

# The Argus

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An Island Imbued with the Spirit of Korea, Dokdo



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## Editorial

# For Those Who Love Dokdo

Dokdo is a territory of the Republic of Korea (hereafter Korea) located about 87 km away from Ulleung Island in North Gyeongsang Province, in the southwest of the East Sea, at the easternmost end of Korea. Dokdo is a highly attractive land. Looking around, it is filled with the lovable elements such as the expansive, refreshing blue sea, the rich resources hidden underneath, and the numerous precious creatures living above. However, Dokdo has now turned into a battleground, as if there is a question as to who should be its rightful owner. Our neighboring country, Japan, continues to refer to Dokdo as Takeshima, claiming it as Japanese territory. It is indeed a preposterous situation for the citizens of Korea. Recently, even the U.S., through decisions made under the Biden administration, is actively contributing to the belief that Dokdo belongs to Japan by designating the East Sea as the Sea of Japan. The situation is far from simple, as the world presses for proof of ownership.

We must be extremely sensitive about referring to Dokdo as “Dokdo.” Why is that? Are we the descendants of Hong Gil-dong who cannot address our fathers as fathers, or our brothers as brothers? When we create social media accounts or join websites and need to introduce ourselves, the first thing we reveal is our name. Our name is the simplest and most certain way to describe ourselves. Think of having pseudonyms or separate activity names. Our name encapsulates our identity and is the largest vessel that carries our nationality. Therefore, we must protect not only Dokdo as a place, but also its “name.” Whether Koreans or foreigners, as the young generation shaping this society, we must critically examine what constitutes the right name and become individuals who can confidently use it. This is to understand the weight of the names we speak.

Until now, people have studied why Dokdo is our land. Naturally, if you are Korean, if you love Dokdo, you should be able to confidently explain why Dokdo belongs to Korea. However, do we really understand our land? Dokdo is unquestionably Korean land, but is what we know about it truly comprehensive? Perhaps, we have been too entrenched in political discussions. Dokdo, as beautiful as it is, it should not just be entangled in debates about whose land it is. It is a place we cherish and want to protect. It is crucial for us, as citizens, to be aware of Dokdo. However, before that, if it is ours, we should proudly declare to the world, “Dokdo is our land. Our land is beautiful, and we are proud of it.” Do we not find it regrettable that Dokdo, which is so beautiful, is not fully appreciated? We should all focus our attention and care on Dokdo itself so that its beauty is not lost to us and to future generations of Koreans. 

By Lee Jue-hyun  
Editor-in-Chief

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>> Dokdo is a territory of the Republic of Korea, included as a part of Ulleung Island, in accordance with Article 3 of the Constitution of the Republic of Korea, which states, "The territory of the Republic of Korea shall consist of the Korean Peninsula and its adjacent islands." October 25 is designated as "Dokdo Day" to commemorate the day when Dokdo was designated as an affiliated island of Ulleung Island in the Imperial Decree. On Dokdo Day, all citizens reflect on the significance of Dokdo and make various efforts across the nation to protect the sovereignty of Dokdo. Dokdo is recognized for its diverse marine life, flora, and value as a volcanic island, and it is proudly designated as Natural Monument No.336, Dokdo Natural Protection Zone of the Republic of Korea. It is said that to leave one's own footprint on Dokdo, the heavens must lend their aid, indicating that it is a place where all environmental conditions must perfectly align. In celebration of this year's Dokdo Day, The Argus wishes to share diverse stories about Dokdo with its readers.

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# Inadmissible Names for



By Kim Ji-hyang

Staff Reporter of Culture Section

As of 2019, 26 countries' Google Maps named Dokdo as "Liancourt Rocks," and Japan's Apple Map named it as "Takeshima Island." Giving Dokdo another name is an undeniable error. According to "East Sea and Dokdo Transcription Error Correction Achievement," from the Korea Culture and Information Service in 2022, the correction ratio halted at 20 percent for a totalization of 3048 error cases. Why is it important to correctly transcribe Dokdo? Language accepts and transmits culture, composing people's thoughts. Correcting an error is important because if an error in naming takes roots in an individual's thinking, it could cause an erroneous awareness of Dokdo. The Argus hopes to discover the value and importance in referring to "Dokdo" correctly by listening to students from diverse backgrounds and would like to inform readers of the importance of calling it by the right name.

*The Argus: Before looking into Dokdo's case, let's talk about a recent name change in Türkiye. In 2022, the Erdogan administration tweaked the country name from "Turkey" to "Türkiye." The reasoning was due to Turkey's definition as a "type of a bird" degrading the image of the country. Then as part of the rebranding process, what would be the meaning and importance of a name?*

**Julia (Exchange student):** To me, a name is the first impression. For example, when you meet someone, their name is the first thing you know about them. Turkey's new name of Türkiye also imparts a first impression of the country. Since "Türkiye" is a Turkish word, I feel like it represents the traditional significance and the values that the Turkish people prioritize.

**Maya (Exchange student):** As for the new name, Türkiye, it feels more official because it is in the Turkish language. My





impression of a name is “identity,” since a name is used to present yourself and how others see you. Every name has an identity, and such meanings include the history and culture from the start.

**Shin Young-hwan (ELLT '23):** A country’s name generally includes the value and the symbolic significance of the residing people. A name is an output that resulted from it. I also think that as a means of describing an expression and implication, a name acts as a medium to convey information. As an example, “Jeo” of Jeotgarak (chopstick) means “to pick up” and represents the use of Jeotgarak for picking up food. Likewise, names are a representation of the use of an entity.

**Keisuke (KFL '23):** Like how Türkiye changed its country name, names are what people commonly share. Changing a name affects other people who come in contact with it, for example the people in the world. Mentioning Türkiye at this moment, here in South Korea, implies the influence of a name.

*The Argus: Let's examine a situation that is an allegory of how A, B, and C characters each represent the South Korea, Japan, and the U.S. name Dokdo. A owns a lemon doll and names it “Lemon.” Then B spots the lemon doll and states, “This is a lemon doll, but it looks like a ‘Lime.’ I’m going to call it ‘Lime’ from now on.” C, who was with B, adds, “Right, its name is ‘Lime.’” In this situation, what is right to call this lemon doll? What would be the stance and emotions of A, B, and C?*

**Julia:** The original name of the doll, “Lemon,” would be the right way to call the doll. B and C do not own the doll but change the name to “Lime,” and I feel like they are forcing to change the name of the doll. I don’t think that it will sit well with A. If B and C did not know the doll’s name was “Lemon” at first, it would be okay to call it in a different way just once, but after they were educated, if they kept calling it “Lime,” it wouldn’t be okay, and I wouldn’t respect it. Once they are educated about it, they should correct it.

**Maya:** I also think that the doll should be named “Lemon,” because it belongs to A who named it. A would’ve felt disappointed since someone else had suddenly appeared to change the name because B felt entitled to do so. B and C giving their input in this situation is not really needed.

**Shin Young-hwan:** When thinking about the situation, B and C have no evident reasoning and should accept the way A named the doll. That is because A named the lemon doll “Lemon” based on A’s sense of values. A, the owner of the lemon doll calling it “Lemon,” would’ve felt frustrated and offended by B and C naming it “Lime.”

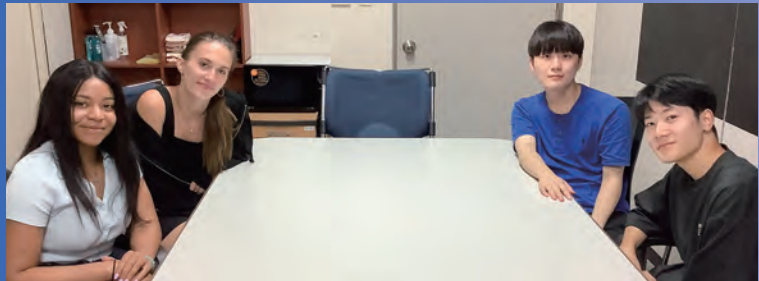
**Keisuke:** I understand the reason why B and C named the lemon doll “Lime.” However, I think it is necessary to accept and respect the situation in which A named it “Lemon.” Also, when considering A’s position, I want to protest, thinking that I cannot accept B and C calling the names differently and ask, “Why don’t you guys see this doll as a lemon?”

*The Argus: Please check your Google or Apple Maps to see how Dokdo is named. The Japanese government calls Dokdo “Takeshima Island” and the U.S. Major League Baseball website transcribes Dokdo as “Liancourt Rock.” In this way, Dokdo is called differently, and the Ministry of Foreign Affairs of South Korea made an official request for correction on names transcribed in a way that are not Dokdo. Given this situation, what cultural background does the name contain?*

**Julia:** When purveying the map, there is only Ulleung Island and there is no name for the island next to it, but now knowing that the island’s name is “Dokdo,” I think it has the Korean traditional values and identity in it because Dokdo is a Korean word. To me, the language of the name affects how I perceive it, but when hearing the name “Takeshima Island,” I have the impression of Japan since it is in Japanese. Since the island’s name has been “Dokdo” longer than it was called “Takeshima Island,” the language that names the island includes Korean history and tradition.

**Maya:** On my phone, the island is named “Dokdo” on Google Maps. When looking into how Dokdo is named as Takeshima Island, it feels as if the original meaning is taken away. The meanings of a name are important because there are cultural, historical, traditional, and national identities and values within it. Dokdo is a type of a representation and a symbol of what South Korea and its people put value in.

**Shin Young-hwan:** Google Maps in my cell phone is set to South Korea, and it says “Dokdo.” First of all, as far as I know, Dokdo originated from the Gyeongsang Province dialect, which means “Dolseom (Stone Island),” has been used since the Silla Dynasty.\* I think Dokdo is a name that encompasses the history that contains Korean language and culture. Since it is a name with history and culture that originated from our land in the first place, there is a need to value it.



▲ Maya (1st from L), Julia (2nd from L), Shin Young-hwan (2nd from R), and Keisuke (1st from R) meet for the discussion.

**Keisuke:** Google Maps in my cell phone is set to Japan, and it says “Takeshima Island.” Personally, I’m aware of the correct notation of “Dokdo” since I was educated about Korean culture and history, but unfortunately, the Japanese are taught during geography class that it is “Takeshima Island” instead of “Dokdo.” There is no chance for them to know the correct notation unless they investigate it on their own. Dokdo is symbolic in South Korea and represents the identity the people, and the world needs to understand and respect that its name is “Dokdo.” The value of a name should be respected because it has been confirmed through historical and cultural development, not by sudden creation at some point.

\*Silla Dynasty: Dynasty of Silla, one of the three ancient countries, which lasted for 992 years.

**The Argus:** *Today was a time to discuss the issue surrounding Dokdo. What perspective do you feel you should take as a college student in your 20s, as a citizen of a country, or as a third party?*


**Julia:** I am not sure if “Dokdo” would come up a lot in conversations at home in the U.S., but I do understand the perspective since there was something similar in Michigan. There was a movement to take back the original name which was “white washed” for the indigenous people. If I’m with someone else who is not Korean or Japanese but calls Dokdo in a different way, I can explain why “Dokdo” is the right name and simply tell them that it’s a Korean island. By educating the few that I meet, I hope it can spread to others like a butterfly effect.

**Maya:** I basically agree with what Julia said. Furthermore, when confronting people who call “Takeshima Island,” I want to explain the history behind the name and why we should call it what Koreans want to call it. “Dokdo” was how it was originally named, so there is no reason to call it in the other way.

**Shin Young-hwan:** First of all, I think many people need to respect the way “Dokdo” is named as it is. I know that the name “Dokdo” is familiar to Koreans, but not to others. I feel that I need to think about how to publicize Dokdo. It could be possible to not call it Dokdo if someone were not aware of the history. However, people should call it “Dokdo” in a prudent manner to capture the identity, culture, and history of the regional name and must understand and respect the values within Dokdo.

**Keisuke:** As a Japanese person, I would like to explain the background of what Korea calls “Dokdo” to a close friend of mine. This is because it is possible to use the name correctly only when one’s understanding is comprehensive.

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A language functions by accommodating and communicating culture across generations, and shaping individual thoughts. Names, which describe and represent people, objects, regions, countries, phenomena, and concepts, are derived from language. Just as “Dokdo” originated from the old Gyeongsang Province dialect, “Dolseom,” names break away from one era and affect the present and future. A name represents a country’s language, history, tradition, and culture. Therefore, using the name correctly is like protecting the country’s identity. Rather than thinking that “Using a different name is not a big deal,” we should cultivate an attitude of using the correct name. After all, language dominates an individual’s thoughts, and misconceptions stemming from the wrong name are enough to threaten a country’s identity. The Argus hopes that this article can serve as an opportunity for readers to reflect on the weight of a name as college students in their 20s, young people, and intellectuals of this era. 

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# DOKDO, an Island Full of Infinite Potentials



**By Kim Su-yeon & Ryu Hyo-rin**

*Associate Editors of Theory & Critique Section*

**H**ave you ever heard of Dokdo Shrimp? Dokdo shrimp became popular when Donald Trump, the former U.S. president, visited South Korea (hereafter Korea) and was served them at an official dinner at Cheong Wa Dae, the Blue House, on the evening of November 7, 2017. The waters surrounding Dokdo are not only filled with delicious shrimp, but they also contain a vast array of valuable natural resources. The resources and ecology of Dokdo have long been the subject of research. However, the ecological value of Dokdo is not well known and has been overshadowed and hidden by political controversy. The Argus examines a wide range of studies related to the ecological resources of Dokdo and explores their inexhaustible potential to help raise readers' awareness of our ecological sovereignty.



## Living Resources

### •• Dokdo Sea, a Paradise for Marine Life

©Naver



▲ The body length of humpback shrimp ranges from 130 to 190 mm, and its shell has red horizontal patterns on an orange background.

The sea area around Dokdo is influenced by the East Korea Warm Current, which flows north to the east coast, and the North Korea Cold Current, which flows south from the north, so warm and cold water coexist, making it a good environment for various types of marine life, including seaweed, to live. In addition, according to Sim Su-hwan, a researcher of Korea Institute of Science and Technology (KIOST), the sea around Dokdo has richer nutrients due to the intersection of deep water and surface water,\* allowing a variety of marine life to inhabit it. Just as there is a lot of carbon dioxide dissolved in cold coke, there is more oxygen dissolved in the cold sea. Therefore, in deep water, the deepest and coldest part of the ocean, more plankton and bacteria can live, and creatures that consume them as food can likewise live there.

According to the Ministry of Oceans and Fisheries, as of the end of 2018, a total of 520 species of marine invertebrates have been discovered on Dokdo. Among these, the most representative type of marine life is Dokdo shrimp. People may erroneously assume that Dokdo shrimp refers to one species, but in fact, Dokdo shrimp refers to three species caught in the waters around Dokdo: humpback shrimp, morotoge shrimp, and spiny lebbeid. Humpback shrimp's forehead horn is long and curved upward, with a white tip that is split

in two. In addition, their carapace\* has multiple white spots on the left and right, which is the biggest feature that differentiates them from other shrimps. Humpback shrimp, like other Dokdo shrimp, is a high-quality shrimp mainly consumed as food. Professor Khim Jong-seong of the School of Earth and Environmental Sciences at Seoul National University says, "Dokdo shrimps, which live in the deep sea at a depth of 300 meters, accumulate more fat in their bodies and have a strong umami flavor and good texture, so they are highly valuable as marine products." For humpback shrimp fishing, which is the only type on Ulleung Island that can be done all year round, as much as 30 kg can be caught at a time. Thus, humpback shrimps are the most expensive because they are caught less than regular shrimp, recording an average of 400 to 500 tons (1t=1000kg) per day; they are also the largest in size, making them rare and popular. The Dokdo shrimp served at the Blue House dinner even caused protests from the Japanese government at the time. However, Professor Khim explains that the significance of this is that the U.S., which has an influence on the political situation in Northeast Asia, consumed fishery products caught on Dokdo, contributing to the perception that Dokdo is a Korean territory. In other words, Dokdo shrimp served as an important opportunity to publicize who holds Dokdo's sovereignty.

There is something else that is hard to find in the waters around Dokdo, beyond Dokdo shrimp. It is the North Pacific right whale. The adult North Pacific right whale reaches from 17 to 18 meters in length and weighs from 80 to 100 tons. These whales are distributed from temperate to cold zones, such as the Sea of Japan, East China Sea, and Sea of Okhotsk, and are known to consume small crustaceans concentrated near the surface by slowly passing by. The northern right whale is a whale with historical significance. Professor Khim said, "In the 17th century in Europe, as the population of whales in the Atlantic and other areas decreased due to overfishing, it was necessary to develop new fishing grounds, and Western whaling ships gradually began to turn their eyes to the East Sea." He further explained, "The whales mainly caught at this time were North Pacific right whales, which are gentle and often come to the surface



to breathe.” In this process, the French whaling ship Liancourt discovered Dokdo, an island that was not on their charts, in January 1849, and this discovery became the impetus for Dokdo to become known in the West as “Liancourt Rocks.” In other words, the North Pacific right whale is the whale that first brought White people to Dokdo. However, after it became known that Dokdo was a haunting area for North Pacific right whales, Japan and Russia began indiscriminate whaling, putting them on the verge of extinction. The International Union for Conservation of Nature (IUCN) said that there are currently only about 5,000 North Pacific right whales left in the world. Although the global population has become very rare, North Pacific right whales have been appearing in the East Sea for a long time, leaving historical records and informing the world of the existence of Dokdo.

\*Deep water and surface water: Deep water is seawater that flows slowly in the lowest part of the seafloor due to the difference in density of seawater. Surface water is seawater in the surface layer of the ocean and has greater fluctuations in temperature and salinity than deep water.

\*Carapace: The external skeleton that covers the outer part of the crustacean body.

### ● A Resting Place for Migratory Birds in the Sky

©doopedia



▲ The head, chest, abdomen, and body of black-tailed gulls are white, and the back and wings are gray. Also, they have a body length of about 46 cm and a wingspan of 37 cm and live in the sea, coasts, and rivers, eating fish, insects, and water plants in groups.

Have you ever heard that Dokdo is the home of birds? In fact, Dokdo is home to a surprisingly large number of birds considering its small area. According to the Ministry of Environment, a total of 183 species of birds have been identified so far on Dokdo. Dokdo is a

breeding ground for a large population of black-tailed gull, Swinhoe’s storm petrel,\* and streaked shearwater,\* and because it is a stone island, very few people live there, so it maintains its natural biota. In addition, Dokdo is on the migration route of migratory birds traveling between the north and south, serving as a relief island for migratory birds that have no other place to rest. It has biologically important value, as it is located on the Pacific and East coasts, which are included in the migration route used by migratory birds in Korea, Siberia, Alaska, North America, Japan, China, Southeast Asia, and Australia.

If you go to the East Sea of Korea and Jeju Island, you can see seagulls rushing toward humans to snatch Saewookkang, a famous snack made by the Korean company Nongshim. These are black-tailed gulls, a representative bird that inhabits Dokdo. Black-tailed gulls, a migratory bird, use Dokdo as their hometown from March to July. In Korea, they are called cat-gulls because their cries are similar to those of a cat. Black-tailed gulls, whose breeding season begins each May, raise a voice of caution by spraying excrement on visitors without fail. However, once all the visitors leave, the entire Dokdo area turns into a playground and hunting ground for black-tailed gulls. In this way, the black-tailed gulls stay on Dokdo for about three months, incubate eggs, hatch chicks, and give birth to new life, so it is also called the “Dokdo keeper.” During this time, 70 percent of Dokdo’s vegetation is wheatgrass, which is the main material used for black-tailed gull nests, and it is wheat that is not eaten by humans. Strangely, however, around July, when the black-tailed gulls leave, Dokdo’s vegetation also begins to change. The wheatgrass disappears and barnyard grass, a type of rice, dominates the island. According to an interview with researcher Lee Jung-hyo of the National Institute of Environmental Research in a Korea Broadcasting System (KBS) article titled “Dokdo’s vegetation changes rapidly following the black-tailed gull,” barnyard grass appears in the places where wheatgrass had been. Lee explains that its role is to provide food for other migratory birds that fly in. In other words, the black-tailed gull stays on Dokdo for three months and changes Dokdo’s vegetation, providing a home and food for other migratory birds.

\*Swinhoe's storm petrel: A bird whose entire body is dark brown. It mainly eats animal food such as saltwater fish, crustaceans, and mollusks. It breeds on islands off the coast, and in Korea, it lives on Dokdo in the East Sea.

\*Streaked shearwater: The forehead and head of this bird are black-brown, and the feathers are mixed with white. It survives by eating fish such as sardines and seaweed and is a common summer bird that lives in the East and West Seas of Korea.

## Plants That Resemble the Tenacity of Koreans

Dokdo does not have much soil and has a steep slope, so despite heavy rainfall, there is a shortage of water. Therefore, it is a difficult environment for plants to take root and live in. Nevertheless, Dokdo offers a plant-friendly environment where 50 to 60 species of plants, including seashore spatulate aster and camellia, live. Then how many plants were able to take root firmly on Dokdo, which seems like a barren place for plants to survive? First of all, Dokdo is a volcanic island that rose from 2,000 meters under the sea 4.6 million years ago. At the beginning of Dokdo's creation, a volcano erupted and hot lava spewed out. After the lava was cooled by wind and rain, a bare land was formed. After that, Dokdo finally became an island where plants could sprout. Just as people traveled by boat in the East Sea to get to Dokdo, plants also arrived on Dokdo by riding the wind, ocean currents, or through bird droppings as means of movement.

Then what was the first plant to arrive on Dokdo? It was the stone crop. The stone crop grows well even in a small amount of soil in crevices of rocks. Therefore, it is considered a pioneer plant that first migrated and settled on Dokdo. Professor Pak Jae-hong of the School of Life Sciences at Kyungpook National University says, "At the very beginning of Dokdo's creation, the land on Dokdo was mostly made up of rocks, and even the little amount of soil was mostly mixed with stones and was very rough. However, because the seeds of the ground pine flower were very small, they were able to germinate after coming from the Korean Peninsula through the wind and settling in between the cracks in the rocks." In addition, stone crop is a succulent plant that stores water in its roots or stems to adapt to dry climates. Because of this, it was able to grow well even on Dokdo, which lacks fresh water. On the other hand, stone crop also has significance as a companion plant. As the stone crop took root on

Dokdo, it began to break down the rocks on Dokdo, and the broken rocks turned into soil, allowing other plants, especially trees, to take root.



©Pak Jae-hong

▲ Stone crop is a perennial herb that grows on seaside rocks. It is a small plant about 5 to 10 cm tall that blooms with yellow flowers from May to July.

The evergreen spindle tree was the first tree to take root on Dokdo, thanks to the Dokdo's pioneer plant. The leaves are long, oval-shaped, about 3 to 7 cm long, thick, and dark green with a glossy surface. Evergreen spindle trees are strong against sea winds and salt water and grow well in wetlands and dry areas. Thanks to this, evergreen spindle trees were able to grow well even in Dokdo's strong sea winds. Evergreen spindle tree seeds flew from the eastern part of the Korean Peninsula on ocean currents and first took root in Dokdo, then spread to Ulleung Island. Meanwhile, the perennial tree that grows on Dokdo has important meaning under international law because it grows on Dokdo, unlike on the Korean Peninsula. Professor Pak says, "Evergreen spindle trees are a condition for Dokdo being recognized as an island rather than a reef. According to international coastal law, the conditions for an island are that people must be able to live on it freely, there must be fresh water, and lastly, there must be a natural forest that was originally formed by the laws of nature, not artificially formed by humans." In other words, the reason why Dokdo can be recognized as an island by meeting the final conditions under international law is because it has a natural forest, a pure forest of evergreen spindle trees. Accordingly, Dokdo, which was once barren, is now recognized as a proper island inhabited by various plants.



©OhmyPhoto



▲ The evergreen spindle tree is a short evergreen tree that grows about 2 to 3 meters tall at the foot of coastal mountains near the eastern part of the Korean Peninsula and Dokdo.

### Natural Resources

#### Gas Hydrate, the Hidden Research Resource

For a stretch of about 130 meters, white solid masses lie between 400 and 1000 meters underwater in the southern part of the Ulleung basin.\* At first glance, they can be mistaken for dry ice, but they are actually gas hydrates. Gas hydrates are formed when sedimentary deposits from the decay of microorganisms in the deep ocean meet with low-temperature seawater. When water molecules crystallize in the low-temperature seawater layer, a void is formed. Gas molecules then enter the space and are cooled. Gas hydrates are also called methane hydrates because they are mostly made up of methane. Gas hydrates are found around the world, including in the Arctic, Antarctica, Russia, and the East Sea near Dokdo, Korea. The reserves in Dokdo are estimated to be enough to last for more than 500 years at the current rate of energy consumption.

The reason for the large deposits of gas hydrates in Dokdo is due to the geological features of Dokdo. They usually form on the deep seabed at depths of more than 2,000 meters. Thus, the ocean at the edge of the continent is a good place for gas hydrates to form because the pressure is high and the temperature is low. The main depth zone of Dokdo is 2,000 meters, which is deep

enough to provide gas hydrate appropriate temperature conditions to be cooled. In addition, the remains of organisms that exist in large quantities in the deep seabed are the source of gas hydrates. Methane gas, produced by bacteria breaking down the remains of organic materials, combines with water molecules to create gas hydrates. The gas hydrate forms when methane gas is trapped in water molecules in a low temperature and high-pressure environment. When the gas hydrate is pulled out to the ocean, the temperature rises and the pressure decreases, causing the methane gas to be released and catch fire. Methane gas can also be used as fuel. In the early 2000s, gas hydrates were hyped as a potential energy source because of their expansive tendency. When exposed to atmospheric pressure, gas hydrates can expand up to 136 times their original size. This means that only 1 ton of gas hydrate is needed to produce 136 tons of methane gas. However, as research into gas hydrates as an energy source progressed, their negative effects on climate change were revealed over time.



▲ Gas hydrates easily catch fire as methane gas is emitted in high-temperature and low-pressure environments.

©Green Living Answers

Studies have shown that gas hydrates are difficult to handle and can have adverse effects on the environment, so it is too early to use them as an energy source. In general, studies have shown that methane gas can leak or vaporize during the mining process, so it is important to handle it carefully. Researchers agree that obtaining gas hydrates is a laborious process. Obtaining gas hydrates involves a series of steps, including placing the gas hydrate in a specially designed container that controls

temperature and pressure, separating the gas from the sediment, and then separating methane gas from other gasses mixed together. Regarding this, Joung Dong-joo, a professor in the Department of Oceanography at Pusan National University, explains, “As the global temperature rises, there is a risk that the methane cooled in the gas hydrate will melt and leak into the seawater or atmosphere.” In fact, methane gas causes a greenhouse effect 85 times stronger than carbon dioxide. In other words, even a very small amount of methane can rapidly accelerate the greenhouse effect. In addition, there is trepidation because methane gas can be lost while pumping the gas hydrate above the ocean, and then it will not function properly as an energy source. Professor Joung expressed concern by saying, “When the gas hydrates present in the sediments of the ocean are scraped up with a net and come up to the surface, they are exposed to high temperatures and low pressures and become melted. When the methane gas is vaporized and released into the seawater or atmosphere, the final amount of methane gas obtained on the ground may not be as expected.” As such, due to the difficulty of mining and using gas hydrates, the research paradigm has recently shifted to creating gas hydrates. Creating gas hydrates involves a series of steps as follows: collecting methane gasses in places where a lot of methane is generated, such as animal breeding farms, and making them into the shape of hydrates, then storing them on the seabed at a depth of 600 meters to 700 meters with a stable water temperature. At this time, when the severity of global warming is increasing day by day, the shift in research flow toward devising new methods to reduce greenhouse gasses in the atmosphere based on the characteristics of gas hydrates rather than using them as fuels is quite noteworthy.

\*Ulleung Basin: An undersea basin terrain with a depth of more than 2,000 meters, located in the southern part of Ulleung Island.

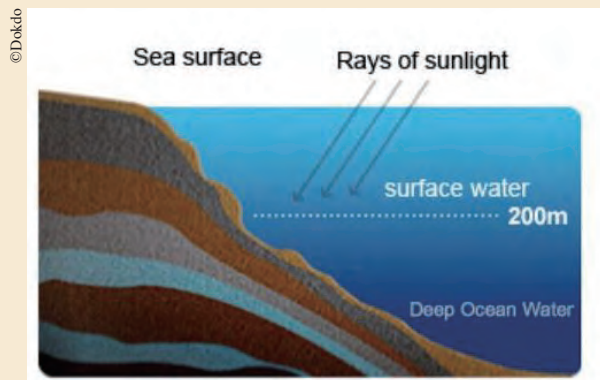
### 🌿 Dokdo Deep-sea Water, a Valuable Resource with Many Uses

The “Dokdo Toner” at the Korean health and beauty store, Olive Young, catches people’s attention because it is made with Dokdo deep-sea water and is less irritating to the skin. How does Dokdo deep-sea water have such nourishing minerals that help soothe the skin? Deep-sea water can only be obtained from the ocean at a certain depth, meaning that it is not a ubiquitous resource. The sea near Dokdo is the most suitable place to obtain deep-sea water because it is the deepest among the Korean territorial waters. The average depth of the East Sea, where Dokdo is located, is 1,684 meters, which is deeper, compared to 44 meters of the west coast and 101 meters of the south coast.

Deep-sea water that is produced more than 200 meters below the surface, where there is no effect from external influences such as wind, has three main characteristics: stability, abundant nutrition, and cleanliness. Deep-sea water contains abundant nutrients because organic matter such as carcasses and excrement of animals and plants living on the surface sink and turn into nutrients such as nitrates, silicates, and phosphates and accumulate. Unlike surface water that is affected by rain and wind near the sea surface, deep-sea water is formed in a favorable condition of stable water temperature and high pressure. Moreover, it is scarcely affected by external factors, and it is free from pollution as a result. Water more than 200 meters beneath the sea surface is classified as an aphotic layer, where sunlight cannot pass through. Therefore, the photosynthesis of living things cannot occur, and thus marine organisms such as phytoplankton and algae cannot live there. Due to the lack of marine creatures, various pathogens that feed on those organisms can hardly reproduce. Because of these factors, deep-sea water contains fewer organic contaminants than surface water. Nutrient-rich deep-sea water does not always stay below the surface. Sometimes it rises above the surface, and this is called the Dokdo effect. The Dokdo effect, which occurs in the sea around Dokdo, is the phenomenon of the upwelling effect in which seawater moves when strong winds blow and its direction moves away from the coast, causing deep water to rise to the



surface to fill the void. When upwelling occurs, plankton thrive in the spot where the deep-sea water rises and the marine life that feeds on the plankton becomes abundant, creating excellent fishing grounds. In this way, the beneficial composition of deep-sea water has a positive effect on the surrounding ecosystem because of the Dokdo effect.



▲ Sunlight cannot pass through an aphotic layer where deep ocean water exists.

Mineral-rich deep-sea water can be used not only for drinking water and cosmetics but also for power generation processes that produce electrical energy. The process is called sea water temperature difference power generation, referring to the method that takes advantage of the fact that the temperature of the seawater varies depending on the depth. The average temperature of the surface water is from 25 to 30 C throughout the year, and that of the deep-sea water is from 5 to 7 C, with an average difference of about 15 C. According to the report “East Sea in Ocean Science” (2023) published by KOIST, the sea temperature differences generation takes advantage of changes in the state of ammonia. Ammonia exists as a gas at room temperature, but at low temperatures, it cools rapidly and turns into a liquid. The generation process begins with turning ammonia, which exists in a liquid state, into a gas using relatively warm surface water. The pressure of the ammonia vapor produced when the gas is generated mobilizes the turbine to produce electricity. Afterwards, the ammonia gas is cooled by the cold deep-sea water pumped from a depth of 1000 meters and turns back into a liquid state. In

this way, seawater with different temperatures is used to change the state of ammonia and produce electricity. As such, deep-sea water is a practical resource that can generate electricity for human needs beyond being consumed as drinking water.

### 🌿 Manganese Nodule, a Mineral Resource Bearing Traces of Life

Manganese nodules are fueling the 21st century gold rush. Currently, China, the United Kingdom, Canada, and others are all vying for control of these valuable resources. Manganese nodules are lumps of various rare metals and are scattered from 4 to 6 km below the sea including the Pacific and Indian Oceans. In Korea, the minerals are buried in the deep seabed 2,000 meters below the sea near Dokdo. They are recognized as valuable resources in that they contain metals such as nickel, copper, and cobalt, which are the basic materials for high-tech industries. Manganese nodules grow in circumference by 1-10 mm every 1 million years. Therefore, they have to last more than 10 million years to become the size of an adult's fist.

Manganese nodules are made of metal components dissolved in the form of ions in seawater. After the ions precipitate to the deep, they go through physical and chemical reactions, forming manganese nodules. These black metal masses are found mainly on the deep seabed, far away from the continents, rather than on the continental shelves that are closer to the continents. The continental shelf is the part of the continent that is submerged in seawater, and it refers to the terrain of the seabed with a slow grade and a maximum depth of 200 meters. On the continental shelf, sediments such as living carcasses and floats accumulate relatively quickly. As a result, before metal oxides surround the byproducts of living things, sediment covers them. In contrast, in the deep seabed, sediments accumulate slowly, less than 7 mm every 1,000 years, so the byproducts are not covered by the sediment and can successfully combine with metal ions. The reason for this is not clear, but it is speculated that the creatures under the sea that roam in search of food kept touching the manganese nodules, changing their location little by little, so that they were not covered by sediments.



▲ Manganese nodules have a unique structure in which the byproducts of living things such as shark teeth and whale bones form the core and manganese and iron oxides surround it.

The manganese nodules in the deep seabed come up to the sea through the process of mining. Mining involves the process of condensation, through which manganese nodules collect on the seabed, and lifting, which raises the collected nodules from the seabed to the sea. Of course, there are also spectroscopic stages that break down nodule particles to a certain size or sort out sediments before

transporting them from a condenser to a spectroscope.

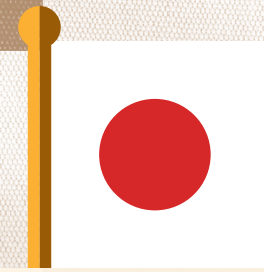
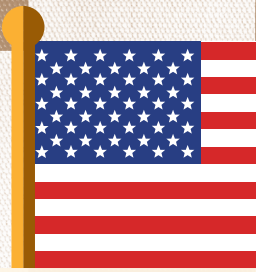
In Korea, KOIST worked to develop the world's first spectroscopic technology that could effectively lift manganese nodules onto ships in 2016. The manganese nodules collected by the mineral extraction robot "Minaro" from the deep seabed are gathered in an intermediate storage buffer system installed at a depth of 500 meters. Then the nodules are pulled up through a pipe-shaped "spectroscopic riser" and are transported to the ship. After that, a series of processes are at work, involving separating the nodules from the seawater, discharging the seawater, and obtaining the final metals. The metals selected through this process are used to make lithium-ion batteries, which are core components of smartphones and electric vehicles. As the demand for electric vehicles increases and the price of key minerals of lithium batteries soars, the economic value of manganese nodules shines even brighter. The endless potential of the manganese nodules is bringing new hope to Korea, which suffers from 80 percent dependency of metal imports.

"A country not only has sovereignty over its territory and territorial waters but also has rights to the plants and animals born and raised there," says Professor Khim. In order to claim ownership of the ecosystem within a country's territory, objective research data is needed to prove that "some living or non-living thing 'exists' there." In other words, in order to exercise ecological sovereignty over Dokdo, people must first understand its ecosystem through academic research. However, unfortunately, the true value of Dokdo, as described by researchers, is often obscured by the political controversy surrounding it. Public attention is essential for ecological sovereignty to reach its full potential, as it can serve as a driving force for the development of various studies aimed at discovering further assets of Dokdo. The Argus looks forward to the day when Dokdo can be proudly named on the list of world natural heritage sites thanks to the world's interest in Dokdo's pure value. 📖

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# Territorial Dispute over Dokdo: South Korea's National Identity Amidst International Challenges



By Kim Su-yeon & Kim Jun-hong

*Associate Editors of Theory & Critique Section and Social Section*

**T**erritorial issues are a very sensitive and controversial matter around the world. This is because territory is a matter related to the existence of a nation, and at the same time, is a basic element that constitutes a nation. In this context, the dispute over the possession of Dokdo comes to mind in the relationship between South Korea and Japan. While Dokdo is indisputably within the territory of South Korea, Japan continues to assert its territorial claims, with an increasing degree of assertiveness. Especially noteworthy, following the U.S.'s adoption of the notation "Sea of Japan" for the East Sea, the Dokdo issue has evolved from bilateral consultations between South Korea and Japan into a trilateral concern that includes the U.S., underscoring the increased significance of determining South Korea's appropriate stance. The Argus conducts a diachronic analysis of the evolving stances of South Korea, Japan, and the U.S. regarding the conflicting territorial claims over Dokdo, with the aim to gain insight into the international relations surrounding this matter and to identify the optimal political and diplomatic strategies for South Korea to protect its territory.



## 1. Treaty of San Francisco in 1951

"Japan's territorial status over Dokdo was confirmed through the operation of the Treaty of San Francisco," as explained on the website of the Japanese Ministry of Foreign Affairs. Japan contends that the Treaty of San Francisco guarantees ownership of Dokdo, and this assertion is bolstered by a letter from the U.S. Department of State. The Treaty of San Francisco, signed in 1951 between Japan and 48 allied nations with the aim of concluding World War II, encompassed several key provisions. Notably, it recognized the independence of the Korean Peninsula and delineated the boundaries of Japan's territory. The Dokdo issue has been a long-standing dispute between South Korea and Japan. Meanwhile,



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▲ The Treaty of San Francisco was signed in 1951 as a purpose of concluding World War II.



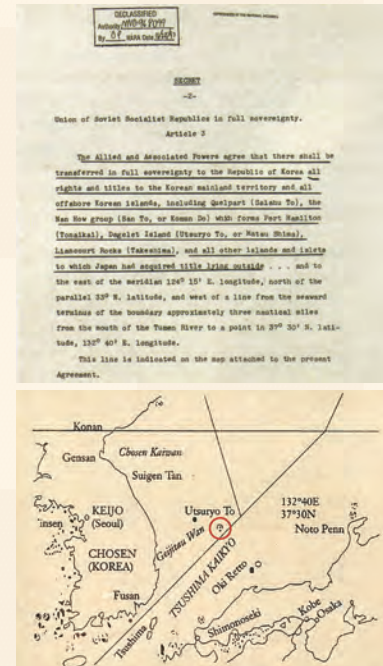




the U.S. has maintained that the Dokdo issue is a matter for South Korea and Japan to resolve. However, there are interpretations that the ambiguous stance of the U.S. after the end of World War II has contributed to the dispute over the dominion of Dokdo.

After the end of World War II, the Treaty of San Francisco underwent multiple revisions, with the U.S. playing a pivotal role. The initial wording of the draft regarding the status of Dokdo explicitly stated, "Japan must return Dokdo to Korea." The first draft, written in 1947, stated, "Japan renounces all rights and titles over South Korea, and also renounces all Korean coastal islands, including Ulleung Island, Dokdo, Geomun Island, etc." At that time, the draft even included a map showing Dokdo as Korean territory. However, in the sixth draft written in 1949, Dokdo was suddenly declared as Japanese territory. It read, "Japan's territory consists of four major islands: Honshu, Kyushu, Shikoku and Hokkaido, also including Tsushima, Takeshima, Okirito and Sado." The dominion of Dokdo was suddenly transferred to Japan. In the final treaty signed afterwards, Dokdo was not stated clearly. It stated, "Japan shall declare Korea's independence, and renounce all rights, titles and territorial claims to Korea, including Jeju Island, Geoje Island and Ulleng Island," omitting any mention of whether Dokdo was a Korean or Japanese territory. Japan claimed that it recognized Dokdo as Japanese territory since it was not explicitly designated as a part of Korean territory, and later used this as the primary rationale in the territorial dispute over Dokdo.

While the draft of the treaty has been overturned on several occasions, the position on Dokdo's territorial rights has also been mixed within the U.S. Department of State. Some officials objected to including Dokdo as Japanese territory, expressing concerns that it could potentially lead to future disputes. The question arises: why were the initially clear territorial rights over Dokdo be expressed differently, ultimately leading to territorial disputes? Underlying this was the Cold War rivalry between the U.S. and the Soviet Union, which contributed to the politicization of the territorial issue. After the end of World War II, the positions of the U.S. and England, which played a leading role in treaty negotiations, were relatively clear. With the aim of forcing Japan to return the territories it had seized, they specified the territorial limits of Japan. However, when the Treaty of San Francisco was being drafted, the mood was quite different. At that time, the Cold War between the U.S. and the Soviet Union was intensifying, and communist regimes in the north of the Korean Peninsula and China began to rise in power. Especially after the outbreak of the Korean War\* in 1950, anti-communist movements by the allied powers continued, which also influenced the signing of the treaty afterwards. The Treaty of San Francisco was also strengthened in its anti-communist orientation, omitting territorial restrictions, reparations, and other punitive measures against Japan. During the treaty-signing process, the U.S., viewing Japan as a strategic ally against the communist bloc, came to regard Japan as a bulwark and partner in the anti-communist front. As a result, the territorial issue, which was originally the essence of the treaty, was blurred and became entangled in political ideologies. Woo Jun Hee, a visiting professor at Hankuk University of Foreign Studies, says, "Since the Cold War, the U.S. has been allied with both Japan and South Korea. This is because, given the issues of security cooperation and trust between the allies, it is more practical to take a somewhat ambiguous position and claim to



▲ The previous drafts of the Treaty of San Francisco dealt with the disposition of former Japanese territories. There was also an attached map to show the boundary between Japan and Korea.

©Dokdo Takeshima Liancourt Rocks Dispute

\*Korean War: The war on the Korean Peninsula between North and South Korea, lasting from June 25, 1950, to July 27, 1953.



be neutral,” explaining the background of the change in the U.S. position. It was actually from this time that the position of the U.S. towards the Dokdo issue shifted toward strategic ambiguity, a position it maintained for several decades.



## 2. Enactment of Takeshima Day in 2005 and the Beginning of the Distortion of History Textbooks

On March 16, 2005, the Shimane Prefectural Assembly, a local government body in Japan, passed a bill establishing February 22 as “Takeshima Day.” In response, Japan’s central government said, “This is an independent action taken by the local council, and it is beyond the purview of the central government to intervene.” The Japanese government’s stance of avoiding responsibility on the grounds that it falls outside its jurisdiction has quietly strengthened the claim that Dokdo is Japanese territory. This escalated into a conflict between the central governments and local governments of South Korea and Japan, bringing the territorial issue to the forefront. In 2008, the Japanese Ministry of Education, Culture, Sports, Science and Technology designated Dokdo as “Japan’s territory” in the new middle school social studies guides and explanatory materials, which have been used since 2012. As such, Japan’s ambitions for Dokdo became progressively apparent.



▲ Japan holds annual events to celebrate “Takeshima Day.”

The Japanese government’s territorial claims to Dokdo began in 1993, but it was not until 2005 that these claims began to manifest prominently. Over a span of approximately 17 years, from the administration of Junichiro Koizumi in 2001 to the present, Japan’s defense white papers have consistently asserted that Dokdo is Japanese territory. It is worth noting that South Korea has also maintained a steadfast response to Japan’s contentious claims. In 2006, when a Japanese probe attempted to enter the sea surrounding Dokdo, which is part of South Korea’s territorial waters, South Korea’s leader at the time, Roh Moo-hyun, ordered a guard around Dokdo and the destruction of all incoming Japanese probes. Alarmed by South Korea’s assertive response, Japan abandoned its exploration plans, and the conflict came to an end. However, there was a larger ember hidden in the seemingly extinguished fire. According to Yuji Hosaka, a professor at Sejong University, Japan’s plan to approach Dokdo through a probe was influenced by Shinzo Abe. Professor Hosaka explains, “It is true that Shinzo Abe, who was the chief cabinet secretary at the time when Junichiro Koizumi was prime minister of Japan, made such a proposal.” With the inauguration of the Abe administration in December 2012, debate on the issue began in earnest, with calls to elevate Takeshima Day as a nationwide event.

Since the Abe administration took office, attempts to distort history have become more frequent and intense. This stems from the characteristics of the political forces. Former prime minister Abe belongs to a neo-conservative political faction that emerged in the mid-to-late 1980s within the Liberal Democratic Party, Japan’s conservative party. The neoconservatives are a young political force that seeks to rewrite Japan’s history as a postwar generation that did not directly experience World War II. In other words, it seeks to revise history and restore Japan’s declining status. In the early 1980s, various hidden evils of Japanese society began to surface due to the prolonged economic downturn. Under these circumstances, Japan was in danger of losing its status as the next hegemon following the U.S. Shinzo Abe sought to restore Japan’s national standing based on the “Normal State Theory.” The Normal State Theory



▲ Junichiro Koizumi served as Japanese prime minister from 2001 to 2006.



involves a strategy to reinstate the military, which was prohibited by Article 9 of the Japanese Constitution, and to wash away the negative image that resulted from Japan's past unjust actions, such as colonial rule and wars of aggression. The neoconservative view of history, as evidenced in the Dokdo issue, serves as a means to achieve normalization. Historical revisionism is a movement that challenges established historical facts, denying their existence, or modifying existing conventional wisdom. The revisionist view of history coincides with the approach used by Japan's neoconservative forces to gain favor among the Japanese public. The neoconservatives employed a strategy of provoking Japanese sentiments and complexes. By proclaiming slogans like, "Building a dignified Japan through national renovation" and "Japan not bound by the past," they tried to wash away the image of a nation that suffered defeat in World War II, and sought to transition into a new era, captivating the populace with a new political approach. Dokdo has become a focal point for these neoconservatives and a convenient target for their objectives.



▲ Shinzo Abe has the longest term history as Japanese prime minister.

On the other hand, the U.S. has remained neutral on the Dokdo issue from the beginning. The U.S. has adopted an attitude of "strategic ambiguity," which is one of its regional strategies in Asia given the need to consider both the relationship between South Korea and Japan. In 2008, when the South Korean government protested the change in the marking of Dokdo from South Korean waters to "undesignated" sovereign territory, the U.S. Board on Geographical Naming maintained a neutral stance, stating, "The U.S. will not intervene in the Dokdo territorial issue because it is a matter that should be resolved through negotiations between South Korea and Japan." With this perspective, some argued that the apparent neutrality of the U.S. was, in fact, a favorable response to Japan's efforts to elevate the Dokdo issue's importance.

South Korea's protest against the U.S. decision opened the door for the Dokdo issue to be characterized as a "dispute." If Japan's unilateral territorial claims are reframed as disputes and brought to the attention of the international community, it could potentially require South Korea, the original owner, to prove ownership of the Dokdo, which could be disadvantageous to South Korea. This ongoing strategic ambiguity pursued by the U.S. has consistently perplexed South Korea, a nation that has suffered greatly from historical hardships.



### 3. Russian Military Aircraft's Violation of Dokdo Airspace in 2019

On the morning of July 23, 2019, five Chinese and Russian military aircraft entered South Korea's Air Defense Identification Zone.\* Among them, a Russian military aircraft trespassed into South Korea's airspace near Dokdo on two occasions. This incident made headlines as it marked the first instance of a foreign military aircraft violating South Korea's airspace and the firing of warning shots since the ceasefire agreement of the Korean War in 1953. In response to the roughly seven-minute intrusion, South Korea's air force issued a warning through the firing of 360 rounds. "South Korea's warning is extremely regrettable and unacceptable, and we will strongly protest to South Korea," said Yoshihide Suga, who was in charge of Japan's cabinet at the time, strongly opposing South Korea's response. Japan took advantage of this opportunity to assert its territorial claims to Dokdo once again, arguing that Dokdo was



▲ A Russian military aircraft entered into South Korea's airspace near Dokdo in 2019.

\*Air Defense Identification Zone: A designated area of airspace where the identification, location, and control of aircraft are required in the interest of national security.



Japan's territory and that Korea and Russia should not clash within their territory. On the other hand, in response to the violation of Dokdo airspace by a Russian military aircraft, the U.S. stated that it "violated South Korean airspace," dismissing Japan's claim that the incursion violated Japanese airspace while affirming that Dokdo airspace belonged to South Korea. Regarding the breach of Dokdo airspace, U.S. Defense Secretary Mark Esper, during the Donald Trump administration, characterized Russia's actions as a "violation of South Korean airspace" and emphasized South Korea's clear response. From the perspective of the U.S., which commands the South Korea-U.S. alliance and the ROK-U.S. Combined Forces Command, it may be a natural reaction to say that Dokdo airspace is South Korea's airspace. But such action has attracted the attention of neighboring countries, as the U.S. has long maintained an ambiguous stance on the Dokdo issue. Russia, in this instance under the Putin administration, also stated its denial of the invasion solely to the South Korean government, and did not respond to Japan's expression of its position. This led to a backlash from political circles in Japan, questioning whether the international community was recognizing Dokdo as a Korean territory.

The U.S. position on Japan's unilateral claims over Dokdo can be seen as based on thorough calculations and strategic considerations of national interests. The main concern of the U.S. regarding Asia is to address China's growing influence. In order for the U.S. to counter China in East Asia, both Japan's and South Korea's cooperation are indispensable. Professor Woo cites the "Armitage-Nye Report" (2020) published by the Center for Strategic and International Studies in the U.S., which has had a decisive impact on U.S. East Asia strategy and Japan's security policy. "In the fifth report, published a few years ago, the phrase 'equal alliance between the U.S. and Japan' was used to reiterate Japan's security role. The emphasis on cooperation with Japan stems from a geopolitical understanding to contain China," Professor Woo explains. Strategically, the U.S. seeks to counter China through alliance with both South Korea and Japan. Under these circumstances, the diplomatic battle between South Korea and Japan over who owns Dokdo is a matter of blurring the relationship between the two allies, who would play a pivotal role in the U.S. East Asia strategy of containing China. Bae Kyu-Sung, a research professor of Pai Chai University Korean-Siberian Center, adds, "The issue of Dokdo between South Korea and Japan is not a priority from the perspective of the global strategy and East Asia strategy of the U.S., nor from the perspective of national interest. The rift between South Korea and Japan, exacerbated by Japan's continuing provocations regarding Dokdo, only serves as an independent variable in the issue of alliance solidarity against the ongoing three-pronged northern alliance between North Korea, China, and Russia." The U.S., based on a thorough strategy, is engaging in the territorial issue of Dokdo between South Korea and Japan in a somewhat ambiguous manner.



#### 4. Formulation of the Notation "Sea of Japan" of the U.S. in 2023

In Japan's 2022 National Security Strategy, which was revised for the first time in nine years, the phrase "the question of territorial sovereignty over Dokdo, which is 'our country's own territory,'" shows Japan's boldness to incorporate Dokdo into its territory. In addition, the recent U.S. decision on East Sea notation reinforces Japan's ambitions. On August 15, 2023, the U.S. Department of Defense, under the Joe Biden administration, named the South Korea-U.S.-Japan military training site on the high seas near Dokdo as the "Sea of Japan," causing controversy. The U.S. used the term "East Sea" during the first training in October 2022, but changed it to "waters between South Korea and Japan" after the South Korean government protested. Conversely, during the U.S.-South Korea military training on September 26, 2022, the U.S. military listed the site as "East Sea," but changed the name to "waters east of the Korean Peninsula" after



▲ The U.S. Department of Defense officially states the usage of the term "Sea of Japan" for the East Sea.



Japan protested. There has been no consistency in the expressions the U.S. used. However, this was the first time that the U.S. Department of Defense, under Joe Biden, officially stated its intention to standardize the term “Sea of Japan” for the East Sea. The labeling of the East Sea is not solely a matter concerning the name of a location; it also poses a threat to South Korea’s territorial waters adjacent to Japan. This situation can lead to misunderstandings and inconveniences related to Dokdo, making it a problematic issue.

The decision by the U.S. Board on Geographic Naming to officially endorse “Sea of Japan” as an official name raises questions about whether the position of the U.S. on the Dokdo issue has tilted in favor of Japan. In the past, the U.S. Board on Geographic Naming has shown strategic ambiguity by using “East Sea” and “Sea of Japan” in parallel and not taking the position of either country. But in recent years it has repeatedly asserted that “Sea of Japan” is the customary name. Behind this subtle shift in U.S. stance is the fact that the U.S. and Japan are moving toward a common goal in Asia. In recent years, the U.S. has emphasized that it will further strengthen and actively utilize the Quad, a four-nation security consultative group, consisting of the U.S., Japan, India, and Australia. The Quad is a security alliance that is designed to encircle China, which transparently reflects the goal of the U.S. to contain China. Japan, from the perspective of the U.S., is playing a supporting role in achieving such goals. Fumio Kishida, who inherited the political legacy of Shinzo Abe, and is also regarded as a friend of the U.S., contributed to the creation of the Quad with his vision of an “Unconstrained Indo-Pacific.” In addition, unlike the South Korean government’s cautious attitude in light of its relationship with China in the past, Japan has taken a tough stance in its relations with China, with the U.S.-Japan alliance steadily strengthening the purpose of countering threats from China. Professor Woo explains, “Fumio Kishida’s cabinet can be seen as a more reliable ally to the U.S. than the Yoon Suk-yeol government, which has just taken office after the change of power, in terms of facilitating the achievement of the U.S.’s goals.” In essence, this political trajectory lead to the notation of the term “Sea of Japan.”

On the other hand, even after the transfer of power from Shinzo Abe to Fumio Kishida, Japan’s position on Dokdo territorial rights remains unchanged, mirroring the position it has historically held. Kishida, who has inherited the political legacy of Abe in terms of neo-conservatism, shares identical views regarding Dokdo. However, the means and methods of realizing policy objectives are different. Kishida, who served as foreign minister for five years after the formation of the second Abe cabinet in 2012, has been actively pursuing Japan’s objective of asserting claims over Dokdo even prior to assuming the role of prime minister. Shortly after his appointment as foreign minister, he elevated Takeshima Day to a central government event in February 2013. In addition, the Ministry of Foreign Affairs of Japan has promoted Dokdo videos in 11 languages through its official website, thereby supporting the Japanese government’s claim to the dominium of Dokdo. “There is a concern that the current Kishida administration will try to persuade the U.S. to accelerate its policy of turning Dokdo into a conflict zone in order to advance these past efforts,” Professor Hosaka explains. Inducing joint military training between the three countries under the pretext of the South Korea-U.S.-Japan military alliance can also be interpreted as an intention to open the way for military exercises and to turn Dokdo into a military base. Regarding this, Professor Hosaka expresses concerns, stating, “Prime Minister Kishida may become a regime that earnestly executes what was laid out by the previous Abe and Suga administrations.” In addition, Kishida, with a low approval rating, might actively assert territorial claims over Dokdo in order to bolster



▲ The Quad, officially the Quadrilateral Security Dialogue, is a group of four countries: the U.S., Australia, India, and Japan.



▲ Fumio Kishida is serving as prime minister of Japan and president of the Liberal Democratic Party since 2021.



his domestic popularity. This issue holds appeal because it can redirect public dissatisfaction with Kishida's political faction towards Dokdo while also eliciting a sense of patriotic sentiment among the populace.

The Yoon Suk-yeol government's reserved stance to the Dokdo territorial issue, which resurfaced with the formalization of the East Sea's notation by the U.S. Biden administration, reveals a divergence from the previous administration in its approach to South Korea-Japan relations. The Yoon government held a South Korea-Japan summit in May 2023 aiming to mend the strained relationship between the two nations. In contrast to the previous administration, which has been reluctant to talk about the Quad, the Yoon government has also stated that it will actively pursue security, economic, technological, and diplomatic cooperation with the Quad. This means that the emphasis of the Yoon administration's diplomatic strategy is to strengthen the alliance with the U.S. and ultimately strengthen cooperation between Japan and the U.S. However, Professor Woo opines, "With the goal of restoring or resetting South Korea-Japan relations, the Yoon government has not proposed any concrete measures, which is evident in its passive response to the Dokdo territorial issue." She continues, "Responding with the expectation that the Japanese government's position on Dokdo may change will definitely not result in a change." This suggests the potential risk that if the South Korean government does not take decisive actions to address the Dokdo issue, it may be influenced by Japan's assertion of deterrence. It is evident that Japan, which has been making meticulous efforts from various angles to make Dokdo an international dispute zone for a long time and to create a favorable international environment in support of this agenda, is highly unlikely to retract its territorial claims and be swayed by its friendly relations with South Korea.



## 5. Prospects

The Dokdo issue remains a bilateral contention between South Korea and Japan. However, the U.S., striving to maintain its influence in Northeast Asia by leveraging its strategic relationship with both South Korea and Japan, inevitably monitors the situation closely due to the substantial tensions surrounding Dokdo. Meanwhile, South Korea has adopted a more passive approach, anticipating a shift in Japan's position. Nonetheless, Japan's assertiveness and provocations regarding Dokdo have escalated significantly, resulting in a more pronounced pattern of behavior. In response, Professor Woo expresses concern about Japan's stance, saying, "Japan will continue to make Dokdo a dispute area, keeping the territorial rights of future generations regarding Dokdo in mind." Therefore, South Korea's approach to the Dokdo issue should extend beyond emotional responses and necessitates proactive steps. Professor Woo adds, "Asking the U.S., as a third party, to clearly represent South Korea's position on the territorial issue is not the answer. Regarding the territorial affairs of other states, the U.S. should take a neutral stance, rather than acting as a judge." It is important to closely monitor the internal and external dynamics surrounding Dokdo. Both government and non-governmental entities should collaborate to build an international network focused on Dokdo and work toward standardizing the international recognition of Dokdo's name.

For the people of South Korea, Dokdo is not merely a small island off the coast of East Sea. Dokdo is a symbol of South Korea's sovereignty and serves as a test of its integrity in relation to Japan. The Dokdo issue extends beyond a mere territorial dispute; it is a complex issue involving the political and diplomatic positions of various countries. The fact that Dokdo is the territory of South Korea is clear, but it is necessary to defend the territorial integrity stipulated by the Constitution. The government should strongly protest against misrepresentation and defend itself against external challenges. Marine territory is not something that can be arbitrarily ceded by the authorities; it is an element that must be safeguarded in the interest of collective sovereignty. 🇰🇷

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# Yuji Hosaka: Reliable Shield of Dokdo

By Kim Jun-hong & Park Kun-ha

Associate Editor of Social Section & Editorial Consultant

“Without logic, anything becomes nonsense.” Professor Yuji Hosaka, a naturalized Korean originally from Japan with the aim of rectifying historical misconceptions regarding Dokdo, underscores the importance of offering a rational and professional response to the issue, rather than an emotional one. For South Koreans, the fact that Dokdo is part of South Korea (hereafter Korea) is taken for granted. However, the constant provocations from neighboring countries and the political weaponization of Dokdo cannot be ignored; and it is important to maintain a proper awareness of Dokdo. The Argus aims to explore the life path of Yuji Hosaka, explaining the disputes surrounding Dokdo, historical facts, and the current and future of Dokdo research.



**The Argus: Please introduce yourself to readers of The Argus.**

**Hosaka:** Hello, my name is Yuji Hosaka. I am from Tokyo, and I came to Korea in 1988. In 2003, I changed my nationality to Korean. My name is still Japanese, but it does not change the fact that I am Korean. Originally, I was interested in history, but I wanted to have a perspective not only on the past but also on the present and future, so I earned

my master’s and doctoral degrees in political science and diplomacy at Korea University. However, even while pursuing my master’s and doctoral degrees in political science and diplomacy, I continued to be interested in history as well, so I did a lot of historical research on the Japanese invasion of Korea, the Japanese colonial period, and so on. After earning my master’s and doctoral degrees, I continued my research on various historical issues that actually have their roots in the Japanese colonial period, such as Dokdo, the issue of Japanese military comfort women, forced labor, and the study of the Japanese extreme right.

I retired from my position as a professor at Sejong University two years ago and am now an emeritus professor at Sejong University. I founded the Dokdo Research Center at Sejong University in 2009 and have been its director ever since, and I have been a member of the Dokdo Committee of North Gyeongsang Province for about 10 years. I also served as an advisor to the Dokdo Task Force of the Ministry of Foreign Affairs of Korea for about eight years.



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## [Professor Hosaka's research]



**The Argus: What research and activities have you been doing around Dokdo?**

**Hosaka:** I have been researching Dokdo since 1998 and have been doing so for 25 years now. I have been researching both the Korean and Japanese sides of the Dokdo territorial claims, and I have also been to Japan, the U.S., and Australia, as well as Korea, to find new data sources. I have collected a lot of old Japanese maps to see if Dokdo was ever shown on Japanese maps historically, and if so, whose territory it was. I have also collected a lot of important documents from the U.S. archives to get a deeper understanding of what was at stake in the Treaty of San Francisco.

Based on our research so far, I have been giving lectures on Dokdo education at various organizations such as human resource development centers and schools in Korea. I also felt that it was necessary to educate the general public about Dokdo, so I have appeared on various broadcasts, too. In particular, in a documentary special on KBS, I debated with one Liberal Democratic Party lawmaker named Yoshitaka Shindo, who is the most prominent person who claims that Dokdo is Japanese territory, and overwhelmed him with logic, making the truth of Dokdo territoriality clear.

I have been to Dokdo about nine times to date, repeating my observations and research. As the director of the Dokdo Institute and a member of the Dokdo Committee, I feel responsible for educating and informing people that Dokdo is Korean territory.



©Yuji Hosaka

▲ Yuji Hosaka, an advisor to the Dokdo Task Force of the Ministry of Foreign Affairs of Korea, has been researching on Dokdo for 25 years.



**The Argus: What is your current research on Dokdo and what issues have you been interested in lately?**

**Hosaka:** Since March of this year, I have been collecting data and analyzing Japan's claims about the "National Museum of Territory and Sovereignty," which I have been following since its establishment in 2021. The National Museum of Territory and Sovereignty was established in the center of Tokyo,

claiming that all three islands, including Dokdo and two other disputed islands in the Senkaku Islands, are Japanese territory. It was officially opened in time for the 2021 Tokyo Olympics, when many foreigners would be visiting Japan, saying that "new evidence has been found that Dokdo is Japanese territory." I am writing a paper on how wrong and distorted that statement is.



**The Argus: In 2003, you were naturalized as a Korean, but before that time, you were interested in and researching Dokdo. I would like to know how you became interested in Dokdo so long ago and how you decided to start researching it in earnest.**

**Hosaka:** My interest in Dokdo began in 1995. I was giving a lecture on Japanese culture at a university in Korea, and I was an adjunct professor at the time. One student raised his hand and asked me an off-topic question, "What do you think about whether Dokdo is Japanese or Korean territory?" I think he asked that question because the Dokdo conflict was very much in the air at the time. I answered that I did not know much about it, because I was not really interested in Dokdo. Japan was not interested in Dokdo then, and most Japanese people are not interested in Dokdo now. I promised the student that I would do some research on Dokdo and give him an answer. That was the trigger for me to start researching Dokdo. After hearing this story, my wife suggested that I should do some research on Dokdo. Over the next three years, I gradually learned about Dokdo through the Internet, and in 1998, I started reading papers and collecting evidence to study the differences between Japanese and Korean claims to Dokdo.

## [Professor Hosaka's Attitude Toward Life]



**The Argus: I assume you will be criticized for your research and life by people around you and by Japanese public opinion. How have you responded to such criticisms?**

**Hosaka:** Until 2010, my papers and books were not widely known. In Japan, people did not know what I was claiming that Dokdo is Korean territory was based on, so they disliked me quite a bit. They criticized me for damaging Japanese



©Yuji Hosaka

## People

national interests and said, “Even if you changed your nationality to Korea, you are still Japanese.” However, as my papers and books gradually became known, this negative public opinion began to change.

First of all, I started publishing books. In 2009 and 2010, I published books in Korean about the contents of the San Francisco Treaty and the Japan-Korea Agreement. From then on, the criticism of me by Japanese people who could read Korean began to fade away. In 2012, as I mentioned before, I had a debate with Yoshitaka Shindo, a member of the Liberal Democratic Party, who is known as Japan’s expert on Dokdo, in a KBS documentary. In the process, Shindo realized that there was a logical loophole in calling Dokdo a Japanese territory. Little by little, the Japanese realized that they could not simply criticize me through his mouth.

In 2016 and 2021, I wrote and published a book about Dokdo in Japanese. Because I changed the Japanese language from pre-modern times to modern times, I received a lot of attention from readers. Because of this, the Japanese media asked me for interviews. I refute the Japanese government’s claims, but they cannot easily criticize me because I base my claims on all the evidence and data.

### [Professor Hosaka's Fact Check]



**The Argus: How do the Japanese government, people, media, etc. view Dokdo?**

**Hosaka:** The Japanese government has maintained its position that Dokdo is Japanese territory, especially since Japan’s Abe administration, a far-right party, came to power. Even if the current Prime Minister, Kishida, does not have ultraright leanings, the influence of the ultraright from the Abe administration is still hard to ignore. The Japanese government continues to assert its position that Dokdo is Japanese territory through actions such as the “National Museum of Territory and Sovereignty,” and refuses to release any documents that contradict it.

Basically, there are very few people in Japan who care about Dokdo. The majority of Japanese people do not care because they hardly ever see Dokdo. In Korea, they see Dokdo every day in the weather forecast, even indirectly, but not in Japan. A weather forecast is made for a place where people from your own country live. Since there are no Japanese people living in Dokdo, there cannot be any

weather forecast for Japan. To sum up, it is not easy for Japanese people to have the experience of feeling Dokdo as their territory.

Sometimes, when a Japanese government-led poll is released, it may appear that a very large number of Japanese people say that Dokdo is Japanese territory. However, there is a big problem with the methodology of these polls. The first poll on Dokdo was conducted in 2013, and it is not entirely reliable because the reasons why Dokdo is Japanese territory are given up front, and the answers are given afterward, so it is a bit more like brainwashing.

There are not many media outlets that openly claim that “Dokdo is Japanese territory.” There is a Japanese ultraright newspaper, *Sankei Shimbun*. Other newspapers are just reporting objectively. The Japanese media is well-researched before reporting, making it difficult for them to be critical of Korea’s claims to the islands.



▲ “National Museum of Territory and Sovereignty,” established in 2021, is located in the center of Tokyo, officially arguing Dokdo as Japanese territory.



**The Argus: What is the most common basis for Japan’s claim that Dokdo is its territory, and what is the truth?**

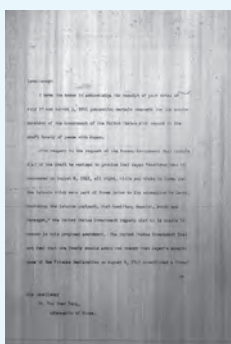
**Hosaka:** There is a document called the “Rusk Letter,” and on August 10, 1951, a month before the Treaty of San Francisco, the U.S., through Dean Rusk, then the U.S. Secretary of State sent a secret document to Korea, but not to any other country, stating that “Dokdo is Japanese territory.” The document is now publicly available because the U.S. declassified it after 25 years. Japan used the Rusk letter as a way to argue that the U.S. had made Dokdo a Japanese territory. There is no direct mention of Dokdo in the Treaty of San Francisco, but because the Rusk Letter, which we know was the foundation of the Treaty of San Francisco, says that Dokdo is Japanese territory, and because it informed Syngman Rhee’s regime at the time, that Dokdo is Japanese territory under the Treaty of San Francisco, that is the core of Japan’s argument.

The official U.S. view at the time was that it was not part of the drafting of the San Francisco Treaty at all, that it was an independent view of the U.S. military, and that it was



something that the U.S. could not decide on its own, but only in agreement with the allies at the time, and that it was only sent as a secret document to Korea with that knowledge. The U.S., which was supporting the Korean War, was heavily lobbied by Japan at the time, so it seems that the U.S. was persuaded by Japan to allow them to use Dokdo as a radar base if they made it a Japanese territory. But in 1953 and 1954, a group of key U.S. figures put out a document that says opposite of what the Rusk Letter says: "Dokdo did not become a Japanese territory."

Japan is currently working to refute my claims and evidence. In 2021, the "National Museum of Territory and Sovereignty" in the center of Tokyo, Japan, announced that the Rusk Letter was not only a U.S. claim, but also a fact agreed upon by its allies, the United Kingdom and Australia. In reality, the United Kingdom, Australia, and even the Netherlands never saw the Rusk Letter from the U.S., nor did they claim that Dokdo was Japanese territory. I have been researching and writing about these Japanese misrepresentations on various sites and papers.



▲ "Rusk Letter" become the common basis for Japan's claim. Yet, U.S. disapprove it.

### [Desirable attitudes toward Dokdo]



**The Argus: The territorial sovereignty dispute over the Dokdo Islands is an emotionally charged issue for both Japan and Korea. It must have been difficult to take a non-partisan stance on this, so I am curious to know what special efforts you made to maintain logic and objectivity.**

**Hosaka:** Because of the collection and interpretation of the original materials, I do not think it is confusing because of the biased opinions of each country. It is just a difference in interpretation, a difference in explanation of what Japan said in 1905, what Japan said in 1977, and so on. It is a distortion by one side or the other. I have been trained a lot to be as objective as possible, and when I did my master's in ancient history, my advisor trained me thoroughly in that. At that time, because I was a Japanese national, he said, "Don't do it in favor of Japan. You don't have to favor Korea. You have to look

at the data regardless of your nationality." I felt quite at ease because of that. There was actually a substantial amount of data that showed Japanese aggression. Since I was from Japan, I was concerned that I would get in trouble after interpreting such data properly, but I learned a lot at that time about how important it is as a scholar to look at the data objectively regardless of other factors.

Before I was naturalized, my advisor at Korea University put me in a position to do research outside of my country. Therefore, the materials I look at are not secondary sources, but originals, the primary sources. Determining "which side is right" in a historical dispute depends on how the original source is interpreted. In the course of my research, I was very surprised to find out that Japan was covering up and distorting historical facts. Japanese papers and internet sites were claiming conclusions that could never be drawn by reading the whole story. I thought, "It is quite possible that Dokdo is a Korean territory." In contrast, I found a lot of evidence that the Korean professor's interpretation of the primary sources was free of cover-ups and distortions. Therefore, it was not difficult to maintain objectivity.



**The Argus: What attitude do you think we, as college students and young adults in our 20s in Korea, should have toward the issue of Dokdo territorial rights and what efforts we should make?**

**Hosaka:** As students, we need to learn the truth about Dokdo and why it is Korean territory so that we can get the facts straight. From a Korean perspective, it is important to not only recognize that "Dokdo is Korean territory," but also to think of it as an island that must be protected. In this era of increased military cooperation between Korea and Japan, it is important to remember what Dokdo means in this context. In 1901, Japan incorporated Dokdo into Shimane Prefecture with the intention of using it as a military base, and it has been used as such. In 1949, U.S. troops stationed in Japan attempted to use Dokdo as a military base, and in the process, Japan offered to build a radar station so that the U.S. could use it as a military base if the U.S. would return it to Japan. Despite this history of aggression, I think the level of awareness of Dokdo territorial sovereignty among young Koreans today is very minimal. We need to learn more about and love Dokdo, the island that needs to be protected. To do this, we need to go to Dokdo. My thought after nine visits is that you have to go to Dokdo at least once to develop a love for it.

## People



**The Argus:** There is a saying that “history is a mirror of the future.” I believe that history is indispensable in studying futurology. Therefore, I would like to hear your opinion on what you think the future of Dokdo will be in the way of reflecting the history of Korea.

**Hosaka:** “History is the mirror of the future,” meaning that history repeats itself, different but similar situations happen again and again, so it is important to know the past and to live in the present with some sense of anticipation of how the past might play out in the present. You do not have to look too far into the future, but it is very important to look at the past for five years or so and anticipate the future for five, ten years or so.

If you look back in history, during the Russo-Japanese War, which started in 1905, the waters off Dokdo became a stage, and it was actually used as a military base, including the cracking of an undersea cable near Dokdo. In 1949, during the Cold War, a U.S. official suggested to the Japanese that the U.S. use Dokdo as a military base. At that time, there were three communist camps in the world, China, North Korea, and the Soviet Union, and the U.S. was trying to unite the liberal camps in response. Such an occurrence is not exactly the same as today, but it is similar, in my opinion. The U.S.-Japan military cooperation system was created, so in the event of a


war, Dokdo, which is in the middle of the Sea of Japan, could serve as a military base, not only for Japan but also for the U.S. I think there will be a lot of military exercises based in the East Sea in the future, and Dokdo could be a perfect base for that. What initially began as a trilateral exercise will likely conclude with the U.S. distancing itself from the situation, while Japan, due to its geographical proximity, is less likely to relinquish its claims to Dokdo. In that case, there will be a bigger dispute, and if there is a dispute, it could be referred to the International Court of Justice, which is in Japan’s favor.

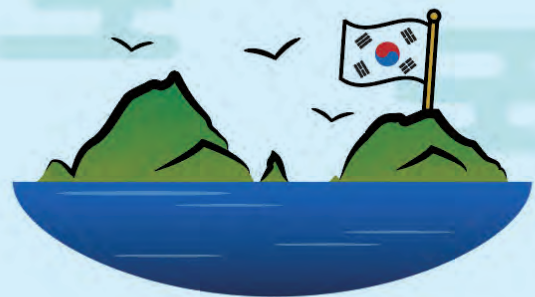
I am sorry to offer you a very bad prospect, but I think that is what history has shown us, and I think we need to prepare for it. There has never been a military alliance between countries with territorial issues, and there should not be one. This is the principle that the U.S.-Japan alliance has broken, and we need to always scrutinize the content of the alliance, think about the factors that may arise from it, and treat it with more vigilance.



**The Argus:** One final word to HUFS students and readers of The Argus, please.

**Hosaka:** We all have a part of us that cares about this country. And so do students. I believe that, so I hope you think about how rewarding it would be if the major that you are studying, the subject that you are studying can contribute not only to your own personal life, but also socially, to making Asia a better place, to making the world a better place.

Dokdo is a precious piece of Korean land. Despite the fact that the entire country knows the song “Dokdo Is Our Land,” not many Koreans know what the value of Dokdo is, why it should be protected, or, more fundamentally, why it belongs to Korea. Protecting a precious territory requires the efforts of the people. In addition to its ecological and economic value, Dokdo is also valuable as a military base and should not be taken away. In the current situation where global peace is shaken and tensions are rising, including the Russian-Ukrainian war, people must continue to make efforts to protect Dokdo as a land of peace. The Argus hopes that there will be many defenders of Dokdo who love their country and love their territory. 



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# Unmanned Underwater Vehicle: Adventurer of East Sea



By Ryu Hyo-rin

*Associate Editor of Theory & Critique Section*

At the end of June 2022, the Dokdo Nuri of the Korea Institute of Ocean Science and Technology (KIOST), which explores and researches Dokdo and nearby waters throughout the year, began operation. However, around the same time, at a director-level meeting between South Korea (hereafter Korea) and Japan held at the Ministry of Foreign Affairs Building in Seoul, Takehiro Funakoshi, Senior Deputy Minister for Foreign Affairs of Japan, protested Korea's survey of the waters near Dokdo. Japan's position is a clear interference with Korea's exploration sovereignty over Dokdo. For Korea to strengthen its exploration sovereignty in such a situation, it is necessary, above all, to revitalize Dokdo research and to know the sea near Dokdo better than anyone else.

The depth of the sea near Dokdo is more than 2,000 meters on average, making it the best place for deep-sea research in Korea, and submersibles are used to properly understand the deep sea surrounding Dokdo. In fact, on October 31, 2019, when an EC225 helicopter belonging to the 119-response department crashed into the sea near Dokdo, it was surprisingly not a person, but an unmanned submersible of a Cheonghaejin-class submarine rescue ship that searched for the seven missing people. Their adaptability, which is less susceptible to sea conditions, extends beyond rescue operations, as they are well-suited for deep-sea research. The Argus intends to provide insight into the future of seabed exploration around Dokdo by delving into the concepts, principles, and prospects of submersibles used in the exploration of this region, known for its rich seabed resources.

## Before Reading

### Exploration Sovereignty

Under the principles of sovereignty established within the Exclusive Economic Zone (EEZ), coastal states possess exclusive rights to explore and exploit living and non-living (abiotic) resources, including fisheries and mineral resources, within a zone that extends roughly 370 km from their coast. Moreover, these states are responsible for the stewardship of the resources within their coastal areas and are obligated to take measures to prevent marine pollution.





## Unmanned Submersibles: Exploring the Depths

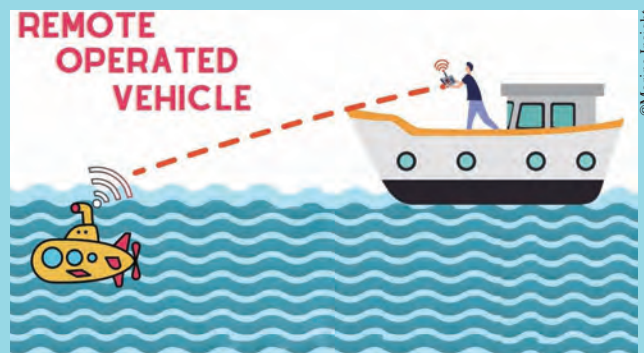
### (1) Endoscopes of the Sea, Remotely Operated Vehicles (ROVs)



▲ In James Cameron's movie *Titanic* (1997), researchers recover Rose's necklace in *Titanic* by using ROVs.

In the 1997 movie *Titanic*, an unmanned submersible recovers the necklace that Rose lost on the *Titanic* over 80 years earlier. The unmanned submersible used in this case was a Remotely Operated Vehicle (ROV). ROV refers to remotely controlled unmanned submersibles for deep-sea resource exploration and development. ROV can be broadly classified by mission and size. ROV missions include surveillance, and reconnaissance to monitor coastal or port areas, gather intelligence, identify special terrain, and detect specific objects. In addition, there is anti-submarine warfare to monitor and track enemy submarines in certain waters, and anti-submarine warfare to detect and neutralize mines. The size of a ROV can be classified into small, light, medium, and large. Large ROVs for deep-sea exploration are stable and capable of various types of operations when used, but they are costly because they are large vessels and have high rental costs. This is because each ROV requires at least three professional operators: a navigator to manage the information, a pilot to control the ROV, and a manager to oversee all operations of the ROV. The primary reason small and medium-sized ROVs find favor in various research institutes, universities, and companies is their relatively lower operating costs and the ability to function with smaller vessels and a more modest workforce, despite their limitations in operational capacity and exploration range compared to larger ROVs.

However, the development of ROVs presents numerous environmental challenges. Unlike a spacecraft, which only has to navigate one atmosphere to reach space, ocean exploration contends with the formidable pressure increase of one atmosphere for every 10 meters of depth. This means that even in waters of only 100 meters depth, the significant challenge of surpassing more than 10 atmospheres of pressure arises. The practical use of ROVs in deep-sea research became viable in the latter half of the 20th century, thanks to advancements in deep-sea imaging technology and the development of manned and unmanned submersibles. In Korea, with the backing of the Ministry of Oceans and Fisheries, KIOST successfully created a 6,000-meter-class deep-sea unmanned submersible called "Hemire" along with a relay device named "Henubi." This achievement was the result of six years of development work, starting in May 2001. Hemire conducted several deep-sea test expeditions, including explorations in the methane gas ejection area located 70 km east of the Korean Peninsula in June and November 2009, capturing videos of the seabed. In June 2015, Hemire undertook its first comprehensive and demonstrative deep-sea exploration over a two-week period, spanning eight areas in the Ulleung Basin\* of the East Sea and the Hupo Bank Slope, which is a shallow terrain off the coast.



▲ ROVs are remotely operated from the mother ship via a cable.

\*Ulleung Basin: An undersea basin situated in the southwestern part of the East Sea, located to the south of Ulleung Island and Dokdo.

### (2) Drones Under the Sea, Autonomous Underwater Vehicles (AUVs)

Would you believe a drone that was supposed to fly in the sky



▲ AUVs operate automatically without remote control by humans.

moves around in the ocean? In fact, it is actually being used for deep-sea research. An Autonomous Unmanned Vehicle (AUV), commonly

referred to as an underwater drone, is an unmanned robotic system designed for underwater investigations and tasks. AUVs operate autonomously, relying on internal power sources, pre-programmed instructions, and built-in sensors. They are primarily used for underwater exploration and simple operations. A key advantage of AUVs is their reduced reliance on specialized personnel compared to ROVs, resulting in cost and time savings during underwater missions. AUVs are purpose-built, with their design and capabilities tailored to specific mission objectives. Once constructed, their functionality is fixed and cannot be altered for purposes other than their intended mission. In contrast to ROVs, which can be remotely controlled and adjusted in real-time from the surface, AUVs lack external control mechanisms and must possess the capability to self-navigate, recognize their surroundings, and navigate while avoiding obstacles. Therefore, the ability to follow a pre-defined path is crucial for AUVs, making object recognition and path adjustment technologies essential components of their operation.

Today, AUV technology is actively used in resource surveys and military fields, mainly in the so-called “cruise type” suitable for long-distance observations and are also successful in academic research such as observation of waters around glaciers or hydrothermal zones.\* In Korea, various AUVs are being developed, including the AUV “Integrated Submersible for Intelligent Mission Implementation” (ISIMI) developed by the Korea Institute of Marine Science and Technology, and the “Hanwha AUV” and “Mine Killer-Boto” developed by the Korean company Hanwha. Among them, ISIMI has the advantage of being able to operate autonomously by self-judgment, control, and self-position recognition underwater, and to perform tasks repeatedly by traveling back and forth between underwater bases. Principal Researcher Lee Panmook of the Korea Research Institute of Ships and Ocean

Engineering (KRISO) says, “The ‘underwater navigation and docking technology’ developed with our own technology is one of the core technologies of ISIMI, which ensures that the wide seabed can be freely explored without connecting cables.” AUVs have many advantages over submersibles in which humans are involved in control, but there are still many technical problems to be solved for fully autonomous operation, and they are under research.

\*Hydrothermal zone: A chimney-shaped hole that allows hot water and gas to spring out from the ground, both on land and on the seabed.

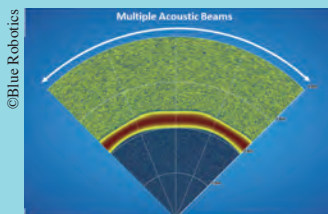


## How Do Unmanned Submersibles Work?

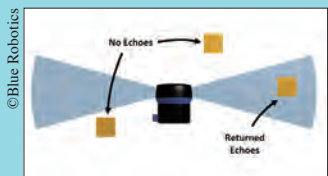
### (1) ROV

An ROV primarily consists of four vertical propellers and six horizontal propellers to facilitate controlled movement during its descent to the desired underwater destination. Its design incorporates a streamlined hull to minimize resistance, and a combination of vertically and horizontally positioned propellers to maintain a state of complete equilibrium, ensuring it remains level without tilting. Additionally, the ROV is tethered to the mother ship on the surface via a cable. This cable not only provides real-time power to the ROV but also enables the submersible to remain submerged in the deep sea for extended durations. Furthermore, information from the sensors onboard the submersible and operational commands are transmitted through these connected cables. However, underwater conditions pose challenges such as limited GPS functionality, restricted visibility, and significant fluctuations depending on the aquatic environment. Therefore, specialized sensors tailored for underwater use and specific data processing techniques are employed.

One of the prominent features of ROVs is their use of various equipment that relies on sound waves, with sonar being a key component. Sonar is a device that emits and receives sound waves. When sonar emits a sound wave, and it encounters an object in its path, the sound wave bounces back. In such cases, the sonar calculates the distance between the object in front and the submersible by measuring the time it takes for the sound wave to be generated and returned. For example, if it takes one second for a sonar to emit a sound wave and



▲ Multiple sonar beams build up to form a "scan".



▲ Objects in the sonar's beam pattern get acoustically "illuminated," and their echoes bounce back to the sonar for image interpretation.

receive the echo, and sound waves travel at a speed of 1,500 meters per second underwater, the calculation indicates that the distance between the object and the submersible is 750 meters, considering the round trip of the sound wave. Sonar does not emit just a single sound wave; it sends out multiple sound waves in all directions. This allows the ROV to precisely determine the position and shape of objects in its vicinity.

Lee Yong-kuk, a principal

researcher at KIOST, explains that ROVs primarily employ this sound wave-based function for conducting exploration and investigations, often employing underwater cameras for close-up photography. The advantage of this approach is that the mother ship on the surface can simultaneously monitor and view the results, making it a valuable tool for various applications.

## (2) AUV

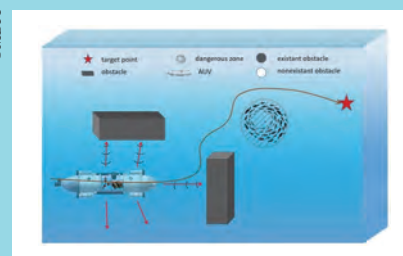
While unmanned submersibles carry out their missions, it is important to recognize that the underwater environment is dynamic and subject to constant change. Therefore, these submersibles must possess the capability to effectively utilize sensors to detect and react to their surroundings. Although changes can often be predicted before a mission, unforeseen incidents such as navigating obstacles like reefs or challenging currents may occur. Consequently, unmanned submersibles must feature autonomous functions capable of problem-solving. One of these functions is sonar, which is also used in ROVs. Min Won-gi, a principal researcher of KIOST, explains, "Sonar is used in AUVs to identify objects in their path. However, unlike ROVs, AUVs do not have devices like arms or buckets, making it difficult to collect deep-sea resources or marine life. Additionally, AUVs face challenges in changing their course immediately, so if they encounter obstacles like seaweed or rocks, they may be unable to collect samples." Therefore, the submersible's information system

relies on real-time data from its onboard sensors to guide it efficiently and safely during exploration. Operators pre-input the target's shape into the submersible's computer, allowing the submersible to learn about the target in advance. In essence, the computer overseeing all the submersible's paths and data employs pre-trained information and continuously updated data from the submersible's sensors to ensure optimal testing results. This includes tasks such as distance control to the object under examination, collision avoidance, and object recognition, highlighting the importance of the submersible's ability to effectively use sensors to detect and respond to its changing environment.

AUVs, much like ROVs, rely on the movement of their hulls to overcome buoyancy and navigate underwater. However, a fundamental difference between the two is that AUVs do not operate with a direct cable connection to the surface; they function as unmanned submersibles without a physical cable link. Consequently, AUVs must autonomously navigate underwater while avoiding obstacles based on a predetermined route. This level of autonomous operation surpasses that of ground and aerial drones. Furthermore, because AUVs lack a real-time cable connection, they rely on pre-charged batteries for power, which imposes limits on their operating time. Researcher Min explains, "AUVs operate using pre-charged batteries, which means their operational time is restricted compared to ROVs. Batteries may become depleted during exploration, or unforeseen circumstances may lead to battery loss." AUVs are equipped with various sensors, power supplies, control systems, and multifunctional components. They use pre-entered information to independently carry out exploration and investigation tasks. According to Researcher Lee of KRISO, AUVs typically incorporate six sensors. Among these, the depth sensor measures the AUV's depth, which can potentially be up to 100 meters. The inertial sensor provides information on speed and direction, including

acceleration, angular velocity,\* and attitude along the x, y, and z axes. Nonetheless, ongoing research in the field of AUVs is addressing

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▲ AUVs use multiple sensors to avoid obstacles in the sea.



limitations related to factors like increased power supply, water pressure, and underwater communication challenges.

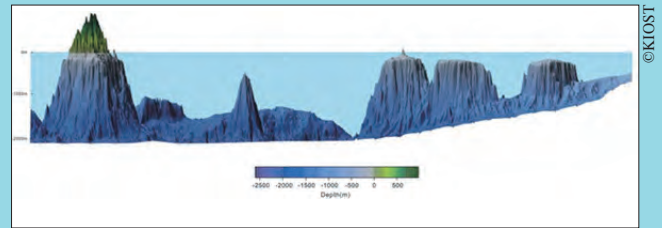
\*Angular velocity: The change in each position per unit time of a rotating object.



## How Will Unmanned Submersibles Be Used for Future Dokdo and East Sea Exploration?

### (1) Advances in the Exploration of the Special and Unpredictable Undersea Terrain of Dokdo

The waters around Dokdo offer an ideal location for deep-sea research due to the area's unique topography. Dokdo features a seamount structure, recognized for its significance in deep-sea biodiversity, allowing researchers to observe the deep-sea ecosystem across different layers along the steep slope. According to Researcher Min, the seabed near the upper reaches of Dokdo exhibits a gently sloping terrain extending from close to Dokdo to a depth of approximately 200 meters, followed by a steep slope at the end of this flat area. Beyond this point, the depth plunges to 2,300 meters, leading to a flat seabed plain. This topographical characteristic classifies Dokdo's deep-sea terrain as a seamount. The upper flat surface of this seamount structure lies at around 200 meters deep, making it accessible for surveying with a small ROV. Therefore, precise seabed surveying in Dokdo involves creating a seabed map, determining survey lines in advance, and conducting safe surveys. However, the uneven and seamount-like terrain of Dokdo presents challenges. Even with careful examination, there are instances where deep-sea cameras and small ROVs may suddenly encounter hills or lose equipment due to close proximity to the seabed. Navigating the steep slopes of the seamount in Dokdo requires ascending from deep to shallow areas to allow for better control along the seabed surface and to avoid hazardous seabed terrain. Both ROVs and AUVs can detect obstacles using sound waves in front of them, which allows for continuous monitoring and investigation. Researcher Min explains, "When exploring the seabed along Dokdo's sloping terrain, researchers encounter a flat, muddy seabed, where medium-sized ROVs with a minimum depth rating of 4,000 meters can effectively conduct investigations."



▲ Dokdo's seamount features rock formations thought to result from previous underwater volcanic activity.

Undoubtedly, exploring the rugged seabed around Dokdo presents challenges for unmanned submersibles. However, prior to the introduction of unmanned submersibles, conducting research on Dokdo was even more daunting. Before the era of unmanned submersibles, investigations into deep-sea life around Dokdo relied on collection equipment like box-type bottom samplers. Unfortunately, these box-type bottom samplers, primarily used for collecting deep-sea organisms, were limited in their ability to reach the depths of the deep sea. They could only collect small and medium-sized organisms found near the surface of the deep sea and were unsuitable for use in areas with irregular rock formations and rocky debris like Dokdo. Furthermore, the act of collection itself often disturbed or even destroyed the surrounding ecosystem since these samplers extended a bucket directly to the seabed to gather samples. Therefore, the importance of unmanned submersibles in conducting visual data surveys cannot be overstated. In essence, even when studying seabed topography, sedimentation, and marine mineral resources, it was crucial to investigate precise topographical details, the specific locations of sediment layers, and the potential quantities of mineral resources that traditional collection instruments could not adequately capture. Visual and precise survey data obtained through unmanned submersibles offers critical insights for interpreting and analyzing the environment.

### (2) Dokdo: The Future of Deep-Sea Exploration in Korea

Korea's initial exploration of Dokdo using an unmanned submersible occurred in 2007. This groundbreaking effort aimed to investigate the deep-sea ecosystem in the waters surrounding Dokdo using ROVs. The ROV employed for this survey was the Swedish-manufactured "V8 SII," featuring a depth limit of 500 meters, weighing 60kg, a 10kg payload capacity, a maximum speed of 3 knots, two high-brightness

multi-LED lights, a high-definition primary zoom video camera, an auxiliary camera, and a robotic arm with a pincer for various tasks. This expedition yielded valuable video data that visually documented the characteristics of the surrounding ecosystem and the seabed, showcasing a variety of marine life from the Dokdo flat area to the deep-sea slopes. On May 30, 2009, the Korea Broadcasting System (KBS) aired a documentary titled “Science Cafe-Ocean Day Project First Release,” produced in collaboration with a Dokdo deep-sea exploration broadcasting program. This documentary served as a public awareness initiative, making it significant as the first survey to capture actual images of the seamount summit and its surrounding slopes. Subsequently, in July 2009, Korea’s ROV, Hemire, commenced its survey of the Dokdo seabed plains. The expedition spanned a total of 7 hours and 20 minutes, concluding at 9 p.m., with 4 hours and 10 minutes dedicated to seabed mining. During the mission, two sediment samples and two seawater samples were collected, 110 photographs of various marine life forms were taken, and extensive exploration work was documented. The target site was inhabited by diverse creatures, including red crabs and starfish. This study holds significance in demonstrating the potential for various life communities in Dokdo’s deep sea, serving as a starting point for further research using Korean unmanned submersibles.


Researchers agree on the immense significance and allure of studying the deep sea near Dokdo. In an era marked by dwindling oil resources, Dokdo represents boundless potential for exploration as a new frontier for subterranean resources or as a novel fishing ground teeming with deep-sea fisheries. Researcher Min underscores this point, saying, “Dokdo

encompasses a vast area that dominates most of the East Sea. It is home to aquatic resources like red crabs and deep-sea shrimp, which find their way to people’s tables. Additionally, it

remains an uncharted territory where new life forms can be discovered. Therefore, the deep sea surrounding Dokdo holds tremendous research potential and importance.” Moreover, the deep sea around Dokdo is increasingly recognized as a valuable site for waste material treatment, particularly for carbon dioxide. Marine carbon dioxide storage involves transporting carbon dioxide to a storage site in the sea, either through pipelines or ships, and injecting it directly into the deep sea at depths exceeding 1,000 meters. This process is crucial for preventing the protracted burial and leakage of carbon dioxide, mitigating environmental risks. The seafloor near Dokdo is ideally suited for the safe storage of carbon dioxide. Naturally, the operation of unmanned submersibles, which are indispensable for deep-sea exploration around Dokdo, incurs significant daily costs, amounting to thousands of dollars. Consequently, it is anticipated that research efforts will continue to identify and utilize various resources. This will require sustained investments from the national budget to develop and deploy new equipment for these endeavors.



▲ Korea’s ROV, Hemire, still explores the sea near Dokdo since 2007.

Dokdo is often likened to Korea’s own Atlantis, a realm filled not only with energy resources, but also with a plethora of diverse deep-sea creatures. While the visible portion of Dokdo above the ocean is of paramount importance, the vast expanse of the deep sea enveloping Dokdo, though hidden from plain sight, is equally significant. Consequently, unmanned submersibles capable of delving into these depths represent the cutting-edge approach to deep-sea exploration around Dokdo. In the context of Japan’s interference in Dokdo exploration, the burgeoning interest in underwater exploration around Dokdo transcends the boundaries of research; it becomes a matter of safeguarding a nation’s exploration sovereignty. The Argus earnestly hopes that readers will cultivate a deeper understanding and interest in the exploration of Dokdo’s deep-sea realms and the indispensable role of unmanned submersibles in this endeavor. 

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# Finding the Cultural Heritage of Dokdo through Its Myth

By Jang Yewon

Staff Reporter of Culture Section

The sea, as depicted in folk tales such as *The Little Mermaid* and *Isabu*,\* is beautiful, but it is also very dangerous. That is why stories of extraordinary characters who could save people from the sea were created. Meanwhile, Dokdo is an island located in the easternmost part of Korea. In the past, it was called “Usando,” and it became the setting for various folk tales. In particular, Dokdo’s representative tale, “The Secret of Usando,” is a story about an old man who saves people from the dangerous sea. Looking into the structure, expression, and background of the tale, thoughts of Dokdo from the past can be found. It is a simple folk tale, but in fact, there are various details throughout representing the beliefs, culture, and natural environment of the time. In celebration of Dokdo Day on October 25, *The Argus* investigates the ancient people’s perceptions of Dokdo, which is easy to overlook, through the regional characteristics of Dokdo and the development of folk tales revealed in Dokdo’s representative tale, “The Secret of Usando.”



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▲ Dokdo was once a mysterious island, giving rise to numerous folktales.

\*Isabu: The general of Korea who became a god to protect the East Sea even after death.



1

## “Secret of Usando”

*The Secret of Usando* is the story of three fishermen who lived on Ulleung Island. Three fishermen went out to sea in a small boat to catch fish. Strangely enough, not a single fish was caught that day. But suddenly, clouds began to spread in the sky, a strong wind began to blow, and the waves began to ripple, so everyone was startled and prepared to hurry back. However, the wind was getting stronger, and the waves were hitting the boat so fiercely. The three gave up on rowing and hoped they would be lucky enough to get back to land. The waves got harsher, and the three did not know where they were going. They had no idea as to their location or direction. After three days, when the wind finally stopped and the waves calmed down, the three looked around to determine where they were, but all they could see was the blue sea and clouds floating in the sky. They had starved for three days and were so exhausted that they did not even have the strength to row. They had no choice but to let the wind and the waves move the boat. Luckily, they spotted a land nearby. All three men rowed together, and even the waves seemed to be steering them toward the island as well.

When they finally got there, they saw a sheer cliff and a dense bamboo field, and the fog was still thick. The three wandered around searching for food. After a while, they noticed an old man with a white beard looking at them from a house with the door open. The three went in front of him and bowed. The oldest



of the three told him their whole story. “We have not had a sip of water in three days until now, and we are exhausted from hunger and thirst. Could you give us some water and something to eat?” Then the old man said, “There is no water or food that a human can eat.” The three people looked at each other in bewilderment, but soon the old man gave them three fruits that looked like apples but it was not exactly an apple they know. The three men ate the fruit in the blink of an eye, and they completely regained their vitality. The old man came out from inside and said, “Now you should go home. Your family will have been waiting a long time for you.” The three fishermen said, “But we do not know the way to get back home.” The old man said, “Then I will lead the way.” Then the four people got on the boat. When they looked back, the island was still shrouded in a fog. After several hours of rowing, mountain peaks began to appear on the horizon in the distance. The old man pulled out the three pieces of fruit they had eaten the day before from his sleeve and gave them to the three men. Then he suddenly disappeared without even having a chance to say goodbye. The three just stared at each other blankly. Finally, they returned to Ulleung Island. The three men talked about the mysterious foggy island, the strange old man, and the mysterious fruit. The story was mysterious enough to make people curious about the island, so people loaded food and water onto a large boat and set out to find the mysterious island again. However, they only saw out-of-season peach blossoms floating down, and the wind and rain were so severe that they were not able to find the island and ended up returning home. Another version of the ending is that when the three fishermen ate the fruit three months and ten days later, their eyes became clear, and they were able to see the world much more clearly. Therefore, they were able to find the island again easily.



### 2

#### The roots of Usando culture

*The Secret of Usando* reveals the cultural identity of Dokdo. Korean folktales are divided into “Gwangpo” legends and local legends. The Gwangpo legend is a feature of stories shared throughout Korea. On the other hand, local legends contain local indigenous beliefs through stories related to the name of the area and famous natural objects. *The Secret of Usando*, which developed from beliefs about Dokdo, is a local legend that originated in Ulleung Island. Similarly, in villages along the East Sea coast, there is another story of three fishermen that has the same basic story as *The Secret of Usando* but with different endings. This shows that people on the East Coast have been aware of Dokdo and Ulleung Island since the past.

Unusually, Dokdo has no folk tales based on the natural objects found on Dokdo. In the case of Ulleung Island, there are stories about the island itself, but there are also stories related to a mountain in Ulleung Island called “Seoninbong” as well. It can be assumed that there are no tales of Dokdo’s natural objects because Dokdo was a small rocky island where no people lived in far past. However, just because people did not live on Dokdo, it does not mean that Dokdo did not fall under the cultural sphere of the Republic of Korea. The three fishermen who appear in *The Secret of Usando* are from Ulleung Island. The fact that Ulleung Island people flowed into Dokdo shows that there was a lot of exchange between Dokdo and Ulleung Island. Moreover, considering that Ulleung Island fishermen stayed on Dokdo for a short time and then returned to their hometown, clearly Dokdo was used as a stopover for fishing activities.

#### 2-1. Who Owns Dokdo

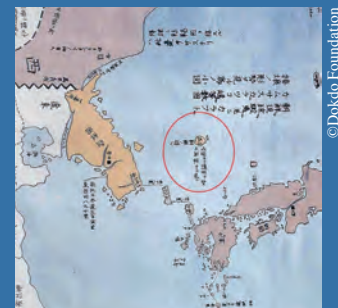
According to “A study on the cultural identity of Dokdo in the Dokdo regional legend,” written in 2008 by Kwon Do-kyung, Professor of the Department of Liberal Arts at Woosuk University, Dokdo is essentially an uninhabited rocky island that was used as a stopover for temporary fishing and trade. That is why Ulleung Island and Dokdo share close cultural characteristics. In fact, according to a book published by the Institute of Korean Cultural Studies of Yeungnam University in 2003 called “Life of Ulleung Island, Dokdo, and the East Coast Residents, its Changes and Development,” “Usanguk” was an ancient kingdom

that ruled North Gyeongsang Province Ullin, 218 km away from Seoul, Ulleng Island, and Dokdo until the early 6th century. Therefore, Ullin, Ulleung Island, and Dokdo share similar myths and dialects. Some argue that Usanguk is a hypothetical country that never existed, but this is not true. The vast number of records, including history, special products, and culture, would be unexplainable if Usanguk did not exist. Therefore, it clearly shows that Usanguk was a country that existed before the Silla period.\* According to records from the Silla Dynasty, Usanguk was a country that used the sea as its basis for living around the East Sea coast, including Ulleung Island and Dokdo. In addition, subject case markers “I” and “ga” are used separately in the standard Korean language, but the combined use of “I” and “ga” is a characteristic phenomenon that occurs only in the East Coast region. The fact that people who lived in Ulleung Island and Dokdo also used the subject case marker “iga” can confirm that they had a shared culture.

\*Silla Period: Silla was one of the three ancient kingdoms on the Korean Peninsula and lasted from 57 BC to 935 BC.

## 2-2. Causes Due to Topographical Characteristics

The reason why culture was able to be shared between Ulleung Island and Dokdo is that the actual distance between them is close. Ulleung Island and Dokdo are only 87.4 km apart. Considering that the distance from Wando, located at the southernmost tip of the Korean Peninsula, to Jeju Island is 105 km, the distance between Ulleung Island and Dokdo is closer. The “Sangoku Setsujochizu” drawn by Japanese geographer Hayashi Shihei in 1785 shows the distance between Ulleung Island and Dokdo to be very close and states Dokdo is the land of Joseon,\* which confirms that Dokdo had Korean culture. In addition, the “Geographical Appendix to the Veritable Records of King Sejong,”\*\* says “The distance between the two islands Usando and Mureungdo\* is not far, so Usan can be seen with the naked eye from Mureungdo when the weather is clear.” Likewise, the fact that the distance between Ulleung Island and Dokdo is close and that Ulleung Island people appear in the Dokdo legend and Dokdo appears in the Ulleung Island legend is evidence that cultural exchanges between the two islands occurred.



▲ The “Sangoku Setsujochizu” map provides evidence that Dokdo is a Korean island. In fact, the distance between Dokdo and Ulleungdo is 70km closer than the distance between Dokdo and Oki Island.

\* Joseon: A dynasty that ruled the Korean Peninsula from 1392 to 1897.

\*\* Geographical Appendix to the Veritable Records of King Sejong: Geographical appendix published in the “Veritable Records of King Sejong.” “Veritable Records of King Sejong” is a book that recorded historical facts from August of the year of King Sejong’s accession to the 4th King of Joseon until his death in February of the 32nd year of King Sejong’s reign, compiled in 1454 and includes the history of each province. Historic sites, products, topography, etc. were recorded in detail.

\* Mureungdo: The old name of Ulleung Island.



3

## God lived in Dokdo

According to the Encyclopedia of Korean Culture, immortal narratives refer to stories about immortals and the magic they wield. The founding myth of the Republic of Korea, in which Dangun\* came down from the sky and founded the country according to the will of “Hongikngan,”\*\* is also part of the immortal narratives. The immortal narratives have been passed down for a long period of time. In addition, *The Secret of Usando* has the typical characteristics of immortal narratives.

\*Dangun: A legendary figure who is said to be the mythical founder of the Korean people and the founder of Gojoseon.

\*\*Hongikngan: A word that means “benefit humanity widely.”

### 3-1. Fruit of Immortality: Jujube

The fruit that the three fishermen ate when they arrived at the island is described as “a fruit that keeps people full for a year if eaten.” According to common sense, it is impossible to live for a year by eating just one small fruit. However, when fishermen eat this magical fruit, their strength surges, and their eyes become clear. So, what is this fruit? Professor Emeritus Ahn Dong-jun of the Department of Korean Language Education at Gyeongsang National University said that this fruit was probably a jujube. In fact, in *The Secret of Usando*, when the three fishermen first see the fruit, they say, “It looks like an apple, but it is not exactly an apple we know.” Professor Ahn said, “In the past, people thought of apples when seeing large jujubes. Therefore, from the passage that says an apple-like fruit, it can be inferred that the fruit eaten by the fishermen was the jujube.” Jujube is often expressed as “the food eaten by immortals” in Taoism, a religion based on immortal gods. The concept is similar to nectar, the alcohol that Western Greek gods drank. In fact, in the “Tao Te Ching” written by Lao Tzu, the founder of Taoist philosophy, it is written that if people drink water and jujube, they will live long. The reason why jujube was treated as an elixir of eternal life is because it has excellent nourishing and tonic effects. In fact, “Donguibogam,” one of the most famous medieval Oriental medical books written in 1610, says that jujube energizes the body and helps the blood circulate. Looking at the part of *The Secret of Usando* that says three fishermen regained their vitality after eating the fruit, it matches the efficacy of jujube recorded in Donguibogam. Since jujube was a fruit that helped people gain energy, it can be assumed that it was considered a medicine for eternal life.



©Social Times

▲ Jujube is a red small fruit. As it seems like a small apple, people in the past thought of jujube as an apple.

### 3-2. The Old Man Protecting Dokdo

The most notable thing in *The Secret of Usando* is the mysterious old man. Who is he? He was living alone on a rocky island with no water or food. According to the tale, the old man had a graceful and dignified appearance, and the three men even saw a halo behind the old man. When the three fishermen said, “We haven’t had a sip of water for four days and are exhausted from hunger. Could you give us some water and food?” he responded, “There is no water and nothing for people to eat.” This part reveals that the old man is not just a human being. As he saved the lives of the three fishermen who were drifting and helped the people who came onto the island, it shows the function of the local guardian of Dokdo who oversaw the well-being and peace of the region.

### 3-3. Dokdo: The Gate to Utopia

The fact that the entire island of Dokdo was seen as a land where immortals lived can be confirmed by the tale. This is because when people went out on a boat to find the mysterious island again, they only witnessed peach blossoms floating down. “Peach blossom” is used as a symbol to indicate a place where God lives. In the Chinese poem “Peach Blossom Valley,” there is the story of a peach blossom at the entrance to Mureungdowon,<sup>2</sup> and based on this poem, peach blossoms often appeared as a motif in other immortal tales to suggest the location of Mureungdowon. Then why are there peach blossoms? This is because peaches are a symbolic fruit in Taoism that is associated with eternal life. “Yojiyeondo” is a drawing that depicts a splendid banquet held at Yoji, a pond at the top of Mount Kunlun<sup>3</sup> where the Queen Mother of the West<sup>4</sup> lives. In this painting, a scene where the King of the



©GyeongGi Culture Foundation

▲ “Yojiyeondo” is a painting depicting the world of immortals. In the picture, peach is painted everywhere. This confirms that people in the past considered peaches to be the food of gods.



Zhou Dynasty, who was favored by the Queen Mother of the West meets her and receives peaches. From here, the story that peaches were the fruit of immortals spread. This painting shows that people in the past believed the peach was the fruit of the gods. Professor Ahn said, “Because the peach is a fruit given by a hermit, the belief arose that the place where the peach blossoms are was the place where the hermit lived.” In this way, the appearance of a white-haired old man and a mysterious fruit confirms that Dokdo was consistently combined with Taoist beliefs and was considered a utopian space.

\*Mureungdowon: It symbolizes a quiet and peaceful utopia and represents a different world beyond this world.

\*Mount Kunlun: An imaginary mountain believed to be inhabited by immortals in Taoism.

\*Queen Mother of the West: A deity that appears in Chinese mythology and holds the highest position, ruling over other deities.



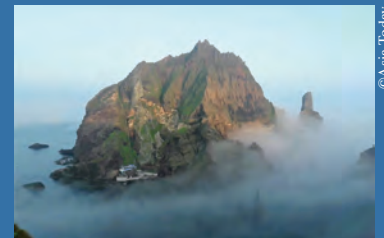
## 4

## Natural Characteristics Revealed Through Folktales

Another aspect that emphasizes Dokdo as a mysterious island is when people returned to look for Usando, they could not find the island. The three fishermen were caught in a storm and wandered, and when the sun cleared, Usando became visible. Furthermore, the story ends with the words, “People only saw out-of-season peach blossoms floating down, but the wind and rain were so severe that they were not able to find the island and ended up returning.” The island that clearly existed had disappeared, but scientifically, does it make sense for the original island to disappear? In Korea, there is not only *The Secret of Usando* but also other strange stories such as an island that can only be seen when the weather is clear and an island that suddenly disappeared. This is due to Korea’s geographical location.

### 4-1. Islands Disappear Suddenly

According to the report called “Geohazards and myths: ancient memories of rapid coastal change in the Asia-Pacific region and their value to future adaptation” written by Patrick D. Nunn, Professor of Geography at the University of the Sunshine Coast in Australia, in 2014, the natural environment of the time can be understood through mythology. The East Sea borders the Pacific Ocean, so rapid coastal changes such as floods and earthquakes occur more frequently than in the West. Some are temporary, and some are permanent changes. In the case of temporary changes, they are caused by strong waves or tsunamis. When the wind starts to blow suddenly, the current becomes faster, and the waves hit so hard that the low-lying islands are easily submerged. This is why folk tales with lines such as “an island that can only be seen on a clear day” are made. In *The Secret of Usando*, there are repeated expressions that seem to allude to the natural environment of Dokdo. “Suddenly, clouds began to spread in the sky, a strong wind began to blow, and the waves began to ripple.” In addition, “The island was still shrouded in fog.” In fact, Dokdo has unique natural characteristics including a lot of fog, rain, and snow all year round. Also, considering that Dokdo’s average annual wind speed is 4.3 m/s and the average annual wind speed of the general Korean Peninsula is 1.6 m/s, it can be seen that there is relatively a lot of wind blowing on Dokdo. In the book “Life of Ulleung Island, Dokdo, and the East Coast Residents, its Changes and Development,” during the Silla Dynasty, it was recorded that “Usanguk has rough terrain, and the sea is deep. However, people can reach Usanguk in two days if favorable winds blow.” Due to this natural environment, on foggy and windy days, Ulleung Island residents would have had difficulty finding Dokdo using the poor maritime technology of the past. For this reason, Dokdo, which the three fishermen visited, was not visible the next time they visited.



©Asia Today

▲ There is often fog on Dokdo, making it difficult to see the entire island.

#### 4-2. Destroyed Islands

Like *The Secret of Usando*, there is also a story of an island completely disappearing, not just appearing and disappearing repeatedly. In particular, stories about islands disappearing commonly include the lore that they were “destroyed by creatures.” The story of the island disappearing is related to the birth of Dokdo. In the past, there were seven islands in the East Sea, and the Japanese often invaded the islands. Then, to stop the invasion, the dragon god destroyed the five islands with his tail, and the two remaining islands were Ulleung Island and Dokdo. Professor Nunn explains the natural background to the story of the island disappearing. He says, “Many parts of the Pacific Ocean are volcanically and tectonically active, including the ocean areas off the Korean Peninsula. This means that islands form from volcanic eruptions under the sea and islands sometimes disappear. This was the case with Dokdo.” According to the Northeast Asian History Foundation, Dokdo is a volcanic island that was created when an underwater volcano erupted between 4.6 million and 2.5 million years ago. As Ulleung Island and Dokdo are located at the end of the Pacific Rim orogenic belt,\* where earthquakes frequently occur, the damage from tsunamis is significant. In the past, a large earthquake occurred near Dokdo, causing one side of the island to collapse. As time went by and the other side descended, the island was not detectable on the surface. Therefore, people developed a story about the island permanently falling below sea level and disappearing. In fact, the part where it says, “The dragon struck the sea and the island disappeared,” suggests that there was a large tremor like an earthquake. The tales confirm the fog and wind on Dokdo and even the earthquakes that occur along the plate boundary. Professor Nunn says, “A myth related to the disappearance of the island of Teonimanu--Solomon Islands--about 300 to 400 years ago and the island of Vuniivilevu--Fiji Islands--about 800 years ago tells of the island being destroyed by a monster. This confirms that the myth of islands disappearing from earthquakes shares similar characteristics.” The story of an island disappearing due to an undersea earthquake is a common feature not only in Korea but also in stories from other countries bordering the Pacific Ocean, such as Indonesia. These tales, which felt like exaggerated fictional stories, are based on actual phenomena originating from their respective natural environments.

\*Orogenic belt: An area where tectonic movements forming mountains or mountain ranges have occurred in the past or are currently likely to occur.



©The School of Miniwa

▲ In Korea, dragons have been deeply associated with the sea. In addition, dragons were considered powerful and virtuous creatures.

A folktale can be considered a fictional story, as it often features exaggerated events that cannot occur in reality. However, not many people know that the seemingly absurd tale is based on reality. In particular, immortal tales reveal the region’s special cultural background, beliefs, and natural environment. Therefore, it is sufficient to use them as a source of information to determine Dokdo’s true history and culture country’s culture. While the sovereignty of Dokdo is being challenged, we can take a step back from the political approaches and learn about Dokdo through a new approach like folktales. The Argus hopes this will serve as an opportunity to discover the cultural roots of Dokdo through various unknown factors such as history, religion, and the natural environment. [A](#)

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# Dokdo Museum Seoul: Where to See Dokdo in Seoul

By Yang Yu-min  
Editorial Consultant

Have you ever been to Dokdo, located in the northernmost part of South Korea (hereafter Korea)? Dokdo, located 417.3km away from Seoul, is a territory of the Republic of Korea consisting of two large islands, Dongdo and Seodo, and 89 surrounding islands. The only means of transportation to Dokdo is by cruise ship, and people can only enter the island when the weather is good. For this reason, the journey to Dokdo is not that easy. However, here is a place where the public can see Dokdo in Seoul. This is the “Dokdo Museum Seoul.” The Argus would like to lead readers to a place to experience Dokdo.



## Before Reading

|                      |  |
|----------------------|--|
| <b>Location</b>      | Times Square, Yeongdeungpo-gu, 2nd basement floor<br>(15, Yeongjung-ro, Yeongdeungpo-gu, Seoul, Republic of Korea) |
| <b>Date</b>          | Permanent Exhibition   |
| <b>Time</b>          | Mon.-Fri. 10:30-19:00, Sat.-Sun. 11:00-18:00   |
| <b>Admission Fee</b> | Free for everyone  |



## Part 1. Dokdo in the Present

©Dokdo Security Police



▲ The Dokdo Security Police is a police unit belonging to the Gyeongbuk Provincial Police and has protected Dokdo since July 1954.

In this section, the viewers can see the current state of Dokdo. The sea around Dokdo is an oceanic front in the East Sea where the Tsushima Warm Current, which flows into the East Sea through the Korean Strait, and the cold current from the north meet. Therefore, the waters around Dokdo are rich in plankton and are a good fishing ground. Dokdo is currently home to a variety of marine life, and Ulleung Island fishermen manage the fishing grounds and collect abalones, conches, and sea cucumbers. In addition, the viewers can see photos of the Dokdo Security Police who live on Dokdo and protect it. Dokdo has become a home for many people, and they are making efforts to protect Dokdo. In fact, the Korean government has created some laws specifically for Dokdo. The government has developed and implemented policies necessary for the sustainable use of Dokdo and the surrounding sea in accordance with various laws enacted by the National Assembly.





## Part 2. History of Dokdo

In the next part, the viewers can take a look at the history related to Dokdo. There are many historical documents on display that reveal Dokdo is a Korean territory from the past. Representatively, “The Chronicles of the Three States” (1145) records the fact that Silla, one of the monarchical states that existed on the ancient Korean Peninsula, annexed Dokdo and Ulleung Island as their own territory. In addition, the “Geographical Records” of *The Annals of King Sejong* (1454) records Ulleung Island and Dokdo as belonging to Uljin-hyeon, Gangwon Province. In addition, the viewers can also see the “The Dajokan Order,” which contains an edict issued by the Dajokan, the highest institution of the Japanese Meiji government, on March 29, 1877, with the statement, “Keep in mind that Ulleung Island and one island (Dokdo) have no relation to Japan.” All of the historical materials on display show that Dokdo has historically been a Korean island.



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▲ At this exhibition, viewers can also see the “enactment of Korean Empire's Imperial Decree No.41,” which specifies jurisdiction over Dokdo. The Korean Empire established this on Oct. 25, 1900, and later Oct. 25 was designated as Dokdo Day.



## Project Exhibition: 1947, Scientific Expedition of Ulleung Island and Dokdo (Date: 2023.08.16 - 2023.10.31)

©Yang Yu-min / The Argus



▲ The luggage that the Korea Alpine Club carried during the scientific expedition is on display.

After the National Liberation Day of Korea, Korea regained Ulleung Island and Dokdo, which had been taken over by Japan during the Japanese colonial era. At that time, the scientific expedition on Ulleung Island and Dokdo was led by The Korea Alpine Club (CAC), a private organization, with active support from the Korean government. Three rounds of academic research between 1947 and 1953 laid the foundation for research on Dokdo and demonstrated a firm commitment to protecting the territory. The scientific expedition was divided into the humanities, social sciences, medicine, and reporting fields, and was generally comprised of about 25 to 70 people. At the time, the investigation team, composed of authorities in each field, identified the topography, flora and fauna, and geology of Ulleung Island and Dokdo. Additionally, they traveled to villages on Ulleung Island to conduct medical research and provide free treatment and researched history, archeology, folklore, and dialect through local field trips and interviews of residents. They also took photos and videos to record them and measured Dongdo and Seodo to create a map of Dokdo. The investigation team also erected a marker indicating Dokdo as a Korean territory. In addition, a lecture and a report exhibition were held to reveal the results of the research, thereby arousing public interest in Dokdo. The scientific expedition that continued in the chaotic situation after independence laid the foundation for academic research and policy responses regarding Dokdo. The unwavering will of the CAC and its firm commitment to protecting Dokdo can be seen in this special exhibition.



©The Korea Alpine Club

▲ Members of the Korea Alpine Club's 3rd scientific expedition, who landed on Dokdo on Oct. 15, 1953, pulled out markers that indicated Dokdo as a Japanese administrative district. Instead, they erected a marker with the word Dokdo written in Korean.

When Japan claimed sovereignty over Dokdo after Korea's independence, the media, including the Dong-A Ilbo, reported it extensively. As a result, public awareness of the need to protect Korea's sovereignty over Dokdo increased, and several academic research studies and legal revisions to protect Dokdo followed. Like the media at that time, The Argus is once again recording and proclaiming to the world that Dokdo is a Korean territory. By inheriting the noble consciousness of the Korean ancestors who tried to protect Dokdo in the past, the generations who live in the present and those in the future must also make efforts to protect Dokdo. 

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# To Be Responsible for Dokdo


By Cho Eun

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Off the eastern coast of Ulleung Island in South Korea (hereafter Korea) lies the picturesque Dokdo Island, consisting of two distinct volcanic landmasses. This area is abundant in biodiversity, marine life, and subterranean resources. While it represents the easternmost point of Korea, its ownership is contested due to its proximity to Japan. However, a multitude of historical records substantiate Dokdo as Korean territory. The ongoing complex and divergent interests in this matter can be traced back to Japan's colonization of Korea from 1910 to 1945. Despite these challenges, the Korean government, by refusing to acknowledge the dispute, firmly asserts Dokdo as undeniably Korean territory where Korean residents currently reside.

Much like the Korean government, Koreans fervently maintain that Dokdo belongs to Korea, and they are committed to its protection. However, contrary to this conviction, it appears that Korea may not be entirely successful in safeguarding and managing Dokdo. Ocean desertification\* on Dokdo has been a trouble for over a decade, despite knowledge of effective solutions. Some scholars and publications attribute this problem to global warming. However, the problem of increasing temperatures has been under discussion for some time, allowing ample opportunity to address the issue. Many individuals remain unaware of the ongoing circumstances and underestimate its gravity. The nature of Dokdo is undergoing changes due to global warming, resulting in the emergence of subtropical species not previously seen. This shift in the ecosystem directly impacts our lives. There are other challenges that Dokdo is grappling with, yet Koreans may not be affording them the requisite attention. This remarkable island merits increased scrutiny, and it is possible that the actions of Koreans themselves, rather than global warming, may be contributing to its detriment.

The methods used to promote and educate people about Dokdo are also outdated. Fostering patriotism and teaching the exact latitude and longitude may not be a good approach for today's kids and young adults. They must understand why and how Dokdo should be conserved, recognizing its relevance and potential impact on them, as individual Koreans. To assert the hostility of Japan also has no power over younger generations who have never experienced colonization or war. Beyond that, such an approach is inappropriate and morally questionable from the outset. The desire to protect Dokdo should be cultivated through an appreciation of its value and sovereignty, rather than through animosity toward others.

We must raise awareness and bring Dokdo closer to the hearts of Koreans. Frequent exposure through news, promotions, and any other means can be effective. Providing individuals with firsthand, personal experiences and impressions of Dokdo is essential, as people at this time rely more and put more weight on what they actually see and feel. Just as nature demands, we must recognize that the future of Dokdo is within our grasp. 

\*Ocean desertification: A phenomenon where marine ecosystems and environments become degraded or depleted by marine algae diminishing and calcium carbonate covering sea floor and rocks.

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# The Most Precious Value

## Lee Jue-hyun

The fundamental criterion for me right now is not losing myself. Each of us encounters various difficulties and challenges as we go through life. In such situations, I believe that trusting myself and knowing who I am provides significant strength for me to move forward in a direction that suits me, no matter what challenges may arise. By standing confident in myself, gradually, I have faith that I, as a person, will grow.

## Kim Su-yeon

As time goes by, I realize the importance of humility. I am trying hard not to lose the ability to admit that I could be wrong. Humility gives me opportunities for growth, but false humility is annoying. When I was a teenager, I appeared humble but inwardly was a bit conceited. However, I have realized from the experience that false humility prevents me from facing my shortcomings, eventually hindering my progress. These days, I am always reminded that my accomplishments were not achieved by me alone but with the help of others. I try to stay confident without being self-complacent.

## Kim Jun-hong

Enjoying the change of seasons is something I want to keep with me until I die. My parents emphasized that I should never forget to notice the seasonal changes since I was a child. When I was young, I was not sure what it meant, but nowadays I truly understand its meaning. Being busy from day to day, I tend to become less sensitive to the changing of seasons. That is why I ride a bicycle to feel the seasons throughout my whole body. Pedaling hard, I notice the change in the colors of leaves, the smell of the air, and the height of the sky all at once. Listening to a song that best suits the atmosphere is a bonus.

## Ryu Hyo-rin

The most precious value in my life is peace of mind. Like every Korean student, I always have so many things to do, such as studying, doing a part-time job, and working out. Living a life like this, sometimes I get weary, but at the same time, I have thoughts like “I lag behind others.” One day, I realized thinking negative thoughts in my busy daily life is a poison to my entire life, so I try to maintain my peace of mind, doing something relaxing like riding a bike along the Han River, reading a book, or watching my favorite TV show or drama.

## Kim Ji-hyang

My first and foremost priority in life is myself. At least once a day, I try to do something that delights me as a way of looking after myself. That “something” could be getting a drink from Starbucks, listening to my favorite music, taking a quick nap, being by myself for a while, etc. Though others can respond that those things are just part of an ordinary routine, such everyday events are a big matter to me. Since I am the type of person who finds joy and meaning in little things, I will proceed to appreciate and enjoy the little things in the future.

## Jang Yewon

The thing I do not want to lose the most is confidence because I have to be confident to believe in myself. For someone like me who is obsessed with planning and perfection, confidence is a very important weapon. In order not to lose confidence, I always try new things. Sometimes it is exercise, sometimes it is games, sometimes it is studying. A new challenge I have taken on recently is skateboarding. Gaining confidence through exercise may sound strange. However, watching my skateboarding skills increase can give me pride and confidence at the same time. In this way, I try not to lose confidence in myself in many ways.



### Cho Eun

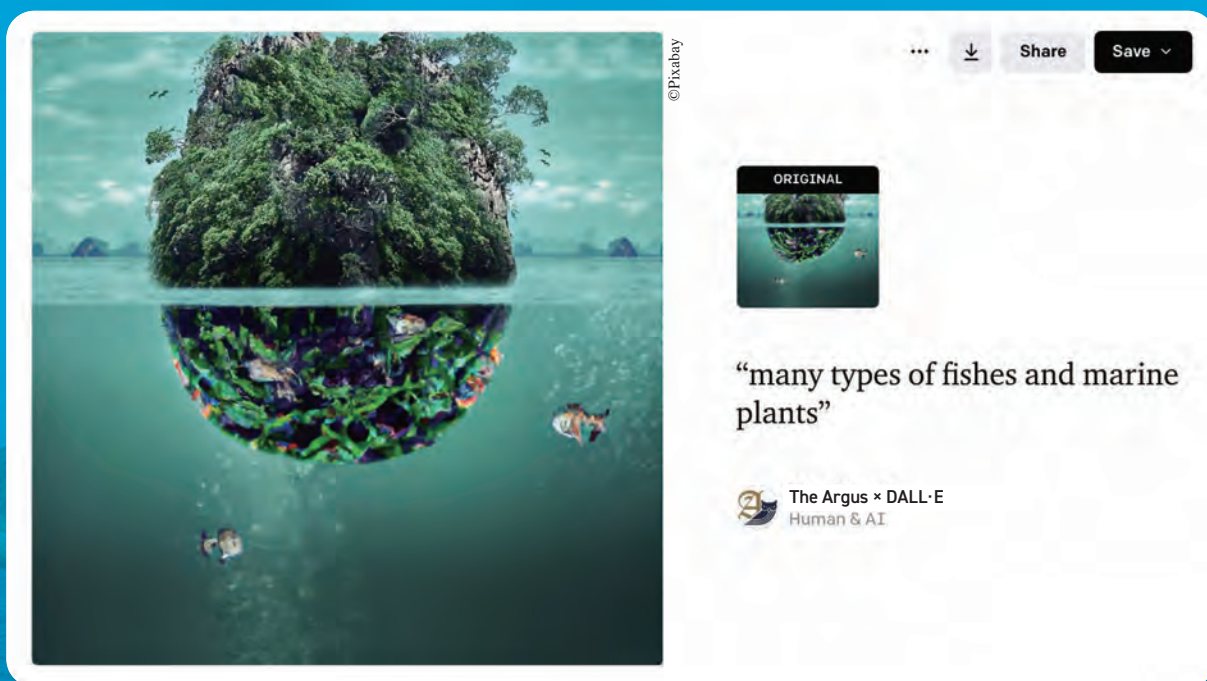
I am not naturally talented, so I rely on consistency to keep up. I combat laziness with a strict routine: early mornings, regular exercise, and early nights. I also prefer to tackle my tasks incrementally each day, rather than procrastinating and attempting to complete them all at once. Once these simple yet demanding routines become habitual, it becomes easier for me to sustain them. If I relax too much, though, laziness creeps in, making a comeback daunting. Staying committed to my routine is vital to me, something I cannot give up.

### Park Kun-ha

I have had lots of curiosity since I was young. If there was anything that I did not know while having a conversation with my friends, I tended to investigate it until I wholly figured it out. I like my curiosity and my aspiration to explore, and that is the aspect of myself that I do not want to lose the most. Curiosity is the stimulant that makes me feel like I am being led to another new world. I often have discussions about current events, poring over newspaper articles to refresh my view with others' perspectives. I always wish to get a wider view of the world.

### Yang Yu-min

The things I do not want to lose are my loved ones. When I think of losing my beloved friends or family in an instant, I always feel like crying. Everyone experiences failure at some point in time, becoming lethargic, and wanting to give up on everything. However, the fact that there is someone who supports you by your side becomes the driving force to get back up again. For this reason, I always focus on the present and try to be the best I can be for my loved ones. Since the past cannot be changed and the future cannot be predicted, all I can do is try to live faithfully in the present.





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