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**UNIVERSITY AS a THINK-TANK FOR INTERNATIONAL PROJECTS ACTIVITY IN THE ARTIC****L.A. ZARUBINA, S.V. POPKOVA****E.V. KUDRYASHOVA****Northern (Arctic) Federal University n.a. M.V. Lomonosov**

*The article underlines the consolidating role of universities in enhancing international scientific collaboration in the Arctic by fundraising practices and international projects implementation benefitting the northern communities at large. In particular, the authors provide the case of the Northern (Arctic) Federal University and address the enhancing international cooperation in the Arctic Region.*

**Introduction**

The challenges of our time are transnational in nature. This is particularly true when it comes to the Arctic Region with its diverse natural resources and a huge potential for development. The prerequisite for its sustainable development is research and educational cooperation and scientific diplomacy.

In The Strategy for the Development of the Arctic Zone of the Russian Federation and Ensuring National Security for the Period up to 2035 [1], international relations are defined as one of the priorities to be pursued within the Arctic development. The Arctic is seen as a territory of international dialogue and cooperation; it is a territory where research endeavors should be pursued by the Arctic states by combining their intellectual resources. With the global agenda for development framework oriented towards overcoming the global challenges, the need for strengthened cooperation among stakeholders in scientific and technological development becomes increasingly evident.

Looking ahead, and in pursuance of the Joint Innovative Research Agenda for Arctic development, the efforts towards stronger international cooperation within core fields of science, innovation and technology, as well as fundamental and applied research may have as their focus:

- development and implementation of technologies crucial to the development in the Arctic areas. These include new functional and structural materials to facilitate construction in the Arctic; vehicles and aircraft suitable for operation in the cold climate of the Arctic; health-saving technologies for longer life expectancy among Arctic residents;

- multitask research expeditions to the Arctic Ocean (bathymetric surveys, gravity studies, acoustic profiling, among other tasks); hydrographic studies for improved navigational safety; long-term hydrographic studies, including deep-sea ones, to explore the underwater environment;

- action planning for international research (including on board research vessels) into the state of Arctic ecosystems and global climate change.

**Results, discussion and perspectives**

Striving towards a cooperation format that would draw on a pool of joint resources is increasingly seen by the Arctic and non-Arctic players as a prerequisite to effective networking. Similarly, project activities are becoming an increasingly popular tool for expanding partnerships and bringing partners together to address the common challenges of the Arctic by attracting the intellectual, organizational and financial resources from individual organizations and larger research consortia globally. The project-based approach is one of the most popular forms for organizing the research cooperation within inter-regional associations of the North, such as the Barents Euro-Arctic Region Council, Northern Dimension, the Nordic Council of Ministers, the Arctic Council, to name a few. Among the most effective funding schemes to support project activities are Kolarctic Cross-Border Cooperation Programme 2014-2020, the programmes of the Nordic Council of Ministers and the Norwegian Barents Secretariat, and the European Union's Erasmus+ programme.

In a broad sense, a project is "an action that involves investment of resources (financial, physical, intellectual) to achieve its expected outcome; a set of interrelated activities designed to attain specific goals within a defined budget and timeline." [2]

In the terminology of project management, an international project is defined as a consummate cycle of innovative, productive activities completed by a group of countries. [3]

Operating within a specific timeline, projects have one important quality: they are result-oriented and pragmatic in nature. They often involve multiple actors and have special operational and language environment; they seek to innovate and accumulate a wider range of tools for multifaceted international activities, operating

via mobility, publications, knowledge-intensive products, expanded partnerships, international venues, improved infrastructures, etc. Unfolding within cross-cultural environments and network-based partnerships, international projects create conditions where interaction benefits each and every partner they involve. This makes international project activities seen as a highly valuable asset for promoting international cooperation and generating spin-off effect for their home areas, while also requiring the players to have the skills and competencies required of successful fundraisers and project cycle managers.

In this context, the northern universities, as highly internationalized structures with ample experience in international cooperation and extended portfolios of scientific and technical partnerships and success stories, become key actors and international competency centers for project-based cooperation and transfer of advanced knowledge and technologies. By pooling together the competencies available to research communities, businesses, authorities and NGOs, universities take on the role of expert hubs to support the inter-regional partnerships in their project implementation efforts, acting also as fundraisers and providers of world-class training in project cycle management for more effective transnational communication.

Northern Arctic Federal University (NArFU), located in Arkhangelsk, is one of the largest research and education centres in the Russian Arctic. The university is missioned by the Russian Government to provide research expertise and manpower training for developing the Russian North and the Arctic in cooperation with business, society and international partners. NArFU is developing as an international and multidisciplinary university whose distinctive identity builds on its unique Arctic profile framed in the four major fields: natural resources management, Arctic ecosystems and climate change, materials and technologies for the Arctic, digitalization, human dimension and life quality enhancement in the North. International cooperation and international projects implementation as its most efficient tools are considered to be decisive for achieving the university's goals and fostering its integration into the global research system. Today NArFU is involved in over 70 large-scope international projects. Pursuing the global Arctic agenda, these projects span topics as diverse as environmental protection and climate change monitoring; green mining; energy efficiency and cold climate construction; development of the Northern Sea Route; Arctic safety and security; ICT; human adaptation to extreme working conditions in the Arctic, quality of life of indigenous peoples of the North; among others.

Project initiatives unfold through multi-level (international, cross-border, national, regional, municipal levels) networking by involving multiple actors (research community, businesses, authorities, NGOs, etc.) and using as their vehicles the Arctic-focused funding programs and thematic competitions – EU-Russia CBC Programmes KOLARCTIC and Karelia; Interreg North; programmes of the Nordic Council of Ministers and the Northern Environmental Corporation (NEFCO); the University of the Arctic's programmes North to North and Horizon 2020; national funds of the Arctic countries and the countries with observer status to the Arctic Council; among other sources.

One example to demonstrate the universities' leading role as promoters of international project-based cooperation is the EU-Russia CBC ENI Programme KOLARCTIC, aimed at strengthening the economic, social and environmental capacity-building within the Barents Euro-Arctic Region via collaborative efforts in the northern areas of Finland, Norway, Sweden and Russia (total budget: EUR 66.3 million). [4]

Notably, for the first time ever Russia's contribution to the Programme is on a par with that of the parties based in Europe. KOLARCTIC's 2007-2013 budget stood at EUR 95.06 million euros, comprised by funds from the European community (EUR 30.47 million), national co-financing from Finland and Sweden (EUR 14.10 million), contribution from Norway (EUR 14 million) and Russia (EUR 36.47 million), as well as contributions from private companies and project partners.

As a result of four calls, grant agreements have been concluded with 51 projects, of which forth-eight were standard projects and three large-scale ones. The Programme covered a total of 33,420 people at 801 organizations in twelve regions and 202 municipalities of Finland, Norway, Sweden and Russia. [5]

The four calls announced over the period between 2017 and 2020, have received 187 proposals from more than 380 organizations in four participating countries. of these 187, funding was provided to 45, or a total of 235 organizations, of which more than a half (127) are educational and research institutions. The schools that have by far the largest number of projects include the Northern (Arctic) Federal University named after M.V. Lomonosov, Russia (12 projects); Russian Academy of Sciences' Kola Research Center, Russia (10 projects); UiT – The Arctic University of Norway (10 projects); University of Oulu, Finland (9 projects); SINTEF Narvik, Norway (7 projects); Lapland University of Applied Sciences, Finland (7 projects); Luleå University of Technology, Sweden (7 projects).

Thus, a series of Kolarctic-funded projects have NArFU as a partner to applied research into concrete processing and environmentally friendly recycling in the Arctic zone; energy efficiency of buildings in the North; sea-ice situation monitoring and economic risk assessment; multi-purpose forestry and use of forest products in agriculture; 3D metal printing technologies; blockchain technologies for municipal governance; transport logistics; smart solutions; and waste management. [6]

The year 2021 will see more initiatives with NArFU as a partner. These include the micro-projects that deal with blockchain technologies and knowledge-intensive data for tracking timber products throughout their production cycle; new tourist destinations in the Arctic; non-timber forest products and local products marketing; innovative technologies for the oil and gas sector; and eco-safe wind energy projects in the Arctic. With a timeline of 2021–2022, these micro-projects have multi-faceted action plans that are going to be achieved in close cooperation with the overseas and Russian research centers, businesses and public authorities, and are designed to create more growth points for research and transfer of advanced knowledge and innovations, facilitating stronger integration of NArFU in the international research community as a provider of research training, prominent research collaborator and promoter of science diplomacy.

Since 2019 NArFU has been endorsed the status of the Co-Lead of the large-scale international project Arctic Foods Innovation Cluster carried out together with the University of Saskatchewan (Canada), Finnish and Icelandic university partners under the auspices of Arctic Council Sustainable Development Working Group. [7]

The research project Development of Think Tank Functions of the Northern Dimension Institute where NArFU is a partner together with Aalto University, the International Institute for Applied Systems Analysis in Austria, the University of Oulu, St. Petersburg State University of Economics is designed to enhance genuine regional cooperation in the Northern Dimension area through science diplomacy, capacity building and people-to-people contacts. The project deliverables include analytical reports and policy briefs to support informed political decisions in the prioritized areas of the ND policy as climate change impact in the Arctic, emerging transport and logistics routes between Europe and Asia, energy efficiency, health and wellbeing and culture. [8]

The ongoing cooperation lays special focus on younger researchers and their scientific pursuits. In the context of the ever increasing openness and expansion of knowledge-intensive jobs, processes such as internationalization and R&D cooperation become of crucial importance as sources of new skill sets and as collaboration tools towards enhanced circumpolar cooperation and more effective systemic, that make use of the existing platforms for multi-level, mutually beneficial interaction. By involving their young scientists in the global dimension of knowledge-intensive work, universities give them access to the frontlines of research, as well as research opportunities to help them hone their teamwork skills that are essential to professional success within international research teams.

On an annual basis, the Northern (Arctic) Federal University organizes events that offer its young scientists the opportunities to participate in courses, competitions and some of the largest North and Arctic discussion venues in Norway, Finland, Iceland, Canada and other Arctic states.

When it comes to barrier-free involvement in research and science diplomacy processes, the skills required of effective teamworkers and competent interpersonal and intercultural communicators come to the foreground. Conducive to their formation are venues such as The International Youth Forum “Arctic. Made in Russia”, hosted earlier by the 4<sup>th</sup> International Forum “The Arctic: The Territory of Dialogue”; Barents PhD School, an international summer school for graduate students in the Barents Region; International Graduate School called “Russia in the Arctic Dialogue: local and global context”; as well as conventional schools with courses in administration of the northern areas, energy efficiency in the Arctic, bio-resources of the North, business practices in sustainable management, ecology, and forestry in the subarctic region.

### **Conclusion**

International cooperation plays a decisive role in enhancing the resilience to main challenges of the Arctic development, bringing together actors at different levels and finding ways to deal with common challenges. Due to its integrative nature and spin-off effect, international project activities serve as an effective form of partnership and what makes a tangible contribution to the well-being and socio-economic development in the areas of their presence.

The Arctic universities play a major role in establishing effective international collaborations in the Arctic Region acting as ‘expert hubs’ supporting decision-making at the political level. As think-tanks for international project activities, the universities contribute to solving the global challenges by bringing together the regional players that face common problems and facilitating know-hows to support high-tech clusters, progress within pillar industries, intellectual capacity-building, Arctic-focused training, local infrastructures, partnership relations between businesses and authorities, and inter-regional integration in the North as large.

In our view, the project-based approach deserves the status of the most productive tool for international cooperation and should be supported as an effective pathway to solutions as to the Arctic development and the strategies to be pursued also within the Russian Federation’s Chairmanship in the Arctic Council during 2021–2023.

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