

# Cognitive Map Analysis for Policy Agenda Setting : a case of the Green Growth in Korea

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## Abstract

21세기 들어 기후변화와 지구 온난화로 인한 환경에 대한 정책적 관심이 높아져 왔다. 21세기 초에 집권하였던 한국의 이명박 정부에서는 ‘녹색 성장(green growth)’ 정책을 내걸어서 환경 정책과 경제 성장 정책을 동시에 포괄하고자 하였다. 본 논문에서는 어떠한 과정을 거쳐서 녹색 성장 정책의 아젠다가 형성되었는지를 연구하고자 한다. 이를 위해 본 연구에서는 녹색 성장이라는 정책 아젠다가 형성되는 행태적 과정에 관한 시계열 분석과 함께 구조적 측면으로서 인지지도 분석을 수행한다. 정책 아젠다의 시계열 분석을 위하여 신문 기사와 정책 보고서를 분석하며, 이명박 대통령의 연설문을 분석하여 인지지도를 구축한다. 정책 형성에 관한 시계열 분석 결과 녹색성장의 정책 아젠다 형성에 있어서 정치적 요인에 대한 고려가 사회적 이슈나 정책적 이슈보다 중요한 역할을 수행하였다는 점을 발견할 수 있었다. 다른 한편으로 본 연구의 인지지도 분석은 이명박 대통령의 녹색성장 정책이 미래의 다중 위기에 대한 대응으로 나왔으며, 환경의 발전에 초점을 둔다기 보다는 경제적 발전 특히 일자리 창출을 지향하고 있다는 점을 보여주었다. 본 연구는 인지지도 분석을 통하여 시계열 분석으로는 발견할 수 없는 정책형성의 구조적 관계성을 이해할 수 있다는 점을 보여준다.

**Keywords:** Policy Agenda, Systems Thinking, Cognitive Map, Green Growth  
(정책 아젠다, 시스템 사고, 인지지도, 녹색 성장)

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## I. Introduction

Recently there has been a dramatic increase in worldwide attention to environmental issues concerning climate change and global warming. This effort has resulted in advances toward a new paradigm, 'sustainable development'. Sustainable development was popularized in the report "*Our Common Future*" prepared by the World Commission on Environment and Development in 1987. Especially, 'Green Growth' and 'Green New Deal' have risen as a new alternative to earlier environmental and economic problems. Entering 21th century, Korea has been focused on the environmental policies, lots of public policies and environmental plans have been presented by the government. In August 2008, Myung-bak Lee, former President of Korea, declared 'Green Growth' as a main vision of Korea.

Policy vision plays an important role to unite various policies which seek different values. Particularly, in the Green Growth, 'Green' symbolizes the value of a protection of environment. On the other hand, "Growth" involves the value of an economic development. It means that they are poles apart in value. In other words, the Green Growth, as a policy vision, includes directly-opposed values; it can be called conflict-relation vision or dilemma of vision (Kim, 2009). In this respect, this paper examines how the Green Growth has become prominent on the policy agenda in Korea, using a time series approach and a causal map analysis. To seek an answer for the research question, various data have analyzed; it includes not only articles of the Korean newspaper but also government reports from January 2005 to March 2009. And the paper attempts to analyze speeches from August 2008 to August 2009 by President Lee of Korea. A causal map and a cognitive map are constructed through analyzing his speeches.

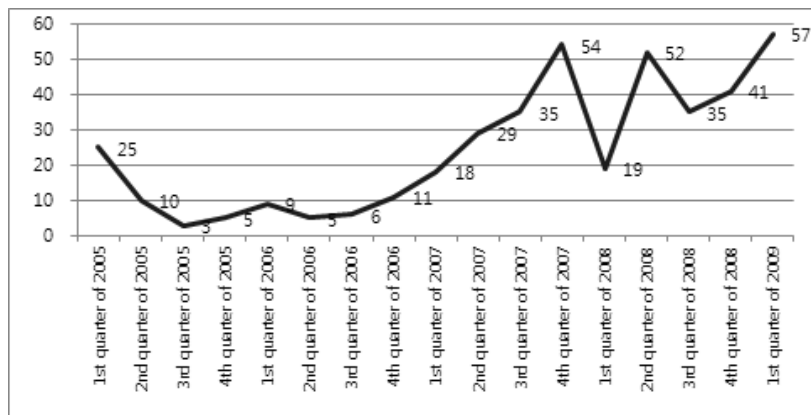
## II. Policy agenda setting process

Public policy making can be considered to be a set of processes, including (1) the setting of the agenda, (2) the specification of alternatives from which a choice is to be made, (3) an authoritative choice among those specified alternatives, as in a legislative vote or a presidential decision, and (4) the implementation of the decision (Kingdon, 2003). This study concentrates on the first process: the setting of the agenda.

Kingdon (2003) has defined the *agenda* is the list of subjects or problems to which governmental officials, and people outside of government closely associated with those officials, are paying some serious attention at any given time. *The agenda setting* is the process or behavior to adopt social issue or problem as a policy problem; in the process, social issue or problem is chosen as a governmental issue. Then, what has caused this shift in public attention? And how is the issue concentrated by government and chosen as the agenda? Downs(1972) has suggested *the issue-attention cycle* as the answer of these questions. According to his theory, the cycle has five stages: (1) the pre-problem stage, (2) alarmed discovery and euphoric enthusiasm, (3) realizing the cost of significant progress, (4) gradual decline of intense public interest, and (5) the post-problem stage. If so, which stage the green growth, as the agenda of Korean government, is likely to be involved? Curiously, despite the rise of attentions to the green growth, there has been minimal research regarding the agenda-setting process of the green growth, especially in systems thinking approach. This paper will carry out a contents analysis of green growth in Korea, as a quantitative approach. Next, a cognitive map will be constructed, as a qualitative approach.

### III. Time series analysis of green growth in Korea

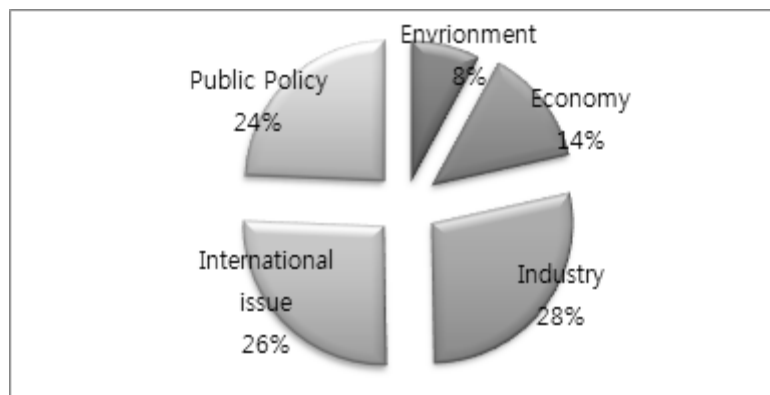
This study conducts a contents analysis to trace the progress of an issue regarding the green growth. Babbie(2001) defines a contents analysis as “the study of recorded human communications, such as books, websites, paintings and laws.” Particularly, this method can measure a degree of public attention to the social issue (Erbring, et al., 1980; MacKuen and Coombs, 1981; Hilgartner and Bosk, 1988). Figure 1 shows that how many articles in regard to the issue of green growth are appeared in newspapers in Korea. Articles are from four major newspapers in Korea: Cho-sun, Dong-a, Kyung-Hyang, and Hankyoreh. 414 articles are included in the result.



\* Note: From January 2005 to March 2009

[Figure 1] a frequency of newspaper articles

In addition, all selected articles are categorized by a subject of article. For example, when an article describes the economic effect of the green growth, the article is classified as an economic issue. *On the other hand*, when an article mentions the governmental policy dealing with the green growth, the article is classified as a public policy group. All articles are divided into five categories; (1) Industry, (2) International issue, (3) Public Policy, (4) Economic issue, and (5) Environmental issue. The result of grouping is shown in the below.



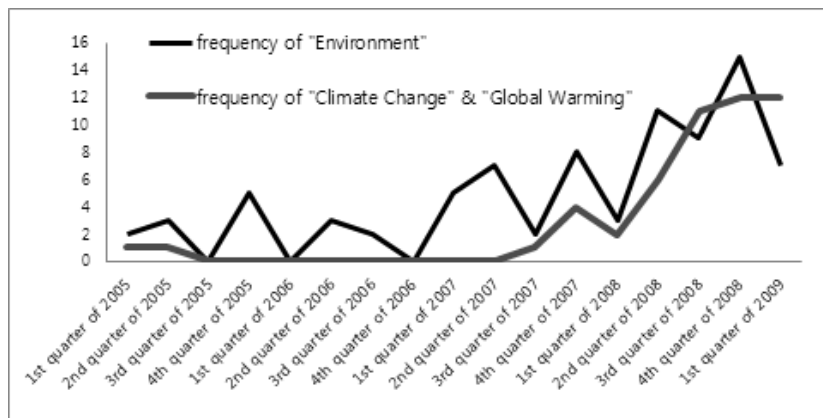
[Figure 2] Subjects of newspaper articles

As shown in the Figure 1, a frequency of newspaper articles has increased as time passes. Particularly, there was a rapid increase since the first quarter in 2008. In the same time

period, a new administration was inaugurated, and the President Lee declared 'Low Carbon Green Growth' as a new growth engine and a Korea's vision of the future national development.

Basically, the political factor plays an important role in the policy agenda-setting process, such as a change of administration, a shift in the partisan or ideological distribution of seats in Congress, or a shift in national mood. Especially, a change of administration is the most important factor in the agenda-setting process (Kingdon, 2003); a change of administration is sometimes called a triggering device, because when the new government seizes power, a person and the party in power try to solve problems. In this process, new issues can be focused as a new controversy.

This theory can be applied to the case of Korea's green growth. Figure 3 shows that a frequency of President Noh's (from 2005 to 2007) and the president Lee's speeches (from 2008 to 2009) regarding the green growth. The 367 speeches of President Roh are analyzed and 213 speeches of the President Lee are analyzed; overall 580 Presidents' speeches are included in the result. Those are divided into two groups; speeches regarding (1) 'an environmental issue' and (2) 'climate change and global warming'.



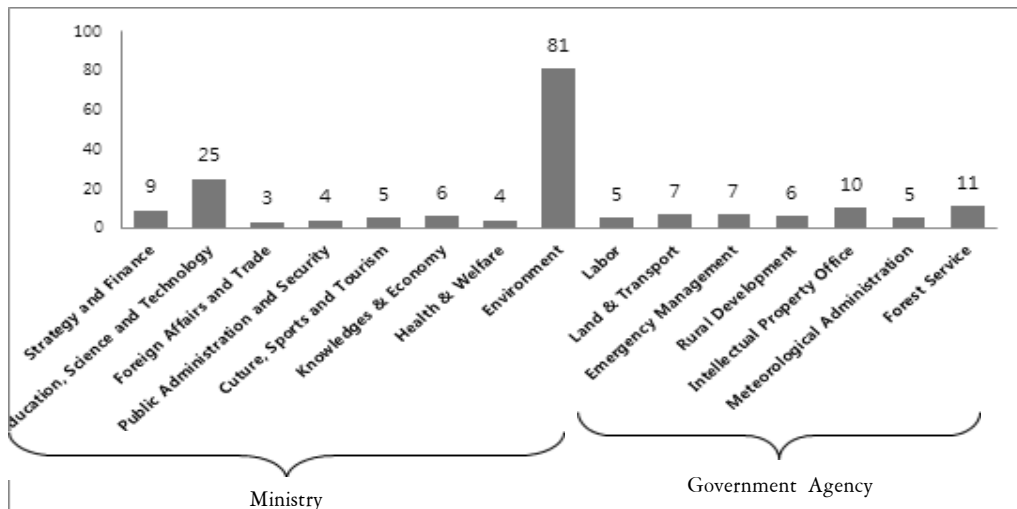
\* Note 1: From 2005 to 2007: the President Roh Moo-hyun's speeches.

\* Note 2: From 2008 to 2009: the President Lee Myung-bak's speeches.

[Figure 3] a frequency of the President's speeches

The Figure 3 shows that both presidents gradually have paid attention to the environment issue. However, there is an outstanding difference between Roh and Lee. Roh rarely mentioned Climate Change or Global Warming in his public speeches, while Lee has spoken about those issues at most of his speeches. Particularly, as mentioned above, President Lee declares ‘Low Carbon Green Growth’ as a Korea’s vision of the future national development on August 2008. A few months after his address, Presidential Committee of Green Growth was established under the direct control of the President to implement the national project of ‘Low-Carbon, and Green Growth’.

It is related to the social atmosphere which is focused on the same issue. In addition, President’s attention to the issue also leads public policies to solve the problem.

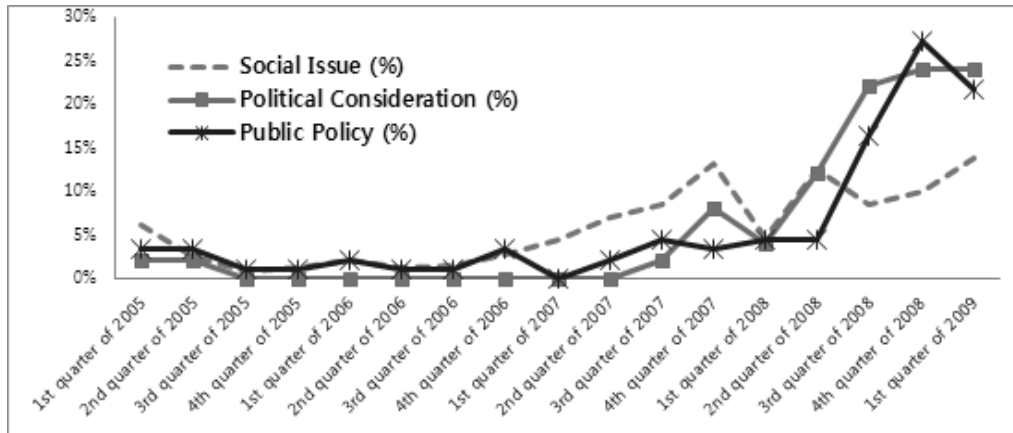


\* Note: From January 2005 to March 2009

[Figure 4] a frequency of Policy Reports for the Green Growth

As described in the Figure 4, most of polices regarding the Green Growth have been planned in the Ministry of Environment. However, it is also important to consider polices from other ministry or agency, because the Green Growth is not restricted within an environmental field. For instance, the Ministry of Science and Technology has reported several policies pushing ahead on developing renewable energies or nuclear power. Furthermore, each local government has made their own plans to achieve the Green Growth. In Figure 5, three kinds of data are illustrated together: (1) social issues in terms of a frequency of articles, (2)

political consideration as a frequency of President's speeches, and (3) public policy as policy reports of whole government ministry and agency.



\* Note: Graph is illustrated by a relative frequency to compare three kinds of data.

[Figure 5] Evolution of Social Issue, Political Consideration, and Public Policy

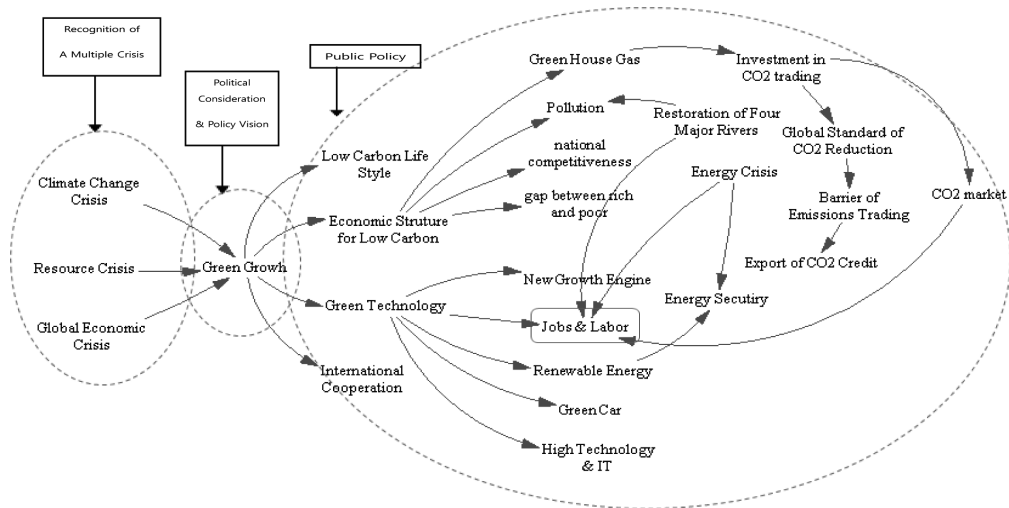
A significant implication is portrayed in Figure 5. It is about an order in three time series data, respectively. Firstly, the graph of a social issue about the Green Growth increased from 2007. Next, the line of political consideration has risen rapidly since 2008, with a change of government. Finally, various policies have been planned to implement the Green Growth. This means that the political consideration has played a major role in the policy agenda-setting process of Green Growth in Korea. Although the social issue is emerged earlier than political declaration, the social issue could not promote the attention in the area of public policy. Only after the vision of green growth is declared political by President Lee, lots of public policy was produced.

#### IV. Cognitive Map of the Green Growth in Korea

In recent years, several studies have attempted to analyze a public policy, using a cognitive map analysis (Kim 2000). Axerlord's "Structure of Decision (1976)" may be the first representative study of a cognitive map analysis in public policy. In this study, a cognitive

map of foreign policy experts was constructed to analyze the U.S. foreign policy regarding the East Asia countries. In this study, we have constructed a cognitive map of President Lee to understand the policy agenda setting processes of green growth.

In order to construct the cognitive map of President Lee regarding the Green Growth in Korea, thirty texts of the speeches are included in the analysis, and twenty-five variables are extracted. Figure 6 shows the structure of his cognitive map.



\* Note 1: From 15. August 2008 to 15. August 2009.

\* Note 2: Twenty-five variables are included in the figure.

[Figure 6] Cognitive map of the President Lee on Green Growth

As described in figure 6, President Lee perceived a set of multiple crises: Climate Change, Resource, and Global Economic Crisis. They are starting points of the cognitive map. To response to the crisis, Lee declared the Green Growth as a policy vision of his government; the Green Growth has driven several significant policies in Korea.

It is rather surprising that his cognitive map of green growth is centered on the concept of economic variables rather than environmental ones. In figure 6, most arrows point toward “creating job” variable, which means this is the most important variable among total variables (Kim, 2000).

There is another important interpretation of the cognitive map; his cognitive map does not contain any feedback loops. Although, the absence of the feedback loop does not mean



President Lee does not recognize a feedback mechanism between environmental sector and economic one, it means that he does not emphasize the feedback relationship.

From this fact in his cognitive map, we can conjecture that President Lee declared the environmental policy of green growth to promote economic development, especially by creating jobs in economic sector. From this interpretation, the environmental policy might be utilized as a political symbol, the ultimate goal of which is promoting the economic development.

Furthermore, we can compare the cognitive map of figure 6 to evolution of social issue, political declaration, and public policy of figure 5. As positioned in the cognitive map, social crises are appeared firstly to incur political vision of green growth, and lastly produce lots of public policies to solve original social crisis. This order of issues is corresponding that of figure 5. In the first stage, the social issues are raised to point future crisis, and political leaders set their vision to get the political support, and then public policies are generated to attain the original goal. In this process of agenda setting, the political vision should not be identical with the public policies. As shown in the cognitive map, the political vision of environments can be transformed into the economic policies. While our time series analysis of policy agenda shows that political vision is more important than social issues and public policies, the cognitive map analysis shows that symbolic feature of political vision can promote the different police goal in different sectors.

## V. Conclusion

Since The Club of Roma published “The Limits to Growth (1972)”, ‘protecting environment’ and ‘economic growth’ are perceived as incompatible values; it is a deeply held view that protecting the environment constitutes a net expense to the economy. In this regard, to pursue the Green Growth is a paradigm shift. Even though the virtuous circle between the protecting environment and the economic growth still has many assignments to be solved, it is important because it implies a possibility. The possibility is a key point of the Green Growth in Korea as a policy vision of the Government.

This study attempts to analyze the policy agenda-setting process of the Green Growth in Korea. As mentioned above, a political consideration of the new Government played a major role in the process that the Green Growth has become prominent on the policy agenda in

Korea. And the cognitive map analysis shows that the policy vision of green growth of the President Lee, which is declared as a political symbol to the multiple crises of future society, has been used to promote economic goals.

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