

**CALOTTE ACADEMY 2005
Final Report**

THE CALOTTE ACADEMY 2005
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Executive Summary

The Calotte Academy 2005 took place in May 26-28 2005 in the village of Inari in the Municipality of Inari, Finland. Based on a local suggestion, the Calotte Academy 2005 was organized back-to-back with other events of the “Super Weekend of Inari” such as the *Ijahis Idja* Music Event’s *Porokonsertti*. There were all together about fifty participants, mostly from Lapland (especially Inari) and the Oulu Region, but also from Russia and Norway. If the spring flood was a dramatic manifest of natural forces, then the “Taste of the North” dinner was a friendly example of the hospitality of the Municipality of Inari.

The main themes, lectures and discussions dealt on the one hand with the role of science and research in regional development of northern regions, especially cold climate research and technology in Finland and Lapland, and on the other hand with human development and the impacts of climate change in the North Calotte. These themes were discussed both in the global context of the circumpolar North, in the regional context of the North Calotte and that of Lapland, and finally in the local context of Inari. As part of the dissemination and feedback process of the Arctic Human Development Report (AHDR) and Arctic Climate Impact Assessment (ACIA), a public hearing was convened in Inari, Finland on May 28, 2005 in conjunction with the Calotte Academy and hosted by the Municipality of Inari. For more details see the Final Programme of the Calotte Academy 2005.

The idea that discourses and discussions of the Calotte Academy are both interdisciplinary and international was implemented on one hand, by the fact that the lecturers and speakers came from Alaska, Canada, Iceland, Denmark, Norway, Russia and Finland, and on the other hand, through the disciples of anthropology, biology, cultural studies, economics, geography, international relations, media studies, natural resource sciences, Saami studies and technology.

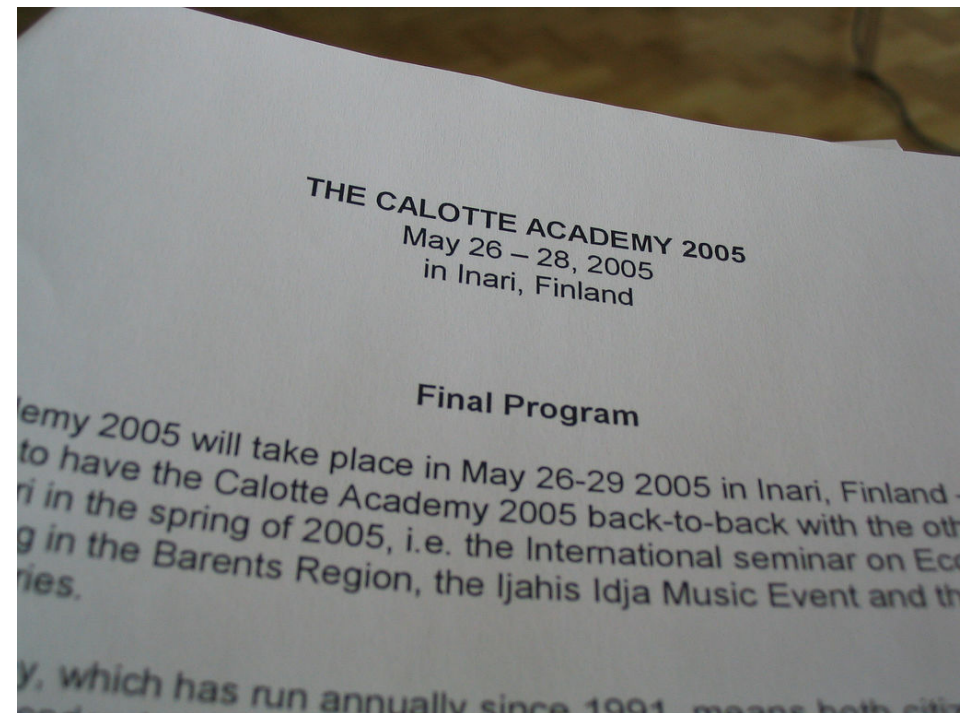
Among the main conclusions of the discussions are: First, the role of universities and research institutes is critical in regional development in the North, although there are often obstacles and a lack of interest.

¹ The Final Report on the Calotte Academy 2005 can be found in <http://nrf.is> and also in <http://www.ulapland.fi> and <http://thule oulu.fi>

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Implementing deeper cooperation between the universities of Lapland and Oulu would be beneficial to northern Finland when facing the challenges of globalization. Second, the AHDR is a valuable scientific contribution both for an academic discourse and political discussion on human development and other contemporary northern issues in general, and also dealing with comparative studies between indigenous and other local communities, where the Municipality of Inari would be in an interesting case study. Therefore, it would be most valuable that the AHDR would be translated into the languages of the North Calotte. Third, it came out that this kind of an open and trans-sectoral discussion (introduced by an academic community) is both well-received and needed, but neither automatic nor always easy to organize. One aspect, which was tested and proved, would be to put more emphasis on academic discourse in general and especially a discourse based on an ongoing research project.. Fourth, dealing with the future, the Municipality of Inari also invited the Calotte Academy to Inari in 2006, which will be followed by further discussions and negotiations how to design the structure, avoid overlapping events and build fruitful relations between policy-makers, NGOs and scholars, and (post-graduate) students.

The Calotte Academy 2005 was organized by Faculty of Social Sciences at University of Lapland, Thule Institute at University of Oulu and Northern Research Forum (NRF) in cooperation with Municipality of Inari, Educational Center of Saami Area and Saami Parliament in Finland. It was supported by the Regional Council of Lapland, Provincial Government of Lapland and the North Calotte Council.



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Introduction

took place in May 26-29 2005 in Jeera Hall of the Saami Area Educational Center in the village of Inari, Finland. The Calotte Academy went back to the roots, since the first Academy was held in May 1991 in the same village in Inari. Based on a local suggestion, the Calotte Academy 2005 was organized back-to-back with several international and local events of Inari during the “Super Weekend” of the spring of 2005 such as *Ijahis Idja* Music Event’s *Porokonsertti*.

In the sessions of the Calotte Academy there were all together 50 participants, mostly from Lapland (especially Inari) and the Oulu Region, but also from outside the region. Outside of Finland there were participants coming from other Nordic countries, North America and Russia.

The Academy was opened by Teuvo Niemelä (Chairman of the Municipality Council of Inari and Outi Korpilähde, lecturer at the Saami Area Educational Center). They warmly welcomed the speakers and other participants to Inari and the Calotte Academy 2005 and emphasized both the big interest of the local host institutions and organizations toward academic discourses and open public dialogue on contemporary northern issues, and the importance of these issues to the inhabitants of the Municipality of Inari.

The main aims and the work of the Calotte Academy 2005 were introduced by Lassi Heininen (Senior Scientist at the University of Lapland, also Chairman of the Calotte Academy). He emphasized that the Calotte Academy is an international and regional forum for both academic discourse and political discussion on relevant Northern issues. Since 1991 it has been a platform for open discussion, questions and criticism and analysis among academics, decision-makers and NGO-activists in the North Calotte.

Main Themes

The main themes of the Calotte Academy 2005 were broad and relevant starting from a role of science, especially cold climate research and technology, in regional development to a state of human development, and impacts of climate change in the circumpolar North in general and especially in Lapland. In addition there was an open and public hearing on human development and impacts of climate change in the North, particularly dealing with North Lapland and the Municipality of Inari.

These themes were discussed in different contexts, such as the global context of the circumpolar North, the regional context of the North Calotte and that of Lapland, and finally the local context of the Municipality of Inari. This was already indicated by the fact that the speakers of the Calotte Academy 2005, outside Finland, came “from Alaska via Akureyri to Apatity”, i.e. Alaska, Iceland, Denmark, Norway and Russia.

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1st Theme and Theme Session

The first theme was *Role of Science and Research in Regional Development of Northern regions, and Cold Climate Research and Technology in Finland and Lapland*. The session was held on Thursday, May 26, 2005.

As the starting point of the discussion on this there was a fundamental question presented by Mayor Timperi from the Municipality of Inari "Does North Lapland have chances and opportunities to take a step of 10 million euros?"

The invited speakers and their presentations were the following:

Role, possibilities and obstacles of science and research in regional development

Director Kari Laine, Thule Institute University of Oulu and

Dean Tuomo Ylä-kotola, Faculty of Arts, University of Lapland

Technology, science, and Alaska's economic development

Professor Lee Huskey, University of Alaska, Anchorage, USA:

This paper presented lessons learned about the role of science and technology in economic development from the Alaska experience. The Alaska economy has been built on natural resource production and spending by the federal government. The historically significant resources, salmon and petroleum, face significant challenges. Can science rescue the Alaska economy?

There are three ways science and technology can promote local economic development:

- 1) *Do what the region does better.* It can expand the economic value of existing commercial resources by lowering costs or

increasing value in a resource with an existing economic advantage.

- 2) *Make use of what the region has.* It can create a new economic advantage based on unused local resources.
- 3) *Change the initial conditions.* It can be used to attract footloose industries that introduce a new economic activity which is independent of local resources.

State government can use its financial resources to promote science and technology driven growth by intervening at any step of Usher's innovative process. Usher sees the following five steps: perceiving a problem, assembling data on potential solutions, insight, perfecting the innovation, and standardization.

The most important use of science and technology to promote Alaska's economy is in the petroleum sector. This reflects private initiative to increase the productivity of an existing economic resource. The Alaska oil industry faced the problem of high cost of Arctic oil production which has become more important as oil fields get smaller and harder to find. Technology developed, tested, or applied in Alaska has reduced drilling costs by an estimated 75%. This technology includes horizontal drilling, multilateral wells, light weight-mobile drilling rigs, and electronic guidance.

In 1988 Alaska created the Alaska Science and Technology Foundation with a mandate to foster technology based economic development. ASTF issued grants competitively to people and organizations with bright ideas. ASTF had success when it focused on perfecting existing innovations addressing Alaska resources and problems. The Foundation lost its budget battles with other state agencies and was closed in 2004. ASTF tried but failed to promote a 'Silicon Tundra' by supporting a High Tech Business Council and training. ICT remains a very small sector of the Alaska economy. ICT may be footloose but Alaska present limits. While quality of life may attract entrepreneurs, lack of scale, distance to centers, and labour shortages limit ICT activity. There is no real Alaska advantage for ICT. ASTF's greatest long term success may result from its early support of the creation of a space industry in Alaska. The Alaska Aerospace Development Corporation was established in 1991 and the

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state has invested close to \$15 million in it. The US Defense Department and NASA have also supported this effort. The Corporation has developed a launch complex on Kodiak Island and has conducted a number of successful launches.

The space industry makes use of an unused local economic resource. Kodiak's advantage for rocket launches results from the increased popularity of polar orbiting satellites. Observation satellites in polar orbit see more of the earth. It is easier and cheaper to launch polar orbit satellites from the earth's high latitudes. Kodiak's advantage is both high latitude location and the empty Pacific Ocean below. While the space industry is not a major Alaska industry yet, it has affected other sectors. It has created high tech jobs and added infrastructure in a remote part of Alaska. The Corporation has also helped to foster a space information industry in Fairbanks. As with launches, high latitude provides an unused advantage for communicating with satellites; down link stations in the high latitude have more contact with satellites.

Alaska has always been a home of technology and innovation. The large expanses made technology that reduced distances such as the kayak to the airplane to tele-communications important. Technology has been used to solve Alaska's problems. That is the lesson of our recent past as well. Technology can most successfully support economic growth when it addresses local problems or incorporates local resources, even if those resources have been little used in the past. Building on existing economic resources or addressing problems makes it more likely that a region will have the complementary resources, expertise, and interest to make the most of new technologies.

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Role of science in international, environmental treaty making

Researcher Mika Flöjt, Arctic Centre, University of Lapland

Global environmental problems as ozone depletion, contamination of toxic chemicals, and climate change are one of the biggest environmental challenges of this century. In international context, the Montreal Protocol, Stockholm Convention on Persistent Organic Pollutants (POPs) and the Kyoto Protocol have been the main international political instruments to tackle these global challenges. The Montreal Protocol on ozone depleting substances has been said to be one of the most successful environmental regimes of the world, which was able to find balanced approach to concrete actions, both in developed and developing countries, to reduce ozone depleting substances. Scientific information has played crucial role also in negotiations, which led to the Stockholm Convention on POPs. However, in case of the Kyoto Protocol negotiations, there has been constant debate over the scientific results of climate change, which consequently has influenced the outcome of the negotiations. Therefore, the question is: Why two of the three of the international environmental regimes have been successful with their outcomes and one of them has been, at least partly, a failure? However, it is fair to add, that also the Kyoto regime has entered into force.

My research focus is how Arctic actors, especially the Arctic epistemic community, have influenced the outcomes of environmental regimes. Traditionally, the scientific community's role was to find and define possible environmental problems and then leave it to be up to policy makers to decide possible political actions. Recently, the role of scientists, especially in the field of international environmental politics, has transformed to be active policy experts, drafting concrete proposals to problem solving and needed actions. Scientists are also highlighting environmental problems through the media to increase public awareness, which indirectly have influence to decision makers. Additionally, many of them participate in international negotiation processes, expert meetings and contact groups, to ensure that nationally agreed issues are also followed in international forums. Some of them

are even able to be members of national delegations. What is their formal role in the structure of international environmental politics – are they just working as normal interests lobby? What can be learned from the role of the Arctic epistemic community, now that scientific knowledge and capacity has started to be a driving force building the process of international environmental regimes.

Generally, my research paper tries to seek answers for following questions: 1) The role of scientific knowledge in the context of global environmental change; 2) The role of media in constructing public awareness; 3) Pressuring the inter-state system; 4) National interests and regional coalitions; 5) The disputed roles of epistemic communities: Scientific uncertainties; 6) The limits of the political processes. Through comparable research approach, I believe that it is possible to learn something new information about role of Arctic actors, especially the Arctic epistemic community, in international negotiations. This information could be useful for possible new global treaty making processes, which may lie ahead of us.

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State of, and development possibilities for, cold climate research and technology in Finland

Technology Director Reijo Munther, TEKES

Opportunities to develop cold climate research and technology in Lapland

Technology Expert Kari Ruokonen, Lapland's TE Center

Opportunities to develop cold climate and winter technology and its testing in North Lapland

Chairman Teuvo Niemelä, Municipality of Inari and Director General Timo Mäkelä, Test World OY

Technology, science and the Kola Peninsula's economic development

Main Scientific Secretary Anatoly Vinogradov, Kola Science Centre, Russia

Network of monitoring and research centers of the circumpolar North"

Dean Björn Gunnarsson, Faculty of Natural Resource Sciences at University of Akureyri, Iceland

The Arctic System is rather poorly understood today, as are the various interconnections between the Arctic and the whole Earth System. These limitations make assessing future changes in the Arctic more difficult, and filled with more uncertainty than for most other parts of the Earth System. Particularly problematic is the lack of continuous observations

and long-time series data on various Arctic processes. Additionally, there is a lack of coordination between various Arctic projects, and the need for improved communication and sharing of observation and research results. Standardization of measurements and monitoring techniques also needs to be addressed.

A new approach to environmental monitoring in the Arctic is therefore needed. This new approach could be based on the following criteria: a) A sophisticated network of monitoring/ forecasting and research centers in the Arctic and Sub-Arctic that provide standardized high quality, diverse and continues measurements throughout the circumpolar North; b) Development of "state of the environment indicators" for the whole circumpolar North; c) The monitoring/forecasting and research centers should be located in those areas in the Arctic and Sub-Arctic which are most representative of key environmental conditions as well as in areas showing noticeable variations from the norm; d) As many centers as possible should be jointly operated, and staffed by scientists from different Arctic countries; e) New improved methods of communication and sharing of collected data should be introduced, both to the scientific community as well as to other stakeholders – translate this knowledge into impact assessments, policies and adaptation strategies.

The network of monitoring/forecast and research centers in the circumpolar North could consist of: a) Major centers in fixed strategic locations; b) Smaller centers in fixed locations between larger centers; c) A large network of fixed hydro-metrological and oceanographic stations; d) Mobile platforms – in the terrestrial, cryospheric and marine environments (i.e. in areas of particular interest and to provide more detailed shorter-term observations); e) Satellite and other remote sensing platforms.

Northern research universities should play an important role in future Arctic monitoring/forecasting and research - to train the next generation of young scientists which will be needed to study, model, manage and ensure the stewardship of our rapidly changing Arctic and Sub-Arctic environments.

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Open discussion and conclusions

The main conclusions of the session were the following:

First, the role of universities and research institutes is not only important but even critical in regional development in the North. This role is recognized as a relevant part of the duties of universities under Finnish legislation, but requires further development as there are obstacles and a lack of interest to implement it. Among the relevant challenges is the fact that together with the legislation there are different pressures toward scientific communities, i.e. the pressure of internationalization and a need to act in different circles of internationalization at the same time, and to go across disciplines and sectoral borders to have an interdisciplinary approach in research and higher education;

Second, there is both a growing need of, and a readiness toward, closer and deeper cooperation between the universities of Lapland and Oulu. This would be especially beneficial to northern Finland and its regional development when facing the challenges of globalization;

Third, it was proposed and agreed that there is a research need for an inventory and analysis on the state of human development in northern Finland. Here the Calotte Academy might act as a facilitator and a platform when trying to develop and implement the proposal.

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2nd Theme and Theme Session

The second theme of the Calotte Academy was *State of Human Development, and Impacts of Climate Change in the Circumpolar North and the North Calotte*. It was discussed on Friday, May 27 in a Research Session between scholars and other experts (therefore the session without an interpretation which created a little bit confusion among the local people).

Overview on, and Relevant Points of View of, the Current Geopolitics of the Eurasian North

Senior Scientist Lassi Heininen, Faculty of Social Sciences, University of Lapland

A well-known theory of classical geopolitics, the Heartland theory by Halford J. Mackinder is based on the huge size of the landmass of Eurasia, and both the myth of the unconquerable Russia / Soviet Union and a limitless Siberia are based on the same interpretation of the power of landmass and limitless land-space. In addition, there is the Rimland theory by Nicholas Spykman, emphasizing the importance of a rim area around the Heartland. Russia is mostly interpreted to be first of all a continental country, although it owns a long, maybe the longest, coast line. Further relevant for this presentation is the fact that the Eurasian North is in between the Heartland and a sea and mostly constructed by the rim of the Arctic Ocean.

Geopolitics, meaning traditional geopolitics, or the western geopolitical tradition, i.e. including both military strategies and the utilization of natural resources, has traditionally dominated relations between the circumpolar North and the outside world. In the 1990s there was a change from the military confrontation of the Cold War period into international cooperation the Eurasian North in many fields, such as economics and environmental protection. Therefore, instead, or at least parallel to, traditional geopolitics, new approaches of geopolitics have

raised up, i.e. new geopolitics indicates the importance of economics over politics, and also more human-oriented concerns and correspondingly, critical geopolitics is interested in politics dealing with a control of a space including the question of identity politics. In the Circumpolar North, including the Eurasian North, the existence of different actors and their bigger role in international relations is often mentioned.

There are many strategic plans and (mega) projects, and existing activities, how to the huge landmass of Eurasia, as well the area of the Eurasian North, is used and utilized. These include the increased utilization of oil and gas resources, infrastructure for, and land and sea transportation of them, and growing competition on economics and politics, and thus hegemony. Based on the scientific assessment of the Arctic Human Development Report, one of the main themes of international relations and geopolitics in the Circumpolar North at the beginning of the 21st century is the relationship between the Arctic and the outside world, including traditional security-policy, since the North is still highly strategic to the USA and Russia. Thus, on one hand, some aspects of classical geopolitics are still there, when new aspects of geopolitics are as well there taking room and space from the so-called old international actors such as unified states and intergovernmental actors. There is also demilitarization and rationalization of the military, i.e. 'quality instead of quantity'.

When applying the resource models of geopolitics into the Eurasian North behind is the fact, even cliché, that the North is rich in natural resources, both renewable and non-renewable resources, "an immense reservoir of resources" for the rest of the world. According to the Arctic Human Development Report, the whole gross production of the Circumpolar North, \$US 230 billion shows the scale and the direction (about 80% of this is coming from the Eurasian North), and it is mostly for the South to meet energy needs of developed countries. Thus, it is possible to interpret that the Eurasian North with its many flows is becoming a new energy Heartland of Eurasia. There are also environmental conflicts in the Eurasian North. They mostly deal with both the relationship between a man and a nature, and different values,

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like how to use technology including nuclear safety issues and incidents in fishery in the Barents Sea, and conflicts of interests between forestry and reindeer herding like in the winter of 2005 in Inari, Finland.

In the circumpolar North globalization has finalized the integration of the region into the globalized world economy and global communication/information flows. Therefore, there are also impacts of globalization in and to the North, and some impacts have been present for a longer time - among the traditional ones are exploration, the utilization of natural resources, trade and control of that, and colonialism in general. Further, through to the globalized world economy there are different flows, such as of raw material and waste, and those of human resources, and of information and knowledge.

The Eurasian North either is, or might become, relevant in world politics due to first, the reserve of strategic natural resources; second, a reserve of fish and marine mammals; third, strategically important area of different sea and air routes for national and international transportation and logistics like e.g. the Northern Sea Route; fourth, the highly strategic importance for military; and fifth, maybe as an area of innovations in governance, tech-knowledge and economies. Today, trans-national corporations are free to transfer their activities into different parts of the world for bigger profits. There are also more global activities by different civil organizations to demand equal development, global democracy and societal responsibilities.

In conclusion among the main aspects and elements of the Northern Eurasian geopolitics can be interpreted to be for example, the military (indicating power and force), oil and gas (indicating natural resources), harbours and terminals (indicating infrastructure), pipelines and routes (indicating transportation), investments (indicating money and power), ICT and information (as a flow), global corporation and civil organisations (indicating globalization), region-building (indicating space and identity/identities), regionalization and regional dynamics (emphasising the activity of non-state actors), Northern Dimension (representing South-North relations and control), cross-border

cooperation (indicating both importance of national borders and interest toward borderless space), conflicts between man and nature (indicating different values and interests), and last but not least, human resources (representing actors and identities).

The presentation is based on the draft proposal of a Nordic-Russian research project "North Eurasian Geopolitics: from technology models to resource models - corporate globalization, environmental conflicts and societal responsibilities" (working title) run by the University of Lapland, Finland and the University of Akureyri, Iceland.

Economic Development in the North - With a focus on the Greenland Economy

Senior Scientist Joan Larsen, Stefansson Arctic Institute, Akureyri, Iceland

Arctic economies are increasingly confronted with economic vulnerability and instability. Economic swings are often related to the very narrow resource base of these economies, a high degree of dependency, a limited degree of diversification combined with being increasingly subject to the forces and impacts of globalization, and exogenous shocks and disturbances in general. Their small size, scattered population, remoteness and lack of accessibility often tend to amplify these effects, with instability being rooted in exogenous as well as endogenous forces.

The Greenland economy, like other parts of the Arctic, is characterized by a significant degree of dependency and a high level of economic instability. Greenland can be described as being economically dependent, both in terms of trade, finance, and technology. Because of the high level of dependency, the Greenland economy tends to experience significant difficulty with minimizing the adverse consequences of shocks and disturbances. This difficulty is related to a significant lack of mobility of resources and a limited ability to develop economic substitutes.

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As in the case of other dependent economies, the Greenland economy is characterized by a situation where relationships between different sectors tend to be few and limited, resource use is less flexible than in more advanced economies, economic growth is dependent on external factors, there exists a disparity between the structure of domestic demand and domestic resource-use, and domestic institutions tend to be directed or controlled to a significant degree by the external environment. In part because of structural features such as these, shocks and disturbances that affect the narrow resource base and its associated industry tend to produce amplifying effects which can be felt both regionally and locally.

Greenland is highly dependent upon fisheries and their contribution to foreign trade. Primary exports, which account for a large share of GDP, consists almost exclusively of fish products, and are concentrated in only a few species. The high concentration in trade makes the economy highly vulnerable to exogenous forces, and tends to produce significant adverse consequences for the level of economic instability regionally and locally, with associated consequences for growth and development.

Economic fluctuations must be viewed as undesirable when they serve no useful purpose but only trigger fluctuations in other variables such as government revenue and investment, which may impact on long-run economic development. Instability that is unexpected may increase with globalization and increased openness.

In general, it is the sporadic elements of deviations from some "normal" level of earnings as opposed to regularly reversing deviations that are likely to be the greater cause of concern. Given that the scope for corrective action in small, developing and economically dependent Arctic economies tends to be limited, for a number of reasons, including a lack of finances and limited economic and political autonomy, it is unlikely that governments of the Arctic can undertake effective policies to offset and minimize shock effects, even given the optimistic assumption that they would be able to predict the future accurately.

The lack of economic diversification and the significant constraints that exist in resource flexibility in Greenland may offer some explanations for

the relationship between economic instability and the economic growth record of this country. The negative association suggests a difficulty in predicting and reacting correctly to shocks to the domestic economy, and in applying the correct timing for stabilization policies. Limited degree of economic diversification and low per capita income may be important factors in explaining the level of economic instability in the Arctic. Lack of diversification and lower per capita incomes create an environment in which resources cannot easily be transferred. In general, the instability problem which is likely to be linked to an uncertainty about availability of public and private resources may complicate development planning and subsequently reduce the rate of growth of the economy below the rate which would have been attained under greater certainty.

Climate change and Northern Indigenous peoples

Senior Scientist Elina Helander-Renvall, Arctic Centre at University of Lapland:

Oil and gas drilling, transportation, nuclear risks and environmental protection in the Barents Sea region

Project Manager of the Barents Institute Svein Helge Orheim, Kirkenes, Norway

Northern Political Ecologies: the case of agriculture, development and community viability in Iceland

Senior Scientist Jon Haukur Ingimundarsson, Stefansson Arctic Institute, Akureyri, Iceland

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Under the heading *Agricultural Opportunities are Likely to Expand*, the Arctic Climate Impact Assessment Overview Report (ACIA 2004, p. 57) states that “Arctic agriculture is a relatively small enterprise in global terms, though some nations, such as Iceland, produce more than enough meat and dairy products to sustain their populations.” Furthermore, authors of the Report project that Arctic warming will advance the potential for commercial crop production – products of both domesticated plants and animals – during the next decades to come. This paper briefly describes the characteristics and relatively limited extent of sedentary farming in circumpolar northern regions, then broadly focuses on past and present agricultural production in Iceland while making the arguments that intensification and diversification of farming activities within the last 15-20 years are playing a most critical positive role in economic development and community viability in Iceland, and that these processes should be observed closely as examples which can be emulated and should figure prominently in the collective discussion on northern “sustainable futures.”

After enduring a multifaceted crisis in the 1980’s and early 1990’s – especially involving vegetation decline and the “over-production” of sheep, linked to the inability to profit from meat and wool export, and resulting in a drastic reduction of the sheep population but an equally significant increase in the population of horses – farming in Iceland has emerged, in great part due to continuingly strong state-support, as a diverse mode of subsistence, including an increasingly efficient production of beef, pork and poultry; the greenhouse cultivation of vegetables and fruits; afforestation (forest cultivation) and aquaculture; and activities connected with tourism, craft-production and education.

This paper takes issues with the view (most notably expressed by certain economists) that state support to Icelandic farmers has decreased the well-being of society, compared to what it would be if Icelanders relied more heavily on imported agricultural products. The paper delivers arguments to show how state support for agriculture has helped sustain Iceland’s high employment rates; has reduced wage-increase pressure; provides the population with safer and better-preferred foods; has made agriculture and other farm-related activities increasingly sustainable

(with less and less state support in terms of % of GDP); and is an investment guaranty against the most serious effects of potential future crises in fisheries, of an increasing reliance on the exploitation of the cheapest labour power in an uncertain world, and of the predicted future reduction in world-wide agricultural production due to climate change.

Local community as a stage for land use discourse – before and after a global actor

Researcher Mari Riipinen, Department of Geography, University of Oulu

In the modern world even remote villages and communities are affected by global processes and global values. The Arctic Human Development Report (AHDR 2004:45) states that, “all contemporary Arctic cultures are influenced by southern rules and values.” At the state level the national decision makers and politicians set institutional practices by which people have to act and by which they can use the land in a certain area. Many of these decisions are linked to global level ideologies and agreements. Local people and their values aren’t always content in the non-local decision making. However the consequences of non-local politics, economics, land use justification and environmental problems are situated in local contexts and experienced locally by local people. In northern areas, the use of the nature has received an important role in communities’ survival and therefore local communities try to get their perspectives noticed in non-local decision making.

Networks are means to receive information and enter the local perspective into the global processes and non-local decision making bodies. The local perspective on land use is part of local identity. Values and meanings given to surrounding nature are embedded in the local identity of the people. The local perspective on justified land use can be promoted with the help of local social capital. The main elements of social capital are networks, trust and norms. Social capital is a resource in a community that helps people to achieve something that an

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individual would not be able to achieve by him/herself. In this study it is argued that social capital as a resource is also shaped by local identity. Social capital uses and also produces local identity. The meanings and values of the surrounding nature as well as the justification on land use are highlighted in the local land use discourses. The interaction of social capital and local identity can also be seen within the local land use discourses. Main research questions of the study are: Who has the right to decide on land use and why (local perspective)? What kind of land use local people find justified?

The empirical work of the study was carried out in Nellim, a village in the municipality of Inari situated on the Russian border. There are about 200 inhabitants in Nellim and it consists of three cultures. The main livelihoods of the village (e.g. reindeer herding, forestry, natural source of livelihood and tourism) are closely connected with use of the nature. Thematic interviews concerning land use were carried out during summer 2003, autumn 2004 and spring 2005 and they were analyzed in order to find out local land use discourses. The land use discourses in Nellim were named *tradition*, *modern use of the environment*, *protection* and *adaptation*. These discourses can be linked to global ideologies and state level structures (laws). In the discourses the justification or judgment on land use actions are manifested from local to global scale. Global processes' and global actor's effects on land use was clearly seen in Nellim when international non-governmental organization Greenpeace took part in the land use discussion. This study focuses on what happened in local community when Greenpeace entered land use discourses. The main question is: How did a global actor's activities affect social capital in a local community?

In the beginning of 2005 Greenpeace first based its Forest Rescue Station in the forests of Nellim. The aim of Greenpeace was to inform national and international forums on the land use conflict in Saami land in Finland. Greenpeace wanted to defend reindeer herding – a traditional and marginalized livelihood of the area. Greenpeace and Finnish Association for Nature Conservation (FANC) published a report where they stated their aims concerning the land use issues in Saami area. The extensive use of the forests for forestry's purposes was seen to

harm reindeer herding and other uses of the environment in the area. According to the report main factor for contemporary forestry in the area were overestimated felling quotas. Greenpeace and FANC firmly stated that local decision making on land use issues was needed, but it would only be possible if governmental decisions on forestry were made first. They stressed that they do believe that multiple use of the forests is possible. They also suggested new forest areas that should be protected.

On international and national level Greenpeace's actions were supported by private people and associations (among others international authors, the Finnish Human Rights Association, Saami Parliament and some reindeer herding districts in the Inari municipality). At the local level (in Nellim) there were a few reindeer herders that invited Greenpeace to the location. However, Greenpeace's demands or suggestions on land use were not widely welcomed at municipal level.

Greenpeace was accused of coming to local surroundings without understanding their way of life and telling the local people how to use the surrounding environment. The Finnish Forest and Park Service (FFPS) gave their "silent" acceptance for the foresters to base their Anti-Terror Info Centre right next to Greenpeace's station. Foresters quickly gathered their friends and families to the camp and together posted signs where they used local rhetoric to justify logging and FFPS's authority in the forests. Foresters stressed that if there are conflicts over land use they should be solved locally and Greenpeace should not have any say in it. Even though there are only a few active foresters in Nellim, most of the people from the village sided with them. In the community a conflict arose between local reindeer herders and other local people.

Multiple land use and the tensions between the land users are not a new phenomenon in Nellim. There have always been, and still are, different kinds of perspectives or competing discourses on land use in the community. However, people have been able to live together in peace and solve the disagreements within the village. One could even say that they have had a common enemy (or *other*) that has been Finnish Forest and Park Services. However when Greenpeace stepped to the arena, most of the people sided with FFPS. Even more surprising was that the

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aims of Greenpeace and the hopes of the local people on land use did not differ substantially. Most of the local people did not want to identify themselves with a global actor. Local people and foresters leaned strongly to their regional/local identity and wanted to stress the difference between *us* the local people and *them* Greenpeace a global actor.

There were two major differences in the perspectives on land use issues between Greenpeace and local people of Nellim. One of them was how reindeer herder's position in land use discussion was perceived. Greenpeace saw reindeer herding in global context as a marginalized, traditional livelihood that is in danger to extinct. In local context people perceived reindeer herding as the only livelihood that is consulted and has power when land use decisions are made. Another difference is on how people in Nellim and how Greenpeace understand local agreement. Greenpeace felt that they were helping local people to achieve power in the decision making. However in local context Greenpeace was perceived as a nature conservation association and an actor, an outsider who wanted to put rules and regulations upon local people. Local people felt that it is not local agreement when Greenpeace sets the frames on local land use. In the community of Nellim reindeer herders who invited Greenpeace to the location were perceived as breakers of local norms and they were no longer trusted. The dark side of social capital appeared in the community.

Role and importance of research from the Saami perspective
Professor Veli-Pekka Lehtola, University of Oulu

Further activities and ideas for follow-ups of the Arctic Human
Development Report
Governor Hannele Pokka, Provincial Government of Lapland

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Open discussion and conclusions

The main conclusions of the session were the following:

First, the AHDR is a valuable document and an important scientific contribution for both academic discourses and more political discussions on human development and other contemporary issues of the North in general. It is especially a useful means for comparative studies on the state of human development both at the regional level on one hand and on the other, between Indigenous peoples and other local communities in the North. This is the case also in the North Calotte and Lapland, where the Municipality of Inari located in the centre of the region would be an interesting case study for future research.

Second, following from this, it would be very valuable and important that the Report (written in English) AHDR, or parts of it, would be translated into the languages of the North Calotte like e.g. Saami, Russian and Finnish. It was mentioned that the work to translate the AHDR into Russian has started, and that there is seed money to translate it into Finnish.

Third, it came out that this kind of an open and trans-sectoral discussion, which is introduced by an academic community, is both well-taken and needed, but it is neither automatic nor always easy to organize. Behind is the fact that in an academic community there is both a tradition and a pressure to emphasize pure academic discourses based on research findings and projects. Discussions and discourses in the Calotte Academy have shown and improved that these two different points of view are not controversial, since fruitful open discussions can be reached better the more discussions are introduced by findings based on research projects.

Fourth, there is both a social need among policy-makers for, and sufficient interest among academics toward, a forum for open discussion on relevant and acute Northern issues like the Calotte Academy. Further, the Municipality of Inari would like to see the

Calotte Academy continue, and this was demonstrated by a public invitation to host the Calotte Academy in Inari in 2006.

Fifth, if the Calotte Academy will continue, as is probable, the design and structure should be slightly changed. One aspect, which was tested and proven, would be to put more emphasis on academic discourse in general and especially discourses based on ongoing research projects. Another aspect that was mentioned, would be to avoid overlapping and competing events in order to strengthen synergy, which is best achieved by the strong commitment of local hosts. A third aspect is to build on fruitful relations, even some tensions, between policy-makers, NGOs and scholars and (post-graduate) students beforehand, for example, by taking the Municipality of Inari as case study on a state of human development in the North (Calotte).

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Open Public Hearing

As part of the dissemination and feedback process of the Arctic Human Development Report (AHDR) and Arctic Climate Impact Assessment (ACIA) the Calotte Academy included an Open Public Hearing on human development and impacts of climate change in the North, particularly dealing with northern Lapland and Inari. It was convened in Rantamari, a local restaurant and hotel at the downtown of the Inari village on May 28, 2005 in conjunction with the Calotte Academy and hosted by the Municipality of Inari. It was the first this kind of Open, Public Hearing in the circumpolar North in the series of Northern Research Forum Town Hall Meetings on Human Development and Impacts of Climate Change in the Arctic in 2005-2006 (see Project on Town Hall Meetings in www.nrf.is)

The Public Hearing was chaired by Reijo Timperi, Mayor of the Municipality of Inari, and featured presentations from invited speakers Joan Larsen (Stefansson Arctic Institute, Iceland; AHDR Editor and Project Manager), Sauli Ruohinen (Finnish Ministry of the Environment), and Bruce Forbes (Research Professor, Arctic Centre, Finland). The rapporteurs of the public hearing were researchers Scott Forrest and Mika Flöjt of the Arctic Centre (see the AHDR & ACIA Public Hearing)

Introductory Presentations

Reported by Researcher Scott Forrest, Arctic Centre, University of Lapland

Main findings and conclusions of the *Arctic Human Development Report*

Senior Scientist Joan Larsen, Stefansson Arctic Institute, Iceland, and Sauli Ruohinen, Ministry of the Environment, Finland

Joan Larsen provided summaries of the main findings of each section of the report:

- The *demography* of the Arctic is sparse and unevenly distributed, totalling about 4 million people (about half of whom are indigenous). This population is skewed in age structure and gender. The voice of the Arctic is minimized and often goes unheard in national capitals because such small percentages of national populations live in Arctic areas (with the exception of Norway)
- Circumpolar *societies and cultures*, and particularly indigenous peoples are highly resilient and adaptable, have survived intact despite dramatic social, economic and environmental changes. They have shown a particular ability to adapt to modern technology, and display strong signs of cultural vitality despite these challenges.
- The *economic* systems of the Arctic are narrowly based, and sensitive to shock from outside, particularly external market changes and political interventions. When measured, the Arctic actually produces a very high value of Gross National Product, which exceeds about the size of Sweden's economy or a quarter of Canada's. Adding up outflows and inflows, the Arctic is actually a net exporter of wealth. The major challenge is how to diversify. Large scale resource exploitation has had a dramatic effect on the human and local environment.
- While the *political systems* of the region have seen a devolution of authority to northern regions, this has not been accompanied by significant reallocations of power, material resources, nor a transfer of sources of revenue. The end result has been a dependency on transfer payments or block grants. We need a change in the rules of the game so that the profits from resource exploitation stay in the region.
- The *legal systems* of the region show a growing dualism between the legal rights of indigenous peoples and the authority of public governments. There are good models of innovative approaches, such

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as Sami parliament. There have been significant gains in the recognition of rights, but many challenges remain.

- The region has developed many new and promising examples of systems of *resource governance*, such as co-management
- Significant gains have been made in *human health*, but many challenges remain. Alcoholism, drug abuse, accidental death and violence, dietary issues, and contamination of local foods still need more attention. The solution is to find ways of strengthening community based health services.
- Education, which started out as an oral tradition has undergone profound changes under western colonization. The situation is now one of damage control, and trying to find solutions that fit the local conditions, such as teaching in local languages, developing curriculum that fits the region, and training teachers from the region.
- Maintaining *community viability* requires an enhanced ability to take advantage of interactions among government, corporate, organizational and personal networks.
- Even while addressing existing *gender issues*, new problems have been created through socio-economic changes, such as the physical security of women, and role of women in authority. There continues to be a lack of opportunities for women, and a major challenge comes from the lowered status of subsistence hunting and resulting decline of men's sense of self-worth.
- International Relations in the Arctic has proven effective in creating a regional identity, such as the Arctic Council.
- In sum, the region faces an number of challenges from outside the region, such as climate change, market shifts, and public policies adopted in national capitals, that require common approaches and cooperative action.

Sauli Ruohinen provided some short background on the process of the Arctic Human Development and an overview of its contents:

- It was appropriate that the first public hearing about the report takes place in the Municipality of Inari, since the AHDR was first proposed at the Ministerial meeting of the Arctic Council in Saariselkä in 2002, and was taken as a priority activity during Iceland's chairmanship. It was completed in time for the following ministerial meeting of the Arctic Council in Iceland in 2004.
- The report is the first regional report on human development that covers the entire circumpolar area. As a scientific report, it serves to collect and present the state of existing research on the region's demography, economy, cultures, politics, health and wellbeing, and other social issues, rather than developing new research itself. The report serves as an overview of these issues at a broad circumpolar level, and looks for common themes and linkages, as well as identifying major gaps in knowledge. The conclusion of the report outlines a series of policy recommendations to decision makers about what to do on the basis of its findings. In this way it outlines the human development agenda for the Arctic.
- Dealing with summarizes conclusions, gaps in knowledge and issue areas. And, what have we learned, and what do we do next next steps? What are the lessons from the Arctic to the rest of the world? We know little about the human development of the Arctic. A lot of new research is needed, and there are special features that have to be taken into account.
- Communities are resilient, but there are limits both biophysical and socioeconomic changes that require common political solutions. Cultural integrity is very strong. Cultures remain strong even in the face of great changes. The success stories of the Arctic include political innovations for regional cooperation and self-government, and the role of indigenous peoples. These models can be exported outside the region. A major challenge is how to accommodate different lifestyles/ways of life; whether to continue traditional lifestyles, or take up new ones like tourism.

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- The report identifies a lot of gaps in knowledge. We have inadequate knowledge about populations and demography. We cannot evaluate the effects of cumulative changes on culture. More information on non-indigenous 'settlers' and their interactions with indigenous peoples in the North is needed. More research is needed on resource conflicts: how to achieve a balance between modern industrial activities and traditional activities?
- The Arctic region shows many areas of common development and special features. It is clear that the indicators of the UN Human Development Index don't always work well for measuring the Arctic. We must develop indicators that we can monitor changes in the future.
- The next steps for the AHDR are to have more public sessions like this one, and have the report or its conclusions translated into other Arctic languages. Also it is important that the conclusions of the report be taken into consideration in planning the activities of International Polar Year. We are on the road to creating a set of common goals for the entire region.

Main finding and conclusions of the Arctic Climate Impact Assessment Report, especially from the point of view of Russia
Research Professor Bruce Forbes, Arctic Centre at University of Lapland, Finland

Bruce Forbes provided an general overview of the Arctic Climate Impact Assessment (ACIA) and the issues of global change and land use, with a special focus on northwest Russia:

- This discussion is not new. Although the 2004 ACIA report contains dramatic conclusions about the global climate, already in 1970s scientists were noticing something going on. The 1980s were the warmest decade to date, and the 1990s were even warmer. The ACIA report includes input from over 300 scientists and northern residents. These are not only scientific measurements, but also local observations of climate change. The conclusion is that warming in

the Arctic is causing changes in almost every part of the physical climate system. These changes have been observed here in Lapland with rivers freezing later and melting earlier in the spring. All of the trends outlined in the report mean important changes for natural ecosystems such as increasing forest fires, insects, and loss of old growth forests. Changes in climate also have strong implications for northern societies and cultures. Caribou and reindeer herds, hunting cultures and food security are at critical risk.

- The documented changes in temperature are strongly correlated with land use, carbon output, and the use of fossil fuels. The projections for next few decades for carbon concentration in the atmosphere and temperature change are even more drastic. One consequence will be the opening up of the Northern Sea Route due to loss of sea ice, shortening shipping between Europe and Asia-Pacific, with a rise in the period of navigable shipping to over three months by 2090. Warm conditions in northern Europe exist because of the gulf stream. If warming continues, tundra, and northern vegetation zones would move north, but where these regions are already at their northernmost limit, they might disappear entirely. An alternative scenario is that the Gulf Stream could stop due to melting ice resulting in an increase of freshwater in the North Atlantic. It is not known would could happen.
- It is important to note that not all Arctic have experienced uniform change. There is lots of variation across the Arctic, with Alaska and Siberia are warming considerably, but Greenland actually cooling, while there is not much increase in Fennoscandia. It is also important to understand that it is not just climate change that is resulting in dramatic changes to northern ecosystems. Land use is producing equally dramatic changes, particularly on the local scale. It is predicted that human land use in the Arctic will increase by 50% over the next 50 years.
- Despite the dramatic conclusions of the ACIA report, it is these changes in local land use that are of much more immediate concern to people in northern Russia. The collapse of Soviet Union has had

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dramatic effects on local reindeer husbandry, and that livelihood is now under considerable threat from oil and gas development. Legal structures and land ownership issues are critical, because local peoples don't have a voice in how development happens in their region. Human disturbance of surface tundra has dramatic effect on the permafrost and also produces changes in the environment. Even without a warming climate, the impact of development can have much more dramatic effects for the local people. Local people want to have a say in how oil and gas development happens.

- In conclusion, the issues are of climate change and changing land use patterns are complex and the solutions are equally complex. We should take this into consideration when we hear oversimplifications in the media

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Conclusion

Thus, the open discussion on human development and impacts of climate change by citizens and representatives of different stakeholders was based on the two current and relevant international and scientific reports on a state of human development and impacts of climate change in the circumpolar North on the Arctic Human Development Report (AHDR) and the Arctic Climate Impact Assessment (ACIA).

For the text of the AHDR, please visit: <http://www.svs.is/AHDR>

For the text of the ACIA report, please visit: <http://www.acia.uaf.edu>

It is relevant to mention that the event was the first one in the series of several Town Hall Meetings on the AHDR and the ACIA reports in the circumpolar North in the years of 2005-2006 organized and/or coordinated by the Northern Research Forum. Therefore, the Inari Public Hearing / Town Hall Meeting in May 2005 will act as an example, and partly even a model, for forthcoming Town Hall Meetings - like for example, the meeting in Anchorage, Alaska, USA, that in Apatity, the Kola Peninsula, Russia and the meeting in Nuuk, Greenland during the autumn of 2005 - on human development and impacts of climate change in the North.

For more information – please visit: <http://www.nrf.is>

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Background Information

Socio-environmental Context

The geographical location and socio-environmental context of the Calotte Academy 2005 was, again, splendid and friendly. If the spring flood, which was in its highest in the first day of the event, was a dramatic manifestation of natural forces, then the evening program and Taste of the North” dinner were friendly examples of the hospitality of the Municipality of Inari.

Based on a local suggestion, the Calotte Academy 2005 was organized back-to-back with several international and local events of Inari during the “Super Weekend” of the spring of 2005. These event included the International seminar on Economic Cooperation in Reindeer Herding in the Barents Region, and also cultural program such as Premiere of Saami People Documentaries at Sami Museum SIIDA and Ijahis Idja Music Event’s Porokonsertti, outdoor concert in Inari village, and the Calotte Academy Sauna. There was also another seminar, the Cultural Environment of the Saami organized by the Environmental Centre of Lapland and the Saami Parliament. Because this event overlapped the two first days of the Calotte Academy neither interdisciplinary discourse nor dialogue crossed the borders between the different actors and sectors were reached, although these are among the main aims of the Calotte Academy.

As a post-seminar activity of the Calotte Academy 2005 there was a short excursion to the Norwegian coast of the Arctic Ocean and the Tana river valley by a small group. The excursion included visits at Svanvik Högskola and the Norwegian Barents Secretariat in Kirkenes, a short sea voyage by Hurtigruten from Kirkenes to Vardö, a visit in Vadsö and Utsjoki in the Finnish side of the Tana river valley.

Organizers

The Calotte Academy 2005 was organized by Faculty of Social Sciences at University of Lapland, Thule Institute at University of Oulu and Northern Research Forum (NRF) in cooperation with Municipality of Inari, Educational Center of Saami Area and Saami Parliament in Finland. The Calotte Academy was supported by the Regional Council of Lapland, Provincial Government of Lapland and the North Calotte Council.

Main Idea and Aim

The Calotte Academy, which has run annually since 1991, means both citizens’ open discussions and dialogues, and academic discourses between researchers and other experts on topical issues and relevant northern themes. In addition there is also an educational aspect with an emphasis on a holistic point of view. The Calotte Academy is an academic forum for experts’ and citizens’ open discussion in order to improve human, social, political, economic and legal development and environmental responsibility in the North Calotte and other northern peripheries on one hand, and on the other hand, to find alternative ways to think and interpret development and even create models for coping. In this context expertise together with an open dialogue are the main means to implement the aims, and if there is power that is the power of expertise and creativeness.

All in all, the Calotte Academy is both an academic and political forum with its scientific paradigms and politically-oriented aims, but not an actor in social, scientific-political ‘game’ trying to create its own political agenda or openly make. In the background there are on one hand, the social relevance of science, i.e. the philosophy that science / research as the scientific community, has always a social aspect, and on the other hand, the constructive approach, that science is also socially and culturally constructed human activity, and keenly involved in the current social context (Jukarainen & Jutila 2005, 79).

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The Calotte Academy was also a sub-forum for the Northern Research Forum (NRF). And further, the open, public hearing was the first event in the series of these kinds of Town hall meetings in the circumpolar North in 2005-2006 as pre-activities for the 4th Open Meeting of the NRF in October 2006 in the Bothnian Arc.

More information

Please visit:

<http://www.barentinfo.org>

<http://www.ulapland.fi>

<http://www.thule.oulu.fi>