

GREAT POWERS, ARCTIC SECURITY AND FINLAND

VESA VIRTANEN

Kirjoittaja on eversti, VTM ja Fellow Harvardissa 2012–13, jossa tehtyyn tutkimukseen artikkeli perustuu

TIIVISTELMÄ

Arktisen alueen turvallisuuspolittinen merkitys lisääntyy tulevaisuudessa, kun jää sulaa ja mahdollistaa alueen mittavien luonnonvarojen nykyistä paremman hyödyntämisen. Uusimpien arvioiden mukaan arktinen alue voisi olla kesäkuukausina vapaa jäätä jo tämän vuosikymmenen loppuun mennessä. Arktinen alue on kiinnostava, koska siellä sijaitsee noin 30% maailman hyödyntämättömistä kaasuvaroista ja noin 13% öljyvaroista. Lisäksi alueella on runsaasti arvokkaita mineraaliesiintymiä. Jään sulaminen avaa myös uudet kuljetusreitit lyhentäen Pohjois-Euroopan ja Aasian laivamatkaa 35–60% ja 10–20 vuorokaudella. Kalastuksen merkitys arktisella alueella lisääntyy uusien kalastusalueiden tullessa käyttöön ja myös arktisen alueen turismi on kasvussa.

Arktisen alueen muutoksen takia suurvaltat valmistautuvat vaikutusvaltansa lisäämiseen ja alueen luonnonvarojen hyödyntämiseen. Is-lanti, Kanada, Norja, Ruotsi, Suomi, Tanska, Venäjä ja Yhdysvallat ovat arktisia maita, mutta alueen luomat mahdollisuudet ovat houkuttelevat mukaan myös ei-arktisia maita, kuten Etelä-Korean, Intian, Japanin ja erityisesti Kiinan.

Kilpajuoksu arktiselle alueella lisää myös sotilaallisten kykyjen kehittämistä siten, että toiminta arktisissa olosuhteissa on mahdollista. SAR-kyvyt ja liikkumiskyky (jäänmurtokyky) korostuvat. Tämä on jo nähtävissä esimerkiksi Venäjän asevoimien kehittämissuunnitelmissa.

Muuttuva arktinen alue ei ole niin kiinnostava Yhdysvalloille kuin se on Venäjälle ja Kiinalle. Yhdysvaltojen intressi alueella on turvata vapaa liikkuvuus ja luonnon tasapaino. Melko vaatimattomaan Yhdysvaltojen arkti-

seen politiikkaan on monia syitä. Ensinnäkin Yhdysvaltojen arktinen alue, Alaska, on melko kaukana Yhdysvaltojen ydinalueista. Toiseksi Yhdysvaltojen intressit ovat Lähi-idässä ja Aasiassa, mukaan lukien Afganistan, Iran, Irak ja Pohjois-Korea sekä yhä enemmän Kiinassa ja Tyynellä Valtamerellä. Kolmanneksi Yhdysvallat saa huomattavasti halvempaa energiaa ydinalueiltaan, kun liuskekaasun ja -öljyn tuotanto lisääntyy tehden Yhdysvalloista vielä tällä vuosikymmenellä yhden maailman suurimmista energian tuottajista.

Suurvalloista Venäjä hyötyy jään sulamisesta eniten. Nykyisin arktinen öljy ja kaasu tuottavat jo noin 20% Venäjän bruttokansantuotteesta ja 22% viennistä. 80% maailman arktisesta kaasusta sijaitsee Venäjän alueella. Tulevaisuudessa arktisen energian merkitys Venäjälle vain lisääntyy läntisen Siperian energiavarojen vähetessä. Öljyn hinnassa on sen lisääntyneestä kysynnästä huolimatta nähtävissä laskupaineita 2020-luvulla Yhdysvaltojen suuren tuotantokapasiteetin takia. Tämä lisää entisestään Venäjän tarvetta tuottaa ja myydä nykyistä enemmän öljyä ja kaasua, jotta Venäjän talous ei romahtaisi.

Venäjän vaikutusvaltaan kansainvälisessä politiikassa vaikuttaa ydinaseiden lisäksi se, kuinka paljon se saa varoja energiastaan. Turvatakseen etunsa arktisen energian saamisessa Venäjä kehittää asevoimiaan ja pyrkii lisäämään sotilaallista läsnäoloaan arktisella alueella. Myös koillisväylän avautuminen ja käyttö kansainväliseen laivaliikenteeseen nähdään Venäjällä merkittävänä tekijänä saada tuloja ja kuljettaa energiatuotteita Aasiaan.

Kiina on yhä kiinnostuneempi arktises-

ta alueesta. Kiina näkee arktisen alueen yhtenä keskeisenä voimavaroja tuottavana alueena. Jo nykyisin Kiina käyttää enemmän rahaa arktiseen tutkimukseen kuin Yhdysvallat. Kiina uskoo, että peräti 15% sen ulkomaankaupasta kulkee arktisten alueiden kautta vuoteen 2020 mennessä.

Kiina tarvitsee energiaa ja raaka-aineita pitääkseen yllä talouskasvuun, minkä takia Kiina on siirtänyt katseensa arktisille alueille. Kuljetusreittien lisäksi Kiina on kiinnostunut alueen luonnonvaroista. Kiina ei ole arktinen valtio, eikä se voi esittää aluevaatimuksia. Sen takia Kiina ostaa kaivos- ja öljy-yhtiöiden osakkeita ja lisää läsnäoloaan arktisella alueella.

Sotilaallinen läsnäolo arktisella alueella on lisääntymässä, ja suurvalloilla on siellä erilaisia intressejä. Pahin uhkaskenaario olisi, jos suurvaltojen välille tulisi erimielisyyksiä arktisten luonnonvarojen hyödyntämisestä, laivareiteistä tai kalastuksesta. Tällä hetkellä kaikki pyrkivät rauhanomaiseen rinnakkaiseloon, eikä jään sulamisella ole välittömiä sotilaallisia vaikutuksia. Sotilaallisen vastakkaisasettelun uhka on kaukainen. Silti arktinen turvallisuustilanne on 2020-luvulla haastavampi kuin tänään.

Arktisen alueen jokapäiväiset uhat eivät liity sotilaalliseen toimintaan. Sen sijaan uhkina ovat ympäristöonnettomuudet sekä lisääntyneen kalastuksen, laivaliikenteen ja turismin aiheuttamat onnettomuudet. Arktisen alueen toimijat eivät vielä ole riittävästi valmistautuneet näiden uhkien torjuntaan. Vaativa arktinen toiminta-alue on laaja ja siellä on huonot viestiyhteydet. Mikään maa ei kykene yksin hoitamaan vaativan katastrofin edellyttämiä toimia, minkä takia arktisella alueella tarvitaan laajaa kansainvälistä yhteistyötä. Inhimillisten katastrofien välttämiseksi kansainvälisen yhteisön tulee ottaa aktiivisempi rooli ja kehittää yhdessä arktisen uhkaympäristön ja katastrofien hoitamisen tarvittavia kykyjä.

Suomelle arktisen alueen kehitys luo yhtäältä turvallisuuspoliittisia haasteita ja toisaalta taloudellisia mahdollisuuksia. Suomen on

huolehdittava oman alueensa valvonnasta ja seurattava sotilaallisen toimintaympäristönsä kehittymistä arktisella alueella. Kuolan lisääntyne merkitys Venäjälle on otettava tässä kehityksessä huomioon. Taloudellisessa mielessä Suomi voi profiloitua ja hyötyä arktisena osaajana ja saada teollisuutensa korkealaatuisia arktisen toimintaympäristön kestäviä tuotteita kaupaksi. Myös Suomen Lapin keskeinen maantieteellinen sijainti koillisväylän käytön lisääntyessä tuo monia uusia mahdollisuuksia, jos Pohjois-Suomen infrastruktuuria kehitetään.

Arktisen alueen muutoksen aiheuttamat toimenpidesuositukset Suomelle ovat:

1. Seurataan sotilaallisen toimintaympäristön kehitystä arktisella alueella
2. Ylläpidetään valvonta- ja puolustuskyky Suomen arktisella alueella
3. Kehitetään viranomaisyhteistyötä, jotta viranomaiset voivat toimia yhdessä ja tukea toisiaan mahdollisissa arktisen alueen kriiseissä
4. Muodostetaan arktinen moniviranomaisyhteistyöryhmä (ml yksityinen sektori), joka seuraa arktisen alueen kehitystä ja tekee suosituksia arktisen alueen kehityksessä
5. Osetaan osaa ja järjestetään rajat ylittäviä harjoituksia ja lisätään yhteistyötä arktisiin ughiin varautumiseksi
6. Seurataan ja arvioidaan Koillisväylän laivaliikenteen kehitystä, jotta voidaan arvioida ja kehittää Suomen osallistumista ja hyötymistä kasvavasta liikenteestä
7. Laaditaan tutkimus, jossa arvioidaan pitkällä aikavälillä, millaisia infrastruktuurimuutoksia Suomen tulisi tehdä, jotta arktisesta muutoksesta voidaan hyötyä
8. Arvioidaan, kuinka suomalaista osaamista voidaan hyödyntää arktisen alueen eri kehitysalueilla
9. Jatketaan vuoropuhelua kaikkien arktisen alueen toimijoiden kesken

1 GREAT POWERS AND THE ARCTIC REGION

During the Cold War, the Arctic was divided into two armed camps: the United States and NATO on the one hand, and the Soviet Union on the other. The Arctic region, referring in this paper to the geographic area north of the Arctic Circle (66 degrees north), provided an attractive area of operations for strategic weapons systems. Along that tense front, nuclear submarines and bombers operated. Runways and radar stations were built, along with underwater acoustic sensors. Following the dissolution of the Soviet Union, the strategic importance of the Arctic was diminished, especially in the eyes of U.S. policymakers.

A more cooperative approach concerning the Arctic region has emerged since 1990. The United States and Soviet Union agreed on the location of their maritime boundary in the Bering Strait and Chukchi Sea. The Arctic Council, an international organization, which institutionalized cooperation on nonmilitary matters among the eight Arctic countries, was established in 1996.¹ In the 1990s, Arctic cooperation was not very active, but during the last few years, it has intensified. All eight Arctic countries are members of the Arctic Council. No new non-Arctic states have been accepted as formal members.

One of the great assets of the Arctic lies hidden under the continental shelf: the unexploited oil and gas fields.² According to the U.S. Geological survey, as much as 13 percent of the world's unexploited oil and 30 percent of its gas reserves are located in the Arctic region.³ According to different estimates, 70 percent of the unexploited gas

fields are in the Russian area. As much as 84 percent of oil and gas reserves are thought to be offshore.⁴

Although oil and gas are the primary focus of most states, this is not all the Arctic has to offer. Besides huge oil and gas reservoirs, the Arctic hides other significant mineral deposits. Canada, for example, is already the world's third-largest producer of diamonds and has one of the world's largest and purest deposits of iron ore, located in Nunavut.⁵

Minerals available in the Arctic include manganese, chromium, cobalt, copper, gold, lead, magnesium, nickel, platinum, silver, tin, titanium, tungsten and zinc. These minerals are growing in importance as many are used in electronics and "green technology."

The Arctic is also rich in timber and fish. The Arctic Ocean is connected to several significant breeding areas of fish stocks, which are expected to move north with rising Arctic water temperatures. In fact, this change has been underway for the last 40 years.⁶

Arctic tourism is another factor when considering what may change in the Arctic in the coming decades. People are interested in seeing new areas and the Arctic is one of them.

One of the most controversial potentials of the Arctic is the prospect of new shipping routes. It is very difficult to estimate when and if the northern sea areas will become international transit routes.⁷ According to Stephen M. Carmel, the Senior Vice President of Maersk Line, there are still many uncertainties of how usable Arctic shipping routes will be. Especially for container ship-

ping, the economics of the Arctic as a transit route can be unappealing. For example, construction standards, outfitting, and crew training make Arctic-capable ships more expensive to build and operate. For on-time delivery, it is important to know the real shipping time, which, using harsh Arctic routes, can still be difficult. The challenges for Arctic shipping are as well that the variability in transit time is unacceptable, network efficiencies are lost, and Arctic routes are useful only part of the year.⁸

There are two potential routes that may be used: The Northern Sea Route (NSR) and the Northwest Passage. In the future, it might also be possible to use the central Arctic shipping route. For Europe and the Nordic countries, the NSR is the most important, offering a significant shortcut between East Asia and Europe, which could save as much as 35–60 percent in distance and 10–20 days in shipping between Northern Europe and the Far East in comparison to the Suez or Panama Canals.⁹ Surface-vessel access to open seas in the Arctic will gradually increase from the current few weeks a year to a few months a year, centered in mid-September, when the Arctic sea ice is at its minimum.¹⁰

During the last few years, more attention has again been given to the Arctic region, but in a far different way than during the Cold War. Global warming is affecting the Arctic much more than any other region, and the melting of the Arctic sea ice makes the Arctic more accessible, which is creating greater opportunities for the extraction of oil, gas, and many valuable minerals. At the same time, the area has become more attractive for commercial shipping,

industrial fishing, and even tourism. These factors will most likely make a significant impact on the security and environment of the Arctic in the 2020s. The Arctic is interesting in terms of security especially for the eight Arctic countries, but recently China, Japan, and South Korea have become more and more engaged in the area. This increase in interest and activity in the Arctic region can affect Nordic security and the power balance in the Arctic as well.¹¹

It is not only polar bears, which are altering their behavior because of the big changes occurring in the area, but also major actors in international politics. For polar bears, the change is already clear; they can no longer easily kill seals because of diminishing ice. They try to survive and they have to adapt and eat berries instead. On the other hand, it is not yet clear how the behavior of nations will change because of the diminishing ice. The rapid pace of the melting of sea ice in the Arctic has caused nations to consider the implications of the consequences of an Arctic without or with much less sea ice.

International relations are still dominated by realist considerations in that each nation state is primarily concerned with its own interests. States will try to take as many resources and as many benefits as possible. In the Arctic, rising temperatures and the unexploited fuel resources can mean suddenly rising tensions, a situation that is comparable to what we have already seen in 2012 in the South China Sea and East China Sea.¹²

There are several actors in the Arctic that will have impact on the region's development. For Finland's security, the major im-

plications are to be seen in the actions and relations among the United States, Russia, and China in the European High North.¹³ The diminishing Arctic sea ice will lead to increased activities in the Arctic in the 2020s.

These developments will create new prospects and challenges for the nation states in the region and for those who wish to take advantage of these opportunities. The primary actors in the Arctic are the eight Arctic states—namely Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the United States. But the new possibilities and resources also interest non-Arctic countries, like China, Japan, and South Korea.

This paper utilizes realist theory both as a lens to analyze current state actions in the Arctic as well as a guide to predict future interactions among states. According to realist theory, states are rational actors and they have strategies that maximize their prospects for survival and the attainment of power. When applying realist theory to the changes in the Arctic, it can be predicted that nation states will try, insofar as possible, to gain benefits from the forthcoming developments in the Arctic. This may lead to rivalry and even disputes between them. The best-case scenario would result in interstate cooperation in the region, but competition or conflicts cannot be excluded.

2 FUTURE DEVELOPMENTS INVOLVING THE GREAT POWERS

In order to be able to understand the importance of the Arctic in the future, it is necessary to consider how the great powers

will look politically, economically, and security-wise in the future.¹⁴ First, important future trends concerning the United States will be explored, followed by Russia, and lastly China.

The United States

It is assumed that the United States will remain militarily as the world's most powerful nation during the coming decades, but at the same time it will start to feel the limits of military power. The United States has a network of allies around the world, and this will probably not change in the near future. U.S. security interests in Europe¹⁵ and the Middle East in the 2020s will be reduced. The main reasons for this are Europe's increased stability and the U.S.'s domestic energy production, which is growing significantly because of the new methods making it possible to produce shale oil and shale gas. The United States is the fastest-growing oil producer in the world: by around 2020 the nation is projected to become the largest global oil producer.¹⁶ It is even possible that the United States will become an energy exporter in the 2030s.

It should be noted that, though the Middle East remains important to U.S. allies, like Japan and South Korea, in the Far East, the Middle East is not any more interesting in terms of security as it is today for the United States. With the coming energy revolution, the Middle East countries will also face an era when their standard of living will stagnate and possibly even decline. This might cause more instability in the Arab world. The new energy reservoirs, however, will allow the United States to look inward for energy, enabling the nation

to take less interest in international affairs. Despite this possibility the United States will likely remain committed in world affairs in order to protect and support its allies worldwide.

The United States is now acting as a “world policeman” and is stretching its military too thin, operating in too many places and on too many fronts at the same time.¹⁷ This will be economically more difficult in the 2020s. In the coming years, the United States must invest in its infrastructure and rebuild electricity networks, bridges, roads, and rails. This will demand huge sums of money. One estimate is that the United States will have to invest a minimum of \$10 billion each year for the next ten years to bring its infrastructure up to date. The second reason that might lead the United States to turn more emphasis inward is the predicted demographic change. The demographic development seen today in California may be representative of the rest of the United States in 20 years: more Latinos and Asian immigrants are coming to the United States. Domestic concerns will most likely gain more attention, at least at the local level, in the future as a result of these developments, and this might also have consequences relating to U.S. foreign policy. In the 2020s, the United States might concentrate more on its own internal challenges rather than waging wars around the world.

Despite this development, the United States will care about the rest of the world, because the U.S. commitment to global security and its vulnerability to global oil prices will most likely keep it engaged in the future as well. This trend of keeping the world safe in the future as well was heard in Presi-

dent Obama’s speech at his second inauguration ceremony in January 2013.

Russia

In the future, Russia will face several challenges with regard to international politics, and there is concern that these will weaken the state even more. The first issue is that its population is declining rapidly. It has been estimated that the decline is as many as 1 million per year. Second, Russia’s economy is by no means competitive with the economies in the Western world of the 21st century. It has major problems keeping the same level of development as its rivals the United States and China. Third, Russia does not have allies as it had during the Cold War. Fourth, Russia’s conventional military capabilities need restructuring. The critical mass is still there, but it is aging fast. With the current economy, Russia faces an uphill battle to modernize it. A fifth future challenge for Russia is China. China’s economic, and in the future decades also military, potential is growing quickly and Russia is worried about this, even if China and Russia have a special relationship. This relationship is demonstrated by the tradition that the elected Chinese president makes his first foreign visit to Russia. This tradition continued in March 2013 as well. There are three reasons for this special Chinese-Russian relationship. Firstly, China needs Russian energy products. Secondly, only Russia is selling weapons to China that it needs for security. Thirdly, China and Russia are trying to build better international relationships in order to be able to balance themselves against the United States.

Russia’s main security issues are in the

south. Russian internal stability and security are an ever-growing problem in the region. Another burgeoning concern for Russia is the revolution in energy markets. Russia cannot rely on high energy prices to fuel its domestic growth as new methods of extracting shale gas and shale oil have emerged, reducing oil costs.

Russia's economic and military development is tied to the price level of energy products. Simply put, high energy prices mean more money for Russia. The Arctic area will become more important for Russia in the future as oil and gas fields in the traditional areas yield less and less. At the same time, the energy revolution in the world casts a shadow of uncertainty on Russia's future. Oil and gas supply capacity is growing worldwide at such an unprecedented level that it might outpace consumption. This could lead to a glut of overproduction and a steep dip in oil prices. This would be a disaster for Russia's economy and its plans for restoring its great power position.

China

China's future is the most ambiguous of the three great powers. China does not have a developed ally network as the United States has. China has grown economically a great deal during the past ten years, but it has the capability to grow and strengthen considerably more. On the basis of 2005 purchasing power parity (PPP), China is projected to surpass the European economic area in 2013 and the United States in a few more years in GDP, thus becoming the largest economy in the world.¹⁸ Still, the living standard of the majority of people in China is far behind that of Western countries.

China's internal concerns, however, might become troublesome for its growth. The population is aging rapidly as a result of China's one-child policy, creating a problem for financing the benefits and health care of future retirees. The potential for unrest is increased by the discrepancy between male and female birth rates (13 percent more male babies are born than female babies), leading to tens of millions of young men who have no prospects of finding a wife. Statistically, unhappy males are more likely to be violent and protest the government than unhappy females. China's slowing economic growth,¹⁹ environmental degradation, and rising social instability will create huge challenges for China's leaders in the future.

There are already serious hidden social tensions between the Chinese elite and the rest of the citizens. A series of recent scandals and revelations that the families of top officials hold billions of dollars' worth of investments have also led to greater scrutiny over the role of patronage. Pertinent examples of these tensions are the incidents in which poor people have killed themselves in government offices in order to protest the regime.²⁰ The murder of a British businessman in Chongqing and the aftermath of this event is another example of the hidden tensions, misbehaviour, and corruption among the political elite.²¹

These inner tensions in China are likely to grow and they might, in the long run, seriously affect the internal stability of the nation. This would have implications for China's role in international politics as well, as it would be forced to spend more time and effort to control and contain its citizens rather than putting effort into developing mili-

tary forces capable in operations abroad. It is hard for the elite to keep their tenuous position without making major changes towards democracy.

The burgeoning male population also means that China's military forces stand only to become more formidable with regard to sheer manpower. Significant portions of the armed forces' personnel and resources are devoted to guarding the country's borders and providing support to the security forces. China is, in any case, the only nation that could challenge the United States in the future, but this will take time. The United States cannot contain China as it did with the former Soviet Union. China is simply too big and it has invested considerable financial resources in the United States and around the world. Economically, China needs the United States and the United States needs China. Though it has a limited alliance network, China's investments are everywhere in the world, standing in contrast to the former Soviet Union, which practically had no investments outside its own territory.

By the 2020s, China will have the world's largest economy. It has huge, potentially the largest in the world, shale gas reservoirs, but for the time being it has not been able to benefit from them. To be able to continue its tremendous growth, China needs energy.²²

In the Arctic, the Chinese approach is particularly worth following when it is searching for energy. It can cause tensions between the great powers if it acts as belligerently in the Arctic as it does in the South China and East China seas.

Militarily, China cannot challenge the

United States before the 2030s. China, rather than Russia, is the state actor that the United States is worried about. If China's defense expenditure continues to rise at the average 10 percent plus rate of the last two decades, at some point in the late 2020s it could match the U.S. defense budget.²³ Still, this does not mean that China's military capability will be larger than that of the United States at that point, because U.S. military spending has been overwhelming for decades.

Everyone, who has visited Russia and China, sees the difference. In Russia, there is not much infrastructural or economic development going on. The growth, if it exists, is slow. But in China, there is a tremendous amount of economic activity, with many new skyscrapers, roads, bridges, airfields, factories, and other buildings being constructed. Very soon, China will open 24 new nuclear power plants. Recently, China got its first aircraft carrier, but it cannot be used for take-off and landing yet. In addition, China is building a new icebreaker, but to be able to operate in the Arctic it will need more. China will also need more energy, and it is looking for new possibilities to fulfil its energy demands. Though the Chinese have a "special relationship" with Russia, Russia is beginning to fear the growth of China as well.

The U.S. military strategy underpinning the Obama administration's "pivot" to Asia is known in Pentagon as "Air-Sea-Battle." It depends upon the long-range capabilities of the U.S. Navy and Air Force. The United States sees that the Air-Sea-Battle is designed to maintain the military capabilities necessary to uphold security guarantees in

the Middle East and Asia-Pacific. The “Air-Sea-Battle” has attracted the most attention in the Asia-Pacific region, where U.S. allies see it as a way to respond to an increasingly confrontational China. China, in turn, has interpreted it as a clear sign of Washington’s aggressive policy toward it. And, of course, capabilities can be used everywhere, if needed. During the past year, there seems to be some kind of dilution of the “pivot” as new voices in the United States are suggesting more peaceful coexistence with China. The relationship between the United States and China is the major security policy challenge of this century. If the 20th century was Century of Europe, the 21st century is set to become the Century of the Pacific.

As the “pivot” is disputed in reference to China, there is also international concern regarding U.S. missile defense, especially on the part of Russia. Missile defense is seen as a key capability of NATO in the future. It will officially be created against threats from Iran and North Korea. The United States is worried about its forces in the Mediterranean and its allies Turkey, Bulgaria, and Romania. Russia sees that it is against Russia.

These above-mentioned examples show that the power politics of realism are not dead. Rivalry happens every day between the great powers, even when these great powers try to live together peacefully. The Arctic is more important for the great powers in the future than today as the great powers try to strengthen their economic and military capabilities. The great powers surveil each other carefully. Mutual suspicion can, in the worst case, escalate into costly and dangerous rivalry, which would have implications for the Arctic as well.

3 GREAT POWER’S INTERESTS IN THE ARCTIC REGION AND POSSIBLE DISPUTE AREAS

The changing Arctic is not as interesting to the United States as it is for Russia and non-Arctic China. The main “Arctic” interests of the United States are environmental issues, freedom of the seas, and ensuring that shipping routes in the area remain open. The U.S. Arctic (Alaska) is far away from the key focus areas important to the United States. Additionally, when North America achieves greater energy independence in less than 10 years, thanks to shale oil and shale gas reservoirs, its economic interests in the Arctic regarding oil and other fossil fuels are going to be less valued than today. Only if a disaster occurs will we see more rapid development in U.S. Arctic capabilities.

For Russia, the melting sea ice in the Arctic creates huge opportunities with regard to accessing the oil and gas fields located within its exclusive economic zone (EEZ) in the far North. Of the great powers, Russia will benefit most from the Arctic change. Its power in the international arena and its economic well-being depend on how much money it can make from energy products. To further enable the state’s access to such resources, Russia is strengthening its military presence in the Arctic in order to protect its interests in the area. As well as access to oil, the Northern Sea Route (NSR) along the Russian coast is seen in Russia as a means of making money in terms of passage fees. With less ice blocking the NSR, Russia can more easily sell and transport its valuable energy products to Asia, where energy demand is growing more quickly than any-

place else in the world, and is set to increase substantially, at least in the next 10 years.

For China, not being an Arctic state and therefore having no direct claims over territory or resources, the potential new shipping routes are of great interest. Utilizing Arctic passages significantly shortens the distance between Europe and China, reducing shipping transport costs. China's economy is highly dependent on international trade and relies heavily on its shipping fleets to connect with markets around the world. China is also interested in exploiting new oil and gas fields in order to boost its economic growth, but as it is not an Arctic country and therefore has no legal claim to Arctic resources, it buys energy fields and builds infrastructure to be able to benefit from the Arctic climate change.

The most likely disputes, tensions, or problems in the Arctic region are caused by the following factors:

1. Oil and gas development can cause environmental problems and draw protests from environmental activists.
2. Limited incidents related to freedom of navigation are possible (for example, in Bering Straits and NSR).
3. Denial of outer continental shelf claims can lead to unilateral claims.
4. Rejection of non-Arctic actors can increase tension.
5. Mutually escalating fears resulting from misperception can increase tension.
6. Fisheries disputes are possible as ice melts and fisheries change location.
7. Increasing tourism and traffic may cause accidents where SAR capabilities are needed.

Military activity in the Arctic is rising.

The "worst case scenario" would be caused by disputes between the great powers. Even though some Arctic states are strengthening their military presence in the Arctic, the greatest implications from the melting sea ice are not related to military issues. The security policy situation in the Arctic is likely to be more demanding in the 2020s than it is today, but the likelihood of direct military confrontation in the area is remote. Existing disagreements are likely to be resolved diplomatically because of huge interlinked economic interests and the deterrence of the nuclear arsenal of the great powers. International cooperation in the Arctic is essential, both now and in the future, in order to avoid misunderstandings. The major "everyday" threats are disasters linked with increased drilling for energy, environmental challenges, and an uptick shipping, fishing, and tourism. The Arctic states are not yet sufficiently prepared for search and rescue (SAR) tasks and possible environmental problems in the harsh and vast area with poor communications. Unfortunately, it seems now that radical improvements in SAR capabilities are not likely before something happens.

Not one of the Arctic nations has the capacity to control the entire Arctic region. Now would be a proper time to establish confidence-building cooperation between the Arctic nations and non-Arctic nations sailing in the area. It is in everyone's interest, for example, that there would be a good SAR capability in the Arctic region when shipping, tourism, and other activities increase.

In the future, the Arctic coastal states' coast guards, naval and air forces will have

to take more active roles in the region. With many more activities in the area than today, there is a clear need at least for ocean surveillance, SAR operations, border control, and law enforcement at sea. It is a good sign that the Arctic countries have already signed the Arctic Search and Rescue Agreement and an Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic. It remains to be seen, however, how these agreements work in reality.

When living in the world of 2013 it seems very unlikely that the Arctic issues will cause major disputes between great powers. Today, great powers are economically so tightly interlinked with each other that it is unlikely that they will risk their well-being over possible Arctic disagreements. Their nuclear arsenals guarantee that they will not challenge each other by using military power, because this could escalate to a nuclear war. Still, as realism would suggest, the rivalry in the area between the great powers can, to some extent, lead to higher tensions between them in the Arctic in the future.

The risk of military confrontation in the Arctic is unlikely, although increased tension in the area is possible. The prime dispute revolves around the U.S.'s and Russia's views regarding the NSR. As Russia tries to claim that it alone has the right to control the route, the United States sees that true freedom of movement is a number one priority for internationally important waterways.

Tensions in some other parts of the world would raise tension in the Arctic as well. This kind of conflict could result in

spillover from disputes in other areas gravitating into Arctic region. The traditional frontlines run between the United States and NATO vis-à-vis Russia and/or China. There is also a risk of conflict between Russia and China as well, if China believes it has the right to sail through the passages it sees as the property of mankind, or if it takes oil, gas, and minerals from the area it sees as belonging to no one particular, or it brings its navy to the Arctic to protect its interests.

It seems that the international community is not yet very well prepared to address the growing economic dynamics of the Arctic and the implications for security policy. In order to avoid any major problems and human disasters, the international community should take a much more active role in discussing possible dispute and security risk areas. Only by taking up possible problematic scenarios can these problems be solved, rather than dealing with them unprepared as they arise. It seems now that only if a sudden disaster occurs we will see more development in Arctic capabilities especially in the United States.

4 IMPLICATIONS FOR FINLAND

Finland is a nonlittoral Arctic state, meaning it does not have an Arctic coastline. The great powers' interests in the Arctic would have more implications for Finland, if Finland were an Arctic coastal state. Still, the changes in the Arctic have security policy and economical implications for Finland. According to this study, the security implications create challenges and economic implications create possibilities for Finland.

Around one-fourth of Finland's territory

is located north of the Arctic Circle. This area is sparsely inhabited, with less than 100,000 inhabitants.²⁴ The Finnish Arctic is already now a popular tourism region. The Finnish Arctic also contains mining areas; thus, mining is likely to be more important in the future for Finland than it is today. Besides tourism and mining, agriculture is important for the inhabitants as well, and it will be affected by the climatic changes occurring in the Far North.

In the Finnish government's white paper in 2012, besides the EU, China, the United States, and Russia are seen as important for Finland.²⁵ That is partly why it is important to know what the United States, Russia, and China are doing in the Arctic. The white paper also says that the importance of the Arctic's security policy is growing. The Arctic is seen as an area of low conflict, but with growing economic interests.²⁶ As a small state, Finland generally supports the work done in international organizations, like the Arctic Council, Barents Euro-Arctic Council, and the IMO.²⁷ Moreover, the Arctic has never been as important in Finnish security and defense policy after the Second World War than it is today. This is clearly seen when comparing the Finnish government's white papers. For example, the rate in which Arctic issues are mentioned has increased: Arctic issues were mentioned on nine pages in the 2012 white paper compared to only one page in the previous white paper published in 2009.

Finland recognizes the Arctic's importance and published a first strategy for the Arctic region in 2010.²⁸ This strategy defines the goals of Finland's Arctic policy and means for their promotion. Even though it

concentrated more on foreign relations than the newest strategy from 2013, it did not deal with military development and hard security issues in the Arctic. Ultimately, the first strategy was not very concrete, providing only for general measures. The latest strategy is much more concrete with several detailed tasks for different ministries and actors. With this strategy, Finland is trying to do a lot in order to develop its Arctic policy. As in the United States, Finland also needs to refocus on its Arctic policy and provide more resources and more attention to Arctic issues in order to achieve goals set in the Arctic strategy.

The Finnish Arctic is significant in Arctic geopolitics because it lies between an unstable Russia, a NATO-member (Norway), and nonaligned Sweden. In particular, the Finnish Arctic territory in Lapland lies near the energy-rich Barents Sea, an area which is an integral part of Russia's energy strategy. Further, Russia's NSR passes just north of Lapland, putting the area in question in direct contact with several geopolitically sensitive Arctic zones. To fully understand Finland's role within the Arctic in relation to the great powers of today, it is important to trace its role during the Cold War, from which many of today's solutions stem.

During the Cold War, changes in relations between NATO and the Soviet Union directly affected Finland's position and maneuverability to negotiate her position in the international arena. It was difficult for Finland to use leverage in the Cold War due to its physical position being so close to the Soviet Union. Unlike Norway, neither Finland nor Sweden joined NATO, partly due to their positions vis-à-vis the powerful state.

Often, Finland and Sweden were seen as buffer states between NATO-affiliated Norway and the Soviet Union. Even though the Cold War is over, it does not mean that great power rivalry or even conflict is not possible. In today's world, as a member of the EU, Finland has a greater ability to negotiate its international position than during the Cold War. The security situation today is much better thanks to the NATO enlargement around the Baltic Sea and the collapse of the Warsaw Pact, reducing the tension and likelihood of conflict in the area. Due to these developments, it is difficult to foresee any military security threats for Nordic countries in the near future.

In evaluating military security threats it is necessary to understand that a "threat" is considered to be a multiple of capacity and intent. It is important for every sovereign country to follow other states' military capacity in its security policy environment. It is more important to know the security situation in the neighbourhood, where a state is vulnerable to sudden, direct military conflict, than in distant zones that would require time and effort to mount an attack. There are still considerable military capabilities in the Finnish neighbourhood, and in particular, Russian capabilities appear to be growing in the Arctic. The other half of the threat equation, the intent, can change rapidly. That is why nobody can exclude the fact that even military conflicts involving Nordic countries are possible. Governments always have to prepare for the worst in order to be able to adequately protect their populations.

Even though the Nordic area would not be the primary location of an aggressive

military action, tension or conflict between great powers in the Arctic would have a significant effect on Finland's security. It seems that Arctic challenges will be solved peacefully because states have such huge economic interests in the area and crisis would be very expensive for everyone. But realism suggests that such violent encounters cannot be completely dismissed when developing a security policy.

As a sovereign country, Finland is responsible for the defense of her land, sea, and air areas. Even though the most important Finnish areas (in terms of population, industry, and infrastructure) are in the south, the defense of the Arctic territory of Lapland should not be weakened in the future. The missile paths between the United States and Russia go over Finland as well. That is why developing a robust air defense is of great importance in defending Finnish sovereignty in the Arctic. Finland should also have ground troops, which could be projected to north Finland, in case of emergency. In this sense, it was a major decision that the Arctic Brigade in Sodankylä should continue its activities even as the Finnish defense forces undergo a huge reform in the years to come.

As noted before, according to realist theory, nation states will try to benefit from the new Arctic situation as much as possible, and they will protect the national interests they regard important. With this in mind, it is likely that the international community will see some increasing military presence of the Arctic before the 2020s. Due to the increasing rates of the melt of Arctic ice, the Arctic will be more important for the great powers in 2020s than it is in the 2010s. It

is anticipated that Russia will be as active as it can, because it believes it will benefit the most from Arctic change. Russia will attempt to get more money from Arctic energy products: historically, any surplus finances tend to be directed to the military. It is likely that more military activities will occur in the Arctic in the future. This increased activity is predicted mainly to involve naval and air forces. For Finland, it is important to follow through with military development in the Kola Peninsula. The stability of that area is one of Finland's key interests as it is located just behind the Finnish border.

Despite the military development, the military implications of Arctic change should not be overestimated. The main implication of Arctic change is not military. As human activities in the Arctic increase, the surveillance of territorial waters and EEZs will gain more attention. At the same time, there is an increasing need for SAR and environmental protection in the area. These types of operations will require an accurate estimation of the Arctic security environment and an accurate situation picture of the actors operating within it. Implications regarding the need for international cooperation in SAR, research, transport and cross-border work, and interagency cooperation between different authorities and different Arctic actors are much more important in the immediate future than implications stemming from Arctic military development.

Possible small-scale problems should be resolved by cross-border cooperation. More cross-border exercises are needed so that Arctic states have readily available plans on how to act in different situations, for ex-

ample, in environmental accidents and SAR-tasks. The Finnish authorities should develop plans for different worst-case scenarios. International cooperation and open dialogue in the Arctic is essential in the future in order to avoid misunderstandings. Finland, not being an Arctic littoral state, could propose the creation of additional fora to discuss military and security matters between the Arctic states in order to increase stability in the area. The Arctic chiefs of defense have had yearly meetings since spring 2012. The last two-day meeting was in Greenland in June 2013. This kind of exchange of information among the Arctic states' armed forces on a regular basis is a good example of the new approach in dealing with emerging issues, especially because the Arctic Council is unable to discuss security policy matters.

Military capabilities are valuable when we look at the possible disputes and safety problems created by increased drilling, shipping, fishing, and tourism in the future. For example, in SAR-related activities, military "know-how" is essential. In possible environmental accidents, military capabilities in the Arctic will be required. The military also has a lot of different equipment that can be used to support other authorities in SAR-situations, natural disasters, and various humanitarian activities. It is likely that nonmilitary actors' capabilities will be limited in dealing with a situation in the vast and hostile Arctic. Militaries control usable material, including airplanes in reconnaissance tasks, helicopters in transport or SAR tasks, transport vessels and aircraft, radios and other communication devices, as well as trained and equipped personnel capable

of operating in the harsh Arctic environment.

In the long run, there should be more exercises as well, where Finnish Defense Forces could exercise with different Arctic forces in support of other authorities in possible scenarios. Cold Response is a great example of a military exercise that demonstrates training with different Arctic actors in order to be able to operate together in the Arctic. Coordinating with volunteers for air-policing in Iceland is another way of improving this kind of cooperation among armed forces.

The Arctic region's extreme climatic conditions and lack of satellite communications make it challenging to operate in the region. Surveillance arrangements in the Arctic could be one area where Finland could act as an example for the international community. Finland has good experiences to share already in the Baltic Sea with regard to how different authorities and states can cooperate in a confined region. The extreme Arctic temperatures have the potential to influence any operation and require specific training, which Finnish forces have already undertaken.

Finland has significant experience in operating in hard winter conditions. This is not the case for many other Arctic countries, particularly in the United States.²⁹ Operations in the Arctic require special cold-weather gear, tactics, techniques, procedures, and especially training for the armed forces. In Finland, the military is used to operating in cold weather circumstances. Finland's Arctic Brigade (Jääkäriprikaati) in Sodankylä constantly tests and develops new methods, procedures, and gear

for hard winter conditions. Finland Airmobile Forces Special Training Center in Utti (Utin Jääkärirykmentti) also specializes in performing in severe conditions. They are able to operate even when the outside temperature is as low as -40 Celsius. Also the Finnish Navy and Air Force are prepared for cold-weather operations. This training in operating in cold climate conditions is a tangible resource Finland could offer to other Arctic nations.

Besides military development in the Arctic, the region should provide fodder for Finnish decision makers from the economic point of view. Finland is a leading country in many Arctic technologies, fighting oil catastrophes in the ice conditions, leading winter vessel traffic, and undertaking winter maritime security and winter weather and ice forecasts. Finland's Arctic expertise and research are internationally recognized. These endeavors should be supported in the future so that they can be advantageous for Finland as conditions in the Arctic develop.

In the future, more and more international trade will pass near Finland. New shipping routes and the exploitation of natural resources are an opportunity for Finland. In the best case, Finland could be a central traffic hub between Europe and Asia. Finland should benefit from this possibility by investing in Northern Finland's transport routes and logistics. The distance to the Barents Sea from Lapland is not long, but the roads are too narrow and a rail connection is lacking. Finland does not have good connections to the Barents Sea and its ports, like Murmansk and Troms. The new shipping routes could benefit from the Finnish connections, such as a rail connec-

tion from Kolari or Rovaniemi to Norway. This would shorten transports from Asia to Finland and to Baltic Sea states significantly. Now, the ships have to pass Norway and the Straits of Denmark before entering the Baltic Sea. The ports in north Norway are always ice free, contrary to the Baltic Sea's ports. Connection through Finnish Lapland would save considerable expense and time, and making transport safer to and from Asia. Further, it would also bring new working places to Finland.

The Nordic countries should also cooperate with one another more than the current standard in order to speed up projects that would be useful in developing their Arctic areas and connections to the NSR. In Finnish Lapland, new mineral fields are being found all the time. Potential resources in the Arctic are growing. It is thus likely that the mining business will bring many more employment opportunities and revenue in the future. When the mining industry and Arctic shipping routes become more important, it is valuable to be proactive and to invest in logistics so that the minerals can be shipped to world markets. This endeavor will require enhanced Nordic cooperation.

The survey result that all Arctic nations seem to prefer working with Scandinavian countries is welcome news for Finland. The nation should be active in reaching out to potential partners and follow the Arctic situation carefully. Finland should be prepared to act as a negotiator between the great powers in case of possible disputes, since it would be a desirable arbiter between them. To be prepared for this occasion, Finland might need a special interagency working group to follow developments in the Arctic,

to enable government and nongovernmental actors to have the highest-quality information available for assessment.

In case of problems concerning operations in severe ice conditions, Finland has extremely good icebreakers. The problem if something were to happen is, of course, the issue of response time. It would inevitably take a long time to transfer icebreakers from Finland to the area of distress. Finland could advertise its capabilities in building quality icebreakers. When shipping in the Arctic increases, it is likely that more icebreakers will be needed despite the decreased extent of the sea ice.

For Finnish industry, cooperation in the Arctic can create significant opportunities. There could be joint procurement activities, for example in SAR equipment, navigational aids, satellite communications, icebreakers, or other Arctic ships. Finland should look for these opportunities and develop its capabilities.

Finland should work out in detail and clarify its short-, medium- and long-term strategic and economic interests in the Arctic. The new role of the Arctic as a huge energy province and transport corridor implies that the stakes are high for all of the involved parties, and none of the Arctic states seems to be willing to offer substantial concessions to their neighbors in the name of regional stability. This may point towards an increase in the level of interstate tension. Finland should continue to be active in the Arctic Council. This regional arrangement is important for interaction and cooperation among Arctic states on issues of common concern.

5 CONCLUSIONS AND POLICY RECOMMENDATIONS

The retreat of the Arctic sea ice will most likely accelerate in the coming years. This opens new possibilities for extracting oil, gas, and minerals from previously inaccessible areas in the Arctic. New shipping routes will be opened and tourism and fishing will move further north. Even though the security policy situation will be more demanding in the future than it is today, the biggest challenges are not related to security issues, but to environment problems, pollution, SAR, and other challenges that arise when more ships and people are moving in a vast area with poor communications.

In the United States, the energy revolution will decrease the need for still relatively expensive Arctic energy for a while. This is not the case in Russia and China, where there is a growing need for more energy from the Arctic. The United States will get cheaper energy from shale oil and shale gas during at least the next 50 years than from the Arctic. Russia will benefit the most from the new situation in the Arctic. For Russia, new possibilities for extracting energy products are important for economic and military development. For Russia, the all-important NSR might be usable for shipping several months a year well before the 2020s well north of the 200 nautical mile border. If so, Russia is not going to benefit so much from the fees it has been planning to collect.

China will try to use the new situation in the Arctic to get access to as many oil and gas fields as possible to attempt to satisfy its increasing demand for energy. The NSR is of great importance for China in its trade with Europe. Most likely, there will be more

Chinese ships in the Arctic in the near future. This may cause tension between the great powers.

The new shipping routes are to be used in coming years, but it seems that the traffic will not expand as rapidly as some have thought because of the continued harsh conditions.

Shipping is likely to grow steadily during the next ten years; after that the future shipping volumes on the NSR should be reassessed. Considering how fast the changes have come in the last ten years, there could be new trends of development that might alter the timeline for increased shipping traffic, that cannot be predicted from the current conditions.

There will be some increasing military presence in the Arctic. Russia will concentrate more capabilities on the Kola Peninsula and along the NSR in order to protect this vital area of energy resources. As power politics still count, Arctic rivalry among the great powers will occur to some extent. Most likely, this will not lead to any military conflicts. It is more probable that environmental problems, some increased tension between actors, and safety problems and rescue tasks related to more shipping, energy drilling, increased tourism, and fishing will arise. These are challenges all the Arctic actors should focus their resources on and increase cooperation with each other so that development in the Arctic will be under control and major disasters can be avoided.

The policy recommendations and the main implications of this Arctic change for Finland are:

1. Closely follow military developments in

the Arctic region.

2. Maintain surveillance and defensive capability in the Finnish Arctic.
3. Develop interagency cooperation in order to support other authorities in possible Arctic disaster scenarios.
4. Form an interagency (including private sector) Arctic group to follow Arctic development and make recommendations for action as the Arctic develops.
5. Take part and organize cross-border exercises and cooperation in preparing for possible safety and security challenges in the Arctic.
6. Follow the development of the NSR shipping volumes in order to be able to evaluate the possible Finnish contribution to taking part in its development and the technology needed.
7. Make a study that evaluates in the long term what infrastructural changes should be made in the Finnish Arctic in order to utilize the development subsequent to the melting of the sea ice.
8. Evaluate how Finnish expertise and knowledge of the Arctic can be used in the different areas of Arctic development.
9. Continue dialogue with all parties acting in the Arctic.

Endnotes

- 1 The U.S. (Alaska), Canada, Russia, Finland, Norway, Sweden, Denmark (Greenland), and Iceland.
- 2 See about the meaning of oil and gas for the world politics in Yergin, Daniel, "The Price, The Epic Quest for Oil, Money & Power," New York, 2009.
- 3 U.S. Geological Survey: *Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle*. Washington, D.C. U.S. Government Printing Office, 2008. <http://www.usgs.gov>. See also *USGS Arctic Oil and Gas Report: Estimates of Undiscovered Oil and Gas North of the Arctic Circle*. <http://www.geology.com/usgs/arctic-oil-and-gasreport.shtml>.
- 4 U.S. Geological Survey Fact Sheet 2008-3049: *Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle*. <http://pubs.usgs.gov/fs/2008/3049/>.
- 5 Huebert, Robert, "Canada and the Newly Emerging International Arctic Security Regime," *Arctic Security in an age of climate change*, p. 202 and Statistics Canada, Study Diamonds Are Adding Lustre to Canadian Economy, The Daily, January 13, 2004. <http://www.statcan.gc.ca/daily-quotidien/040113/dq040113a-eng.htm>.
- 6 United Press International: "Ocean Warming Affecting Fish Populations." November 3, 2009. http://www.upi.com/Science_news/2009/11/03/Ocean-warming-affecting-fish-populations/UPI-17961257275663/.
- 7 See Protection of the Arctic Marine Environment (PAME), Arctic Council, Arctic Marine Shipping Assessment 2009 Report. http://pame.is/images/stories/PDF_files/AMSA_2009_Report_2nd_print.pdf.
- 8 Carmel, M. Stephen, "Taking a Round-Turn on Reality: Commercial Shipping through the Arctic." See also <http://www.usni.org/magazines/proceedings/2013-07/cold-hard-realities-arctic-shipping>
- 9 Arctic Council: Arctic Marine Shipping Assessment 2009 Report, p. 43. See also Barents Observer, November 23, 2012.
- 10 Arctic Council: Arctic Marine Shipping Assessment 2009 Report, pp. 68 – 69
- 11 By Nordic (area), I mean the region in Northern Europe and the North Atlantic that consists of Denmark, Finland, Iceland, Norway and Sweden, and their associated territories, namely the Faroe

Islands, Greenland and Åland.

- 12 Territorial disputes in the South China Sea involve both land (island) and maritime disputes among seven sovereign states within the region. These countries are China, Taiwan, the Philippines, Vietnam, Malaysia, Brunei, and Indonesia.
Disputes in the East China Sea are between the China, Japan, and South Korea over the extent of their respective exclusive economic zones. These disputes caused high tensions especially between China and Japan in 2012 when there were demonstrations in the two countries. At the same time, both countries sent their ships to the area of dispute. The main reasons behind the disputes are acquiring fishing areas around the archipelagos, the potential exploitation of suspected crude oil and natural gas under the waters, and the strategic control of important shipping lanes.
- 13 By European High North, I mean the area north of the Polar Circle in Norway, Sweden, Finland, and in Russia in Argangel and and Murmansk.
- 14 See more about global trends “Global Trends 2030: Alternative Worlds,” National Intelligence Council December 2012, <http://www.dni.gov/index.php/about/organization/national-intelligence-council-global-trends>
- 15 Europe will still rank as the most important economic ally and most loyal to NATO.
- 16 <http://iea.org/publications/freepublications/publication/english.pdf>. This will also accelerate the switch in direction of international oil trade towards Asia, putting a focus on the security of the strategic routes that bring Middle East oil to Asian markets.
- 17 See, for example, RAND study entitled “Conflict with China: Prospects, Consequences and Strategies for Deterrence” by Dobbins, James; Gompert, David C.; Shlapak, David A., and Scobell, Andrew, See also James Dobbins “War with China,” Survival, *ibid*; and White, Hugh, “The China Choice: Why America should share power,” 2012.
- 18 OECD, “Looking to 2060: long-term growth prospects for the world.” <http://www.oecd.org/economy/looking2060.htm>. Despite this, it will leave significant gaps in living standards between the economies of advanced nations and China.
- 19 During the past ten years, China’s yearly GDP growth has been as high as 9.2 – 14.2 percent and even during the last four years 9.2 – 10.4 percent, but is likely be around 6 percent during the near future. See more <http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>
- 20 See for example <http://www.thenational.ae/news/world/asia-pacific/chinese-firms-ask-workers-to-pledge-not-to-kill-themselves-as-migrant-suicides-rise>
- 21 See for example <http://www.bbc.co.uk/news/world-asia-china-20216757>
- 22 See more about energy security “Energy Security. Economics, Politics, Strategies and Implications.” Brookings Institution Press, Washington DC, 2010.
- 23 See Dobbins, James, “War with China.” Survival, August-September 2012, International Institute of Strategic Studies, London, United Kingdom.
- 24 Lapland has a total of 183,000 inhabitants, but Rovaniemi, Kemi, Tornio and Ranua are located south of the Arctic Circle with total of 100,000 inhabitants. See more http://www.lapinliitto.fi/lapin_liitto/lappi_lukuina.
- 25 Suomen turvallisuus- ja puolustuspolitiikka 2012. Valtioneuvoston selonteko. Valtioneuvoston kanslian julkaisusarja 5/2012, p. 9.
- 26 *Ibid*, p. 12 and 64.
- 27 *Ibid*, p. 64.

28 See Finland's Strategy for the Arctic Region. Prime Minister's Office, 8/2010.

29 See for example Kraska, James, "The New Arctic Geography and U.S. Strategy," *Arctic Security in an Age of Climate Change*, p. 263.

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