

The Changing Arctic & the Development of Hokkaido

Juha Saunavaara

While changes in the Arctic evoke many concerns, they also serve to raise hopes and inspire plans that are being incorporated into the policies of nations far from the shores of the Arctic Ocean. This study considers Hokkaido as an example of a region in which development has been linked to new Arctic possibilities by both public and private actors. The main issues under discussion are the Northern Sea Route and the submarine communications cables that pass through Arctic waters. Proponents of the former have concentrated on the concept of 'geographical advantage,' suggesting that it is possible for Hokkaido to become the East Asian hub of the Northern Sea Route due to its favourable geographical location. The latter issue has received less attention from the public and various economic interest groups, though actors involved in the data center and cloud network industries have demonstrated particular interest in submarine cables. The debate surrounding potential new opportunities has also contributed to the (re-)emergence of demands for tighter direct connections between Hokkaido and other northern regions. This study also demonstrates the significance of having a small number of local opinion leaders, maintaining close ties between actors representing both the public and private sectors and considering existing demands for greater concreteness in terms of plans. In other words, utilizing the vocabulary of knowledge phase literature, it can be concluded that calls to advance from the exploration and examination phase to the exploitation phase have been made in Hokkaido.

Introduction

The changes that are occurring in the Arctic evoke global concerns and fears. At the same time, they also serve to raise hopes and inspire plans that are being incorporated into the policies of nations far from the shores of the Arctic Ocean. This study considers Hokkaido as an example of a region wherein development has been linked to new Arctic possibilities by both public and private actors. While the search for new solutions is based on a wide approach whereby possessing a northerly location is viewed as an advantage rather than as an obstacle to development, the main issues under discussion have been the Northern Sea Route (NSR) and the submarine communications cables that pass through Arctic waters. Advocates of the former have concentrated on the concept of 'geographical advantage', suggesting that it is possible for Hokkaido to become the East Asian hub of the NSR due to its beneficial geographical location. The latter issue has received less attention from the public and from various economic interest groups. However, academic circles and private enterprises involved in data centre and cloud network businesses have drawn attention to the possible connections between Arctic cable

connections and the revitalisation of Hokkaido's economy, which they claim could be achieved through the development of the local ICT industry. The debate surrounding these new opportunities has also contributed to the (re-)emergence of demands for tighter direct connections between Hokkaido and other northern regions.

When these initiatives are researched, particular attention is typically paid to three issues: the existing institutional setting and the prevailing means of gathering and disseminating policy-relevant information concerning the Arctic; the role of and cooperation amongst Hokkaido-based public and private actors in the promotion of different initiatives; and the interaction between regional, national and international actors who take part in or contribute to various decision-making processes. To place this study in the context of a conceptual framework, a reference can be made to territorial knowledge dynamics. In other words, the geographical patterns of knowledge exchange and the interactions between actors such as firms, research and education facilities, economic interest groups and local and regional authorities are emphasised (Halkier & Cooke, 2010: 20). It is assumed that aside from elaborating on the Arctic involvement of Japan, this case study will also be valuable to researchers and policy-makers who are interested in the regional development of northern and Arctic areas.

This article is based on an analysis of published policy papers, newspapers and journal articles. Additionally, the author has conducted several personal interviews and made observations while participating in various events within and outside Hokkaido. Finally, the author has recognised his current involvement in the processes he is researching. The position of the author has changed over the course of completing this project. At the beginning, he was an outsider living and working thousands of kilometres away from Hokkaido. However, the author gained employment at the Hokkaido University Arctic Research Center in January 2017, and is now an actively participating observer who can initiate or at least contribute to events and discussions taking place in Hokkaido.

Hokkaido-based Interest In and Initiatives Concerning the Arctic

Despite its geographical distance from the region, Japan has been interested and involved in the Arctic for many years. Japan was one of the contracting parties whose representatives signed the Svalbard Treaty in 1920, and the origins of Japan's Arctic research efforts date back to the late 1950s. The 1990s witnessed a great diversification of activities due to increased international cooperation. The National Institute for Polar Research (NIPR), founded in 1973, established a permanent research station in Ny-Ålesund on Svalbard in 1991; that same year, Japan joined the cause of the International Arctic Science Committee. This was soon followed by the introduction of the International Northern Sea Route Programme (INSROP), which was initiated by Norway, Japan and Russia. An international effort to study the potential utilisation of the NSR (divided into Phase 1, which ran from 1993–1995, and Phase 2, which covered 1997–1999) was succeeded by the Japan Northern Sea Route Programme (JANSROP), which reflected the needs of the shipping industry and analysed the feasibility of NSR usage. The two-phase project continued until 2005 and placed particular focus on the eastern part of the NSR. As a result, the Japanese shipping industry concluded that the uncertainties surrounding the NSR negated its feasibility (Tonami & Watters, 2012: 93-96; Ohnishi, 2016: 172-175).

When the research conducted by the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) and the participation of the Japan Oil, Gas and Metal National Corporation (JOGMEC) in the Kalaallit Nunaat Marine Seismic Project, which ran from 1990 to 1996, are considered along with the above-mentioned activities, it can be argued that Japan was very much present in the Arctic community even before it submitted its application to be granted observer status by the Arctic Council in July of 2009. Before that observer status was awarded in May of 2013, the Japanese Ministry of Foreign Affairs (MoFA) established the Arctic Task Force and created the position of Ambassador in charge of Arctic Affairs. Meanwhile, Japanese interest in the NSR was revived as commercial activities emerged and developed. Additionally, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) established a special committee to investigate the usability of the NSR in August of 2012 and organised the Public-Private Coordination Meeting to disseminate knowledge about the economic possibilities associated with the Arctic in May of 2014. Finally, in October of 2015, Japan released its first Arctic Policy; this release had been preceded by the Basic Plan on Ocean Policy in April of 2013, which also focused on the Arctic Ocean (Tonami & Watters, 2012: 95-97; Ohnishi, 2016: 173-178).

Alongside improvements in national development, Hokkaido emerged as the region with the greatest level of interest in the Arctic. This Hokkaido-based interest, however, has been strongly associated with discussions regarding the future of the NSR. According to Professor Shūji Koiso, former Hokkaido Development Agency official and adviser of the Hokkaido Committee for Economic Development, the idea that Hokkaido could play a special role in economic activities connected with the NSR was first discussed within the Hokkaido Development Agency in 1984 (Koiso, personal communication, August 12, 2015). However, this issue did not become a focus of political agendas and public debates until the early 2010s. Although the 7th Hokkaido Comprehensive Development Plan (MLIT, 2008) did not specifically refer to the NSR but rather explained Hokkaido's advantageous position vis-à-vis shipping routes between North America and East Asia, the Hokkaido Prefectural Government, the Hokkaido Development Bureau and the city of Tomakomai, which hosts one of Hokkaido's major ports, were prompted to study the possibilities surrounding potential new transportation routes in 2012 (Inano et al., 2012; Hokkaido Shimibun, 2013; Kawai, 2014). Notably, all of these actors have continued their studies to this day. Meanwhile, some members of the Hokkaido Assembly have demonstrated their interest in this topic by posing questions regarding Hokkaido's approach to the NSR to the Governor during assembly meetings (Kasai, 2015; Ikemoto, 2016; Kasai, 2016). The current (8th) Hokkaido Comprehensive Development Plan (MLIT, 2016) also recognises Hokkaido's potential to become the East Asian hub for the NSR. It should be pointed out, however, that aside from Hokkaido, the prefecture of Aomori (located at the northern edge of the Honshu island) has expressed similar hopes and plans in relation to the NSR.

Since 2015, the role of the Hokkaido Committee for Economic Development (Hokkaidō Keizai Dōyūkai)—a business lobby that issues policy recommendations—has become highly significant. The most obvious sign of the intensification of NSR-related activities was the March 2015 establishment of a working group tasked with studying this issue. This working group gathered information and organised four seminars that approached the issue of the NSR from different angles before publishing a mid-term report in August of 2016. This document can be viewed as a small step away from simply re-summarising often-mentioned possibilities (i.e., that Tomakomai

harbour, being a modern harbour that is supported by a large industrial hinterland and that maintains favourable land and air transportation connections closest to the Bering Strait, could become a hub for container shipping wherein cargo is transferred from ice-classed vessels to regular container ships; that Hokkaido could be developed as a support base and service provider for NSR traffic; and so on) and towards an attempt to describe concrete activities that are necessary to the realisation of various observed possibilities (Hokkaido Committee for Economic Development, 2016). While the increasing demand for LNG in Hokkaido has spurred similar interest in Arctic LNG, local plans vis-à-vis the NSR are tightly linked to the possible development of container shipping practices using potential new routes. Importantly, the relatively limited flows of international bulk cargo to Hokkaido originate, at least at the moment, from areas that cannot utilise the NSR (Otsuka, personal communication, July 20, 2016).

In addition to introducing the possibilities of the NSR, the current Hokkaido Comprehensive Development Plan (MLIT, 2016) addresses the fact that data centres are well-suited to Hokkaido's relatively cold climate. Additionally, the Hokkaido Prefecture's policy paper concerning the NSR, which was compiled by the Office of Logistics and Ports and published in February of 2016, also briefly mentions the submarine communications cables that could be laid in Arctic waters (Hokkaido Government, 2016: 26). The origins of these sorts of official signs of recognition can be traced back to 2010, when the Cloud Networks Infrastructure Workshop (Gurōbaru—Kuraudonettowaakusu Kenkyūkai), chaired by Professor Yamamoto Tsuyoshi from Hokkaido University and consisting of representatives from various ICT companies, was established. Four years later, this group proposed the laying of a new submarine communications cable to connect Hokkaido and the main cities of Honshu. This new cable was to be laid in the Japan Sea rather than on the Pacific Ocean side of the main island, where all other existing cable network systems were concentrated. The landing site of these cables is near to the Tokyo metropolitan area, where the majority of Japan's data centres and servers are located despite Hokkaido's advantageous conditions (e.g., its colder climate, smaller risk of earthquakes and tsunamis, greater availability of land at reasonable prices, and so on). While rises in the price of electricity following the shutdown of the Tomari nuclear power plant have obviously affected the attractiveness of Hokkaido as a possible location for such a project, the high price of electricity is a feature that is typical of all of Japan (Cloud Networks Infrastructure Workshop, 2014; Kaihatsu kōhō, 2014; Yamamoto, personal communication, January 27, 2017).

While the Hokkaido-based research group was conducting its research, the April 2011 Tohoku earthquake and tsunami revealed the vulnerability of existing networks; it was then that a new Arctic dimension appeared. A Canadian company called Arctic Fibre approached actors in Hokkaido and presented the idea of utilising Japan's northernmost island as a landing site for a submarine communications cable that would connect Japan with the new cable system that was to be constructed in Alaska. Arctic Fibre's grand plan was to build a nearly 16,000km long submarine fibre optic cable connection between Asia and Europe that would route through the Northwest Passage (Cloud Networks Infrastructure Workshop, 2014; Yamamoto, personal communication, January 27, 2017). When the project was funded in 2015, Quintillion Subsea Holdings, based out of Anchorage, Alaska, acquired Arctic Fibre's assets and became the company that would build and operate the system. The new cable system in Alaska has now been completed, though decisions concerning the so-called Phase 2 project (the connection between Alaska and East Asia) have yet to be confirmed. While the illustration on Quintillion's home

page designates Tokyo as the location of the Japanese end of the cable, the question concerning the planned landing site in Japan is, according to a company representative, currently under consideration (Woolston, personal communication, March 9, 2017).

The establishment of the interdisciplinary Hokkaido University Arctic Research Center (HU ARC) in 2015 can also be emphasised as a factor that has stimulated discussion in Hokkaido concerning the Arctic. The establishment of HU ARC was directly connected to the release of the Arctic Policy, which emphasised Japan's aspiration to contribute in Arctic research and scientific cooperation. Aside from continuing Japan's long tradition of supporting the natural sciences vis-à-vis the Arctic, the new institution also emphasises the social sciences and supports a research group that concentrates on questions concerning the NSR. In cooperation with the two other pillars of Japan's Arctic Policy, NIPR and JAMSTEC, the HU ARC is in charge of the national flagship project called the Arctic Challenge for Sustainability (ArCS). The same actors play leading roles also in the Japan Arctic Research Network Center (J-ARC Net), which organises open seminars that promote industry-academia-government collaboration. Perhaps unsurprisingly, the NSR was the theme of the first events held in Sapporo and Tokyo.

Opinion Leaders and Cooperation Between the Hokkaido-based Public and Private Actors in the Promotion of Different Initiatives

The main institutional actors involved in discussions concerning Hokkaido's Arctic possibilities can be easily recognised. However, to better understand the characteristics of the people and organisations involved, and to fully comprehend the entanglement of various actors, the content of the Hokkaido Shimbun newspaper – the most visible Hokkaido-based media outlet – was analysed. Based on an observation that both the NSR and potential Arctic submarine cables emerged as topics of interest over the past decade, the content of this newspaper (from 2010 onwards) was studied.¹

Based on a research hypothesis that relied upon the author's personal observations, it was expected that a small number of individuals would be repeatedly featured in articles that connected themes relating to the NSR and submarine cables to the regional development of Hokkaido. The characteristics and backgrounds of these individuals were then analysed in light of the concept of the 'opinion leader'. In this study, the understanding of opinion leaders borrows, for example, from the ideas of Burt (1999). Thus, such figures are defined as opinion brokers who carry information across the social boundaries that exist between groups. In other words, they are not necessarily group leaders with the authority to make final decisions, but are instead brokers between groups or actors at the edge rather than at the top.

Although this analysis was based only on a calculation of the quantity of articles published in Hokkaido Shimbun and the number of references made to individuals who were quoted or somehow recognised as authorities or knowledgeable persons vis-à-vis the NSR or Arctic submarine cables, clear changes were visible. Only a few articles linked the NSR to Hokkaido's development in 2011 and 2012, but this number rapidly rose to 17 in 2013 and 2014. The frequency of articles decreased slightly in the following years, though the first half of 2017 witnessed another boom in NSR-related articles. The significant increase in the number of articles published in 2013 can be partly explained by the fact that a series of articles focusing on the Tomakomai harbour were published in celebration of its 50th anniversary year. While a vast

majority of the early articles did not cite or refer to any specialist, the opinions of Kashiba Michinori, a representative of the Tomakomai Port Authority, and Professor Yamada Yoshihiko of Tokai University were occasionally mentioned in 2013 and 2014.

However, a clear change associated with the establishment of the NSR Working Group of the Hokkaido Committee for Economic Development occurred in 2015. Henceforth, the published articles mainly concentrated on the activities of the working group and of Yokouchi Ryūzō, the head of the Committee, who strongly advocated the idea that a connection exists between the NSR and the development of Hokkaido during public discussions of this topic. Furthermore, Otsuka Natsuhiko, first as a specialist from a consultant company and later as a professor at HU ARC, was regularly mentioned in the pages of the Hokkaido Shimbun throughout the observation period.

Professor Otsuka embodies the definition of an opinion leader as a person who has belonged to and who has connected the various spheres of private business, public administration and academia. While Chairman Yokouchi is clearly a leader within his organisation who investigates the opinions of experts and advisers, he is also an actor who crosses boundaries and transmits the wishes of economic actors to representatives of the public sphere. The working group itself is certainly another example of a party that supports the spread of information and ideas between different actors. In addition to putting pressure on and motivating local and regional policy-makers to act, the working group also consists of advisors who represent the Hokkaido Prefectural Government and the Hokkaido Development Agency (Hokkaido Committee for Economic Development, 2016). The recent J-ARC Net NSR symposiums that were organised by the staff of HU ARC can also be considered forums that facilitate the crossing of boundaries. In the academic setting of these symposiums, actors representing the public and private spheres are brought together. In addition to these public activities, interpersonal relationships and unofficial cooperation clearly plays a key role in these discussions. Ultimately, opinion leaders have also affected the Hokkaido-centred discussion through their significant yet often unseen contributions to reports and policy papers published by various organisations.

Actors who seek to promote the development of Hokkaido's connectivity and data centres via the introduction of new submarine cable projects have been able to ensure that their voices are heard; for example, the Hokkaido Comprehensive Development Plan was drafted in such an effort (Yamamoto, personal communication, January 27, 2017). However, the newspaper analysis revealed a lack of public awareness and discussion concerning this topic. Notably, only one article about the submarine communications cable and Hokkaido development was published by Hokkaido Shimbun. Furthermore, a quick search of the databases of major national newspapers did not uncover any articles referring to this subject. The only article to do so was published on May 27, 2014, one day after Professor Yamamoto submitted a plan to develop Hokkaido as a base of international communication infrastructure to the Hokkaido Governor. This relatively short article summarised the research group's main points, though it did not pay specific attention to the Arctic cable initiative (Hokkaido Shimbun, 2014).

In recent years, Hokkaido-based discussion concerning Arctic submarine communications cable projects and their potential connection to Hokkaido's development has been rare. While the Cloud Networks Infrastructure Workshop prepared plans that could be realised, provided that the necessary funding could be secured, the project to lay a new cable between Hokkaido and

Honshu has been placed on the back burner. At the same time, a representative of the Hokkaido Prefectural Government confirmed that he had heard about a Finland-based plan to lay a submarine communications cable between East Asia and northern Europe through the Northeast Passage (NEP) when he visited Finland in 2016 as a part of a larger delegation. However, neither the representative nor his colleagues were aware of any ongoing discussions regarding submarine communications cables within the Hokkaido Government (Office of Logistics and Ports, personal communication, April 18, 2017). However, it may be possible to interpret the many presentations that have discussed Arctic cable initiatives at seminars organised in Sapporo and Tokyo during the first half of 2017 as signs of re-emerging interest in this issue. These speeches were given by the author or by Professor Yamamoto, who was also an invited speaker at the Second Top of the World Arctic Broadband Summit held in Oulu on June 14–15, 2017. The same persons will organise a seminar in Sapporo that concentrates on the Arctic submarine data cables, data centres and the development of northern regions in mid-October 2017. Moreover, the lack of public discussion surrounding the issue of communications cables has been accompanied by decreased levels of attention from economic interest groups. This situation may reflect local industrial structures and traditions. Whereas transportation is an ‘old’ industry with clear revenue logic and direct or indirect connections to various major companies, Hokkaido lacks a large ICT company. Although branches of large national firms exist on Japan’s northernmost island, local economic interest groups are often dominated by the largest regional enterprises (Yamamoto, personal communication, January 27, 2017).

Acknowledging that professional discussion mainly occurs within a limited circle of actors and that only a small number of people are recognised as authorities in public discussions is not necessarily a surprising observation. After all, the Arctic is a new and emerging issue that lacks a direct connection to the physical environment of Hokkaido or to the routines of daily life or the experiences of most of its residents. Whether the dynamics of knowledge generation and dissemination are different in, for example, Nordic countries, which have similar population bases but wholly different approaches to the Arctic due to their geographic proximity, is an interesting question that remains outside the scope of the current study.

Hokkaido-based Arctic Initiatives and Interactions between Regional, National and International Actors

There are several channels through which regional actors can approach national decision-makers. The most institutionalised means of exercising influence occurs when the representatives of the Hokkaido Government explain various Hokkaido-based plans and models to, for example, the representatives of MLIT, which has a coordinating role in Japan’s port policy. It seems, however, that while Japan’s national Arctic policy focuses on the NSR, additional concreteness in terms of plans and actual evidence regarding the commercial utilisation of the NSR is required before the central government will consider supporting these local projects through, for example, the allocation of funding (Abe, personal communication, April 13, 2017; Office of Logistics and Ports, personal communication, April 18, 2017). The visit of the Minister of Land, Infrastructure, Transport and Tourism to Hokkaido in May of 2014 can be cited as an example of direct influencing. During that visit, local industry and commerce representatives were able to directly express their wishes for governmental support of Hokkaido’s efforts concerning the NSR (Kawai, 2014). Another channel through which Hokkaido-based projects could gain visibility

involves approaching Diet members elected from Hokkaido. However, while some members have expressed interest in the NSR, no parliamentarian from Hokkaido has gained national recognition as an ardent supporter of or expert in this issue. When the opposition grilled the Minister of Land, Infrastructure, Transport and Tourism about Japan's insufficient interest in the NSR during a meeting of the Japanese Diet on March 3, 2017, the questions were posed by a representative from Okayama (Tsumura, 2017). However, it is obviously an intraparty matter to decide who will pose questions to a representative of the Cabinet, and it must be noted that the outcome does not necessarily reflect the interests of individual Diet members.

It is also worth noting that the government can only affect the development of port facilities in Japan, aid in the solving of international problems and assist in the building of connections between Japanese and foreign actors; thus, the government can only have an indirect effect on the decisions made by private trading and shipping companies. Ultimately, it is the companies themselves who decide on the logistics chains through which different products or raw materials are transported. The same is true in the case of cables. While the role of the state has historically been significant in terms of civil engineering development and the construction of communications infrastructure, today a small number of companies – including, among others, NTT, KDDI and Softbank – play a central role in such matters. These Tokyo-based actors tend to base their decisions on the logic of a market economy and do not focus particular attention on the development of certain regions (Yamamoto, personal communication, January 27, 2017). Finally, it can be pointed out that the scientific community and HU ARC has a role to play in the communication between Hokkaido and central government. Hokkaido University itself is a national university and the scholars who work at HU ARC regularly interact with representatives of different ministries and hold positions in various international organizations as representatives from Japan.

International cooperation largely adopts one of two basic forms. For instance, Hokkaido-based actors have organised joint events with domestic and international partners and have invited foreign experts to Japan. Conversely, delegations have also been sent abroad to gather information, to network and to increase awareness of Hokkaido's interest in the NSR. While it is not feasible or helpful to list all such activities, it can be concluded that Russian and Norwegian partners seem to have played the most prominent role in these initiatives. The third J-ARC Net open seminar which was organised on July 24, 2017 included a presentation from the representatives of China Ocean Shipping (Group) Company (COSCO) and was succeeded by site visits and discussions between COSCO and Hokkaido-based enterprises. This was one but exceptionally visible example of the growing importance of Chinese partners. Meanwhile, a visit to Murmansk and Helsinki in August of 2016 provides a recent example of international activities that reflect the close cooperation between different actors in Hokkaido. In addition to the vice-Governor of Hokkaido and the representative of the Office of Logistics and Ports, this delegation consisted of leaders of the Hokkaido Committee for Economic Development, representatives of the major Hokkaido port cities and two recognised experts in the NSR who also served as advisers for the NSR Working Group (Hokkaido Government, 2017).

The participation of Hokkaido-based actors in efforts to inspire international cooperation regarding Arctic communications cable initiatives has been limited during recent years. Aside from certain developments in Hokkaido, this situation also reflects the advancement of

individual projects. In addition to the various projects mentioned thus far, it should be noted that the Russian Optical Trans-Arctic Submarine Cable System, which received approval from the Russian Intergovernmental Commission for Information and Communications Technologies in October of 2011 and gained financial support from the Ministry of Telecommunications in January of 2013, has not generated a great deal of discussion in Hokkaido (Delaunay, 2014; Yamamoto, personal communication, January 27, 2017). Meanwhile, aside from issuing recommendations that are directly connected to shipping and harbour activities, the NSR working group's mid-term report also refers to the concept of paradiplomacy and encourages the development of relationships between Hokkaido and other northern regions. In other words, the report recognises that diplomacy and international relations do not only occur between states, but also between regions and local governments. While the need to cooperate with other regions who share interest in the Arctic is hereby demanded, concrete steps in this direction have yet to be taken (Hokkaido Committee for Economic Development, 2016; Koiso, personal communication, March 23, 2017).

However, the past success of the Northern Regions Plan (Hoppōken kōsō), a policy that aimed to support the development of cooperation between Hokkaido and other northern regions, lends credence to these newly-emerged hopes. As a legacy of this policy—which was incorporated into official Hokkaido Comprehensive Development Plans from the early 1970s onward and which, most importantly, led to many concrete acts of interaction and exchange—regional actors already have international connections and play an important role in such organisations as the Northern Forum and the World Winter Cities Association for Mayors. This policy lost visibility in the early 2000s when the old institutional pillars that had supported it also disappeared. According to Mitsuo Iguchi, chairman of the Hokkaido Finland Association, this change can be partly explained by the fact that the policy had achieved success and accomplished its goals. Perhaps the current changing environment has created a need for new forms of cooperation (Koiso, personal communication, March 23, 2017; Iguchi, personal communication, March 23, 2017).

Conclusion

If one attempts to conceptualise the developments that have taken place in Hokkaido, one can hardly refer to a policy transfer process – i.e., the processes by which knowledge about the policies, administrative arrangements, institutions and ideas that exist in one political setting are used in the development of policies, administrative arrangements, institutions and ideas in another political environment (Dolowitz & Marsh, 2000; Benson & Jordan, 2011). The lack of a western NSR hub also means that there are no existing policies that can support the development of such a hub in Japan. In short, no ideal benchmarking cases are available. Furthermore, despite one source having mentioned that Dubai's development as an international container port serves as an example of the utilisation of one's advantageous location, no serious attempts to implement a policy model that would be recognised as successful in other geographical contexts have been identified.

As the importance of gathering and disseminating information regarding the NSR has been emphasised in Hokkaido, the vocabulary of knowledge mobility, which refers to the movement of knowledge within a network or, for example, from one spatial context to another, is better suited to the description of past activities. In knowledge mobility literature, the generation of

knowledge is described as an investment in and the driver of future economic development. Therefore, it is assumed to play an important role in the development of various strategies (Dhanaraj & Parkhe, 2006: 660; Halkier et al., 2010: 14; Henriksen & Halkier, 2012: 14). However, while the gathering of knowledge has thus far been emphasised, different actors in Hokkaido have also recognised the need for a ‘next step’. With respect to the literature on knowledge phases, it can be concluded that demands to advance from the exploration and examination phase to the exploitation phase have been made in Hokkaido (Halkier et al., 2010: 8, 14). In practice, this refers to the need for greater concreteness in terms of plans and policies.

Various organisations have conducted many studies concerning the NSR, and they have identified many possibilities vis-à-vis the new route. At the same time, however, this particular process has seemed to advance in an unorthodox manner. Rather than searching for the most efficient and feasible distribution channel for products or raw materials, Hokkaido-based actors have attempted to identify cargo that might benefit from the usage of one peculiar shipping route. While shipping companies’ capability to offer the desired service (transportation through the NSR) has improved, in large part—but not only—due to changes in the sea ice situation, demand from the trading company side is still lacking. While dependence on actors and developments outside Hokkaido is, of course, an issue, the Hokkaido Committee for Economic Development is currently attempting to identify suitable Hokkaido-originating cargo that could be transported via the NSR. Based on previous assessments, it can be expected that frozen food products are likely to be discussed. While not directly related to this issue, recent plans to construct new cold storage facilities in Tomakomai harbour to support the export of Hokkaido-based foodstuffs can be considered a parallel development (Hokkaido Shimbun, 2017; Nihon Keizai Shimbun, 2017).

Finally, despite their ambition and long-term plans, actors in Hokkaido seem to have relatively cautious expectations concerning the proposal’s development over the coming years. The process that may eventually lead to a situation wherein Tomakomai is recognised as an international hub port is unlikely to begin as a regular liner service; instead, it is likelier to originate as a tramp service used to transport cargo between larger East Asian harbours and northern Europe. However, the question remains as to whether Japan’s national policy will encourage the concentration of international container traffic into the major ports of Yokohama, Osaka and Kobe or whether a port such as Tomakomai, which is able to serve only relatively small container ships (up to 2,000 TEU), will have a greater role to play. Realistic approaches can also be based on lessons drawn from previous developments. While Japan’s geographically advantageous position vis-à-vis the shipping route between East Asia and North America has been recognised, and though a great number of vessels transporting cargo between these leading markets pass through the Tsugaru Strait between Hokkaido and Aomori Prefecture, few ships ever stop in Hokkaido. Similarly, the existing lack of funding for a submarine cable system that would greatly improve Hokkaido’s domestic connectivity may limit expectations for international projects of entirely different scales.

If one recognises the potential realisation of even the most optimistic forecasts concerning climate change and the decline of sea ice as another factor that could postpone or restrict Hokkaido-based plans, one also reveals something about the dilemma that is familiar to researchers who work on topics of this kind. Eventually, one must decide whether it is right or

acceptable to approach (unwanted) changes in the Arctic environment through the lens of economic possibilities, which may emerge far from the Arctic.

Notes

1. Material was collected by research assistant Fukuda Chizuru, of the Hokkaido University Public Policy School, in February and March of 2017. She utilised the digital archives of the Hokkaido Shimbun, which are accessible through the Hokkaido University Library.

Acknowledgments

In addition to Hokkaido University Arctic Research Center, support for this article was also provided by the Global Station for Arctic Research, Global Institution for Collaborative Research and Education, Hokkaido University, Sapporo, Japan.

References

- Benson, D., & A. Jordan (2011). What have we learned from policy transfer research? Dolowitz and Marsh revisited. *Political Studies Review*, 9: 366–378.
- Burt, R. S. (1999). The social capital of opinion leaders. *Annals of the American Academy of Political and Social Science*, 566(1): 37-54.
- Cloud Network Infrastructure Workshop. (2014, 16 May). *Gurōbaru—Kuraudonettowaakusu Kenkyūkai kara no Hokkaidō—Nihon—Sekai he no Teigen [Senryakuteki Hikari Kaitei Keeburu ni yoru Gurōbaru Keizai Inobeeshon]*.
- Delaunay, M. (2014). The Arctic: A New Internet Highway? In L. Heininen, H. Exner-Pirot & J. Plouffe (Eds.), *Arctic Yearbook 2014* (pp. 503–510). Akureyri, Iceland: Northern Research Forum. Retrieved from, https://www.arcticyearbook.com/images/Arcticles_2014/BN/Delaunay_AY_2014_FIN_AL.pdf.
- Dhanaraj, C., & A. Parkhe (2006). Orchestrating innovation networks. *Academy of Management Review*, 31(3): 659-669.
- Dolowitz, D. P., & D. Marsh (2000). Learning from abroad: The role of policy transfer in contemporary policy-making. *Governance*, 13(1): 5-23.
- Halkier, H., & P. Cooke (2010). Knowledge and policies for regional development: European trends. In H. Halkier, M. Dahlström, L. James, J. Manniche & L. S. Olsen (Eds.). *Knowledge dynamics, regional development and public policy* (pp. 17-28). Aalborg: Institut for Historie, Internationale Studier og Samfundsforhold, Aalborg Universitet.

- Halkier, H., M. Dahlström, L. James, J. Manniche, & L.S. Olsen (2010). Introduction: Knowledge dynamics as a challenge to public policies. In H. Halkier, M. Dahlström, L. James, J. Manniche & L.S. Olsen (Eds.), *Knowledge dynamics, regional development and public policy* (pp. 4-10). Aalborg: Institut for Historie, Internationale Studier og Samfundsforhold, Aalborg Universitet.
- Henriksen, P. F., & H. Halkier (2012). From local promotion towards regional tourism policies: Knowledge process and actor networks in North Jutland, Denmark. In N. Kumral & A. Ö. Önder (Eds.), *Tourism, regional development and public policy* (pp. 5-22). Abingdon, Routledge.
- Hokkaido Committee for Economic Development. (2016). *Hokkyoku kaikōro wo tsujūta batten senryaku he no teigen*. Sapporo: Hokkyoku kaikōro kenkyū waikingu.
- Hokkaido Government. (2016). *Hokkyoku kaikōro no rikatsuyō ni muketa hōshin*. Hokkaido Government.
- Hokkaido Government. (2017). *Roshia – hokuō chōsa yori – hokkyoku kaikōro no rikatsuyō ni mukete*. Hokkaido Government, Department of Policy Planning and Coordination, Bureau of Transportation Policy, Office of Logistics and Ports.
- Hokkaido Shimbun. (2013, April 24). Tomakomai minato kamotsuzō wo mosaku. *Hokkaido Shimbun*, p. 13.
- Hokkaido Shimbun. (2014, May 27). Kokusai tshūshin infura dōnai ni kyoten seibi wo. *Hokkaido Shimbun*, p. 4.
- Hokkaido Shimbun. (2017, April 5). Tomatō ni shoku kanren sangyō kyoten. *Hokkaido Shimbun*, p. 10.
- Ikemoto, R. (2016, September 20). Hokkaido Assembly, plenary session. Retrieved from, http://www.hokkaido-pref.stream.jfit.co.jp/?tpl=play_vod&inquiry_id=1065.
- Inano, M., T. Mitsuoka, & T. Koya (2012). Hokkyoku kaikōro ni tsuite—Hokkaidō kōwan no kanōsei ni kan suru kentō. Hokkaido Development Bureau, Hokkaidō Kaihatsukyoku Kōwan-Kūkōbu Kōwan Keikakuka. Retrieved from, <http://thesis.ceri.go.jp/db/giken/h24giken/JiyuRonbun/GT-6.pdf>.
- J-ARC Net. (2017). Outline. Retrieved from, <http://j-arcnet.arc.hokudai.ac.jp/outline/>.
- Kaihatsu kōhō. (2014). Deeta sentaa ricchi ni okeru Hokkaidō no kanōsei—Sakura intaanetto no keiken kara. *Kaihatsu kōhō*, 14(9): 20-24.
- Kasai, R. (2015, June 30). Hokkaido Assembly, plenary session. Retrieved from, http://www.hokkaido-pref.stream.jfit.co.jp/?tpl=play_vod&inquiry_id=578.
- Kasai, R. (2016, September 28). Hokkaido Assembly, plenary session. Retrieved from, http://www.hokkaido-pref.stream.jfit.co.jp/?tpl=play_vod&inquiry_id=1087.
- Kawai, N. (2014). Hokkyoku kaikōro ni kan suru torikumi to kadai. *Hokkaidō Keizai Dōyūkai Kaibō*, 437: 1-12.
- MLIT. (2008). *Chiiki kankyō jidai wo sendō suru aratana hokkaidō sōgō kaihatsu keikaku*. Retrieved from, <http://www.mlit.go.jp/common/000018370.pdf>.

- MLIT. (2016). *Hokkaidō sōgō kaihatsu keikaku*. Retrieved from, <http://www.mlit.go.jp/common/001128021.pdf>.
- Nihon Keizai Shimbun. (2017, April 1). Tomakomaikō ni ōgata reizō sōko. *Hokkaido Shimbun*, p. 35.
- Ohnishi, F. (2016). Japan's Arctic policy development: From engagement to a strategy. In L. Lunde, J. Yang & I. Stensdal (Eds.). *Asian countries and the Arctic future* (pp. 171-182). Singapore: World Scientific Publishing.
- Tonami, A., & S. Watters (2012). Japan's Arctic policy: The sum of many parts. In L. Heininen, H. Exner-Pirot & J. Plouffe (Eds.) *Arctic Yearbook 2012* (pp. 93-103). Akureyri, Iceland: Northern Research Forum. Retrieved from, https://arcticyearbook.com/images/Articles_2012/Tonami_and_Watters.pdf.
- Tsumura, K. (2017, March 3). National Diet, Committee of Land, Infrastructure, Transport and Tourism. Retrieved from <http://www.shugiintv.go.jp/j>.