

Abstract

Chapter I: Introduction

● Background and purpose of the research

The 21st session of the Conference of the Parties to the UNFCCC (COP21) held in Paris has delivered a framework for post -2020 climate action. The Paris Agreement commits Parties to aim to hold global temperatures well below 2 °C above pre -industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C. The Paris Agreement's provisions on voluntary and transparent approaches to cooperation targeting both mitigation and adaptation measures in a sustainable way lay the groundwork for future mechanisms that may evolve under the Agreement.

The GCF has been created with the objective to mobilize climate finance to support various mitigation and adaptation action in developing countries. It was first discussed in the Copenhagen Accord in 2009 and was formally established one year later during the COP16 held in Cancun, Mexico. In 2011 the GCF adopted its governing instrument in which it recognized its objective to promote the paradigm shift towards low emission and climate -resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change. It is expected that both the role of the GCF and the climate finance will be increasingly important for the post -Kyoto climate regime.

In 2015, the Korean government announced the 2030 mitigation target of 37% below BAU (Business -As -Usual) and its related implementation plans. This announcement served two purposes: the first was to make clear that Korea was still motivated to lower its emissions and the second was to reach national consensus as the country prepared to submit its Intended Nationally Determined Contribution (INDC) to the UNFCCC. As part of the government's international efforts for climate protection, the Korea International Cooperation Agency (KOICA), which is the country's main official development aid operator, has established the Climate Change Response Mid -Term Strategy (2016 -2020) and set out plans to scale up access to the climate finance provided by GCF and link the KOICA's own development finance to the GCF's climate finance for future development projects in developing countries. To better access finance through GCF and strengthen its international capabilities for development projects, KOICA is now in the process of receiving accreditation from GCF to become an official Accredited Entity (AE) of GCF.

● Scope of the research

This research includes the following three specific research subjects.

- (1) Analysis on the current status of climate finance and development finance (at national and international levels)

- (2) Case analysis on GCF projects linked to both climate - and development finance
- (3) Establishment of new project models linked to both climate - and development finance for KOICA with analysis on KOICA's main national stakeholders.

Chapter II: Analysis on the current status of climate -and development finance

In the recent years, the international community has been discussing various financial mechanisms for climate mitigation and adaptation in developing countries. While there is no single definition of climate finance, the closest one can get is provided by the UNFCCC Standing Committee on Finance, which defines it as: ‘finance that aims at reducing emissions, and enhancing sinks of greenhouse gases and aims at reducing vulnerability of, and maintaining and increasing the resilience of, human and ecological systems to negative climate change impacts.’ This definition represents finance for addressing climate change in its broadest form as it relates to the flow of funds to all climate activities and projects for climate mitigation and/or adaptation.

In general, development finance is defined as financial resource to achieve development goals in developing countries. Development finance has been recognized as an increasingly important tool for poverty eradication and economic development. In many cases, it has become an important complement to ODA and integral to achieving the SDGs. Whereas the main focus of the Millennium Development Goals (MDGs) was on increasing donor assistance to developing countries, the Sustainable Development Goals (SDGs) suggest a comprehensive set of objectives for every country, emphasizing all forms of finance, not only from public sector, but also from the private sector.

The role of GCF to mobilize climate finance is expected to considerably grow in the future as the international community will pay more attention to multilateral financial institutions for climate change and sustainable development. A significant part of the climate -related public finance is likely to be provided through GCF in the coming years. However, as the public finance alone would not be enough to successfully achieve climate goals for the post -Kyoto climate regime, the international community has acknowledged the importance of mobilizing financial resources from the private sector. Therefore, it is highly recommended that KOICA should prepare for various plans to utilize a wide range of private finance as well as the public finance from GCF in order to develop and expand climate projects in the future.

Chapter III: Case analysis on projects linked to climate -and development finance

As of September 2019, a total of 88 organizations, which are public, private, non-governmental, national or international bodies, have been approved as GCF Accredited Entities which mainly develop funding proposals and also manage and monitor projects and programs related to climate mitigation and adaptation. Until now, GCF has approved 111 climate projects in 99 developing countries and its financing volume for the projects amounts to around 5.2 billion USD. Chapter III first analyses three of the GCF Accredited Entities such as GIZ (Germany), AFD (France) and JICA (Japan), which act as overseas development agencies like KOICA, and then their all approved GCF climate finance projects in developing countries. The GCF climate finance projects implemented by GIZ, AFD, and JICA are categorized into two main project

models, called the Leading the Project 'model and the Supporting the Project 'model, based on project participation type.

[Table S -1] Leading the Project 'model -based GCF projects (Total: 5 projects)

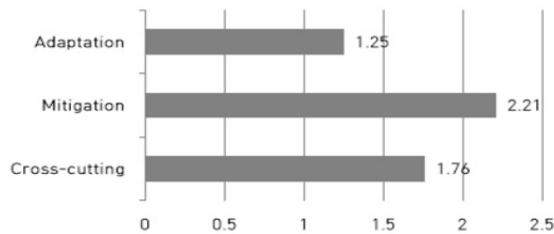
Institution	Country	Project Nr.	Participation Type	Financing Type	Project Focus	Financing Instrument
AFD	Senegal	FP021	Accredited Entity	Public	Mitigation	Loan
	Morocco	FP042	Accredited Entity/ Executing Entity	Public	Mitigation	Loan/ Grant
	Multiple Countries	FP095	Accredited Entity/ Executing Entity	Private	Cross - cutting	Loan/ Grant
GIZ	Grenada	FP059	Accredited Entity/ Executing Entity	Public	Mitigation	Grant
	Kenya/ Senegal	FP103	Accredited Entity/ Executing Entity	Public	Adaptation	Grant

[Table S -2] Supporting the Project 'model -based GCF projects (Total: 4 projects)

Institution	Country	Project Nr.	Participation Type	Financing Type	Project Focus	Financing Instrument
AFD	Mauritius	FP033	Co -Financing	Public	Mitigation	Loan
	Paraguay	FP062	Co -Financing	Public	Cross - cutting	Loan
JICA	Paraguay	FP063	Co -Financing	Public	Adaptation	Loan
	Multiple Countries	FP020	Co -Financing	Public	Adaptation	Loan/ Grant

According to the analysis result of the approved GCF climate finance projects, KOICA should consider the following investment criteria of GCF to successfully get its funding proposals approved.

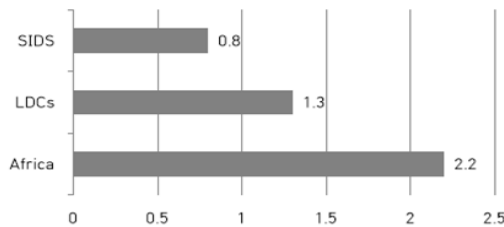
- (1) Priority on projects in Small Island Developing States (SIDS), Least Developed Countries (LDCs), and African States.
- (2) Preference for projects which can generate more social co -benefits rather than economic profit
- (3) Degree of beneficiary country ownership of and capacity to implement a funded project



Source: GCF (Sept. 2019)

* Based on 111 GCF approved projects as of September 2019

[Figure S -1] Volume of GCF climate finance for adaptation, mitigation and cross -cutting projects



Source: GCF (Sept. 2019)

* Based on 111 GCF approved projects as of September 2019

[Figure S -2] Volume of GCF climate finance for SIDS, LDCs and Africa

Based on the principles and provisions of the UNFCCC, GCF plays a critical role in serving the Paris Agreement and supporting the goal of limiting average global temperature rise well below 2 °C. In principal, GCF project approval is built on the need to support developing country priorities. Furthermore, GCF aims for a floor of 50% of the adaptation allocation for developing countries vulnerable to climate change and also for a 50:50 balance between mitigation and adaptation projects. In consideration of the general principles of GCF climate finance projects, KOICA needs to mobilize and expand climate financial resources from both the public and the private sectors in case it becomes a GCF Accredited Entity and to pay special attention to PPP (Public -Private -Partnership) projects.

Chapter IV: Suggestions for new KOICA project models which link both climate-and development finance with analysis on KOICAs national stakeholders

● Suggestions for new KOICA project models which link both climate - and development finance

To develop project models that can link climate finance and development finance, this report analyzes approved GCF projects and examines PPP projects of other donor agencies through literature review, benchmarking, interview with internal and external stakeholders and field surveys.

The approach to link climate finance and development finance divides into two phases which are identification and implementation. In the identification phase, KOICA finds new projects

to be proposed to the GCF. There is a committee in Korea called 'International Development Cooperation Project Consultative Group,' in which KDB, KEITI, GTC, KOICA and others participate to facilitate cooperation between organizations. These ODA implementing agencies share a list of potential GCF projects and KOICA proceeds with the feasibility study of the potential projects to inspect requirements of the GCF standards.

In the implementation phase, KOICA develops their existing projects to scale up. For example, one of the best practices which are executed successfully can be proposed to the GCF. Expertise and know-hows of KOICA will be an asset when implementing GCF projects. In this phase there are two types of approach, one is to lead the project as an accredited entity and second is to support the project through co-financing as a strategic investor. As a result of the analysis in Chapter 3, the studies found that efforts for attracting private investment have been made to secure additional financial sources in international development projects and blended finance offers opportunities to execute large-scale PPP infrastructure projects. In align with the international trends and circumstances of KOICA, this report focuses on the PPP structure, not on the co-financing which is a traditional type of financing mechanism KOICA usually uses.

This report suggests four approaches to execute PPP projects. The first approach is to provide developing countries with grants and the government provides finance directly to a Special Purpose Company (SPC) in the form of grant subsidies. This approach can minimize the political or national risks which can be occurred in developing countries and secure commercial feasibility. In addition it helps to establish a direct channel between KOICA and the government of developing countries.

The second approach is to construct the part of PPP projects which lack commerciality or to provide extra infrastructure. For example, in case of renewable energy projects in developing countries, the SPC constructs renewable energy power plant through public and private investment and KOICA installs transmission lines for power transportation. Providing grants for PPP projects can reduce financial burden and induce private sectors' participation. However, this approach is similar to the way KOICA already implements. KOICA is also more likely to merely support the project than to take a leading role as an accredited entity.

The third one is KOICA directly invests shares in the SPC as an accredited entity. In this way, KOICA can play a key role as a strategic investor and substantial body of the project. The SPC which receives funds from strategic and financial investors, will build infrastructure facilities, and operates and maintains under the PPP contract, or enter into contract with EPC companies. In the process of implementing projects, profits can be generated, and KOICA can promote overseas expansion of domestic engineering companies. This approach will increase the performance of the project allocating risks between public and private sectors in PPP projects. However, since KOICA has no experiences in investing equity and there is no legal basis for return of profits, legal and institutional constraints are to be raised.

Lastly, KOICA creates its own revolving fund for the GCF projects. The revolving fund operates with the capital invested and profits from the PPP projects. The revolving fund created by grants from KOICA and investments by private companies may be directly managed by KOICA or managed by a consignment agency who has experiences in management of the

fund. The difference between the second option and this revolving fund is whether to withdraw returns on investment. Revenues generated from operating should be returned to KOICA in the equity investment approach, but in case of revolving fund, the profits can be reinvested in another PPP projects. Therefore, it can catalyze private sector participation, while meeting the function and role of KOICA as a governmental agency responsible for grant aid.

By analyzing the general information about climate finance and development finance, climate-development finance linkage cases and domestic stakeholders, this paper presents various business models that KOICA can implement after its accreditation. Firstly, through the analysis of status of climate finance and development finance, it was confirmed that the role of GCF, a key financial institution of the Paris Agreement, would increase since the resources for responding to climate change in the new climate system has been increased significantly and the role of multilateral funds has been emphasized. Then, GCF approved projects of major bilateral agencies such as GIZ and JICA were analyzed to derive various methods through which KOICA can carry out GCF projects. Lastly, by analyzing key Korean stakeholders related to GCF, the research team identified the ways that KOICA can collaborate with them when developing, designing and implementing the GCF projects.

KOICA can implement the GCF projects by developing new projects using the “consultative group on international development cooperation project” consisting of domestic intentional development stakeholders or by expanding best practices of KOICA’s climate change projects. There are two ways in which KOICA can participate in the GCF projects; the first way is to lead the project as an AE and the second is to support the project through co-financing as a strategic investor. The “leading the project” mechanism can be divided into two types; first is that KOICA manages the whole GCF project as an AE. For the second type, KOICA implements the project by taking role as both AE and Executing Entity (EE). The “supporting the project” mechanism indicates that KOICA participates in the project as an EE or a strategic investor through co-financing. KOICA’s current GCF projects fall under this mechanism.

In order to overcome the limitations of government-centered development cooperation, it is important to use development finance effectively and efficiently and to link the development finance with the climate finance. Thus, after a thorough study, this paper suggests various types of PPP model as a new project implementation mechanism. In the end, KOICA implementing the GCF project by forming a so-called KOICA Climate Change Fund (KCCF) seems to be the most sustainable and effective model that aligns with the unique characteristics of the grant agency and that can continue to reinvest its resources in developing countries.

However, the biggest limitation of KOICA’s PPP model presented in this paper is that KOICA not only does not have any legal and institutional basis for public-private partnership to carry out infrastructure projects, but also lacks justification and validation to carry out the PPP projects. Nevertheless, this paper suggests PPP model as KOICA’s GCF project implementation model for the following four reasons. Firstly, PPP project has been emphasized as one of the main ways to improve the efficiency and effectiveness of existing aid projects in the international community. Secondly, PPP model is a way to maximize the effects and visibility of the KOICA projects by using KOICA’s limited resources more efficiently. Thirdly, PPP project can contribute to the economic and social development of developing countries by

achieving economies of scale and investing in their infrastructure. Lastly, if KOICA carries out GCF & PPP project, it can contribute in building the foundation for overseas expansion of Korean enterprises.

Therefore, this paper intends to review five factors utilizing KCCF for PPP projects, and to build the foundation for KOICA to implement GCF projects.

A) Creating internal and external consensus

It is very important for KOICA, a grant agency, to establish internal and external consensus in order to carry out PPP projects. In particular, it would be quite difficult to carry out PPP projects without making an agreement with Ministry of Foreign Affairs, a ministry in charge of grant aid, and Ministry of Economy and Finance, a ministry that is responsible for the loan and for allocation of budget. Therefore, KOICA needs to have thorough discussion with its internal and external stakeholders using the following logic; i) PPP has become an international trend, ii) there is a great need to increase the effectiveness and visibility of KOICA projects, iii) agencies with similar functions have some limitations in implementing GCF projects and iv) KOICA needs to increase its expertise by cooperating with international fund.

B) Enacting and amending the relevant laws

Not only “Korea International Cooperation Agency Act (enforcement 1 Jan. 2017)” which lays foundation for the establishment of KOICA and its implementation of projects, but also “Project Implementation Instruction for Korea International Cooperation Agency (enforcement 29 May 2017)”, “Detailed Guidelines for Implementation of Public-Private Cooperation Projects (revised 2 May 2018)” imply the possibility that KOICA can carry out PPP projects. However, there is an implication that the public-private project should not be intended for particular company & profit-making. Thus, in order for KOICA to create revolving fund and to carry out PPP projects using the fund, it is very important for KOICA to enact and to amend relevant law and regulations more clearly. In other words, relevant laws should be enacted or revised in a way that KOICA can manage and operate profit-making projects, which have been developed in cooperation with domestic stakeholders, NIE or NDA, with GCF, Strategic Investor (SI) and Financial Investor (FI) and can reinvest the collected principal (original amount) to the society.

C) Allocating the KCCF budget

If the consensus to implement the PPP projects is formed both internally and externally and related laws are enacted or amended, the budget for KCCF will be allocated without any critical difficulty. “Korea International Cooperation Agency Act (enforcement 1 Jan. 2017)” and “Enforcement Ordinance of the Act (enforcement 17 Apr. 2019)” imply that KOICA can manage and operate additional contribution from the government and non-government party to create and operate the KCCF.

D) Establishing KOICA internal guidelines and principles for PPP projects

KOICA established ‘Detailed Guidelines for Implementation of Public -Private Cooperation Projects (revised 2 May 2018)’ to carry out public -private projects and ‘Detailed Guidelines for Implementation of Cooperation Projects with International Organization (enacted 19 Feb. 2016)’ to conduct projects in cooperation with international organizations. However, both guidelines are insufficient to use as solid guideline for GCF PPP projects. Therefore, KOICA should establish a separate detailed guideline for GCF PPP projects or should include relevant contents in the already -mentioned two detailed guidelines so that project officers can use them as reference guidelines when planning, implementing and managing projects. In addition, KOICA should establish its own principles for PPP project implementation which have a reasonable balance between publicity and profitability.

E) Organizing a GCF team within KOICA

It is very important to organize a team for GCF projects within KOICA in order to carry out GCF PPP projects in accordance with the purposes of i) enhancing the aid effectiveness and efficiency, ii) increasing the KOICA’s impact and brand image and iii) expanding its expertise in the field of climate change. For example, in case of GIZ, there is a team including a senior climate specialist in charge of climate change projects in each country office and in GIZ Vietnam office, there is a program director responsible of GCF project. Therefore, to successfully carry out GCF project, a GCF team consisting of 5 or more staff members who have expertise in fund creation, operation and management and those who have expertise in project planning and management, should be newly organized at the KOICA headquarters. For the country office which will implement GCF project, a program officer or specialist dedicated to GCF projects should be newly hired for project management and operation.

● Analysis on KOICA’s national stakeholders

By utilizing climate finance and private finance in implementing the GCF projects, KOICA aims to expand the size of projects in order to increase the impacts and effects of its projects and to contribute in promoting the overseas expansion of the Korean enterprises. Therefore, in order to implement non -traditional types of projects successfully, KOICA needs to analyze domestic stakeholders that carry out GCF -related projects or ODA projects in the climate change and cooperate with them.

The Ministry of Economy and Finance, which is the National Designated Authority (NDA) of GCF, regards one of the main purposes of implementing the GCF projects is to provide the Korean enterprises the opportunity to expand their business overseas. The ministry expects a similar role from KOICA which is expected to become an accredited entity of GCF in the coming years. In the planning and designing phase of the GCF projects, KOICA can cooperate with Green Technology Center (GTC), an organization responsible for the CTCN, and with Korea Environmental Industry and Technology Institute (KEITI), a public organization that carries out environmental ODA. In other words, KOICA can work with these organizations in project planning and designing phase when KOICA develops climate change projects that can promote the Korean enterprises’ overseas expansion or when KOICA expands its already -

developed -projects to the GCF projects.

However, with KDB, the first Korean GCF accredited entity, KOICA can further develop the cooperation not only in project planning and designing phase but also in implementation phase. Especially when KOICA implements PPP project, a new type of project model, KOICA can invite KDB to become a loan provider or equity investor to increase and to expand the project scale.

● Analysis on KOICA & national stakeholders

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Chapter V. Conclusions

This research suggests various projects models for KOICA, which has started its accreditation process of the GCF, by analyzing the current status of climate - and development finance, the projects linked to climate - and development finance and KOICA's main national stakeholders. First, the analysis on the current status of climate - and development finance explains an increasingly growing role of the GCF in serving the Paris Agreement. Second, it analyzes the GCF projects implemented by GIZ, AFD and JICA and thereby shows what KOICA should act on to receive funding from the GCF in future. Lastly, it suggests new projects models with strong emphasis on PPP projects for KOICA, along the analysis on KOICA's national stakeholders including KDB, KEITI and GTC.