

Training the Next Generation of Arctic Scientists

KEY FINDINGS

Developing the Arctic zone, implementing projects and research work requires highly qualified specialists while ensuring an influx of young people

"The first conclusion I would draw here is that the Arctic needs highly qualified researchers. <...> We are precisely those who research the Arctic and train specialists for the Arctic, and we are primarily responsible for this. And here I was pleased with the fact that from Murmansk to Tomsk, we did not go any further, we have a consensus that the Arctic must grow with young researchers", said Vladimir Masloboev, Advisor to the Head of the Kola Science Centre under the Russian Academy of Science.

"We understand that youth and young people are an indispensable attribute of sustainable human capital development. And that is why, specifically concerning the Arctic, the University of the Arctic and the Barents Regional Youth Council, and the Association of Polar Early Career Scientists <...> have long been working to involve young people in the Arctic agenda, in particular in developing science in the north", said Mikhail Uksusov, Youth Envoy of Russia for International Cooperation in the Arctic during the Russian Chairmanship of the Arctic Council.

In order to improve the competence of young scientists, training and research centres need to be established, and teachers need to be trained. At the same time, young people should be trained to work in Arctic conditions

"The challenges facing science and higher education are obvious. First of all, it requires not only the attraction of advanced machinery and technology but also top-class specialists. It is necessary to create training and research centres with appropriate new methods of training and retraining of personnel for work in the northern latitudes. It is necessary to train scientific personnel and teachers themselves for higher education. That is, before training students, we need to train teachers in the widest range of competencies", said Alexey Fadeev, executive director of the Association of Polar Explorers of the Murmansk Region and chief researcher of the Luzin Institute of Economic Problems at the Kola Science Centre under the Russian Academy of Science.

"In order to train researchers, we need to train [teaching] staff first. At the same time, we are seeing a shortage of personnel, and the industries that work in the Arctic are already beginning to compete for high-level specialists. We need to keep this in mind and prepare the higher education sector as much as possible for the challenges that the development of the Arctic dictates today", said Vladimir Masloboev, Advisor to the Head of the Kola Science Centre under the Russian Academy of Science.

"There are special skills related to how to act, function, sometimes even survive in Arctic conditions, remote from civilization and from rescue points. That is, you need to have first aid skills, safety skills and work on the sea ice or in a possible encounter with a polar bear", said Alexander Saburov, Director of the Arctic Center for Strategic Research at the Northern (Arctic) Federal University.

PROBLEMS

Scientific organizations point to staff shortages, including low salaries and a lack of opportunities for rapid career advancement. In addition, there is a shortage of comfortable housing in the Arctic

"Training a new generation of Arctic researchers is a very important topic both for universities and for scientific organizations, which are located in the Arctic zone and which, probably, suffer most of all now from an insufficient inflow of young specialists, young scientists exactly to science. But science doesn't pay much, and there is a very long way to go in science in terms of career development", said Vladimir Maslobojev, Advisor to the Head of the Kola Science Centre under the Russian Academy of Science.

"Another important thing we haven't talked about is the problem of housing, the problem of comfortable housing. The situation in Murmansk is paradoxical: once there were 400 thousand citizens, now there are 300 thousand with great difficulty, and what happened to the flats that people left? They stand empty. And we don't have a mechanism in the country to redistribute this free housing just to bring in the young. Housing conditions are sometimes the most preferable, especially for those who have already managed to have children when they graduate", said Vladimir Maslobojev, Advisor to the Head of the Kola Science Centre under the Russian Academy of Science.

SOLUTIONS

Scientific organizations need to work more closely with schools, to build cooperation with institutions to engage students in science. It is important for them to develop a mentoring system to support and retain young specialists.

"We do not know how to work with schools. The difference between senior pupils and students may be only one summer, but they have fundamentally different perceptions and can and should be treated differently. <...> There is definitely such a gap here: the school has its own tasks, which are as far as possible from, say, our needs as an employer of the future", said Alexander Makarov, Director of the Arctic and Antarctic Research Institute

"The best training programme is mentoring and paying as much attention to the guys as possible, having them spend as much time at the institute as possible. And yes, it takes a very long time to train a specialist, but if he stays and decides to work at the institute, he essentially turns out to be one of the most valuable personnel", said Alexander Makarov, Director of the Arctic and Antarctic Research Institute

"Just as we understand that the work itself needs to be done in partnership, the staff also needs to be trained in networking because the competencies are quite strongly distributed across Russia. <...> In fact, everything I said shows that we should, first of all, talk about some kind of ecosystem. If we want to train researchers with high competencies, we have to go straight to the ecosystem, to create network programs together", said Victor Demin, First Vice Rector of the National Research Tomsk State University.

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