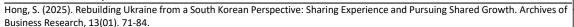
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Rebuilding Ukraine from a South Korean Perspective: Sharing Experience and Pursuing Shared Growth

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ABSTRACT

The goal of this paper is to contribute to the ongoing global discussion on participation in the reconstruction of Ukraine, and it focuses on the following three topics: First, this study shares the experiences and lessons learned from the postwar recovery of South Korea and explains its position on the reconstruction project in Ukraine. Second, this study examines the discussions on postwar reconstruction of Ukraine that are taking place in the international community and identify the direction of reconstruction in Ukraine. Third, it investigates the scale, field, and direction of Korea's support for Ukraine and analyze its characteristics and limitations. Finally, it proposes ways to participate in reconstruction projects that can be helpful to the Korean government, companies, and Ukraine.

Keywords: Reconstructing Ukraine, Russia-Ukraine War, South Korea, Ukraine.

INTRODUCTION

According to the updated Rapid Damage and Needs Assessment (RDNA3), issued by Ukraine's Government, alongside the World Bank Group, the European Commission and the UN in the February of 2024, reconstruction and recovery in war-torn Ukraine is projected to cost \$486 billion over the next decade. [1] Given that the war is still ongoing, its scale is expected to increase further.

The goal of Ukraine's reconstruction is not simply to rebuild the facilities destroyed during the war, but to completely modernize them, including eco-friendly and digital transformation, so the cost of recovery is expected to be higher than the actual damage.

Korean government is also moving quickly to participate in Ukraine's reconstruction. It has promised to support Ukraine's reconstruction through grant aid and EDCF support, and is diversifying and systematizing local networks through public-private cooperation with Ukraine, Poland, the Czech Republic, etc. Specifically, at the G20 Summit held in September 2023, President Yoon Seok-Yeol promised to provide \$300 million in 2024 and \$2 billion starting in 2025 using the EDCF. [2] In September 2023, a public-private joint reconstruction cooperation team was dispatched to Ukraine and six major post-war reconstruction projects were jointly confirmed with the Ukrainian government. [3] Based on this, the public-private joint reconstruction cooperation team consisting of the Ministry of Land, Infrastructure and Transport, the Ministry of Oceans and Fisheries, the Ministry of Trade, Industry and Energy, and related organizations has signed or is in the process of signing an MOU with relevant ministries in Ukraine and Poland for participation in the Ukrainian reconstruction project.

This paper will explain why Korea's participation in the reconstruction project in Ukraine is particularly meaningful. South Korea, which experienced a three-year war from 1950, is a country that has achieved rapid social development beyond post-war recovery, and its experience is expected to be of great help in the reconstruction of Ukraine.

Therefore, this paper focuses on the following three discussions: First, this study introduces the experiences and lessons learned from Korea's past post-war reconstruction and explains Korea's position in the reconstruction project in Ukraine. Second, this study will examine the discussions on postwar reconstruction of Ukraine that are taking place in the international community and identify the direction of reconstruction in Ukraine. Third, it will investigate the scale, field, and direction of Korea's support for Ukraine and analyze its characteristics and limitations. Finally, this study proposes plans for participation in the reconstruction project that can be helpful to the Korean government, companies, and Ukraine.

EXPERIENCES AND LESSONS FROM THE POST-WAR RECONSTRUCTION PROJECT IN KOREA

According to the Office of the United Nations High Commissioner for Human Rights, from February 2022 to November 2024, 12,162 Ukrainian civilians were killed and 26,919 injured. At least 6.7 million Ukrainians have fled and remain abroad. Millions are still internally displaced. Throughout 2024, tens of thousands of people have fled from frontline cities in the Kharkiv and Donetsk regions to other parts of the country because of Russia's continued military advance. [4]

According to the report by USAID [5], since the start of the full-scale Russian military invasion, total damage to residential and non-residential property and other infrastructure has exceeded \$157 billion at replacement cost. Residential buildings accounted for the largest share of total damage, at 37.5% or \$58.9 billion, while infrastructure accounted for 23.4% or \$36.8 billion. Damage to industrial, construction, and service assets amounted to at least \$13.1 billion and continues to rise. The damage to the agricultural sector due to the full-scale war amounted to \$10.3 billion, while the damage to the energy sector also increased significantly, reaching \$9 billion. The total damage due to the destruction and damage of public sector facilities, such as social facilities and institutions, educational, scientific and medical institutions, cultural facilities, sports facilities, and administrative buildings, amounted to about \$13.7 billion.

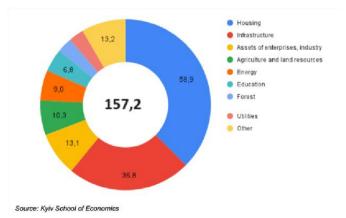


Figure 1: Damages by type of property, \$ billion

Comparing the economic damage caused by the wars in Korea and Ukraine seems impossible and meaningless because the two wars occurred in very different times, places, and contexts. Nevertheless, analyzing the Korean case and sharing the experiences and lessons learned can help Ukraine successfully lead the postwar recovery.

According to Economy Focus [6], in terms of economic damage, about 60% of South Korea's industrial facilities and 16% of its housing were destroyed, and most of the industrial infrastructure, including power lines, roads, bridges (1,466), railroads, and ports, was destroyed to the point that statistics were meaningless, and after the war, Koreans had to start over from scratch. In the case of North Korea, although its industrial facilities were superior to those of South Korea at the time, the damage was even more catastrophic: 74% of power generation facilities, 75% of buildings, 89% of the fuel industry, 90% of the metallurgy industry, and 70% of the chemical industry were reportedly destroyed. The reason why the material damage was so severe in North Korea was because US fighter planes seized air supremacy and led air strikes, and most large-scale battles took place in North Korea, especially after the intervention of the Chinese People's Liberation Army. The damage of this war led to poverty, and according to the Bank of Korea's estimates, in 1953, when the armistice agreement was signed, South Korea's per capita GDP was around 2,000 won, equivalent to \$51.7 at the exchange rate at the time and a mere \$605 in 2024 value. [7]

Considering that the U.S. Census Bureau reported that the population of South Korea at the time of the outbreak of the Korean War was 20.4 million and that of North Korea was 9.7 million, the number of people killed in the war in both Koreas is almost one-tenth. In addition, there were 3.7 million displaced persons, 300,000 war widows, 100,000 war orphans, and 10 million separated families, so about 19 million people, more than 60% of the approximately 30 million population of South and North Korea, were affected. [8]

In terms of the number of casualties and economic losses, the war in Korea seems to have had a more extensive and serious impact on the entire country and its people than the war in Ukraine. Nevertheless, South Korea has achieved rapid economic growth beyond recovery from the war, creating the Miracle on the Han River. In an interview with a media outlet, Olena Zelenska, the First Lady of Ukraine and special envoy to the president, who visited South Korea in February 2023, evaluated that South Korea's post-war economic growth, called the "Miracle on the Han River," was very important for Ukrainian government's post-war reconstruction. [9] Therefore, it is worthy to examine South Korea's reconstruction history to see what possibilities South Korea, which experienced serious war damage, can offer Ukraine.

Since its liberation from colonial rule in August 1945, Korea has overcome numerous hardships and achieved rapid economic growth. To explain this process concisely, it is effective to divide this period into three stages [10]: The first stage is the period of 'reconstruction', which is the period in which the country began to rebuild the devastated land and collapsed industrial facilities after the Korean War in the 1950s with foreign aid. The second stage is the period of 'takeoff', which is the period in which industrialization began in earnest in the 1960s and 1970s. The third stage can be divided into two periods: the first stage is the period in which economic autonomy was promoted in the 1980s, and the second stage is the period in which globalization

progressed while overcoming a series of economic crises in the 1990s and 2000s. This study focuses on the first period of reconstruction.

During the first stage, Korea was one of the most underdeveloped countries in the world, with its industrial facilities and infrastructure destroyed by the war. The people had no choice but to depend on foreign aid sent by the United States and the United Nations.

The UN's various reconstruction activities continued until the end of the 1950s after the armistice and greatly contributed to Korea's post-war recovery. At that time, aid was mainly bilateral aid between Korea and the United States. However, UN organizations, along with the Red Cross and other nongovernmental organizations (NGOs), also contributed to Korea's reconstruction and development through humanitarian and economic support. According to statistics, Korea received a total of about 12.7 billion dollars in aid from the international community after liberation. Of this, about 70% of the non-reimbursed aid was provided between 1945 and 1960. [11] With this support from the international community as a foundation, Korea was able to accelerate post-war recovery and economic reconstruction.

According to KIEP report, [12] postwar reconstruction support began in earnest after 1953. The total amount of aid that Korea received from 1953 to 1960 amounted to 2.41 billion dollars, with an annual maximum of 400 million dollars. During this period, 72.5% of the Korean government's total income depended on aid, so the influence of aid on postwar financial management was enormous. Just like the Marshall Plan, US aid funds were included in the Korean budget as a counterpart fund and spent for the intended purpose. From 1954 to 1963, 7.05 billion won, or 48% of Korea's counterpart fund expenditures, were spent on defense, and 4.72 billion won (32%) was spent on economic reconstruction. [13]

Despite the massive infusion of aid funds, the reconstruction program did not proceed smoothly due to differences in priorities between Korea and the United States, sporadic aid fund agreements, and differences of opinion on relations with Japan and foreign exchange usage. Especially, the United States wanted Korean government to achieve financial and price stability, and capital formation through aid funds. Accordingly, the United States focused on solving people's livelihood problems by providing consumer goods, while Korea, on the other hand, prioritized the construction of social infrastructure. As differences of opinion continued over the ratio of investment in capital goods and consumer goods, there were difficulties in operating aid. [14]

Nevertheless, there is no doubt that US intervention had a significant impact on South Korea's longterm economic growth path. This becomes even clearer when compared with the experience of North Korea, which received postwar reconstruction support mainly from the communist bloc. After the Korean War, North Korea's per capita GDP was higher than South Korea's, but since the income reversal in the 1960s, the economic scales of South and North Korea have diverged to an incomparable degree. It is noteworthy that this difference in economic development was observed even though the amount of aid North Korea received from the Soviet Union was like that received from the United States. [15] The size and scope of postwar aid funds are important in the short term, but the path of economic development established in the early stages of reconstruction is important in the long term.

A brief look at the history of Korean reconstruction leads us to the conclusion that the following conditions must be met for postwar reconstruction to be successful:

First, the country must be able to decide on the direction and priorities of its own reconstruction. It must set structural transformation and economic modernization as the direction of reconstruction, moving away from agriculture and raw materials-centered industries. When the United States provided aid to Korea, it presented its own priorities, such as solving people's livelihood problems through the provision of consumer goods, stabilizing prices, and establishing economic relations with Japan, which caused the reconstruction program to be fractured and delayed Korea's growth. Accurately identifying the needs of recipient countries and providing tailored support measures to meet these needs is essential for rapid and sustainable postwar recovery.

Second, support from allies must not be simple relief but strategic support focused on long-term reconstruction and economic growth.

Third, transparent financial management, institutional establishment, and political stabilization are essential. In other words, what is needed is transparent and honest leadership that runs the reconstruction project in a democratic manner, and a united people who support and oversee it.

Fourth, international cooperation is necessary to achieve advanced systems, transparent policy implementation, economic growth, and social security.

Fifth, strong financial support from allies is necessary. Aid, which is mostly provided in non-refundable form, is essential for the success of postwar reconstruction. Between 1945 and 1960, 70% of aid provided to Korea was in non-refundable form, and thanks to this support, Korea was able to accelerate postwar recovery and economic reconstruction.

Although there were some elements above that were not satisfactory in the Korean context, it can be said that the possibility of successful post-war reconstruction is high when these elements are met. In Ukraine's post-war reconstruction, the international community should work together to meet these elements.

DISCUSSIONS ON THE DIRECTION OF UKRAINE'S RECONSTRUCTION

The West launched the Ukraine Recovery Conference (URC), an international forum and cooperation platform for post-war reconstruction, based on the Ukraine Reform Conference launched in 2017. The first URC conference was held in Lugano, Switzerland in July 2022, the second conference was held in London, England in June 2023, and the third conference was held in Berlin, Germany in June 2024. URC 2025 will be held in Rome on July 10 and 11, 2025. This will be the fourth Ukrainian Restoration Conference, continuing a series of annual highlevel political events dedicated to the rapid restoration and long-term reconstruction of Ukraine since the start of Russia's full-scale war of aggression against Ukraine. [16]

South Korea has participated in the URC since 2022. At the 2022 URC in Lugano, Switzerland, seven principles for recovery were presented: 1) partnership, 2) reform-oriented, 3)

transparency, accountability and rule of law, 4) democratic participation, 5) multi-stakeholder solidarity, 6) gender equality and inclusion, and 7) sustainability. At the 2023 URC in London, UK, the directions and tasks for reconstruction were adopted, namely: 1) private sector-led recovery, 2) establishment of a war insurance framework to activate private sector investment, and 3) innovation development and transition to a green economy in Ukraine. At the 2024 URC, co-hosted by Ukraine and Germany, four main areas for Ukraine's reconstruction project were adopted: 1) support for private enterprises, 2) EU integration, 3) regional development, and 4) human resource development. [17]

In addition to the URC, the EU-led Expert Meeting on the Restoration, Reconstruction and Modernization of Ukraine was held in Berlin in October 2022 to discuss ways to increase the visibility and efficiency of the reconstruction project. Beside this, the Warsaw International Exhibition 'Rebuild Ukraine' was held in February 2023 to attract investment, and the second exhibition was held on November 14-15. The 2024 exhibition was also held twice, in the first half (June 24-25) and the second half (November), with the first half focused on health and rehabilitation, and the second half on construction and energy. Likewise, various conferences for the reconstruction of Ukraine are being held in Ukraine and other European countries. [18] The Ukrainian government's reconstruction efforts are focused on three directions: (1) strengthening resilience, (2) promoting recovery, and (3) pursuing modernization and growth. [19] In detail, it can be described as long-term economic, social and environmental resilience, rapid and efficient recovery of the economy, society and ecosystem, rapid and sustainable modernization and growth. Considering the discussions that have taken place in Ukraine and the West so far, Ukraine's reconstruction project seeks not just post-war reconstruction, but a stable, long-term economic growth engine that includes large-scale investment, EU integration, and the application of new technologies in the digital and environmental sectors. To achieve these goals, Ukraine must pursue structural reforms, including strengthening institutional capacity, de-oligarchization, and establishing reconstruction organizations, and address issues such as transparency, corruption, and unclear administration.

The priority support sectors for 2024 selected by the Ukrainian government are categorized into six categories: ① Energy efficiency including restoration and decentralization of power generation capacity, including restoration and repair of transmission lines, development of renewable energy, and protection of the power grid; ② Restoration and reconstruction of roads, railways, bridges, ports, borders, and postal services; ③ Restoration and reconstruction of housing, central heating, water supply, waste management, and other related services; ④ Repair, reconstruction, and restoration of services for schools and healthcare facilities, and restoration of socio-cultural infrastructure and services; ⑤ Restoration of key industries and services in the private sector, including industry, commerce, agriculture, and irrigation; ⑥ Demining, telecommunications, digital and cybersecurity, emergency response and civil protection, and strengthening of democracy, justice, and human rights.

Table 1: Total damage, loss, and needs by sector (Us\$ billion)

Sector	Damage	Loss	Needs
Social sectors			
Housing	55.9	17.4	80.3
Education and science	5.6	6.9	13.9
Health	1.4	17.8	14.2
Social protection and livelihoods	0.2	9.5⁰	44.5
Culture and tourism	3.5	19.6	8.9
Infrastructure sectors			
Energy and extractives	10.6	54.0	47.1
Transport	33.6	40.7	73.7
Telecommunications and digital	2.1	2.3	4.7
Water supply and sanitation	4.0	11.6	11.1
Municipal services	4.9	6.8	11.4
Productive sectors			
Agriculture	10.3	69.8	56.1
Commerce and industry	15.6	173.2	67.5
Irrigation and water resource management	0.7	0.7	10.7
Finance and banking	0.0	5.7	2.3
Cross-cutting sectors			
Environment, natural resource management, and forestry	3.3	26.5	2.3
Emergency response and civil protection	0.4	0.5	2.3
Justice and public administration	0.3	1.7	0.7
Explosive hazard management	-	34.6	34.6
Total	152.5	499.3	486.2

Source: Assessment team (Ukraine: Third Rapid Damage and Needs Assessment RDNA 3)

Note:- = not relevant. Damage covers 22 months of war between February 24, 2022, and December 31, 2023; loss covers a total of 40 months, which includes 22 months between February 24, 2022, and December 31, 2023, and an additional 18 months through June 30, 2025; needs cover the period 2024–2033. a. Under social protection, household income loss valued at US\$60 billion is not included to avoid potential double-counting in relation to other sectors.

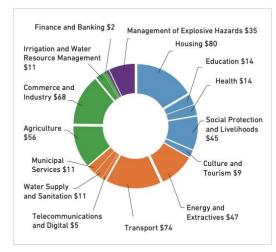


Figure 2: Total recovery and reconstruction needs (Us486 billion)

Source: Assessment team. (Ukraine: Third Rapid Damage and Needs Assessment RDNA 3)

KOREA'S PARTICIPATION IN UKRAINE RECONSTRUCTION PROJECT: PLANS AND ISSUES

The South Korean government has participated in the Ukraine Recovery Conference for three consecutive years starting in 2022, thereby expressing support and solidarity for Ukraine

together with the international community and demonstrating South Korea's will and role in supporting Ukraine's reconstruction and recovery.

In July 2023, South Korean President Yoon Seok-Yeol visited Ukraine and announced the 'Ukraine Peace and Solidarity Initiative' during a summit with President Zelensky, pledging to provide security, humanitarian, and reconstruction support to Ukraine. [20]

The Korean government decided to provide approximately USD 100 million in humanitarian assistance in 2022 and announced plans to provide an additional USD 150 million in 2023. At the G20 New Delhi Summit held in September 2023, a plan to provide USD 300 million in humanitarian assistance in 2024 and more than USD 2 billion in Economic Development Cooperation Fund (EDCF) support after 2025 was announced. As part of this plan, in April 2024, Korea signed an EDCF Framework Agreement for USD 2.1 billion in concessional assistance with Ukraine. The Economic Development Cooperation Fund is a long-term, low-interest loan to support economic and industrial development in developing countries. [21] In October 2024, the Korea Export-Import Bank signed a \$100 million loan agreement with the Ukrainian government. The loan terms are a 20-year maturity, a 5-year grace period, and an annual interest rate of 1.0%. Moreover, South Korea has shown its plan to strengthen its status and role as a major donor by joining the Ukraine Multilateral Donor Cooperation Platform (MDCP) as a member country in February 2024. [22]

The South Korean government remains steadfast in its support for Ukraine's reconstruction but is still considering and reviewing what roles the government and businesses can play in the reconstruction process and what areas they can support. However, the support plans that South Korea has promised to Ukraine so far still seem inadequate.

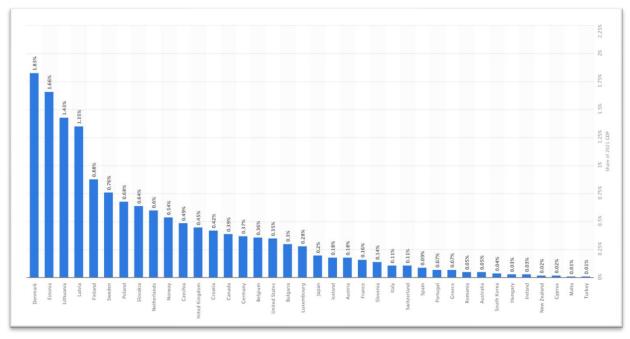


Figure 3: Bilateral aid allocations to Ukraine as a share of 2021 donor country gross domestic product (GDP) between January 24, 2022 and June 30, 2024, by country

Source: statista

According to Statista, Korea's aid to Ukraine is low compared to other countries and significantly lower than its Asian rival Japan when looking at the scale of its aid to Ukraine relative to GDP between January 24, 2022, and June 30, 2024. While Korea's aid to Ukraine is 0.04% of GDP, Japan is 0.2%, the United States is 0.35%, and neighboring countries Estonia and Poland are 1.66% and 0.68%, respectively. [23] If the Korean government wants to participate in the reconstruction of Ukraine after the war, it will need a strategic approach such as increasing the amount of aid and material support to Ukraine.

In September 2023, the South Korean government established "One Team Korea," a public-private joint reconstruction cooperation organization, to proactively plan and implement the reconstruction project in Ukraine. With the Minister of Land, Infrastructure and Transport as the head, government ministries (Ministry of Land, Infrastructure and Transport, Ministry of Oceans and Fisheries), public institutions (Korea Land and Housing Corporation, Korea Water Resources Corporation, KORAIL, Korea Airports Corporation, Korea Overseas Infrastructure & Urban Development Corporation, Korea Environmental Industry & Technology Institute), and a total of 18 private companies (Samsung C&T, Hyundai Engineering & Construction, HD Hyundai Construction Equipment, Hyundai Rotem, Naver, Yushin, Hanwha Solutions, Hanwha Engineering & Construction, KT, CJ Korea Express, POSCO International, and the Overseas Construction Association of Korea) participated as members of One Team Korea. [24]

On September 13-14, 2023, One Team Korea met with President Zelensky and Prime Minister Denys Shmyhal in Ukraine and discussed the Ukrainian reconstruction project. This delegation visit is to promptly implement President Yoon Seok-Yeol's instructions to support Ukraine and actively support corporate activities in Ukraine proposed by Korean companies.

One Team Korea and the Ukrainian government announced the '6 major leading projects' that the two governments will cooperate to focus on: 1) Kyiv Transportation Master Plan, 2) Uman City Smart City Master Plan, 3) Boryspil Airport Modernization, 4) Bucha City Sewage Treatment Facility, 5) Kakhovka Dam Reconstruction Support, and 6) High-speed railway lines (Kyiv-Poland, etc.). The Ministry of Land, Infrastructure and Transport announced that it plans to sequentially complete the planning and feasibility study for the project starting in 2024 and promote Korean companies' participation in the Ukrainian reconstruction project. [25]

The details of the '6 Major Leading Projects' are as follows [26]:

First, the Korea Overseas Infrastructure and Urban Development Corporation (KIND) plans to establish a smart transportation master plan for the Kyiv region (including the capital city of Kyiv), which is like the metropolitan area of Korea. KIND plans to establish a wide-area transportation network and business plan to restore transportation facilities destroyed by war into smart and low-carbon-based mobility infrastructure and support a complex development plan for major regions connected to the transportation network. KIND also plans to discover key transportation projects covering the capital city of Kiev and the neighboring Kiev Oblast and actively promote Korean companies' participation in the projects.

In addition, KIND and Korea Water Resources Corporation will establish a smart city master plan for Uman, a city in central Ukraine. A smart city infrastructure and solutions plan, including

mobility, disaster response and green energy, will be presented to develop Uman as a smart city during the reconstruction process of Ukraine.

Korea Airports Corporation will participate in supporting the modernization of Boryspil Airport, the largest international airport in Ukraine. Boryspil Airport is expected to handle approximately 80% of Ukraine's post-war aviation demand, and Korea Airports Corporation plans to establish a comprehensive plan that encompasses everything from system modernization to safety-related facility maintenance, runway maintenance and expansion, and operations to infrastructure maintenance.

The Korea Environmental Industry & Technology Institute plans to support the reconstruction of sewage treatment facilities in Bucha near Kyiv. The facility is necessary to create a pleasant living environment for residents, and the plan is to support the establishment of a plan for its installation.

The Korea Water Resources Corporation also plans to support the restoration of the Kakhovka Dam in Kherson Oblast, which was destroyed in June 2023. The Ukrainian government is rushing to restore the Kakhovka Dam, and Korea plans to provide technical support for the reconstruction of the dam and power plant.

Lastly, the National Railway Corporation and others will support the speeding up and improvement of major railway lines in Ukraine. They plan to support the establishment of business plans for major lines (Kyiv-Poland border, etc.) proposed by Ukraine.

The Ministry of Land, Infrastructure and Transport announced that the six leading projects will be sequentially promoted from 2024 until the establishment of plans and feasibility studies are completed, and that they plan to actively support the promotion of follow-up infrastructure projects using the plans and standards established by Korea so that the participation of Korean companies can be activated. According to KEI report, [27] many private companies in South Korea have signed MOUs for various development cooperation projects and expressed their intention to participate in the project.

Samsung C&T signed an MOU with the city of Lviv in Ukraine and the Turkish construction company Onur for cooperation in developing a smart city in Lviv, and Hyundai Construction signed an MOU with the Boryspil International Airport Corporation of Ukraine for an airport reconstruction project. HD Hyundai Construction, which has a 20% share of the Ukrainian construction equipment market, is also seeking to expand its supply. Naver has established a policy to support Ukraine's digital reconstruction based on advanced technologies such as artificial intelligence, cloud, and robotics. In November 2023, POSCO International signed an MOU with the Mykolaiv Oblast of Ukraine for the establishment of a steel modular manufacturing facility. With this MOU, POSCO International plans to expand its business area in Ukraine from the food sector to the infrastructure sector. [28] In the same month, Hyundai Rotem was selected to manufacture 120 new railway vehicles in Ukraine and to take charge of maintenance and repairs for the vehicles, which is expected to expand the possibility of Hyundai Rotem entering the local railway reconstruction project. [29]

Despite the lengthy explanation of South Korea's plan so far, there appear to be limitations to Korea's involvement in the Ukrainian reconstruction effort, and the following are needed to overcome these limitations:

Above all, the Korean government should actively provide financial support to Ukraine. Without largescale special funds such as grants or loans, it would be impossible to win the project. Korea will be able to get what it wants when it provides Ukraine with what it needs.

It is necessary to diversify the areas of participation in the reconstruction project. According to data on damage and losses from the war and recovery costs, the three sectors with the greatest damage (social, infrastructure, and production sector) and thus the sectors where the largest amount of recovery costs will be invested are housing, energy and resource mining, and agriculture, respectively. However, plans for South Korean companies to participate in these areas have not yet been specified. South Korea should actively participate in areas such as power facilities with advanced technologies, construction of new nuclear power plants, hydrogen infrastructure (green hydrogen supply and transportation base construction), and expansion of new and renewable energy. In addition, road restoration in Ukraine is urgently needed, and it is estimated that the damage caused by the war exceeds 30 billion dollars, so it is worth considering the participation of Korean companies in this area. In addition, South Korea has the only university-level educational institution in Asia that specializes in Ukrainian language and regional studies. Also, interest in Korean language and culture is increasing in Ukraine. Therefore, cooperation in education, culture, tourism, and various social fields, including health, medical sectors should also be promoted.

CONCLUSION

The goal of the National Recovery Plan (NRP) established by the Zelenskyy government is not simply to restore the damage from the war, but to make Ukraine a modernized and strong country. Therefore, the cost of the NRP is much larger than the cost of reconstruction estimated by the World Bank and others. While many countries are showing their willingness to participate in the Ukraine reconstruction project, the degree of support for Ukraine is likely to determine how many opportunities the country will have to participate in future reconstruction projects. It would not be desirable to explicitly take the position of wanting to recover the cost of support for Ukraine through reconstruction projects. In the case of South Korea, participation in the reconstruction project should be for comprehensive national interests, such as strengthening Korea's status in Europe and cooperative security.

On November 27, 2024, the Ukrainian Presidential Special Envoy visited South Korea. The Ukrainian Special Envoy wanted South Korea to provide Ukraine with lethal weapons such as K-9 Thunder selfpropelled howitzers and Cheongung II surface-to-air missiles, but the South Korean government did not give a clear answer. In a situation where the Trump second administration is pushing for a quick end to the war, the South Korean government is in a difficult situation to make a rash decision to provide weapons. [30]

Despite North Korea already sending its own troops as mercenaries to the Russian army, South Korea is now in a position where it cannot freely provide or sell weapons to Ukraine. With the start of the Trump administration 2.0, South Korea has found itself in an ironic situation. In

other words, the government is actively selling South Korean weapons to Eastern European countries such as Poland and Romania, but is maintaining a reserved stance on Ukraine, which needs weapons the most. Instead of providing weapons to Ukraine, the South Korean government provided a loan of \$100 million to Ukraine. This is the execution of money that President Yoon Seok-Yeol had promised for humanitarian aid in 2024, and it is interpreted that the South Korean government, which has been reviewing whether to provide weapons to Ukraine, has shown its intention to focus on humanitarian aid such as reconstruction projects for the time being. [31] As we have learned from the experience of the Korean War, post-war recovery and rapid economic development will never be possible without the support of liberal democratic allies. And rather than seeking immediate economic benefits through participation in post-war recovery projects, the Korean government should have a long-term goal of enhancing its diplomatic status as a nation that protects democracy and contributing to the security of the international community.

Based on this perspective on the Ukrainian reconstruction project, the Korean government should meet the following requirements: [32]:

- 1. In order to effectively promote Ukraine reconstruction support, an integrated control tower that goes beyond the existing structure centered on the Ministry of Land, Infrastructure and Transport is needed. It is necessary to establish a comprehensive council for Ukraine reconstruction support under the Prime Minister. Through this, cooperation and coordination among each ministry should be strengthened and the efficiency of the reconstruction project should be maximized.
- 2. It is necessary to participate in the entire cycle of the Ukrainian reconstruction project, including planning, feasibility study, construction, operation, maintenance, and production, through public-private partnership projects. This will help maintain the consistency of the project and identify and resolve problems that may arise at each stage early, thereby reducing uncertainty for participating companies.
- 3. It is necessary to develop promising and safe businesses led by the government and provide local investment information. One Team Korea has already presented six leading projects in which Korean companies can participate, but there is a need to further diversify the fields. In addition, smooth provision of local investment information is necessary. It is necessary to establish a government department or agency that collects and provides information related to local Ukrainian laws, labor, finances, etc.
- 4. In order to reduce the burden of investment risk, it is also necessary to participate in reconstruction projects in the form of a consortium with Eastern European countries. In particular, Poland should be considered as the first base countries for participation in the Ukrainian reconstruction project. Korean companies can utilize the existing cooperation base between Korea and Poland in the automobile, electronics, battery, and digital sectors.
- 5. Korea and Ukraine can jointly explore ways to transplant Korea's economic growth model to the Ukrainian reconstruction project. Furthermore, the Korean and Ukrainian governments should expand bilateral and multilateral cooperation to promote sustainable reconstruction of Ukraine and contribute to enhancing the values of freedom, peace, and democracy in the international community.

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