

# Development of Arctic Sea Route and Cooperation Between China, Japan and South Korea in the Digital Era Heilongjiang Province Example

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## ABSTRACT

In recent years, Russia takes the Arctic sea route (also known as the "ice silk road") as a modern, multimodal transport digital logistics corridor, actively attracting international capital and strengthening international cooperation, which has been highly concerned by China, Japan and South Korea, as stakeholders. By introducing their own Arctic policies, the three countries have incorporated their participation in Arctic Sea Route development into their own economic development plans and prepare for bilateral and multilateral cooperation. Since Putin became president of Russia in 2000, including the period of Medvedev, the basic idea of Russia's Arctic policy has not changed. Also, the attention of China, Japan and South Korea toward the development of Russian Arctic sea route has not changed. Under the backgrounds that the Chinese government has made clear instructions and arrangements on Russia's "Arctic development", and the Digital economy leading the development of post epidemic China and East Asia, how could Heilongjiang ensure its own development, meanwhile seize new historical opportunities and make its contributions has become a remarkable issue. In this research, the importance that Heilongjiang, as an open door to the north, should take full advantages of science, technology and talents in the Arctic sea route development, and deepen the cooperation with Japan and South Korea is emphasized. The key areas include digital logistics system, climate, walrus information monitoring and sharing, digital infrastructure construction.

**Keywords:** Arctic Sea Route, Sino Russia, Digitization, Japan, South Korea, Heilongjiang.

## 1. INTRODUCTION

Russia, as a pioneer of Arctic strategy [1], formulated *National Outline of Social and Economic Development in the Arctic Region of the Russian Federation before 2020* in 2014 [2]. Specifically, the outline includes: (1) To strengthen the policy implementation and adjustment capacity of Arctic countries and institutions. (2) To take the regulation of social and economic development in the Arctic region as an important topic, strive to strengthen national security, improve Russia's international status, make contributions to the social and economic development of the Arctic Circle, attach importance to security etc. In 2017, Russia revised the *National Outline of Social and Economic Development in the Arctic region of the Russian Federation*, extending

the time limit from 2020 to 2025. In order to improve the level of social and economic development in the Arctic region of the Russian Federation, the following auxiliary projects were proposed: (1) To form a regional development center to create a good environment for the rapid development of the Arctic region. (2) To ensure the Arctic sea route development and navigation support. (3) To provide equipment and technology for the development of mineral resources in the Arctic region. The main tasks are to improve the life of Arctic residents, to improve the safety, to create a good development environment, to enrich the meteorological support system required for regional marine transportation, to promote the development of science and technology, to improve the utilization of resources and continental shelf in the Arctic region, and to improve

the national governance level related to the social and economic development of the Arctic region. Russia's concept of Arctic development has not only attracted the attention of countries near the Arctic, but also has attracted the high attention of other Arctic stakeholders such as China, Japan and South Korea. In July 2017, Chinese President Xi Jinping visited Russia and reached consensus with Russian Prime Minister Medvedev on the "ice silk road". Then, China and Russia start the construction of the "northeast channel" which passes through Russia [3]. With the advent of the digital era, China and Russia take the Arctic route as an important part of the construction of digital logistics corridor. The cooperation between China, Japan and South Korea is not only conducive to the recovery and development of their own economy and society, but also to the world, to the new globalization and to the realization of sustainable economic development [4].

## **2. METHODOLOGY**

The development of Arctic sea route is not only a domestic concept of Russia, but also an important proposition for the development of Sino Russian relations and even regional economic and social development. If the route operates normally, it will become the shortest maritime route connecting Northeast Asia and Western Europe, which is of great significance to the construction of regional logistics channels and the development of world economy. Heilongjiang, with its distinct advantages in science, technology and Location, has become the "North opening door" to support the construction of China's digital silk road in the 21st century. In this paper, based on the international economic and trade theory, Northeast Asia international relations theory the theoretical framework structure is constructed. Using data survey method, field survey method, topics focusing on the bilateral and multilateral cooperation in Arctic development was discussed. Specifically, topics include a review of Arctic policies of China, Japan and South Korea, China's policy orientation of the cooperation with Japan and South Korea, presentation of cooperation consensus and practical achievements, and analyze of the favorable and unfavorable factors of Heilongjiang province's cooperation with Japan and South Korea under the new situation. Also, the above topics are summarized and discussed. The purpose of this study is to reveal the possibility of expanding cooperation with Japan and South Korea, and to provide direction for practical cooperation in the future.

## **3. ARCTIC POLICIES OF JAPAN, SOUTH KOREA AND CHINA**

### ***3.1. Arctic Policy of Japan***

As a maritime country, Japan has been paying close attention to the Arctic issue in recent years. Since the late 1980s, Japan and the Soviet Union have started joint investigations and Research on Arctic sea routes in Siberia and Sakhalin. In June 1990, the National Base Research Institute of Japan established the "Arctic environment research center", and in 2014, the research of Polar Observation started [5]. Focusing on the research of international Arctic sea route", the Japanese government and relevant units published the research results of "Arctic sea route: the shortest route connecting Europe and East Asia". In 2013, Japan, China, South Korea and other six countries were approved by Norway to be observers of the Arctic Council. From then on, Japan's participation in Arctic cooperation has entered a new stage. On this basis, Japan issued the official "Arctic policy" in 2015. Japan's Arctic policy mainly includes three aspects: first is to further promote the study of the Arctic issue; second is to actively participate in the formulation of international rules and enhance Japan's voice on the Arctic issue; third is to develop the Arctic sea route and Arctic resources. Japan's Arctic policy plays the card of "science and technology" while emphasizing international cooperation on the Arctic issue and meeting the needs of economic interests [6]. The Japanese government also stressed that the significance of the introduction of the Arctic policy lies in following aspects. First, to demonstrate Japan's national intention to develop the Arctic, and clearly state that Japan, as a stakeholder in the Arctic issue, will actively participate in international cooperation and make contributions. Second, to give full play to Japan's advanced technological advantages in observation, research and environmental countermeasures, and strengthen cooperation. Third, to play a leading role in the formulation of international rules, meanwhile, to build a close international cooperation relationship between countries and countries [7].

### ***3.2 Arctic Policy of Korea***

In July 2013, the Ministry of Marine Fisheries of the Republic of Korea and related departments published the *Arctic Comprehensive Policy Promotion Plan*. On this basis, in December of the same year, the *Basic Plan of Arctic Policy* was reported to the State Council. This report includes a total of 31 policies, including 8 international cooperation projects, 11 scientific research and research projects, 10 Arctic

business projects and 2 institutional projects . Under the guidance of this policy, South Korea's Arctic affairs were carried out in an orderly manner, and practical achievements have been made in the development of Arctic resources, utilization of Arctic sea route, Arctic scientific research, and Arctic environmental protection. Driven by interests, South Korea, as a stakeholder in the Arctic, was increasingly active in participating in Arctic affairs. In July 2017, the New South Korean government clearly proposed to promote the "new North Policy". This policy aims to promote exchanges and cooperation in trade, investment and other fields by promoting the "nine bridge" strategy, regional differentiation strategy, institutional and financial infrastructure construction, people to people exchanges, and supporting enterprise development. Among them, the "nine bridge" strategy is one of the core contents of the "new North Policy", focusing on promoting cooperation in nine aspects, namely, natural gas, railway, port, electric power, Arctic route, shipbuilding, agriculture, aquatic products and industrial parks. The "nine bridge" strategy refers to the development of Arctic and Arctic sea route in many places. For example, Russia's liquefied natural gas pipeline was added to realize the diversification of natural gas import. It is expected to build a gas transmission pipeline connecting South Korea, North Korea and Russia in the future, build the Arctic route into a new logistics transportation sea route, and build ice breaking LNG carriers and related shipyards [8].

### **3.3 Arctic Policy of China**

The connectivity with Arctic countries of China began with signing agreement of One belt, one road with Iceland. From then on, China has been paying close attention to the development of the Arctic region. In January 2018, the State Council of China published the *White Paper on China's Arctic Policy*, which set the orientation for Arctic policy of China for the first time. It includes four aspects: the situation and changes of the Arctic, the relationship between China and the Arctic, China's Arctic policy objectives and basic principles, and China's main policy propositions for participating in Arctic affairs[9]. The white paper defines China as a "near Arctic country" geographically and one of the countries closest to the Arctic Circle on land. The policy objective is to safeguard the common interests of the world and promote the sustainable development of the Arctic. It includes enhancing people's understanding of the Arctic, strengthening and enriching scientific research, promoting the protection of the Arctic, protecting the natural environment and ecological environment, promoting the restoration of climate and

environmental ecology, and respecting the diverse cultures and historical traditions of indigenous people. In the development of the Arctic, the key points are to strengthen technological innovation, environmental protection, resource utilization and sea route development, contribute to economic and social development, and improve the living environment of residents. The white paper points out that the future of the Arctic is related to the interests of Arctic countries and the well-being of countries outside the Arctic region and all mankind. Arctic governance requires the participation and wisdom of all stakeholders.

## **4. EXSITING CONSENSUS AND COOPERATION BETWEEN CHINA, JAPAN AND SOUTH KOREA**

### **4.1 Extensive Communication**

China, Japan and South Korea have shown their participation will in Russia's "ice silk road" construction plan [9]. The fifth "Arctic dialogue region" International Forum was held in St. Petersburg, Russia. More than 2000 representatives from various countries, including China, Japan and South Korea, attended the meeting. After that, a sub forum was held in Shanghai, China, with the theme of "promoting practical cooperation in the Arctic and jointly building the" ice silk road ". Through the sub forum, China, Japan and South Korea, as observers, effectively voiced their voices and actively interacted. The Ministry of Economy and Industry of Japan specially invited Russian experts to held industrial cooperation enterprise exchange seminars in Tokyo and Sapporo and discussed *the Current Situation and Prospect of Russian Arctic Circle Development* and listened to the reports of Russian experts in the Arctic sea area related fields. From their communication, the Japanese economic community deepen the understanding of the oil development in the Arctic sea area, the utilization of Arctic routes, and Russia's policies and guidelines. Around the sea route development, more consensus has been formed between Chinese and Japanese enterprises. Not long ago, Chinese shipping enterprises held a business briefing in Japan to discuss and confirm the value of the Arctic sea route, which pass through Tsugaru Strait and connected with two important Japan ports in Hokkaido, the Kushiro port and Tomakomai. On February 9, 2014, at a consultation meeting held in Seoul, South Korea, foreign ministry officials of the two countries discussed the further cooperation in Arctic for the first time . In June 2019, Japan, China.

and South Korea held the fourth high level dialogue on the Arctic. Issues of common concern,

including Arctic development and environmental protection was discussed [11].

#### **4.2 Achievement and Cooperation in Oil and Gas Resources Development**

China, Russia, Japan and other countries have carried out practical cooperation around the Arctic sea route oil and gas resources development. For example, Russia approved the acquisition of Yamal company by China Silk Road Fund and this made China Silk Road Fund the third largest investor of Yamal LNG (Liquefied Natural Gas). In December 2017, Yamal LNG project began production, which can export 4 million tons of LNG to China. Through cooperation with Russia, China has successfully realized the Arctic Ocean Transportation and opened up the Arctic sea route. As the first whole industry chain project of Sino Russian cooperation in the Arctic Circle, Yamal project has become an important fulcrum of the "ice silk road" [12]. Affected by this, the Japanese government began to study to enable Japanese enterprises to participate in the LNG development business promoted by private natural gas giant the Russia NOVATEK in Arctic sea route. MOL Ferry, a large Japanese shipping company, plans to open a route between Yamal peninsula and Japan's Arctic Ocean to transport LNG to Japan. Also, NOVATEK asked Japanese companies such as Mitsui and Mitsubishi to invest 10% to develop LNG in the Arctic circle. The Japanese government decided that the state should provide 50% of the total development funds, which is about 100 billion yuan of investment. It was only because of the Ukrainian crisis, the international community's sanctions against Russia and Japan's concerns about Russia's investment prospects, that make the plan filled to be implemented in time.

### **5. NEW OPPORTUNITIES FOR HEILONGJIANG PROVINCE OF EXPANDING COOPERATION WITH JAPAN AND SOUTH KOREA**

The Arctic sea route development, based on the concept of consultation, co construction and sharing, will not only have a far-reaching impact on the economic cooperation between China and Russia, but also on the development of the whole region and the participating countries in broadening cooperation fields, seeking new ways of cooperation, and carrying out bilateral and multilateral cooperation at a higher level and on a larger scale [13]. Based on the current international and domestic situation changes and the existing advantages of Heilongjiang province's cooperation with Russia, Heilongjiang Province has

become the "North opening door" to support the construction of China's digital silk road in the 21st century [14]. Therefore, the state and local governments actively support enterprises in Heilongjiang Province to participate in the development of Arctic sea route with high expectations.

#### **5.1 Supportive Policies**

Chinese government has made a clear plan for the development of the Arctic from the national level and pointed out the direction for local provinces to participate in the Arctic development. Heilongjiang Province's also actively cooperated with relevant parties, discuss and share experience with experts from all over the world through widely held sub forums. The advantages of our province in the construction of cold region resources engineering are important foundation for infrastructure construction such as sea routes, oil and gas development, and environmental security cooperation, which will also be further developed in the future oriented and cooperation. The *"Digital Longjiang" Development Plan (2019-2025)* issued by our province will provide institutional guarantee for our province to participate in the digital construction of China Russia Arctic route infrastructure [15].

#### **5.2 Location Advantage**

Heilongjiang Province, adjacent to Russia in the north, has 25 first-class ports open to Russia, accounting for 70% of the country's border ports with Russia. Participating in the development of Arctic sea route will further promote the role of "bridgehead" and "hub station" in our province, and work with Liaoning and Jilin provinces to promote large-scale project cooperation, improve the infrastructure construction of roads, railways and aviation, form various transportation networks, expand economic exchanges with inland areas, especially the positioning of "North opening door", which highlights port advantage of Heilongjiang province.

#### **5.3 Basis of Cooperation**

In 7 years after the "one belt, one road" was proposed, the connectivity with the Northeast Asian countries was effectively and the progress was remarkable. Specifically, the joint construction of the "belt and one alliance" between China and Russia has continuously achieved actual results; on the basis of the "Eurasian initiative" with South Korea, it has also achieved connectivity of "New Oriental Policy" proposed by the current government; cooperation with Japan has also made new progress because of

the signing of the third-party cooperation agreement. As an important window of "northward" opening up, Heilongjiang Province has been given more expectations by Russia in terms of Arctic sea route research and exploration practice. Under the framework of one belt, one road, our province is constantly improving its infrastructure and strengthening interconnection. Heilongjiang bridge and Tongjiang bridge have been connected. In the future, our province will form a new international highway transportation sea route, and the highway, railway and air transportation system will be more perfect. These will undoubtedly have a positive impact on deepening the connectivity and cooperation between our province and the Russian Far East and provide space to expand the cooperation with Japan and South Korea [16].

China, Japan and South Korea are all interested countries in the Arctic, and their roles and positions in Arctic affairs have many similarities. If the three parties can strengthen cooperation in development of Arctic, especially the Arctic sea route, such as environmental cooperation, mineral resources development, cargo transportation and tourism development, it will promote all parties to better handle the Arctic issue.

## **6. CHALLENGES OF HEILONGJIANG PROVINCE IN THE COOPERATION WITH JAPAN AND SOUTH KOREA**

### **6.1 Geopolitical Risks**

The Arctic sea route development is not only a matter of shipping routes, but also a matter of regional development and security. To be exact, whether the members of the Arctic Council or China, Japan and South Korea, which participate in Arctic affairs as Arctic observers, participating in Arctic development is not only economic intention, but also accompanied by the struggle for discourse power and regional dominance. Cooperation on Arctic development is always linked with their respective strategic intentions and affected by geopolitical game. On the Arctic development cooperation between China and Russia, Japan shows an idea of zero-sum game .

### **6.2 Uncertain Factors such as Climate and Supply Condition of Goods**

Although the Arctic development has just started, it is necessary to recognize there will be a series of problems once the development is put into operation. Firstly, the weather and walrus on the Arctic route are extremely unstable, so it is

impossible to ensure stable shipping; secondly, the scale is limited, and the shipping cost is high; thirdly, the transportation demand is uncertain. The perennial cold natural climate and stable supply of goods will perplex the transportation enterprises [17].

Climate conditions and stable supply of goods for our province will also be one of the long-term problems for our province to "go out" and participate in international cooperation. In addition, novel coronavirus pneumonia is a long-term and normalization risk and hidden danger [18].

### **6.3 Impact of Changing International Situation**

Most of Russia's large projects related to Arctic development are operated by enterprises, and there is instability in the control of some risks. From the perspective of Japan and South Korea, considering the alliance with the United States, we must consider the position of the United States in some economic cooperation. Japan, in particular, although ensuring Japan's voice in the Arctic Circle is one of the main reasons for its participation in Arctic cooperation, it cannot ignore the watchful attitude of the United States. Japan and South Korea have insurmountable contradictions in the development of foreign economy and diplomacy, which makes their cooperation with China vulnerable to external factors [19]. For instance, Japan adopted a third-party cooperation way to participate in China's one belt, one road development. Although this method achieves the goal of participating in the development, actually it is a compromise way considering balance of relationships between China and the United States. In addition, from the perspective of Abe government's diplomacy to Russia, it always links economic cooperation with territorial negotiations. The politicization of economic cooperation further increases the uncertainty of cooperation between China, Japan and South Korea.

## **7. RESULTS**

The proposal of Russia's Arctic sea route development plan not only creates an opportunity for bilateral cooperation between China and Russia, but also for multilateral cooperation among China, Japan, South Korea and Russia. It marks the transition of Russia's northern sea route development strategy from strengthening unilateral control to promoting international cooperation. Not only can China participate in the joint development, but the navigation restrictions on Japan and South Korea will be relaxed. This has brought new opportunities to Heilongjiang Province, as the door to the North to the

north. The Chinese government advocates multi-party cooperation to jointly build the Arctic "ice silk road" and focuses the economic cooperation on the forward-looking investment of Arctic sea route and energy resources development. Recently, Russian enterprises have paid more attention to digitalization, but due to the lack of talents, large enterprises rely on foreign enterprises for digital technology and machines. For example, the demand for digitalization of shipbuilding, Russian oil and natural gas exploitation process is increasing. China, Japan and South Korea have technical and talent advantages. If the three countries jointly promote new industrial cooperation and constantly tap new growth points in the "digital era", it will bring broad prospects for the Arctic sea route development.

## 8. CONCLUSION

To sum up, the Arctic sea route development is not only related to Russia, but also an important proposition for the development of Sino Russian relations and even the economic and social development of Northeast Asia. If the route operates normally, it will become the shortest maritime route connecting Northeast Asia and Western Europe, which is of great significance to the construction of regional logistics channels and the development of world economy. Heilongjiang Province, adjacent to Russia, has the advantages of geography, science and technology and talents, and has become the "North opening door" to support the construction of China's digital silk road in the 21st century. Under the background that the Chinese government has made clear instructions and arrangements on Russia's "Arctic development" and the digital economy has led the economic and social development of China and even the region after the epidemic, Heilongjiang Province should give full play to its own advantages and make contributions.

Starting from the introduction of the Arctic policies of various countries, taking Heilongjiang Province as an example, this paper discusses the cooperation between China, Japan and South Korea in the Arctic. Specifically, first of all, this paper reviews the policies of China, Japan and South Korea on the Arctic. secondly, it reveals the bilateral and multilateral cooperation consensus and practical results. thirdly, it summarizes the advantages and disadvantages of Heilongjiang province's cooperation with Japan and South Korea. The conclusions are as follows: under the superimposed influence of Russian Arctic waterway development and digital economic policy, Heilongjiang Province, as the frontier of cooperation with Russia, ushers in new opportunities for development. In the process of China and Russia

jointly promoting the development of the Arctic sea route, eliminating the interference of political factors and actively attracting funds and technology from Japan and South Korea are conducive to giving full play to the central role of China, Japan and South Korea in Northeast Asia and mutual benefit. For the development of the Arctic sea route, China, Japan and South Korea have a good foundation for cooperation, and there are many points of interest intersection. Russia's international cooperation policy of attaching importance to Arctic development has not changed, nor has Japan and South Korea paid attention to the development of Arctic waterway between China and Russia. Therefore, it is possible for Heilongjiang Province to expand cooperation with Japan and South Korea from the local reality, which is also the best choice for Heilongjiang Province to deepen cooperation with Russia, improve logistics system, develop itself and contribute to regional development.

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