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The Evolution and Trends of Research for International Development Cooperation in the Field of Climate Change in Korea

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Abstract: This study analyzes the evolution of development cooperation research for addressing climate change (climate-related DC) through keyword analysis, focusing on domestic journal articles and doctoral theses, and aims to explore the future direction of international development cooperation research in the *Journal of Korea Environmental Policy and Administration*. The study shows that the importance of climate-related DC research is gradually increasing within the domestic research landscape, and this trend is consistent with the global trend to integrate climate change into development cooperation strategies. Notably, there has been active research in the forestry sector, and there is a growing trend of case studies on specific bilateral cooperation projects. Research on development cooperation itself in the *Journal of Korea Environmental Policy and Administration* is limited but continues to increase and expand. The journal primarily focuses on analysis of Multilateral Environmental Agreements (MEAs) and discussions of development cooperation from the perspective of environmental justice. This differs from the trend in development cooperation-focused journals, which primarily center on the justification for supporting climate change response in developing countries and case studies.
Key Words: Climate Change, International Development Cooperation, Development Cooperation, Research Trend, Literature Review

I. Introduction

Since joining the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) in 2010, Korea has been working to improve both the quantity and quality of its Official Development Assistance (ODA) as an advanced donor country.

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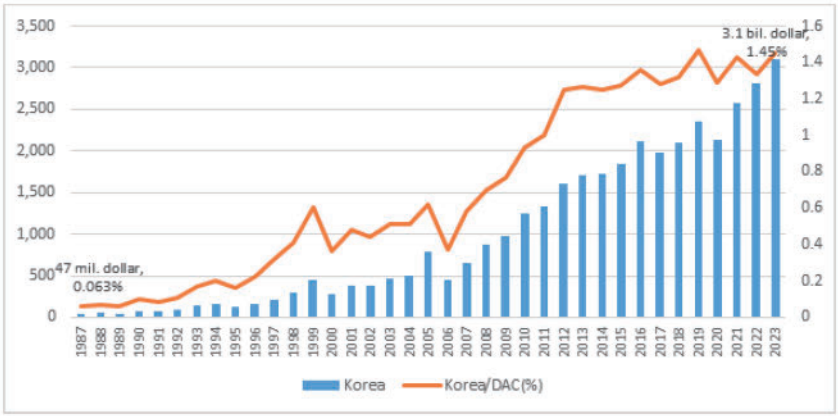
Korea's ODA expenditure, which was 47 million dollars in 1987, increased to 979 million dollars in 2009, just before joining the DAC, and reached 3.2 billion dollars in 2023, marking a 69-fold increase over 36 years. Not only has the absolute amount grown, but the share of Korea's ODA in the total ODA spending of all DAC members has also increased from 0.063% in 1987 and 0.77% in 2008 to 1.4% in 2023, indicating an improvement in the status of Korea's ODA within the DAC. With the ODA budget for 2024 projected to be 6.3 trillion won, the trend of expanding Korea's ODA is expected to intensify further.

〈Figure 1〉 Trends in Korea's ODA expenditure scale and its share compared to DAC member countries

(unit: million dollars, %)



Source: OECD Data Explorer (https://data-explorer.oecd.org/, access date: 2024.10.02.)

In addition to the increase in ODA expenditure, Korea's ODA has shown significant improvement in terms of quality as well. Through governmental efforts such as strengthening coordination to overcome fragmentation, enhancing project evaluation and performance management, and reinforcing cooperation with global partners, Korea has enhanced the development effectiveness of its ODA and secured its qualifications as an advanced donor country. Korea's efforts to pursue a

multi-faceted approach in addressing the global climate crisis in collaboration with developing countries have also been aimed at enhancing its global standing as a leading donor country. Korea led the establishment of the Global Green Growth Institute (GGGI) to assist developing countries in formulating and implementing green growth policies, and played a key role in upgrading it to an international organization. Moreover, Korea successfully hosted the headquarter of the Green Climate Fund (GCF) and has supported the fund's stable operations. Korea has also prioritized Green ODA as a key focus of its international development cooperation policy and is supporting the expansion of its share within total ODA.

Development cooperation for addressing climate change (hereafter referred to as "climate-related DC") has distinct characteristics compared to ODA in other sectors. Global responses to the climate crisis require international agreements and common goals, while also encouraging voluntary participation from individual countries. While there is general agreement on the ultimate goal of addressing the climate crisis, there are differences between developed and developing countries regarding the specific pace and methods to be adopted. Additionally, the protectionist measures recently promoted by developed countries under the guise of supporting carbon neutrality are likely to harm developing countries. As the gap between the positions of developed and developing countries continues to widen, climate-related DC is increasingly being considered an important tool to address these disparities. Climate change is not considered a standalone sector, but rather a cross-cutting issue that must be integrated into various fields. Additionally, the goals of climate change response projects can be classified into climate change mitigation and adaptation, and these are not mutually exclusive, often

overlapping with one another.

As climate-related DC projects have expanded, there has been an increasing demand for research to support the implementation of such complex and multifaceted climate-related DC projects and to provide reliable evidence for policymakers. Furthermore, due to various internal and external changes influencing climate change and development cooperation policies, both climate-related DC projects and research have evolved. Domestic research on climate-related DC has surged since the late 2000s, driven by the national paradigm of green growth, and has continued to expand and deepen as needed. However, there has been a lack of comprehensive studies examining these changes over time.

Therefore, this study aims to analyze the development of domestic research on climate-related DC and assess its alignment with international norms, with the goal of evaluating the policy coherence of domestic research on climate-related DC. In addition, by identifying the differences in perspectives on climate-related DC from the distinct fields of climate change and development cooperation, the study aimed to specifically explore promising areas for collaboration between researchers from both fields and enhance the potential for cooperation.

This study begins with an introduction that outlines the background and objectives of the research. In the next section, it examines studies analyzing policy changes related to the integration of climate change and development cooperation, thereby confirming the distinction and necessity of this research. The methodology for analyzing the trends in climate-related DC research is explained, and the results of trend analysis by period and academic discipline are presented in the following sections. Additionally, by comparing the trends of development cooperation research in the climate change field and climate change

research in the development cooperation field, the study identifies the differences in perspectives between the two domains. Finally, by synthesizing the results of the research trend analysis, the study presents the significance of climate-related DC research and suggests future directions for international development cooperation research in the Journal of Korea Environmental Policy and Administration.

II. Previous Studies Analyzing Changes in Climate Change Policies and Development Cooperation Policies

The discussion on the alignment of climate change and development cooperation, or the integration or mainstreaming of climate change into development cooperation, has been actively conducted since the 2000s, when the concept of sustainable development began to be seriously discussed. Representative results of the early discussions include the OECD's *Integrating the Rio Conventions into Development Co-operation (2002), Integrating Climate Change Adaptation into Development Co-operation: A Policy Guidance (2009), and the EU's Climate Change in the Context of Development Cooperation* (2004).

OECD (2019) identified the impact of climate change in altering the ecological and social systems that underpin human well-being and economic activity, and highlighted the conditions of developing countries, which are particularly vulnerable to these changes. It emphasized that all development cooperation providers must align their activities with the goals of the Paris Agreement to improve the situation in developing countries. To this end, the report presented a conceptual framework to help development cooperation providers design,

implement, and continually assess activities to align with the Paris Agreement, and found the challenges faced in aligning development cooperation activities with the Paris Agreement.

According to Kim and Sohn (2021), who analyzed keywords in the OECD Development Cooperation Report, a major shift in the direction of development aid occurred in the 2010s, with climate change emerging as a central issue in development cooperation. Since this period, climate change has been highlighted as one of the key criteria for assessing the success of development aid, emphasizing that the economic development of developing countries should align with strategies for addressing climate change. Additionally, there was an emphasis on increasing related aid budgets and the active development of strategies for development aid that take climate change into account.

Kim (2021) proposed a direction for Korea's international development cooperation policy goals, analyzing changes in development needs and global aid trends. Climate change was identified as one of the phenomena driving changes in development needs, with a strong emphasis on the necessity of a global joint response to address climate change as a transnational policy challenge. As a result, it was predicted that supporting the capacity of developing countries to respond to climate change through development cooperation would become even more important.

Park (2024) identified the top priorities for Korea's ODA that could contribute to the achievement of the SDGs through a Delphi method conducted with experts. Among the seven major priorities, five were related to climate change, including water, disaster management, energy, forestry, and air pollution. This outcome underscores the high priority placed on addressing climate change within South Korea's ODA

agenda.

In studies focusing on policy changes from a green growth and climate change perspective rather than from a development cooperation viewpoint, similar patterns emerge regarding the rising importance of climate-related DC issues. Yoo, Kim, and Jeon (2021) used centrality analysis and topic modeling methods to analyze Korea's Green Growth Five-Year Plan and extract key topics related to green growth strategies over time. Their findings highlighted that the first Five-Year Plan (2009–2013) showed a high centrality of keywords related to green ODA. Topic modeling results revealed that green ODA was a major theme in both the second (2014–2018) and third (2019–2023) FIve-Year Plans, signaling the sustained relevance of climate change in Korea's policy framework over time.

These studies collectively show the increasing recognition of climate change as a key issue in development cooperation, aligning with global trends that prioritize climate resilience and sustainability in development cooperation strategies. However, they do not distinguish the different aspects of the interlinkages discussed separately in the fields of climate change and development cooperation. Therefore, this study aims to analyze the differences in perspectives on the integration of climate change and development cooperation in these two fields and examine the trends in related research.

Gupta (2009) conducted a research similar to this study by distinguishing the issues discussed in the two fields. According to it, there are six arguments supporting the integration of the traditionally separate fields of development cooperation and climate change (logical, financial, practical, developing country, stakeholder, and reporting arguments) and six arguments justifying delinking them (different paths to development,

political sensitivity, resources needed, changing target group, global effectiveness, and conditionality arguments). In that sense, this study shares similarities with Gupta (2009), as both analyze the issues separately within each field. On the other hand, Gupta (2009), considering the political context at the time, concluded that while development cooperation and climate change are closely linked, there are strong reasons to oppose mainstreaming climate change into development cooperation. Unlike Gupta (2009), this study does not discuss the legitimacy of integrating development cooperation and climate change but instead focuses on analyzing the research trends on this topic and exploring the differences in perspectives in the fields of climate change and development cooperation.

Ⅲ. Analytical Method

For a systematic literature analysis, the following steps were undertaken: (i) setting criteria for selecting studies to be analyzed and classification criteria for the analysis, (ii) searching and selecting the studies to be analyzed, (iii) classifying the selected studies based on the pre-established criteria and extracting necessary information, and (iv) conducting a comprehensive analysis of the extracted information.

The criteria for selecting the studies to be analyzed are primarily based on their relevance to climate-related DC. The studies should address both climate change and development cooperation as key themes simultaneously. Additionally, case studies analyzing the climate change situation in developing countries, as well as cooperation with developing countries in the field of climate change (e.g., Clean Development

Mechanism (CDM), Paris Agreement, etc.), are also included. This is because these studies serve as foundational research for development cooperation aimed at addressing climate change in developing countries. Furthermore, cooperation between North and South Korea related to climate change response is also included. Green ODA and ODA for conserving biodiversity and combating desertification are considered part of climate-related DC in a broader sense, and therefore, are also included in the analysis.

On the other hand, studies that do not address both climate change and development cooperation, but only focus on one of the domains while briefly mentioning the other in the background or implications, are excluded. Additionally, studies that focus on climate change response but are related to general international cooperation (not development cooperation), particularly cooperation and trade with developed countries, are also excluded.

The scope of potential papers to be analyzed was limited to academic papers published in indexed journals and doctoral dissertations from domestic universities. A number of studies using the methodology of systematic literature review have been conducted on peer-reviewed journal articles and doctoral dissertations (Fukaya, Nakamura, Kitayama, and Nakagoshi, 2025; Andres, et al., 2024; Jent, et al., 2024). Domestic studies that have researched the trends in development cooperation research similar to this paper have also conducted literature analysis on domestic peer-reviewed journal articles and doctoral dissertations (Zoo, et al., 2020). Therefore, this study set peer-reviewed journal articles and doctoral dissertations as the analysis subjects. The other reason for including not only peer-reviewed journal articles but also doctoral dissertations is that research considering climate change issues in

development cooperation has only started to be published relatively recently, making the number of papers available for analysis limited.

To select the relevant studies, academic papers were retrieved through keyword searches in the Korea Citation Index (KCI) system, and doctoral dissertations were retrieved from the National Assembly Digital Library system. In the KCI system, advanced searches were conducted based on the article title, keywords, abstract, and journal title. Relevant keyword combinations were added as queries to search for academic journal articles. For doctoral dissertations, detailed searches were conducted in the National Assembly Digital Library system, restricting the search to doctoral theses, and combining keywords across all items, including the thesis title, keywords, and table of contents. Both for academic papers and doctoral dissertations, no search restrictions based on the start date were applied, but all papers published up until the analysis period were included in the search.

To compare climate-related DC research in the domains of climate change and development cooperation, in addition to keyword searches in academic information databases, I manually searched articles in specialized academic journals in the fields of environmental policy and development cooperation. To this end, I manually searched the inaugural issues and subsequent volumes of the two representative domestic journals in each field: *Journal of Environmental Policy and Administration (JEPA)* and *International Development and Cooperation Review (IDCR)*.

First, a search for papers was conducted through a combination of the concepts of climate change and development cooperation. The search combined concepts related to climate change, such as "climate change," "renewable energy," "forest," and "greenhouse gas," along with concepts

related to international development cooperation, such as "development cooperation," "ODA," "development assistance," and "developing countries."

The approaches to addressing climate change are broadly divided into climate change mitigation and adaptation, and these are screened using the term "climate change." "Greenhouse gases" was set as a search term because it cannot be screened under the term "climate change," despite being a major cause of climate change. Additionally, unlike climate change adaptation projects, which are difficult to distinguish from typical development cooperation sectors, "energy" and "forest" were considered as key search terms because they can be clearly categorized as climate change-related sectors. Among energy-related topics, "renewable energy," which is directly linked to climate change, was chosen as a search term.

A keyword search was performed by combining these terms, and then, through further manual analyses, it was determined whether the papers extracted met the pre-set criteria for inclusion as analysis subjects. Through this process, papers that were mechanically classified through keyword searches but did not meet the criteria for this study's analysis were excluded.

〈Table 1〉 Keyword Group Used for Keyword Searches in Selecting the Studies to be Reviewed

Database	Climate change- related keywords		Development-related keywords
Korea Citation Index, National Assembly Library	"Climate change" "Renewable energy" "Forest" "Greenhouse gas"	AND	"Development cooperation" "ODA" "Development assistance" "Developing countries"

Once the set of studies to be analyzed is established, they are classified

according to the pre-established classification criteria, and the necessary information is derived from the results. The papers are categorized based on their publication date, allowing for the identification of trends and significance in climate-related DC research over time. Additionally, the academic discipline classification from the KCI system was used to categorize the papers. The classification of academic disciplines is divided into categories and sub-categories, and the studies are classified according to these categories and sub-categories. However, since research in the categories of Humanities, Science, Engineering, and Interdisciplinary Science is very limited in the context of climate-related DC, these categories were maintained at the category level, even within the sub-category classification.

Ⅳ. Results

1. Screening of Studies to be Analyzed

A total of 369 papers were retrieved through keyword searches in the KCI academic database. These papers were manually reviewed based on their titles and abstracts to determine whether they were suitable for inclusion in this study. As a result, 134 papers were selected for analysis. For doctoral dissertations, a preliminary list was created by combining climate-related DC keywords with development cooperation-related keywords. The suitability of these dissertations was then reviewed manually based on their titles and abstracts. As a result, 34 doctoral dissertations were selected for analysis. In total, 168 papers were ultimately confirmed as the studies to be analyzed in this research.

2. Analysis by Time Period

An analysis of the papers by their publication dates revealed that the first climate-related DC paper was a doctoral dissertation on the Kyoto Protocol system(Lee, 2002), published in 2002. After that, related papers were published at a rate of one or two per year until 2010, showing a gradual increase. However, from the 2010s onward, the number of such papers rapidly surged.

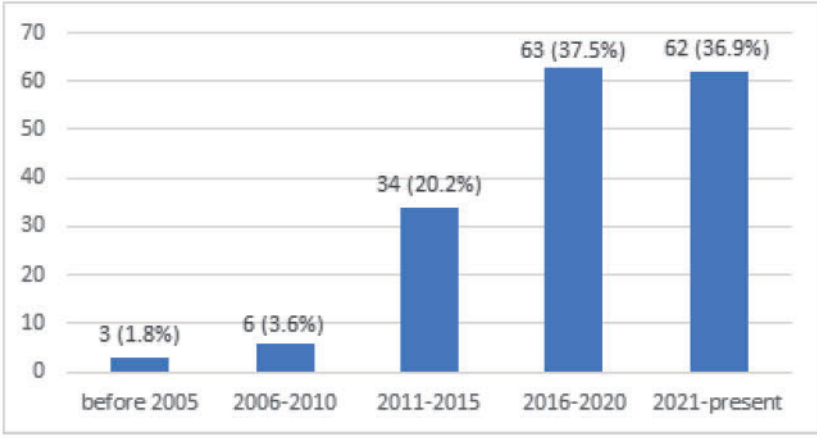
Until 2005, a total of three climate-related DC papers were published, mainly focusing on cooperation with developing countries in the field of climate change. By 2010, six papers had been published, of which five were related to the Clean Development Mechanism (CDM) of the Kyoto Protocol (Park, Yoon, Kim and Park, 2007; Park, 2008; Lee, 2008; Kim, Kim and Lim, 2009; Kim, 2010). With the entry into force of the United Nations Framework Convention on Climate Change (UNFCCC) Kyoto Protocol in 2005, research on the utilization of the CDM, one of the mechanisms of the Kyoto Protocol, began to be actively conducted from that time onwards. Starting with research on CDM, cooperation with developing countries on climate change, which had previously received little attention, began to emerge as an important tool for addressing climate change. However, until this period, no research had been published specifically on development cooperation itself.

Research on development cooperation related to climate change began to emerge in earnest from 2011, with a total of 34 papers published between 2011 and 2015, accounting for 20.2% of the total. Lim (2011) published the first paper in domestic literature on development cooperation itself, which focuses on ways to mainstream climate change into development cooperation and applies these strategies to Bangladesh. Expanding beyond climate change to consider discussions on greening,

Park and Yoon (2011) also published a paper on the greening of Korea's aid, which can be classified as a climate-related DC study from the same period. Between 2011 and 2015, numerous studies were conducted on forest cooperation, including Reducing Emissions from Deforestation and Forest Degradation Plus (REDD+) (Park, Jung, Kim, Kwon and Lee, 2011; Bae and Seol, 2012; Bae, 2013; Oh, 2014; Yoo and Yoon, 2014a; Yoo and Yoon, 2014b; Huh, Jung and Yoo, 2014; Jang and Jang, 2014; Yoon and Bae, 2015). This surge in research was due to the increased demand for REDD+ projects following the final agreement on the "Warsaw Framework for REDD+" at COP19 in 2013, as well as the growing need for supporting research. Additionally, after the establishment of the Green Climate Fund (GCF) in 2012, there was a rise in studies on the organization and fund allocation of climate change response funds, including the GCF (Kim, 2013; Kim and Kim, 2015).

Between 2016 and 2020, the volume of climate-related DC research grew at an even faster pace, with a wider range of topics being addressed. Research on the Paris Agreement, sustainable development, North Korea cooperation (which emerged in 2018 and continued into the early part of 2020), climate technology, and technology transfer began to appear, and this trend has continued into the 2020s. From 2021 to the present, 62 papers have already been published, accounting for 36.9% of the total research, so it is expected that even more studies will be published in the 2021-2025 period.

〈Figure 2〉 Research Publication Status on Climate-Related Development Cooperation by Period



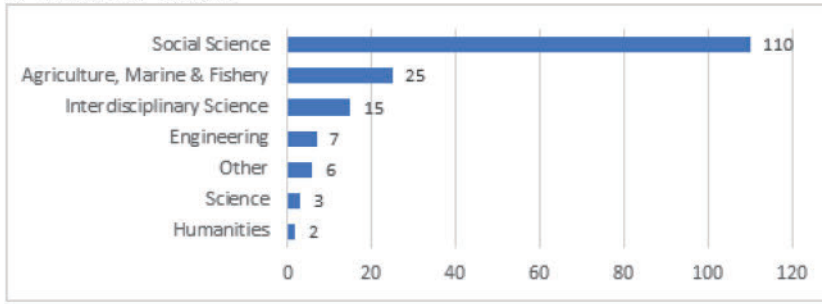
Source: Authored based on the selected paper information

3. Analysis by Academic Discipline

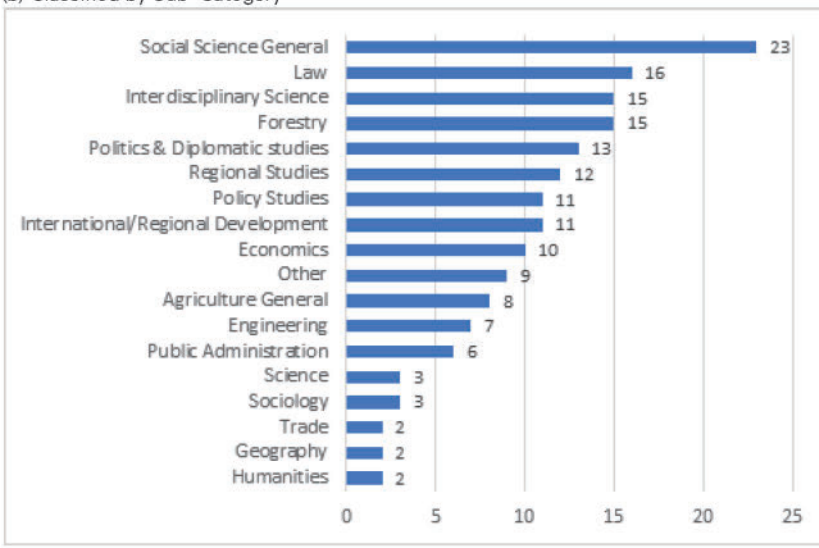
According to the category-based academic discipline classification, the Social Science field accounts for the largest share, with 110 papers (65.5%) out of the total 168 papers. This is followed by the *Agriculture, Marine and Fishery* field (25 papers, 14.9%) and the *Interdisciplinary* Science field (15 papers, 8.9%), indicating that these are the most relevant academic disciplines. When classified by sub-category, the largest number of papers was published in the *Social Science General* sub-category (23 papers, 13.7%), followed by Law (16 papers, 9.5%), Forestry (15 papers, 8.9%), and *Interdisciplinary Science* (15 papers, 8.9%).

〈Figure 3〉 Research Publication Status on Climate-Related Development Cooperation by Academic Discipline

(a) Classified by Category



(b) Classified by Sub-Category



Source: Authored based on the selected paper information

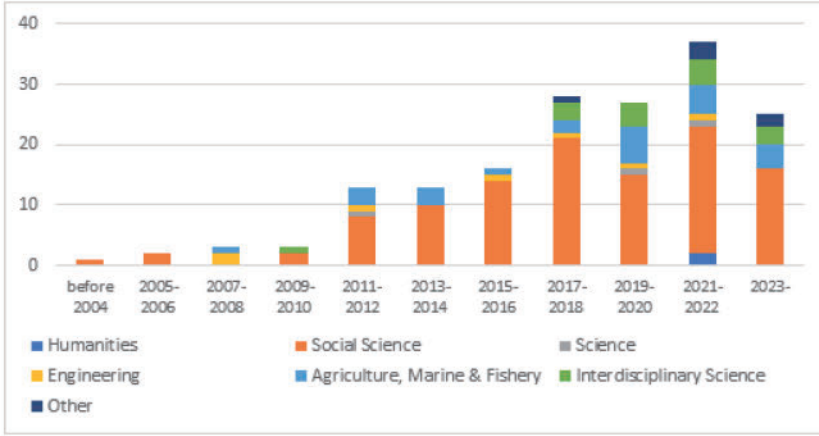
When examining the changes in academic disciplines of papers published by period, a trend of increasing diversity in academic fields is observed. In terms of category, *Social Science* maintains the largest share, but from the late 2010s, there has been a trend of expanding diversity and share of other academic disciplines. Notably, the growth in the *Interdisciplinary Science* and *Agriculture, Marine and Fishery* fields is significant. This is believed to be due to the fact that climate change

issues addressed within development cooperation are increasingly being discussed in specific sectors that are directly linked to the economic and social development of developing countries, rather than just remaining within the discourse. This explains the significant rise in research within categories such as agriculture, marine and fisheries, and regional development.

At the sub-category level, there has been an increase in research in *Social Science General, International/Regional Development, Politics and Diplomatic Studies, and Regional Studies*. In contrast, research in the *Economics* field has decreased. The increase in studies related to bilateral cooperation has led to active research in the *Regional Development and Regional Studies* fields.

Between 2010 and 2014, research in the *Economics* and *Forestry* fields combined accounted for about 32% of the total studies. From 2015 onwards, the share of research in the Social Science *General* field significantly increased. During the period from 2015 to 2019, the main research areas were *Social Science General* (17.0%), Law (11.3%), and *International/Regional Development* (11.3%). In the period from 2020 to 2024, the key research areas shifted to *Social Science General* (15.5%), *Interdisciplinary Science* (13.8%), and *Politics and Diplomatic Studies* (10.0%).

〈Figure 4〉 Cross-Examination of Climate-Related Development Cooperation Research by Period and Academic Discipline (by Category)



Source: Authored based on the selected paper information

〈Table 2〉 Cross-Examination of Climate-Related Development Cooperation Research by Period and Academic Discipline (by Sub-Category)

	before 2009	2010-2014	2015-2019	2020-2024
Humanities	0	0	0	2
Social Science General	0	2	9 (17.0%)	12 (15.5%)
Economics	2	5 (17.6%)	3	0
Law	1	3	6 (11.3%)	6
International/Regional Development	0	0	6 (11.3%)	5
Politics & Diplomatic Studies	0	0	5	8 (10.0%)
Policy Studies	0	2	5	4
Public Administration	0	1	3	2
Regional Studies	0	2	3	7
Geography	0	2	0	0
Trade	0	0	1	1
Sociology	0	3	0	0
Science	0	1	1	1
Engineering	2	1	3	1
Agriculture General	0	2	1	5
Forestry	1	4 (14.3%)	3	7
Interdisciplinary Science	1	0	3	11 (13.8%)
Other	0	0	1	8
TOTAL	7	28	53	80

Source: Authored based on the selected paper information

4. Comparison of Research Trends within the Climate Change (Environmental) Domain and within the Development Cooperation Domain

Among domestic specialized academic journals, there is no journal exclusively focused on climate-related DC. However, by analyzing the research trends that combine these two fields in journals specialized in climate change/environment and development cooperation, respectively, we can identify differences and characteristics in the research trends on the same topic across different domains. Therefore, this study manually analyzed papers related to development cooperation published in the *Journal of Environmental Policy and Administration*, a representative domestic journal on climate change/environment policy, and papers on climate change published in *International Development and Cooperation Review*, a leading domestic journal on development cooperation. The number of papers directly related to climate change and development cooperation in these two journals is very limited. Consequently, the scope of analysis was somewhat broadened to include international cooperation focusing on developing countries in relation to climate change.

The *Journal of Environmental Policy and Administration* has been published since December 1993, and as of September 2024, it has released up to Volume 32, Issue 3. The journal specializes in research on various issues related to environmental policy and environmental management systems, with major research keywords including climate change, greenhouse gases, particulate matter, and emissions trading systems.

Kang's (1994) paper, published in 1994, is the first research on climate-related DC or international cooperation with developing countries in the *Journal of Environmental Policy and Administration*.

Early climate-related DC studies primarily focused on international cooperation on environmental issues centered around Multilateral Environmental Agreements (MEA) (Lee, 1996; Jung, 1998; Cho, 2001; Kim, 2002; Kim, Kim and Park, 2021). These studies analyzed the content of the agreements and the corresponding responses required. Later, Yoon (2008) introduced the issue of climate inequality between developed and developing countries, which brought attention to the problem of inequality among nations surrounding climate change and the background of development cooperation research. In addition, many studies have been published that discuss environmental justice (Kim and Choi, 2006; Hwang and Lim, 2013; Lee and Lim, 2023). Research directly related to climate-related DC policies forms the foundational policy framework required to support climate change response in developing countries. These studies primarily focus on the topics of mainstreaming climate change into development cooperation and climate finance (Lim, 2011; Jung and Lim, 2012; Lee, Lee and Hong, 2015; Kang and Jung, 2016; Moon, 2016). Additionally, studies addressing ODA in specific sectors, such as energy and biodiversity (Bae and Yoo, 2021; Lee and Park, 2021; Lee and Lim, 2023), have also been published.

Discussions on development cooperation in the *Journal of Environmental Policy and Administration* are mainly framed within the broader context of environmental cooperation. Research on development cooperation itself is limited, but there is a continuous trend of increase and expansion across the journal as time goes on. The journal primarily focuses on analysis of Multilateral Environmental Agreements (MEAs) and discussions of development cooperation from the perspective of environmental justice. This suggests a tendency to approach climate-related DC issues from an environmental policy perspective.

The *International Development and Cooperation Review*, launched in October 2009, is a leading academic journal in the field of international development studies in Korea. As of September 2024, it has published up to Volume 16, Issue 3. The main research keywords include international development cooperation, Official Development Assistance (ODA), Sustainable Development Goals (SDGs), and development effectiveness.

The climate-related DC issues discussed in the *International Development and Cooperation Review* primarily focus on the justification for supporting climate change response in developing countries (Park, 2011; Moon, 2017; Yang, 2020; Jung, 2021; Kim and Shim, 2022) and case studies. Case studies primarily focus on research analyzing the systems of developed countries regarding climate-related DC (Yoo and Yoon, 2014c; Bok and Park, 2016; Kim, 2023), as well as studies on specific climate change aid projects and climate change conditions in developing countries (Lee, 2017; Kang, Kim and Yoon, 2020; Seo, Lee and Kwon, 2021; Joo and Yoon, 2023).

These studies analyze the reasons why support for developing countries is needed for climate change response from various perspectives, thereby supporting the necessity of climate-related DC, while also exploring ways to concretize this through various case studies. In particular, there have been attempts to identify the direction of domestic policy and specific policy tools by analyzing the climate-related DC policies and institutional examples from developed donor countries. Additionally, studies introducing development cooperation projects being implemented in developing countries have been published, helping to enhance understanding of the practical applicability of climate change response support.

〈Table 3〉 Comparison of Key Topics and Major Publications by Topic in Climate-Related DC Papers Published in the Journal of Environmental Policy and Administration and the International Development and Cooperation Review

Journal of Environmental Policy and Administration		International Development and Cooperation Review	
Topics	Authors	Topics	Authors
Climate Change and Development Cooperation	Lim(2011); Lee, Lee, and Hong(2015); Kang and Jung(2016)	The justification for climate change-related aid	Park(2011); Moon(2017); Yang(2020); Jung(2021); Kim and Shim(2022)
Multilateral Environmental Agreement (MEA)	Lee(1996); Jung(1998); Cho(2001); Kim(2002); Kim, Kim and Park(2021)		
Aid in a Specific Sector	Bae and Yoo(2021); Lee and Park(2021); Lee and Lim(2023)	Case study - Comparison of developed countries' systems	Yoo and Yoon(2014c); Bok and Park(2016); Kim(2023)
Environmental Justice	Kim and Choi(2006); Yoon(2008); Hwang and Lim(2013); Lee and Lim(2013)	Case study - Analysis of projects and conditions in developing countries	Lee(2017); Kang, Kim and Yoon(2020); Seo, Lee and Kwon(2021); Joo and Yoon(2023)
Case Study of Developing Countries	Kang(1994); Jung, Kim, Nsafon and Huh(2017); Lee, Park, Kim and Quan(2022)		

Source: Authored based on the information of the selected paper from the Journal of Environmental Policy and Administration and the International Development and Cooperation Review

V. Conclusion

This study analyzes the evolutionary process of domestic research on climate-related DC. In particular, it investigates the trends of climate-related DC research in two distinct research groups: one focused on climate change and the other on development cooperation. As a result, the study draws the following conclusions.

First, research on climate-related DC is a relatively recent topic of study. While climate change-related research began to gain traction in the 1990s and research on international development started to increase after the 1970s, research specifically on climate change and development

cooperation began to appear infrequently in the 2000s and only emerged in earnest in the 2010s. This trend aligns with previous studies (Kim and Sohn, 2021), which found that climate change began to have a significant impact on the direction of development aid policies starting in the 2010s. Prior to the Kyoto Protocol's entry into force in 2005, various analyses were conducted, particularly on the use of the Clean Development Mechanism (CDM), which brought attention to climate change issues in developing countries. However, research on cooperation to help developing countries address climate change, beyond CDM, was not very active at that time.

It was with the establishment of the *Framework Act on Low Carbon, Green Growth* in 2010 that support for green growth and climate change response in developing countries began to be emphasized at the national strategy level in Korea, triggering a sharp increase in related research. In particular, following the establishment of the Green Climate Fund (GCF) in 2012 and the attraction of its headquarter to Korea, research on support for developing countries was actively conducted. In the late 2010s, studies related to the Paris Agreement, sustainable development, and cooperation with North Korea became more prominent. By the 2020s, an even wider range of topics began to be explored. Overall, there has been active research in areas related to forestry, and there has been an increasing number of case studies focusing on specific bilateral cooperation projects in areas such as energy, climate change adaptation, and greenhouse gas reduction.

Second, social science is the dominant academic discipline in climate-related DC research, but increasing academic diversity is being observed. Based on category, the Social Science field holds an overwhelmingly large share, while *Agriculture* and *Interdisciplinary Science* are also important areas. When analyzing by sub-categories,

Social Science General, Law, Forestry, and *Interdisciplinary Science* emerge as the primary disciplines where climate-related DC research is actively conducted. Since the late 2010s, there has been a trend of increasing diversity in academic disciplines. Notably, as the number of case studies on bilateral cooperation has risen, research within the *Regional Studies* field has also significantly increased.

Third, climate-related DC is a research field that combines two distinct topics: climate change and development cooperation. As a result, related papers are being published in specialized journals from both the climate change and development cooperation fields. Research on climate-related DC published in environmental policy journals, such as the *Journal of Environmental Policy* and *Administration*, tended to focus on international cooperation within the environmental sector, with direct discussions on development cooperation being less common. The research typically approaches climate change issues from an environmental policy perspective, resulting in discussions on Multilateral Environmental Agreements (MEAs) and development cooperation from the angle of environmental justice. Research on development cooperation itself is limited, but over time, there is a continuous trend of increase and expansion throughout the journal.

On the other hand, *International Development and Cooperation Review*, a journal dedicated to international development cooperation, offers multi-faceted analyses of the rationale for supporting developing countries in the context of climate change and presents various case studies. Many studies explore ways to enhance the effectiveness of climate-related DC through the analysis of policies and institutional examples from donor countries, as well as case studies of actual development cooperation projects implemented in developing countries.

This study highlights the growing importance of climate-related DC in Korea's research landscape, reflecting broader global trends toward integrating climate change into development cooperation strategies. Through an analysis of previous studies on the changes in climate change and development cooperation policies, as well as a keyword analysis of domestic research, it has been confirmed that although climate-related DC research emerged relatively recently, its quantitative and qualitative expansion has been progressing very rapidly.

Considering the setting of carbon neutrality goals by various countries and the increasing status of the Global South, the demand for climate-related DC projects and research is expected to continue growing. In particular, aligning the policy goals of international development cooperation with international norms and strengthening development cooperation in areas that require a joint response from the international community are expected to drive an increase and diversification in the demand for climate-related DC research. Therefore, experts in environmental policy research need to raise awareness of the importance of the development cooperation function in this field, continuously monitor domestic and international policy changes, and incorporate these developments into research topics.

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