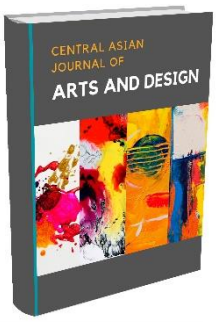
CENTRAL ASIAN JOURNAL OF ARTS AND DESIGN
VOLUME: 02 ISSUE: 12 | 2021

Available online at www.cajad.centralasianstudies.org
CENTRAL ASIAN JOURNAL OF ARTS AND DESIGN
Journal homepage: http://cajad.centralasianstudies.org/index.php/CAJAD



The Formation Processes of Smart Cities

Zikirov Muhammadsolih Soliyevich
Senior Lecturer, Department of Architecture, Fergana Polytechnic Institute, Fergana, Uzbekistan

Kimsanov Zokir Olimjon o`g`li
2nd stage master, Department of Architecture, Fergana Polytechnic Institute, Fergana, Uzbekistan

Annotation

The development of science and technology, the rise of modern technologies to a new level, leads to a further improvement of people's lives and lifestyles in society. In recent years, the terms "smart homes" and "smart cities" have been repeated over and over again. As a result of observing the emergence of smart cities in the world, the gradual introduction of such a smart management system in the cities of Central Asia, especially in the new cities of Uzbekistan, is evident in the e-government systems observed in our daily lives.

ARTICLE INFO

Article history:
Received 01 Nov 2021
Received in revised form 27 Nov
Accepted 28 Nov 2021
Available online 07 Dec 2021

Keywords: innovation, electronic control system, nanotechnology, smart homes, parametricism, hybrid energy sources.

Introduction

In addition to the study of cities in the geography of the country and economic regions, they also serve as a separate object of study. There are many well-known scholars in the scientific and methodological literature on the order of economic geography of cities. Of course, the study of cities begins with the analysis of their history, origins and genetic characteristics. As a result, mainly based on historical sources, it is explained why the city or towns being studied came into being in this place and at this very stage of the past [1-4].

Cities come into being for a reason. Their emergence is associated with a favourable geographical location, as well as the development of various mineral resources, science, recreation, trade, transport. The most important feature of urban networks is that their importance, their sphere of influence extends beyond the location of the population [5-11]. In ancient times, cities were based on trade and handicrafts. Later, it was largely due to industry and transportation. Cities formed based on mineral resources are referred to in the scientific literature as "resource cities". Such cities are usually less connected to their surroundings, to rural areas.

Materials and methods

Most cities, in our conditions, that is, in developed countries, are organized on the basis of villages,

E-mail address: editor@centralasianstudies.org
(ISSN: 2660-6844). Hosting by Central Asian Studies.

which, after reaching a certain level of demand, legally receive this official status. Such genetic features of cities indicate the "eastern" development of the urbanization process, especially rural urbanization.

Cities can be "new" or "old" depending on their origin. However, these concepts are relative. The reason is that until recently, we included all the cities that existed during the Soviet era in the group of "new cities". Now it is better to mark the new cities with the period of independence.

However, the fact that a settlement has the status of a city does not mean that it is truly new. Because such settlements have existed since ancient times. For example, the city of Chust last officially received the title of city in the 70s, although its real history spans several centuries. Similarly, Gijduvan, Pskent, Nurata, Rishtan, etc. have a long history [12-19].

In fact, the new city is almost "empty", with a recently built architecture and beautification. At the same time, the population of the Goat Village is changing dramatically due to the new large-scale construction

Multiplying the number by several times will also make it the name of the New City.

Determining the specialization of cities and their functions are carried out within the framework of functional typology. The main criterion is the composition of the urban population, ie the area with the largest labour force (above the national average) reflects the functional type of these cities.

Typically, cities are divided into the following functional types. 1. Multifunctional political and administrative centres, capital cities. 2. Multifunctional cities - regional centres. 3. Large multi-sectoral industrial centres. 4. Cities that specialize in one or two industries. 5. Transport centres. 6. Agroindustrial cities. 7. District centres. 8. Recreation cities. 9. Science centres, university cities, etc.

The development and location of the productive forces, especially the concentration, resulting in a cohesive form of cities of different functional types and sizes, which are described in the scientific literature as urban agglomerations. The word "agglomeration" is reminiscent of the "agglomerate" in geology, which means a group in one region, and in the regional economy, especially in the West, there is a concept that industrial agglomeration-industrial enterprises are concentrated in one place. Accordingly, there is the term agglomeration factor and agglomeration effect (efficiency).

The formation of agglomeration takes place approximately in the following scheme (order). The city, with its favourable economic and geographical location, is gradually growing. The reason is that it includes all the new industrial enterprises, service providers, universities, financial and banking institutions, and more. At this point, the city's gravity, the movement toward the centre, is in full swing [20-27]. The proliferation of cities and the expansion of value through agricultural land will continue to some extent. Then the endless expansion of the urban area will stop, it will face obstacles such as mountains or rivers, state borders or the sea, and within the city, housing, transport, environmental problems will intensify. The result is a kind of "revolutionary situation": a large urban environment, its science and technology, infrastructure potential attracts new businesses, but the above difficulties limit it. In this way, near the big city, some specialized cities and towns complement it. Such "satellite" cities will have facilities that meet or serve the needs of the central city [28-26]. Thus, a large city goes beyond its official boundary, a change in quantity leads to a change in quality, a change in territorial concentration changes its form, and a territorial set of cities emerges.

The development of science and technology, the rise of modern technologies to a new level, leads to a further improvement of people's lives and lifestyles in society. In recent years, the terms "smart homes" and "smart cities" have been repeated over and over again. While the construction of multi-

E-mail address: editor@centralasianstudies.org
(ISSN: 2660-6844). Hosting by Central Asian Studies.

storey residential buildings in the 70s of the last century, the invention of the elevator due to the large number of floors amazed people, 50 years later the discoveries made by mankind, the limits of inventions or `q. This has led to the influx of science and technology into every field in our century, and how many problems in these areas can be easily solved.

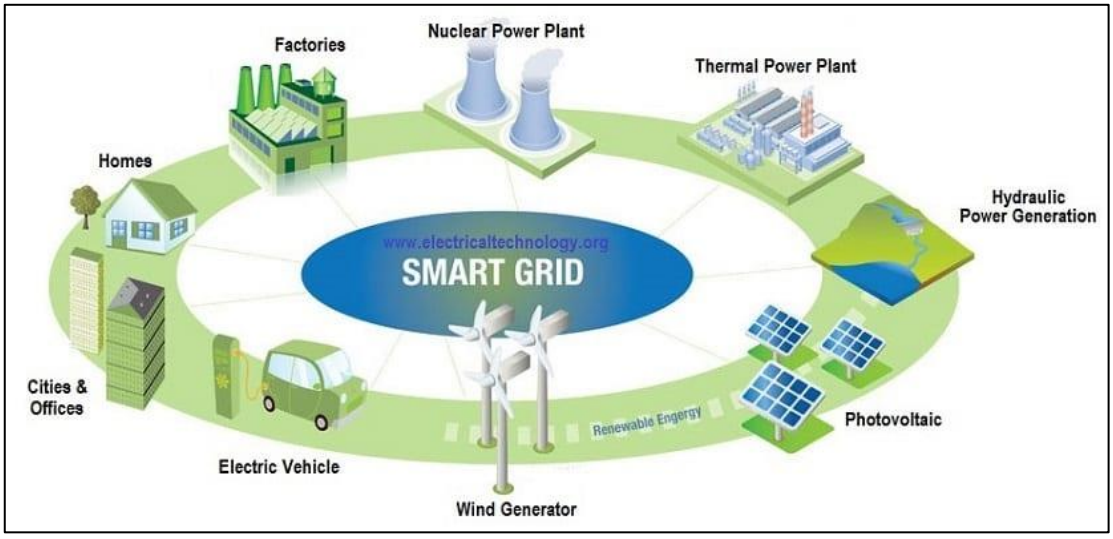


Figure 1. Cities of the future, smart cities

It is known that architecture is one of the areas that determine and plans the future stages of the development of society, especially in the field of urban planning, which in recent years has undergone significant changes in architecture and urban planning around the world. The construction of very tall skyscrapers, self-powered buildings, transformers, musical fountains, etc., testify to the high level of world architecture [37-43]. Smart cities will emerge as a result of the rational placement of such buildings in terms of urban planning and the integration of these facilities into a single structure, the organization of management in connection with a modern electronic management and control system. This includes engineering communications, ie the provision of clean drinking water, sewerage, electricity, natural gas, heating, waste collection and recycling, meeting the daily needs of the population, transport services, Several areas, such as telephone communications, medical services, will be fully electronic and self-managed using separate programs.

Conclusion

Currently, such devices are being introduced in the new Uzbekistan, for example, The use of new types of electronic meters for the supply of electricity and natural gas has begun. The use of video cameras that monitor the movement of cars on the streets, monitor the activities of employees at various workplaces, constantly monitor protected areas, ensure that the population lives in strict accordance with the established rules.

References

1. Қосимов, С. Р. (2020). Ўзбекистон республикасида замонавий интерьерларнинг мавжуд ҳолати ва фаолияти. *Science and Education*, *1*(2), 213-217.
2. Зикиров, М. С., Қосимов, С. Р., & Турсунов, Қ. Қ. (2020). Дизайнда инновация истиқболлари. *Science and Education*, *1*(7).

3. Мамажонов, А., & Косимов, Л. (2021). Особенности свойств цементных систем в присутствии минеральных наполнителей и добавки ацетоноформальдегидной смолы. *Грааль Науки*, (5), 102-108.
4. Abdatov, U., & Tursunov, Q. Q. (2021). Tabiiy landshaft hududlarining o ‘ziga xos antropogen xususiyatlari. *Science and Education*, *2*(5), 41-44.
5. Saidjon, Q., Bakhrom, U., & Dilmurod, R. (2021). History And Current State Of Public Catering Establishments In The Fergana Valley. The American Journal of Engineering and Technology, 3(06), 120-124.
6. Rustam, A., & Nasimbek, M. (2021). A New Method Of Soil Compaction By The Method Of Soil Loosening Wave. *The American Journal of Engineering and Technology*, *3*(02), 6-16.
7. Ахунбаев, Р., Махмудов, Н., & Хожиматова, Г. (2021). Новый способ уплотнение грунта методом волна разрыхления грунта. *Scientific progress*, *1*(4).
8. Abdusatorovna, N. S., Raxmonovich, E. D., & Odilbekovich, M. N. (2021). Architectural and planning solutions for microdistricts. *Oriental renaissance: Innovative, educational, natural and social sciences*, *1*(4), 31-36.
9. Karimova, M. I. Q., & Mahmudov, N. O. (2021). The importance of elements of residential buildings based on uzbek traditions. *Scientific progress*, *1*(6), 865-870.
10. Zakirova, G. M. Q., & Axmedov, J. D. (2021). Architectural appearance of khudoyorkhan palace: requirements for preservation and restoration. *Scientific progress*, *1*(6), 717-719.
11. Raxmonov, D., & Toshpo’Latova, B. (2021). Preservation of historical monuments of ferghana region. *Scientific progress*, *1*(6), 458-462.
12. Holmurzaev, A. A., Madaminov, J. Z., Rahmonov, D. M., & Rasulzhonov, I. R. (2019). Metodika razvitija professional"noj kompetentnosti informacionno-tehnicheskih sredstv budushhih uchitelej cherchenija. *Aktual'naja nauka*, *4*, 112-115.
13. Rahmonov, D. M., & Rahmonova, G. A. (2020). Scientific-proposal projects on designing agro industrialized small cities in the territory of Uzbekistan. *ACADEMICIA: An International Multidisciplinary Research Journal*, *10*(5), 778-785.
14. Rahmonova, G. A., Goncharova, N. I., & Rahmonov, D. M. (2020). Tourism-The future of economy. *ACADEMICIA: An International Multidisciplinary Research Journal*, *10*(6), 1319-1324.
15. Салимов, О. М., & Журабоев, А. Т. (2018). Роль рекреационных зон в городской структуре (на примере города Ферганы). *Проблемы современной науки и образования*, (12 (132)).
16. Zikirov, M. (2012). Development of Small business in transition economies of Tajikistan. *Bulletin of Tajik National University of Republic of Tajikistan, 2/5 (92)*, 48-51.
17. Sultonmurodovich, A. B. The Regulation of Fixed-term Employment Contracts in Uzbekistan. *JournalNX*, 573-579.
18. Sagdiyev, K., Boltayev, Z., Ruziyev, T., Jurayev, U., & Jalolov, F. (2021). Dynamic Stress-Deformed States of a Circular Tunnel of Small Position Under Harmonic Disturbances. In *E3S Web of Conferences* (Vol. 264). EDP Sciences.
19. Siddiqov, M. (2021). Urban planning measures in the preservation of architectural monuments. *Теория и практика современной науки*, (4), 6-9.

E-mail address: editor@centralasianstudies.org
(ISSN: 2660-6844). Hosting by Central Asian Studies.

20. Qosimov, L. M., Qosimova, S. F., & Tursunov, Q. Q. (2020). Specific aspects of using Ferghana region's pilgrims for touristic purposes. *Academic research in educational sciences*, (3).

21. Набиев, М., Турсунов, Қ. Қ., & Турсунов, Ў. Қ. (2020). Асфальт бетон ва цемент бетон қопламали йўлларнинг ўзига ҳос афзалликлари. *Science and Education*, *1*(2), 265-269.

22. Solievich, I. S., & Ravshanovna, T. L. B. (2021). Fundamentals of the modern concepts of "architectural monument" and "restoration". *ACADEMICIA: An International Multidisciplinary Research Journal*, *11*(3), 2573-2578.

23. Файзиев, П. Р., Исмадиёров, А., Жалолдинов, Г., & Ганиев, Л. (2021). Солнечный инновационный бытовой водонагреватель. *Science and Education*, *2*(6), 320-324.

24. Набиев, М., & Турсунов, К. (2020). Из истории архитектуры. *Science and Education*, *1*(1).

25. Kosimova, S. H., & Kosimov, L. M. (2020). Principles of forming a garden-park landscape design around historical monuments of the fergana valley. *ACADEMICIA: An International Multidisciplinary Research Journal*, *10*(6), 1582-1589.

26. Salimov, A. M., Qosimova, S. F., & Tursunov, Q. Q. (2021). Features of the use of pilgrims for tourism in the Fergana region. *Scientific-technical journal*, *3*(4), 42-47.

27. Kosimov, L., & Kosimova, S. (2021). Optimization of the composition of dry slag-alkaline mixtures. *Збірник наукових праць Лóгос*.

28. Qobulov, M., Jaloldinov, G., & Masodiqov, Q. (2021). Existing systems of exploitation of motor vehicles. *Экономика и социум*, (4-1), 303-308.

29. Babaev, B., Ziyaev, A., Ziyavitdinov, J., Rakhmonova, G., Bozorov, S., & Jaloliddinov, F. Synthesis, structure and toxicity of 2, 5-bis-(izopropyl-oxycarbonylmethylenthio)-1, 3, 4-Thiadiazole. In *XIII International Symposium on the Chemistry of Natural Compounds (ISCNC 2019)* (p. 69).

30. Muminova, N. Z., Toshmatov, U. T., & Norimova, S. A. (2020). In Uzbekistan roof landscaping-the need for environmental health, convenience, beauty. *ACADEMICIA: An International Multidisciplinary Research Journal*, *10*(6), 213-215.

31. Mirzaliev, S., & Sharipov, K. (2020). A Review of Energy Efficient Fluid Power Systems: Fluid Power Impact on Energy, Emissions and Economics. *Архив научных исследований*, (30).

32. Ахмедов, Ж. Д. (2010). Оптимизация преднапряженных перекрестных ферменных систем. *Промислове будівництво та інженерні споруди. К.: ВАТ "Укрдніпроектстальконструкція ім. ВМ Шимановського*, *4*.

33. Юнусалиев, Э. М., Абдуллаев, И. Н., Ахмедов, Ж. Д., & Рахманов, Б. К. (2020). Инновации в строительной технологии: производство и применение в узбекистане строп из текстильных лент и комбинированных канатов. In *Энерго-ресурсосберегающие технологии и оборудование в дорожной и строительной отраслях* (pp. 421-431).

34. Abdullaev, I. N., Akhmedov, Z. D., Rakhmanov, B. K., & Zhurabaeva, R. T. (2020). State and prospects of production and operation of synthetic woven belts (table) for load-handling devices (hd) in the republic of Uzbekistan. *Journal of Tashkent Institute of Railway Engineers*, *16*(4), 106-109.

35. Обидов, Н., Рузибаев, А., Асадова, М., & Ашуров, Ш. (2019). Выбор зубьев ковшей одноковшовых экскаваторов зависимости от условий эксплуатации. In *World Science: Problems And Innovations* (pp. 89-92).

36. Razzakov, S. J., Rakhmanov, B. K., & Akhmedov, J. D. (2021). Study Of The Influence Of Light Weather On The Mechanical Properties Of Para-Aramid Filaments. *The American Journal of Engineering and Technology*, *3*(04), 35-41.

37. Axmedov, J. (2021). The preservation of ancient architectural monuments and improvement of historical sites-factor of our progress. *Збірник наукових праць ΛΌГОΣ*.

38. Axmedov, J. (2021). The development of landscape architecture in Uzbekistan. *Збірник наукових праць SCIENTIA*.

39. Обидов, Н. Г. (2019). Фрезерные дорожные машины в условиях эксплуатации в жарком климате узбекистана. In *Подъемно-транспортные, строительные, дорожные, путевые машины и робототехнические комплексы* (pp. 377-379).

40. Nurmatov, D. O., Botirova, A. R., & Omonova, Z. (2021). Landscape solutions around the roads.

41. Косимов, С., Урмонов, Б., & Раҳмонов, Д. (2021). Туристское районирование территорий основной фактор развития туризма. *Scientific progress*, *2*(3), 125-128.

42. Saidjon, K., & Bakhrom, U. (2021). Energy-Saving Materials In Residential Architecture. *The American Journal of Engineering and Technology*, *3*(01), 44-47.

43. Saidjon, Q., & Bakhrom, U. (2021). The Influence Of Interior Psychology On Uzbek Architecture. *The American Journal of Interdisciplinary Innovations and Research*, *3*(06), 31-35.