

The Politics of Science in Korean Biology: From the DMZ Ecological Survey to the Nature Conservation Movement

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The Korean War functioned as a catalyst that materialized the Cold War, which was an imagined reality.¹ South Korea took full advantage of the geopolitical conditions established by the Cold War to accelerate its economic growth. The rapid growth of Korea's science and technology is often credited to the government-led development process.² I agree with that argument, but that does not mean that the government or the supreme ruler was the only or the most powerful actor. Equally important were the scientists, who developed their fields and institutions in line with government policy and emphasized the importance of promoting science and technology even before the government initiated a major science and technology policy. At the same time, the international environment was conducive to scientific cooperation, fulfilling scientists' hopes and bringing government policies to frui-

Received June 25, 2020; Reviewed July 24, 2020; Accepted July 25, 2020.

DOI: <http://dx.doi.org/10.36092/KJHS.2020.42.2.431>

* This research was supported by the Research Base Construction Fund Support Program funded by Jeonbuk National University in 2020. The first draft was presented as “The Ecological Survey of the DMZ and the Growth of Biology in South Korea” at the 2017 EAEH conference in Tianjin, China. Revised versions have been presented in a workshop on “Public Diplomacy of Knowledge” in Kyoto in January 2020 and in other forums. I thank Professor Yuka Tsuchiya, organizer of the workshop, and commentator Professor Nick Cullather. I also thank the three anonymous reviewers of *KJHS* for their valuable critique and suggestions.

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¹ Masuda Hajimu, *Cold War Crucible: The Korean Conflict and the Postwar World* (Cambridge & London: Harvard University Press, 2015).

² Joel R. Campbell, *The Technology Policy of the Korean State Since 1961* (New York: The Edwin Mellen Press, 2009).

tion.³ The United States was eager to provide material support and know-how for development of science and technology in Korea.

After 1945, the development of science and technology was influenced more by the Cold War than by any other factor, and science and technology were central in winning the hearts and minds of the people in developing countries.⁴ The legacy of the Cold War in Korea has left many traces in science and technology. Wolfe's book on Cold War science extends the "cultural cold war" discussion to science.⁵ Among the scientists mentioned in the book, Harold Jefferson Coolidge (1904–85), who headed the Pacific Science Board of the National Academy of Sciences (NAS), is familiar to Korean biologists.

This paper focuses on the U.S.-Korea Ecological Project on the Demilitarized Zone (DMZ), launched at Coolidge's initiative, and explores the strategies that Korean biologists used to develop their fields. There have been several case studies on Korean science and technology during the Cold War.⁶ I will trace the development of collaborative projects in science between the United States and South Korea as part of diplomacy in the 1960s. Doing so will add a new dimension to the analysis of the relationship between Korean science and the Cold War.

Korean Scientists' Predicaments during the Cold War

Upon liberation in 1945, the Korean people were brimming with ideas and initiatives for rebuilding their country. Scientists insisted on prioritizing the promotion of science and technology. They thought that strong support for science and technology was the only way to break the shackles of colonialism. Although the details of their arguments differed, there was general agreement on the need to establish administrative institutions that would enforce science and technology policies, to

³ Tae Gyun Park, "The Roles of the United States and Japan in the Development of South Korea's Science and Technology during the Cold War," *Korea Journal* 52:1 (2012), 206–231.

⁴ Audra J. Wolfe, *Competing with the Soviet: Science, Technology and the State in Cold War America* (Baltimore, MD: Johns Hopkins University Press, 2013).

⁵ Audra J. Wolfe, *Freedom's Laboratory: The Cold War Struggle for the Soul of Science* (Baltimore: Johns Hopkins University Press, 2020).

⁶ For example, Geun Bae Kim, "The Political Power-Mediated Expansion of Science and Technology under the Park Chung Hee Regime," *Korea Journal* 58:4 (2018), 114–142; John DiMoia, "Atoms for Power? The Atomic Energy Research Institute (AERI) and South Korean Electrification, 1948–1965," *Historia Scientiarum* 19:2 (2009), 170–183; Ock-Joo Kim and Sang-Ik Hwang, "The Minnesota Project — The Influence of American Medicine on the Development of Medical Education and Medical Research in Post-War Korea," *Korean Journal of Medical History* 9:1 (2000), 112–123.

create laboratories for research and development, and to strengthen education in science and technology.⁷

However, the science and technology issue was not high on the government's policy agenda given the postwar social and economic turmoil. Therefore, the scientists' concerns were seen as impractical by the government. Since there had been few institutions of higher education for science and technology under Japanese colonialism, the Korean government established national universities with science and engineering colleges.

In the 1950s, amid national reconstruction, the scientific and technological community demanded support, but to no avail. After U.S. President Dwight D. Eisenhower's declaration of "Atoms for Peace," South Korea signed the ROK-U.S. Atomic Energy Agreement, but the ROK government's expectations for nuclear power were limited to the country's power needs.⁸

Education and research at the College of Medicine, College of Engineering, and College of Agriculture of Seoul National University were modeled on the United States through the Minnesota Project, which enjoyed the support of the International Cooperation Administration (ICA) of the United States.⁹ However, support for fields like biology was minimal since they were not seen to have much practical value.

In 1957, Young Sun Kang (1917-99), a professor of zoology at Seoul National University, lamented the situation of basic scientists who failed to benefit from overseas support projects, including the Minnesota Project, when evaluating the scientific community.

The basic part of Korea's natural sciences has not been given an opportunity to receive foreign aid, including facilities, and has not been able to participate in the domestic reconstruction plan and has remained destroyed from the Korean War. Therefore, the fundamental scientists are in an atrocious condition.¹⁰

Thus, the Korean biologists had no other choice but to save themselves.

⁷ Manyong Moon, "Postcolonial Desire and the Tripartite Alliance in East Asia: The Hybrid Origins of a Modern Scientific and Technological System in S. Korea," in Hiromi Mizuno, Aaron S. Moore, and John DiMoia eds., *Engineering Asia: Technology, Colonial Development and the Cold War Order* (London: Bloomsbury, 2018), 165-188.

⁸ John DiMoia, "Atoms for Power?" (cit. n. 6).

⁹ Ock-Joo Kim and Sang-Ik Hwang, "The Minnesota Project" (cit. n. 6).

¹⁰ Young Sun Kang 강영선, "Jeongyu munhwagye chongpyeong jayeon gwahak (ha) 정유 문화계 총평 자연과학(하) (A General Review of the Cultural Community: Natural Sciences, 2nd half)," *The Kyunghyang Shinmun* 경향신문, (1957. 12. 23).

Networking with Biologists outside of Korea

Keijō Imperial University, the only university in Korea during the Japanese occupation had no biology department. In 1946, the first department of biology was established at its successor, Seoul National University. Departments of biology also appeared at national universities across Korea. Biologists also founded academic societies to advance the study of biology. They began by identifying the biological terms in Korean and on publishing illustrated secondary school textbooks on animal and plant biology. However, due to the lack of researchers and teaching materials, university-level biology courses were not of the highest quality. In the 1960s, although nationwide economic growth brought a slight increase in support for some fields in science and technology, biology was not one of them. Biologists had to take advantage of their own professional networks in the hope of obtaining research funds from international organizations.

Young Sun Kang, a pioneer of Korean zoology, secured training opportunities and research funds by applying to international organizations such as the Smith-Mundt Program, the Asia Foundation, the International Atomic Energy Agency, the Rockefeller Foundation, and the National Academy of Science, and by leveraging his own international network. Through these efforts, his research field expanded from cytology to cytogenetics through human genetics, *Drosophila* genetics and cancer cell research. According to historian Jaehwan Hyun, Kang's overseas research was shaped by his connection to the department of zoology at Hokkaido Imperial University, where he had studied during the colonial period. Hyun therefore argues that Korean biology had still not overcome its colonial legacy.¹¹ Nevertheless, Kang gained knowledge and know-how from his exchanges with overseas scholars and passed them on to younger students and scholars, thereby laying the groundwork for Korean zoology.

Ornithologist Pyong-Oh Won (1929-2020) showed the bird specimens and research materials he had collected to Harold Jefferson Coolidge when Coolidge was visiting Korea in 1960. Coolidge then encouraged him to attend the 12th conference of the International Council for Bird Preservation in Japan. This paved the way for Won to begin an academic exchange with Japanese scholars, and to earn a Ph.D. from Hokkaido University. He also completed a postdoctoral fellowship under the supervision of S. Dillon Ripley (1913–2001), chair of the International Council for Bird Preservation, whom he met at the conference.

While in the United States, Won was asked about the research project funded by the United States government on bird migration. Won claimed that South Korea should be included because most of the migratory birds from Siberia and Manchu-

¹¹ Jaehwan Hyun, "Making Postcolonial Connections: The Role of a Japanese Research Network in the Emergence of Human Genetics in South Korea, 1941-1968," *The Korean Journal for the History of Science* 39:2 (2017), 293-324.

ria moved through Korea. Thanks to this, he received seven years of research funding from the United States while on the faculty of Kyunghee University. His research team released 200,000 migratory birds of 135 species with aluminum rings attached to their ankles. "It was Japanese scholars who laid the foundation for my studies, and it was American scholars who broadened the world of learning," Won recalled.¹² In addition to Kang and Won, many biologists wanted to study abroad, preferably in the United States.

In 1963, biologists and geologists organized the Korean Commission for Conservation of Nature and Natural Resources (KCCN). The commission's main purpose was to study and preserve Korea's nature and natural resources. The task began in 1964 with a comprehensive survey on Mt. Halla on Jeju Island.¹³ A year later, KCCN joined the International Union for Conservation of Nature and Natural Resources (IUCN). This organization had been involved in the International Biological Programme (IBP) since 1965, and conducted important research. This was a case of the development of biology through an international cooperation project conducted by a group of biologists, rather than by independent scholars.

The IBP was an international program of biological studies focusing on the productivity of biological resources, human adaptability to environmental change, and environmental change itself. Between 1964 and 1974, 97 countries participated in it.¹⁴ Korean biologists formed the Korean National Committee for the IBP with Kang as chair. In July 1964, they hoped to send a South Korean representative to the first general assembly of the IBP in Paris, but failed to secure funding. Although it hosted international research, the IBP headquarters did not fund research projects in individual countries, so each country had to secure its own. Therefore, the Korean members had to appeal to the government and the Asia Foundation. The determination efforts of these scientists led to the first research plan, allocating KRW 400,000 (US\$1,500) instead of the KRW 3 million expected in the 1966 budget.

The researchers founded seven divisions and began their research in 1966. The Korean government demanded that the committee's research contribute to the economic development plan. Biologists had to negotiate with the government to adjust their research plans.¹⁵ Finally the government offered some research funds to the

¹² Pyong-Oh Won 원병오, *Saedeuri saneun sesangeun areumdapda* 새들이 사는 세상은 아름답다 (The World Where Birds Live is Beautiful) (Seoul: Daum, 2002), 80-90.

¹³ The KCCN changed its Korean name twice in the 1960s, but the English name remained KCCN throughout.

¹⁴ E. B. Worthington ed., *The Evolution of IBP* (Cambridge: Cambridge University Press, 1975); David C. Coleman, *Big Ecology: The Emergence of Ecosystem Science* (Berkeley: University of California Press, 2010), 15-88.

¹⁵ "Korean National Programme for the IBP," *Report for the IBP 2* (1968), 5-19.

Korean IBP committee. Although the budget was limited, biologists had “worked hard to save the country’s face and contribute to the national development through the research and development of biological resources.”¹⁶

The findings of the Korean IBP Committee were included in the annual IBP report, beginning with the first report in 1967, and published in seven volumes until 1975. The reports were released to IBP headquarters in the United Kingdom for distribution to member countries. In addition, the Korean Committee hosted its second large symposium and shared its findings at the IBP general meetings and at regional conferences. As a result, the IBP was forum from which Korean biologists could present themselves and their work to a worldwide community of scientists. An ecological survey on the DMZ was one reason for the government’s continued financial support to the Korean IBP Committee.

Rediscovery of the DMZ by Ecological Survey

Under the Korean War Armistice Agreement that came into force on July 27, 1953, the DMZ was established as a buffer zone to prevent military conflict. Contrary to the name DMZ, the zone has guard posts where armed military forces from the North and the South are always stationed, and countless mines are buried.¹⁷ Because of limited human activity, the DMZ is a nearly pristine natural ecosystem that has often been called the largest nature reserve in Asia.

For a decade after the DMZ was established, almost all news coverage of the DMZ mentioned confrontations, clashes, and military conflicts between the two Koreas. However, in February 1964, *The New York Times* published an article about wildlife in the DMZ. Six days later it was translated into Korean and published in a newspaper under the headline “The DMZ, Wildlife Paradise” (See Figure 1).¹⁸ This article showed a new perspective on the DMZ, where wild animals

¹⁶ Staff writer, “Segyeui daeyeoreseo, Hanguk haksurui gukje chamyeo 세계의 대열에서, 한국학술의 국제참여 (International Participation of the Korean Academic),” *The Kyunghyang Shinmun* 경향신문 (1966. 1. 26).

¹⁷ In a military agreement in 2018, the two Koreas decided to remove 10 DMZ GPs on a trial basis. However, the withdrawal of the remaining GPs has been suspended since the rupture of the second U.S.-North Korea summit in 2019. Currently, about 60 South Korean and 150 North Korean GPs remain in the DMZ. Nak Kyu Yang 양낙규, “GP cheolsu dasi chujinhanda GP 철수 다시 추진한다 (GP Withdrawal, Re-promoting),” *The Asia Business Daily* 아시아경제, (2020. 1. 21).

¹⁸ Oscar Godbout, “Wood, Field and Stream: Wildlife in Korean Demilitarized Zone Is Unlikely to Be Disturbed,” *The New York Times*, (1964. 2. 20); Oscar Godbout, “Geumsuui nagwon……bimujang jidae 금수의 낙원…… 비무장 지대 (The DMZ, Paradise of Wildlife),” *The Dong-A Daily News* 동아일보, (1964. 2. 26). The reporter of the article, Oscar Godbout (1926-

thrived because of the small human presence. The extent to which the article changed public perceptions of the DMZ is unknown, but it is likely one factor in the first ecological survey of the DMZ conducted the following year.



Figure 1. Oscar Godbout, “Geumsui nagwon……bimujang jidae (The DMZ, Paradise of Wildlife),” *The Dong-A Daily News*, (1964. 2. 26).

The DMZ ecology project was a result of the exchange between Korean biologists and Coolidge, president of the IUCN and executive director of the Pacific Science Board of the NAS, and who collaborated closely with the National Academy of Sciences of Korea.¹⁹ In November 1965, Young Sun Kang arranged for Coolidge to be granted an honorary doctorate from Seoul National University, which led to the idea of an ecological survey of the DMZ. The idea sparked considerable interest not only among Korean biologists, but also in American academia. Korean scientists, who started the research on the natural ecosystem by organizing the KCCN, were able to conduct research with overseas support through the DMZ project. Under the auspices of spreading research on ecosystem ecology with the launch of the IBP in 1964, the United States could perform ecological surveys on a significant military area.

Coolidge and five researchers from Korea led a three-day preliminary survey in December 1965, and Korean biologists conducted their first ecological survey in Panchuk-gol, the western region of the DMZ. The following year, Kang attended a four-week training session in the United States using the basic data he had amassed during the preliminary survey and agreed with the Smithsonian Institution on a

67), served as an outdoor columnist for *The New York Times* and wrote articles introducing the wilds of the world.

¹⁹ The description of the ecological survey of DMZ is an abridged revision of my paper, “Bimujang jidae saengtae josau uiuiwa jeonmang 비무장지대 생태 조사의 의의와 전망 (The Meaning and Prospect of the Ecological Survey of the DMZ),” *Daedong munhwa yeongu* 대동문화연구 (Journal of Eastern Studies) 106 (2019), 39-44.

planned survey of the DMZ. The agreement was that basic research should be conducted over two years, the United States would cover the cost of US\$120,000, while Korean researchers would do the actual survey. The two parties also decided to adopt a five-year research plan after two years of preliminary research.²⁰

Under this agreement, in June 1966, 18 American scholars visited Korea to participate in the International Conference on the Conservation of Nature and Ecological Survey of Wildlife in the DMZ and to establish the Korean Science Museum. This was the first time that many Korean biologists collaborated with their foreign colleagues on long-term research projects. In September of that year, Kang, who represented Korea at the Pacific Science Conference in Japan, proposed a national park project for the DMZ, and his proposal was adopted as part of the formal agenda for the conference. Thus, the DMZ made its debut in international academia as an object of ecological research, not just as a military site.

Because the DMZ was a dangerous place, the researchers had to write and sign waivers of liability in case they were injured in the course of their work. Pyong-Oh Won, who had fled North Korea, was under constant surveillance by military agents because of North Korean propaganda asking him to return to the North where his father still lived.²¹

In November 1967, Helmut Karl Buechner (1918–1975), the director of the Office of Ecology of the Smithsonian Institution, announced during his visit to Korea that the Institution would provide US\$2.8 million in aid. He also revealed that he would establish the Korea Center for Environmental Studies, which would host the plan, and promote the education of middle and high school science teachers and students. However, in 1968, as North Korea's military provocations intensified, the survey project for the DMZ became untenable. As a result, after the preliminary survey ended in September 1968, the Smithsonian Institution canceled the survey because of safety concerns for the researchers.

The final report, containing the results of the two-year survey, was submitted to the Smithsonian Institution in September 1968.²² The report contained a compre-

²⁰ Smithsonian Institution, *Smithsonian Year 1968 (Annual Report of the Smithsonian Institution for the Year Ended 30 June 1968)* (Washington, DC: Smithsonian Institution Press, 1968), 288.

²¹ Ornithologist Hong-Gu Won was a biologist in North Korea and confirmed Daurian myna released by his son, Pyong-Oh Won in South Korea. The story was described in movies and books. For their story, see Kimio Endo 遠藤公男, translated by Eun Ok Lee 이은옥 and You Jin Jung 정유진, *Arirangui parangsae* 아리랑의 파랑새 (Arirang's Bluebird) (Namyangju: Cup&cap, 2017).

²² Helmut K. Buechner, Edwin L. Tyson, and Ke Chung Kim, *Final Report: A Cooperative Program for Ecosystem Research in Korea, October 1966 – September 1968* (Washington, DC: Office of Ecology, Smithsonian Institution, 1968). I received copies of this report and letters, which was owned by the Smithsonian Institution, from Dr. Jaehwan Hyun.

hensive evaluation of the entire project, in addition to strong criticism of the individual reports presented by Korean researchers. As a consultant, Ke-Chung Kim (1934-), an entomologist at Pennsylvania State University, expressed disappointment in the preliminary survey, the limitations of the Korean scientists and the Smithsonian's inaccurate judgments on the Korean academic environment at the time.²³ In other words, Korean scientists had not been prepared to undertake such an ambitious project.

The Smithsonian Institution had hoped to see a comprehensive ecological analysis that was more than a simple survey of the biological situation in the DMZ. Unfortunately, Korean biologists did not yet possess the requisite understanding of ecosystem ecology. There were also cultural and academic differences between the American and Korean researchers. The Americans were perplexed by the strict hierarchy between Korean academic advisers and their students.

A study of the correspondence between the Korean and American researchers, revealed leadership rivalry and generational conflicts between older Korean biologists and younger Korean scholars who were working in the United States.²⁴ The Smithsonian field representative and program manager, Edwin L. Tyson (1920–76), complained that Korean biologists on the project were political and factional, and that they had problems communicating in English. To compensate, Ke-Chung Kim, who was familiar with Korean culture and fluent in English, was appointed as a consultant. After graduating from Seoul National University, he studied in the United States, and Kang was one of his teachers. Therefore, it was not easy for Kim to work as planned in the researcher group. For Korean biologists, it was difficult to adjust to the practices of the American researchers. Kang also wanted to divide the research funds equally among the scientists on his team. Although American researchers accused Kang of being a greedy and stubborn old scholar, he was proud to see himself as a Korean academic. Tyson believed that the initiative could not be handed over to Korean scholars because the ecological survey was not a foreign aid program, but a project where the Smithsonian was responsible for the distribution of research funds.²⁵ This suggests that, even though the Smithsonian-Korean project took the form of a cooperative research program, other interests were at work.

²³ Ke Chung Kim, "Part Two: The Smithsonian Ecology Program in Korea: Reviews and Recommendations," in *ibid.*, 1-10.

²⁴ Jaehwan Hyun, "Brokering Science, Blaming Culture: The US-South Korea Ecological Survey in the Demilitarized Zone, 1963–1968," *History of Science* (forthcoming).

²⁵ A letter from Edwin Tyson to Helmut K. Buechner, November 28, 1966.

In-soo Kim published a paper on how the United States wanted to control Korean researchers by supporting academic activities in agricultural economics.²⁶ This shows how the disproportionate academic power of the United States during the Cold War set the tone for the Korean social sciences by using its knowledge network, research funds, and training programs to control the production of knowledge. There are several studies on the impact of and change in academic aid provided by private foundations on policies and internal intellectual society in the field of social science, including social policy. In contrast, there are few such studies in science and technology, and in medicine. This is largely because not many studies were conducted on science and technology. Another reason is that historians have not taken issue with developing countries' attempts to elevate their scientific capabilities by adopting knowledge and skills from advanced countries. Since science is considered a universal knowledge, foreign science and technology supports have been regarded natural and reasonable projects. However, the process was not unilateral. This was especially true in biology, where locality was an important factor.

In fact, during the course of international joint research programs in developing countries, delays due to cultural differences were not uncommon. However, with the DMZ ecology project, no special measures were taken, and given the nature of Korean culture, the mediator was not effective. This suggests that technical assistance can be achieved when the recipients are receptive and the provider is capable of sharing.

What did Korean biologists expect from the DMZ ecological survey? Although the main survey was aborted, the DMZ project promise to reveal something unknown about a troublesome place, and the DMZ was reconstituted as a precious ecological repository. Korean biologists also conducted joint research with prestigious international organizations, bringing value to the Korean government and society for their research activities, even though scholars in the United States remained unimpressed. Witnessing the launch of international projects such as the IBP, Korean biologists who struggled with a lack of funding were able to conduct research on the DMZ with the support of the Smithsonian Institution.

²⁶ In-soo Kim 김인수, “Naengjeongwa jisik jeongchi – Bakjinhanui *Farm Management Analysis* (1966)ui seongnip sajeongeul jungsimeuro 냉전과 지식 정치: 박진환의 *Farm Management Analysis* (1966)의 성립 사정을 중심으로 (Knowledge Politics in the Early Cold War Era: Focused on the Historical and the Academic Meaning of *The Farm Management Analysis* (1966) of Jin-Hwan Park),” *Dongbuga yeoksa nonchong* 동북아역사논총 (Journal of Northeast Asian History) 61 (2018), 408-465.

The DMZ Ecology Project as a Window of Opportunity

On July 4, 1972, North and South Korea issued a Joint Declaration which included agreements on reunification. This easing of tensions revived biologists' interests in the DMZ. The Korean version of 1968 Smithsonian Institution report was published in June 1972. Titled *A Study on Natural Resources in the Demilitarized Zone*, the booklet was the first domestic report on the topic.²⁷ The Smithsonian's report was never translated into Korean. The contents were rearranged and divided into three parts: plant resources, animal resources, and geological surveys. The report listed the flora and fauna living in the DMZ and excluded the results of the ecological analysis. The title, "Research on Natural Resources," instead of "An Ecological Survey," was part of the biologists' strategy to emphasize the value of their work. In support of the IBP, the government demanded a contribution to economic development by the biologists; research in natural resources was indicative of their willingness to comply. The difference between the contents and titles of the two reports based on the same survey came from the direction of the Korean-language report, which emphasized that the research and conservation value of the DMZ was significant due to its plentiful flora and fauna. As a result, issues such as changes in the ecological environment and the restoration of destroyed vegetation in the DMZ during the 15 years following the armistice were pushed to the back.

Kang then conducted a survey commissioned by the Board of National Unification and published *A Comparative Study of Natural Resources in the North and South Korea*.²⁸ Based on prior research, the report listed mammals, birds, reptiles, amphibians, and freshwater fish native to the Korean Peninsula. With the easing of tensions following the Joint Declaration, the Board of National Unification requested reports on North Korea in preparation for reunification; biology had a role in the project. Kang's report showed that flora and fauna of South and North Korea had become a government concern, and this was a positive corollary of the DMZ's ecological survey.

After that, Kang announced a plan for joint research by the two Koreas on natural resources in the DMZ.²⁹ This was the part of a three-year comprehensive survey,

²⁷ Young Sun Kang 강영선, *Bimujang jidaui cheonyeon jawone gwanhan yeongu* 비무장 지대의 천연자원에 관한 연구 (A Study on Natural Resources in the DMZ) (Seoul: The Board of National Unification, 1972).

²⁸ Young Sun Kang 강영선, *Nambukan cheonyeon jawonui bigyo yeongu* 남북한 천연자원의 비교연구 (A Comparative Study of Natural Resources in North and South Korea) (Seoul: The Board of National Unification, 1972).

²⁹ Young Sun Kang 강영선, *Bimujang jidae gongdong gaebareul tonghan nambukan sangho hyeopjosangui munjejeom mit daechak* 비무장지대 공동 개발을 통한 남북한 상호협조상의 문제점 및 대책 (Problems and Measures for Mutual Cooperation between the Two Koreas through Joint Development of the DMZ) (Seoul: The Board of National Unification, 1972).

which was a basis for the creation of a world-class natural park by developing the center of the Mt. Taebaek Range connecting Mt. Seorak, Hyangnobong Peak, and Mt. Geumgang. However, since relations between two Koreas were deteriorating, there were no follow-up discussions. Fifty years later, the plan has still not been realized.

However, based on this proposal that a further survey is needed on the DMZ's biota, in 1972 the Bureau of Cultural Property of the Ministry of Culture and Information commissioned the KCCN to reexamine the DMZ. Thirty-three scholars made a return visit to the four areas they had surveyed in 1966, and the results were published in 1975.³⁰ The researchers argued that a complete study of biota near the DMZ would be the basis for a biological study of Korea as a whole. In other words, the biota of the DMZ was useful for biogeography and bio population studies beyond biodiversity because it showed the change "in the biodiversity of the area left in a natural state without artificial use."³¹ Of course, the biologists recognized that the area was not completely pristine, but they believed that the DMZ could be used as a kind of ecological testing ground or outdoor laboratory.

As we have seen, the ecological survey of the DMZ in the 1970s was conducted by members of the KCCN with the support of the Bureau of Cultural Property Preservation of the Ministry of Culture and Information. The biologists' argument that the DMZ's well-preserved ecological environment should be managed as a natural reserve was accepted by the Ministry of Culture and Information, which oversees natural monuments.

Since the government also accepted the need for follow-up research, the ecological survey of the DMZ achieved its goals. The results of the study also showed progress from a simple list to a study on ecological change, indicating that the DMZ survey had become the soil in which biologists could grow their research capabilities. The DMZ was no longer a space of unproductive violence or a barren land, but a place for academic exploration. The DMZ, the last remnant of the Cold War era, created new research opportunities for Korean biologists.

Biologists' Movement for Nature Conservation

In the 1970s, the KCCN, which paved the way for the DMZ ecological survey, became a core group of the nature conservation movement in Korea. In 1974, the

³⁰ The Korean Association for Conservation of Nature, *Bimujang jidae injeop jiyeok jayeon jonghap haksul josa bogoseo* 비무장지대 인접지역 자연종합학술조사보고서 (The Reports on the Scientific Survey of near the DMZ) (The Bureau of Cultural Property of the Ministry of Culture and Information, 1975). As KCCN was renamed KACN (The Korean Association for Conservation of Nature) in 1974, the author of the report became KACN.

³¹ *Ibid.*, 258.

organization was renamed the Korean Association for Conservation of Nature (KACN) with botanist Deok-bong Lee as its chair. In May 1974, KACN executives, including Lee, Young Sun Kang, and Pyong-Oh Won, visited the Blue House to appoint Young-soo Yuk, the first lady of South Korea, its first president. Lee was the principal of the girls' high school that Yuk had attended. In addition, ornithologist Won had been a lieutenant to General Chung-hee Park during his military service, and would prove a useful conduit for maintaining contact after a military coup brought Park to power. When Park asked the executives if there was anything they needed, the executives requested KRW 100 million. President Park responded by requesting a plan for project, and Yuk offered a gift of KRW 10 million. Unfortunately, three months later, on August 15, Yuk was killed in an attempt on the president's life at the Liberation Day celebrations.

Despite the tragic death of the association's first president, funds for the KACN were provided by the Korea Forest Service the following year, and the biologists formed nine branches in several cities and provinces across the country. In May 1976, KACN executives visited the Blue House again and met President Park. He appointed his eldest daughter, Geun-hye Park, who had taken over for her mother as first lady, as KACN's second president. Following that, President Park ordered an additional KRW 100 million be given to the association, and the KACN established a solid foundation thanks to President Park's financial support and the calligraphy of "Nature Conservation" for the association.³²

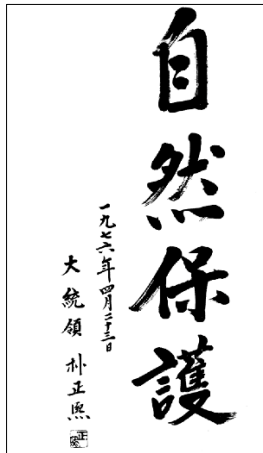


Figure 2. President Park's calligraphy of "Nature Conservation." source: *Jayeon bojon* 자연보존 (The Conservation of Nature and Natural Resources) 11 (1976).

³² Sang-Joon Kang 강상준, "Ireobeorin jayeonbojonui yeoksareul chaja 잃어버린 자연보존의 역사를 찾아 (Looking for a Lost History of Nature Conservation)," *Jayeon bojon* 자연보존 (The Conservation of Nature and Natural Resource) 150 (2010), 1-8.

The KACN, an association that many biologists had joined, made the most of its close relationship with Korea's president. Access to political power lent support to the biologists' scientific activities. The KACN's environmental movement also influenced President Park; in October 1977 he suggested the launching of a nationwide nature conservation movement. The government established the Nature Conservation Committee, chaired by the prime minister. In the private sector, Nature Conservation Councils were organized in each province, city, county, district, and large workplaces and labor unions. Korean citizens were mobilized. The KACN, a society of scholars, concentrated on academic research. Responsibility for public information and mobilization was transferred to the Nature Conservation Committee and the Nature Conservation Councils. The KACN conducted comprehensive academic research on Korea's natural ecosystem and supported the conservation movement by publishing *Hanguk jayeon bojeon hyeopoe Josa yeongu bogoseo* 한국자연보전협회 조사연구보고서 (The Report of the KACN), *Hanguk jayeon bojon yeonguji* 한국자연보존연구지 (The Korean Journal of Nature Conservation) and the magazine *Jayeon bojon* 자연보존 (The Conservation of Nature and Natural Resources).³³

The Park regime prioritized development and economic growth. Therefore, it was perhaps inevitable that environmental relations on air and water pollution slowly took shape. In 1970, when the Minister of Health and Welfare was briefed, the President pointed out that "economic construction is urgent first and pollution is not serious yet."³⁴ Until then, factories emitting black smoke were popular symbols of the motherland developed in propaganda posters and stamps.

Forestation, however, was successful in the 1970s, and distributive policies such as natural environment surveys, wildlife conservation and natural environment conservation infrastructure were actively pursued than regulatory policies. The government's policy of allocating resources among groups can create a close relationship between the beneficiaries and the sponsor.³⁵ President Park was able to compensate for insufficient environmental policies, including anti-pollution measures for pollution, by providing material support in response to biologists' claims for nature conservation and launching a nationwide campaign for conservation.

Korea's environmental movement began as a campaign to compensate residents of industrialized areas in the 1960s and 1970s, and became a democratic movement,

³³ The association's brief history can be found on its website: <http://www.kacn.org/>

³⁴ Min Kwak 광민, "Daetongnyeongui rideosip yeongu 대통령의 리더십 연구 (A Study on the Leadership of President in Korea)," (Master's thesis, Ewha Womans University, 2000), 26.

³⁵ Tae Hoon Moon 문태훈, "Urinara jayeon hwangyeong bojeon jeongchaegui byeonhwawa gwaje: 1960-2013 우리나라 자연환경보전정책의 변화와 과제: 1960-2013 (The Evolution of Natural Environmental Preservation Policies in Korea and Future Tasks: 1960-2013)," *Hwangyeong jeongchaek* 환경정책 (Journal of Environmental Policy and Administration) 23:2 (2015), 57-95.

in confrontation with the government. However, the KACN, which prides itself on being the first environmental NGO, also partnered with the government in leading the nature conservation movement.³⁶ Nevertheless, the government-led national mobilization campaign, was considered a mere litter-picking movement, and failed to reach the essential reflection on environmental issues.³⁷ As a result, the KACN galvanized the national nature conservation movement, but its activities led to a better academic understanding of nature.

Although government support for the KACN was not for biology, it was a rare financial gift for biologists. With the sponsorship of the government, members of the KACN, who had conducted the DMZ survey, conducted ecological surveys across Korea, which became a useful asset for them in continuing their research. Although the association was unable to fund all of its researchers' academic activities, it did support research projects for ecologists and taxonomists. Biologists who had been criticized for their insufficient understanding of ecosystem biology in the survey of the DMZ had been founding societies for ecology since the 1960s, and the scope of ecological surveys widened and deepened as ecology scholars returned to Korea from abroad in the 1970s.³⁸ In general, environmental NGOs have often opposed governments, but the KACN, where biologists were at the center, has won government support by maintaining friendly relations with it.

Conclusion

Nature published an interview with the director of the Institute of Basic Science (IBS) in South Korea, in which he said that the repeated audits of IBS were politically motivated.³⁹ Interestingly, the title of David Kaiser's article in that issue is

³⁶ The relations between government and NGOs are divided into confrontational, NGO-led, government-dominant, and interdependent. Jeong-hwa Jeong 정정화, "Jeongbuwa NGOui gwangye bigyo yeongu: Miguk, Ilbon, Hanguui hwangyeong NG Oreul jungsimeuro 정부와 NGO 의 관계 비교연구: 미국, 일본, 한국의 환경 NGO 를 중심으로 (A Comparative Study of the Relation between Government and Environmental NGOs in America, Japan, and Korea)," *Hanguk sahoewa haengyeong yeongu 한국사회와 행정연구* (Korean Society and Public Administration) 17:1 (2006), 47-79.

³⁷ Park Chang-Geun 박창근, "Jayeon boho undong yugam: jayeon boho undong 10nyeoneul gokanda 자연보호 운동 유감: 자연보호운동 10 년을 곱한다 (Regret of the Nature Conservation Movement: Grieving for Ten-year history)," *Hwangyeong gisurin 환경기술인* (Environmental Engineer) 14 (1987), 8-11.

³⁸ Joon-Ho Kim 김준호, *Hanguk saengtaehak 100nyeon 한국 생태학 100 년* (One Hundred Years of Ecology in Korea) (Seoul: Seoul National University Press, 2004), 3-25.

³⁹ Mark Zastrow, "Tough Times for 'Nobel Project'," *Nature* 573 (2019), 174-175.

“Discovery is always political.”⁴⁰ In 1966, Tyson, a zoologist at the Smithsonian Institution, accused Korean biologists of being “political,” but given the climate of the 1960s, he was probably right. During the course of government-led advances in science and technology, scientists did not wait for government support, but sought out the resources that they needed. Part of such political moves were joint projects using international networks, such as the ecological surveys on the DMZ, and making the most of its connections with the political leaders to win support.

Korean biologists promoted their research by supporting the “natural resources survey” and emphasizing the international significance of their research by participating in the IBP. The first thing they did to impress the government and the people was the ecological survey of the DMZ, on which they worked with the Smithsonian Institution. The DMZ, a product of the Cold War, was recognized as a worthwhile site for scientific research on wildlife and ecology. For this reason, biologists declared the entire Korean Peninsula an object of ecological and resource survey. They tried to make the best use of their relationship with the president, while highlighting their expertise. To this end, the biologists claimed that their activities served the public interest in nature conservation. The strategy helped the government, which had been lax in enforcing environmental regulations, create a green image as a leader of the conservation movement.

These biologists did not live in an ivory tower. They wanted to develop their field by opening the window of opportunity created by the Cold War. Tyson’s description of Korean biologists as “political,” was not an exaggeration. The Smithsonian Institution’s proposal itself was a political element of Cold War public diplomacy. The intertwining of science and politics was commonplace during the Cold War.

⁴⁰ David Kaiser, “Discovery is Always Political,” *Nature* 573 (2019), 487-490.

Abstract

This paper examines the work of Korean biologists during the Cold War. I concentrate on the Demilitarized Zone (DMZ) ecological survey, which was conducted in cooperation with the Smithsonian Institution in the mid-1960s. Korea's DMZ, a legacy of the Korean War (1950-53), was recognized as a wildlife repository in the first ecological survey. The Smithsonian delegates, however, had different expectations and intentions from the Korean biologists who were conducting the survey. The project ended as a preliminary survey that never advanced to the next stage of research because of the military tension between North and South Korea. Nonetheless, this made it possible for the Korean biologists an opportunity to present their work to Korean public and receive government support for biological research in the 1970s under the auspices of nature conservation. While tracing the process and results of the joint ecological survey, I will investigate the role of United States partners in the growth of Korean biology, and the strategies adopted by the Korean biologists.

Keywords: Politics of science, DMZ ecological survey, nature conservation movement, Korean biologists