

## URBANIZATION EFFECTS ON LAND USE CHANGES WITHIN CHIȘINĂU URBAN AGGLOMERATION. CASE STUDY – STĂUCENI COMMUNE

Rodica Sîrbu<sup>1</sup>✉, Vadim Cujbă

<sup>1</sup> ORCID: 0000-0001-7892-8747

<sup>2</sup> ORCID: 0000-0002-0451-1217

<sup>1</sup> Faculty Cadastre and Law, State Agrarian University of Moldova, Chișinău  
Mircești street 42, Chișinău 2049, **Republic of Moldova**

<sup>2</sup> Faculty of Geography, State Tiraspol University  
Ghenadie lablocikin street 5, Chișinău 2069, **Republic of Moldova**

### ABSTRACT

This article evaluates the effects of urbanization on the land use within Chișinău agglomeration. The research carried out regarding situation in Stăuceni commune confirms that the peri-urban area undergoes a period of significant spatial and functional transformation influenced by the demographic pressure, poorly controlled urban development and intensification of land relations. By implementing the project “Chișinău Arena” on the territory of Stăuceni commune, the plan for territorial expansion of Chișinău city (in peri-urban areas located on m Chișinău ajor transport axes) is reconfirmed. At the same time, the demographic forecast presented in scenario III, according to UN for Population, shows that the Chișinău’s population will decrease towards 2035, therefore it is necessary that the spatial planning to be adapted quickly to the pace of demographic changes for not compromising the infrastructure projects and land squandering in the suburban areas.

**Key words:** Stăuceni commune, land management plan, land fund, land balance, housing fund, demographic forecast

### INTRODUCTION

The special importance of Chișinău municipality is determined by its political, social, economic and administrative functions which are extended throughout the territory of the country. During the last several decades in the process of municipality development is an increasing tendency of its integration with the suburban areas, in this way consequently, activating the agglomeration formation process.

However, the legislation of the Republic of Moldova does not refer to the term of “urban agglomeration”.

In the Concept of Sustainable Development of the Localities of the Republic of Moldova from 2001 and abolished in 2012 the terms that render an area of influence and a metropolitan area were presented in an ambiguous form – the model after which Chișinău agglomeration works. The term has become common only in the general plans of development and systematization of the network of localities, but which have not been implemented so far. According to the United Nations for Population, the agglomeration has first and foremost a demographic dimension, which was constituted by the concentration of the

✉ r.sirbu@uasm.md

population in a large city and the suburban areas that are adjacent to the city limits. Also, we can mention that the issue is complicated by the fact that, although “suburb” or equivalent terms are used in different parts of the world, its connotations vary (Harris 2013). At the beginning of the twentieth century, many researchers focused on studying the lifestyle of the suburbs and explaining the terms of suburban residents and transit travelers, aspects that are actual and at the contemporary stage (Pisman 2011).

We consider, that Chişinău agglomeration obtained its official status along with the adoption of Law No. 431 of 19.04.1995 on the status of Chişinău municipality and Law No. 835 of 17.05.1996 on the principles of urbanism and spatial planning of the Republic of Moldova. Of course, Chişinău municipality was established as a territorial and regional system that undergoes a period of significant spatial and functional transformation influenced by demographic changes, poorly controlled urban development and intensification of land relations.

In this context, administrative boundaries within agglomerations have been removed from physical, social and environmental realities may result a diffuse urbanization (Feltynovsky 2015, Moreno-Monroy 2020). All these processes were specific to post-socialist cities at the stage of democratization of society (Ilchenco 2018). In general, the problems of urban agglomerations in post-socialist states have become the subject of research since the 90s of the last century, being actual for the beginning of the XXI century (Gornostayeva 1991, Kubeš 2013). Thus, according to the general principles of formation of the exposed suburbanization process (Hesse and Siedentop 2018), the Republic of Moldova follows the Eastern continental European model. In the same vein the effects of urbanization can vary greatly due to the diversity of economic, industrial, land and expansionist policies (Phelps 2017). It should be mentioned that urbanization processes need to be analysed in correlation with the distribution of different types of land use (Szarek-Iwaniuk 2020). However, urban sprawl and suburbanisation are often seen as global phenomena, expressing a universal

model of land use change in market economy conditions (Taubenböck et al. 2019). Therefore, more than that, the processes associated with intensive development entail changes in the landscape and spatial layout of villages (Tataruch et al. 2019).

A deeper understanding of the relationships between trends that lead to urban sprawl based on certain national, regional and local considerations of urban development is essential to remedy the adverse effects of this phenomenon (EEA 2006), as the urban sprawl can be effectively reduced only by understanding the forces that influence it (Phelps 2017).

To capture the effects of the above-mentioned phenomena, an integrative approach was developed at the level of Stăuceni commune within Chişinău municipality.

## **MATERIALS AND METHODS OF RESEARCH**

Studying the normative and legislative framework for territorial planning and development of Chişinău municipality, the reference documents with an impact on the land management in Stăuceni commune were identified as follows:

- Land Code of the Republic of Moldova (1991) – the only legislative document that which contrary to the rules of legal stability, has undergone numerous changes, especially in the field of land allocation and destination;
- Territory Plan of Chişinău municipality, approved up to 2025 (2007) has a guiding aspect in the correlation of programmes in all administrative-territorial units of Chişinău municipality;
- General Urban Plan of Stăuceni commune (2012) – it is developed for the whole territory of the locality, including all the territories necessary for its operation and development;
- Zonal Urbanistic Plan of the lands in the outside the built-up areas of Stăuceni commune (2019) – it includes a guiding component (the development directions for certain sectors with a special value in the locality territory) and a regulatory component

with the following provisions: delimiting the functional area, establishing the construction regime with: alignments, height regime, control indices, occupancy rate of the territory and the land use coefficient.

In the elaboration of this study the following scientific research methods were applied. The analytical method was used for the working hypothesis formulation and for critical approach of the problems reported in the transformation of Stăuceni commune. The direct observation method was applied to collect confirmatory information regarding the situation in Stăuceni commune and correlating with public statistical data. The statistical-mathematical method was widely used in the process of collecting, processing and analysing a significant volume of statistical data regarding the structure of the land fund of Stăuceni commune for the years 1995 and 2015; dynamics of population at censuses 1989, 2004 and 2014; dynamics of housing stock (individual houses and apartments) for the period 1945–2014; and also the projected evolution of the Chişinău population towards 2035. The cartographic modelling applied through the Geographic Information Systems allowed the representation of changes in the land balance between 1982 and 2013 for the main categories of land (under constructions, arable land, orchards and vineyards).

## RESULTS AND DISCUSSIONS

Stăuceni commune is an autonomous administrative-territorial unit within Chişinău municipality that is made up of two localities: Stăuceni (commune administrative residence) and Goianul Nou (a village). Stăuceni commune is neighboring in the North with Cricova town and Ciorescu commune, to the West with Grătieşti commune and to the South-West with Tohatin commune. The geographical location of Stăuceni commune at a distance of 6 km in the North of the Chişinău, its direct access to the M2 (Chişinău – Orhei – Bălţi – Cernăuţi) and to M14 (Criva – Chişinău – Odessa), and also the national corridor Giurgiulesti – Cernăuţi represent the main

factors that have stimulated the increase of interest for this locality.

In order to understand the context in which Stăuceni commune has evolved within the influence area of Chişinău city and the mechanisms that must be activated to find optimal development solutions will be elucidated.

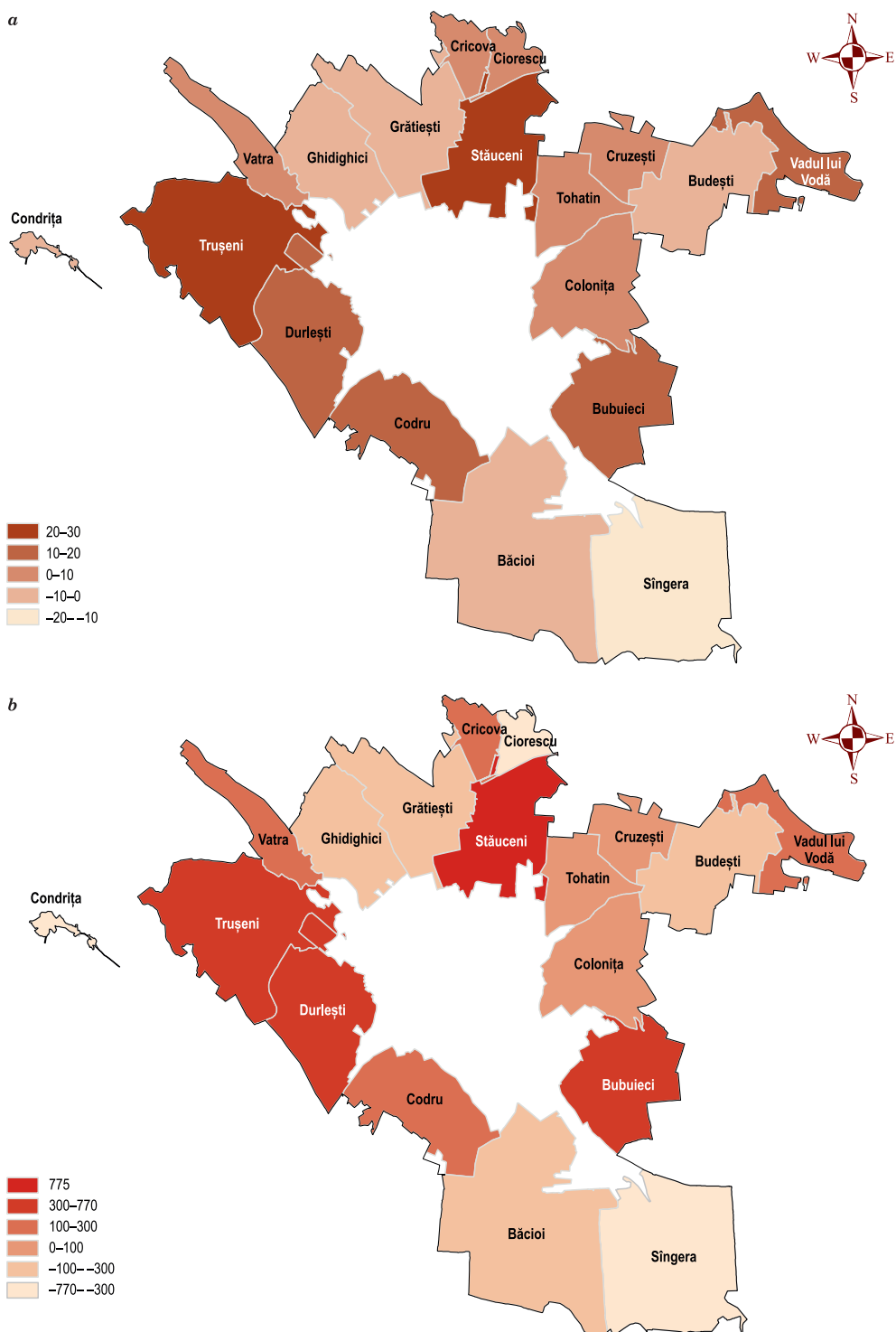
Demographic pressure: In the last decades Stăuceni commune has registered an upward demographic trend confirmed by the latest censuses of the population of the Republic of Moldova. According to the Census of Population and Housing from 2014 the population of the commune constituted 8694 inhabitants, being with 37.6% higher than in 1989, and with 27.2% compared to 2004 (Tab. 1). The same demographic growth is noted in Chişinău municipality. Thus, between 2004 and 2014 the population growth rate in Stăuceni commune was higher than in most of the suburbs of the capital, while some have recorded even a negative demographic balance (Fig. 1a). The reasons for which Stăuceni commune was prone to this demographic evolution are the advantages offered by proximity to the capital: intensification of the pendulum migration of the labour force, the extension of the housing stock and the numerical growth of the young population.

**Table 1.** The dynamics of the population number of Stăuceni commune at Census of the population of the Republic of Moldova, inhabitants

Locality	1989	2004	2014	2014/1989 [%]	2014/2004 [%]
Stăuceni Commune	6318	6833	8694	37.6	27.6
Stăuceni village	5742	6204	8000	39.3	28.9
Goianul Nou village	576	629	694	20.5	10.3

Source: National Bureau of Statistics of the Republic of Moldova

The positive dynamics of the population number, related to the small area of the city, had as a consequence for Stăuceni commune, namely the population density increase. In this context it is worth to be mentioned that only in the period 2004–2014, from the total of 18 suburbs of the municipality, Stăuceni commune registered, within the built-up area, the highest value of the population growth rate,



**Fig. 1.** Variation in time of the population in Stăuceni commune and the suburbs of Chişinău municipality between 2004 and 2014: *a* – population number [%]; *b* – population density [inhabitants per square km]

Source: own elaboration according to National Bureau of Statistics of the Republic of Moldova

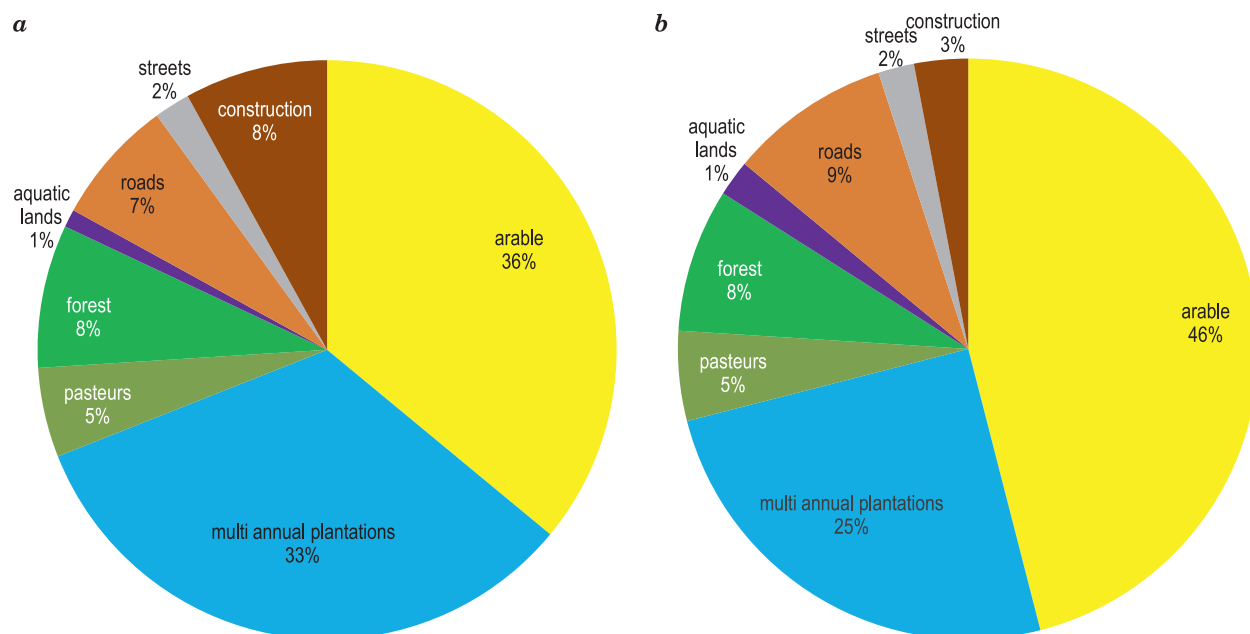
which constituted 775 inhabitants/km<sup>2</sup>, compared to Truşeni commune (385 inhabitants/km<sup>2</sup>), Durleşti city (342 inhabitants/km<sup>2</sup>), Cricova city (272 inhabitants/km<sup>2</sup>), or Codru city (272 inhabitants/km<sup>2</sup>) – Figure 1(b). Under these conditions, Stăuceni commune is emerging within the municipality of Chişinău as an area with a demographic dynamism at the expense of some suburbs that have registered a modest growth or are even affected by depopulation.

Structural modification of the land fund in Stăuceni commune occurred as a result of the economic, social and political transition of the Republic of Moldova, from the 90s of the 20<sup>th</sup> century, which was manifested at the beginning by the abolition of state property, the privatization of immovable property, the abuses by the decision-makers, later this process continued with the increase of the urban pressure, the lack of urban planning and the instability of the land legislation.

Thus, on January 1, 2015 the surface of the land fund of Stăuceni commune constituted 2745.5 ha, which distributed according to the mode of use shows as follows: agricultural land – 76.0%, forest plantations – 8.0%, constructions 3.0%, roads 8.8%, streets 2.0%

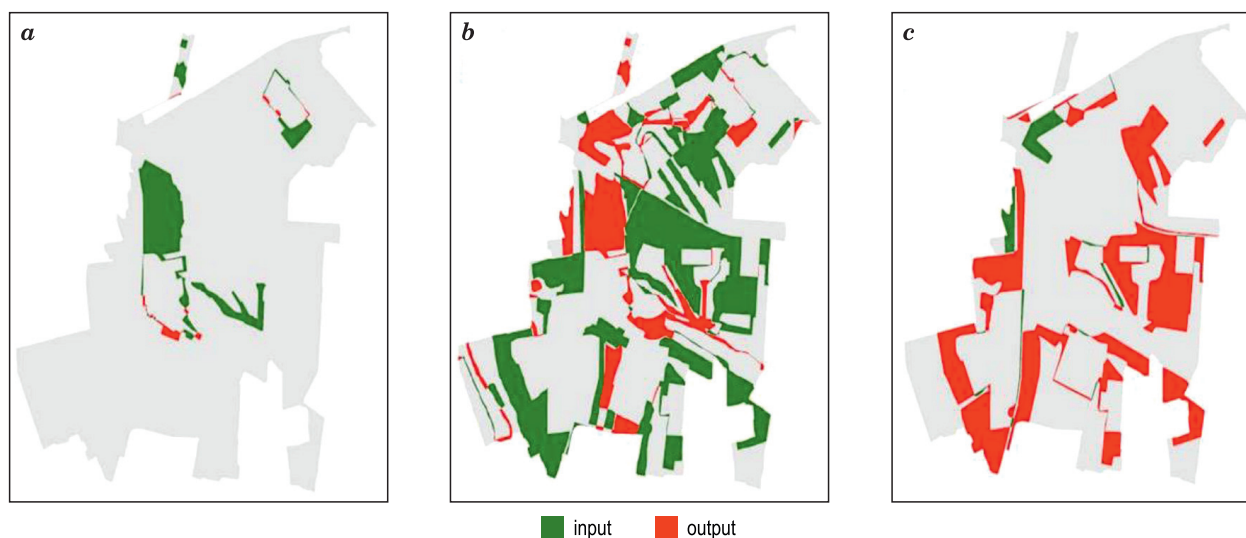
etc. Compared with the year 1995, in the structure of the land fund were highlighted important changes both in quantity and quality. Firstly, the surface of the land fund was reduced from: 3110 ha in 1995 at 2745.5 ha at present, or by 11.7%. During this period, the area of multi-annual plantations was reduced essentially from 33% to 25%, and the share of arable land increased from 36% to 46% (Fig. 2a, b).

To emphasize systemic changes from the land fund, the balance of land exits and entrances was analyzed for the main categories of use between 1982 and 2013 (Fig. 3). During this period, the surface of the build-up area increased by 160 ha, especially from the account of arable land in a proportion of 76% and orchards of 11.2%. The surface of the arable land has increased the total area by over 20 ha, in particular, on account of the areas occupied with multi-annual crops (orchards and vineyards) ≈ 90%. The lands occupied by the vineyards had the most to suffer as a result of changing the way they were used, the area of which was reduced by 240 ha. Over 80% of the area of the vineyards has been converted to arable land (Fig. 3).



**Fig. 2.** The structure of the land fund of Stăuceni commune in: a – 1995; b – 2015  
 Source: own elaboration according to National Land Cadastre





**Fig. 3.** The spatial dynamics of the main land categories of Stăuceni commune for the years 1982 and 2013: *a* – built-up area; *b* – arable land; *c* – vine plantation

Source: own elaboration according to National Geospatial Data Fund

On January 1, 2015 from the surface of the land fund of Stăuceni commune (2745.5 ha), in state property were 65%, private property 24.5% and ownership of territorial-administrative unit 10.5%. Comparing the data recorded by the mayoralty of Stăuceni and those of the Registry of Real Estate (RBI) regarding the land area by the form of ownership, significant deviations of the cadastral data are revealed. According to the evaluations carried out, it was found that the land area after all forms of ownership is smaller than the one indicated by the town hall. At the same time, the total area of Stăuceni commune is smaller than the final data shows (Tab. 2). This situation indicates

**Table 2.** Forms of land ownership

Forms of land ownership	Land balance [thousand ha]	Real estate registry [thousand ha]	Deviations [thousand ha]
State public property	1,75	1,55	-0,20
Public property	0,25	0,07	-0,18
Private property	0,71	0,66	-0,05
The total area of the commune	2,75	2,28	-0,47

Source: own elaboration according to Audit Report of the financial statements of Stăuceni commune, December 31, 2017, p. 10

that, the mayoralty of Stăuceni commune is devoid of information related to the land cadastre.

Another observed problem is the fragmentation of land and real estate assets of state enterprises. In this context, the State Enterprise “National College of Viticulture and Winemaking” and “Stăuceni Wine Factory” represented the essential factor in the development of the locality. For several decades, the company was the main owner of the lands in Stăuceni commune. In the mid-1990s, 1750 ha of land or 56% of the total area of the commune were managed by the state-owned enterprise, including 72.5% of the agricultural area and only 7.8% of the built-up area. In the internal structure of the enterprise, the largest areas were occupied by vineyards and orchards ≈50% from total, which provided with raw material the factory for processing agricultural production in the locality. By 2015, the company was dispossessed of 300 ha or 20% of the total area, later used for construction. As a result of the optimization of the processing capacity of the wine factory, the areas of vineyards and orchards were reduced, by over 70%, but their share in the structure of the internal land fund has remained.

In recent years, the lands in the administration of the company have become the subject of land

disputes, especially on bad mismanagement, and subsequently became the object of expropriation for the needs of the state. According to the Government Decision No. 781 of 22.06.2016 The State Enterprise “The National College of Viticulture and Winemaking from Chişinău” was reorganized into 2 separate entities – the Public Institution “Center of Excellence in Viticulture and Winemaking” and the State Enterprise “Stăuceni Wine Factory”. In the administration of the Center of Excellence in Viticulture and Winemaking, remained agricultural lands with an area of 1431.5 ha, all related to the delivery of educational services.

The reorganization and delimitation of the patrimony of the State Enterprise, represents a successive stage of the plan regarding the identification and organization of the land (69.23 ha) necessary for the construction of the multipurpose arena, according to LG Nr. 52 of 23.03.2018.

Speculative character over the lands of Stăuceni commune was influenced by the evolution of the real estate market in Chişinău, where the high prices and the reduced supply caused the buyers to orient themselves towards the suburbs. The market value of the land depends on a number of factors:

- a) location;
- b) the degree of endowment with urban infrastructure;
- c) the presence of transport and communication routes;

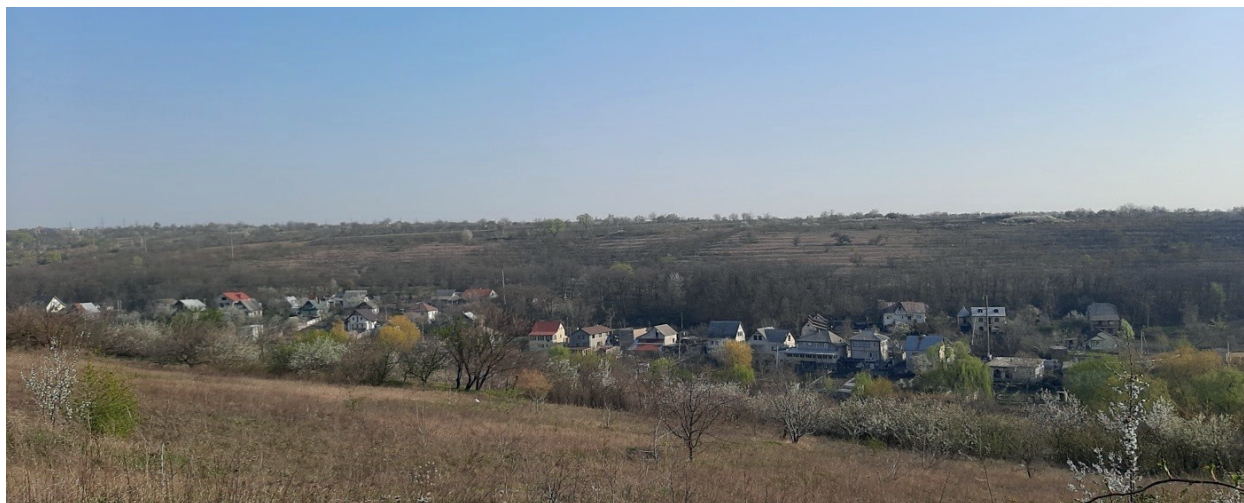
d) the ecological state of the area and the presence of the green spaces;

e) the urban perspective of the area, etc.

As a result of examining over 40 advertisements, the price offer for the land for construction and also for agricultural ones from the village of Stăuceni was established. The most expensive land for construction (10,000 €/ar) are located out of the build-up area of Stăuceni commune, near the Râşcani sector of Chişinău city. The lowest prices (1500–4000 €/ar) are required for land located outside the city with limited access to the main road routes. The high price for agricultural land (> 50,000 €/ha) is determined, in particular by the presence of the facilities offered for the development of agricultural infrastructure (shopping centres, warehouses, platforms for agricultural equipment, etc.).

Stăuceni commune, along with other suburbs of the capital, faces the unresolved issue regarding the confused status and the lack of a clear perspective of development of the fruit-growing associations, with functions of village settlements, inherited from the Soviet period. On the territory of the commune there are the fruit-growing associations “Buruiana”, which covers an area of 9 ha, and was distributed, according to the norm by 6 are, to 150 owners (Fig. 4).

Previously distributed free of charge to the inhabitants of Stăuceni commune, these lands have



**Fig. 4.** Fruit-growing association „Buruiana”

Source: photo by authors

become the object of transactions on the land market, under the influence of high demand and exaggerated prices on land for construction in the capital.

The problem returned to the agenda of the central authorities, stemming from the situation created around these organizational-legal forms, considered outdated for the following reasons (self-government regime, locations without addresses and residence visa, etc.). So it was approved the completion of the Land Code, with art. 40 which provides for the possibility of including the lands from the fruit-growing association within the locality, but with respect of the urbanism norms and the specific requirements. Also the lands within the fruit-growing associations will be excluded from the agricultural circuit and will be considered as land intended for construction.

But this supplementation of the Land Code cannot be considered effective, firstly, because it is not mandatory, secondly, the procedure for inclusion within the locality is difficult (change of the GUP of the locality) and investments will be required for the infrastructure rehabilitation of.

Under the pressure of the demographic factor, Stăuceni commune became one of the most dynamic suburbs of the capital in terms of housing development, which had an impressive evolution both in the construction of individual houses and in a period of real estate effervescence of the multi-storey housing fund.

The increase in the number of individual houses has evolved significantly, starting with the 80s of the 20<sup>th</sup> century, supported by a coherent policy of extending the city, based of the multi-annual plantations clearing from the northern area of the commune (Fig. 5a).

The dynamics of housing block constructions has evolved significantly since 2005, when it is recorded a breakthrough of real estate in the municipality of Chişinău, due to the high demand for living space. Only between 2006 and 2014, in the village of Stăuceni, were there a greater number of apartments than before 1990 (Fig. 5b).

The tendency of expansion of low density constructions has led to the depletion of the land fund

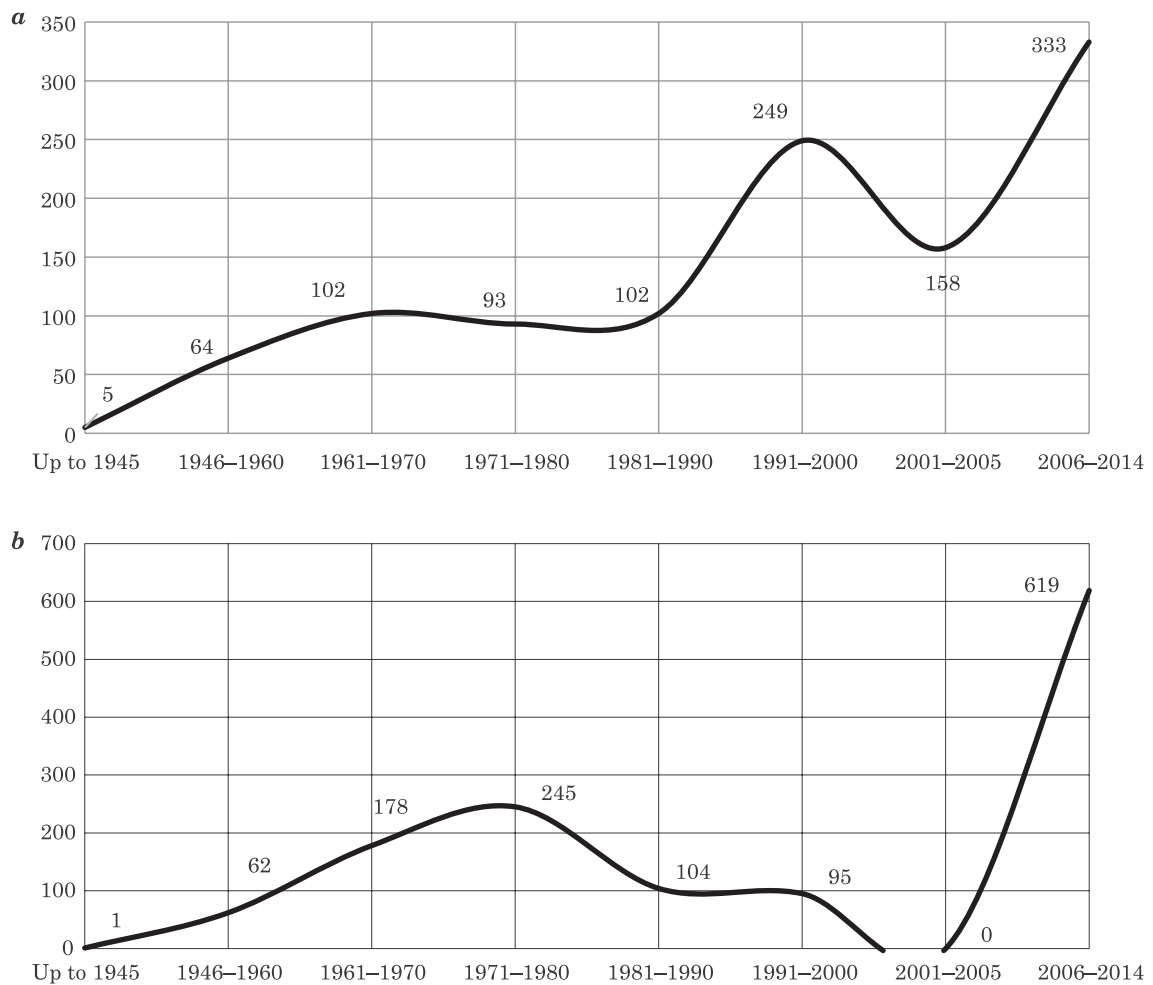
for the development of the locality. Later, due to the lack of land for residential blocks, the destination of the green spaces in the central area of the locality with complicated geotechnical conditions was used. That has led the increase of the build-up area on a limited territory, having a negative impact on the coherence, quality, degree of endowment and support with social infrastructure (Fig. 6).

At the same time, out of the more than 1800 apartments built in the suburbs of Chişinău,  $\approx$  35% belong to the village of Stăuceni, more than in the other 8 suburbs taken together (Fig. 7). As a result of the increase in the number of apartments placed in service, the share of apartments of this type in the structure of the residential fund of Stăuceni commune constituted (44.5%), higher values were registered by only 2 suburbs of the capital: the cities Vatra (45.2%) and Cricova (47.2%) – Figure 8.

The planning policy and planning of the territory of Stăuceni commune initially provided for the elaboration of the Concept “Zonal urbanistic plan for the development of the territory of Chişinău – Stăuceni” as a component part of the Planning Plan of the territory of Chişinău municipality in 2007, with the purpose of creating a space with a unique urban architecture between Râşcani sector and Stăuceni commune. It was also intended to perform the following tasks: determining the use of land; the modernization and development of the transport infrastructure; planning of new urban elements (commercial areas, agreement and sports areas, business areas, etc.). The proposed land for carrying out these projects, had the planned area of 540 ha – state property. The suspension of the Chişinău Municipality Territory Plan for an indefinite period, did not allow the realization of the respective projects, according to the initial program.

Subsequently the lands outside of built-up area of Stăuceni commune, located directly at the border with the Râşcani sector and the urban interest thoroughfare – Bucovina Street, they were used for the construction of individual houses, which in time formed a residential complex. Interest for land in out of the build-up area of Stăuceni, it reappeared

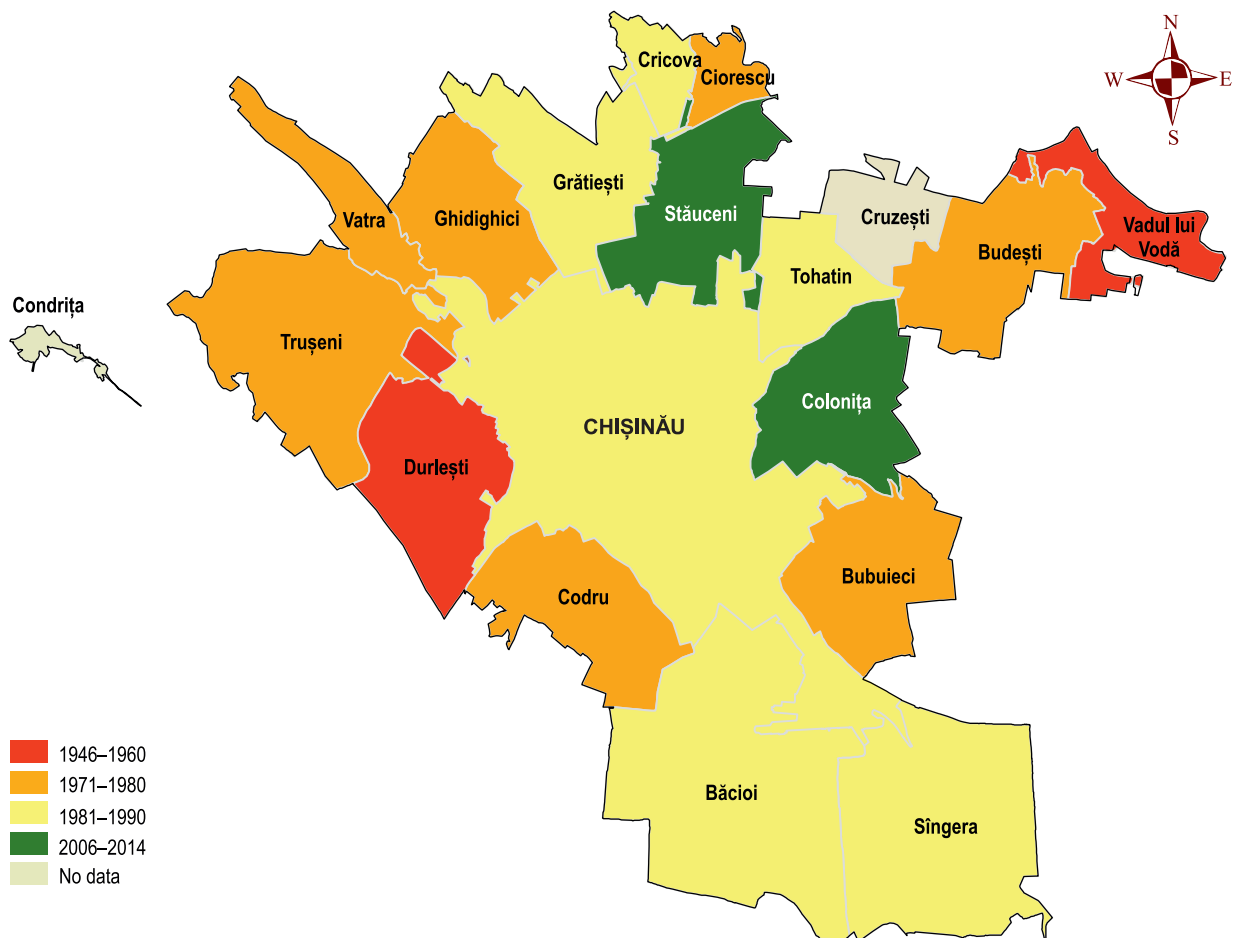




**Fig. 5.** Dynamics of the number of individual houses *a*) and apartments *b*) built in Stăuceni commune from 1945 to 2014  
*Source:* own elaboration, according to National Bureau of Statistics of the Republic of Moldova



**Fig. 6.** Multi-storey residential complex, Stăuceni commune  
*Source:* photo by authors



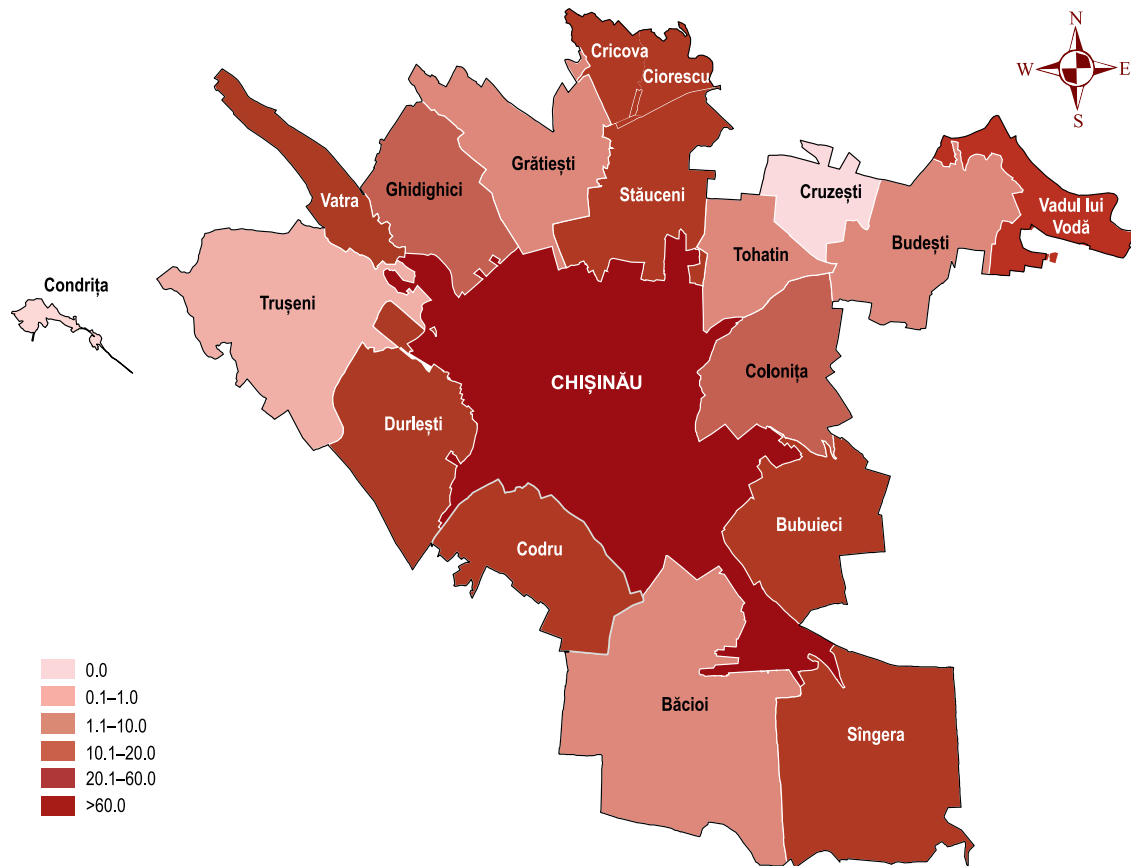
**Fig. 7.** The reference periods in the construction of the apartments in Stăuceni commune  
*Source:* own elaboration according to National Bureau of Statistics of the Republic of Moldova

with the launch of the national construction project of the Multipurpose “Chişinău Arena”. The land for the construction of the sports edifice, with an area of 69.2 ha, was withdrawn from the agricultural circuit under the management of the “Center of Excellence in Viticulture and Winemaking” based in Stăuceni (2018). The respective project represents a stage of the expansion process and integration of Stăuceni commune within the city of Chişinău.

The development perspective of Chişinău agglomeration will depend on the demographic evolution of the city and the polarization capacity of the peri-urban area. According to the estimates made by the United Nations for Population, in the evolution of the Chişinău agglomeration, there were

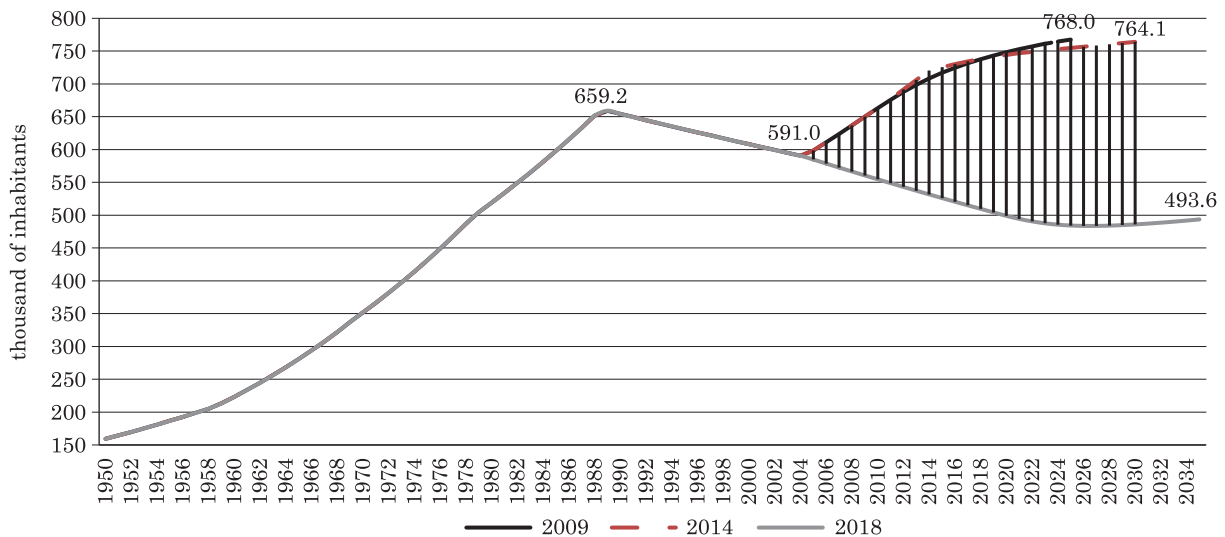
3 possible scenarios, but with an orientation towards the pessimistic one. For a clearer argumentation of the perspectives of development of this territorial system, all the three Evolutionary Scenarios will be presented (Fig. 9).

Scenario I – optimistic, assumes that the population of Chişinău by 2025, will reach 768 thousand inhabitants, and starting with 2010, in the capital, more than 40% of the urban population of the Republic of Moldova was to be concentrated. The projection was based on the estimations of the annual rate of population growth. According to the positive trends predicted in the demographic growth, the Chişinău city meets the conditions to be placed in the category of urban agglomeration.



**Fig. 8.** Share of apartments in the structure of the housing fund in Stăuceni commune, compared to all suburbs of Chişinău municipality

Source: own elaboration according to National Bureau of Statistics of the Republic of Moldova



**Fig. 9.** The projected evolution of the population of Chişinău city, until 2035

Source: own elaboration according to United Nations... (2020)

Scenario II – moderate-optimistic, based on the tendency in decrease of average annual rhyme of the general demographic balance. If for the period 2015–2020 the average annual rate was set at 0.5%, then for the subsequent periods (2020–2025) and (2025–2030) values between 0.2–0.3% were forecasted. According to this scenario, the number of Chişinău population, by 2030, would reach the threshold of 764 thousand inhabitants.

Therefore, the III<sup>rd</sup> Scenario – pessimistic, that is closer to reality, based on both the population and housing census data for 2014, as well as the estimates of the average annual rate of the demographic balance within the limits of values (-0.6%) for the period 2020–2025 and (+ 0.3%) for 2030–2035. The oscillatory variation of the general demographic indicators will determine in the future a dramatic reduction Chişinău population, with a tendency to stabilize by 2035 to 493.6 thousand inhabitants.

## CONCLUSIONS

The research conducted on the evolution of Stăuceni commune, Republic of Moldova, highlights the fact that the proximity and influence of Chişinău city are decisive for the whole peri-urban area, but it is more intense in the localities along the international road axes and with urban development prospects.

The territorial transformation of Stăuceni commune was marked by the change of the lands use, conversion of the vineyards into arable land and constructions. The mentioned situation is due to the optimization of the processing capacity at the local wine factory and the gradual loss of economic specialization.

Extension of the build-up area, as one of the main directions for the development of Stăuceni locality, it was realized in the absence of the updated General Urban Plan, and the development of the new multi-storey residential complexes took place without a Detailed Urban Plan. The evolution of the real estate market in the Chişinău city had for Stăuceni commune the following consequences: manifestation of the speculative character in land transactions, defective

management of the land fund by the local public administration and violation of the law regarding the destination change of the lands.

The demographic forecast presented in scenario III shows that the population of Chişinău will decrease towards 2035, therefore it is necessary that spatial planning to be adapted depending to the pace of demographic changes to not compromise the infrastructure projects and squandering of new lands in the peri-urban area.

## REFERENCES

- Chişinău Municipality Planning Plan (2007). Development strategy, HIS România SRL.
- Decision of the Court of Accounts of the Republic of Moldova no. 74 (2018) on the report of the audit of the financial statements of Stăuceni commune, concluded at 31.12.2017.
- Decision of the Government of the Republic of Moldova No. 781 (2016) on the reorganization of the State Enterprise “National College of Viticulture and Wine-making from Chişinău” and the modification of the name of the Public Institution “Agricultural College of Țaul” Monitorul Oficial No. 184–192 art. 848 from 01.07.2016.
- European Environment Agency. (2006). Urban sprawl in Europe. The ignored challenge.
- Feasibility study (2018). Creation of the public-private partnership regarding the construction of the multipurpose arena “Chişinău Arena”, the Ministry of Education, Culture and Research, NGO “International Development Alternatives”.
- Feltynowski, M. (2015). The change in the forest land share in communes threatened by suburbanization and the sustainable development principle. *Geomatics, Landmanagement and Landscape* No. 3, 45–52, doi: 10.15576/GLL/2015.3.45.
- Gornostayeva, G.A. (1991). Suburbanization problems in the USSR. The case of Moscow. *Espace, populations, sociétés*, pp. 349–357, doi: 10.3406/espos.1991.1474.
- Hamilton, I.F.E., Andrews, Dimitovska, K., Pichler-Milanović, N. (2005). Transformation of cities in central and Eastern Europe. Towards globalization. United Nations University. Press Tokyo-New York-Paris.

- Harris, R. (2015). Suburbanization and suburbanism. *International Encyclopedia of the Social & Behavioral Sciences*, Second Edition, pp. 660–666, doi: 10.1016/B978-0-08-097086-8.74044-x.
- Hesse, M., Siedentop, S. (2018) Suburbanisation and suburbanisms-making sense of Continental European Developments. *Spatial Research and Planning*. 76(2), 97–108, doi: 10.1007/s13147-018-0526-3.
- Ilchenko, M., Dushkova, D. (2018). Editorial. In search of the post-socialist urban geography. How do we see the post-socialist city today? *Belgian Journal of Geography* 1–7, <https://journals.openedition.org/belgeo/31467>.
- Kubeš, J. (2013). European post-socialist cities and their near hinterland in intra-urban geography literature. *Bulletin of Geography. Socio-economic series* 19–43, doi: 10.2478/bog-2013-0002.
- Law on the principles of urbanism and spatial planning. (1996). *Monitorul Oficial of the Republic of Moldova* No. 1–2 from 23.12.1998.
- Law on the status of Chişinău municipality (1995). *Monitorul Oficial of the Republic of Moldova* No. 31–32 from 9.06.1995.
- Moreno-Monroy, A., Schiavina, M., Veneri, P. (2020). Metropolitan areas in the world. Delineation and population trends. *Journal of Urban Economics*, doi: 10.1016/j.jue.2020.103242.
- Phelps, N.A. (2017). *Old Europe. New suburbanization? Governance, land and infrastructure in European suburbanization*. University of Toronto Press.
- Pisman, A., Allaert, G., Lombaerde, P. (2011). Urban and suburban lifestyles and residential preferences in a highly urbanized society. Experiences from a case study in Ghent (Flanders, Belgium). *Belgian Journal of Geography* 89–104, doi: 10.4000/belgeo.6394.
- Szarek-Iwaniuk, P. (2020). Changes and correlations in land-use structure within the administrative boundaries of a town-a case study. *Acta Sci. Pol. Administratio Locorum* 19(1), 61–69, doi: 10.31648/aspal.4935.
- Tataruch, A., Zysk, E., Do Thi Tuyet, M. (2019). Changes in the landscape of rural areas located close to city – case study of Olsztyn. *Acta Sci. Pol. Administratio Locorum* 18(4), 397–410, doi: 10.31648/aspal.4653.
- Taubenböck, H., Gerten, C., Rusche, K., Siedentop S., Wurm, M. (2019). Patterns of Eastern European urbanization in the mirror of Western trends. *Convergent, unique or hybrid? Urban Analytics and City Science* 46(7), 1206–1225, doi: 10.1177/2399808319846902.
- The Land Cadastre of the Republic of Moldova, 1995, 2005, 2007, 2009, 2015. State Agency for Land Relations and Cadastre, Chişinău.
- The Land Code of the Republic of Moldova, 1991. *Monitorul Oficial* No. 107 from 04.09.2001.
- The Law regarding the modification of the annex to the Law no. 668 (1995) for the approval of the list of units whose lands destined to agriculture remain the property of the state from 23.03.2018. *Monitorul Oficial* No. 113–120 from 06.04.2018.
- United Nations. Department of Economic and Social Affairs. Population, <https://www.un.org/en/development/desa/population/index.asp>, access: 20.03.2020.
- Zonal Urbanistic Plan, in order to change the destination of the lands, located on the territory outside the build-up area of Stăuceni, Urbanproiect, Chişinău 2019.



