WORKSHOP ON CONTEMPORARY AND EMERGING CHALLENGES OF SHIPPING IN THE NORTHWEST ATLANTIC AND EASTERN ARCTIC

Dalhousie University, Halifax, Nova Scotia, 30-31 August 2018

Draft Summary Report

Module N: Safe Navigation and Environment Protection
Ocean Frontier Institute

Background

The Northwest Atlantic and Canadian Eastern Arctic gateway are undergoing profound change with far-reaching consequences for the marine environment, regional economies, infrastructure, indigenous peoples’ and coastal communities. The Arctic is rapidly changing because of climate change and sea ice loss, thus becoming more accessible. This provides new opportunities while producing impacts on both the Arctic and Northwest Atlantic. The impacts include consequences for navigation routes, infrastructure for safe and sustainable shipping, and shipping operations. In turn, the increase in navigation and shipping activities raises safety and environmental concerns.

On 30-31 August 2018 Module N convened its first major workshop on Safe Navigation and Environment Protection, supported by a grant from the Ocean Frontier Institute’s Safe and Sustainable Development of the Ocean seven-year grant funded by the Canada First Research Excellent Fund (CFREF). Wendy Watson-Wright, the Chief Executive Office of the Ocean Frontier Institute, provided opening remarks. Professor Aldo Chircop (Module N co-principal investigator at Dalhousie University and workshop chair) made introductory remarks, acknowledging that the workshop was convened in Mi’kma’ki, the ancestral and unceded territory of the Mi’kmaq People. He explained the structure and process of Module N and its various projects, and set out the objectives of the workshop. Dr. Desai Shan, OFI International Postdoctoral Fellow and Oliva Choi, Master of Marine Management student at the Marine Affairs Program, Dalhousie University, were the rapporteurs of the workshop. This summary report was prepared by Dr. Shan.

Objectives

The purpose of this workshop was to explore the context and issues for the Module’s eight subprojects and assist investigators to fine-tune research directions. The workshop had two main parts. Part I explored the contemporary and emerging issues for safe and environmentally sustainable shipping in the Northwest Atlantic and Eastern Arctic navigation corridor. Part II explored issues and applications for Module research. The workshop concluded with a Module planning session.
The workshop explored issues that Module N should investigate to enhance understanding on how ocean change and anthropogenic impacts affect our understanding of risk, policy, management and regulation for safe navigation, environment protection, conflict management between ocean uses, and protection of Indigenous Peoples’ interests. The workshop provided inputs for the Module’s eight subprojects focused on safety & environmental issues: ship emissions, ship noise, marine spill response, search & rescue; and assessment & tools: risk, marine spatial planning, regulatory, and marine scientific research assessment.

Sessions

This workshop consisted of 28 presentations delivered in seven sessions. The speakers were from government, industry, indigenous communities, and Canadian and international academia. The workshop identified the contemporary and emerging research issues of safe and environmentally sustainable shipping in the Northwest Atlantic and Eastern Arctic navigation corridor. The rapporteur delivered a floor presentation summarizing the key issues and gaps at the end of the workshop. Comments and questions were collected from the workshop participants. The report of workshop discussions is divided into two parts: (1) research issue identification (addressed on the first day) and (2) policy and management applications (addressed on the second day).

Part One: Research Issue Identification

Part One had four sessions with presentations on: policy perspectives, shipping stakeholders’ perspectives, occupational health and safety issues and environmental impacts of Arctic shipping.

Session 1 concerned policy perspectives was moderated by Mr. Luc Brisebois, Executive Director, Legislative, Regulatory and International Affairs, Transport Canada. In this session. Professor Mary Brooks, from the Faculty of Management at Dalhousie University, explained the contribution of shipping to the Canadian economy and emphasized that “shipping is about trade rather than transport” and Canadian shipping supported 20% of domestic trade. She further pointed out that Canadian shipping was safe, efficient and reliable service for remote northern communities. Ms. Emilie Gelinas, Director of Domestic Marine Policy, Transport Canada introduced Canada’s marine transportation policy and maritime administration. She gave an insight of Canadian maritime policy priorities, including the vision delivered by the Transportation Modernization Act, the review of the Pilotage Act, ports modernization and Ocean Protection Plan. Mr. Robert Brooks, from the Canadian Coast Guard, introduced the Low Impact Shipping Corridors programme. In this program, Government of Canada conduct surveying, charting services in the Arctic waters and future steps will also engage indigenous communities in developing service and infrastructure in this area. Professor Ronald Pelot, from the Department of Industrial Engineering at Dalhousie University, explained risk-based approaches for decision making in shipping, including the definition of risk, uncertainty management, chain of probabilities and risk governance theories.
Session 2 focused on the stakeholders’ perspectives on shipping. Ms. Sonia Simard, from the Shipping Federation of Canada, introduced recent developments in Arctic shipping. She explained the Arctic shipping usually faced one good navigation year followed by another challenging year, due to the ice movement. Cargo traffic accounted for less than 50% of the total traffic, and there was no container traffic involved in Arctic shipping. She also reported shipowners’ concerns of the sulphur cap 2020: the low sulphur fuel could not have equivalent performance to the marine fuel in use. Captain Jim Parsons, shared his insights on the roles of Arctic ports, and pointed out the importance of port infrastructure in maritime insurance premium determination. Ms. Erin Abou-Abssi, from Oceans North, gave a civil society perspective of Arctic shipping activities. She also discussed Inuit inclusion in the maritime governance activities in the Arctic, such as the Inuit marine monitoring program. Mr. Rodd Laing, the Director of Environment at the Nunatsiavut Government, explained the impact of shipping on Inuit communities. He mentioned that the ice that reformed after icebreaking created unpassable obstacles and safety concerns, and further threatened indigenous peoples’ access to food and survival. He underscored that indigenous peoples are rightholders rather than stakeholders. He suggested that research and monitoring projects should support and empower local indigenous people and enable them to participate in the research activities.

Dr. Shan moderated Session 3 on occupational health and safety issues. Dr. Shan gave a presentation on occupational health safety challenges among Canadian seafarers based on her empirical study. She compared the minimum hours of rest of Canadian domestic seafarers and international seafarers and suggested that more efforts to address the fatigue issue among seafarers are needed. Professor Barb Neis, from Memorial University, shared reflections on fisher occupational health and safety (OHS) and explained its relevance for Module N. In explaining OHS challenges, Professor Neis discussed hazardous working conditions, demanding work activities and schedules, noise-induced hearing loss and extreme weather at sea. She emphasized that expanding fisheries in the Arctic not only affected marine safety but occupational health and Safety as well. Mr. Joseph Loot, Interdisciplinary PhD candidate at Dalhousie University, introduced the protection of seafarers on cruise ships, including the international labour standards together with the implementation mechanisms. Mr. Mark Stoddard, from Defence Research and Development Canada and the Department of Industrial Engineering at Dalhousie, analyzed the impact of Arctic maritime remoteness on surface search and rescue.

Addressing the environmental impacts of shipping, Session 4 was moderated by Professor Michelle Adams, School for Resource and Environmental Studies at Dalhousie University. Professor Floris Goerlandt, Canada Research Chair at the Department of Industrial Engineering, addressed the oil spill response in remote areas and he pointed out that the cold temperature would relate to slower spreading and less evaporation of oil. He also described different response systems (mechanical, dispersants, and burning), and pointed to the lack of systemic understanding of the effectiveness of response systems in harsh environments. Ms. Deanna Kerry, MSc student at the Department of Physics and Atmospheric Sciences, analyzed the role of shipping emissions and atmospheric processes in pollution of the marine environment. She presented an analytical model of SOx emissions from global shipping, including direct and
indirect effects of aerosols as transporters. Professor David Barclay, Department of Oceanography at Dalhousie University, gave a modelling analysis of ship noise and the impact on marine mammals. Ms. Karen Petkau, from the Qikiqtani Inuit Association (QIA), discussed QIA’s work in developing a management framework for a national marine conservation area and emphasized that the importance of indigenous community inclusion in finding ways to address Arctic shipping concerns.

Part Two: Policy and Management Applications

Part Two consisted of three sessions addressing marine spatial planning, indigenous rights and shipping, and maritime regulation.

In Session 5, Professor Nele Matz-Lück, University of Kiel, reported on the EU experience in the Baltic and North Sea. She raised an important question “what is the boundary of the freedom of navigation” and emphasized that any human use of ocean space has to respect the only one planet of human beings. Professor Annie Cudennec, Université de Bretagne Occidentale, introduced integrated ocean management in France and the European commitment to achieve and maintain the good environmental status of the marine environment. Mr. Gunnar Sander, University of Tromsø, discussed a successful case of ecosystem-based management in the Barents Sea and introduced the implementation mechanisms of the Barents Sea Management Plan. Mr. Scott Coffen-Smout, from DFO (Maritimes Region), introduced integrated ocean management in Canada. He pointed out there are no federal ocean-related acts explicitly mention or exclude the use of marine spatial planning, although the Oceans Act could be a framework for it.

Session 6 was moderated by Ms. Rosanne D’Orazio, Qikiqtani Inuit Association, Iqaluit. Professor Claudio Aporta, Director of the Marine Affairs Program at Dalhousie University, gave his insights on the implication of Inuit mobility networks in shipping governance and shared his valuable research experiences with Inuit communities. Ms. Lori Idlout, articling at Crawford Law Office in Iqaluit, presented on the work of the Pikialasorsuaq Commission. She illustrated the barriers to realize Inuit rights and suggested more job opportunities be created according to the situations of the indigenous communities. Ms. Leah Beveridge, Interdisciplinary Ph.D. candidate at Dalhousie University, shared a conceptual framework for the governance of Arctic shipping and Inuit rights and highlighted their close connections. Ms. Choi presented a study incorporating Inuit Qaujimajatuqangit (IQ) in zoning for Tallurutiup Imanga. She identified there were overlaps in Inuit migration routes and vessel traffic, and highlighted a need to lower the impact of Arctic shipping on indigenous communities and crucial research questions for prospective research.

Session 7 on maritime regulation and was chaired by Professor Kevin Quigley, Director of the MacEachen Institute for Public Policy and Governance at Dalhousie University. Professor Jens-Uwe Schröder–Hinrichs, from the World Maritime University, discussed the structures and processes of regulation at the International Maritime Organisation (IMO). Professor Francesco Munari, from the University of Genoa, illustrated the changing contexts of search and rescue in
European waters, in particular the increasing concerns of refugees, security and combating human trafficking. Mr. Drummond Fraser, from Transport Canada, gave a detailed explanation of the implementation of the Polar Code in Canada and the next steps in the further development of the code at the IMO. Professor Chircop introduced the Paris Agreement and the IMO initiative for the regulation of greenhouse gas emissions from ships. He discussed the complexity of the regulatory challenge and assessed the facilitating and constraining factors for shipping’s contribution to climate change.

Key Issues Identified

Following seven sessions of presentations, the workshop concluded with a wrap-up session moderated by the Module N subproject leaders. Rapporteur Dr. Shan provided a floor presentation, summarizing the key issues and gaps identified throughout the workshop. This was followed by an open discussion that highlighted several key points.

The increasing maritime activities in the Northwest Atlantic and Canadian Eastern Arctic Gateway bring both opportunities and challenges for Canada. New navigation routes can strengthen the Northern Economy and create jobs for the communities. However, various challenges were also highlighted. Conflicting interests among ocean users, such as the impact of commercial shipping on indigenous communities, cannot be ignored. A wide range of maritime safety challenges related to Northern shipping were mentioned, including the lack of infrastructure and navigation charts, the remoteness for search and rescue services, and so on. The environmental impacts of shipping included emissions, oil spill risks, underwater noise and impact of ice breaking on ice routes and wildlife. In particular, ice-breaking may affect the livelihood, social life and culture of indigenous communities. Occupational health and safety risks for maritime workers were also underscored.

Lack of data is an important gap in polar research. Comprehensive Arctic nautical charts and covering more areas are required. The discussion suggested that maritime weather reports required packaging and dissemination for different ocean users. Engagement of indigenous peoples and working communities at sea is still insufficient. Workshop participants provided suggestions for data collection, skills to communicate effectively with indigenous communities and avoiding consultation fatigue.

To achieve better regulation and governance of increasing maritime activities in the Northwest Atlantic and Eastern Arctic, the discussion pointed out that multi-level policies and regulatory frameworks need to be revisited, including at the international, federal, First Nation and provincial levels. It was important to emphasize the principle and process of free, prior and informed consent of Indigenous communities affected by new developments in the North. Lessons from international and European maritime governance, such as marine spatial planning could be helpful and point towards configuring appropriate integrated marine management approaches and cross-sectoral coordination in polar waters. Formal government-led approaches to ocean governance would benefit from industry participation, including through
voluntary measures to address the potential impacts of Arctic shipping, and inputs from personnel directly involved in Arctic maritime activities, such as seafarers working on coastguard ships, merchant ships and icebreakers.

Next Steps

In concluding, Professor Chircop (on behalf of the co-principal investigators) announced that the Module N Management Committee will meet to follow-up on the workshop, in particular, to review the research plans of the various subprojects in response to the issues discussed in the workshop. Workshop presenters were also informed they will be contacted with respect to the preparation of papers for inclusion in the workshop proceedings. The Committee will consider different publication options and will inform workshop presenters.

The workshop concluded with a vote of thanks to moderators and speakers, the Ocean Frontier Institute for funding of the project, Ms. Shannon Langton for organizational and logistical support, rapporteurs Dr. Shan and Ms Choi, and students Weishan Wang and Nathan Stanley.

Attachments

Workshop Program
Speaker Bios