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ЭКОЛОГИЧЕСКИЙ ДИЗАЙН В АРХИТЕКТУРЕ СОВРЕМЕННОГО ГОРОДА

ECOLOGICAL DESIGN IN ARCHITECTURE OF THE MODERN CITY

Рассмотрены проблемы экологии и дизайна, архитектуры мегаполисов. Современный город – естественно-искусственная окружающая среда, в которой для создания удобного проживания нужен баланс всех компонентов.

Необходимо планировать развитие белорусских городов с учетом ландшафтного и экологического дизайна, озеленения, а также их воздействия на окружающую среду и находить способы уменьшать потребление энергии, тепла и воды. В соответствии с этими тенденциями окружающая среда становится одним из ключевых компонентов стратегии стабильного социально-экономического развития Республики Беларусь. Минск – один из «самых зеленых» городов в Европе, но тем не менее необходимо обратить особое внимание на создание новых площадей и парков в Минске или, если это возможно, восстановить и улучшить существующие.

In the article there are the problems of ecology and design, architecture of modern cities of Megapolis. Modern city is a natural-manmade environment in which the creation of a comfortable living with environment needs a balance of all the mentioned components.

Planning of development Belarusian cities with account of landscape design, ecological design, gardening, as well as their impact on the environment and finding ways to reduce consumption of energy, heat and water currently come to the fore among the most important problems requiring urgent attention. In line with these trends, the environment becomes one of the key components of the strategy for sustainable socio-economic development of the Republic of Belarus. Minsk is one of the «greenest» cities in Europe. But nevertheless, it is necessary to pay special attention to the creation of new squares and parks in Minsk and other cities, or, if it is possible, to reconstruct and improve existing ones.

In the era of globalization, more and more attention in many countries is paid to the optimization, rationalization and ecologization of all spheres of life – from food habits of a single person of pre-production processes and housing and communal services.*

Model of destructive and indifference to the environment is in the past – a trend is environmental conscioustions, family values and a healthy lifestyle [1, 2].

In line of these trends, the environment becomes one of the key being strategy for sustainable socio-economic development of the Republic of Belarus.

Priority environmental attitudes are reflected in the National strategy for sustainable socio – economic development of the Republic of Belarus for the period till 2030 [1].

Modern city – is a natural-manmade environment in which to create a comfortable living environment need a balance of all the mentioned components. To reduce the negative consequences of its violation, on the one hand, to upgrade technology, on the other – to

* Текст статьи приведен в авторской редакции.

optimize the functioning of existing natural components. The status of the green Fund – the issue of environmental safety of the population. Widespread environmental degradation in large cities, makes you think about the ineffectiveness of existing methods of farming and the need for new strategy [3]. Environmental design emerged as a response to mass production, harmful to the environment and inattentive to the needs of a real person. Responsibility to the environment, naturalness and uniqueness of made, currently, eco-design, a popular destination. Connection to nature is fashion, and to be “green” – conscious and ethical in relation to nature – has long been considered good taste. Of course, environmental design of natural materials, natural forms, nature all that makes is a separate aesthetic category [4, 5]. Planning the development of Belarusian cities in view of designing the landscapetion design, eco-design, gardening, as well as their impact on the environment and finding ways to reduce energy consumption, heat and water resources at the present time becomes the most important problem requiring urgent attention. The preservation and improvement of the environment are prerequisites for sustainable development, quality of life and overall is the future of our civilization.

Environmental indicators of condition and change of natural environment components according to the analysis of actual data of the National system of environmental monitoring of the Republic of Belarus are as follows: urban areas are available for 58 % (by number) of stationary sources producing 42,7 percent of the pollutants. In 2015, the largest amount of pollutants were emitted into the atmospheric air on the territory of Novopolotsk (57,6 thousand tons), Minsk (20,3 thousand tons) and Grodno (9.7 thousand tons). However, from 2015 there is a tendency of reduction of pollutants emissions in Belarus [1]. Of course, Belarus is a green country: a variety of vegetation covers about 90 % of our territory, forests make up 1/3 of the green cover. In this regard, it can be assumed that the eco-design relevant for Belarus, because it is so rich in vegetation. However, the difference in the cleanliness of the environment and pollution in the natural reserve “Belovezhskaya Pushcha” in Minsk obvious.

In the design of residential, commercial complexes, many countries have already faced the problem of lack of vegetation – green areas. Failure-the exact amount of vegetation not only worsens the ecological situation, but also makes the city unattractive for tourism development.

With this problem at the time faced the Republic of Singapore – city-state located on Islands in Southeast Asia [6]. At the time, the rapidly growing metropolis has provided green areas: no plants, no parks, but now the city became the capital of one of the most prosperous, though small in Asian countries. The government actively encourages environmental projects, as well as the development of eco-design. Among the architectural splendor of the city nestles many parks, green spaces and greenhouses. One example of environmental design became a hotel-garden Parkroyal on Pickering in Singapore. On the terraces of the skyscraper is a real oasis with an area of 15 thousand square meters.

A good example of the design works and the works of ecodesigners are the design of modern parks and gardens in the city, for example, multi-level Park «Namba» Osaka – Japan [7] and «Chess» square surrounded by office buildings in Prague. Figure 1, 2 shows the design solutions ecodesign – multi-level Park «Namba» and «Chess» square.

In the enormous modern Metropolitan areas every piece of land is like gold. However, still can be in the middle of skyscrapers, office buildings, shopping malls and multilane roads to arrange though not great, but a real oasis Park, harmoniously combining the utility of a large city the idyll of a wonderful landscape Park. The advantage of these parks and gardens are unusual game with space. There is also fountains and benches for relaxation, green area, area for relaxation and children's games.

When an architect designs a town, it faces a difficult task: post production, housing and places for recreation (parks) so that people were closer to parks, this was near work (i.e. manufacturing), and the production had a negative impact on the environment and people.

The world pays special attention not only to the beauty and usability of the “object” design, but also takes into account the characteristics of the materials used – both the design and the manufacture, use and disposal [8–13].



Fig. 1. Tiered Park “Namba” (Namba Parks)



Fig. 2. “Checkerboard” square

The Belarusian capital ahead of many major European cities according to this criterion a comfortable stay. However, you should pay attention to the problem in the cities, especially killing existing green areas and gardens and construction in their place, shopping centers, banks, apartment buildings etc. With new objects in a priori, does not provide for the creation on its territory of green zones, planting of trees or shrubs – ignoring the landscape design, “green areas” eco-design in modern Belarus. If used for the construction of commercial and industrial centers of environmentally friendly building materials are too expensive and therefore impractical, the complete disregard for the green areas – unacceptable.

Over the last five years, while large projects are building, landscape design gets less popular. We only design the building itself and the adjacent area is assigned for Parking or fully rolled into the asphalt. It is difficult to say about the harmony of the building and the environment or landscape, the greening of the city in such projects. Minsk is the concept city. It is one of the “greenest” cities in Europe. But still worth to pay special attention to the creation of new parks and squares in Minsk and other nations in cities or, possibly, redesign and improve existing ones. To create modern squares and parks is not enough just for beauty to plant trees, shrubs, flowers and put them near benches. Modern man wants to see a clear implementation of specific landamenity and landscape benets of the idea, to comprehend the original vision of the design project. A good solution to implement this idea, the creation of small themed gardens with original concept, subordinate unified style. In a modern city areas, it can be laconic and geometric in its structure, composition, the creation of which is not in the required effort and expenditure. Ignoring new projects for landscape development directly affects the ecological situation in large cities and, as a result, the quality of people's lives.

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**ПРОГРЕССИВНОЕ ДЕРЕВООБРАБАТЫВАЮЩЕЕ
ОБОРУДОВАНИЕ И ИНСТРУМЕНТ**

**PROGRESSIVE WOODWORKING
EQUIPMENT AND TOOL**

УДК 519.242:621.95:674.815

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**ПЛАНИРОВАНИЕ ЭКСПЕРИМЕНТА
ПО ВЫЯВЛЕНИЮ ЗНАЧИМЫХ ТЕХНОЛОГИЧЕСКИХ ФАКТОРОВ,
ВЛИЯЮЩИХ НА ПРОЦЕСС СВЕРЛЕНИЯ ЛАМИНИРОВАННЫХ ДСП**

**PLANNING OF THE EXPERIMENT TO DETECT SIGNIFICANT
TECHNOLOGICAL FACTORS AFFECTING IN DRILLING
OF LAMINATED CHIPBOARDS**

В статье представлены результаты планирования эксперимента по выявлению значимых технологических факторов, влияющих на качественные и силовые показатели процесса сверления ламинированных древесно-стружечных плит (Л-ДСП).