



APPLICATION OF FOREIGN EXPERIENCE OF GREEN ROOFS IN UZBEKISTAN

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ANNOTATION

Compares the foreign and domestic experience: the first representatives of the legal regulations, areas of greenery. The advantages and disadvantages of this kind of gardening are considered.

KEYWORDS: *green roofs, landscaping, domestic experience, the republic of Uzbekistan, foreign experience, extensive and intensive methods of landscaping roofs.*

INTRODUCTION

"The roof garden will be the most beautiful part of the building, which means the revival of green spaces in big cities,"- said Le Corbusier. Green spaces provide a comfortable stay for people: reduce dustiness of the air, reduce the harmful concentration of gases in the air, reduce air temperature and noise pollution, have phytoncidal properties. Only in green areas can a person find peace and refuge from the fast, noisy life of the city. The scarcity of territories to create green spaces is an acute problem for large cities and megacities today. The rapid urbanization and active development of the industrial complex affect both the ecology of the planet and the quality of life of the population.

RESEARCH METHODOLOGY

The story of creating a roof garden began before our era. The first ancient landscape ideas were the hanging gardens of Babylon and the green terraces of Caesar Augustus. The modern history of such landscaping begins in Iceland, where the roofs were covered with earth and planted with grass. The houses of the inhabitants of this island country resembled living corners, on the roofs of which greenery freely grows almost like in natural conditions. The first to seriously plan the gardens of this type was the famous French architect Le Corbusier. In the first half of the twentieth century, he defined the five principles of new architecture. The second principle characterized the possibility of greening the roofs and read as follows: "The roof garden will be the most beautiful part of the building, which means the revival of green spaces in big cities." Despite centuries of experience, roof gardening began to spread only in the 80s of the

twentieth century, when technology and high-quality materials were invented. [1]

Currently, green roofs have received wide international recognition, and their construction is carried out in almost all regions of the world, the first place in creating roof gardens, especially in the production of new building materials for this, belongs to Germany. In this country, one of the prerequisites for the design of new buildings is greening the roof, including one with a significant slope. Even taxes were introduced for homeowners who do not use roofs under gardens.

In a number of European countries, including the Netherlands, Norway, Italy, Hungary, Sweden, Greece and others, there are associations that are actively promoting the idea of "green roofs". In the Austrian city of Linz, roof gardening developers have been paid by the municipality since 1983, and in Switzerland, the federal green roof law has been enacted since the late 1990s.

In North America, this technology began to develop later than in Europe, but by 2010, the area of green roofs in the USA and Canada amounted to 900 thousand m². National standards and legislative acts aimed at maintaining and developing roofing gardening technology are being adopted. In Canada and Japan, all newly built buildings with a flat roof must have a green roof without fail. Financing is carried out, as a rule, at the expense of the state budget. However, the largest commercial companies are also investing in the development of roofing technologies at their infrastructure facilities. [2]

In 2017, a law was passed in San Francisco, according to which, green roofs should be designed in new buildings. A year earlier, in 2016, a similar law was introduced in France - there, all buildings



built in commercial areas should be partially covered by plants or solar panels.

So why are we in Uzbekistan unable to introduce the same “green roofs” law for private construction companies built in commercial areas, in new buildings, design institutes when they project all classes of buildings?

Roof landscaping in the Republic of Uzbekistan has not yet become a mass phenomenon. However, we must pay great attention to this.

Green roofs have several advantages over conventional roofing of buildings:

- Improving the ecology of the building itself and the area around it: green spaces purify the air, retaining about 20% of harmful impurities;

- Increase the level of sound insulation. Especially relevant for buildings located near motorways, airports and other noise sources;

- Increase the level of thermal insulation: the green roof regulates well the processes of heat exchange of the building with the environment. In the winter heat is delayed, and in the summer the house is in a pleasant cool;

- Additional resting place and additional area for the implementation of gardening ideas;

- increase the service life of the roof. Plants and soil to some extent protect the roof from the effects of negative factors: moisture, snow, sunlight, etc.

- Protection from snow blockages and flooding. Plants in this case take the blow and partially delay snow dumps and rainwater;

- Aesthetic component. Gardening is an original, always memorable design of the roof;

In addition to the advantages, there are also disadvantages of green roofs, namely:

- high cost compared to a conventional roof;
- heavy weight, which may not withstand the covering material on it.

A scrupulous selection of plants and proper care for them. Before creating a green roof garden, you should choose plants that can grow in such conditions and have a beautiful appearance.

There are two main types of green roofs: intensive and extensive. They differ from each other in cost, types of plants and type of use. [3]

Intense roofs represent the garden in the full sense of the word. The assortment of plants for this type is diverse, including deciduous and coniferous shrubs, small trees, places for rest and walks are arranged on the roof. This type of landscaping can be introduced on the roofs of hospitals and clinics in Uzbekistan, as dense urban development does not always allow the creation of full green spaces for the recovery of patients.

With extensive gardening, only plants that withstand adverse conditions, such as sedums, saxifrages, and simply lawn herbs, are used. People are not supposed to have access to such a roof for

recreation, and movement is only possible on special paths. Such landscaping does not require special care. In Uzbekistan, this type of landscaping can be widely used in the improvement of industrial enterprises, garage complexes and trade enterprises.

The main difficulties in creating roof gardens are the destructive power of the measles system and wind loads, so the design of the roof garden is quite complicated. It usually has several insulating layers, additional windproof devices and a special irrigation system. The soil layer for plants should be 30-40 cm, to create a lawn - 15 cm. New technologies for arranging "green roofs" include a whole range of construction works. This is a solution to waterproofing issues, a drainage layer device with the necessary filtration. Depending on the specific conditions, the composition and number of the multi-layer “cake” of the green roof - garden cover can vary within the widest limits, each time meeting a specific task.

CONCLUSION

My opinion and proposal, so why in Uzbekistan we cannot introduce the same “green roof” law for private construction companies built in commercial zones, in new buildings, design institutes when they project all classes of buildings. Especially, on the roofs of hospitals and polyclinics of Uzbekistan, as dense urban development does not always allow creating full green spaces for the recovery of patients.

REFERENCES

1. Бубнова А. Б., “Динамика изменений растительных сообществ на традиционных скандинавских зелёных крышах”, арх. 7 апреля 2017.
2. Титова, Н. П., “Сады на крышах” ОЛМА-ПРЕСС Гранд, 112 с, 2002.
3. Вестник РУДН. Серия: “Агрономия и животноводство : журнал”, М., № 5. С. 514. 2013.
4. Salimov, D. Tursunova, “The problems of preservation and use of architectural monuments of the fergana region,” *IJMR*, vol. 6, iss. 2, pp. 263-266, February 2020.
5. D. Tursunova, N.Mahmudov, *Farg'ona vodiysi choyxonalaring arxitekturaviy kompozitsion yechimi*, 2nd ed., vol. 1. *Qo'qon*, 2020, pp.117-121.
6. J.D. Axmedov and S.R. Qosimov, “Uy joy binolari qurilishida tejamkorlik va iqtisodiy ustuvorlik masalalari,” *FarPI Ilmiy texnika jurnali*, vol. 23, *Farg'ona*, 2019, pp. 196-199.