Japan's Future Priority Areas of Arctic Policy

Policy Elements to be Considered on the Development of the Third Revised Basic Plan on Ocean Policy

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Study Group for the Future of the Arctic

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The Nippon Foundation
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Japan is not unaffected by the impacts of such environmental changes in the Arctic. Thus, in order to consider the ways Japan could tackle the "Arctic Issue," in 2016 The Nippon Foundation, the National Graduate Institute for Policy Studies (GRIPS), and the Ocean Policy Research Institute of the Sasakawa Peace Foundation (OPRI-SPF) launched the "Study Group for the Future of the Arctic."

In this study group, approximately 20 core members from a variety of sectors come together for discussions by industry leaders and distinguished Arctic researchers from the natural and social sciences, with 60 observers including representatives from relevant national government ministries and agencies, local governments, as well as Members of Parliament.

Policy Elements to be Considered on the Development of the Third Basic Plan on Ocean Policy

1 Enhancement and Promotion of Arctic Research
- (1) Enhance initiatives related to Arctic research
- (2) Strengthen and support infrastructures for scientific research in the Arctic Ocean

2 Protection of the Marine Environment of the Arctic Ocean: Responses and Contributions
- (1) Efforts to address environmental change in the Arctic Ocean
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5 Promoting International Cooperation on the Arctic
- (1) Contribute to the process of international rule-making on the Arctic
- (2) Promote international Arctic scientific and technological cooperation
- (3) Develop and foster human resources to be able to contribute to solving problems in the Arctic
- (4) Contribute to achieving the United Nations Sustainable Development Goals (SDGs) in the Arctic

Introduction

The Importance of the Arctic for Japan

The Arctic and its adjacent regions are highly sensitive to climate change, and have been warming at more than twice the rate of the global average. Over the past 35 years, the extent of Arctic sea ice in the summer has declined by approximately two-thirds. It is projected that this trend will continue through to at least mid-century. If increases in greenhouse gas concentrations continue at current rates, the Arctic Ocean could be largely free of sea ice in summer as early as the late 2030s[1].

The rapid environmental changes underway in the Arctic present the international community, both Arctic and non-Arctic states, with a range of opportunities and challenges. The decline in sea ice is making use of the Arctic Sea Route a reality and is opening up new opportunities, including the development of resources and tourism in the Arctic Ocean. At the same time, warming of the Arctic region is creating new challenges, such as the freshening and warming of the Arctic Ocean associated with the melting of sea ice, the progressing of ocean acidification and its impact on fragile Arctic ecosystems, sea-level rise due to the melting of land-based ice, climate change and changes in the hydrological cycle both in the Arctic and on a global scale, as well as potential changes in the security environment in the Arctic.

These environmental changes in the Arctic region are not completely unrelated to Japan. While Japan is not an Arctic state, but a “maritime state” surrounded by the sea, it is easily affected by climate change in the Arctic region through oceanic and atmospheric circulation. On the other hand, being geographically located closest to the Arctic Ocean in the Asian region, Japan is in a position to enjoy many opportunities in the economic and commercial sectors, such as the utilization of the Arctic Sea Route.

Japan was granted observer status to the Arctic Council (AC) in May 2013. Therefore, it is necessary to bear in mind that it needs to make further international contributions for addressing issues related to the Arctic in a responsible manner. For more than half a century, since the 1950s, Japan has carried out observations of and research on environmental change in the Arctic. Given its long-term accumulation of scientific knowledge and observation in the Arctic, Japan is expected to further contribute to the sustainable use of the Arctic, including active engagement in decision- and rule-making on the Arctic. It is also important for Japan to develop bilateral and multilateral dialogue and cooperation with interested states, including both Arctic and non-Arctic states.

[1] Arctic Monitoring and Assessment Programme (AMAP), *Snow, Water, Ice and Permafrost. Summary for Policy-makers*, 2017.

The Necessity of Incorporating Policies on the Arctic into the Basic Plan on Ocean Policy

The Basic Plan on Ocean Policy adopted by the Japanese Cabinet in April 2013 outlines measures responding to changes in the Arctic Ocean as focus areas to be pursued in a comprehensive and strategic manner. Nevertheless, in the current Basic Plan on Ocean Policy, the policies and measures on the Arctic are regarded as no more than one element of the "policies and measures concerning the oceans," such as climate change, ocean observation, marine science and technology, marine industries, and marine resources. Given current social and economic trends and interest in the Arctic, both domestically and internationally, such as approval of Japan's application for observer status in the Arctic Council of May 2013, formulation of Japan's Arctic Policy of October 2015, recognition of the positive contributions of Observers to the work of the Arctic Council, as well as encouraging further efforts to strengthen relationships with Observers in the Fairbanks Declaration of May 2017, policy elements regarding the Arctic in the ocean policy are more important than ever. Therefore, while there are broadly common elements between Arctic policy and ocean policy, policies on "the Arctic" should be treated as an independent section in the Third Revised Basic Plan on Ocean Policy in order to make the content of Arctic policy more concrete and effective.

Furthermore, since Arctic policy covers a wide range of areas such as diplomacy, security, the environment, maritime shipping, resources, information and communications, and science and technology, it should be addressed in a cross-sectoral and multidisciplinary manner. Nevertheless, Arctic policy in Japan continues to be implemented based on the jurisdiction of each ministry and agency, and not necessarily strategically coordinated among ministries and agencies due to the compartmentalized government structure. Taking into account the cross-sectoral nature of Arctic issues, it is essential for Japan to establish a coordinating system that allows for implementation of integrated measures for addressing these issues, under the general coordination of the National Ocean Policy Secretariat of the Cabinet Office as the "control center," to coordinate relevant ministries and agencies from an "All Japan" perspective.

In addition, nearly two thirds of the Arctic region are covered by ocean waters, but, unlike Antarctica, there is no single comprehensive legal regime governing the Arctic region. Therefore, the law of the sea, especially the United Nations Convention on the Law of the Sea (UNCLOS), is the main legal regime governing the Arctic. In this context, it is appropriate that Arctic policy is recognized as part of the ocean policy.

Against this background, the Study Group for the Future of the Arctic has considered measures and policies on the Arctic that should be given consideration in the Third Revised Basic Plan on Ocean Policy (2018 to 2022), and recommends the following initiatives.

Policy Areas Related to Each Priority Issue

1 Enhancement and Promotion of Arctic Research

The effects caused by global warming, such as the rapid reduction of sea ice, the rapid rise in sea temperature, and ocean acidification are seen prominently in the Arctic. Global warming gives rise to a number of effects such as extreme weather events not only in the Arctic region but also in non-Arctic states, including Japan. However, the mechanism of environmental change in the Arctic is still not sufficiently understood.

Japan has continued its research and observation activities on environmental changes in the Arctic using research vessels and earth observing satellites for many years, and has long actively contributed to international scientific cooperation. The results of Japan's continued research and high-precision observation in the Arctic region, where limited means of observation are available, are highly appraised internationally, and the international community has large expectations for Japan. It is important to play a leading role in efforts on the Arctic through active international cooperation, cross-cutting and comprehensive research, and coordination and collaboration with stakeholders by making use of Japan's strengths in science and technology.

The Arctic region research project funded by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), called ArCS (Arctic Challenge for Sustainability) is currently underway (from September 2015 to March 2020), and researchers in the field of natural sciences and in the social sciences and humanities are working together on various initiatives, such as the construction of a network of social scientists of the Arctic and the implementation of joint research projects. However, more can be done, including coordination of implementing organizations and projects, international joint research, and enhancing the roles for Arctic policy recommendations. It is therefore essential to create an effective research system, including the strengthening of the ArCS project, in order to establish Arctic research in Japan in the future.

In addition, in order to provide a more accurate understanding of environmental changes in the Arctic, it is necessary to conduct research in the Arctic in seasons other than in summer and to make observations on the ocean, sea ice, and weather. However, the current oceanographic research vessel *MIRAI,* operated by Japan Agency for Marine-Earth Science and Technology (JAMSTEC), has no icebreaking capabilities, so only limited marine areas and periods for research and observation in the Arctic are possible. In the Asian region, China and Korea have already constructed and are operating icebreaking research vessels. Given this situation, it is essential for Japan to construct its own icebreaking research vessel in order to continue high-precision research and observation in the Arctic and to enhance Japan's presence in Arctic research. It will also be vital to improve the research infrastructure that allows the

comprehensive promotion of Arctic research, including the development of observation equipment such as remotely operated vehicles (AUV, etc.) and observing satellites.

(1) Enhance initiatives related to Arctic research

- In order to increase Japan's presence in international fora and facilitate various initiatives specified in Japan's Arctic policy, it should improve and strengthen support systems for the current ArCS project and create an enabling system for the future development and long term implantation of Arctic research. For that purpose, Japan should improve measures for promoting and supporting Arctic research, such as through the establishment of a research network and a research stations under the ArCS project, strengthening collaboration in the fields of natural sciences and in social sciences and the humanities, as well as the promotion of an interdisciplinary approach to international joint research projects.

(2) Strengthen and support infrastructures for scientific research in the Arctic Ocean

- Provide support for the development of infrastructure and the research environment that enables scientific observation to fill the data gaps in the Arctic Ocean, such as ice-covered areas, the central Arctic Ocean, and Russian coastal areas. For that purpose, Japan should improve infrastructure, including the construction of a new research vessel for Arctic research and platforms for observations, such as observation equipment (AUV, etc.), develop human resources, and provide support for implementing joint research projects with the Arctic coastal states.
- It is necessary to construct a research vessel for the Arctic with icebreaking capabilities by the early 2020s at the latest, in order to continue high-precision, multi-parameter, and wide-area observation in the Arctic. It is also important to consider year-round utilization of the research vessel, including research and observation in areas other than the Arctic, towards the most efficient operation of the research vessel.
- Efforts should also be made to strengthen the development of leading-edge technologies, such as AUVs for the polar areas, in order to allow research and observation in areas which vessels cannot access.
- Develop and maintain the Microwave Scanning Radiometer onboarded observing satellite and its successor, which is necessary for observing sea ice and monitoring climate change in the Arctic ocean.

2 Protection of the Marine Environment of the Arctic Ocean: Responses and Contributions

The effects of climate change are more evident in the Arctic than anywhere else in the world, with impacts not only on the Arctic, but the entire planet. For example, it has become increasingly clear, according to the scientific findings by Japanese researchers based on research in the Arctic Ocean, that extreme weather in the northern hemisphere, such as extremely warm winters, a series of very cold weather periods, and heavy snows in the northern hemisphere, has links to changes of sea-ice area in the Arctic Ocean. It has also been reported that the temperature of the Arctic Ocean is increasing as a result of the melting of the sea ice by global warming, and desalination and acidification are affecting marine ecosystems. This indicates that environmental change in the Arctic is not only a problem for Arctic nations but also has the potential to affect Japan's weather and fisheries resources, and to eventually cause environmental change on a global scale. Furthermore, management of the high seas of the central Arctic Ocean is the responsibility of the entire international community, including Japan. Given these facts, it is of great importance to continue and advance scientific understanding of environmental changes in the Arctic, as well as take measures to protect the marine environment of the Arctic Ocean, including implementing relevant international agreements.

For these purposes, Japan should create an enabling system for continuous and long term engagement in research and observation of environmental changes in the Arctic, and for promoting research and development of methods for marine environmental impact assessments, including further improvement in numerical modeling. In addition, Japan should contribute to efforts to reduce global warming in the Arctic and protect the marine environment of the Arctic Ocean through appropriate national implementation of UNCLOS and other international agreements, such as the Polar Code, that formulate mandatory international standards for the safety of ships operating in polar waters, as well as the Paris Agreement, which is the international framework for GHG emission reductions from 2020.

Furthermore, when the Arctic Sea Route becomes open more frequently for navigation due to the decline in sea ice in the Arctic Ocean, three straits (Tsushima, Tsugaru, and Soya) that enter and exit the Sea of Japan will become congested and pose numerous ship-based marine environmental problems, including oil pollution arising from maritime accidents and collisions with marine mammals. It will therefore be essential for Japan to designate sea lanes and examine ex-ante and ex-post measures for preventing, minimizing, or mitigating marine environmental damages such as those caused by oil spills.

(1) Efforts to Address Environmental Change in the Arctic Ocean

- Continue efforts to conduct observation and scientific research in the Arctic Ocean and promote technological developments for enhancing the system of observation and forecasting in order to understand the effects of environmental change and its impacts accurately.

(2) Ensuring the Conservation of the Marine Environment of the Arctic Ocean

- Develop domestic laws and take necessary measures to support related industries to properly implement the International Code for Ships Operating in Polar Waters (Polar Code), which includes related amendments to the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention for the Prevention of Pollution from Ships (MARPOL) of the International Maritime Organization (IMO).
- Make efforts towards appropriate domestic implementation of the Paris Agreement on climate change and the United Nations Sustainable Development Goals (SDGs), with close cooperation between ministries and agencies involved in contributing to measures addressing climate change in the Arctic region.
- To prevent unregulated high seas fishing in the central Arctic Ocean and appropriate management of fisheries resources in that area, actively participate in discussions of rulemaking on the Arctic with relevant countries, including Arctic coastal states, and actively contribute to the realization of sustainable use of the Arctic region.
- Actively participate in discussions regarding marine environmental problems in the Arctic Ocean held at the forum, such as the working group of the Arctic Council and other related meetings, and make further contributions to the consideration of prevention and response measures through utilization of Japan's experiences, scientific knowledge, and leading-edge technologies.
- Take appropriate measures, including the designation of sea lanes and measures on oil spill control in order to prevent marine environmental problems in the marine zones surrounding Japan due to increased use of the Arctic Sea Route.

3 Promotion of the Ocean Economy (Blue Economy) in the Arctic Region

While the decline in sea ice in the Arctic Ocean due to global warming has a negative impact on the natural environment in the Arctic, it also creates more opportunities for the use of the Arctic Sea Route, tourism, access to and development of natural resources (both mineral and living resources) and marine energy resources, as well as the development of port facilities and telecommunications. In this way, changes in the Arctic Ocean affect our society and economy in both positive and negative ways. In particular, the opening of the Arctic Sea Route provides a new commercial shipping route between East Asia and Europe, and there are also expectations that it will contribute to the policy for revitalization of local economies, with a particular focus on Hokkaido.

However, economic activities such as the use of the Arctic Sea Route and the development of natural resources in the Arctic Ocean are subject to a number of restrictions both procedural and substantive: concerns over marine pollution, increases of GHG emissions, and negative effects on the vulnerable Arctic Ocean ecosystems associated with navigation and resource development; cost issues in construction, maintenance and personnel of icebreaking research vessels; concerns over stability of the shipping route, such as weather, sea ice and geopolitical risks; human resources; and its sustainable profitability. Given these circumstances, the interest of Japan's business community in a blue economy[2] in the Arctic region is limited, and there is also insufficient information for the formulation of policy at the government level.

The blue economy can include established ocean industries such as shipping, fisheries, offshore renewable energy, and marine biotechnology as well as natural assets and ecosystem services provided by the oceans, and they are closely related to each other. It is therefore necessary to provide safe and environmentally sound maritime conditions for promoting the blue economy. For that purpose, Japan should endeavor to take measures not only for stimulating the economy, such as through improving infrastructure for promotion of the use of the Arctic Sea Route, raising public awareness for increasing its utilization, establishing a favorable investment environment, and inspiring and supporting innovation, but also to emphasize that environmental and biodiversity impact assessments are used to a greater extent in the Arctic. These impact assessments are used, for example, in assessing various risks pertaining to the economic activities in the Arctic region, including impacts caused by climate change, and gathering background and compiling information to support the assessment, as well as in the utilization of ocean resources. It is therefore important that due consideration be given

[2] The "blue economy" concept refers to the sustainable use of ocean resources in a variety of economic areas, and seeks to promote economic growth, social inclusion, and the preservation or improvement of livelihoods while at the same time ensuring environmental sustainability of the oceans and coastal areas. (World Bank and United Nations Department of Economic and Social Affairs, *The Potential of the Blue Economy*, World Bank, 2017.)

to both the environment and the economy in any measures taken.

Furthermore, Japan should attach particular importance to building bilateral cooperation with the Arctic coastal states in connecting the promotion of the blue economy in the Arctic and the sound development of Japan's marine industries. In order to enhance the international competitiveness of Japan's marine industries, it is necessary to take measures, through joint efforts of the public and private sectors, for encouraging Japanese companies to participate in economic activities in the Arctic Ocean. For that purpose, Japan should support active involvement of Japanese companies in international fora for dialogues in which large numbers of industry representatives participate, such as the Arctic Economic Council and the Arctic Circle, and promote initiatives for building up knowledge of Arctic regions and toward industrialization by the Japanese business community.

(1) Support innovations for promoting a sustainable blue economy in the Arctic

- Related government ministries and agencies, local governments, private corporations, and academic institutions should cooperate to collect information and conduct research on scenarios of commercial use of the Arctic, such as the utilization of the Arctic Sea Route, the development of natural resources in the Arctic Ocean, and tourism in the Arctic Ocean that are compatible with the conservation of the Arctic environment. For this purpose, Japan should establish a forum for industry-academia-government collaboration and continue its discussion.
- Through collaboration with the industrial, academic and governmental sectors, Japan should support formation of the business model and innovation on the utilization of Arctic Ocean and Arctic Sea Route, including demonstration projects conducted by the government and utilizing public funds.
- Strengthen activities for raising awareness and increasing publicity of economic activities with regard to the Arctic, including organization of events such as seminars or symposium on these topics.
- Take proactive measures to improve and expand the infrastructures, such as new or upgraded harbors, railways, airports, and the trunk road network connecting the Arctic Sea Route, including development of laws, with a particular focus on Hokkaido by giving the future potential of this route serious consideration.

(2) Create Arctic-related business opportunities

- Create international business opportunities in the Arctic, including cross-sectoral innovation supports in the field of oceans, improvement of the hub for research,

development of ocean technologies and joint innovation, and exchange of views with Arctic and other states concerned.

- For the purpose of promoting cooperation with the relevant states on resource development in the Arctic Ocean, take measures, including building consortiums or hosting symposiums in collaboration with the government, industries and academic institutions of the states concerned.
- With coordination among the industrial, academic and governmental sectors, consider measures for supporting industries in the Arctic, including provide supports for active participation by the Japanese private sector in the Arctic Economic Council or the Arctic Circle.

4 Securing Safety and Security of the Arctic Ocean

Safety and security on the oceans has a multi-dimensional nature, and the Arctic Ocean is no exception. In the Arctic Ocean, the decline in sea ice caused by climate change is likely to create more opportunities for use of the Arctic Sea Route, including the development of resources and expansion of accessible areas for marine scientific research. At the same time, there are unresolved issues among the Arctic states bordering the Arctic Ocean over maritime delimitation and extension of the continental shelf, and some Arctic states have been proactively deploying military forces in the Arctic region to secure their interests in resource development and use of the Arctic Sea Route with a view to protecting their maritime interests and defending their territory[3].

Since expansion of economic activities due to the reduction of sea ice in the Arctic Ocean is expected, it is essential for Japan, as a nation promoting the use of the Arctic Sea Route and contributing to the protection of the Arctic environment through scientific activities, to urge upon all relevant states the importance of bilateral and multilateral dialogues as a way to avoid escalation of military tensions in the Arctic region[4]. As a prerequisite for ensuring safety and security in the Arctic Ocean, Japan should attach particular importance to maintaining the rule of law in that area. Based on this understanding, Japan should continue to stress the importance of respecting international law, including UNCLOS, with particular emphasis on the principle of the freedom of navigation, by actively utilizing opportunities such as the Arctic Council. It is also an important issue for Japan to reinforce the capacity of Maritime Domain Awareness (MDA) in the Arctic in order to respond to changes in the safety and security environment of the Arctic Ocean.

As indicated, ensuring the rule of law is crucial for safety and security in the Arctic Ocean, so Japan should actively participate in and contribute to the maintenance of order on the sea and the development of international agreements regarding the Arctic Ocean. In addition, in order to contribute to ensuring the rule of law, Japan should maintain and reinforce close cooperation with the Arctic states and other relevant states and endeavor to build diplomatic trust with those countries through forums for dialogue on the Arctic, such as the Arctic Council or bilateral or multilateral forums for Arctic-related issues.

Furthermore, as economic activities in the Arctic Ocean expand, maritime transport on the Arctic Sea Route will likely become congested. It is therefore important to consider appropriate

[3] See Defense of Japan 2017 (Annual White Paper), Part I, Chapter 3, Section 3, pp.190-191.

[4] The Ottawa Declaration (adopted on 19 September 1996), which announced the establishment of the Arctic Council (AC), stated that the AC "should not deal with matters related to military security." With regard to military and security issues in the Arctic, the Arctic Security Forces Roundtable (ASFR), which is made up of representatives of national security forces centering on those of the member nations of the AC, plays the role of a forum for improving Maritime Domain Awareness (MDA) in the Arctic Ocean and promoting cooperation and the sharing of information in the area of search and rescue.

support and responses for addressing maritime casualties and maritime disasters in that area. It will also be important for Japan to contribute to the maintenance of safety and security of the Arctic Ocean by making use of its main strength, creating for example, nautical charts and sea ice flash charts for safe navigation along the Arctic Sea Route, including conducting hydrographic surveys in the Arctic Ocean, and using sea ice observation data collected by satellites through cooperation with the Arctic coastal states.

(1) Contribute to maintaining the rule of law in the Arctic Ocean

- In multilateral forums such as the Arctic Council and in bilateral dialogues with Arctic and other concerned states, continue to encourage that the United Nations Convention on the Law of the Sea (UNCLOS) be applied to activities in the Arctic Ocean and that related principles recognized under international law, including "freedom of navigation," be respected.
- In order to maintain order on the ocean, Japan, as a concerned state, should actively participate in the future process of international rule-making on the Arctic Ocean and build close cooperative relationships with relevant states for ensuring peaceful use of the Arctic Ocean.
- In preventing an escalation of tensions, such as over resource development in the Arctic Ocean, into military tensions, encourage the need for fostering a common understanding about the rule of law at sea among states in related forums, including the Arctic Council, and in dialogues with other concerned states.

(2) Enhance maritime domain awareness (MDA) in the Arctic

- In order to address conditions and trends in the Arctic Ocean that may affect our safety, security, commercial or environmental interests, establish a mechanism for comprehensive collection and management of marine-related information in the Arctic, and enhance coordination and cooperation for maritime-related information sharing and management among related ministries.
- Make efforts for the improvement and strengthening of observation, research, and monitoring capabilities in the Arctic Ocean, including development of necessary facilities and establishment of technologies and systems for ocean observations.
- Make progress in charting and mapping the Arctic Ocean and waterways and create sea ice flash charts for safe navigation along the Arctic Sea Route, together and in cooperation with the Arctic coastal states, and also share this information with other concerned states.

5 Promotion of International Cooperation on the Arctic

Environmental changes in the Arctic pose various challenges to the international community, whether Arctic or non-Arctic nations, so bilateral and multilateral cooperation are vital for responding to those issues. At the same time, international cooperation at the national level as well as cooperation among industries and research communities are important for promoting sustainable development in the Arctic, where environmental changes are creating new commercial opportunities, such as the use of the Arctic Sea Route and the development of natural resources.

Since rule-making regarding and coordination of international cooperation in the Arctic is substantially assigned to the Arctic Council, proactive engagement with the discussion is necessary in order to safeguard Japan's national interests. It is also necessary to bear in mind that Japan has observer status in the Arctic Council, and a greater contribution to addressing Arctic issues is therefore expected. For this purpose, Japan should attach importance to developing experts on Arctic issues who are able to propose specific measures for the sustainable development of the Arctic and to participate in and contribute to the discussion in international fora, including the Arctic Council. It is also important to promote and strengthen joint international Arctic research with interested states, including the Arctic states, in an effort to increase international cooperation on human resource development.

The challenges facing the Arctic are far too multifaceted and broad for any single individual state or the Arctic states alone to successfully deal with. In order to address Arctic issues and create new opportunities that are transnational and global in nature, Japan, by making use of its strengths in science and technology, should attach importance to further strengthening bilateral and multilateral cooperation with Arctic and non-Arctic states and make contributions to various international frameworks for advancing the agenda on ocean governance.

It is also important for Japan to contribute to facilitating the "Sustainable Development Goals (SDGs)[5]" in the Arctic as part of its international cooperation efforts. In relation to this, the Arctic Council has reaffirmed "the United Nations Sustainable Development Goals and the need for their realization" in the Fairbanks Declaration of May 2017. As a maritime nation and an observer state in the Arctic Council, contribution to the realization of SDGs in the Arctic is also an important issue for Japan. It is therefore essential for Japan to give due consideration to the elements of SDGs in planning ocean measures related to the Arctic, and to actively contribute to their realization.

[5] 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (SDGs) with169 targets, adopted at the UN on 25 September 2015. The goals address the needs of people in both developed and developing countries. In relation to the oceans, "Conserve and sustainably use the oceans, seas and marine resources for sustainable development" is taken up as Goal 14.

(1) Contribute to the process of international rule-making on the Arctic

- Actively participate in meetings related to international rule-making on the Arctic, such as the Arctic Council (AC), and encourage constructive discussions based on scientific grounds in order to ensure the interests of Japan and the international community.
- Actively encourage related countries to take actions based on the "rule of law" in order that relevant international law, including the United Nations Convention on the Law of the Sea (UNCLOS), be applied and that the principles recognized under international law, including "freedom of navigation" be secured on the seas, including the Arctic Ocean.

(2) Promote international scientific and technological cooperation in the Arctic

- By promoting international joint research not only in the field of natural science but also in the social sciences and humanities, and disseminating its findings internationally, contribute to addressing environmental issues in the Arctic, such as the warming of the Arctic Ocean and its impact on global climate.
- Promote Arctic cooperation with the Arctic states, including the conducting of bilateral and/or multilateral joint research on Arctic Ocean, and the concluding of an agreement on scientific and technological cooperation.

(3) Develop and foster human resources to be able to contribute to solving problems in the Arctic

- In order to contribute to solving problems in the Arctic, facilitate support for education and research for training and securing specialists not only in the field of the natural sciences, including technologies, but also in the social sciences and humanities.
- Contribute to the capacity building of people in the Arctic, as part of international cooperation, through providing support for international joint research with Japan, including improvement of hubs for research and observation and the exchange of researchers in the Arctic states.

(4) Contribute to achieving the United Nations Sustainable Development Goals (SDGs) in the Arctic

- Give consideration to the Arctic's unique characteristics when taking measures to promote "the Sustainable Development Goals (SDGs) Implementation Guiding Principles" and "Specific Measures to Achieve the Sustainable Development

Goals," that were adopted by the "Sustainable Development Goals (SDGs) Promotion Headquarters" at the Prime Minister's Office of Japan in December 2016, with particular focus on achieving Goal 13 on Climate Change and Goal 14 on Oceans and Seas.