

# ECOLOGICAL PROBLEMS OF DEVELOPMENT OF THE URBAN SETTLEMENT IN AZERBAIJAN

Mammadov Malikmamed Khanoglan Ogli

Azerbaijan State Pedagogical University. Baku city e-mail: nargiz.guluzade@mail.ru

**Abstract:** *The article studies the status of ecological system of large cities in Azerbaijan, analyzes and evaluates the factors affecting the urban environment. Observance of hygiene and sanitary conditions for the improvement of quality of the urban environment, comfortable life of people has been determined as a key criterion in the article.*

**Keywords:** *ecological system, settlement, urban agglomeration, sustainable development, sanitation and hygiene.*

## INTRODUCTION

The problems on the effect of development of the productive forces to environmental condition, have recently been one of the main issues during the long-term urban planning. These issues have been given a great place in the environmental section of complex plan for social and economic development of regions, cities and settlements. These sections have been developed comprehensively in the complex plans of industrial hubs and centres of Baku, Sumgait, Ganja, Shirvan, Mingachevir, Nakhchivan, Shaki, Yevlakh etc. Just here, the grounds are generated for complex solution of different intersectoral problems occurred in the development process of spheres which build and serve the cities. Undoubtedly a significant condition was not created less for the improvement of urban environment in taking measures that previously provided in master plan and various documents of cities. But it would be possible to make the environmental problems on account of implementation for the rehabilitation of local areas of only natural environment, due to the solution of separate tactical issues as well as mitigation or abolition of the harmful effects of pollution sources in the development of cities and agglomerations. Indeed, ensuring environmental safety of urban development is extremely complex and many-sided and it covers all the system of mutual relations of urban-natural environment-human triplet chain and determines a dynamic balance of numerous factors and condition. The analyses carried out proves the solution of economic- organizational issues of Baku city, its absolute reflection in the character of mutual relations of other urban systems in the status of ecological system.

## THE URBAN DEVELOPMENT PROCESS

In other words, the urban development process, particularly, large agglomerations require the determination of dynamic balance in all their systems. Therefore, the key directions of objective processes of forming group objectives will contribute to the laying of foundation of progressive forms of this residence, its regulation, solution of other

matters making the usage of potential opportunities more difficult and timely prevention of spontaneous elements. The development of effective measures system which optimize the mutual relation of production and the natural environment, highly depends on richness of analysis of the indicators characterizing nature protection activity and its quality, effect on the environment. It seems there is a need to make extensive use of statistical indexes method for characterization of components of ecological system. Analysis of literary sources shows that, the statistical method is used widely in developed western countries. The indexes which reflect the pollution level of air basin are applied by coordinating with individual indexes of pollution, any of them indicates the ratio of air pollution to the mentioned quality level in accordance with their established standards. If one of the pollutants included in the calculation is higher than the standard mark or equal to it, in that case the marks of indexes will possibly be equal to a unit.

The specific factors and condition determining the character of ecological system should be found during the analysis of environmental status in the cities. So, the necessary factors for solution of important issues of urban planning in Baku city are: city's access to the sea, tension of demographic situation, failure to comply of engineering facilities with the urban development, the importance of effective use and maintenance of unique coastal landscapes, also the rapid growth of rich cultural and historical monuments, car parks. Complex zoning of large cities in the Republic based on analysis of their ecological system, its further evaluation, analysis based on the factors affecting the natural environment are one of the important means. First, the city's master plan and mapping are used. The essence of implementation of zoning bears different character. Namely, it can be selection of different criteria and analysis of various factors. The key requirement is its having a complex nature and at the same time its individual maps are used temporarily on different elements of natural environment in the practice. From the standpoint of the area, the same zoning can be a tool for substantiation of future actions on the improvement of urban environment, for development of socio-economic prognosis of the city. The initial phase of the work consists of substantiation of the components and factors as well as assessment of complex criteria. In our opinion, complex assessment of the area is a good method in solving of the issues which are studied. Observance of sanitary and hygienic conditions for comfortable life of people in the quality assessment of urban environment on ecological parameters is taken as the main criterion here. Along with this, the specific peculiarities of components by quality are not the factors affecting to the state of environment but the level of state of environmental elements which allow to the influence of relevant factors.

## **DIFFICULTY IN THE IMPLEMENTATION**

Studies show that, the main difficulty in the implementation of zoning methods in cities in terms of practice and difficulty in compiling environmental maps is related to the failure in sufficient development of scientifically grounded standards system. If there would be a fully developed normative system, it would be taken as a basis during the determination of local marks. The important part of analysis of the sectorial section of city's complex plan is the study of effect of economic complex to environmental components. Besides, not only natural but also conditional indicators of production must be determined (additional damage in the pollution of air and air basins and calculation of damage etc.) [2]. In the environmental section of complex plan of the cities studied, substantiation of environmental protection measures, appointment of their priority or

the following groups of measures reflecting the ways of effects that may affect on the deterioration of environment and pollution sources are shown:

- Technological group-this includes the effect rendered directly to the sources, their change and neutralization, improvement of technology etc.
- Production and economic group-this includes the change of production structure and fuel balance.
- Urban planning group - this includes the changes in the structures of urban planning by the displacement of production, residential, cultural and household facilities.

Special attention should be paid to the measures included in the last group. This is because environmental condition in the large cities is determined by the peculiarities of difficulties emerged in the planning structures, but in some cases by deepening of the negative impact of economic areas. At the same time, the grounded changes in the planning structures may lead to the positive results. Studies show that, it would be nonsense to trust in the measures with technological characteristics which require huge financial costs and bearing a local character as a rule. It is true that the technological measures against pollution has an effective tendency to the reduction of harmful effects of production. Unlike the technological measures, the implementation of urban planning measures gives more long-term effects. In some cases, urban planning, technological and productive-economic measures replace each other effectively and, in some cases, both can be applied together. Literary sources show that, one of the important measures of urban planning is the optimization of systems for the placement of facilities of various purpose in the city. It is effective organization of the area with mutual relation in the direction of different kind of living and welfare, recreation. [2].

In our opinion, taking environmental factors into account in the stage of formation of city's planning structures is of great importance. Their underestimation during the urban development in urban planning policy or incorrect estimation can lead to serious results especially in regions where chemical and metallurgical industry are situated. The advantage of more radical technological measures is associated with the reduction of opportunities of sanitary protection zones. Until recently sanitary protection zones were considered as the main tool in protecting the cities from harmful effect of industrial production. Creation of such zones was not an easy task. Formerly, the construction of large chemical plants required 5-15 km or up to 25 km sanitary place for more metallurgical plants. [5] But it did not always render the effect. The estimations carried out show that, the expenses spent on reconstruction and renovation of dust and gas cleaning installations system is almost less three times than the expenses spent on the organization of sanitary protection zones. There are also other shortcomings in cities with large industrial centers. Chimneys with the height of 180, 250 and even 320 have never been a key method in the protection of air basin in the city. [4]. It is costly measure and it does not reduce the general volume of pollutants entered into the air basin but decreases the level of concentration of harmful substances to layer close to the earth and consequently, provided scattering of toxic substances in the furthest distances. But expanding the field of pollution create opportunities for increasing the level of upper limit local contaminations in separate regions.

The stronger impact on the decrease of negative effect of industrial production is removing of harmful enterprises in terms of sanitary out of the city. This method of combat requires cautious approach. The experience shows that, removal of enterprises is rarely carried out in the specified period. Most of the time it leads significant unexpected

losses. A partial hard way is re-organization of production profile. It should be noted that, every method has its advantages and disadvantages. Selection of specific ways to improve the urban environment is harmonization of various methods and socio-economic substantiation. The unity of the right approach is completed with the passage from planning of measures on the improvement of quality of individual components to the development of complex programs to ecologization of the city and surrounding areas.

## CONCLUSION

Thus, the important issues in the complex plans of social and economic development of Cities in Azerbaijan, are the absolute reflection of storage of the household waste of different origin, recyclable resources, solid household waste as well as different urban waste and their utilization problems. Its solution will contribute to intensification of substance and energy circulation, to the increase of national economy effectiveness through the storage of unused raw materials and valuable urban lands [3].

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