



JICA Research Institute

JICA-RI Working Paper

International Cooperation Strategy towards Green Growth

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No. 118

March 2016

JICA Research Institute



JICA Research Institute

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On the Concept of Green Growth and the Role of Policy and Public Finance

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Abstract

This article aims to identify the current discussion on green growth, and focuses on the role of public finance in promoting a transition towards green growth. Terms such as “green economy” and “green growth” have become popular in international policy discourse as ways of describing recent efforts to improve the environmental performance of the economy. In this article, the definitions offered by several international institutions are compared and some commonalities are identified. The rationale behind green growth can be explained within the framework of the growth theory. Investment is indispensable to the practical promotion of green growth activities. Using Vietnam as a case study, we identify the critical factors for encouraging and enabling green investment. However, further theoretical background should be developed. In particular, pricing on environmental goods and services is a critical challenge for both the theoretical and the practical development of green growth. Further theoretical and practical study on green growth may improve the discussion on the growth theory as well as the development of policies that promote investment in green growth. To deepen the discussion, further case studies need to be collected and analyzed.

Keywords: Green Growth, Growth Theory, Finance, Sustainable Development, Program Loan

JEL Classification Codes: O44, Q56, O23

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This paper has been prepared as part of JICA Research Institute research project entitled “International Cooperation Strategy towards Green Growth.”

1. Introduction

All people live under different environmental conditions. In general, environmental conditions are in a sense an initial endowment for all life on earth. If we can live within our given endowment, the environment will provide us with our fundamental needs for sustainably surviving on this planet. However, once the environment is damaged it will take time for it to recover; some damage may be irreversible.

There is a long debate on the integration of environmental concerns into development and economic growth. One of the key concepts on this issue is “sustainable development.” In 1987, the term sustainable development was described by the World Commission on Environment and Development (WCED) as follows: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”(WCED 1987). To achieve sustainable development, the terms “green economy” or “green growth,” as complementary concepts, have become popular in international policy discourse as ways of describing efforts in recent years to improve the environmental performance of the economy.

The Declaration on Green Growth was adopted at the Ministerial Council Meeting of the OECD in 2009. The Declaration notes that “[g]reen growth will be relevant going beyond the current crisis, addressing urgent challenges including the fight against climate change and environmental degradation, enhancement of energy security, and the creation of new engines for economic growth.” (OECD 2009) At the Ministerial Council Meeting of the OECD in 2011, “[Ministers] agreed that green growth tools and indicators can help expand economic growth and job creation through sustainable use of natural resources, efficiencies in the use of energy, and valuation of ecosystem services” (OECD 2011). These statements show a political intention that OECD countries look at the possibility of using the “green agenda” as a new economic growth engine while addressing global risks, including natural disasters.

A number of high-level meetings and networks have been established (for example, the Global Green Growth Forum, the Green Growth Leaders, and the Green Growth Action Alliance). Several countries have adopted green growth as an explicit policy objective (OECD 2012a; Green Growth Best Practice Initiative [GGBP] 2014) and at the G20 Summits in France and Mexico in 2011 and 2012, the largest economies in the world committed themselves to its promotion (Government of France 2011; Government of Mexico 2012). The green economy was a major focus of the “Rio+20” United Nations Summit in June 2012.

While there has been a lot of political discourse on green growth, any theoretical or practical discussions have occurred within academia and international organizations. For example, in 2010 the Government of the Republic of Korea launched the Global Green Growth Institute (GGGI) as a platform for promoting green growth. The GGGI was initially structured as a non-profit foundation of the Republic of Korea. In October 2012, the GGGI converted into the first international organization specifically focusing on the green growth agenda. Additionally, the World Bank, the OECD, UNDP, and the GGGI established the Green Growth Knowledge Platform as a means of sharing practical evidence and knowledge for promoting green growth. The GGGI also led an initiative on green growth best practices to collect and analyze best practice policies and actions for promoting green growth (GGBP 2014).

This article aims to identify the current discussion on green growth, and focuses on the role of public finance in promoting a transition towards green growth. Chapter 2 provides an overview of the discussions around green growth. In Chapter 3, the theoretical approach to green growth will be explored. The role of finance in promoting green growth is the focus of Chapter 4, followed by a case study on Vietnam in Chapter 5. The last section presents the conclusions of the above analysis and case study.

2. Literature Review on Green Growth

In early uses of the term green growth, the focus was entirely on the mitigation of climate change (Huberty et al. 2011); however, now the term is used to cover a wider range of environmental resources. The concept of green growth was pioneered by the Asian and Pacific nations (among others) in 2005. Green growth was brought into the context of intergovernmental discussions in Asia for the first time at the Fifth Ministerial Conference on Environment and Development in Asia and the Pacific (MCED-5), which was held in 2005 in Seoul, Republic of Korea. Participants agreed on and presented the Ministerial Declaration on Environment and Development, which adopted green growth as a strategy for achieving sustainable development. Green growth or environmentally sustainable economic growth was defined in the Ministerial Declaration at MCED-5 as a strategy for sustaining economic growth and job creation necessary for reducing poverty in the face of worsening resource constraints and climate crises (UNESCAP 2005).

Following the conference, major international institutions and the governmental agencies in some countries have tried to define green growth in the context of their work and policy. Annex 1 shows the various definitions of green growth given by selected international and national institutions, and academic discussions.

Initial reviews of green growth, the green economy, low emissions, low carbon emissions, and climate resilient development plans by a number of organizations confirm that there is no single approach to green growth (OECD 2011, 2013; UNEP 2011; the World Bank 2012; UNESCAP 2012a; ADB and ADBI 2013; AfDB 2012, 2013; UN et al. 2013). The reviews highlight the common features and elements in the way that countries are developing their strategies, policies, and measures for green growth.

While precise definitions differ (or may not exist), most users of the terms green growth and green economy imply at least a switch to greater reliance on renewable resources, which is

seen as being more sustainable than relying on depletable energy and mineral resources. More broadly, the push for green economic growth expresses an intention to direct the economy toward technologies and consumption patterns that create jobs and economic growth while reducing the impact on the environment.

Where policy and regulatory intervention is needed to redirect the economy toward green growth, and particularly where effective intervention requires coordination across many countries or the entire globe, political consensus requires attention to be paid to the perceived, if not actual, fairness of the outcome. Technically, efficiency and distribution cannot be separated.

While the term green growth is quite new, from the perspective of environmental and resource economics the problems it addresses have a long history. Since Pigou (1932) and Coase (1960), economists have been concerned about potential environmental externalities that may lead to the overuse of environmental goods; whether and how these might come to be reflected in market decisions on improving economic performance; and the effectiveness and efficiency of the tools that public policy makers have available to try and correct them. Economists have long been interested in potential problems associated with scarce resources. Here, the seminal contribution on exhaustible resources is that of Hotelling (1931), who concluded that with private ownership, market forces would efficiently allocate such resources over time. Observations on pricing and efficiency of renewable resources go back even further to Ricardo (1817), from whose work we get the term “Ricardian rent,” which reflects the pricing of a scarce renewable resource. These papers are in the neoclassical tradition of rational agents or, in the case of Ricardo, predate neoclassical economics; however, the Ricardian rent concept may still be effective.

In environmental economics theory, the natural environment, one of the fundamental goods and services for our livelihood, is considered as a form of capital. Freeman et al. (1973) proposed that the environment should be considered a capital good for the diverse services it generates. Pearce et al. (1989) also discussed the fact that the natural environment should be

viewed as a form of capital asset or natural capital; the authors demonstrated that efficient management of an economy's natural resources and environmental endowment is essential for achieving the overall goal of sustainable development.

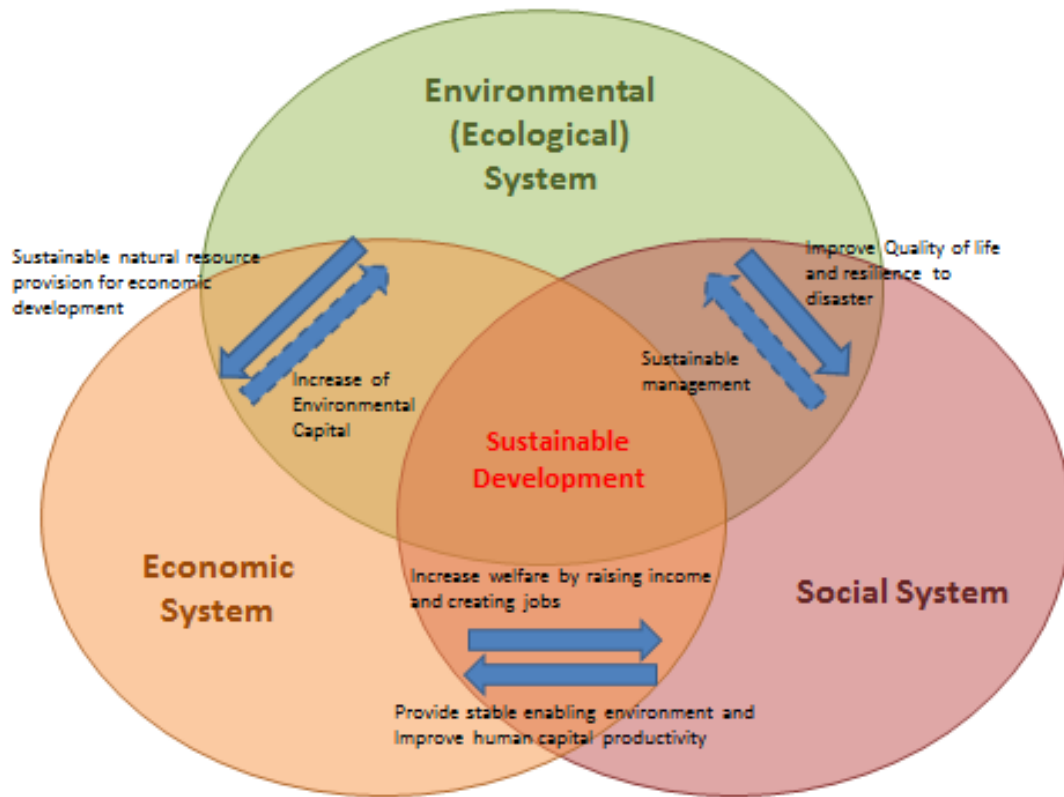
More recently, the consolidation of different threads of economic theory and observation under the term behavioral economics, as reviewed in Mullainathan and Thaler (2001), s cautions against trusting markets to deliver efficiency given the limits of human rationality. However, issues identified under the rubric of behavioral economics only add another source of concern about potential market failure. This does not change the basic conclusion that in the absence of a consideration of externalities there is at least the potential that intervention of some kind may improve economic performance.

3. Concepts of Green Growth

As discussed in the previous section, there are several ideas on the concept of green growth within policy debates. In this section, we will conceptualize the idea of green growth more theoretically.

Natural capital supplies the goods and services it produces to other forms of capital such as economic (or physical) and human capital. For instance, timber, which is originally produced from natural capital, will be used for housing. Ocean resources, such as fish, will be caught by fishermen and supplied as food for human capital.

Figure 1: System approach of sustainable development



Source: Sudo (2015).

Figure 1 shows the mutual relationship between economic, social, and environmental (or ecological) systems. A social system will provide a stable enabling condition, such as governance, for an economic system to maximize economic benefits, by improving human capital for example; an economic system will provide economic benefits to the social system in the form of job opportunities, income, and social infrastructure to secure society's well-being. The environmental system will provide natural resources, such as the raw materials for economic activities, to the economic system. In addition, the environmental system will provide better environmental goods and services like clean water and fresh air to improve the quality of life for people in society.

However, the environmental system receives very limited returns from the economic and social systems. Adversely, economic growth sometimes causes pollution, and social growth may lead to the expansion of residential areas and may, in turn, degrade the environment. Thus, environmental conservation was considered as a cost that then lead to the debate on the trade-off between economics and the environment.

Classical growth theory (Solow 1956) assumes that output Y is produced using labor-augmenting technology (knowledge) A , physical capital K , and labor L . The relationship often reads:

$$Y = f(A, K, L),$$

with $dY/dA > 0$; $dY/dK > 0$; and $dY/dL > 0$.

Output growth dY/dt is explained by growth in production factors K and L , and growth in productivity A . Growth in labor L is explained by population growth, labor force participation and improvements in health and education. Growth in K is explained by investment, and growth models assume that a share of output is used to increase the stock of capital K :

$$Y = C + I,$$

$$dK/dt = I - \delta K,$$

where C represents consumption, I represents investment and δ represents the obsolescence and depreciation of capital. Growth in A is explained by technological change, including changes in organization and practices, and by the improvement of social capital (for example, better institutions and social cohesion).

In some growth theory models (e.g., the Solow model of 1956), labor and total productivity growth is exogenous. In others models (e.g., Arrow 1962; Lucas 1988; Romer 1990

& 1994; Mankiw et al. 1992; Aghion and Howitt 1998), productivity growth is endogenous and depends on investments in education, research, and development, on the scale of output, and on learning by doing. Economic policies can influence the accumulation of physical, social, and human capital to maximize output or to maximize the growth in output (i.e., GDP growth). In this approach the environment has no productive role, although it can enter by way of the utility function through its amenity value.

If the environment is considered as natural capital, environmental degradation and natural resource depletion mean loss of capital. The idea that economic production is directly dependent on the stock of natural resources and on environmental quality - i.e. that the environment is an argument of the production function - has been around at least since Malthus (Malthus 1798) and was further developed in literature on environmental economics that took off in the early 1970s (Nordhaus 1972; Dasgupta and Heal 1974; Solow 1974).

This modification of classical growth theory focuses on the constraints created by exhaustible resources and views the environment mostly as a limiting factor, either because of its finite ability to produce resources or because of its finite ability to absorb waste (for an example of a survey, see Brock and Taylor 2004). The tone can be more positive, such as the views that with healthier soils and greater water quantity, agriculture is more productive; with improved air and water quality, the population is healthier and more productive; or that with better management of land use, natural disasters can be averted and death and destruction avoided; however, the basic idea is the same.

Whatever the emphasis, this approach stresses the services provided by ecosystems beyond their amenity functions (which enter into the utility function). The environment becomes the natural capital directly needed for growth and environmental management becomes a productive investment, directly comparable to investment in physical capital. A failure to manage the environment results in the depreciation and destruction of natural capital, with direct impacts on output.

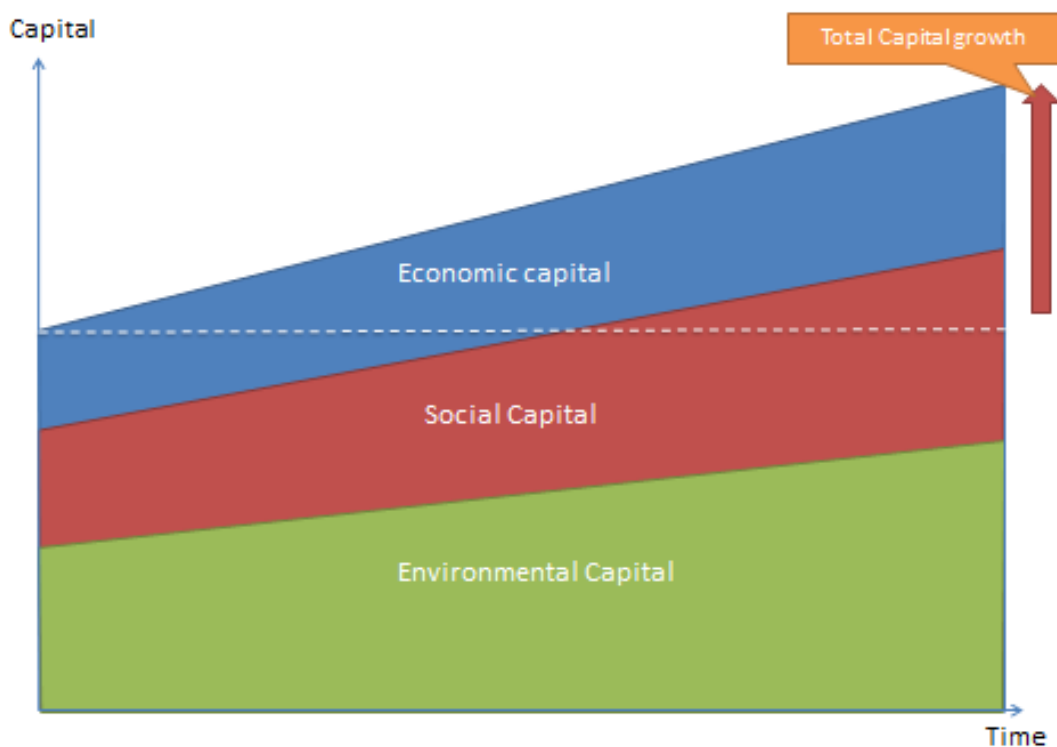
We thus have:

$$Y = f(A, K, L, E)$$

with $dY/dE > 0$

Figure 2 shows the ideal case of sustainable development in terms of total capital growth. When environmental capital (or natural capital) continues to supply goods and services to the economic and social system, economic capital (K) and social capital (L) can continue to grow. In this case, development will be sustained for future generations.

Figure 2: Ideal sustainable development pathway

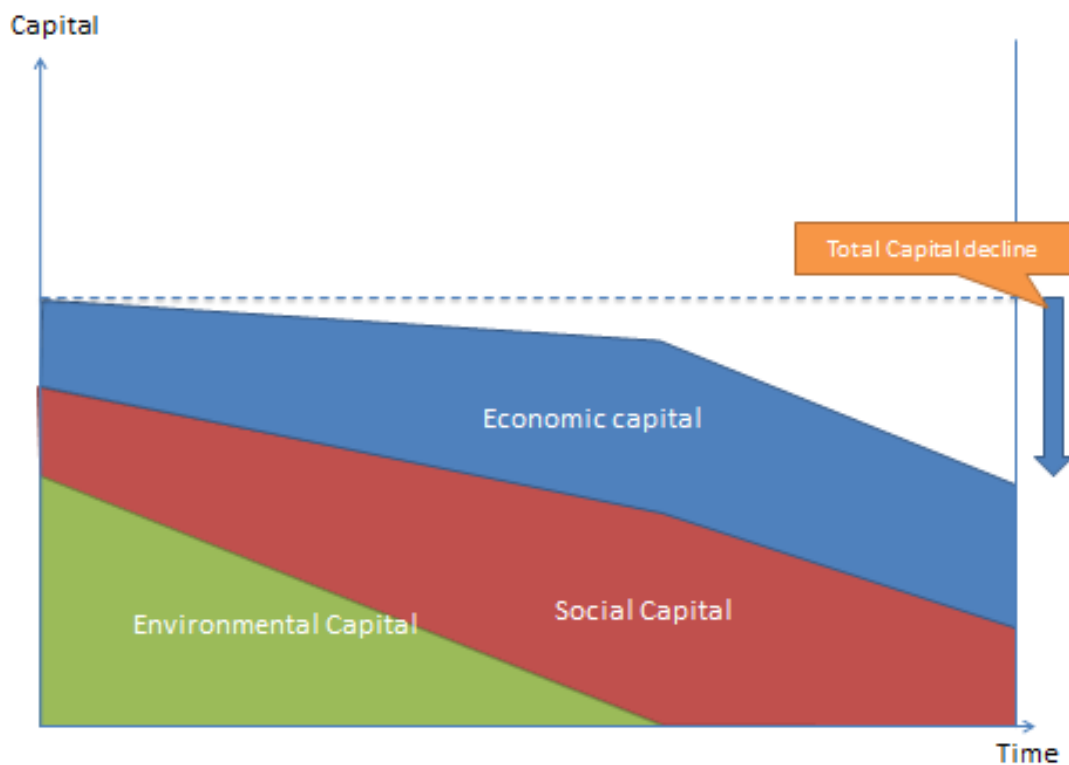


Source: Author

On the other hand, when environmental capital is degraded, the provision of environmental goods and services from environmental capital may decline. Figure 3 shows the case where the growth is unsustainable due to environmental capital degradation. As both

economic and social capital growth depend on environmental goods and services, economic and social capital may decline when the provision of environmental goods and services from environmental capital decreases. Once environmental capital is depleted it may be difficult to increase economic and social capital without any contribution from environmental capital. Even if environmental capital could be transformed into another form of capital, some of it will be depreciated in the long run. Thus, environmental capital plays an important role in securing sustainable development.

Figure 3: Unsustainable development path due to environmental capital loss



Source: Author

Reilly (2012) also pointed out that while environmental effects are often considered to be non-market effects, many of the environmental impacts are reflected in market accounts through damages that may include less labor (due to environment-related health problems), the

reduced productivity of agroecosystems, or damage to infrastructure and other “produced assets.”

Jacobs (2012) explored the three types of green growth theory; a Keynesian argument for short-term ‘green stimulus’ in times of recession; a revision of the standard growth theory which identifies the contribution made to growth by investment in natural capital and the correction of a variety of market failures through environmental policy; and the theories of comparative advantage and long waves of capitalism which emphasize the importance of technological innovation in generating growth. Jacobs (2012) pointed out that: “in all these ways, green growth theory argues that current patterns of economic growth are *prima facie* sub-optimal...They under-invest in natural capital, and over-invest in activities which cause its degradation. If these systematic market failures were corrected, growth might be higher.” Even the recent growth theory does not necessarily have concern over investment allocation to respective type of capital. Among other things, environmental capital receives a limited amount of investment compared to other types of capital, such as man-made capital and human capital. Thus, an increase in investment and finance in environmental capital is indispensable for achieving green growth and, in turn, sustainable development.

4. Role of Policy and Finance in Green Growth

As discussed in the previous section, the fundamental objective of all green growth programs is, theoretically, to unlock the investment needed for achieving a transition to a green development pathway. However, due to real and perceived investment risks, insufficient returns on investment for some green technologies and practices, competing subsidies and policies, insufficient capacity, information gaps, competing development priorities and other adoptions, and regulatory and institutional barriers, governments face significant challenges in securing the level of investment needed.

The OECD (2013a) pointed out that “long-term projections suggest that without policy changes, the continuation of business-as-usual economic growth and development will have serious impacts on natural resources and the ecosystem services on which human well-being depends.” Green growth objectives and policies will need to be mainstreamed into every government objective and, most importantly, into national budgets. Green growth policies can use untapped opportunities to boost domestic fiscal revenues and attract quality investment for years to come (OECD 2013b).

Ideally policy incentives would lead the market transaction of environmental goods and services, but more often than not, additional financial incentives are required. Public finance is an important part of government green growth strategies. In an environment that enables investment, even small amounts of well-designed and targeted public investment in green projects can shift the direction of much larger flows of both private investment and international capital spending (Polycarp et al. 2013). Limited public finance needs to be used efficiently to overcome barriers and to catalyze a major shift in private capital investment (OECD 2013a).

Public financial intervention for green growth can take several forms and can be sourced and managed institutionally in a range of ways. A recent OECD report also points out that the factors and options which governments should consider include, the design of efficient and prudent policy frameworks and regulations, the creation of effective pooled investment vehicles, and interventions by green investment banks or other public financing institutions (Kaminker et al. 2013).

In a joint statement issued in June 2012, the Major Multilateral Development Banks¹ announced the following: “We are committed to supporting this transition to green growth – growth that is attained with a smaller environmental footprint, is inclusive and achieves gains in

¹ The African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, the European Investment Bank and the World Bank Group.

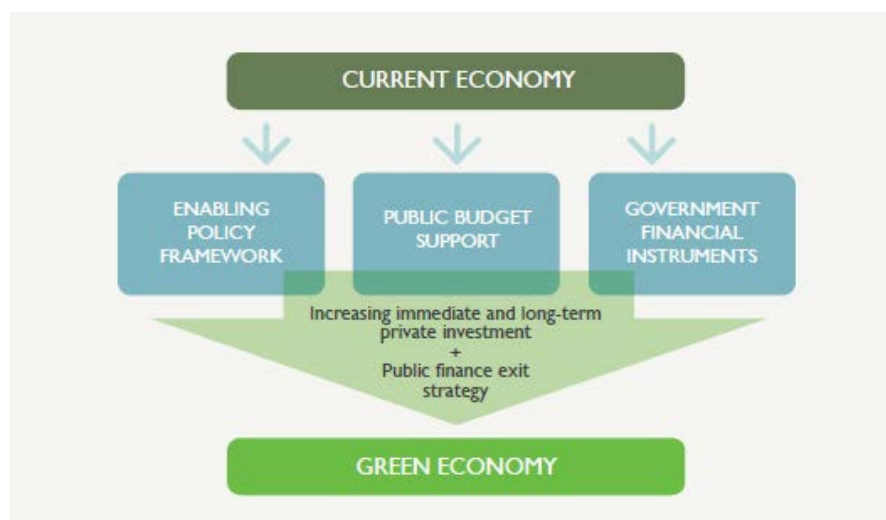
opportunities and access to resources by all segments of the population to reduce income inequality” (African Development Bank et. al. 2012).

Amin et al. (2014) collected several case studies on the financing of green growth and discussed the role of public finance in its promotion. Amin et al. (2014) also pointed out that governments can play three primary roles in mobilizing green growth investment:

- i) Creation of an enabling environment for long-term green investment;
- ii) Effective use of public budgets and investment, including through dedicated funds and/or financial intermediaries to encourage green growth; and
- iii) Tailored application of financial risk mitigation instruments to mobilize private green investment.

Governments will have the greatest success with public finance measures when they are integrated into national development programs, developed in consultation with the business and finance communities, and tailored to address local investment risks and market constraints. The role of government should be more prominent in the early stages of green market development, setting a foundation for the unlocking of substantial pools of private capital and defining from the outset a clear exit or diminished role over time (Figure 4).

Figure 4: Role of Public Policy and Finance in Unlocking Private Investment in Green Growth



Source: Amin et al. (2014)

A critical factor in encouraging and enabling green investment is the creation of “long, loud, and legal” signals through a stable regulatory environment and policy framework (Hamilton 2009; OECD 2012b; WEF 2013).

Public finance is a key policy instrument which both incentivizes and enables the transition to green growth. Some estimates show that public finance has the potential to mobilize five or more times its contribution from the private sector (WEF 2013; IDFC 2012). However, it is thought that in all country and sector contexts, this mobilization is only likely to occur when targeted public finance is combined with other aligned policies and regulatory measures.

Hamilton (2009) introduces the concept of an “investment grade policy” relating to policies that create the general environment which attracts private sector capital into a number of different solutions and if designed well will achieve the scale of investment required. The four key principles for achieving investment-grade policies are proposed by the Capital Markets Climate Initiative (CMCI 2012):

1. Clear, long-term, and coherent policy and regulatory frameworks.
2. Realigning economic drivers (including price signals) to support green growth.
3. Active programs to develop investable projects.
4. Early and on-going managed dialogue with stakeholders, including investors.

The following chapter focuses on a case study from Vietnam. Vietnam is one of the leading countries in putting green growth into development policy; these efforts are supported by major donors including JICA. How do the key factors and principles work in the case of Vietnam? In this case study, we will discuss the ways in which the Government of Vietnam and its donors create a foundation for green growth policy, and we evaluate the robustness, efficiency, and effectiveness of this framework.

5. Case study on Public Resource Mobilization for Green Growth Policy Implementation and the Role of International Donors

5.1 Context

Since the implementation of the Doi Moi Reform Policy in 1986, Vietnam has experienced rapid economic growth, which has resulted in an increase in energy demand (end-use consumption). Since approximately 60 percent of the country's power generation is based in fossil fuels, greenhouse gas emissions (GHG) in Vietnam are increasing.

In addition, with a particularly long coastline of about 3,400 kilometers and extensive delta regions, Vietnam is among the countries most vulnerable to the impacts of climate change. It is estimated, for example, that an increase in the sea level by one meter would affect about 11 percent of the population and would decrease the gross domestic product by around 10 percent. There are concerns that the increasing frequency and ferocity of natural disasters due to climate change are critical risk factors in the sustained development of Vietnam.

Therefore, the development and promotion of renewable energy, energy saving measures, the curbing of deforestation, and other specific countermeasures toward decreasing greenhouse gas emissions and climate change adaptation, are urgently needed.

In response to these increasing concerns, the Government of Vietnam has developed and approved several regulations and policies, including: the ratification of the Kyoto protocol in 2007, which lead to the implementation of CDM projects in Vietnam; the National Target Programme to Respond to Climate Change (NTP-RCC), approved in 2008 by the Decision of the Prime Minister, which defined a framework for addressing climate change issues; the Support Program to Respond to Climate Change (SP-RCC), which was established in 2009 to support the implementation of the NTP-RCC; the National Climate Change Strategy (NCCS), approved by the Prime Minister in 2011, which defines the ten strategic tasks including the NTP-RCC; the National Action Plan on Climate Change which defines ten target programs to be

implemented from 2013 to 2015; and target projects with an implementation period between 2012 and 2020.

More recently, in September 2012 the Government of Vietnam approved the National Green Growth Strategy (NGGS) which is separate from the NCCS. The NGGS covers a broader range of environment and natural resource management issues.

In addition, the Government of Vietnam (GoV) has defined responsibilities across the government and made institutional arrangements in order to ensure the implementation of the Vietnam Climate Change Strategy and the Green Growth Strategy. This includes the National Committee on Climate Change (NCCC) established in 2012 for the purpose of coordinating all activities on climate change in Vietnam. The NCCC has members from 12 Ministries, plus the President of the Vietnam Academy of Science and Technology, and the President of the Vietnam Academy of Social Sciences. The Prime Minister of Vietnam is the Chairman, while the Minister of Natural Resources and the Environment (MONRE) acts as the Vice Chairman.

The NTP-RCC has initiated responses to climate change in Vietnam, and is looking to mainstream these into the socioeconomic development plan. The NTP-RCC had a budget of VND 1,965 billion (USD 93.5 million) for the 2009-2015 period. The NTP-RCC gives priority to the creation of climate change and sea level rise scenarios, the development of action plans for responding to climate change, and the enhancing of communication capacities. International development partners have continued to support Vietnam via the SP-RCC which serves as a platform for the harmonization of international climate finance resources, dialogue among climate change policy stakeholders, as well as project prioritization and formulation of responses to climate change.

5.2 Approach

Vietnam's climate change policy processes are summarized by theme in the SP-RCC policy matrix. The specific policy actions (PAs) are grouped into the categories of mitigation, adaptation, and cross-cutting actions, and are defined across various sectors, including: energy, transportation, construction, forestry, agriculture, solid waste management, water resource management, integrated coastal management, natural risk disaster management, healthcare, and others. The financial resources used for the NTP-RCC and for the implementation of the PAs and other priority projects are directed into the Stage Budget from sources such as the state budget (central and provincial) and the Official Development Assistance (ODA) loan, which is partly made up of international climate funding. The resources from the international community are captured through the SP-RCC.

The SP-RCC is emerging as the key national financing mechanism for international climate change investment in Vietnam. In the SP-RCC, funding is provided as unallocated budget support, with annual contributions released upon the achievement of the PAs previously agreed by the GoV and the contributing donors. Once funds have been disbursed, donors should no longer intervene in the process of expenditure as the GoV will spend the supported budget through their budget expenditure system in line with their policies.

The SP-RCC provides a platform for working with the GoV and other donors in a coordinated way to strengthen Vietnam's climate change response and the implementation of the NTP-RCC.

The allocation of the funds captured through the SP-RCC follows a defined process, which includes the definition of certain criteria and the prioritization of tasks by MONRE; this then serves as the basis for the formulation of a list of priority projects by ministries and localities for the following year. This list is in turn submitted to MONRE and those ministries who are charged with requesting comments and subsequent approving a priority order. Finally, the list of selected projects is then used to consolidate estimates for the next year's budget

planning and is submitted by MONRE to the Ministry of Planning and Investment (MPI) and The Ministry of Finance (MOF) for budget allocation.

5.3 Role of the Budget Authority and Budget Support Loan in Mainstreaming Green Growth into National Systems

The budget authority in this case includes the Ministry of Planning and Investment (MPI) and the Ministry of Finance (MOF). Both ministries play a significant role in supporting the implementation of climate change policies and actions through financial allocation. The MPI is the principal agency for attracting, coordinating, and managing the ODA. It is also the key coordinator of negotiations and the monitoring and evaluating of ODA funded projects. The MOF is the body responsible for the allocation of the national budget to the respective line ministries and localities for the implementation of the PAs. The involvement of the MOF in the program is critical for ensuring that funding from the national budget is allocated in accordance with the estimations presented by MONRE and that competition with other national priorities for resources under the limited budget is avoided.

In the case of the financial sources funded through the SP-RCC, the MOF serves as the recipient of loans (or the signatory to loan agreements) on behalf of the GoV and it participates in consultations among stakeholders. In addition, finance provided under the SP-RCC is in the form of concessional loans, with favorable interest rates that are attractive to the government as it is running its annual budget at a loss. This motivates the authorities, including the MOF, to be involved in the SPRCC and in the assessment of the feasibility of PAs within the budget. The authorities also assist in monitoring the progress of those actions which will influence the success or failure of raising cheap finance. In the SP-RCC, four policy actions are assigned to the Ministry of Finance. The Ministry is then responsible for the implementation of policy actions assigned to it. Thus, the budget authority will be motivated to participate in the program and as a

result, the green objectives will be mainstreamed within their national and sectoral budget systems.

In general, line ministries and other stakeholders will not engage in the loan negotiations. However, they do engage in the formulation of the policy matrix, participate in carrying out the policy actions under the program, and monitor the implementation of policy actions. The policy matrix is one of the essential documents agreed on by all of the concerned stakeholders, including line ministries, donors, and other stakeholders. All parties should implement their assigned policy actions based on the agreed policy matrix. The progress will be monitored by MONRE, the MPI, the MOF, and the donors. The participating stakeholders will meet for consultation on the progress of the program on a regular basis. If the progress of the activities is not sufficient, the concerned parties will attempt to identify the problems and find solutions. If an issue proves difficult to solve, participants may revise their policy actions in a more feasible manner. Thus, the program is flexible so that goals may be achieved in step by step way. In addition, donors provide technical assistance to assist the GoV to formulate and implement PAs and projects in the policy matrix and to solve problems. Those processes will then contribute to the development of the capacity of the government and other stakeholders to achieve the goal towards green growth.

The GoV also has a number of fiscal measures in place to raise finance for green projects. For example, the Vietnam Environmental Protection Fund (VEPF) receives funding through environmental protection fees for wastewater, exhaust gas, solid waste, mineral exploitation, and other environmental fees, in compliance with the law. Compensation for environmental damage and penalties for administrative breaches within the area of environmental protection are paid into the state budget by organizations and individuals in accordance with the law. In turn the VEPF offers individuals and businesses financial support for environmental protection in the form of: (i) concessional loans; (ii) loans interest support and loan guarantees; and (iii) funding

for the development of environmental projects and obtaining the environmental award. The fund also provides support of 1.0 cent/kWh of electricity for wind farms.

In addition, the government has introduced an Environment Protection Tax Law that was set up to introduce an eco-tax on polluting items such as plastic bags and to establish a green growth fund as potential sources of finance for the national green growth strategy.

5.4 What Measures are Governments Engaging in to Mitigate the Risk of Green Projects for the Private Sector?

There is no direct private sector involvement in the SP-RCC at this time except for private sector participation in consultation meetings. However, there are several policy actions which will encourage private sector involvement. For example, the GoV promoted energy efficiency (EE) through a National Energy Efficiency Programme for the period 2006-2015, the aim of which was to achieve 5-8 percent energy savings during the period 2011-2015, compared to the business-as-usual scenario. This program included several actions, such as the development of a legislative framework, EE standards and product labeling, and EE audits for industry. In addition, a law on energy use and energy efficiency defined as a policy action was established and approved by the National Assembly in June 2010. This law defines a framework for large consumers to conduct EE measures, including energy labeling of products and equipment and the introduction of energy performance standards. Such clear policy frameworks will encourage the private sector to take actions that are in line with the climate change policy.

In addition to such indirect involvement by the private sector, there is the possibility of inviting the private sector to become involved directly as players of, or financiers for, climate change-related actions under the policy matrix of the SP-RCC.

The private sector has also been engaged in green initiatives through the Vietnam Environmental Protection Fund (VEPF). Financial funds for the VEPF come from the government, foreign donors, and the private sector. Co-financing is provided for domestic and

internationally funded projects. Private sector funding includes certified greenhouse emission reduction (CER) sale charges from CDM projects in Vietnam. So far, 275 CDM projects have been initiated in Vietnam, the majority of which have been implemented in the hydro-power sector. Other sources of funds include contributions and investment trust from organizations and individuals at home and abroad.

Finally, there are plans to establish an independent public-private partnership unit in Vietnam to address gaps in future infrastructure financing, which it is estimated will be in the range of USD 150 - 160 billion over the next 10 years. Some of these are expected to be in the climate change relevant areas of power, transport, and water.

5.5 Role of International Finance Cooperation

As explained above, donors and development agencies play an important role in assisting in the smooth implementation of the climate change program. One of the main roles of international financial cooperation is the provision of finances in concessional terms through budget support schemes. A large amount of finance (USD 620 million during the 1st phase, USD 140 million in 2010, USD 220 million in 2011, and USD 260 million in 2012) was mobilized under the SP-RCC. Those finances were used for filling the GoV's fiscal gap, thus motivating the MOF to allocate some of its budget to the climate change-related activities carried out by the respective ministries. Another role of international financial cooperation is the provision of technical assistance to help the GoV formulate and implement policy actions and projects within the policy matrix.

In addition to the above-mentioned functions, the SP-RCC works as a platform for donor coordination within this program. Due to the well-organized coordination of donors, donor assistance was implemented efficiently and effectively, and duplication was avoided.

5.6 Evaluation

5.6.1 Robustness of the Framework

The GoV received a total of USD 620 million during the first phase of the SP-RCC. Those finances contributed to filling in the government's fiscal gaps. This allowed the GoV to allocate their fiscal budget to the implementation of climate change policies in alignment with their strategy and system. Since the terms of the finance provided by the donors are concessional, the GoV will be compensated for their fiscal management.

During the first period of the SP-RCC (2009-2012), the GoV developed several climate change-related policies and strategies such as, the National Strategy on Climate Change (2011), the National Action Plan on Climate Change (2012), the National Strategy on Green Growth (2012), the Party Central Committee Resolutions on Responding to Climate Change (2013) and the Protection of Natural Resources and the Environment (2013). It also implemented hundreds of PAs formulating Policy Matrix along with their national climate change policies (44 PAs were approved as 2012 policy matrix).The GoV expects donors to continue the SP-RCC into the 2nd phase.

As described above, the SP-RCC works as a platform for donor coordination. Through the consultation process between the government and the participating donors and other stakeholders, participants are able to coordinate their assigned actions and avoid duplication of actions and assistance. Co-finance schemes also allow for donors to share the risks of providing finance. Thus, a large amount of finance has been mobilized.

The GoV has developed a comprehensive climate change strategy (VCCS) with prioritized policy actions implemented in a coordinated manner through the SP-RCC, keeping the climate change policies in alignment. The policy matrix and associated policy actions are developed by the GoV based on the inter-ministerial consultation process, and those policy actions are implemented under the ownership of the government.

5.6.2 Efficiency of the Framework

The SP-RCC is an efficient mechanism for the coordination of the international climate finance provided for the implementation of the Vietnamese climate change policies and actions. Under the SP-RCC, the GoV and its donors have regular technical meetings to share information on the progress and lessons learned from the PAs and projects. Regular consultations will provide opportunities for the GoV and donors to monitor the progress of the PAs and to identify difficulties and challenges to the implementation of PAs in the early stages, The PAs can then be modified in more appropriate ways. In addition, this engagement process allows for the GoV and development partners to share same recognition on the issues of priority as agreed in the policy matrix.

The SP-RCC serves as a platform for harmonization among stakeholders such as line ministries and donors. Thus, improved coordination and cooperation between ministries, within ministries, between ministries and localities, and between ministries, localities, and donors is realized, the efficiency and effectiveness of climate change-related activities is improved, and duplication of donor support is avoided.

Since the progress of policy actions under the policy matrix are monitored through the consultation process, the results of the actions are clearly set out for participants in the program. If some policy actions face difficulties, donors and other stakeholders provide technical assistance to overcome the difficulties, and, if it is difficult to achieve the target, policy actions may be revised to achieve the target in a step by step manner.

5.6.3 Effectiveness of the Framework Towards Change

Currently, the majority of the policy actions are related to the development of the legislative or regulatory frameworks for several sectoral policies. The development of sectoral policies is important for the practical implementation of climate change-related projects and to encourage the private sector to take actions for responding to climate change. This implies that the

program's impact will be seen in the medium to long term. However, the engagement process across the GoV and other stakeholders, as well as the development of recent policy and a green growth strategy backed by financing strategies including an eco-tax, could represent the first initial steps for mainstreaming green growth and climate change mitigation and adaptation strategies.

5.7 Analysis and Conclusions

There are several unique features of the success of Vietnam's initiatives against climate change:

- ✓ Priorities in responding to climate change in Vietnam are identified as policy actions and projects through dialogue among stakeholders. The GoV and its development partners share same recognition of the priority issues for climate change.
- ✓ Finance in the form of budget support can fill financial gaps in the fiscal budget of the GoV. This allows the budget authority to become involved in the program and eases the allocation of their budget into climate change-related actions.
- ✓ In addition, the consultation process under the SP-RCC helps donors to avoid duplication of their assistance. Furthermore, it is worthwhile to note that the budget support scheme under the SP-RCC is different from conventional general budget support for structural adjustment loans (SALs). There is no strict conditionality for budget support for the SP-RCC. Instead, communication between the group of donors and the participating ministries, including the budget authority, are highly respected. If some difficulties are identified through the consultation process, both government and donors try to resolve the issues using technical assistance. However, if overcoming the difficulties it seems problematic, the process and/or target will be revised with mutual understanding. Thus, the use

of flexible mechanisms that respect the ownership of the government is one important feature for success.

- ✓ The SP-RCC serves as a platform for harmonizing interactions between stakeholders, such as line ministries, donors, CSOs, and those in the business sector. Thus improved coordination and cooperation among stakeholders is realized, and the efficiency and effectiveness of climate change-related activities is improved.

However, this program does have several challenges:

- ✓ Some donors may find the lack of allocation of funds in the program unappealing, as they would prefer to be able to track the ways in which finance is allocated to climate change-related programs and/or projects.
- ✓ There has been limited monitoring of various climate change-related policy actions and their integration into existing sectoral plans and policies.
- ✓ The classification of climate finance in the public budgeting process is still not clear, and the roles of MONRE and MPI in the management of ODA sources can at times cause confusion among stakeholders.
- ✓ The engagement of sectoral ministries and sub-regions in the implementation of the PAs is still limited. In 2011, five out of the nine line ministries, and six out of the fifty-eight provinces had actually developed their climate action plans.

6. Conclusion and the Way Forward

The terms “green growth” and “green economy” have become popular. While precise definitions differ, most uses of the terms at least imply a switch to greater reliance on renewable resources, which is seen as more sustainable than relying on depletable energy and mineral resources. More

broadly, the push to green economic growth expresses an intention to direct the economy toward technologies and consumption patterns that, while creating jobs and economic growth, also reduce the impact on the environment. Particularly, definitions of green growth were created just after the financial turmoil in 2008 and the failure of the negotiations at the COP15. These show a political intention to look at ways that the green agenda can be used as a new economic growth engine while addressing global risks, such as natural disasters.

While the term green growth is quite new, from the perspective of environmental and resource economics the problems it addresses have a long history. The concept of green growth is able to be explained within the framework of the growth theory. However, the growth theory so far does not necessarily have concern over the allocation of investments. Among others things, environmental capital is the fundamental capital, which contributes to the formulation of other forms of capital. Thus, more focused study of investment in environmental capital will be indispensable.

Amin et al. (2014) collected unique practices on innovative investment in activities promoting green growth. A critical factor in encouraging and enabling green investment is the creation of "long, loud and legal" signals through a stable regulatory environment and policy framework. Vietnam's SP-RCC may be one of the success cases in line with this factor. Among several of the elements of success, the case study on the SP-RCC identifies four unique features. Among other things, information sharing and flexibility of the program may be the key aspects for the success of the program. Information asymmetry itself is one of the market failures. So, information sharing through dialogue among stakeholders is indispensable. In addition, due to the dynamic global changes, circumstances will be changing rapidly. Therefore, the green growth strategy and program should be flexible.

The concept of green growth is relatively new but the theoretical foundation and rationale behind it have been recognized to some extent. However, a further theoretical background should be developed. In particular, pricing on environmental goods and services is a

critical challenge for both the theoretical and the practical development of green growth. This may improve the discussion on the growth theory as well as the development of policies that promotes investment in green growth. To deepen the discussion, further case studies need to be collected and analyzed.

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Annex 1: Definitions of Green growth

Institutions/ Academic papers	Definitions
Ekins (2000)	“Prospects of achieving environmentally sustainable economic growth.”
UNESCAP (2006)	“Green Growth proposes to harness the power of economic growth while guiding it in a way that will enhance the immense possibilities provided by innovative technologies and industries, so that progress can be registered in more than gross domestic product increases alone.”
Government of the Republic of Korea (2010) “Framework Act on Low Carbon, Green Growth”	“Green growth means growth achieved by saving and using energy and resources efficiently to reduce climate change and damage to the environment, securing new growth engines through research and development of green technology, creating new job opportunities, and achieving harmony between the economy and environment.”
OECD (2011)	“Green growth means fostering economic growth and development while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies.... Green growth has not been conceived as a replacement for sustainable development, but rather should be considered a subset of it. It is narrower in scope, entailing an operational policy agenda that can help achieve measurable progress at the interface of the economy and the environment.”
UNEP (2011b)	“it [Green Economy] is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.”
World Bank (2012)	“Growth that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing physical disasters.”
Resnick et al. (2012)	“Adopting a Green Growth strategy means that developing countries may have to deviate from the strategies traditionally promoted based on comparative advantage and growth linkage considerations.”
Hallegatte et. al. (2012)	“Green growth is about making growth processes resource-efficient, cleaner and more resilient without necessarily slowing them.”
UCL Green Economy Policy Commission (2014)	“A green economy is more easily characterised than defined. It has very low levels of carbon and other emissions to the atmosphere, and does not pollute the land, fresh water or seas. It delivers high levels of human value, measured in money or other terms, for low throughput of energy and material resources. The green economy is thus not a number of more or less niche sectors concerned with environmental protection. It is a description of a whole economy that is characterised by climate stability, resource security and environmental quality”.

Abstract (in Japanese)

要約

本稿は、グリーン成長に関する現行の議論を特定するとともに、グリーン成長への転換促進のための公的資金の役割について論じる。「グリーン経済」や「グリーン成長」という用語は、近年の経済の環境パフォーマンス改善努力を表現する方法として国際政策議論において一般的になっている。本稿では、様々な国際機関等が示すグリーン成長に関する定義を比較し、その共通点を特定した。グリーン成長の論理的根拠は成長理論の枠組みで説明できるが、現実のグリーン成長行動の促進には投資が不可欠である。本稿では、ベトナムをケーススタディとして、グリーン投資を喚起し実施可能とするために重要な要素を特定している。他方、グリーン成長議論には更なる理論的背景の構築が必要であろう。特に、環境物品・サービスへの価格付けはグリーン成長の理論的及び実践的発展への重要な課題である。グリーン成長に関する更なる理論的及び実践的研究は、グリーン成長への投資を促進する政策形成に加え、成長理論の更なる発展に寄与するであろう。また、議論の進化のためには、さらなるケーススタディの収集・分析が必要である。