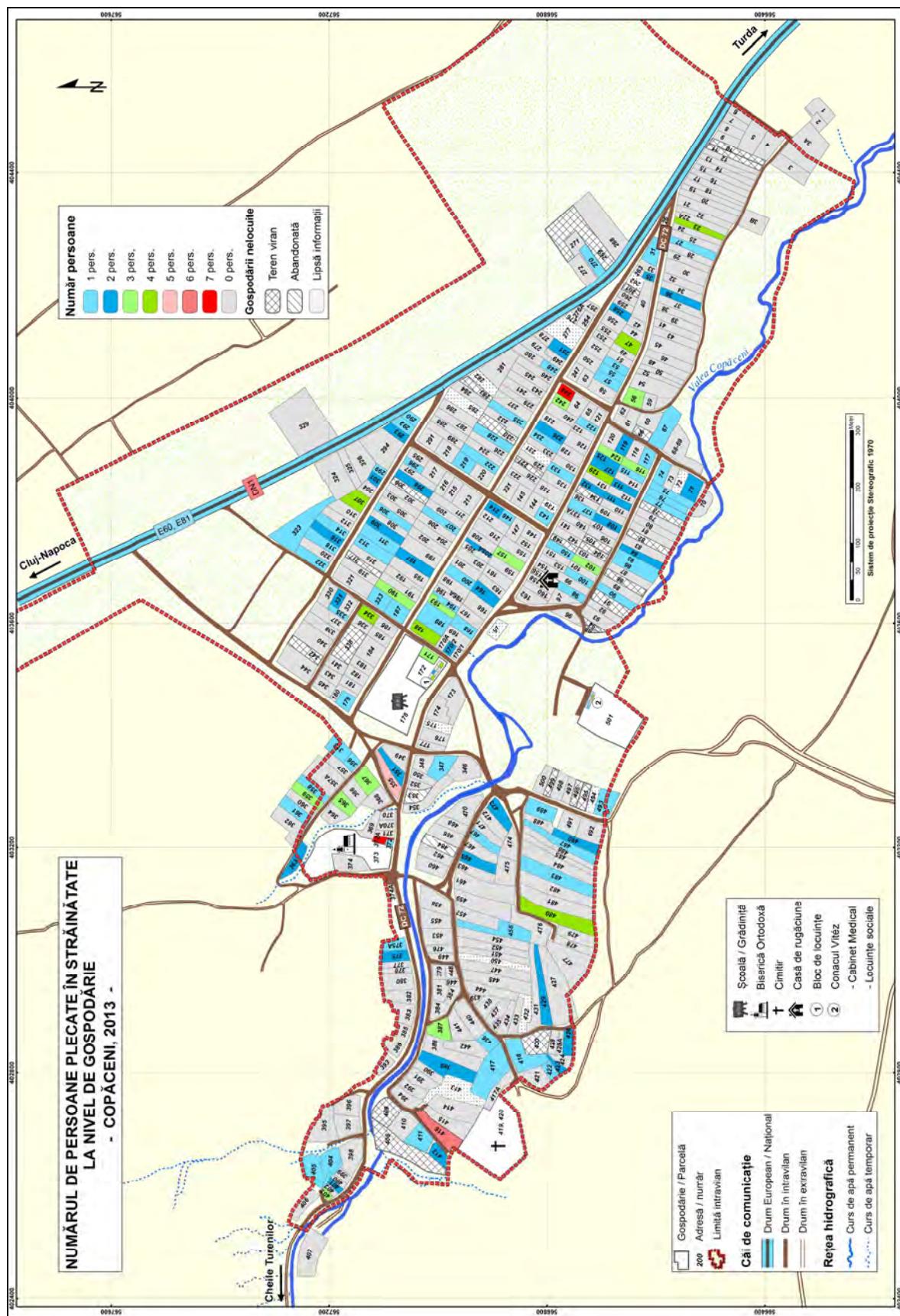


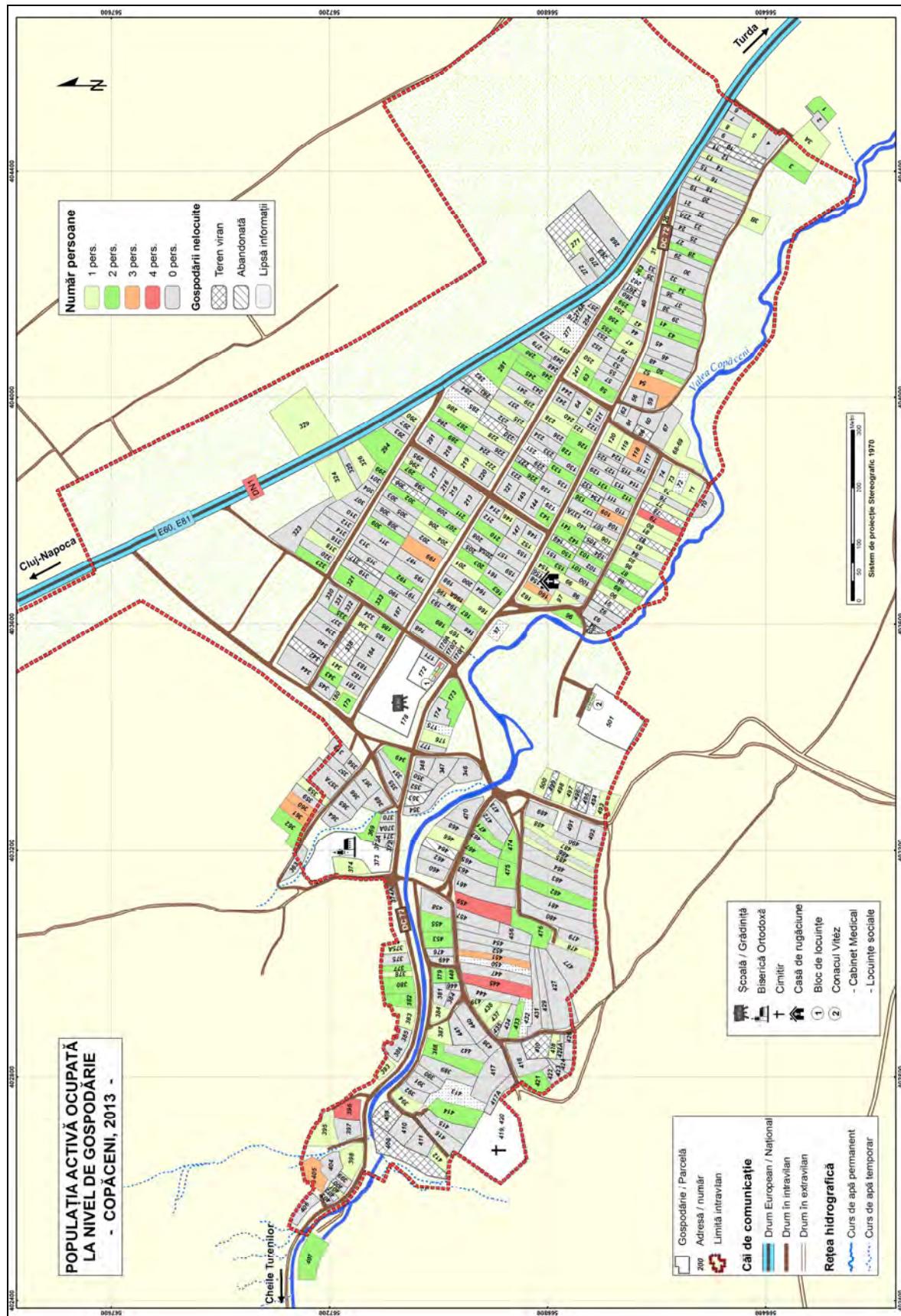


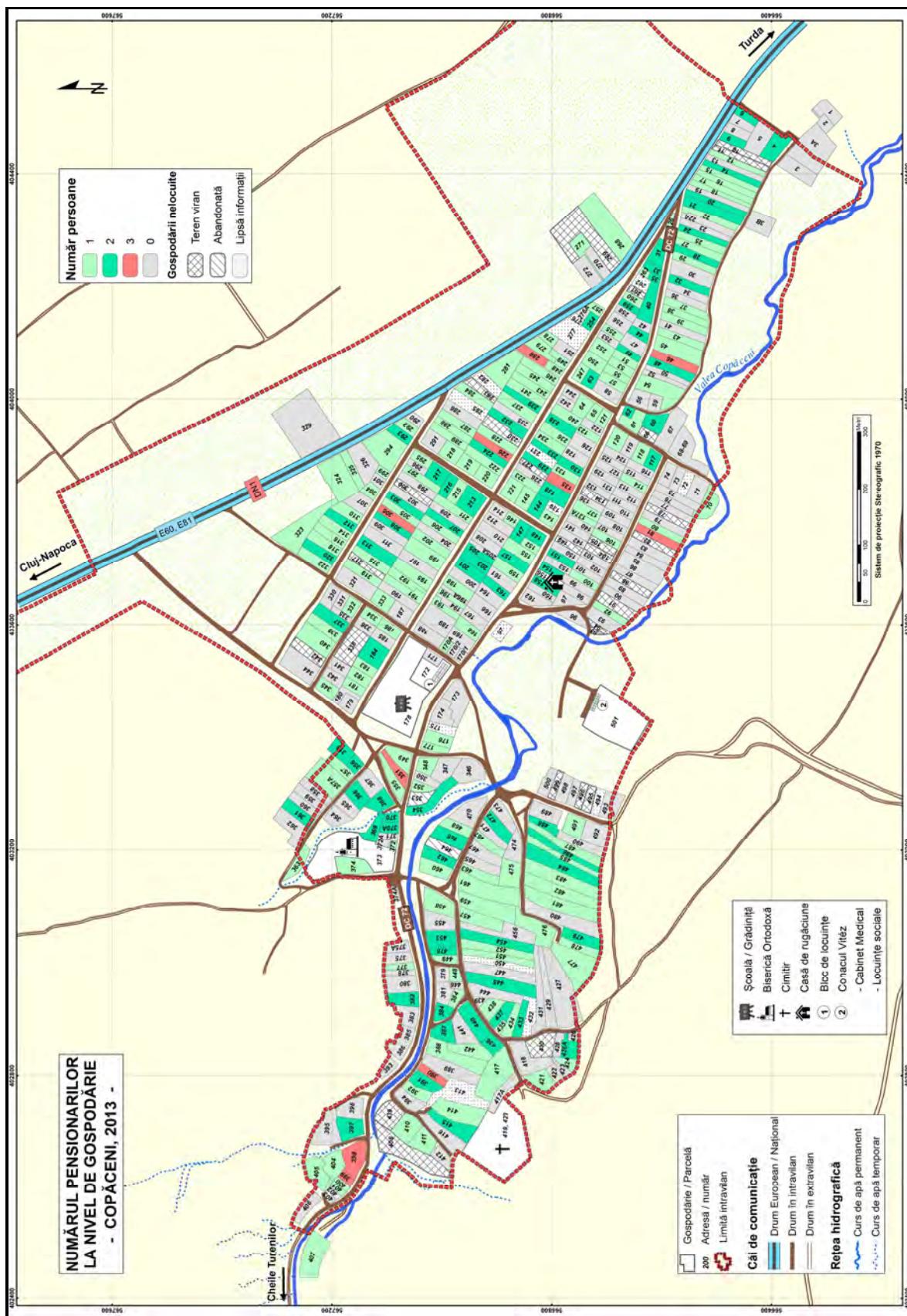


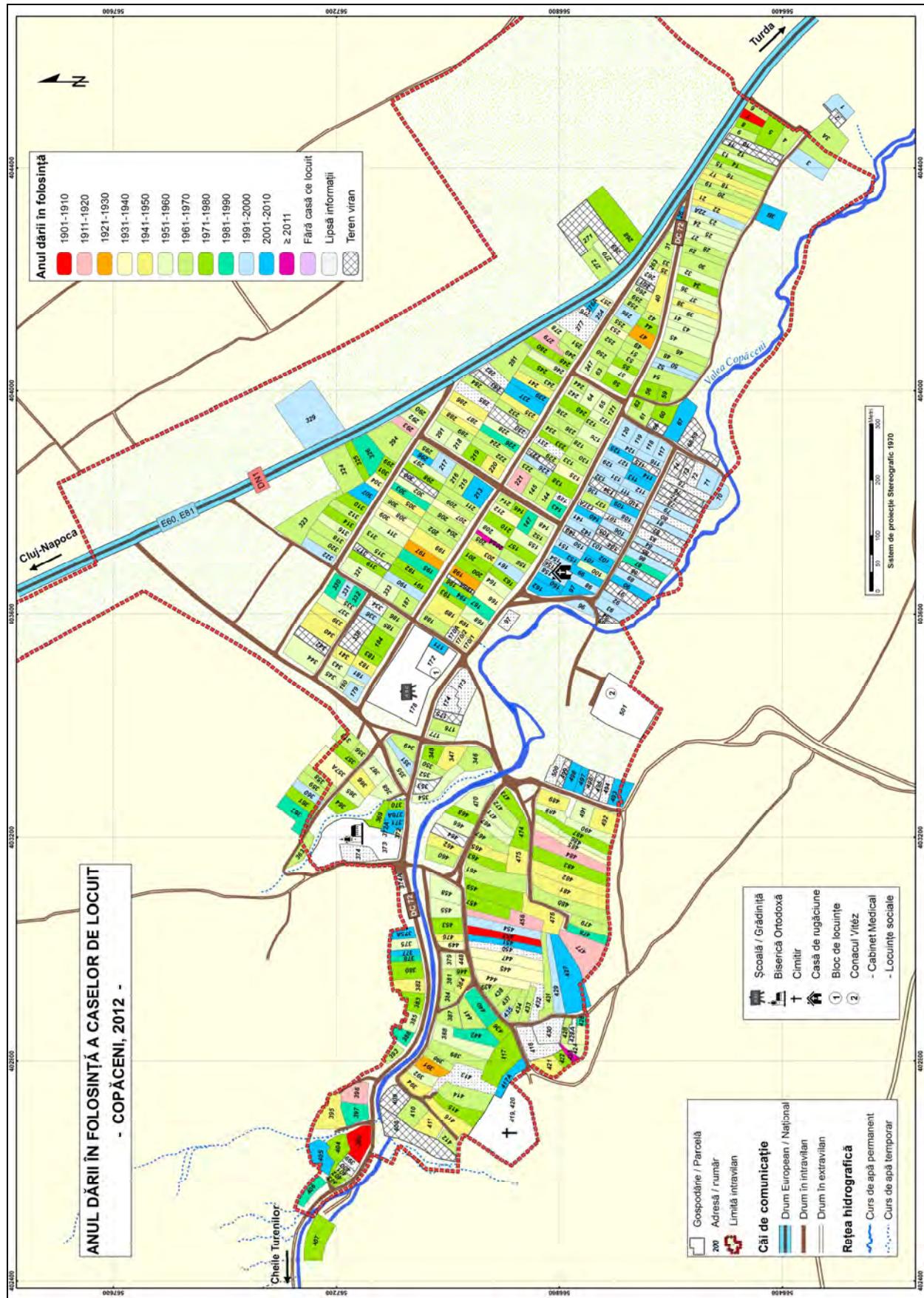


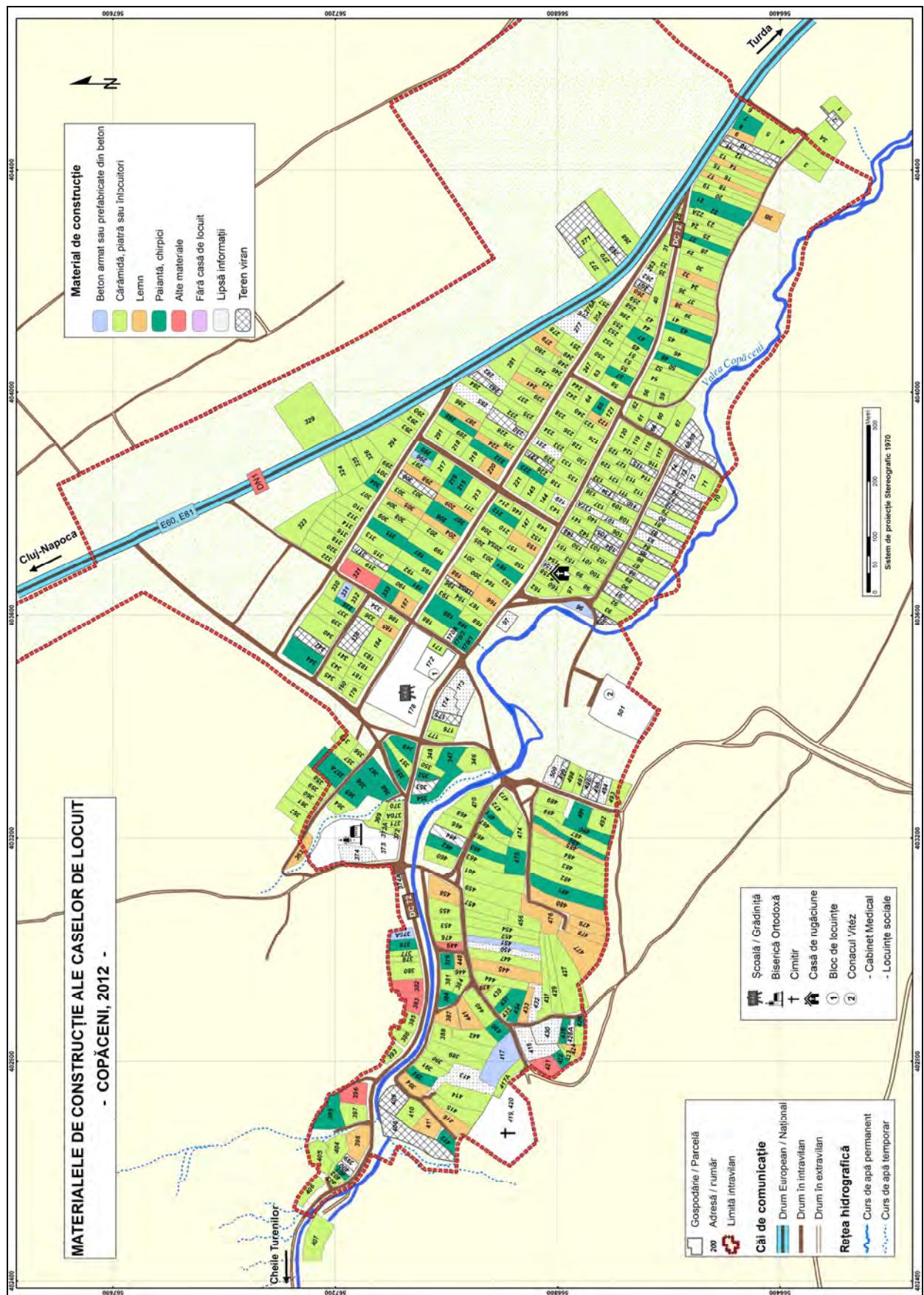


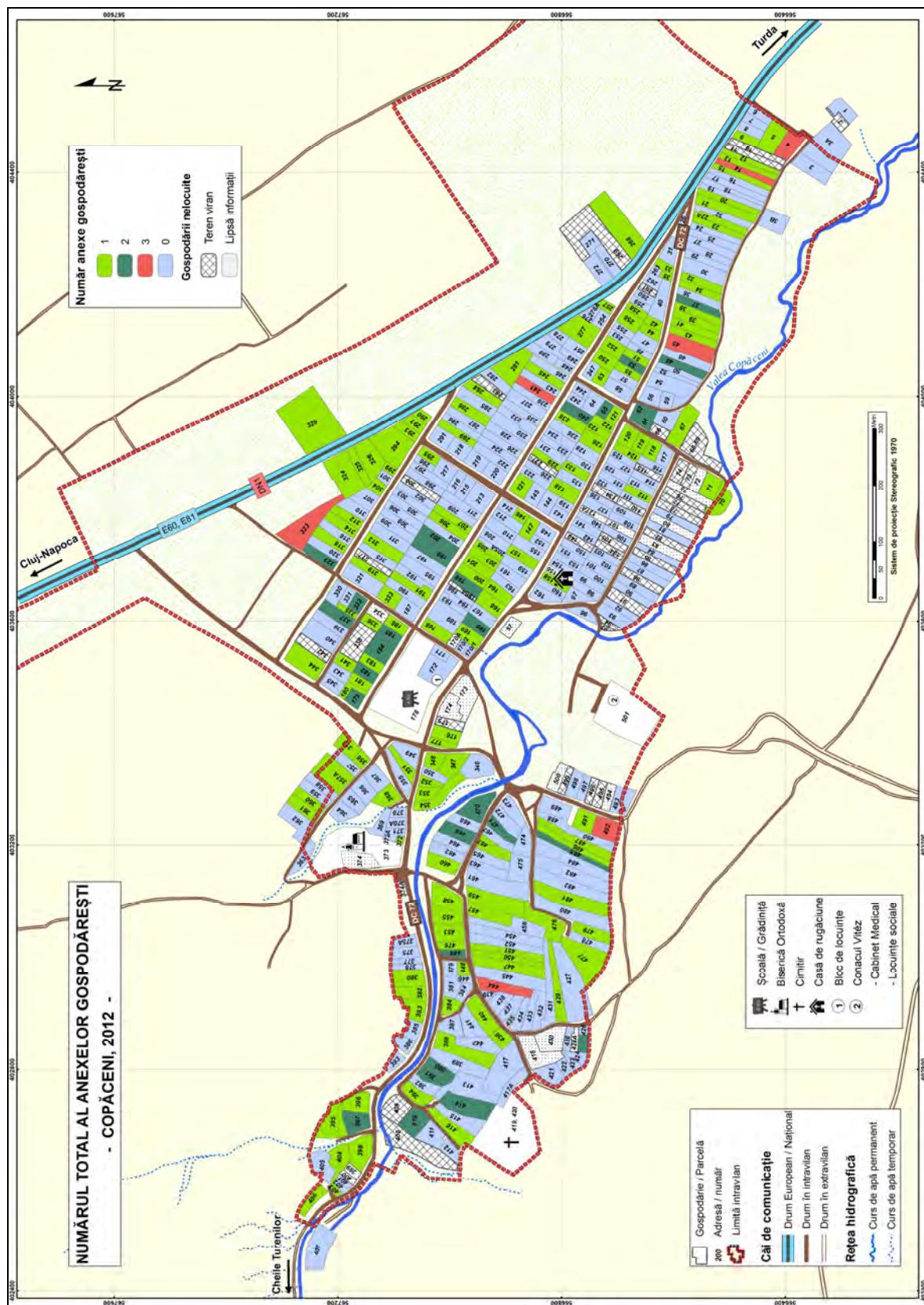


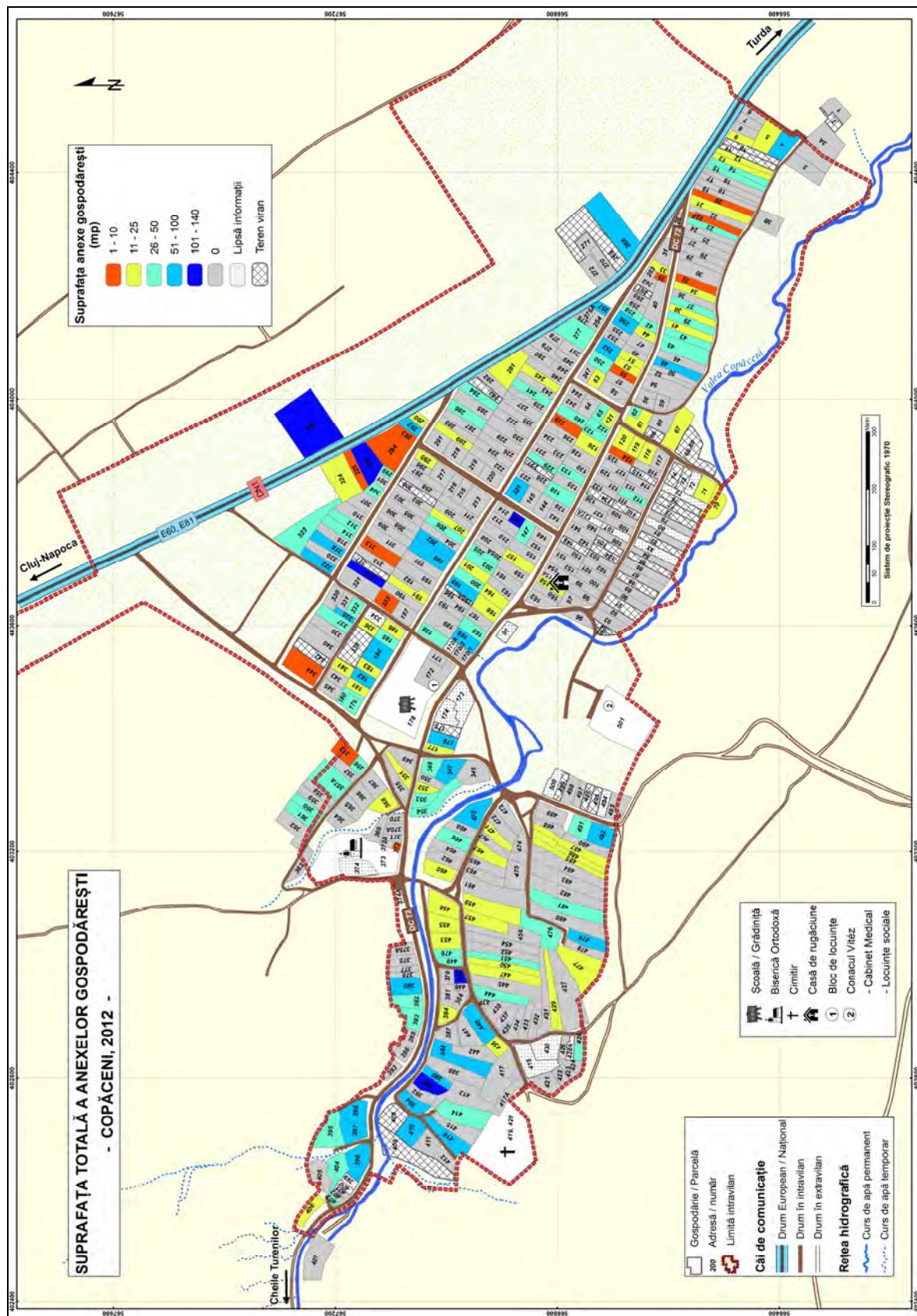


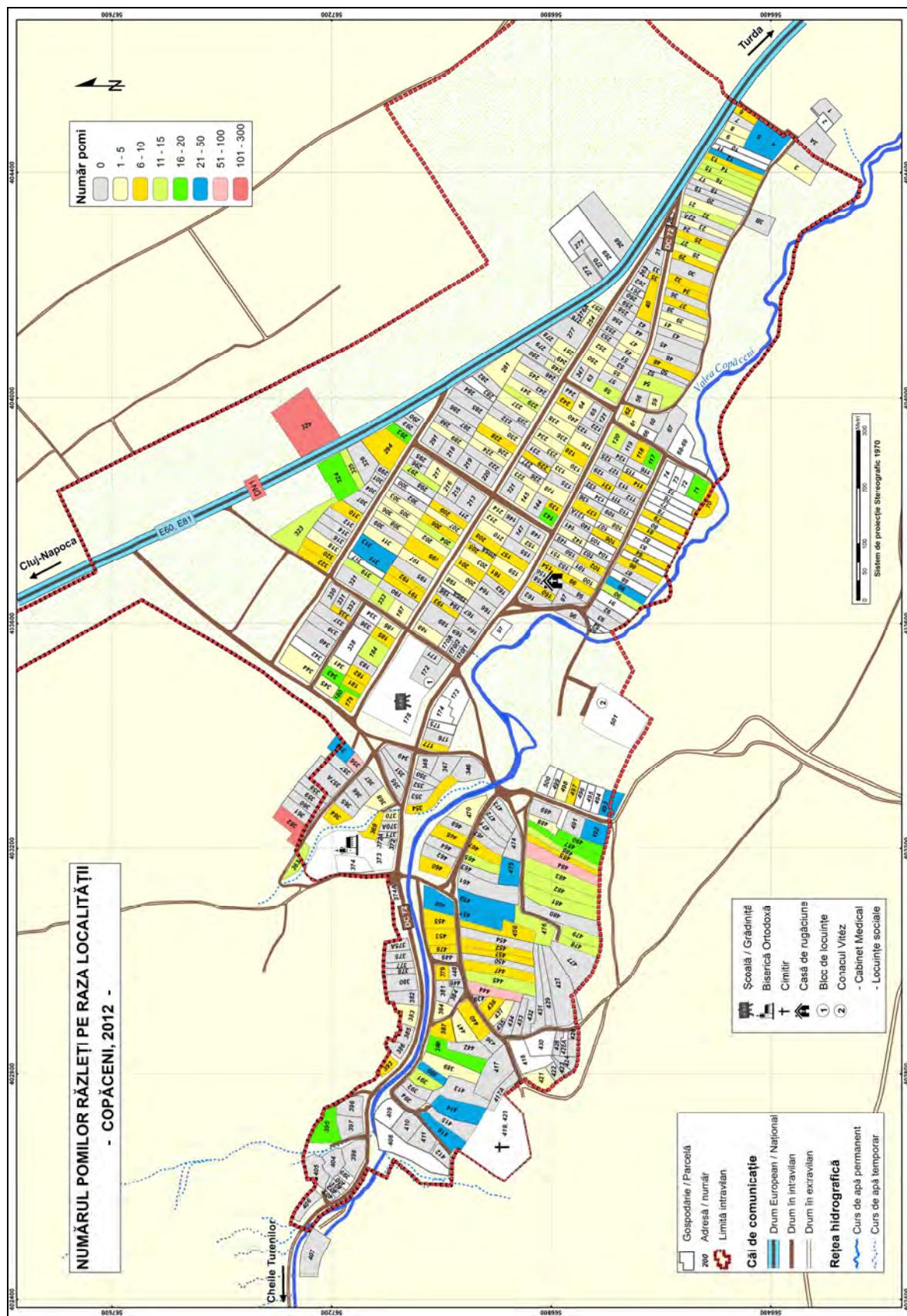












## THE LAND USE STRUCTURE

In Romania, the cadastre is made under article 1 of Law no.18/1991 the "whole land of any kind, regardless of the destination and the title on which are owned or in the public or private part" . The structure is closely related to land use, both natural positioning of the special relief, and the existence of work planning and land improvement. Thus, a rational use of the land, it is necessary quantitative and qualitative inventory by use and properties.

In order to classification and delimitation of land use in particular category, for 1990, vectorization was made from cadastral plans, and for 2011, as cartographic material was used orthophotomap by analyzing the terrain texture.

**Tabel 2 The land use structure - 1990, Copăceni**

Group	Land use	Surface(ha.)	Percentage of extravilan surface (%)	Percentage of total surface (%)
Agricultural	Arable	436,40	51,72	46,95
	Pasture	266,69	31,61	26,69
	Hay	29,30	3,47	3,15
	Orchard	0,08	0,01	0,01
Total		732,47	86,81	78,81
Non-agricol	Forests	76,34	9,05	8,21
	Land waters	3,76	0,45	0,40
	Căi de comun.	14,91	1,77	1,60
	Roads	0,44	0,05	0,05
	Unproductive	15,88	1,88	1,71
Total		111,33	13,19	11,97
<b>TOTAL</b>		<b>843,80</b>	<b>100,00</b>	<b>90,79</b>

**Tabel 3 The land use structure - 2011, Copăceni**

Group	Land use	Surface (ha.)	Percentage of extravilan surface (%)	Percentage of total surface (%)
Non-agricultural	Arable	408,7	52,14	43,97
	Pasture	207,89	26,52	22,37
	Hay	7,17	0,91	0,77
	Orchard	1,54	0,20	0,17
Total		625,3	80,03	67,28
Non-agricultural	Forests	79,64	10,16	8,57
	Land waters	1,07	0,14	0,12
	Căi de comun.	16,34	2,08	1,76
	Roads	8,33	1,06	0,90
	Unproductive	53,2	6,79	5,72
Total		158,58	19,97	17,06
<b>TOTAL</b>		<b>783,88</b>	<b>100</b>	<b>84,34</b>

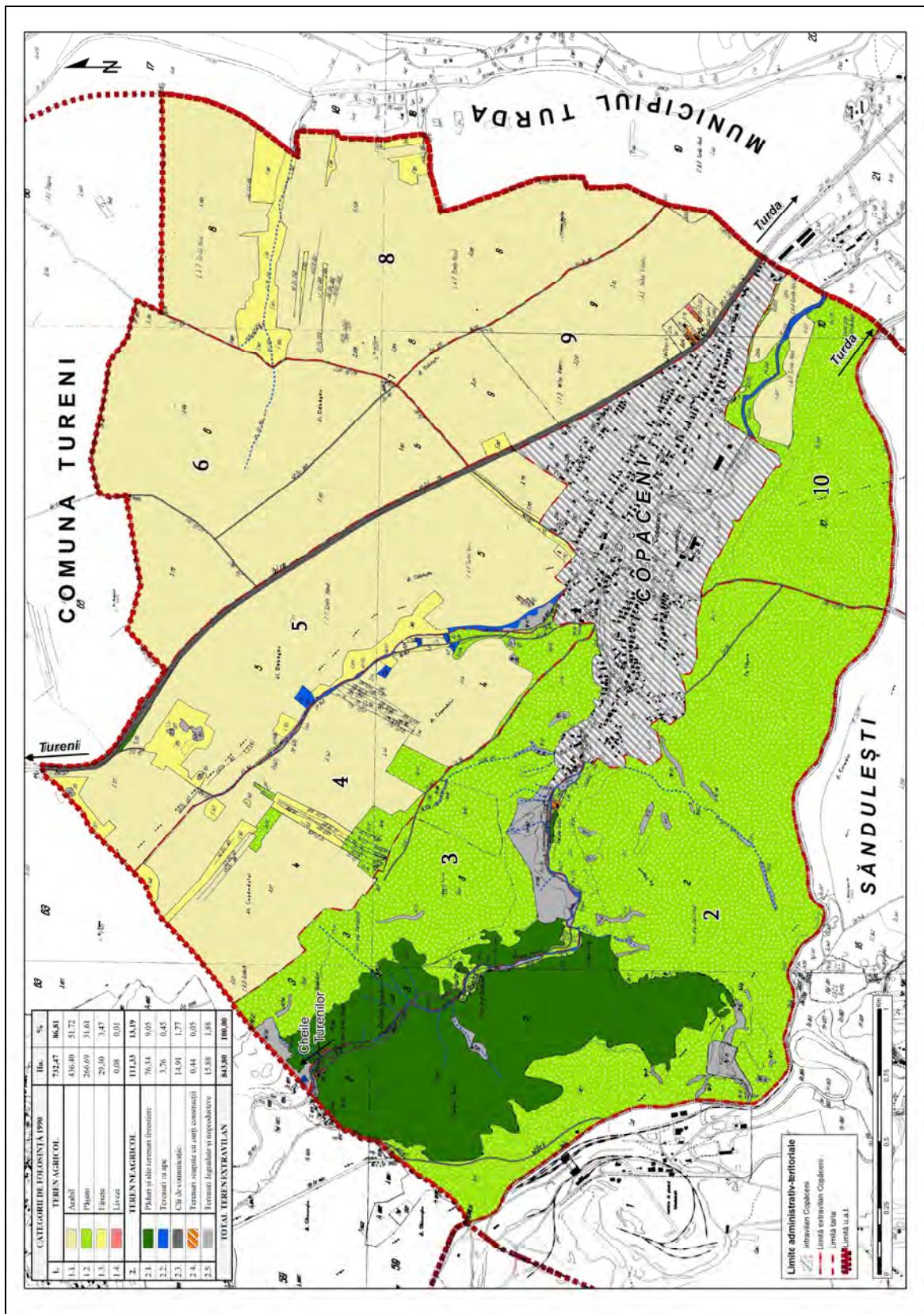


Figure 19 The land use structure - 1990, Copăceni

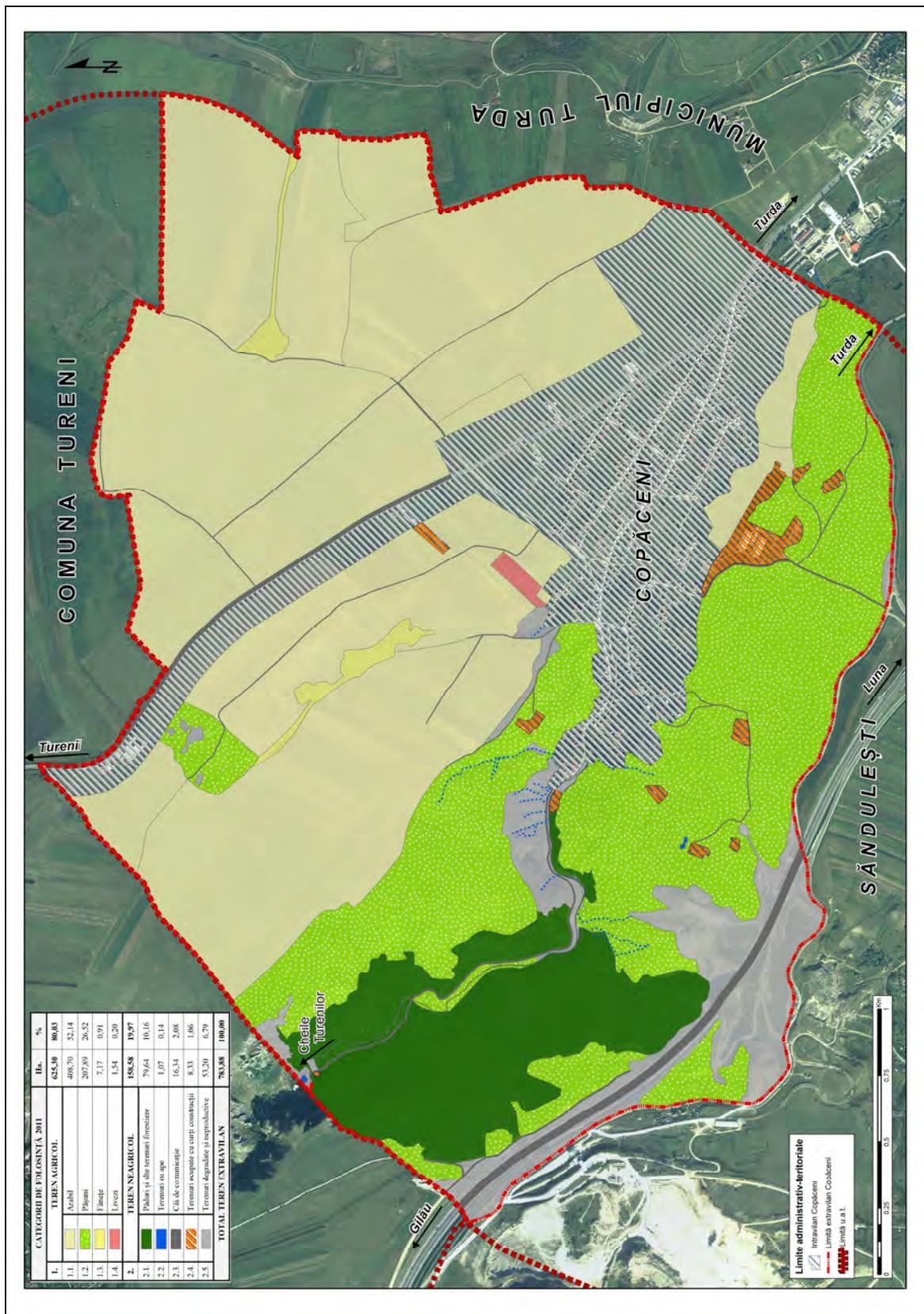
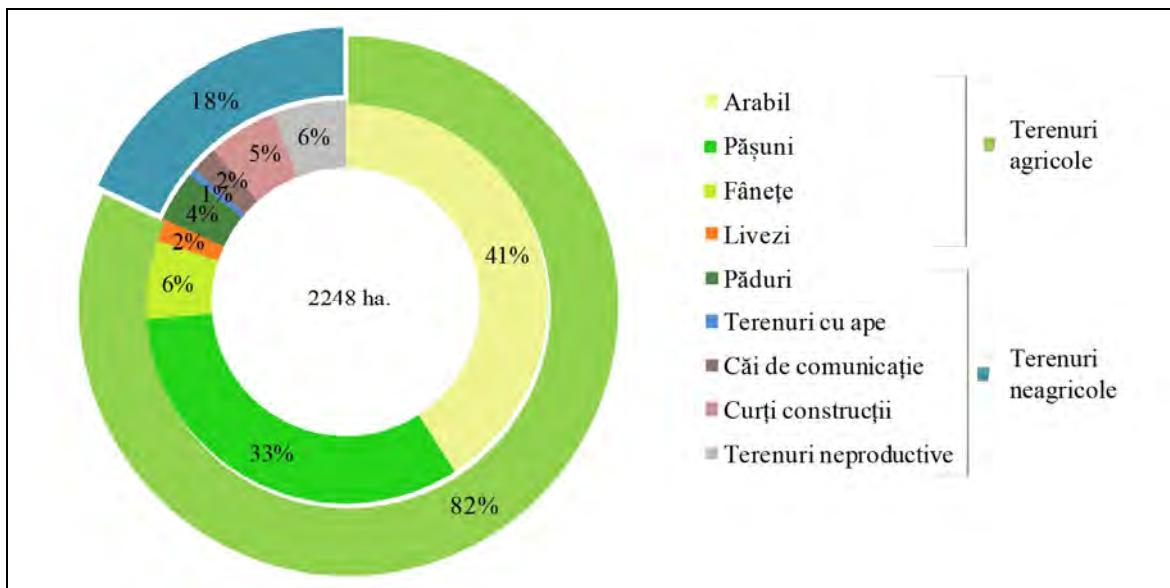


Figure 20 The land use structure - 2011, Copăceni

At the level of Săndulești commune, according to reports of the National Institute of Statistics, 81.85% of the area is constitut of agricultural land, namely: 50% arable land, 39.95% pasture, hay 7.88%, 2.17% orchards. The rest of the related non-agricultural land consists of: 22.30% forests and other forest land, land with water 3.19%, 11.52% roads, 30.64% land occupied by construction yards, 32.35% land degraded and unproductive.



**Figure 21 The land use structure of Săndulești commune, 2011**  
(source: Cluj County Statistics Department)

## CONCLUSIONS

In the present study was performed a radiography of all rural specific components to the smallest detail, represented by households and integrating all information with GIS functions in a geographic database using various software in order to achieve the proposed outcome.

During the research there were a number of impediments to gathering information, given that there is no system to centralize all data across municipalities, thus requiring the procurement of different sources and manually enter each existing information in digital form of each household datas and difficult communication with various public institutions for the provision of various datas that were to be used in scientific purpose.

I would also like to mention that there have been attempts to apply a set of questions via questionnaires to every household but both locals reluctance to provide personal

information that was requested, and the relatively short time to persist regarding this issue I have I determined to confine the discussion to people in my ability to communicate information concerned. In this regard I want to thank the local administration of Săndulești communei for their kindness and positive response to give me time and materials at their disposal.

## SELECTIVE REFERENCES

- Baltălungă, A.A., (2008), *Geografia aşezărilor*, Editura Cetatea de Scaun, Târgovişte;
- Bădescu, I., Radu, N., (1980), *De la comunitatea rurală la comunitatea urbană*, Edit. Științifică și Enciclopedică, București;
- Bărăian, Stanca Dacia, Surd, V, Pușcașu, Adina-Maria, *Micești (Micuș), un sat transilvan* în Volumul Conferinței Naționale a Societății de Geografie, Timișoara 2013;
- Beaujeu-Garnier Jacqueline, (1971), *Geografia urbană*, Editura Științifică, Bucuresti;
- Benedek, J., (1999), *Organizarea spațiului rural din Dealurile Bistriței -Studiu de caz*, Teză de doctorat, Cluj-Napoca;
- Benedek, J., (2001), *Tipologia socială a gospodăriilor rurale din zona de influență apropiată a municipiului Bistrița*, Studii si cercetari de geografie, TOM. XLVII-XLVIII, Editura Academiei Romane, București;
- Benedek, J., (2004), *Amenajarea teritoriului și dezvoltarea regională*, Editura Presa Universitară Clujeană, Cluj-Napoca;
- Berger, A., Chevalier, P., Dedeire, M., (2005), *Les nouveaux territoires ruraux. Elements d'analyse*, Publication de l'Université Paul Valéry, France;
- Bold, I., (1974), *Sistematizarea rurală*, Ed. Tehnică, București;
- Bold, I., Buciuman, E., (2003), *Spatiul rural: definire, organizare, dezvoltare*, Ed. Mirton, Timisoara;
- Brewer, Cynthia A., (2008), *Designed Maps: A Sourcebook for GIS Users*, Esri Press;
- Brewer, Cynthia A., (2005), *Designing Better Maps: A Guide for GIS Users*, Esri Press;
- Buz, V., Rus, I., (2002), *Geografie tehnică - Topografie*, Editura Eurodidact, Cluj-Napoca;

Buz, V., Săndulache, Al., (1984), *Cartografie*, Universitatea Babeş-Bolyai, Facultatea de Biologie, Geografie și Geologie, Cluj-Napoca;

Carr, Margaret, (2007), *Smart Land-Use Analysis: The LUCIS Model*, Esri Press;

Chevalier, P., (2005), *Dynamiques tertiaires de l'espace rural*, Publication de l'Université Paul Valéry, France;

Clifford, N. J., (2003), *Key concepts in geography*, Sage Publ., London;

Cloke, P. J., (1989), *Rural land-use planning in developed nations*, Unwin Hyman, London;

Cloke, P., Marsden, T., Mooney, P., (2006), *Handbook of Rural Studies*, SAGE Publications, London;

Cloke, P.J.(, 1979), *Key settlements in rural areas*, Methuen, London;

Clout, H. D., (1972), *Rural geography*, Pergamon Press, Oxford;

Clout, H. D., (1976), *Rural geography: an introductory survey*, Pergamon Press, Oxford;

Clout, H. D., (2007), *Contemporary Rural Geographies: Land, Property, and Resources in Britain : Essays in Honour of Richard Munton*, Routledge, London;

Constantin, Elena, Maracineanu, F., (2005), *Rolul imbinătățirilor funciare în dezvoltarea rurală durabilă*, Editura Cartea Universitară, București;

Constantin, Veronica, Bruckner, L., Pușcașu, Adina-Maria, *Așezările din arealul minier Iara-Băișoara*, în Economia regională: ipostaze rurale și urbane, 2012;

Cotet, P., (1976), *Principii, metode și tehnici moderne de lucru în geografie*, E. D. P. București;

Cucu, V., (1981), *Geografia populației și așezărilor umane*, Editura Didactică și Pedagogică, București;

Cucu, V., (2000), *Geografia așezărilor rurale*, Edit. Domino, Târgoviște;

Cucu, V., (1974), *Geografia populației și așezărilor omenești*, Editura Didactică și Pedagogică, București;

Donisă, I., (1977), *Bazele teoretice și metodologice ale geografiei*, Editura Didactică și Pedagogică, București;

Erdeli G., Cucu V., (2005), *România. Populație. Așezări omenești. Economie*, Editura Transversal, București;

Erdeli, G., Cândea, Melinda, Braghiñă C., Costache, S., Zamfir, Daniela, (1999), *Dicționar de geografie umană*, Editura Corint, București;

ESRI, (2009), *GIS for Building and Managing Infrastructure*, Esri Press;

ESRI, (2011), *Mapping the Nation: GIS for Federal Progress and Accountability*, Esri Press;

Flavius, M., Croitoru, A., (2011), *Mediul rural românesc: evoluții și involuții. Schimbare socială și antreprenoriat*, Editura Expert, București;

Fulea, Maria, (1996), *Tipuri socio-demografice de gospodării rurale*, Sociologie Românească, VII, no. 1-2, Editura Institutului European Iași, Iași;

Fulea, Maria, Tamas, Georgeta, (1989), Schimbări și tendințe în structura sociodemografică rurală, Editura Academiei Republicii Socialiste România, București;

Gregory D., Johnston R., Pratt Geraldine, Watts M.J., Whatmore Sarah, (2009), *Dictionary of Human Geography*, Blackwell Publishers Ltd., Sussex;

Gustav, G., (1974), *Forme noi de așezare. Studiu prospectiv de sistematizare macroteritorială*, Edit. Tehnică, București;

Haidu, I., Haidu, C., (1998), *SIG - Analiză spațială*, Editura HGA, București;

Holloway, L., (2004), *Geographies of rural cultures and societies*, Ashgate, Aldershot;

Ianos, I., (2000), *Sisteme teritoriale. O abordare geografică*, Editura Tehnică, București;

Ianos, I., (2005), *Geografie : geografie urbană și rurală*, Manual Universitar, București;

Imbroane, Al., M., Moore, D., (1999), *Inițiere în GIS și teledetectie*, Editura Presa Universitară Clujeana, Cluj-Napoca;

Ioniță-Niculescu, M., (2010), *Modernitatea înregistrărilor demografice în spațiul românesc - de la catagrafiile regulamentare la recensăminte generale ale populației*, Analele Universității "Constantin Brâncuși", Seria Litere și Științe Sociale nr. 3/2010, Târgu Jiu;

Kitchin, R., (2000), Conducting research in human geography, Prentice Hall, Harlow, Ess;

Laurini, R., (2001), *Information systems for urban planning - a hypermedia co-operative approach*, Taylor & Francis, London and New York

Mandal, R. B., (1979), *Introduction to Rural Settlements*, Concept Publishing Company, California;

Marcus, M. G., (1992), *Geography's inner worlds*, Rutgers University Press New Brunswick, New Jersey;

Matei, I., Mihailescu, I., (1985), *Satul romanesc. Studii*, Editura Academiei Republicii Socialiste Romania, Bucuresti;

Mihăilescu, V, (1995), *Tranzitia mentală în mediul rural*, prezentată la A Doua Ediție A Conferinței Societății de Antropologie Culturală din România, Ileni, 1995;

Montello, D. R., (2006), *An introduction to scientific research methods in geography*, Sage Publ., London;

Munton, R., (2008), *The rural*, Ashgate, Aldershot;

Nistor, I., (2000), *Comuna și județul în evoluția istorică*, Editura Dacia, București;

Pop, Gr. P., (2001), *Depresiunea Transilvaniei*, Editura Presa Universitară Clujeană, Cluj-Napoca;

Pop, Gr. P., Benedek, J., (1996), *Satele mici din România și specificul activității lor*, Studia Universitatis „Babeș-Bolyai”, Geographia,XLI, 1-2, Cluj-Napoca;

Pop, P. Gr. și colectivul, (2007), *Județul Cluj. Județele României*, Editura Academiei Române, București;

Popa, M.D., Stănciulescu, A., Matei, G.F., Tudor, Anicuța, Zgăvărdici, Carmen, Chiriacescu, Rodica, (1993-2009), *Dicționar Enciclopedic*, Editura Enciclopedică, București;

Preda, M., (2005), *Comunele și orașele României*, Edit. CH Beck, București;

Pușcașu, Adina-Maria, *Rural space. land use and land structure. Case study: Cluj county, Romania*, în Studia Universitatis Babeș-Bolyai Geographia, 2013;

Robinson, G. M., (1998), *Methods and techniques in human geography*, Wiley, Chichester;

Rotariu, T, Bolovan, S.P., Bolovan, I., (2006), *Populația României. Trecut, prezent și viitor*, Editura Presa Universitară Clujeană, Cluj-Napoca;

Rotariu, T. (coord.) et al. ,(1997), *Recensământul din 1880: Transilvania*, în Seria Studia Censualia Transilvanica, Editura Staff, București;

Rotariu, T. (coord.) et al., (1999), *Recensământul din 1900: Transilvania*, în Seria Studia Censualia Transilvanica, Editura Staff, București;

Rotariu, T. (coord.) et al., (1999), Recensământul din 1910, în Seria Studia Censualia Transilvanica, Editura Staff, București;

Rotariu, T. (coord.) et al., (2006), *Recensământul din 1910, Vol. II, Populația după ocupații*, în Seria Studia Censualia Transilvanica, Editura Presa Universitară Clujeană, Cluj-Napoca;

Rotariu, T. (coord.) et al., (2006), *Recensământul din 1900, Vol II. Populația după ocupații*, Editura Presa Universitară Clujeană, Cluj-Napoca;

Rotariu, T. (coord.) et al., (2011), *Recensământul din 1930: Transilvania*, Editura Presa Universitară Clujeană, Cluj-Napoca;

Rotariu, T., (1996), *Recensământul din 1857: Transilvania*, Editura Staff, Cluj-Napoca;

Rotariu, T., (2002), *Recensământul din 1941: Transilvania*, Ed. Presa Universitară Clujeană, Cluj-Napoca;

Rotariu, T., (2003), *Demografie și sociologia populației. Fenomene demografice*, Editura Polirom, Iași;

Rotariu, T., (2003), *Recensământul agricol din 1895: Transilvania. Vol. I*, Editura Presa Universitară Clujeană, Cluj-Napoca.

Rotariu, T., (2003), *Recensământul agricol din 1895: Transilvania. Vol. II*, Editura Presa Universitară Clujeană, Cluj-Napoca;

Rotariu, T., (2004), *Recensământul din 1850: Transilvania*, Editura Presa Universitară Clujeană, Cluj-Napoca;

Rotariu, T., (2005), *Mișcarea naturală a populației între 1901-1910. Transilvania. Vol. II*, Ed. Presa Universitară Clujeană, Cluj-Napoca;

Rotariu, T., (2008), *Recensământul din 1869: Transilvania*, Editura Presa Universitară Clujeană, Cluj-Napoca;

Rus, I., Buz, V., (2003), *Geografie tehnică - Cartografie*, Editura Silvania, Zalău;

Rusu, M., (2002), *Land fragmentation and land consolidation in Romania*, Case studies from CEEC;

Rusu, M., (2002), *Land fragmentation and land consolidation rurality*, the 13th International Farm Management Congress;

Safta-Romano, E., (1999), *Contracte civile*, Editura Polirom, Iași;

Sandu, D., (1987), *Dezvoltarea socioteriorială în România*, Editura Academiei Republicii Socialiste în România;

Simmons, A.J., (1964), *An index of farm structure, with a Nottinghamshire example*, în East Midlands Geographer;

- Stahl, H.H., (1959), *Contribuții la studiul satelor devălmașe*, vol. II, Editura Academiei, București;
- Stașac, Marcu, (2005), Reconstituirea mediul rural în Câmpia Crișurilor, Editura Universității din Oradea, Oradea;
- Surd V., Zotic V. et all, (2005), *Amenajarea teritoriului și infrastructuri tehnice*, Editura Presa Universitară Clujeană, Cluj-Napoca;
- Surd, V., (2001), *Introducere în geografia spațiului rural*, Editura Presa Universitară Clujeană, Cluj-Napoca;
- Surd, V., (2004), *Geodemografie*, Manual Univeristar, Cluj-Napoca;
- Surd, V., (2004), *Geografia asezarilor*, Presa Universitară Clujeană, Cluj-Napoca;
- Surd, V., (2009), *Geography of settlements*, Editura Presa Universitară Clujeană, Cluj-Napoca;
- Surd, V., (2010), *Rural space regeneration in Romania*, in Journal of Settlements and spatial planning, no. 1; pg. 1-8;
- Surd, V., (2013), *Micești (Micuș) un sat transilvănean*, Editura Presa Universitară Clujeană, Cluj-Napoca;
- Surd, V., Zotic, V., Puiu, V., Moldovan, C., (2007), *Riscul demografic în Munții Apuseni*, Editura Presa Universitară Clujeană, Cluj-Napoca;
- Surd, V., (1993), *Așezările din bazinul montan al Arieșului. Studiu de geografie aplicată*, Edititura Interferențe, Cluj-Napoca;
- Surd, V., Bruckner, L., Pușcașu, Adina-Maria, *The Rural Households. Case Study. Cheia Village, Mihai Viteazu Commune, Cluj County*, în Journal of Settlements and Spatial Planning 2012, editat de Centrul de Cercetare a Asezarilor și Urbanism Cluj-Napoca;
- Ungureanu, Al, Țurcășanu, G., (2008), *Geografia așezărilor umane*, Editura Performantica, Iași;
- Văcaru, S., Ciubotaru, M., (2009), *Catagrafile vistieriei Moldovei 1820-1845*, Editura Studis, Iași;
- Velcea, I., (1996), *Geografie rurală*, Universitatea Creștină Dimitrie Cantemir, Sibiu;
- Vert, C., (2000), *Geografia populației și așezărilor umane*, Universitatea de Vest din Timișoara, Timișoara;
- Vincze, Maria, (2000), *Dezvoltarea regională și rurală. Idei și practici*, Editura Presa Universitară Clujeană, Cluj-Napoca;

- Vișinescu, V., (2003), *Săndulești. Studiu monografic*, Casa Cărții de Știință, Cluj-Napoca;
- Voicu, Malina, (2006), *Satul românesc pe drumul către Europa*, Editura Polirom, București;
- Wilson, G. A., (2007), *Multifunctional Agriculture. A transition theory perspective*, Cromwell Press, London;
- Woods, M., (2005), *Rural Geography: Processes, Responses and Experiences in Rural Restructuring*, SAGE Publications, London;
- Woods, M., (2010), *Rural. Key ideas in geography*, Routledge, London;
- Zotic, V., (2005), *Componentele operaționale ale organizării spațiului geographic*, Editura Presa Universitară Clujeană, Cluj-Napoca;

- \*\*\* (1998) Green paper. Rural development in Romania. Government of Romania, Ministry of Agriculture and Food. Phare Programme. Europena Union;
- \*\*\* Fișa localității Săndulești - 1992, 2002 (sursa: Institutul National de Statistica - Directia Regionala de Statistica Cluj);
- \*\*\* Recensământul General al României din 1941 6 aprilie (sursa: Institutul National de Statistica - Directia Regionala de Statistica Cluj);
- \*\*\* Recenământul populației din 21 februarie 1956. Structura demografică a populației (sursa: Institutul National de Statistica - Directia Regionala de Statistica Cluj);
- \*\*\* Recensământul populației și locuințelor din 15 martie 1966 (sursa: Institutul National de Statistica - Directia Regionala de Statistica Cluj);
- \*\*\* Recensământul populației și locuințelor din 5 ianuarie 1977 (sursa: Institutul National de Statistica - Directia Regionala de Statistica Cluj);
- \*\*\* Planul Urbanistic General al comunei Săndulești - 1998 (Sursa: Consiliul Judetean Cluj);
- \*\*\* Registrul general agricol Copăceni - 2010-2014, volumele I-VIII (sursa: Primaria comunei Sandulesti);
- \*\*\* Registrul agricol pe anii 1959-1963 comuna Săndulești, Localitatea componentă/satul Copăceni (sursa: Primaria comunei Sandulesti);
- \*\*\* Planul strategic de dezvoltare locală al comunei Săndulești, județul Cluj pentru perioada 2008-2015 (sursa: Primaria comunei Sandulesti);
- \*\*\* Parcul Auto Săndulești 2007-2013 (sursa: D.R.P.C.I.V.)
- \*\*\* Planurile cadastrale 1:5000 (sursa: ANCPI);
- \*\*\* Planurile topografice 1:5000 (sursa: ANCPI);
- \*\*\* Ortofotoplan (sursa: ANCPI);
- \*\*\* <http://www.recensamantromania.ro>;
- \*\*\* Legea nr. 351 din 6 iulie 2001 privind aprobare a Planului de amenajare a teritoriului național Secțiunea a IV-a . Rețeaua de localități;
- \*\*\* Norma tehnică din 21.04.2010 de completare a registrului agricol pentru perioada 2010-2014 adoptată de Ministerul Agriculturii și Dezvoltării Rurale și publicată în Monitorul Oficial, Partea I nr. 650 din 20.09.2010;

\*\*\* Anuarul Intitutului de Istorie Națională 1924-25, Institutul de Arte Grafice,,Ardealul”, Cluj-Napoca, 1926;

\*\*\* Ordin nr. 534 din 1 octombrie 2001 privind aprobarea Normelor tehnice pentru introducerea cadastrului general, publicat în M.Of. nr. 744 din data: 11/21/2001;

\*\*\* Legea nr. 36 din 30 aprilie 1991 privind societățile agricole și alte forme de asociere în agricultură, publicată în M.O. nr. 97/6 mai 1991;

\*\*\* Indicatorul localităților din România. Datele recensământului din 6 aprilie 1941, Institutul central de Statistică, Imprimeria Institutului Statistic, 1943

\*\*\* United Nations, (1977), Glossary of Environment Statistics, Studies in Methods;

\*\*\* *Agricultural Policy Reform and the Rural Economy in OECD Countries*, 1998 - <http://www.oecd-ilibrary.org>;

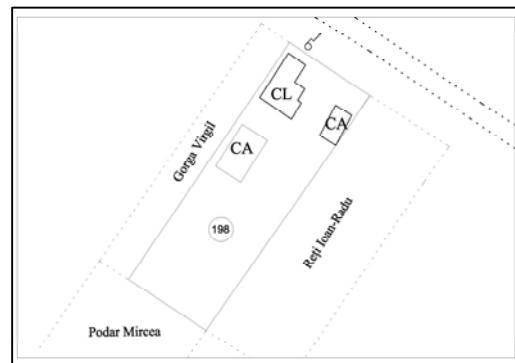
\*\*\* Institutul Național de Statistică (2012), *România în cifre*;

\*\*\* [www.unescop.org](http://www.unescop.org)

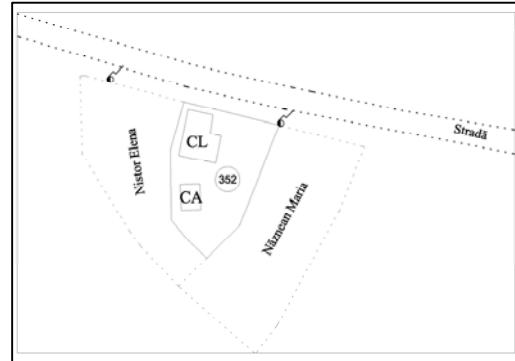
\*\*\* <http://www.cdep.ro>.

## ANEXA 6 - FIŞA GOSPODĂRIEI

<b>Adresă</b>	198 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Florea Maria			
<b>Informații sociale</b>				
Numele familiei	Florea			
Vârstă capului de familie	81			
Sexul capului de familie	F			
Ocupația capului de familie	Pensionar			
Studiile capului de familie	Gimnaziu			
Număr membri	1			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	-			
Număr pers. > 65 ani	1			
Număr pers. de sex masculin	-			
Număr pers. de sex feminin	1			
Număr salariați	-			
Număr pensionari	1			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	-			
Număr pers. cu studii superioare	-			
Număr pers. plecate în străinătate	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	64	3	1926
2	Grajd	50	-	-
3	Șură	12		
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
		Intravilan	Extravilan	
1	Cc	400		-
2	A	1000		-

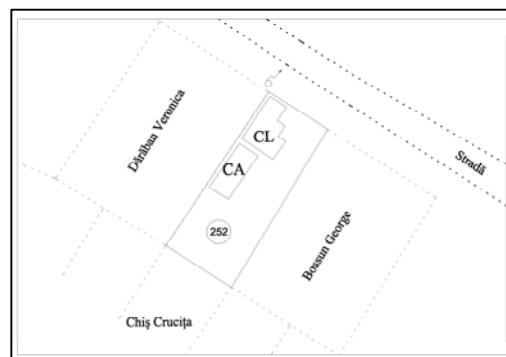


<b>Adresă</b>	352 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Suciu Viorica			
<b>Informații sociale</b>				
Numele familiei	Suciu			
Vârstă capului de familie	67			
Sexul capului de familie	F			
Ocupația capului de familie	Pensionar			
Studiile capului de familie	Gimnaziu			
Număr membri	1			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	-			
Număr pers. > 65 ani	1			
Număr pers. de sex masculin	-			
Număr pers. de sex feminin	1			
Număr salariați	-			
Număr pensionari	1			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	-			
Număr pers. cu studii superioare	-			
Număr pers. plecate în străinătate	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	68	4	1958
2	Grajd	16	-	-
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
		Intravilan	Extravilan	
1	Cc	300		-
2	A	600		-
3	A	-		6100

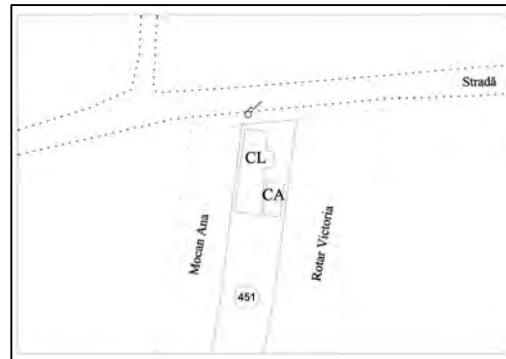


## ANEXA 6 - FIŞA GOSPODĂRIEI

<b>Adresă</b>	252 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Popa Eugenia			
<b>Informații sociale</b>				
Numele familiei	Popa			
Vârstă capului de familie	76			
Sexul capului de familie	F			
Ocupația capului de familie	Pensionar			
Studiile capului de familie	Gimnaziu			
Număr membri	1			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	-			
Număr pers. > 65 ani	1			
Număr pers. de sex masculin	-			
Număr pers. de sex feminin	1			
Număr salariați	-			
Număr pensionari	1			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	-			
Număr pers. cu studii superioare	-			
Număr pers. plecate în străinătate	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	78	2	1961
2	Grajd	55	-	-
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
		Intravilan	Extravilan	
1	Cc	400	-	
2	A	700	-	
3	A	-	25900	

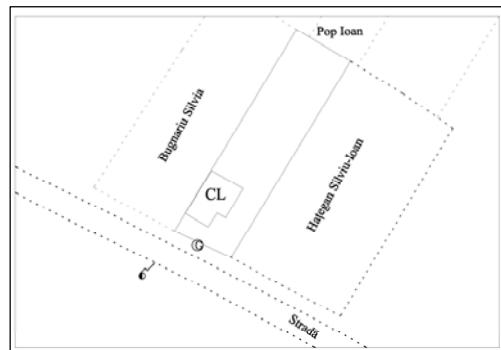


<b>Adresă</b>	451 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Cosma Ioan			
<b>Informații sociale</b>				
Numele familiei	Cosma			
Vârstă capului de familie	61			
Sexul capului de familie	M			
Ocupația capului de familie	Pensionar			
Studiile capului de familie	Școală prof.			
Număr membri	4			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	4			
Număr pers. > 65 ani	1			
Număr pers. de sex masculin	2			
Număr pers. de sex feminin	2			
Număr salariați	4			
Număr pensionari	-			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	3			
Număr pers. cu studii superioare	1			
Număr pers. plecate în străinătate	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	60	1	2010
2	Garaj	32	-	-
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
		Intravilan	Extravilan	
1	Cc	400	-	
2	A	1000	-	
3	A	-	500	

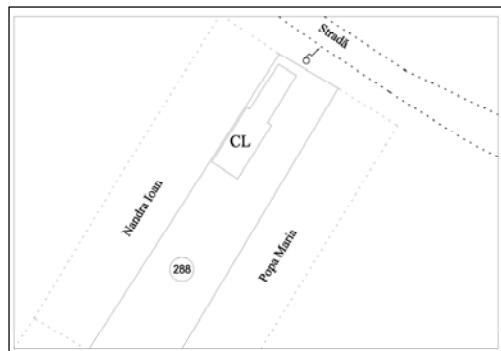


## ANEXA 6 - FIŞA GOSPODĂRIEI

<b>Adresă</b>	130 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Szabo-Pal Arpad			
<b>Informații sociale</b>				
Numele familiei	Szabo			
Vârstă capului de familie	40			
Sexul capului de familie	M			
Ocupația capului de familie	Pensionar boala			
Studiile capului de familie	Școala prof.			
Număr membri	2			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	2			
Număr pers. > 65 ani	-			
Număr pers. de sex masculin	1			
Număr pers. de sex feminin	1			
Număr salariați	-			
Număr pensionari	2			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	2			
Număr pers. cu studii superioare	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	69	2	1964
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
		Intravilan	Extravilan	
1	Cc	300	-	
2	A	400	-	
3	-	-	-	

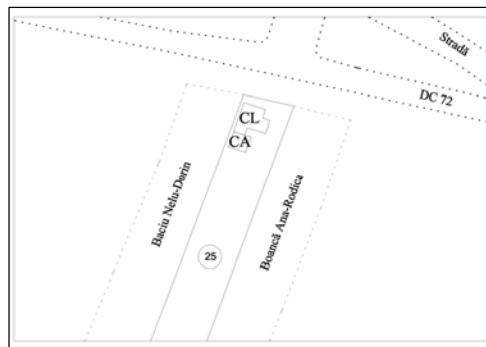


<b>Adresă</b>	288 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Buglea Ludovica			
<b>Informații sociale</b>				
Numele familiei	Buglea			
Vârstă capului de familie	90			
Sexul capului de familie	F			
Ocupația capului de familie	Pensionar			
Studiile capului de familie	Gimnaziu			
Număr membri	1			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	-			
Număr pers. > 65 ani	1			
Număr pers. de sex masculin	-			
Număr pers. de sex feminin	1			
Număr salariați	-			
Număr pensionari	1			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	-			
Număr pers. cu studii superioare	-			
Număr pers. plecate în străinătate	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	66	4	1947
-	-	-	-	-
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
		Intravilan	Extravilan	
1	Cc	400	-	
2	A	600	-	

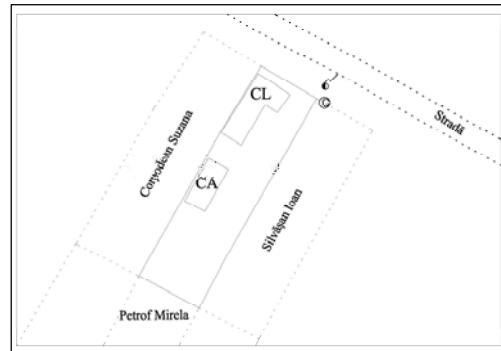


## ANEXA 6 - FIŞA GOSPODĂRIEI

<b>Adresă</b>	25 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Mocan Avram			
<b>Informații sociale</b>				
Numele familiei	Mocan			
Vârstă capului de familie	80			
Sexul capului de familie	M			
Ocupația capului de familie	Pensionar			
Studiile capului de familie	Gimnaziu			
Număr membri	1			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	-			
Număr pers. > 65 ani	1			
Număr pers. de sex masculin	1			
Număr pers. de sex feminin	-			
Număr salariați	-			
Număr pensionari	1			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	-			
Număr pers. cu studii superioare	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	45	2	1955
2	Magazie	-	-	-
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
		Intravilan	Extravilan	
1	Cc	300	-	
2	A	800	-	
3	A	-	2900	
4	A	-	5800	

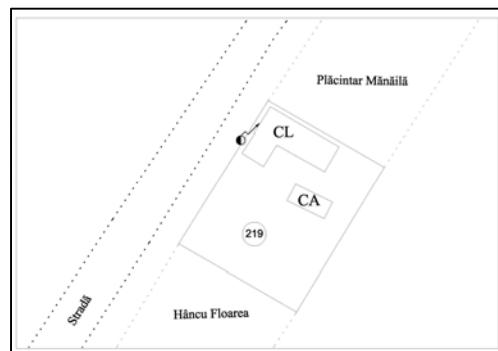


<b>Adresă</b>	153 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Hapa Ilisie			
<b>Informații sociale</b>				
Numele familiei	Hapa			
Vârstă capului de familie	40			
Sexul capului de familie	M			
Ocupația capului de familie	Strungar			
Studiile capului de familie	Școală prof.			
Număr membri	3			
Număr pers. < 18 ani	1			
Număr pers. 18-65 ani	2			
Număr pers. > 65 ani	-			
Număr pers. de sex masculin	1			
Număr pers. de sex feminin	2			
Număr salariați	2			
Număr pensionari	-			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	2			
Număr pers. cu studii superioare	-			
Număr pers. plecate în străinătate	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	60	2	2001
2	Magazie	-	-	-
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
		Intravilan	Extravilan	
1	Cc	300	-	
2	A	400	-	
3	A	-	1900	



## ANEXA 6 - FIŞA GOSPODĂRIEI

<b>Adresă</b>	219 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Gârbovan Ana			
<b>Informații sociale</b>				
Numele familiei	Gârbovan			
Vârstă capului de familie	76			
Sexul capului de familie	F			
Ocupația capului de familie	Pensionar			
Studiile capului de familie	Gimnaziu			
Număr membri	5			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	4			
Număr pers. > 65 ani	1			
Număr pers. de sex masculin	2			
Număr pers. de sex feminin	3			
Număr salariați	1			
Număr pensionari	1			
Număr elevi / preșcolari	1			
Număr pers. cu studii medii	2			
Număr pers. cu studii superioare	-			
Număr pers. plecate în străinătate	1			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	94	2	1974
2	Garaj	-	-	-
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
	Intravilan		Extravilan	
1	Cc	500		-
2	A	600		-



<b>Adresă</b>	20 Copăceni, com. Sănduleşti			
<b>Proprietar</b>	Ghişa Traian			
<b>Informații sociale</b>				
Numele familiei	Ghişa			
Vârstă capului de familie	63			
Sexul capului de familie	M			
Ocupația capului de familie	Pensionar			
Studiile capului de familie	Școală prof.			
Număr membri	2			
Număr pers. < 18 ani	-			
Număr pers. 18-65 ani	-			
Număr pers. > 65 ani	2			
Număr salariați	-			
Număr pensionari	2			
Număr elevi / preșcolari	-			
Număr pers. cu studii medii	1			
Număr pers. cu studii superioare	-			
Număr pers. plecate în străinătate	-			
<b>Date referitoare la construcții</b>				
Nr.	Destinație	Supraf. (mp)	Cod*	An
1	Casă de locuit	50	2	1970
2	Magazie	9	-	-
<b>Date referitoare la terenuri</b>				
Nr.	Categorie folosință	Supraf. (mp)		
	Intravilan		Extravilan	
1	Cc	400		-
2	A	1000		-
3	A	-		5800

