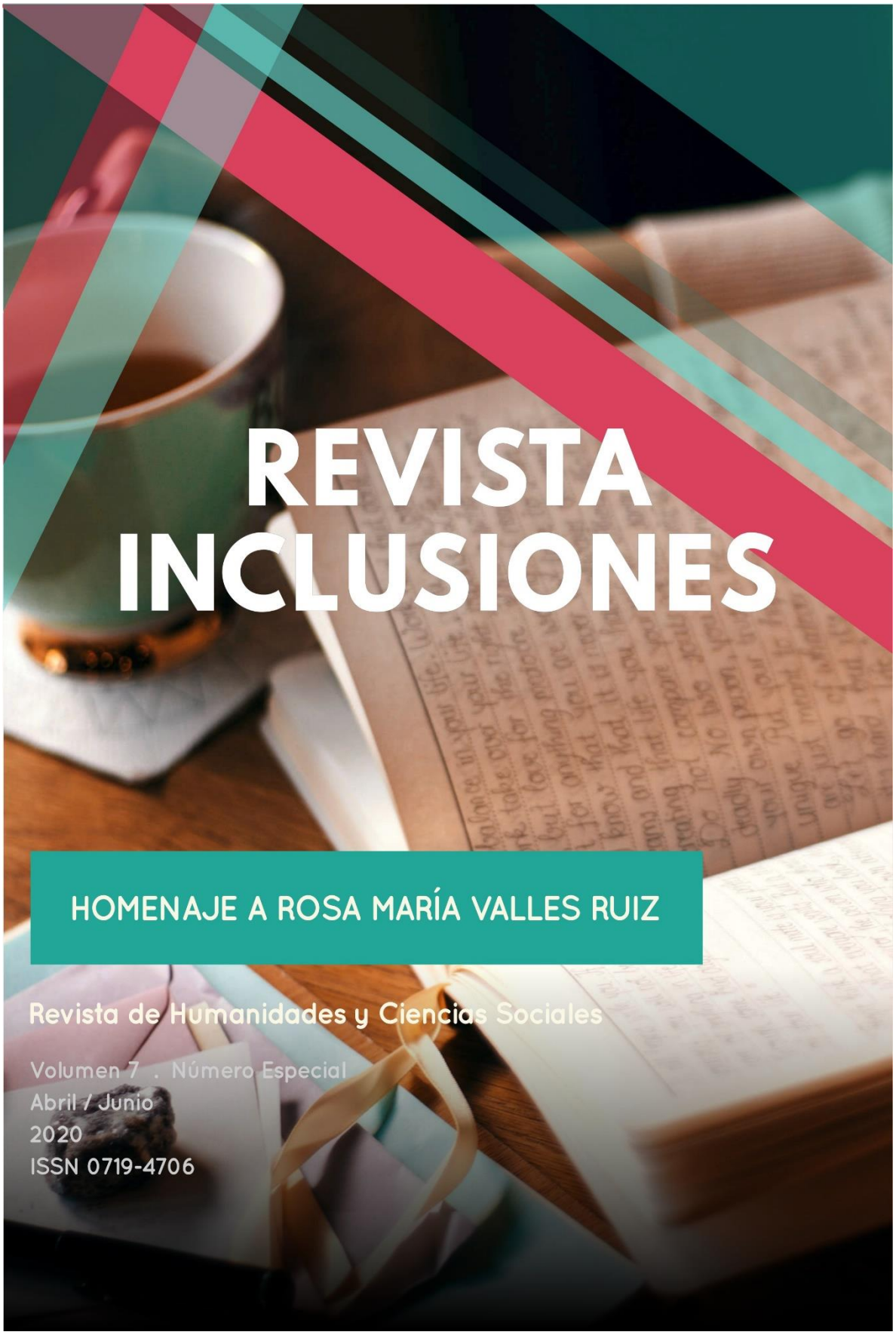

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MODERN URBAN PLANNING: CONCEPTS TO PRACTICE

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Abstract

Modern urban planning has a large number of problems associated with the size of cities and the environmental situation in them. The largest cities continue to expand and develop through some administrative processes. These processes can be rather specific and diverse. Almost every city has its historical center and its industrial suburbs, as well as a residential block-of-flats area surrounding the industrial suburbs. As a result, the transport infrastructure is naturally expanding, thus causing damage to the environment and people's health. To solve this problem, modern urban planning methods should be developed and implemented taking into consideration modern concepts of urban planning. Conventionally, they can be divided into several blocks, such as curbing the influx of new urban residents from rural areas, applying smart city technologies in urban planning, creating zones for restoring people's health in the city, and modernizing the system of administrative and territorial infrastructure.

Keywords

Urban planning – City – Population – Urbanization – Expansion of the territory

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Introduction

Nowadays, the city is inhabited by approximately 3.3 billion people worldwide[1], or more than half the globe[2], according to the studied data. The population exceeds 20,000 inhabitants per km[3]. This tendency continues to develop in terms of urbanization.

At the same time, spatial expansion is not typical of all cities. In the mid-20th century, many small towns were created around a city-forming industry: a plant was constructed with the need to provide working force and the compact-built housing for them. Current economy change brings about the situation, when such settlements have lost their main industrial center and represent a source of replenishment of the largest agglomerations. One of the ways to solve the described problem is the search for new forms of infrastructure development, as well as new methods of raising economic attractiveness of a single-industry town for retaining its residents[4]. The rural population are attracted by the benefits that cities provide, moving and, thus, stimulating the rapid city growth. This problem could be solved by creating similar conditions in rural areas[5]. In this regard, the policy of the majority of states is aimed at preserving the village, including its social and cultural component[6]. For example, it is proposed to develop tourism and other services for the elderly in small towns and villages[7]. The next component of the policy is the preservation of labor and other resources necessary to provide and develop industry and agriculture in rural areas[8]. The described migration processes are irreversible, and the developing cities constantly require new human resources for the sustainable future.

Methods

The impact of administrative structure on urban planning

The city administrative and territorial structure should be based on a number of factors of social reality, including the development of infrastructure, transport availability,

[1] G. Mills, “Cities as agents of global change”, Int. J. Climatol., Vol: 27 num 14 (2007): 1849-1857.
[2] R. M. Yetano; S. Lechtenbohmer; M. Fischedick; M-C. Grone; C. Xia y C. Dienst, “Concepts and methodologies for measuring the sustainability of cities”, Annu Rev Environ Resour num 39 (2014):519–547.
[3] N. Mirabella; K. Allacker y S. Sala, “Current trends and limitations of life cycle assessment applied to the urban scale: critical analysis and review of selected literature”, International Journal of Life Cycle Assessment Vol: 24 num 7 (2019): 1174-1193 y Y. Leo; A. Busson; C. Sarraute y E. Fleury, “Performance evaluation of DTN protocols to deliver SMS in dense mobile network: Empirical proofs”, Ad Hoc Networks num 52 (2016): 173-182.
[4] H. Petryshyn; V. Pohrebennyk; N. Sosnova, et al., “Prospects for sustainable development of the monofunctional town of dobrotvir (Ukraine)”, Studies in Systems, Decision and Control num 198 (2020): 177-199.
[5] Y. Wu; X. Sun; L. Sun y C. L. Choguill, “Optimizing the governance model of urban villages based on integration of inclusiveness and urban service boundary (USB): A Chinese case study”, Cities num 96 (2020): 102427.
[6] A. Accolla, “Designing a pilot system for sustainable villages for all”, Advances in Intelligent Systems and Computing num 954 (2020): 206-214.
[7] H. Qiu y L. Dai, “Design and strategy of senior tourism under the background of population aging”, Advances in Intelligent Systems and Computing num 957 (2020): 314-323.
[8] K.-C. Lee y S.-Y. Yan, “Participatory planning and monitoring of protected landscapes: a case study of an indigenous rice paddy cultural landscape in Taiwan”, Paddy and Water Environment Vol: 17 num 3 (2019): 539-548.

and the provision of public services[9]. Territories that are not provided with these benefits shouldn't act as a separate unit, but ought to be joined to some relevant administrative ones, and the needs of the population can be addressed centrally through their existing authorities, without expanding the bureaucratic apparatus and increasing the tax burden.

In this regard, it is appropriate to observe the Russian trend, when a large number of municipal districts receive the status of urban units, and not creating an urban environment as such. The concept of a city is gradually being eroded; a variety of agricultural, recreational, and other activities not characteristic of such territories can be carried out in its administrative boundaries. Another example can be a large number of villages and settlements within the administrative borders of Moscow[10], or the largest vineyards, producing sparkling wines in the territory of the city of Sevastopol[11].

On the other hand, Russia has a tendency to gradually utilize its vast territories. For example, the development of the Far East is considered a traditional pursuit[12]. The tendency goes back to the times of P.A. Stolypin who made considerable efforts to tie this part of Russia to the central part by building a rail road. Currently some other strategic steps in this area have been applied. In particular, it has been planned to create new and improve the existing settlements along the main transport routes, to enlarge population in the region[13].

In fact, the expansion of the state is a natural process that has often been encountered in history and still occurs in such forms as, for example, draining of the sea or creating alluvial territories[14], or others. At the same time, it should be noted that, unlike the colonial policies of ancient states, modern expansion[15] causes inevitable conflicts that unfold either between the population of the annexed territory and the invader, or between different states at the international level[16]. Thus, the desire to expand cities, increasing its administrative borders, which also faces certain contradictions and causes conflicts, is inevitable.

[9] E. S. Koshevaya y A. A. Tushkov, "Conceptual approaches to territorial structuring studies of a region", Smart Innovation, Systems and Technologies num 138 (2020): 159-168.
[10] S. A. Vasiliev, "Problems of determining the status of territorial units of the city of Sevastopol", City Planning law num 2 (2019): 23-26.
[11] N. V. Kurakova y V. E. Maslova, Features of the development of administrative territorial units of the city of Sevastopol. Collection of speeches of the First Sevastopol Legal Forum, September 27-28, 2018. The Sevastopol State University Law Institute, "Science Foundation" (Moscow: Center-Catalog, 2018).
[12] I. Shevchenko; V. Ponomarev; M. Ponomareva y N. Kryuchenko, "State and Development Prospects of the Marine Transport Infrastructure of Russia", Lecture Notes in Networks and Systems num 78 (2020): 374-381 y Z. V. Petrunina; G. A. Shusharina y D. V. Kiba, "Russian-Japanese economic cooperation in historical retrospective and perspective", Smart Innovation, Systems and Technologies num 138 (2020): 654-663.
[13] V. A. Andreev; M. N. Arnaut y E. V. Sultanova, "Spatial development concept of the far east of Russia", Smart Innovation, Systems and Technologies num 138 (2020): 337-347.
[14] V. N. Koval; S. A. Vasilev y S. S. Zenin, "Territory as a feature of the state in terms of modern public relations development", International Journal of Innovative Technology and Exploring Engineering Vol: 8 num 9 (2019): 2075-2079.
[15] S. V. Narutto, Territory in Public Law (Moscow: Norma, 2013).
[16] J. Becke, "Varieties of expansionism: A comparative-historical approach to the study of state expansion and state contraction", Political Geography num 72 (2019): 64-75.

The problem of the expansion of large cities

One of the serious problems of modern big cities is the fuzzy understanding of the term “suburb”[17]. From our point of view, city outskirts and other surrounding recreational areas can be considered a suburb. However, in practice, more and more new multi-storeyed blocks’ areas appear to be adjacent to a metropolis, thereby extending the agglomeration to uncontrollable size. As a result, the city actually comes into conflict with the countryside, since it eventually occupies the agricultural sites and damage the preservation of the natural environment[18].

In recent years, many scientific studies have been carried out aimed at the development of urban agriculture to ensure food security[19]. However, in practice, it can be observed that new residential areas of cities develop on the places where there used to be grassland and fields.

It affects the environment and causes great health problems for people who settle in a newly developed residential area[20]. The world practice shows much evidence when the remote suburbs are occupied by the most vulnerable categories of citizens, and they suffer most from such a negative impact[21].

The reasons for the chaotic expansion of cities can be the fact that local authorities are not aimed at working with the citizens in order to make life inside the existing city boundaries better[22]. It is sometimes much easier to build something new in open uninhabited spaces than to sort out the problems of the existing area community, including those related to irrational urban planning that was implemented before. A positive experience from this point of view is the ongoing renovation in Moscow, when the housing stock is being improved within the existing real limits of the capital of Russia in parallel with the modernized planning of the built-up territory[23] and the updating of housing infrastructure[24]. However, taking into account the expansion of this city in 2011 due to the

[17] L. C. Matheus, “Hierarchy of spaces on the fanpage «Suburban of Depression», Comunicacao Midia e Consumo num 16 Vol: 45 (2019): 164-194.

[18] L. Zou; Y. Liu; J. Wang; Y. Yang y Y. Wang, “Land use conflict identification and sustainable development scenario simulation on China's southeast coast”, Journal of Cleaner Production num 238 (2019): 117899.

[19] W. Valley y H. Wittman, “Beyond feeding the city: The multifunctionality of urban farming in Vancouver, BC”, City, Culture and Society num 16 (2019): 36-44.

[20] J. Maas; R. A. Verheij; P. P. Groenewegen; S. De Vries y P. Spreeuwenberg, “Green space, urbanity, and health: How strong is the relation?”, Journal of Epidemiology and Community Health Vol: 60 num 7 (2006): 587-592.

[21] C. E. George; G. Norman; A. Wadugodapitya; S. Behar y L. De Witte, “Health issues in a Bangalore slum: Findings from a household survey using a mobile screening toolkit in Devarajeevanahalli”, BMC Public Health Vol: 19 num 1 (2019): 456.

[22] T. Bhattacharya; S. Dasgupta y J. Sen, “An Attempt to Assess the Need and Potential of Aesthetic Regeneration to Improve Walkability and Ergonomic Experience of Urban Space”, Advances in Intelligent Systems and Computing num 966 (2020): 358-370.

[23] V. Rimshin y R. Aralov, Sustainable regeneration of urban areas (using the example of Moscow renovation program)”, E3S Web of Conferences num 110 (2019): 01011 y S. V. Kolobova, “Organizational and Economic Mechanism of Investment Management in the Renovation of Residential Buildings in Moscow”, IOP Conference Series: Earth and Environmental Science Vol: 272 num 3 (2019): 032226.

[24] O. Korol y A. Dudina, “Engineering and Technical Support of Territories for Implementation of Renovation Projects of the Housing Stock”, E3S Web of Conferences num 97 (2019): 06027.

territories of the Moscow region[25] and an actively developing network of satellite cities[26], it can be stated that this city is going along both ways of transforming urban planning.

Moreover, the inclusion of new, former regional, territories in the city is arranged in different ways and there are no strictly defined rules. This practice shows that the formation of administrative borders is influenced by economic, social and political factors[27]. It would be logical to develop certain criteria by which territory could be given a special legal status, including some area of the city to which it adjoins, for example, public transport availability (%), which affects the possibility to commute daily from the remote suburb to the city center. These data can be provided by mobile operators. Studies show that such services are already on and still developing[28].

Modern cities are growing rapidly and if there is no strict state control of this process, urban in-fills can absorb public spaces, thus making a negative impact on the city development, disrupting balance in rational planning of modern urban areas. Thus, the policy of plenty of countries is aimed at monitoring urban development, and the research findings help us obtain the necessary data for doing this. So, in Brazil, the UST methodology has been implemented, which evaluate urban spaces taking into account their homogeneity with respect to types of coverage, land use characteristics, physical characteristics of land plots and their functionality[29]. It is on the basis of the maximum completeness of spatial data that managerial decisions and normative legal regulation should be made regarding the further physical development of the agglomeration.

Other researchers suggest techniques by which the urban area should be considered as a system of social, cultural, economic and natural characteristics[30]. It's not a secret that Tokyo, Moscow or Paris became the largest cities in the world not because of climatic or other physical characteristics. The city represents an inclusive multidisciplinary system, based on its development in all spheres of public life[31].

At the same time, modern urbanists agree that the urban development plan should be considered from the point of view of the procedural components. It should not contain a strictly defined invariant result, as it should have the desired ideal future territorial

[25] M. N. Kunitsa, "Typology of rural settlements in central Russia: Demoecological aspect", Regional Research of Russia num 2 Vol: 4 (2012): 307.

[26] E. K. Kuricheva y A. A. Popov, "Housing construction dynamics in the 2010s as a factor of transformation of the Moscow agglomeration", Regional Research of Russia Vol: 6 num 1 (2016): 104.

[27] T. Shelton y A. Poorthuis, "The Nature of Neighborhoods: Using Big Data to Rethink the Geographies of Atlanta's Neighborhood Planning Unit System", Annals of the American Association of Geographers Vol: 109 num 5 (2019): 1341-1361.

[28] Q. Li; B. Xu; Y. Ma y T. Chung, "Real-time monitoring and forecast of active population density using mobile phone data", Communications in Computer and Information Science num 590 (2016): 116-129.

[29] K. B. De Castro; H. L. Roig; M. R. B. Neumann; A. B. B. D. Costa y R. Höfer, "New perspectives in land use mapping based on urban morphology: A case study of the Federal District, Brazil", Land Use Policy num 87 (2019): 104032.

[30] G. Cassalia; C. Tramontana y F. Calabrò, "Evaluation approach to the integrated valorization of territorial resources: The case study of the tyrrhenian area of the metropolitan city of Reggio Calabria", Smart Innovation, Systems and Technologies num 101 (2019): 3-12.

[31] I. Zambon y L. Salvati, "Metropolitan growth, urban cycles and housing in a Mediterranean country, 1910s–2010s", Cities num 95 (2019): 102412.

structure[32]. One of the most common trends in urban planning is the use of integrated technology "smart city", which helps to solve not only the problems of urban planning. Being integrated into the appropriate urbanized environment, it allows to positively influence social processes, making life in the agglomeration the most comfortable[33]. For example, special technologies have been developed for managing street lighting in the city, which, in the planning process of the city territory, can save energy, monitor the serviceability of the corresponding infrastructure, and most importantly, illuminate urban spaces when there's a real need[34].

The use of electricity by residents of cities is also taken into account in urban planning from the point of view of the population of a certain territory, its demand and the constant presence of residents in the relevant locality. Such technologies show the objective need for building up popular areas for living in them[35], as well as its reduction in cases where certain areas of the agglomeration are not very popular.

The technologies of the "smart city" also allow to solve the problem of overpopulation. as they help maintain a socio-ecological balance, entailing an improvement in the physical, environmental, social and economic systems of the city[36].

Along with the concept of a "smart" city, the focus is on a "healthy" city, when the city provides sports and walking spaces, green and recreation areas reducing the amount of harmful effects of urban life, such as fumes or exhaustion[37]. If the issue of landscaping of the urban environment has long been on the agenda, in this case we are turning the tide of the situation, when the city is considered a place that damages people's health, unlike the suburbs. The concept of urban planning aims at making cities attractive in terms of ensuring the ecology and well-being of people.

Besides, urban territory should contain elements that can identify it, distinguish it from others, reflect the cultural component that gives the visitor an understanding of what country or cultural area it is located in[38]. However, the process of integration of new smart technologies into urban life and planning is much slower than a megacity expands, absorbing all new territories surrounding its center. But it should be intensified as it is targeted to maintain healthy life conditions.

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[32] R. De Lotto y C. Morelli di Popolo, "The role of physical aspects in the city plan rules definition", Smart Innovation, Systems and Technologies num 100 (2019): 256-263.

[33] C. Bellone y V. Geropanta, "The «Smart» as a Project for the City Smart Technologies for Territorial Management Planning Strategies", Advances in Intelligent Systems and Computing num 866 (2019): 66-75.

[34] R. Kuncicky; J. Kolarik; L. Soustek; L. Kuncicky y R. Martinek, "IoT approach to street lighting control using MQTT protocol", Lecture Notes in Electrical Engineering num 554 (2020): 429-438.

[35] L. Wang; H. Fan y Y. Wang, "An estimation of housing vacancy rate using NPP-VIIRS night-time light data and OpenStreetMap data", International Journal of Remote Sensing Vol: 40 num 22 (2019): 8566-8588.

[36] S. E. Bibri y J. Krogstie, "Generating a vision for smart sustainable cities of the future: a scholarly backcasting approach", European Journal of Futures Research Vol: 7 num 1 (2019): 5.

[37] Y. Kestens; M. Winters; D. Fuller; C. Thigpen y R. Wasfi, "INTERACT: A comprehensive approach to assess urban form interventions through natural experiments", BMC Public Health Vol: 19 num 1 (2019): 51.

[38] R. Sini, Re-purposing and Thematizing Colonial Gardens: Constructions of History and Nation in Singapore's Heritage Parks", Advances in 21st Century Human Settlements (2020): 179-210.

Discussion

Environment and urban space

The expansion of the territory of cities, the increased number of blocks-of-flats with a large number of energy-consuming buildings[39] increase the negative impact on the land in terms of the total mass concentrated on a certain space interval. In this regard, some scientists suggest an unconventional solution to this problem that is to connect neighboring settlements, not by physically expanding and building up the territory, which is in between cities, but by developing transport infrastructure with a regular connection to all remote areas[40], as well as to preserve natural objects enhancing the city from a social point of view[41].

Other scholars propose to achieve this result developing inter-city interaction network, which will help overcome legal, organizational and other bureaucratic barrier[42] in the implementation of the tasks that are assigned to each individual citizen.

In fact, the mobility of people has reached a very high level[43]. So while going to work from one city to another, a person could take children to a kindergarten not at the place of residence, but at the place of work, which would allow to have time to solve problems and spend it with the family.

In this regard, planning of modern cities is inextricably linked with public transportation, which is constantly and rapidly developing[44]. There are studies that provide tools to calculate traffic congestion depending on the location of socially important objects in the city[45]. Public city transport strongly determines the mobility of citizens, their choice of place of residence, the value of real estate, etc. In case of poor transport availability, the expansion of the city will be extensive[46].

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[39] Z. Zheng; J. Chen y X. Luo, "Parallel computational building-chain model for rapid urban-scale energy simulation", Energy and Buildings num 201 (2019): 37-52 y N. Mohajeri; A. T. D. Perera; S. Coccolo, et al., "Integrating urban form and distributed energy systems: Assessment of sustainable development scenarios for a Swiss village to 2050", Renewable Energy num 143 (2019): 810-826.

[40] X. Mao; X. Huang; Y. Song; Y. Zhu y Q. Tan, "Response to urban land scarcity in growing megacities: Urban containment or inter-city connection?", Cities num 96 (2020): 102399.

[41] J. Liao; G. Shao; C. Wang, et al., "Urban sprawl scenario simulations based on cellular automata and ordered weighted averaging ecological constraints", Ecological Indicators num 107 (2019): 105572.

[42] X. Zhang y Y. Sun, "Investigating institutional integration in the contexts of Chinese city-regionalization: Evidence from Shenzhen–Dongguan–Huizhou", Land Use Policy num 88 (2019): 104170.

[43] V. N. Koval; S. A. Vasilev y S. S. Zenin, "Territory as a feature of the state in terms of modern public relations development", International Journal of Innovative Technology and Exploring Engineering Vol: 8 num 9 (2019): 2075-2079.

[44] S. Feng; M. Xin; T. Lv, y B. Hu, "A novel evolving model of urban rail transit networks based on the local-world theory", Physica A: Statistical Mechanics and its Applications num 535 (2019): 122227 y Z. Zeng; B. Song; X. Zheng y H. Li, "Changes of traffic network and urban transformation: A case study of Xi'an city, China", Land Use Policy num 88 (2019): 104195.

[45] D. Vlasov y A. Terekhova, "Determination of Regularities in the Development of Intermodal Hubs' Planning Structure in «Smart» Cities", E3S Web of Conferences num 97 (2019): 01007.

[46] X. Zhan y S. V. Ukkusuri, "Spatial dependency of urban sprawl and the underlying road network structure", Journal of Urban Planning and Development Vol: 145 num 4 (2019): 04019014.

However, the local approach is still currently of widespread use. Therefore, the decision to build a transport object in a certain city area is rarely based on understanding its function in the entire transport system. As a result, the problem is solved locally – only for some specific area, ignoring the whole strategy of city planning[47]

On the other hand, active development and regular operation of transport system can have a negative impact on historical heritage sites. Moving vehicles create vibration, which causes gradual destruction of the numerous old historical buildings[48].

Lots of research should be conducted to develop sufficient non-harmful technologies[49] to preserve cultural sites, as well as the whole city eco environment, which is becoming very poor[50]. For example, green zones can be constructed along the rail roads, or parking spaces can be constructed to let the soil absorb moisture from the atmosphere, etc. Residential and other buildings in the transport infrastructure system are being designed with vegetation on or around[51], thus making urban environment less harmful and more ecofriendly[52].

Observing some modern urban studies of the long-term dynamics of negative impact on the environment, we could identify among the reasons - not only pollution or other kinds of deterioration, but also a shortage of vegetation itself. However, interestingly, some ecologically poor cities witness the fact that the plants not characteristic of this territory start to grow there[53]. In today's changing climate, modern cities have to adapt to constantly occurring natural phenomena that affect the urban infrastructure[54] and, of course, the living conditions of citizens[55]. Therefore, transport and other infrastructure should be much developed to resist external influences, to preserve public safety and healthy natural environment[56].

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[47] Y. Casali y H. R. Heinimann, “A topological analysis of growth in the Zurich road network”, Computers, Environment and Urban Systems num 75 (2019): 244-253.

[48] I. Roselli; V. Fioriti; I. Bellagamba; M. M. Cianetti y G. De Canio, “Urban transport vibrations and cultural heritage sites in Rome: The cases of the temple of Minerva Medica and of the Catacomb of Priscilla”, WIT Transactions on Ecology and the Environment num 223 (2017): 335-343.

[49] S. Majumder; K. De; P. Kumar y R. Rayudu, “A green public transportation system using E-buses: A technical and commercial feasibility study”, Sustainable Cities and Society num 51 (2019): 101789.

[50] G. Napoli y M. Leone, “The urban park as a «social island». the ANP in the participatory project of Parco Uditore in Palermo”, Green Energy and Technology (2020): 229-248.

[51] R. N. Belcher; E. Suen; S. Menz y T. Schroepfer, “Shared landscapes increase condominium unit selling price in a high-density city”, Landscape and Urban Planning num 192 (2019): 103644.

[52] K. Gupta; K. Puntambekar; A. Roy; K. P. Mahavir, “Smart environment through smart tools and technologies for urban green spaces: Case study: Chandigarh, India”, Advances in 21st Century Human Settlements, (2020) 149-194.

[53] M. Salinitro; A. Alessandrini; A. Zappi y A. Tassoni, “Impact of climate change and urban development on the flora of a southern European city: analysis of biodiversity change over a 120-year period”, Scientific Reports Vol: 9 num 1 (2019): 9464.

[54] E. Gryaznova, “Ensuring safe operation of buildings and structures”, E3S Web of Conferences num 97 (2019): 04019.

[55] F. Zhang; Z. Li; N. Li y D. Fang, “Assessment of urban human mobility perturbation under extreme weather events: A case study in Nanjing, China”, Sustainable Cities and Society num 50 (2019): 101671.

[56] A. Huck y J. Monstadt, “Urban and infrastructure resilience: Diverging concepts and the need for cross-boundary learning”, Environmental Science and Policy num 100 (2019): 211-220.

In this regard, we can observe some tendency when the number of natural disasters increase, but the rate of people's death there gets lower[57]. This is mostly due to the development of modern technologies and balanced urban planning of such potentially dangerous territories.

So, coastal cities are in constant serious danger of flooding. The danger of damage in case of flooding or other natural disasters there increases because of intensive economic activity or growing population in these areas. Thus, scientists suggest urban planning of such territories with the use of modern "floating" expansion technologies[58], conquering new urban spaces by the sea. Despite the fact that there is water underneath, the buildings and constructions are safe[59].

Conclusion

The process of urbanization is irreversible in modern conditions. Farming is no more a necessity in daily lives of civilized countries, and agriculture is gradually owned by large corporations, which makes life in small towns and villages unpopular. On the other hand, there is a rapid growth of cities, leading to a number of problems, and most of them can be solved by rational urban planning. Social relations have always been ahead of plans, forecasts and strategic concepts, thus, making any urban planning irrelevant after several decades. Though this gap is decreasing these days. Nevertheless, it is necessary to continue investigating solutions, take into account the administrative and territorial structure, smart city technologies, landscaping, the creation of urban areas that restore the health of citizens, create favorable living conditions in rural areas in order to sustain the local population there. It is also necessary to restrict urban in-fills, having harmful effects on the environment. People should live in healthy environment, regardless of the type of settlement and the state in which it is located. Therefore, the suggestions made in this paper should be taken into account in the process of modern urban planning.

References

Accolla, A. "Designing a pilot system for sustainable villages for all". Advances in Intelligent Systems and Computing num 954 (2020): 206-214.

Andreev, V. A.; Arnaut, M. N. y Sultanova, E. V. "Spatial development concept of the far east of Russia". Smart Innovation, Systems and Technologies num 138 (2020): 337-347.

Becke, J. "Varieties of expansionism: A comparative-historical approach to the study of state expansion and state contraction". Political Geography num 72 (2019): 64-75.

Belcher, R. N.; Suen, E.; Menz, S. y Schroepfer, T. "Shared landscapes increase condominium unit selling price in a high-density city". Landscape and Urban Planning num 192 (2019): 103644.

[57] H. Takagi, "Statistics on typhoon landfalls in Vietnam: Can recent increases in economic damage be attributed to storm trends?", Urban Climate num 30 (2019): 100506.

[58] A. Sankalp y Y. De Leeneer, "Mooring Systems for Very Large Floating Structures", Lecture Notes in Civil Engineering num 41 (2020): 253-273.

[59] B. Dal Bo Zanon; B. Roeffen; K. M. Czapiewska y R. E. de Graaf-van Dinthe, "Potential of Floating Urban Development for Coastal Cities: Analysis of Flood Risk and Population Growth", Lecture Notes in Civil Engineering num 41 (2020): 299-308.

Bellone, C. y Geropanta, V. “The «Smart» as a Project for the City Smart Technologies for Territorial Management Planning Strategies”. Advances in Intelligent Systems and Computing num 866 (2019): 66-75.

Bhattacharya, T.; Dasgupta, S. y Sen, J. “An Attempt to Assess the Need and Potential of Aesthetic Regeneration to Improve Walkability and Ergonomic Experience of Urban Space”. Advances in Intelligent Systems and Computing num 966 (2020): 358-370.

Bibri, S. E. y Krogstie, J. “Generating a vision for smart sustainable cities of the future: a scholarly backcasting approach”. European Journal of Futures Research Vol: 7 num 1 (2019).

Casali, Y. y Heinimann, H. R. “A topological analysis of growth in the Zurich road network”. Computers, Environment and Urban Systems num 75 (2019): 244-253.

Cassalia, G.; Tramontana, C. y Calabrò, F. “Evaluation approach to the integrated valorization of territorial resources: The case study of the tyrrhenian area of the metropolitan city of Reggio Calabria”. Smart Innovation, Systems and Technologies num 101 (2019): 3-12.

Dal Bo Zanon, B.; Roeffen, B.; Czapiewska, K. M. y de Graaf-van Dinthe, R. E. “Potential of Floating Urban Development for Coastal Cities: Analysis of Flood Risk and Population Growth”. Lecture Notes in Civil Engineering num 41 (2020): 299-308.

De Castro, K. B.; Roig, H. L.; Neumann, M. R. B.; Costa, A. B. B. D. y Höfer, R. “New perspectives in land use mapping based on urban morphology: A case study of the Federal District, Brazil”. Land Use Policy num 87 (2019): 104032.

De Lotto, R. y Morelli di Popolo, C. “The role of physical aspects in the city plan rules definition”. Smart Innovation, Systems and Technologies num 100 (2019): 256-263.

Feng, S.; Xin, M.; Lv, T. y Hu, B. “A novel evolving model of urban rail transit networks based on the local-world theory”. Physica A: Statistical Mechanics and its Applications num 535 (2019): 122227.

George, C. E.; Norman, G.; Wadugodapitya, A.; Behar, S. y De Witte, L. “Health issues in a Bangalore slum: Findings from a household survey using a mobile screening toolkit in Devarajeevanahalli”. BMC Public Health Vol: 19 num 1 (2019): 456.

Gryaznova, E. “Ensuring safe operation of buildings and structures”. E3S Web of Conferences num 97 (2019): 04019.

Gupta, K.; Puntambekar, K.; Roy, A. y Mahavir, K. P. Smart environment through smart tools and technologies for urban green spaces: Case study: Chandigarh, India. Advances in 21st Century Human Settlements. 2020. 149-194.

Huck, A. y Monstadt, J. “Urban and infrastructure resilience: Diverging concepts and the need for cross-boundary learning”. Environmental Science and Policy num 100 (2019): 211-220.

Kestens, Y.; Winters, M.; Fuller, D.; Thigpen, C. y Wasfi, R. “INTERACT: A comprehensive approach to assess urban form interventions through natural experiments”. BMC Public Health Vol: 19 num 1 (2019).

Kolobova, S. V. “Organizational and Economic Mechanism of Investment Management in the Renovation of Residential Buildings in Moscow”. IOP Conference Series: Earth and Environmental Science Vol: 272 num 3 (2019): 032226.

Korol, O. y Dudina, A. “Engineering and Technical Support of Territories for Implementation of Renovation Projects of the Housing Stock”. E3S Web of Conferences num 97 (2019): 06027.

Koshevaya, E. S. y Tushkov, A. A. “Conceptual approaches to territorial structuring studies of a region”. Smart Innovation, Systems and Technologies num 138 (2020): 159-168.

Koval, V. N.; Vasilev, S. A. y Zenin, S. S. “Territory as a feature of the state in terms of modern public relations development”. International Journal of Innovative Technology and Exploring Engineering Vol: 8 num 9 (2019): 2075-2079.

Kuncicky, R.; Kolarik, J.; Soustek, L.; Kuncicky, L. y Martinek, R. “IoT approach to street lighting control using MQTT protocol”. Lecture Notes in Electrical Engineering num 554 (2020): 429-438.

Kunitsa, M. N. “Typology of rural settlements in central Russia: Demoecological aspect”. Regional Research of Russia Vol: 2 num 4 (2012).

Kurakova, N. V. y Maslova, V. E. Features of the development of administrative territorial units of the city of Sevastopol. Collection of speeches of the First Sevastopol Legal Forum, September 27-28, 2018. The Sevastopol State University Law Institute, “Science Foundation”. Moscow: Center-Catalog. 2018. 320-324.

Kuricheva, E. K. y Popov, A. A. “Housing construction dynamics in the 2010s as a factor of transformation of the Moscow agglomeration”. Regional Research of Russia Vol: 6 num 1 (2016).

Lee, K.-C. y Yan, S.-Y. “Participatory planning and monitoring of protected landscapes: a case study of an indigenous rice paddy cultural landscape in Taiwan”. Paddy and Water Environment Vol: 17 num 3 (2019): 539-548.

Leo, Y.; Busson, A.; Sarraute, C. y Fleury, E. “Performance evaluation of DTN protocols to deliver SMS in dense mobile network: Empirical proofs”. Ad Hoc Networks num 52 (2016): 173-182.

Li, Q.; Xu, B.; Ma, Y. y Chung, T. “Real-time monitoring and forecast of active population density using mobile phone data”. Communications in Computer and Information Science num 590 (2016): 116-129.

Liao, J.; Shao, G.; Wang, C., et al. “Urban sprawl scenario simulations based on cellular automata and ordered weighted averaging ecological constraints”. Ecological Indicators num 107 (2019): 105572.

Maas, J.; Verheij, R. A.; Groenewegen, P. P.; De Vries, S. y Spreeuwenberg, P. "Green space, urbanity, and health: How strong is the relation?" Journal of Epidemiology and Community Health Vol: 60 num 7 (2006): 587-592.

Majumder, S., De, K., Kumar, P., Rayudu, R. A green public transportation system using E-buses: A technical and commercial feasibility study. Sustainable Cities and Society num 51 (2019): 101789.

Mao, X.; Huang, X.; Song, Y.; Zhu, Y. y Tan, Q. "Response to urban land scarcity in growing megacities: Urban containment or inter-city connection?". Cities num 96 (2020): 102399.

Matheus, L. C. "Hierarchy of spaces on the fanpage «Suburban of Depression». Comunicacao Midia e Consumo num 16 Vol: 45 (2019): 164-194.

Mills, G. "Cities as agents of global change". Int. J. Climatol., Vol: 27 num 14 (2007): 1849-1857.

Mirabella, N.; Allacker, K. y Sala, S. "Current trends and limitations of life cycle assessment applied to the urban scale: critical analysis and review of selected literature". International Journal of Life Cycle Assessment Vol: 24 num 7 (2019): 1174-1193.

Mohajeri, N.; Perera, A. T. D.; Coccolo, S., et al. "Integrating urban form and distributed energy systems: Assessment of sustainable development scenarios for a Swiss village to 2050". Renewable Energy num 143 (2019): 810-826.

Napoli, G. y Leone, M. "The urban park as a «social island». the ANP in the participatory project of Parco Uditore in Palermo". Green Energy and Technology. (2020): 229-248.

Narutto, S. V. Territory in Public Law. Moscow: Norma. 2013.

Petrunina, Z. V.; Shusharina, G. A. y Kiba, D. V. "Russian-Japanese economic cooperation in historical retrospective and perspective". Smart Innovation, Systems and Technologies num 138 (2020): 654-663.

Petryshyn, H.; Pohrebennyk, V.; Sosnova, N., et al. "Prospects for sustainable development of the monofunctional town of dobrotvir (Ukraine)". Studies in Systems, Decision and Control num 198 (2020): 177-199.

Qiu, H. y Dai, L. "Design and strategy of senior tourism under the background of population aging". Advances in Intelligent Systems and Computing num 957 (2020): 314-323.

Rimshin, V. y Aralov, R. "Sustainable regeneration of urban areas (using the example of Moscow renovation program)". E3S Web of Conferences num 110 (2019): 01011.

Roselli, I.; Fioriti, V.; Bellagamba, I.; Cianetti, M. M. y De Canio, G. "Urban transport vibrations and cultural heritage sites in Rome: The cases of the temple of Minerva Medica and of the Catacomb of Priscilla". WIT Transactions on Ecology and the Environment num 223 (2017): 335-343.

Salinitro, M.; Alessandrini, A.; Zappi, A. y Tassoni, A. “Impact of climate change and urban development on the flora of a southern European city: analysis of biodiversity change over a 120-year period”. Scientific Reports Vol: 9 num1 (2019): 9464.

Sankalp, A. y De Leeneer, Y. “Mooring Systems for Very Large Floating Structures”. Lecture Notes in Civil Engineering num 41 (2020): 253-273.

Shelton, T. y Poorthuis, A. “The Nature of Neighborhoods: Using Big Data to Rethink the Geographies of Atlanta’s Neighborhood Planning Unit System”. Annals of the American Association of Geographers Vol: 109 num 5 (2019): 1341-1361.

Shevchenko, I.; Ponomarev, V.; Ponomareva, M. y Kryuchenko, N. “State and Development Prospects of the Marine Transport Infrastructure of Russia”. Lecture Notes in Networks and Systems num 78 (2020): 374-381.

Sini, R. Re-purposing and Thematizing Colonial Gardens: Constructions of History and Nation in Singapore’s Heritage Parks. Advances in 21st Century Human Settlements (2020): 179-210.

Takagi, H. “Statistics on typhoon landfalls in Vietnam: Can recent increases in economic damage be attributed to storm trends?”. Urban Climate num 30 (2019): 100506.

Valley, W. y Wittman, H. “Beyond feeding the city: The multifunctionality of urban farming in Vancouver, BC”. City, Culture and Society num 16 (2019): 36-44.

Vasiliev, S. A. “Problems of determining the status of territorial units of the city of Sevastopol”. City Planning law num 2 (2019): 23-26.

Vlasov, D. y Terekhova, A. “Determination of Regularities in the Development of Intermodal Hubs’ Planning Structure in «Smart» Cities”. E3S Web of Conferences num 97 (2019): 01007.

Wang, L.; Fan, H. y Wang, Y. “An estimation of housing vacancy rate using NPP-VIIRS night-time light data and OpenStreetMap data”. International Journal of Remote Sensing Vol: 40 num 22 (2019): 8566-8588.

Wu, Y.; Sun, X.; Sun, L. y Choguill, C. L. “Optimizing the governance model of urban villages based on integration of inclusiveness and urban service boundary (USB): A Chinese case study”. Cities num 96 (2020): 102427.

Yetano, R. M.; Lechtenbohmer, S.; Fischedick, M.; Grone, M-C.; Xia, C. y Dienst, C. “Concepts and methodologies for measuring the sustainability of cities”. Annu Rev Environ Resour num 39 (2014):519–547.

Zambon, I. y Salvati, L. “Metropolitan growth, urban cycles and housing in a Mediterranean country, 1910s–2010s”. Cities num 95 (2019): 102412.

Zeng, Z.; Song, B.; Zheng, X. y Li, H. “Changes of traffic network and urban transformation: A case study of Xi'an city, China”. Land Use Policy num 88 (2019): 104195.

Zhan, X. y Ukkusuri, S. V. “Spatial dependency of urban sprawl and the underlying road network structure”. Journal of Urban Planning and Development Vol: 145 num 4 (2019): 04019014.

Zhang, F.; Li, Z.; Li, N. y Fang, D. “Assessment of urban human mobility perturbation under extreme weather events: A case study in Nanjing, China”. Sustainable Cities and Society num 50 (2019): 101671.

Zhang, X. y Sun, Y. “Investigating institutional integration in the contexts of Chinese city-regionalization: Evidence from Shenzhen–Dongguan–Huizhou”. Land Use Policy num 88 (2019): 104170.

Zheng, Z.; Chen, J. y Luo, X. “Parallel computational building-chain model for rapid urban-scale energy simulation”. Energy and Buildings num 201 (2019): 37-52.

Zou, L.; Liu, Y.; Wang, J.; Yang, Y. y Wang, Y. “Land use conflict identification and sustainable development scenario simulation on China's southeast coast”. Journal of Cleaner Production num 238 (2019): 117899.

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