1. Introduction

Currently, the well-being of humanity is increasingly determined by the quality of life in cities. More than half (52%) of the estimated 7 billion people in the world live in the urbanized space, and the growth rate of urban residents (on average by 2.2% annually) is much higher than the rate of increase in humanity [1]. After the decision was taken at the most significant United Nations Conference in Rio de Janeiro, on the transition to the path of sustainable development of all countries, the approach to assessing the quality of the urbanized environment changed somewhat. It began to depend on the degree of sustainability of the development of settlements, and subsequently, according to the “Habitat” UN program and the “Healthy Cities” WHO program on the viability. The viability of settlements is determined by the totality of their constituent elements, including plantings and green areas.

In contemporary conditions, the problem of increasing sustainability and optimizing the functioning of a landscaping facility is becoming increasingly important. According to the GOST “Greening Cities: Terms and Definitions,” sustainability of green plantings is the ability of plantings to maintain the nature of functioning under the influence of anthropogenic factors [2]. Indicators are needed to identify the status and prospects of development.

As a rule, indicators of sustainable development are the numerical, measured values of a number of parameters, including the environment, which can be estimated either by their absolute value or by comparison with previously observed values. In many ways, these indicators have become indicators of the quality of the human environment, which should be achieved in a healthy, environmentally friendly settlement.

Sustainable development indicators are necessary for:

1. Justifying the decision by quantifying and simplifying;
2. Interpretation of changes;
3. Identifying deficiencies in environmental management;
4. Providing access to information for different categories of interested users;
5. Exchange of scientific and technical information [3].

Development of criteria and indicators of sustainable development is actively going on in the world. According to the UN, the constant work on the identification and use of new indicators can reduce the subjectivity of the estimated parameters. Leading international organizations such as the UN, the World Bank, the Organization of Countries for Economic Cooperation and Development, the European Commission, and others are engaged in this. The Center for Environmental Policy of Russia and S. N. Bobylev developed accessible recommendations for identifying, applying, and classifying various indicators, as possible indicators of sustainable development. One of the most comprehensive in terms of coverage of sustainable development indicators system was developed by the UN Commission on Sustainable Development, consisting of 132 indicators, divided into four main groups: social, economic, environmental, institutional [4]. Their analysis leads to contradictory conclusions: urbanization is a global process, as indicated by a number of social indicators, most of the processes of environmental degradation are due to urbanization processes, which is reflected in both social, economic, and environmental indicators. At the same time, in indexing settlements and their conditionally natural component in the form of green areas, the latter have no weight and are not even actually represented by any indicator. This seems to be extremely strange, since the plantings of settlements fulfill the whole variety of ecosystem services.

Therefore, the purpose of the presented work is to determine one of the most important indicators of the quality of an urbanized environment: the presence and condition of plantations and green areas [5].

2. Materials and Methods

The methodology of this work can be divided into three main parts, which are combined by the system analysis. At the first stage, both domestic and foreign literature on the topic is studied and summarized. The second part is the field research in more than 200 settlements and 10 thousand green areas. And the third is an analytical and comparative analysis of the first two stages and the identification of indicators of the state, pressure, and response of plantings and green areas as elements of a sustainable development strategy for the world, country, region, etc.

3. Results

Plant communities (as well as individual species) that have a sufficiently defined and persistent connection with environmental conditions and are used to recognize these conditions are the natural biological indicators. Species diversity (usually represented as indices of diversity – Shannon, Simpson) is a classic bioindicator. But the calculations for the settlements territories have extremely large deviations due to, for example, the high dominance of some species, the local distribution of rare species, and those areas with artificial diversity. Due to the fact that during dumping, digging, and other improvement activities, at a particular point in time, a set of species can be so random and change two or three times per season. Biomass is a commonly used indicator. In a particular case, a comparison of the biomass of naturally overgrown plots, mowed areas covered by the elemental road network are also to be a mistake [6].

Field studies in each greened territory fix more than 100 different indicators, which are the characteristics of greening elements, determination of anthropogenic load, class of hemera activity, the establishment of compliance parameters for a greened territory with the requirements of town planning regulations applied for each type in the category, and many others. Some of them can be considered as indicators. According to the criteria applied to indicators of sustainable development, they must meet the following conditions:

1. Relation to sustainability (indicative / not indicative);
2. Representativeness (matching the characteristics of the type of greened territory);
3. Representativeness (single, rare, usually, often);
4. Measurability (complex, medium, light);
5. Exclusivity (condition applies only to specific areas, for most, for all);
6. Regular availability (constant, every season, every year or every 2 years, less often);
7. Easy feasibility and affordability;
8. Rapid applicability in a short time;
9. Providing an opportunity to clearly determine the direction of the changes (positive or negative);
10. An accessibility for the general public to understand;
11. An efficiency when using;
12. Significance (high, medium, low);
13. Reliability.

Out all the indicators of plantations and green areas, the authors suggest the following as the most representative indicators: a tree crown density, a level of soil sodification, a projective cover of grassy plants, and a one-time recreational load. Cultivation indicators are not extrapolated to the entire area of a recreational load is an indicator of pressure and can be considered under certain conditions for stability with the opposite sign.

In fact, all 13 conditions for the proposed five indicators are performed in the greatest manifestations. The highest values of sustainability characterize the most stable areas – urban forests. A large representativeness is predetermined by the spread of green areas, including as mandatory building elements. Representativeness is associated with a complete contingency, as a result, it is frequent, constant. Measurable - light, does not require special equipment. Availability is constant, it may decrease to the length of the growing season for some regions. Financially, it is determined only by labor hours, unambiguous fast applicability. In accordance with high rates for most criteria, indicators can be considered reliable and significant. In fact, they are understandable and effective in use, since they do not require recalculations. Another positive criterion is a small range of indices from 0 to 100% (soil sodification, as well as a protective cover of grassy plants), one from 0 to 1 (tree crowns closeness). And only one conditionally does not have a maximum size (a one-time load) [5].

The proposed indicators reflect the specific state of the greened area, and their changes or compliance with certain values can be indicators of pressure. It should be noted that each of the proposed indicators can be viewed from the point of view of the environmental, economic, social, and institutional components of sustainable development or divided into 4 environmental and 1 social.

4. Conclusion
For more than a quarter of a century, sustainable development has been high on the international agenda. Assessment of the quality of life of the urban population requires the study of all the factors determining it: economic, social, environmental, and institutional. The authors present some indicators that can be used as indicators of sustainable development of green areas and settlement estimates. Undoubtedly, further development that satisfies all the requirements for evaluating the object of the survey, including the dynamics, is necessary. Environmental adjustment of indicators of economic development and progress is required. The nature “competitiveness” in the fight against the man-made solutions should be improved.

References
[1] World Bank 2013 World development indicators Available at: http://data.worldbank.org (Accessed 03 02 2019)
[2] GOST 28329-89 1990 Urban landscaping: Terms and definitions (Moscow, Russia: Publishing Standards)
[3] Klimov A G 2005 Features of farm organization in the forest-park part of the green zone of the city of Chita (Dissertation of the Candidate of Agricultural Sciences) (Krasnoyarsk, Russia)
[4] Tarasova N P n.d. Indexes and indicators of sustainable development Available at: http://www.ustoichivo.ru (Accessed 05 02 2018)
[5] Potapova E V 2017 *Landscaped territories of settlements: structure, state, problems, risks, transformation, development indicators* (Dissertation of the Doctor of Agricultural Sciences) (Yekaterinburg, Russia)

[6] Goodman G T, and Roberts T M 1971 Plants and soils as indicators of metals in the air *Nature* **231** pp 231-287