

NATALIA BATSIUN

Irkutsk Research Technical University, Russia

ANATOL JAKOBSON

Irkutsk State Transport University, Russia

YURI JAKOBSON

DQ Technologies, Ltd, Irkutsk, Russia

## Irkutsk as a Potential Growth Point of Greening Processes in Russia

**Abstract:** Greening has no alternatives in contemporary world. Yet in Russia another process is taking place – the weakening of environmental consciousness in the conditions of economic backwardness. Our hypothesis is that the only hope is connected with some local breakthroughs and one of them can occur in Irkutsk due to its geographic position. The proximity to the Lake Baikal must influence the mentality of the citizens, which has already been demonstrated once, in the time of Perestrojka. There existed an enormous public activity in Irkutsk with the slogans of closing Pulp and Paper Plant on the bank of Baikal. To analyse this idea, the geographic position is thoroughly considered. Also, a sociological survey was undertaken in the framework of our investigation. This survey showed the high level of Baikal patriotism, as well as some tendencies of forming consumer's consciousness of the quality of the goods purchased. The market of environmentally-friendly products in Irkutsk was analysed, including the one of food supplements developed by local specialists. This market is in the initial stages of its existence, but it does exist and it is a source of hope.

**Keywords:** Baikal; economic-geographic position; environmentally friendly goods; greening; Irkutsk; public consciousness

**Received:** 18 December 2019

**Accepted:** 5 July 2020

### **Suggested citation:**

Batsiun, N., Jakobson, A., Jakobson, Y. (2020). Irkutsk as a Potential Growth Point of Greening Processes in Russia. *Prace Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego*, 34(3), 179–189. doi: 10.24917/20801653.343.12

## INTRODUCTION

We can say that in developed countries, the level of public consciousness about greening is quite high in our days. Widespread are such phenomena as mass social movements for environmental protection and simply the desire to eat healthy foods and buy goods produced with minimal environmental damage. It seems reasonable to emphasize the words “in developed countries”. The level of greening, including environmental awareness, varies between countries and sometimes between their regions. And it seems that this level largely depends on the level of economic development, although there may be, for various reasons, significant exceptions. From this point of view, the situation in the

former USSR, especially in Siberia, namely in the city of Irkutsk is worth analysing. The specificity of Irkutsk lies in its geographical location near Lake Baikal, which for several decades has been a point of concentration of public environmental consciousness.

## THE INVESTIGATION METHODOLOGY

In our investigation, the basic methodologic notions are greening and economic-geographic position (EGP).

The idea of greening has been popular all over the World, especially after Rome Club reports in the 1970s, the Rio-de-Janeiro Conference in 1992, and so on (Collin, 1995). In Russia, more often, the term “ecologizatsiya” (which can be translated as ecologisation or environmentalisation and means the same) is used.

What is meant by that is the introduction into all the spheres of activity of decisions that lead to increasing the efficiency of natural resources usage without any harm to the quality of human living. It includes, first of all, greening of production: technological greening, i.e. introducing technologies that allow for diminishing environmental pollution and the amount of waste, and structural greening, i.e. transition to the industries that are less harmful for the environment, e.g. solar power.

Still, very important aspects of greening are greening of consumption – et al. changing customers’ preferences towards environmentally-friendly goods (Panayotou, 1993) and greening of public consciousness (Piskóti, 2015, Schlegelmilch e.a., 1996), which means increasing the recognition of environmental values that leads not only to greening of consumption but to taking part in environment protection public activity as well.

EGP as a notion was introduced by Soviet economic geographer N.N. Baransky as early as in 1929 (re-published in 1980) and later developed by I.M. Mayergoys, A.B. Treyvish, et al. This notion has been in fact the cornerstone of Soviet and Russian economic geography. EGP was defined as “relative location of some place, area or city as to some outside phenomena that are more or less significant from economic point of view” (Baransky, 1980: 129)

The key word here is – “relative”. Thorough analysis of all these phenomena, influencing the given object, allows a geographer to understand this object more deeply.

The concept of EGP has never been elaborated on and formalised to the level of quantitative analysis. Still, many geographers have used it on the qualitative level, proving its value. As of now, the most valuable achievements of the theory include:

- awareness of poly-scale character of EGP; N.N. Baransky wrote about macro-, mezo- and micro-position, but today we use a broader differentiation, namely for Irkutsk we can speak about the position in the World, in Eurasia, in Russian Federation, in the economic region, in the urban agglomeration, etc. (Jakobson, Blinov, 2014);
- awareness of historically changing character of EGP;
- considering and analysing, alongside with EGP, its special aspects: political-geographic position, transportation-geographic position, ecologic-geographic position, etc.

Of interest for us is also the concept of polarised growth, developed by F. Perroux, J. Boudeville, H. Richardson, J. Grzeszczak, A. Jakobson, et al., according to which, regional

growth and development are concentrated, as a rule, in several selected points and afterwards spread throughout the whole geographic space.

### THE INVESTIGATION HYPOTHESIS

As greening has no alternatives in contemporary world, it seems necessary to struggle for it, despite all the difficulties. One of these difficulties, perhaps the principal one, is the fact that there are no real notable powers interested in greening, while those interested in industrial pollution exist and have great opportunities to do what they want. Formally, the body for protecting the environment is the State Government. In Russia, its primary task is forming the environmental legislation which would contain the mechanisms ensuring the environment protection. One of such laws is the Law on the protection of Lake Baikal adopted in 1999 and revised annually. Baikal National Park had been formed earlier. But all this activity contradicts the interests of certain groups: those who cut down the forest in a predatory manner, who are engaged in poaching, who build houses and hotels on the very shore. And very often, these forces turn out to be more successful. In order for greening of production to take place, it is necessary that public opinion and movement support the legal environment protection efforts. Thus, real greening of public consciousness is needed.

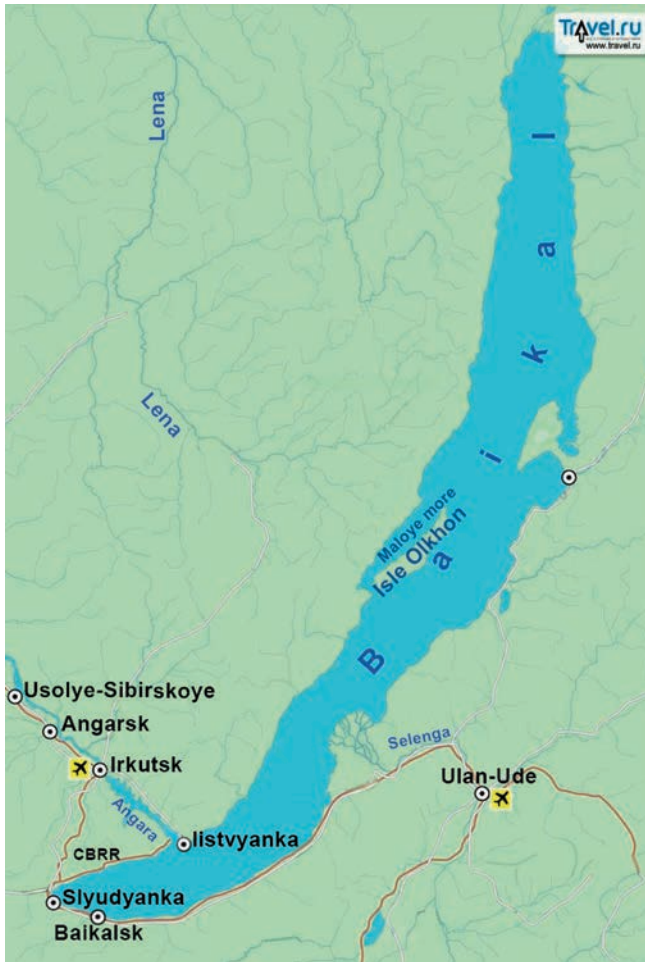
Perhaps, this process should be not spatially continuous but following the principles of polarized growth. Our hypothesis is that Irkutsk has some prospects of becoming such a growth point for the revival of environmental processes in modern Russia, given its geographical location and recent history. In other words, it can be hypothesized that, despite the economic backwardness of modern Russia and, as a consequence, the weak environmental consciousness, there is a chance of a local breakthrough in this direction for Irkutsk, due to the specifics of its geographical location. To analyse this hypothesis, we will try to answer the following questions:

- is there really a specific mentality of Irkutsk residents based on the awareness of the proximity of the city to Lake Baikal as a unique natural object and the value of this proximity;
  - how widespread the environmental activity in modern Irkutsk is.
- So, we are going to analyse:
- the geographic position of Irkutsk, especially in relation to Baikal;
  - the history of the environmental movement in Irkutsk;
  - the level of environmental thinking among modern citizens;
  - modern environmental business activity level.

### GEOGRAPHIC POSITION OF IRKUTSK

To understand the specificity or even uniqueness of Irkutsk, we should first analyse its EGP. As it has been said above, its position can be analysed in various scales, from different points of view. Partly, that of Irkutsk can and should be analysed: in relation to its position in Russia and in Eurasia (the knot of the ways going to the West, that is to Europe, to the East – Russian Far East, to the South – China and Mongolia, to the North and North-East), in Angara-Yenisey Region, in Baikal Region, in the ethnic area of Buryat people, within the local settlement system.

Figure 1. Geographic position of Irkutsk in relation to Lake Baikal



Source: Compiled by the authors

Despite all this variety, there is one point uniting all the approaches. There are cities in the world that do not need any additional explanations as to their location. You say: “I am from Paris (New York, London, Jerusalem, etc.)” and nobody asks: “Paris? Where is it?” It is obvious that Irkutsk does not belong in this category. But, being asked, in any spot of the world, where is Irkutsk, we answer: near Baikal Lake. And we expect to be understood. This is real self-determination, typical for the citizens of this city: seeing themselves as those who live near Baikal. Irkutsk is situated 60 km from the Lake (Fig. 1), or, to be more exact, from suburban settlement Listvyanka. The road connecting these two points is of respectively high quality and has served as “the Baikal route” for the citizens, as well as for foreign tourists since at least the 1960s. But a real boom of tourism took place in the 1990s, and continues today. A wide network of private hotels and restaurants, as well as other miscellaneous tourist infrastructure, has been formed. It is interesting that, in those very years, Listvyanka has been converted into the place where many representatives of Irkutsk intelligentsia (writers, artists and

Figure 2. Circum-Baikal Railroad



Source: Wikipedia

so on) prefer to live, while scientists have lived here for decades. In Listvyanka, an Institute of Academy of Science exists, which investigates ecologic problems of the Lake Baikal. The museums, both those belonging to the Academy and founded by private owners, make additional places of touristic interest.

However, Listvyanka is the most popular and most accessible, but not the single place on the bank of Baikal for Irkutsk citizens. One of them, the most remote one, is Olkhon Island, together with the so-called Maloye More (Little Sea), about 250 km to the North of Irkutsk. To the South of Irkutsk, the main place of interest is so called CBRR – Circum-Baikal Railroad (Fig. 2). It is a dead-end branch line from Trans-Siberian Route, which is 90 km long and goes along the bank of the Lake. The Railroad is very picturesque and includes many engineering objects unique from architectural and technical point of view. The history of the Road is rich with events, among which the rebellion of Polish exiles should be mentioned, known as Circum-Baikal rebellion, although it was connected with the construction of horse drawn route as early as in the 1860s. In our days, the Railroad serves predominantly as a tourist object, and the trains on it are drawn by a steam engine.

Thus, Baikal is very important for Irkutsk citizens. Many of them believe that the Lake is a source of some mystical natural force. Such a perception is even more popular among Buryats, representatives of the aboriginal population, although it is rather characteristic for the Russians as well. Since the late 1980s, there has existed the idea of forming the so-called Baikal Region (or Baikal Republic), comprising of Irkutsk and Chita Oblasts together with Buryat Republic, as the first territorial unit based not on a bureaucratic or even an ethnic background, but on the environmental idea. However, an ethnic element was also present here, as the three administrative units include the whole territory of the Buryats settling; it is a very important but not the principle element.



An additional sacred object for Irkutsk is Angara River, flowing from Baikal. As a traditional value, it unites Irkutsk with other significant cities of the Oblast – such as Angarsk, Ussolye-Sibirskoye, Bratsk and Ust-Ilimsk. Certainly, Angara is associated with the Lake. According to Buryat legend, Angara is Baikal's daughter who once left her father to unite with her beloved fiance Yenissey. In Soviet times, Angara-Yenissey productional complex emerged on the base of the two rivers hydropower stations, among which the Irkutsk one was the first. Their construction became legendary, forming a specific regional self-consciousness that once used to contradict the ideas of environmental protection but later they managed to join together.

### GREENING PROCESSES IN IRKUTSK IN THE YEARS OF PERESTROYKA AND NOWADAYS

Irkutsk is a Russian and ex-Soviet city, and this defines some common features with other cities in the country. Thus, it is necessary to recall the specificities of some historical aspects of public life in this country, especially in the late 1980s and early 1990s, when the intensity of environment protection activities, in the context of general political activity, was as high as possible. Irkutsk was one of the cities which has experienced an enormous explosion of social and political activity in late 1980s. The specificity of Irkutsk, located near famous Baikal Lake, was a high rate of environmental direction within this activity. It was in those days that a large-scale campaign was launched in Irkutsk against the Pulp and Paper Works on the shore of Lake Baikal (Baikalsk) and, in particular, against the so-called “Truba” (“Pipe”) – the pipeline for liquid wastes of the enterprise. The project of construction of this pipeline, which was supposed to deliver waste to the Angara tributary (Irkut), instead of pouring them into Lake Baikal, was intended to calm the public opinion. In fact, the “Pipe” could have been effective in the 1960s, when the project appeared and was then rejected by the government, but by the time of Perestroika it was not capable of satisfying the population. The campaign did not bring the desired results, but generated political activity in various directions, among them democratic, but also nationalistic ones (Goldfarb, 1996).

Perhaps, Irkutsk was one of the most active centres of environmental movement in the whole Soviet Union of that time. Also worth mentioning is the campaign to close the nuclear power plant in Armenia and some others. However, all these campaigns ceased after the collapse of the Soviet Union. In the 1990s, the intensity of these movements declined heavily, together with the decline of economy and the living standards. The event can be assessed in different ways, but in fact all the former Soviet republics, including Russia (and, of course, Armenia), as a result found themselves in the position of unstable and economically weak countries that could not afford to pay much attention to environmental problems.

Still, Baikal Ecologic Movement does exist. Its principal sphere of activity has become cleaning the lake shores from garbage together with monitoring the pollution of the coast. This is organised through developing the environmental volunteer movement, involving young people and people of the “silver age” in volunteerism, as well as forming the population's ecological culture and eco-knowledge. Since 2011, the environmental campaign “360” has been held annually (Volunteer Programs..., 2020). In 2019, in addition to garbage collection, the volunteers arranged picnic areas for tourists and equipped ecological trails. About 144,000 people took part. One of the

volunteer programs is called Great Baikal Trail and attracts young people from more than 30 countries. More than 500 km of trails have been reconstructed or created (On September 7..., 2019).

#### ENVIRONMENTAL MENTALITY: SOCIOLOGICAL SURVEY

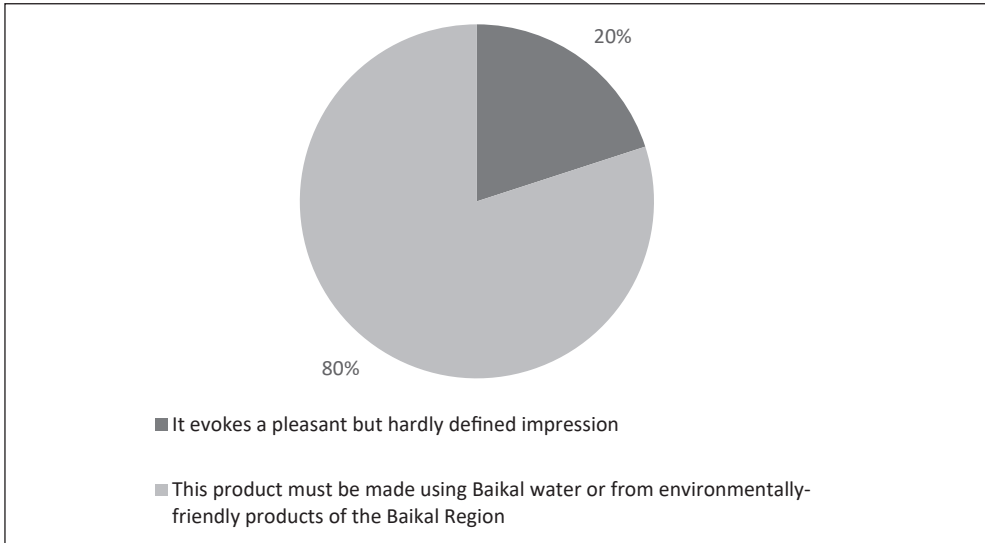
To evaluate our hypothesis, it is important to recognise, whether there really exists a specific mentality of Irkutsk residents based on the awareness of the proximity to the Lake Baikal as a unique natural object and the importance of this proximity. In the search of the answer, a sociological survey was conducted (Batciun, Jakobson, 2018). Interviewed were 200 respondents. 80% of the total number were students of Economics from three Universities in Irkutsk: Irkutsk Research Technical University, Irkutsk State Transport University and Baikal State University. The remaining 20% were parents of the students who expressed a desire to participate in the survey. They formed, respectively, two segments.

The first question was: Which associations does the word “Baikal” evoke in You? (2 to 5 words). Answering this question, both categories were in solidarity in expressing the sense of pride and admiration for the beauty of Lake Baikal, linking it to the purity and good state of the environment. Among students who can be considered a more qualified audience, the term “brand” was used several times (on their own initiative, without our influence). Second was the question “What would it mean for you if the word “Baikal” was used as a trademark of food products?”, with the variants of answer: 1) nothing special; 2) it evokes a pleasant but hardly defined impression; 3) this product must be made using Baikal water or from environmentally-friendly products of the Baikal Region; 4) this product must be environmentally-friendly, regardless of where it is produced.

Among the respondents, 80% associate this name with the sense of confidence and with the assumption that the goods are made from the products of the region, which are obviously environmentally-friendly. Among students, 20% believe that the very use of the word “Baikal” in the name, regardless of the actual place of production, informs about the quality of the product (Fig. 3)

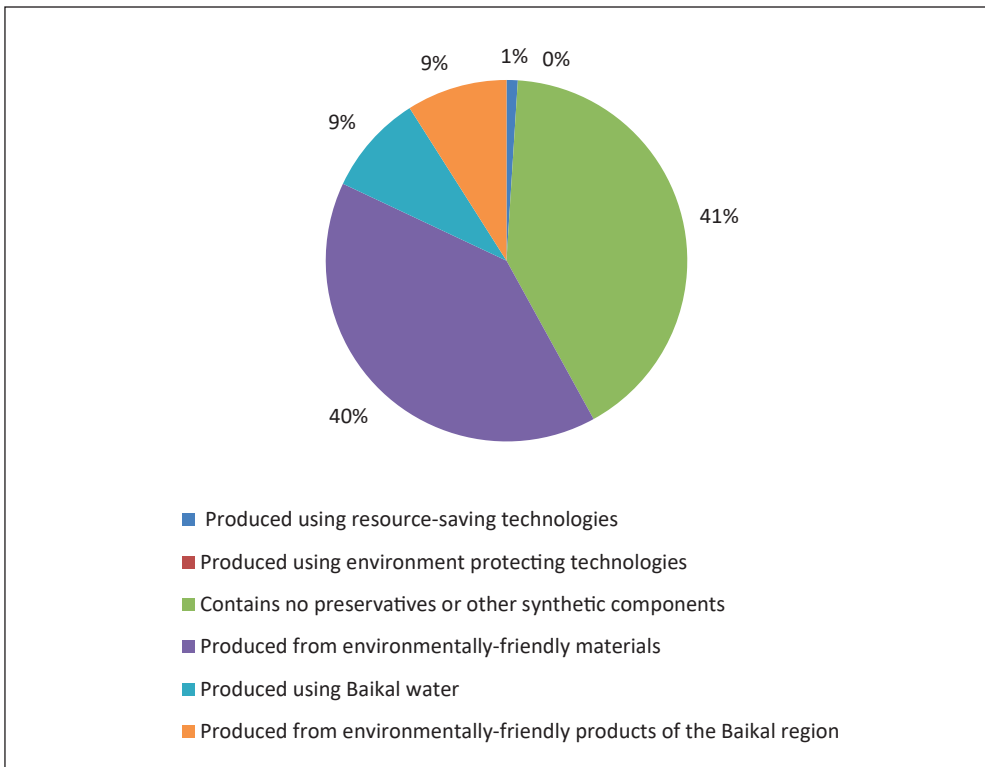
Further, the question was asked: “Which of the following statements can convince you to buy some product at a higher price?”, with the variants of answer: 1) produced using resource-saving technologies; 2) produced using environment protecting technologies; 3) contains no preservatives or other synthetic components; 4) produced from environmentally-friendly materials; 5) produced using Baikal water; 6) produced from environmentally-friendly products of the Baikal region. The analysis showed that people express a great interest in the products from which the goods are made: among the selected answers were “contains no preservatives or other synthetic components”; “made from environmentally-friendly products”; “made with the use of Baikal water”; “made from environmentally-friendly products of the Baikal region”. Only about 1% of respondents, and only students, chose the statement “produced using resource-saving technologies” or “produced using environment protecting technologies” (Fig. 4). Thus, the level of social and environmental responsibility of the population is still not high enough, but at the level of awareness of personal interests, thinking has been sufficiently ecologised for the use of environmental brands. This conclusion emphasizes the possibility of using this phenomenon in marketing (Jakobson et al., 2018). At the same

Figure 3. Distribution of the variants of answers for the question: What would it mean for you if the word “Baikal” was used as a trademark of food products?



Source: authors' own work

Figure 4. Distribution of the variants of answers for the question: Which of the following statements can convince you to buy some product at a higher price?



Source: authors' own work



time, we note that young and educated people are especially advanced, which indicates the prospects of greening business, as well as the need for environmental education as a mandatory part of education.

## ENVIRONMENTALLY-FRIENDLY PRODUCTS MARKET IN IRKUTSK

Let us now consider the state of the market of environmentally-friendly products. There has been no consensus on the concept of “environmentally-friendly products”. Based on the combination of several approaches, it is possible to define an environmentally-friendly product as an environmentally licensed product of plant or animal origin, grown on environmentally pure lands without using any chemical fertilizers or artificial feed. The market of environmentally-friendly products in Irkutsk has been underdeveloped – just as in other cities of Russia. Yet some activity in this direction can be noticed (The Diary News..., 2019). Several shops of such products are functioning, bearing such names as “Ecopolza” (Ecologic use, Ecologic benefit), “Ecoproduct”, “Eco-bazaar”, “Yedim polezno” (We eat usefully). There is also a cafe called “Phytotherapy”. Some tendencies can be seen when we analyse advertising in the city. Just one example: “–Give me please a bottle of Byelorechka milk (a well-known agricultural enterprise in Irkutsk agglomeration). –I prefer to buy a cheaper milk. –For me, quality is more important than price. I know that in Byelorechka they obtain milk from their own cows, so purity is guaranteed!”

The trend for greening can be seen through the example of environmental exhibitions and fairs. One of them is the Fair “Made on the banks of Baikal”. The purpose of the fair is to help the masters and eco-entrepreneurs of Irkutsk region to express themselves, to establish partnerships and to find new opportunities for the sale of products. The fair “Made on the banks of Baikal” was held for the first time in 2015 in Baikalsk, after that it was held in Kultuk, Slyudyanka, Irkutsk and Ulan-Ude. The latest one took place in Irkutsk in December 2018. Among the exhibits of the fair, there were handicrafts, natural cosmetics, Baikal souvenirs, handmade jewellery, soap, paper, chocolate manufactured using honey and cedar nuts, New Year toys, ceramic dishes, etc. Another example is the exhibition “ZOZh-EXPO” (Healthy Way of Life) that took place in Irkutsk in March 2019. Represented were medical organisations, producers of healthy, environmentally-friendly food, special food for sportspeople, natural cosmetics, etc. In both exhibitions the brand of Baikal was widely used as a means of promotion. One of the exhibits in ZOZh-EXPO was dihydroquercetin – a food supplement developed and produced in Irkutsk.

This product, one of the biologically active substances, is the most powerful antioxidant today, belonging to the class of bioflavonoids, and historically directly linked with Irkutsk. The substances of this group were discovered in 1936 by Nobel prize winners, biochemists Albert Szent-Gyorgyi (USA) and Istvan Rusznak (Hungary). The first bioflavonoids were produced in small amounts from plants (grape seed, eucalyptus, Japanese cherry petals, rose petals). Due to the high cost of raw materials, the production of medicinal substances both in Russia and abroad was very limited, and the product itself was available only to very rich people, as its cost ranged from 200 to 500 euros per 1 gram. However, in the late 1960s in Irkutsk, Professor N.A. Tyukavkina, together with her colleagues, discovered and revealed dihydroquercetin from larch timber. This discovery made it possible to reduce the cost of the product significantly and to expand the

raw material base for its production to extensive amounts. It was proved that the maximum concentration of the substance is found in the timber of Siberian larch and Gmelin larch growing around Baikal, as well as in the Far Eastern Daurian larch. In the 1980s, the disciples of Tyukavkina developed the optimal method of obtaining dihydroquercetin, which made it possible to produce it in mass amounts. In Irkutsk, a number of companies are involved in manufacturing food supplements containing dihydroquercetin, that divide their marketing strategy into several directions: pharmaceutical and medical segment (prevention of some diseases and inclusion into schemes of treatment) – “Siberian technologies”, the main brands of which are Kedrovitin R and DQ R+Inulin, as well as “Legend of Baikal”, “Biodihydroquercetin” in powder form; hospital segment – a small production unit on the basis of Organic Chemistry Institute interacting with several hospitals; sports segment (high doses of active substance for removing oxidation processes; the active ingredient, being natural, is not doping); everyday products (hangover relief, product for cleansing the lungs of smokers, natural energy drink) – “DQ Technology”, producing food additives for a specific target audience. The brands of “Guten Morgen DQ” and “DQ Relief”, though having appeared on the market late, were awarded gold medals in the international contest “Innovative product 2019” (Moscow).

## CONCLUSION

We see that the total level of social and environmental responsibility remains rather low in Irkutsk, which is typical for the whole contemporary Russia. Yet there really exists local patriotism connected with the Lake Baikal, and this brings an environmental component into the self-consciousness of the citizens. This makes it possible to hope that the processes of greening have a real chance here. What is necessary, however, is the environmental education and promotion of greening ideas. It can be added that a part of these processes is the market of environmental, or environmentally-friendly goods development. Such a market does exist in Irkutsk. It means that the processes of public consciousness greening have been developing, at least when it comes to food and food supplements. At the level of recognition of personal interests, the thinking of citizens has been sufficiently ecologised for dealing with environmental brands. Hence, greening business does have some potential. We find it necessary to continue investigations in this direction. Particularly interesting seem to be the following problems:

- the market of environmental services, starting with tourism;
- the impact of local education and research sphere on the environmental consciousness of the public;
- the greening processes in Irkutsk agglomeration.

## References

- Baransky, N.N. (1980). Economic-Geographic Position. In: *N.N. Baransky. Selected Works. Formation of Soviet Economic Geography*. Moscow: Mysl, 128–159.
- Batciun, N.V., Jakobson, A.Ya. (2018). Ecologization of Business as Innovation Trend of Postindustrial Economy. *The European Proceedings of Social & Behavioural Sciences*, 6(147–155). doi:10.15405/epsbs.2018.12.19
- Collin, P.H. (1995). *Dictionary of Ecology and the Environment*. Teddington, Middlesex: Peter Collin Publishing.

- The Dairy News Region: Russia (2019). Retrieved from: <http://www.dairynews.ru/news/gryadet-globalnyy-peredel-rynka-organicheskikh-eko.html>
- Goldfarb, S. (1996). *Baikal Syndrome*. Irkutsk: "Komsomolskaya Pravda – Baikal" Agency.
- Jakobson, A.Ya., Blinov, I.D. (2014). Multi-Scale Approach and "Playing Scales" in Economic Geography. In: *Wpływ kryzysu gospodarczego na przemiany struktur przemysłowych. Impact of the Economic Crisis on Change of Industrial Structures*. Krakow, 211–218.
- On September 7, the Environmental Campaign "360" will be Held on Lake Baikal in a New Format (2019). Retrieved from: <http://www.irk.ru/news/20190815/ecology/>
- Panayotou, T. (1993). *Green Markets: the Economics of Sustainable Development*. San Francisco: ICS Press (Institute for Contemporary Studies), 169.
- Piskóti, M. (2015). *The Role of Environmental Identity in the Development of Environmentally Conscious Behavior*: PhD thesis. Budapest, 26.
- Schlegelmilch, B.B., Bohlen, G.M., Diamantopoulos, A. (1996). The Link between Green Purchasing Decisions and Measures of Environmental Consciousness. *European Journal of Marketing*, 30(5), 35–55.
- Volunteer Programs in Russia. Great Baikal Trail (2020). Retrieved from: <http://travel-soul.ru/volontyorskie-programmy/>
- Yakobson, A.Ya, Lidin, K.L. Batsyun, N.V. (2018). Place Images and Marketing Promotion of a City (Exemplified by Irkutsk). *Geography and Natural Resources*, 4, 150–158.

**Batsiun Natalia V.** – MA, Senior Lecturer, Chair of Economics and Digital Business Technologies, Irkutsk National Research Technical University. Graduated from Siberian Institute of Law, Economics and Management (1999). The author of more than 100 published works, including four textbooks. Her research interests include environmental management, regional marketing, geographical specificities of greening processes.

**ORCID: 0000-0002-1663-5487**

**Address:**

Irkutsk National Research Technical University  
Lermontov St., 83, 664074, Irkutsk, Russia  
e-mail: nbatsun@mail.ru

**Jakobson Anatol Ya.** – Doctor of Geographic Sciences, Professor, Chair of Management, Irkutsk State Transport University. Graduated from Moscow State University (1970). The author of more than 250 published works, including five monographs and more than 10 textbooks. His research interests include regional marketing, strategic development planning, public movements.

**ORCID: 0000-0003-3928-5405**

**Address:**

Irkutsk State Railway University  
Chernyshevsky St., 15, 664074, Irkutsk, Russia  
e-mail: anatoliy.jakobson@gmail.com

**Jakobson Yuri A.** – MA, Medical Director, DQV Technologies Ltd. Graduated from Irkutsk Medical Institute (1996). Post-graduate student, Irkutsk State Transport University. His research interests include medicines and marketing of environmentally-friendly products.

**ORCID: 0000-0001-5780-6329**

**Address:**

Karl Marx St., 115, 664003, Irkutsk, Russia  
e-mail: yakobson72@gmail.com