SUMILCERE- Kick-off meeting
11-13.2.2013
Pyhä Finland

Introduction of the partner

INSTITUTE OF INDUSTRIAL ECOLOGY PROBLEMS IN THE NORTH
KOLA SCIENCE CENTER
RUSSIAN ACADEMY OF SCIENCE
INEP KSC RAS

www.inep.ksc.ru
Institute of Industrial Ecology Problems in the North

Incorporated in Kola Science Center of Russian Academy of Sciences

The main direction of research:
Development of scientific basis for environmental optimization of natural resources using in the industrially developed regions in the North
Mission: Research for Sustainable Development of the Arctic

Research Area:
Developing scientific basis for ecological optimization of nature management in the industrially developed regions of the North, in particular:

- Determination of allowable loads on terrestrial and water ecosystems under the conditions impact of mining and smelting enterprises
- Assessment and long-term forecast of possible change in ecological and economic systems under different nature management strategies and in conditions of global environment and climate change
- Development of ecologically sound technologies for exploiting mineral and hydrocarbon resources
- Development of scientific grounds for rehabilitation of industrial disturbed landscapes
- Informatization of research into the state of environment and forecast of its change by mathematical modeling
Facts:

Institute established in 27/06/1989 on the basis of the Laboratory for Environment Protection at the Kola Branch of the Academy of Sciences of the USSR (1978-1989) as the first multiple-discipline Research Institute for Ecology

68 employees including 44 scientists, 8 doctors, 24 candidates of science, 8 post-graduate students are employed in 6 research laboratories:

Laboratory for Terrestrial Ecosystems
Laboratory for Water Ecosystems
Laboratory for Global Change of the Environment
Laboratory for Environmental Informatics and Mathematical Modeling
Laboratory for Ecology of Industrial Production
Laboratory for Ecology of Microorganisms

Director – prof. Vladimir Masloboev, Doctor of Sc., vice-president of Kola Science Center
International cooperation is important for the research activities of the Institute.

Our main international partners are research institutions in the Barents region (16 out of 20 in 2012). Our relations develop on the basis of Declaration about cooperation in the Barents Euro-Arctic Region (Kirkenes Declaration) and in the framework of Kolarctic ENPI CBC Program. Institute also participates in the Program UN/ECE ICP Forests.

For the period of 2013 – 2014 the Institute sets the task to widen its international collaboration under EU Framework Programs, ERA.Net RUS Program and other accessible instruments of international cooperation: Horizon 2020, Tempus, Erasmus Mundus, NCM (Nordic Council of Ministers), ect.
Current international Kolarctic ENPI CBC projects:


2. **Coastal Environment, Technology and Innovation in the Arctic (CETIA)**, Leading Partner is the University of Tromsø, Norway (2012-2014). **Objective**: Developing new technologies for bioremediation of polluted soils in the Arctic Region.

3. **Sustainable Mining, Local Communities, Environmental Regulation (SUMILCERE)** Leading Partner is the University of Lapland, Finland (2012-2014). **Objective**: Support for public and private cooperation to ensure sustainable development in the region, introduction of best practices on social licensing, ecological regulation of mining industry, developing international research network.
Global challenges in mining industry

- Health and safety
- Shortage of skilled labor
  - Lack of technical people
- Complex, lower grade ore bodies
- Sustainability
  - Water
  - Carbon footprint
    - Energy
    - Materials consumption
- Meeting the needs of local stakeholders
  - Demanding less environmental impact
    - Infrastructure issues
    - Land re-use – waste disposal
  - Taxes, royalties, rents
Prof. Vladimir Masloboev – Dr. of Sci., Director of Institute of Industrial Ecology Problems in the North KSC RAS

Research interests: Chemical Technology of Mineral Raw Materials, Protection of Environment, Industrial Ecology, Sustainable Development

Experience and competence: Leadership and Participation in international and national projects in the areas connecting with the environment protection, climate change, EIA, SEIA, Strategy of Social-Economical Development of Murmansk Region, and etc. (for example: “The Role of Protected Nature in Sustainable Local Development in North-West Russia and North-Norway – a Comparative Analysis” with Nordland Research Institute; «GAP-analysis in Northwest Russia in Murmansk region» with SYKE, Helsinki).
Professor of Murmansk State Technical University, Petrozavodsk State University

Publication:
More as 400 published research works, including 4 books and more 30 inventions (patents) of RF

Others:
Member of Presidium of KSC RAS, academician of Russian Academy of Natural Sciences, member of Steering Board of Northern Chamber of Commerce, etc.
PhD Vladimir Didyk - Research Director at the Luzin Institute for Economic Studies of the Kola Science Centre RAS (IES KSC RAS)

Research interests are connected to regional science, socio-economic policies and sustainable development of the Northern regions and municipalities, urban economics, strategic management in Russian cities

Experience and competence: participation in international research projects
- the Finnish-Russian research project “Economic monitoring of North-West Russia” (2001-2011)
- the Russian-Norwegian research project “The role of protected nature in sustainable local development in North-West Russia and North-Norway – a comparative analysis (2008-2010)

Publication:
PhD Larissa Riabova - head of Department of Social Politics in the North at Luzin Institute for Economic Studies (IES) KSC RAS

Research interests: sustainable development, social sustainability, social politics, living standards and well-being, community studies in the Arctic and Circumpolar North

Experience and competence: participation in international research projects on circumpolar communities’ coping processes, sustainable development and viability:
UNESCO projects on globalization and social transformations in the North (1996-2002);

Other tasks: member of the Thule Institute International Advisory Board (Finland) (since 2005), deputy chief editor of “The Barents Journal: peoples, economies and politics” (since 2012).
PhD Elena Korchak - Senior Researcher at the Luzin Institute for Economic Studies of the Kola Science Centre RAS (IES KSC RAS)

Research interests - the study of municipal social policy welfare in the North and in the Arctic.

Experience and competence:  
*Monitoring economic and social well-being of residents of single-industry cities of the Far North.*  
*Scenarios of socio-economic development of northern regions of Russia.*

Recent publications  
Elena Klyuchnikova – head of division of international relations
INEP KSC RAS

Research interests – sustainable development on local (municipality) level, toolkit for local sustainable development, regional and local environmental regulation

Experience and competence: Last 6 years had been involved in creation of local environmental policy and local environmental regulation as leading expert in department of economical development of Apatity town Administration

E. Klyuchnikova is author of series of articles on policy tools for local sustainable development, waste management policy on local level.
Tatiana Mingaleva – engineer-researcher at INEP KSC RAS

Research interests – water resources in natural-anthropogenic systems, engineering and ecological problems in water economy, Study of the impact landfills on the environment in the Far North

Participation in the research and educational projects:
Environmental Impact Assessment of “Fedorova Tundra”
Environmental projects of JSC “APATIT”, JSC “Kola Mining and Metallurgical Company”, JSC “Kovdor Mining and Processing Plant”

Publications:
1. Studying migration of molybdenum in surface waters of the B.Belaya river basin in impact area of mining complex // Geocology, 2012 (in Russia)
Vitor Petrov – chairman of nongovernmental organisation “Kola Center of Wild Nature Protection”

Research interests – the development of theoretical bases of territorial nature protection; environmental regulation; the development of legal base of wild nature protection

Experience and competence:
International project «The Green belt of Fennoscandia»
International project «Barents Protected Area Network»,

Vitor Petrov is author of series of articles on legal aspects of nature protection

Others:
Member of the Commission on rare and endangered species of flora and fauna of the Murmansk region.
PhD Svetlana Vinogradova – Scientific Secretary, The Center of the Humanities of the Kola Science Centre RAS

Research interests – sustainable development, social aspects of the Northern and Arctic development, indigenous peoples

Experience and competence: participation in research projects
- Forming the state policy of the RF regarding indigenous peoples, funding by Russian Humanitarian Scientific Fund (2008-2009)

Major publications:
PhD Maxim Kuchinskiy is director of Sámi Knowledge Centre, researcher in Barents Centre of the Humanities in Kola Science Centre of Russian Academy of Sciences, senior researcher in Institute of Education of Indigenous Peoples of North, Siberia and Far East of Russian Academy of Education

Scientific interests are indigenous peoples, social structure, identification and identity, nature in social context, digital technologies in social sciences and humanities, historian mapping.

M.Kuchinskiy is author of monograph *M.Kuchinskiy The Kola Uezd Sámi in 16th -18th centuries. Model of social structure. Kautokeino. Sámi University College. 2008* and series of articles on indigenous peoples, theoretical problems of the anthropological and historical studies.

Others: executive secretary in International network for the Eastern Sámi researches, member of international Association “History and Computing”.
SUMILCERE research approaches

WP1: Current practises: participation and relationships between mining projects and local mining communities

Suggestions
1. It is suggested to analyze changes/current practices in case-communities within the theoretical and practical framework of economic, environmental and social sustainability. This will provide systemic approach and may help to link together more clearly mining activities and different aspects of community’s social-economical development.
2. It is suggested to work-out recommendations for case-municipalities for negotiation and signing agreements between communities and as operating mining companies as well mining companies planning development new deposits (for example: PC “Apatit”, North-Western Phosphate Company, Ltd, Apatity-Kirovsk municipalities – a quadripartite agreement)
SUMILCERE research approaches

WP2: The legal structure: Improving policy instruments and regulations

1. What connections has mining law with local communities? Look at land use law, special protected areas law, tax code, etc.

2. What connections have environmental laws with mining activities? What role play local communities in permitting process?

3. What legal approaches are good for sustainable mining (local community friendly mining, environmental friendly mining)? What are bed? What gaps have national legislations?

When we will know legislations gaps we will be able to recommend some improvements
SUMILCERE research approaches

WP3: Arctic, international law and rights of the Sami people in mining projects

Russian approaches are caused by the Murmansk region features:

- experience of long-term intensive industrial development;
- narrow understanding of social responsibility;
- low level of the indigenous peoples rights realization

Main idea: to study three scientific questions:

1. What we have? (current situation in the Murmansk region)
   - to identify a problem field of mining and Sami relationship
   - to examine legal instruments in the sphere of social responsibility and Sami rights realization (including international, federal and regional levels)

2. Were we have to move? (understanding of goals and mechanisms of sustainable development in mining projects)
   - to define points for development in a context of current international trends
   - to find indicators to sustainable development for studied sphere

3. What we can make? (how to move on the way of a sustainable development)
   - working out of recommendations
   - information dissemination
1. Apatity – Kirovsk area are under condition of competition between two large mining companies: PC “Apatit” (established in 1931) and “North-Western Phosphate Company”, Ltd. (established in 2008)

100 thousands inhabitants

Mines in the operation
PC “Apatit” has “Kirovskij” mine and “Koashva” open-pit mine and 2 apatite-nepheline concentrators

“North-West Mining Company”, Ltd. has “Oleniy Ruchey” open-pit mine and apatite-nepheline concentrator

Mine in the planning stages
JSC “North-West Mining Company” planes to develop Portamchorr Deposit. This deposit is situated in North-West part of Hibiny mounting. Territory between Portamchorr deposit and “North-Western Phosphate Company”’s apatite-nepheline concentrator designed to plan the national park “Hibiny”
SUMILCERE regional pilot areas
Murmansk region

2. Lovozero district

11 thousands inhabitants; the largest area – 37% of Murmansk region area; “Sami” – area; reindeer pastures

Mines in the operation
“Lovozersky mining and processing Plant” Ltd in Revda settlement

Mine in the planning stages
JSC “Fedorovo Resources” planes to develop Fedorova Tundra Deposit. This Deposit is situated near the traditional reindeer pastures

What kind of criteria we should keep in mind to select the pilots out of “pilots”, should the pilots have some common issues?
Perspective sources of the mineral raw materials

Legends
1 – Gremyakha-Vyrmes (Titanium, Iron)
2 – Nittis-Kumuzhya (PMG)
3 – Sopcheozerskoe (Chromium)
4 – Alluayv (Rare Metals)
5 – Afrikanda (Iron, Titanium)
6 – Bol’shaya Varaka (Titanium)
7 – Kholmozero-Voronya (Gold)
8 – Vasin-Myl’k (Rare Metals)
9 – Polmostundrovskoye (Rare Metals)
10 – Kholmozerskoye (Rare Metals)
11 – Sakharyok (Rare Metals)
12 – Kheyvy (Alumina)
13 – Fedorovo-Pansky (Platinum Group Metals)
14 – Sallanlatva (Barite)
Thank you for your attention!