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MINERAL DEVELOPERS AND LOCAL COMMUNITY: ON THE WAY TOWARD MUTUAL UNDERSTANDING

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Under the conditions of intensive development of mineral resources and especially natural building materials mining industry and the increased role of the latter in the territories' economy the interests of a mineral developer often come into contradiction with the goals of sustainable and balanced development. The article analyses the experience on creating recreational parks and ecological paths in the Republic of Karelia and expresses the need to establish effective and long-term interaction between the enterprises and local community.

People's encroachment into the sphere of nature by commissioning and further operation of fields leads to artificial landscape modifications, vegetation clearance and groundwater contamination. In many cases, local communities also suffer direct and indirect damage from the actions conditioned by the specific character of mining practice. Therefore, it is not uncommon that between mineral developers and local communities there is a tension conditioned as a rule by the difference of interests and the lack of understanding that the world practice already has complete solutions for this and many other problems.

Under the conditions of the world economic crisis former common but poorly-efficient practices are being reconsidered, the enterprises' current problems are being analyzed and new approaches are being tried.

“Green Mining” theory – sustainable and responsible subsurface resources management – has been elaborated and is being actively developed in order to minimize the negative effect of anthropogenic activities on the nature and to have a constructive dialogue with population. Sustainable development concept accepted by international institutions relies on the philosophic message about harmonization

of economic development with the interests and needs of the future generations. The followers of this approach give priority to human welfare, stability and long-term investments, ecologic indicators and energy efficiency, employment of population and the importance of public opinion. The essence of “Green Mining” is minimizing hazardous wastes and emissions and strengthening the efficiency of mineral resources use. Along with this the notion also has a social dimension.

Taking into account the importance of mining enterprises in the territories’ economy and the low level of local communities’ confidence to the industry, the issues of the rehabilitation of production sites’ territories and the restoration of the surrounding landscapes after the completion of works are becoming topical. Upon that the conception’s followers underline the necessity of scientific support of the works at all stages of the process chain.

“Green Mining” initiative was first formulated and presented in 2004 by the Association of Mining Companies of Canada. To satisfy the needs of the society in minerals, metals and energy resources by the safest way from the perspective of consequences was declared as the aim of it. The program suggested introducing and using innovative energy-efficient and environmentally friendly technologies in mining industry.

In 2006, in Canada, non-governmental association was formed in order to work out the standard of mining industry management and the effective mechanism to control its compliance. Almost at the same time, in 2005, already in Europe, European Technology Platform on Sustainable Mineral Resources was started. In 2013 the participants of this platform established the International association of mining companies, and by now it numbers about twenty members.

A large program combining hundreds of projects under the common name of “Green Mining” has been working since 2011 in Finland. The total funding of the program has surpassed all expectations and has grown up to 120 million EUR. According to Geological Survey of Finland the theme of the program has turned out to be in-demand and the specialists from other countries have become interested in the Finnish experience. Despite the declared goal to make Finland the leader of introducing “green” technologies into mining industry, companies from Sweden, Australia and Canada have also become the participant of the program.

The problems of anthropogenic load and social distrust in mining industry also appear in such countries as India, China and Russia. Despite the western tradition where financial investments of the enterprises into sustainable development are considered as one more competitive advantage, in Russia everything that cause additional expenses is often perceived as a burden. Meanwhile “Green Mining” conception can be in demand also in Russia as it is one of the promising subjects for participation in international cooperation projects.

More than twenty enterprises in Karelia are occupied with producing blocks, many of them have started their activities as far back as in the soviet period, but the contribution of mining industry into the economy does not correspond to its possibilities and the experts’ expectations.

This is not to say that the society is well-informed about the activity and products of such companies; even local population does not often have an adequate idea of nearby production facilities.

According to the Russian legislation the term of a state license for mine exploration and development is about thirty years, therefore the mineral developer is interested in stable operation of the enterprise on the chosen territory. Therefore one of the forms of relations harmonization could be the integration of enterprises into socio-cultural environment.

Nowadays the long development history of Karelia's mining industry is considered as one more good reason to endorse its products. These advantages could be used to mitigate risks of an enterprise and extend a product range.

Experience has proven that it is entirely possible to create small auxiliary structures servicing tourism sector based on stone quarrying and stone processing production facilities having interesting background or producing decorative stone materials of high quality. This orientation allows building connections with local community, giving an impetus to the development of local business activity, including workshops producing promotional and souvenir items, at minimum costs from the enterprise.

As a matter of fact all these activities stay within the frameworks of the popular "Green Mining" conception, solving the issues of reconciling the interests of business and society, economy and nature as well as the present and the future. There are a lot of preconditions in Karelia to develop this process. The famous facing stone quarries have their history and might as well become a basis for economic, social and cultural development of the region.

From a historical viewpoint the following deposits of decorative and facing stone are of interest: Suskunsaaari (granite), Shokshinskoe (quartzite) Roprucheskoe (gabbro-diabase) and Belaya Gora (marble). Shokshinsky quartzite ("shokhansky porphyry") should be recognized as the most famous quartzite sandstone, it was for the first time used for the interior finishing of St. Isaac Cathedral (1768–1859). After that shokshinsky quartzite was used for the decoration of Kazan Cathedral (1801–1811), some premises of the Winter Palace, when making the pedestal of the monument of Nicolay I (1856–1859) and the tombstone for Napoleon Bonaparte's tomb (1847–1861) (fig.1).

The history of development of Suskunsaaari deposit is full of remarkable pages and not free of its charm (fig. 2). The monks of the Valaam Monastery were the first to quarry granite block on St. German Island in Ladoga Lake in the first half of the XIX century (fig. 3). The construction materials were used for foundations and various architectural elements of the religious buildings and crosses. Later Suskunsaaari granite attained the fame of "tzar's" stone as this stone was used for facing the tzar's pavilion on Vitebsky railway station (1900–1901), the tsar's quarry in Kronshtadt and the base of Christ the Savior Cathedral newly built in Moscow in 1995–1997 using the same granite.



Fig. 1. The tombstone for Napoleon Bonaparte's tomb in Paris
Ryc. 1. Kamień nagrobny grobowca Napoleona Bonaparte w Paryżu

The sites of cultural heritage that tumble into ruins and pass into oblivion without proper treatment are very important from historical and aesthetic viewpoints. The deposit of belogorsky marble (the present-day Kondopozhsky district of Karelia) is also noteworthy (fig. 4). This stone was very widely used in the architecture of Saint Petersburg in the late XVIII–early XIX centuries. Near Belogorskoe deposit



Fig. 2. Quarry on Suskunsaaari deposit
Ryc. 2. Kamieniołom na złożu Suskunsaaari

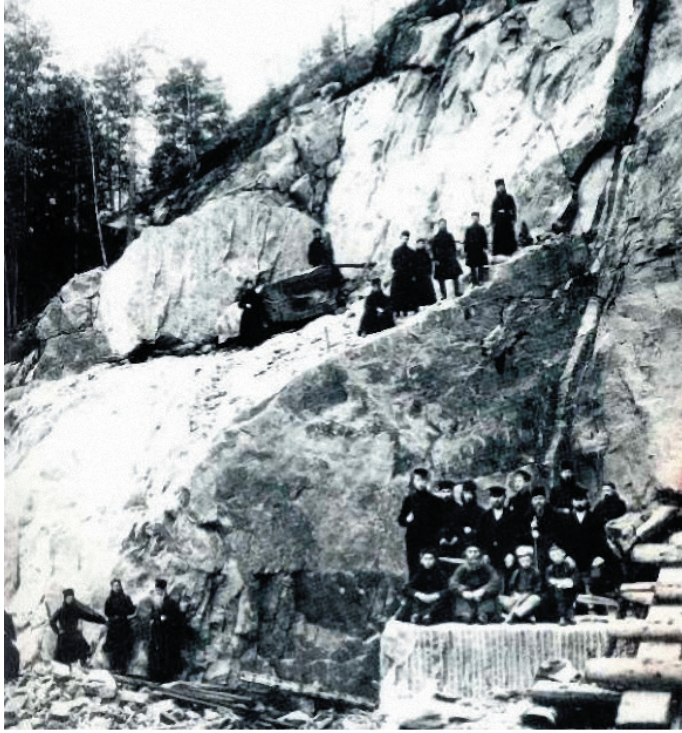


Fig. 3. The monks of the Valaam Monastery in granite quarry
Ryc. 3. Zakonnicy klasztoru Valaam w kamieniołomie granitu

in the village of Tivdia one of the first in the country stone processing plants based on water mill was built in 1807.

Today the marks of the former history are disappearing and even the church built under the project of K. Ton, the court architect of Nikolay I, and dedicated in the honor of the Kazan icon of the Mother of God, is on the verge of complete annihilation.

Despite the fact that most of the above listed enterprises are operating ones (except for Belaya Gora deposit), their management do not mind arranging excursions to the production facilities from time to time by appointment.

Within the borders of the quarry on Suskunsaaari deposit two sightseeing platforms were organized for tourists. These territories can be the key sites for visiting by tourists. For this purpose infrastructure is needed: preparation of educational materials for guides, elaboration of routes, creation of the image in mass media.

Joint exploitation of such sites in two different directions will let having additional synergetic effects working for the good of the territory.

The successful experience of Ruskeala Mining Park demonstrates the high interest of travelers to the history of mining industry, the places where one can make beautiful photos are very popular (fig. 5). In 2016 this park was visited by more



Fig. 4. Belaya Gora deposit, abandoned quarry of Tivdia marble
Ryc. 4. Złoże Biała Góra, opuszczony kamieniołom marmuru Tivdia

than 200 thousand people – a quite convincing indicator for economic assessment of using such site in touristic industry.

Given good will of mineral developers and interest of local authorities this experience can be used in the context of the operating quarries. Green Mining conception considers the opportunities to organize production activity of the enterprises with maximum benefit for everyone who is negatively affected by it this or that way.

Creation of the conditions for local business activity development based on the operating construction stone deposits and the improvement of the territory in order to accept tourists help making a basis for constructive interaction between the enterprises and the local authorities, advancing local initiative and solving economic problems of the region.

With this the specified opportunities, should be taken into account at the stage of designing and construction of a stone plant.

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Fig. 5. The Main quarry of Ruskeala Mining Park
Ryc. 5. Główny kamieniołom Górniczego Parku Ruskeala

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PRZEDSIĘBIORSTWA GÓRNICZE I SPOŁECZNOŚCI LOKALNE: NA DRODZE DO WZAJEMNEGO ZROZUMIENIA

*dziedzictwo górnicze i przemysłowe, zrównoważony rozwój, "Green Mining",
kamieniołomy kamienia blocznego, dawne kamieniołomy, Republika Karelii*

W sytuacji intensywnego rozwoju górnictwa, szczególnie górnictwa surowców skalnych, a także w związku z jego rosnącą rolą w gospodarce lokalnej, często pojawia się sprzeczność pomiędzy interesami przedsiębiorstw górniczych a kierunkami zrównoważonego i trwałego rozwoju regionu. W artykule przeanalizowano doświadczenia w tworzeniu parków rekreacyjnych i ścieżek ekologicznych na terenie Republiki Karelii. Podkreślono potrzebę ustanowienia realnej systematycznej współpracy między przedsiębiorstwami wydobywczymi i społecznością lokalną.