

ENVIRONMENTAL AND ECONOMIC PROBLEMS OF THE PRODUCTION OF GRANITE IN UKRAINE

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Granite production in Ukraine is closely connected with environmental and economic problems such as land degradation, excessive energy consumption, exhaustion of the resources, sewage pollution, solid waste production, outdated equipment and others. Economic concerns are related to the value, pricing mechanisms, trade conditions purchasing practices etc. The article offers some ways to solve these problems.

Key words: granite production, ceramogranite, clay, deposits, natural stone, environment, solid waste, radiation, energy consumption, ecodestructive processes.

More and more artificial materials appear in the world market, but popularity of natural stone continues to raise. Ukraine as a developing country is an important supplier of natural stone products. The main natural stone in our country is granite.

Nothing can quite compare with its ancient yet timeless beauty, its luxury, the richness of its iridescent shine, or the incredible feel of its texture. Its many qualities and its wide choice of colors and grains at an attractive price are comparable to none, making it one of the most versatile and sought-after stones today. Nowadays granite is commonly used in the building sector, including garden ornaments, and in the funeral industry.

Ukrainian granite is exported and widely used throughout Europe because our country has large deposits of this stone.

About two hundred deposits of granite with a total reserves of about 300 million m³ are worked in Ukraine. These reserves cost 165 trillion USD nowadays [5]. In 2009 the largest deposits in Ukraine were Kapustinsky deposit (3545,6 million m³), Korninske deposit (5501 million m³), Pokostivske deposit (2856 million m³), Didkovytske deposit (4504 million m³), Boguslavske deposit (6249 million m³), Tokivske deposit (14116 million m³), Kudashivske deposit (11268 million m³), Novoukrainske deposit (49735 million m³) [3].

These data show significant reserves of granite in Ukraine and constantly increase the production levels and product quality. We need to introduce innovative production technology and

stone processing, selection of qualified manpower to enhance the competitiveness among other “granitic” countries such as Italy, Spain, India, China and others.

Modern businessmen save on new technology that allows to get the product of unique quality with minimum losses because of their high price that reaches million dollars. The question of waste production is important, it will be better to process the stone remains on rubble [4] that will provide a closed cycle and growth of economic indicators of such enterprise.

We can find the granite of various colors and shades in Ukrainian deposits. It’s allow us to use this stone not only as a quality building material, but as a facing stone and a material for works of art.

Despite all the advantages, we must analyze some alarming information regarding the conditions in which granite stone is quarried, processed and used. Many environmental issues which arise in processing have an economic expression.

Environmental issues include large-scale conversion of agricultural grounds, forest lands; destruction of natural habitats and land degradation; soil erosion; excessive energy consumption; exhaustion and non-renewability of the resources [1]; outdated equipment and inability to buy new one because of its high price; dust emissions and noise pollution; water consumption; sewage pollution; solid waste production; harmful radiation background which is formed in the course of working with granite and causes the occupational diseases, has negative impact on the environment.

In addition, there are economic concerns relating to the value chain, pricing mechanisms, trade conditions, purchasing practices and so on.

To solve problems which arise at all stages of production we need to make considerable efforts. Some businessmen decided to find an alternative to granite such as ceramogranite. This material is made of two types of clay by pressing and kilning. It has similar characteristics and appearance with natural stone but the range of the use of this material is not so wide.

There are also some other ways to solve environmental and economic problems of the “granite business”. These ways are:

- rational use of the natural resource;
- search of the new equipment, innovative technology that can improve productivity and reduce ecodestructive impact;
- organization of the continuing environmental monitoring, that will allow to estimate the state of environment optimally and also educe and remove his pathological changes on the early stages;
- filtration of the sewage by special equipment or cleaning them in the water-collecting sumps before being discharged to reduce the impact on water bodies [2];

- introduction of the system of the rehabilitation actions directed on increase of stability and efficiency of wood plantings and also preservation of their versatile functions;
- carrying out the antierosion actions;
- lands recultivation for the purpose of their restoration for further useful use;
- careful research of a deposit before the beginning of works in it that provides to take the best form of the block with the minimum losses, it influence on solid waste production;
- providing of wastelessness of production by their using wastes as a raw material for building materials;
- reduce the impact of dust and noise by improving the equipment, using personal protective equipment by employees;
- reduction of radiation exposure of workers and consumers through the improvement of ventilation and filtration installations, increase the number of green plantings on adjacent territories and also increase the consumption of the cleared water and the products containing pectin;
- state government control of the questions related to the sphere of granite business.

Thus the production process requires deep studying and improvement. At that point ecodestructive processes and economic losses related with them. The important direction of state regulation and activity of the businessmen working in this area is the solution of the outlined circle of problems. These activities will accelerate the development of the granite business in Ukraine, improve the quality of the products, increase the competitiveness of the country and escape to a new economic level due to its natural wealth and efficiency.

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