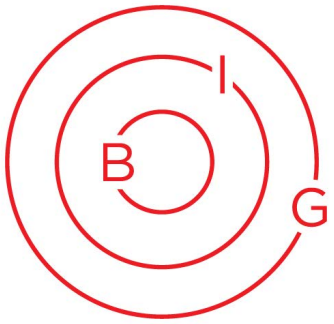
BORDERS IN GLOBALIZATION



Borders in Globalization Research Project 18

Policy Paper: Maritime Infrastructure in Canada's North

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Maritime traffic is increasing in Canada's Arctic waters while development remains stagnant in regards to maritime infrastructure. Only 10% of Canadian Arctic waters have been charted, while the charts that do exist have been deemed dated, and unsafe. Support services such as oil spill response plans, navigation aids, and telecommunications required for safe resource development and shipping in Canada's arctic waters are minimal. Bandwidth capabilities are currently not adequate to accommodate safe and reliable maritime and aviation communication. Currently there is not adequate human resources to support further infrastructure development due to low population, lack of skilled persons and poor living conditions. This paper presents and evaluates three policy options addressing the issue of maritime infrastructure in Canada's North

Background

As mentioned on United Nations Radio in a 2014 broadcast, in 2010 there were only 46 Arctic vessels which traversed Arctic waters, while in 2013 it grew to 71. Numbers are increasing in regards to vessels traversing the North West Passage (NWP) as well. House of Commons Standing Committee on International Affairs stated in February of 2012, that there were 31 transits of the NWP in 2012, which is an increase of 29.2 percent over 24 transits in the previous year (2011).

Sovereignty and Security

The Beaufort triangle remains a disputed territory between the US and Canada. Canada is also in contention with other Arctic states about the classification of the North West Passage (NWP). Canada has yet to actively demonstrate their desire for Arctic sovereignty and prosperity. Due to a lack of development and maritime infrastructure on part of Canada, the nation's presence in the arctic is falling behind countries such as the United States, Sweden, Finland and Russia that have been exercising large national efforts in developing their ice breaker fleets and maritime infrastructure. Russia has 18 deep water ports, while Canada is without a single one.

Hydrography Coverage

Several internal as well as external reports have stated that there is lack of surveyed and charted waters in Canadian Arctic water. Ten percent of Canadian Arctic waters have been charted to acceptable modern standards allowing for uninformed interpretations of safe areas to travel. From 2002- 2013, 100 spills occurred from vessels in Canadian waters expelling diesel and gasoline into the ocean.

Navigators and Navigation aids

Requests were made for improvements on navigation aids in 30 locations by the shipping industry. Two locations have been visited and reviewed by the Canadian Coast Guard to date.

The Zone/Date system is currently under review after 40 years. The more accurate Arctic Ice Regime Shipping System is not mandatory as of yet.

There are currently no formal qualifications of certifications needed for navigators in Canadian Arctic waters, going against recommendations put forth in the International Maritime Organization's (IMO) Polar Code that will be in effect as of January 2017.

Safety & Socio-Economic and Resource Development

The 100,000 people living in Canada's arctic communities remain isolated while the economic environment is worsening. Life expectancy at birth in Nunavut is 71.8 years, 10% below the national average.

While less so for the Yukon, Nunavut and the NWT are heavily reliant on expensive aviation for passenger transportation and community resupply, due to the lack of port, road and railway infrastructure. In 2006 Nunavut had 58% more travelers by plane per capita than any other province.

Search and rescue services as well as oil spill response plans are minimal. A 2013 helicopter crash of the Canadian Guard left three people dead after freezing to death while waiting one hour for the ice breaker to come to their safety. There are no certified disaster or emergency response organizations north of 60 degrees latitude.

Ports

There are currently no ports or harbours in Northwestern Canadian Arctic waters, including the increasingly travelled NWP. Currently voyagers are dependent upon Skagway and Haines ports in the US and the small port in Tuktoyaktuk in the North West Territories (NWT).

Ice formation and Ice breakers

At the present time, the Canadian Coast Guard is the only body stationed in the arctic responsible for search and rescue efforts. There are 6 ice breakers in the Canadian Coast Guard, compared to Russia's fleet of 37.

Communication Technology

Currently there are limitations in radio and satellite communications in Canada's Arctic waters. Being able to download live updates and information aboard vessels is essential to the safety of ships traversing Arctic waters. A lack of bandwidth has been reported to be impeding on this need. Poor long distance communication has also been reported by Transport Canada.

Actions to Date:

International Role

The Government of Canada has asserted its commitment through various avenues such as the establishment of the Northern Strategy from 2007-2011, its position as chair of the Arctic Council, as well as participation in Arctic Council working groups such as the Protection of the Arctic Maritime Environment (PAME) and the Arctic Maritime Shipping Assessment (AMSA). In cooperation with the IMO Canada has publicly states its commitment to aiding in the promotion of the proposed mandatory Polar Code, planned for 2017. Canada also asserted its sovereignty in 2013 when the federal government secured it's submission to the International Maritime Organization for recognition for the full extent of the extended continental shelf.

Canada's Northern Strategy

Under Canada's Northern Strategy of 2007-2011, the federal government committed to improving general social and economic development in the North by proposing $40 million for over two years on a cash basis, to accelerate repair and maintenance work at small craft harbours across Canada, as well as, $33 million over two years to support the divestiture of regional ports to local interests and the continued operation and maintenance of federally owned ports. Canada also committed to giving capital support for Yukon College's Centre for Northern Innovation in Mining to help boost local employment opportunities and investment of $35 million to provide strategic meteorological and navigational data in key Arctic zones.

Canada's New Tanker Safety Regime

Under the new tanker safety regime, the Government has provided funding in support of increased tanker safety inspections, a new incident command system, new and modified aids to navigation, and stronger oversight requirements for pollution prevention and response at oil handling facilities as well as: Increased inspections of foreign tankers on their first visit to Canada from the current coverage of 49 per cent to 100 per cent, with annual inspections to follow thereafter, extending the Transport Canada National Aerial Surveillance Program which provides for overflights of maritime vessel traffic to prevent and detect discharges of pollutants and establishing a new Incident Command System, an integrated common organizational structure led by the Canadian Coast Guard involving personnel, policies, procedures, facilities and equipment.

The Canadian Coast Guard has developed a chain of localized plans, which are annexes to the regional response plan for the Arctic. These plans were created to address the first 12-24 hours of an emergency response and are geographically specific.

Policy Options and Evaluation

Evaluative Criteria

The subsequent measures will be used in the evaluation of three policy options:

- *Effectiveness:* The policy option will address the lack of infrastructure while positively impacting the quality of life of Arctic populations.

- *Regional Impact:* The policy option's impact will produce significant and positive regional effects.
- *Acceptability:* The policy option will be accepted by stakeholders.
- *Efficiency:* The output outweighs the fiscal costs

Option 1: Establish a maritime emergency response organization north of 60

The establishment of an emergency response organization in Canada's north where safety concerns are extreme, and conditions are rare, could effectively increase the likely hood for survival of those in emergencies in the area. The presence of an emergency response organization in the Canadian Arctic could work to alleviate current pressures on the Canadian Coast Guard, as well as provide job and training opportunities for local residents, thus increasing human capacity.

Having an emergency response organization in the north could not only aid in asserting Canadian sovereignty in the Arctic region, but also increase the ease as to which search and rescue and emergency response teams collaborate across borders, in particular in the North West with the United States by decentralizing responsibility from the Canadian Coast Guard.

Projected Outcome

A maritime search and rescue (SAR) station run as a charitable organization, would be established North of 60. It would be located in Tuktoyaktuk, North West Territories (NWT) because this is currently the area that is most removed/longest distance from any current maritime search and rescue service. The current response

time of plus twenty-four hours for fixed wings aircraft and helicopter from BC, Labrador and Nova-Scotia will be significantly reduced increasing the overall safety of traveling in Canadian Arctic waters. This could result in increased investment and activity in the NWT and the Arctic region as a whole.

Financial Considerations

Using existing infrastructure such as stationing aircraft at the Tuktoyaktuk airport for the most critical six weeks of the year -spring could reduce costs. Current communications infrastructure as part of Maritime Communications and Traffic Services would be used for managing reports and rescues. RCMP officers in the area as well as CCG Auxiliary officers from Yellowknife would serve as support staff while search and rescue duty crews will be made up of volunteers from the community. Potential costs may include the purchasing of vessels or aircraft and day to day running costs.

Advantages:

- *Effectiveness:* Could result in safer travelling and decreased emergency response time.
- *Effectiveness:* Environmental impacts are minimal
- *Acceptability:* Increasing the safety of northern coastal communities will make this option acceptable to Tuktoyaktuk residents.

- *Regional Impact:* Regional impact is significant, addressing safety and quality of life concerns of coastal communities
- *Efficiency:* This option will build on existing emergency response infrastructure which could result in rapid implementation and minimal cost.
- *Efficiency:* This option will rely heavily on community volunteers, which could result in capacity building and job experience opportunities for Tuktoyaktuk residents.
- *Efficiency:* Stationing aircraft at the local airport for a set period of time saves the cost of needing aircraft present for all 12 months of the year.

Disadvantages:

- *Effectiveness:* While this option might increase safety in travelling Canadian Arctic waters, the extent to which this will be sufficient to attract increased resource development and investment could be minimal.
- *Effectiveness:* While this option will provide job experience and training opportunities for local Tuktoyaktuk residents, pay will be minimal to none, resulting in little direct benefits for quality of life improvement and low numbers of volunteers.
- *Acceptability:* Tuktoyaktuk residents may not accept the volunteer nature of this option.
- *Efficiency:* There is the potential for a limited number of available aircraft and vessels.

- *Efficiency:* The uncertainty regarding the availability of skilled volunteers, as well as support staff from the RCMP and CCG may not justify the allocation of resources from other locations.

Option 2: Construct a Deep Water Port in Nunavut

Ports, harbors and other maritime infrastructure are a sustainable option for the development of maritime infrastructure.

The construction of a deep water port in Nunavut would provide a space for the direct offloading and loading of cargo. A deep water port could also serve as a base for the refueling of non-military vessels such as those involved in resource development, tourism or search and rescue exercises. Providing this space could increase activity in the area, increasing tourism opportunities and boosting the local economy, ultimately addressing the problem of poor socio-economic development in the area and sustainability.

There is a recent trend in global port management towards devolution through public/private partnerships. Partially privately managed ports utilize public funds and other resources to provide services for residents and tourists. In a private/public partnership port model, private shareholders finance capital requirements. Existing community port contribution models such as the one in Prince Rupert, BC include sustainable mechanisms such as Community Investment Funds, which have recently assisted the community in repairing their arts centre.

Other areas throughout the world have labeled the national economic growth generated by port infrastructure as Port Economic Multiplier Effects and include:

value-added services, repair and maintenance, packing and repacking, testing, banking, customs, telecommunications, and various others. The multiplier effect could increase the robustness and sustainability of a ports capacity to address the lack of maritime infrastructure in Canada's North.

The Landlord Port is a private/public port governance option that would involve private shareholder's control of capital investments required for the construction of a new port, the purchasing of equipment, as well as the capacity for cargo handling and maintenance of super structures. The Port Authority of Canada would act as a regulatory body and "landlord" while existing infrastructure, could be leased to private shareholders. Employment models could vary between being operated by the Canada Port Authority or private terminal operators.

In this model, the majority of profits from docking fees, dangerous goods permits, and other fees, belong to private share-holders. However, relevant jurisdictions as well as aboriginal communities, would receive profit from leasing land, tax benefits as well as the overall long term fiscal benefit of an increase in economic activity and human capacity.

Creative port financial models could be evaluated and potentially implemented such as requiring special permits and fee for Arctic travel, and travel in high risk areas due to the threat of ice and the harsh climate

Projected Outcomes

Private shareholders in conjunction with government stakeholders would lead the construction of a deep water port in Iqualauit, Nunavut. The deep water port in

Iqualauit would provide a place for maintenance and refueling of a variety of large arctic vessels. A deep water port in Iqalauit would also provide the infrastructure needed for resupply for coastal communities, reduce the time it takes to offload and load cargo by weeks, reduce oil spill response time, as well as addressing the ad hoc organizational structure of current offshore activities.

Financial Considerations

The landlord port model is a private/public initiative. The Port Authority of Canada would act as a regulatory body while private shareholders covered capital costs and investments required for the construction, handling of cargo, purchasing of equipment and maintenance of structures. The estimated cost of implementing a deep water port in Iqalauit is $65 million to $85 million CAD.

Advantages:

- *Effectiveness:* This option could attract investment of shipping companies and other industries to northern communities through increasing the ease of loading and off-loading cargo.
- *Effectiveness:* This option could provide the infrastructure needed to for job and training opportunities as well potential investment into communities from private shareholders.
- *Effectiveness:* This option could provide sustainable income for land and infrastructure lease holders.

- *Effectiveness:* This option could reduce costs of importing building materials, increasing the frequency and scale of the construction of hospitals, schools and housing.
- *Acceptability:* Iqalauit residents will support this option, as they have consistently requested assistance in the construction of a deep water port.
- *Regional Impact:* This option will produce significant regional impact as the first deep water port in Canada's Arctic.
- *Efficiency:* Capital costs required of the federal government are reduced
- *Efficiency:* The leasing of land, infrastructure and services to secondary users reduces capital costs.
- *Efficiency:* There is long-term economic benefit and minimal capital costs

Disadvantages:

- *Efficiency*: The availability of land and resources to lease to private share-holders for the construction of the port is uncertain.
- *Efficiency*: A study on the environmental impact of this option would first have to be done, incurring potential additional costs and obstacles.
- *Effectiveness:* Environmental impact could be significant due to increased traffic and development.
- *Effectiveness:* The availability of skilled workers during construction and beginning stages is unclear.

- *Regional impact:* Iqalauit is located at the most eastern side of the Canadian Arctic, thus, impact on other northern communities in NWT and the Yukon will be less.

Option 3: Create a Polar Pilotage Certification/Training Program

Creating a polar pilotage training program in Canada's North could would increase the safety of vessels in Arctic waters and build the human capacity needed to manage infrastructure through opportunities for northern residents to take part in jobs and skills training. Creating a training program specifically geared towards navigation in Arctic waters will aid in implementing the certification requirements under the IMO's Polar Code, which will be mandated in January 2017.

Subsidizing the cost of the training program for aboriginals is a possible sustainable option to increase the capacity and quality of life for aboriginal residents. Subsidizing costs of training for aboriginals will also act as an incentive for their enrollment into the program and could provide a path for partnership and reconciliation with aboriginal communities in the area. Training programs in partnership with aboriginal communities could also act as a platform for the incorporation of traditional knowledge into Arctic governance models.

Holding a Polar pilotage certification training programs in the Northern Territories could also likely attract individuals from across the country and internationally. This option could address problems of sustainability by providing economic benefits to a number of communities, through hosting trainees and potentially their families as well. A polar pilotage training program could be the first of its kind, and could likely

increase the visibility of Canada in the Arctic, demonstrating the government's commitment to attaining Arctic sovereignty and development in the region.

Projected Outcomes

A polar pilotage training program located in Iqalauit, at the CCG base will increase the quality of navigators in Canadian Arctic waters while adhering to safety regulations under International Maritime Organization's (IMO) Polar Code required as of January 2017. The training program would also provide training opportunities and capacity building in northern and aboriginal communities.

Financial Considerations

Initial costs include program creation and administration which could fall under the auspices of the CCG. The average salary of Canadian Coast Guard employees, as of July, 2015 is $69,000. Instructor salaries and other long term costs could be covered by program fees. Costs of subsides and grants for trainees will be dependent on the availability of government funds and private donations.

Advantages:

- *Effectiveness:* Could result in less accidents and safer navigation in Canadian Arctic waters
- *Effectiveness:* Directly addresses the requirements under the IMOs Polar Code
- *Acceptability:* This option will provide training and capacity building opportunities to northern residents, which will be accepted by Iqalauit residents.

- Acceptability: This option could attract trainees from across the country and internationally, positively impacting local businesses, which will likely be accepted.
- *Efficiency:* Initial costs will be made up in program fees and economic benefits.

Disadvantages:

- *Effectiveness:* Establishment of the program will be extensive while the usefulness of the program is uncertain
- *Efficiency:* Initial start-up costs may be high, while future enrollment and payment of program fees is uncertain.

Annex A: Annotated Bibliography of Sources

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