Global Climate Change as Globalizational Risk Society –Glocalizational Risk Governance

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Global Climate Change as Globalizational Risk Society – Glocalizational Risk Governance

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The introduction section guides the article initiating from the perspective of risk society to deliberate political and social meanings of global climate change. Five theses will be targeted: 1) Why global climate change emerged? 2) Social and political meanings of global climate change? 3) Scientific uncertainty features of global climate change? 4) The possibility of governing global climate change as a political problem. 5) How will glocalizational risk governance and techno-industrial policy direct further global climate change? Taiwan's techno-industrial policies will be the centre for analyses.

1. From "risk society" to "globalizational risk society"

Since industrial revolution, although rapid industrialization and modernization have brought much convenience for human being; under the logics of mass production and mass consumption of capitalism, high environmental and ecological destructions were caused. Modern industrial society which based on scientific development builds features of efficiency, competition, and convenience; it also brings human beings all kind of well-being in our lives. It seems that a modern industrial society symbolizes human civilization and improvements in modern times.

However, since cyclic logics of structural production and consumption behind features of efficiency, competition, and convenience imply highly environmental and ecological destructions resulted from human being's lack of reflection, they place threats on living environment and human subsistence. These threats include mass destruction to ecological environment, development of dangerous scientific industries, pollutions and origins due to high scientific uncertainty, genetics that control human reproduction, which all contribute to global climate change. Perhaps we could say, they are negative outcomes of the development of modern industrial society. To consider politically and socially, such civilizational features of self-threatening, self-endangering, and self-contradictory can be analyzed and discussed from the reflexive paradigm of risk society (Beck 1986, Chou 1998). Namely, basically, various disasters and damages (e.g. global climate change) formed in modern industrial society are closely bound by to action decision-making (including industrial and technological policy decision-making) of human ourselves.

Meanwhile, self threats and dangers formed by industrial and technological development based risk society are not only local, regional but cross-national and result in irreversible consequences globally. Through the logic of production, competition, and reaction of globalizational industry and technology, industrial risk society within the boundary of unilateral country has been gradually expanded to cross-regional ecology-destructive phenomenon. Thus, a highly close and mutual reflected globalizational risk society formed. Under such context, global climate change is considered a link in the chain of globalizational risk. In other words, global climate change itself is a globalizational risk to modern human beings. As we see, under the competition structure of world industries, increasing pollutions result in considerable acid rains, mass dissolution of icebergs and ice shelves in the Arctic and

the Antarctic, fierce windstorms, snowstorms, and droughts. These acuter climate change are turning "unintended consequence" (Beck 1993) beyond the anticipation of modern industrial civilization. Therefore, under these critical reflective ideologies, we need to build new deliberating paradigm to seek out the future of human society and civilization.

2. Paradigm shift

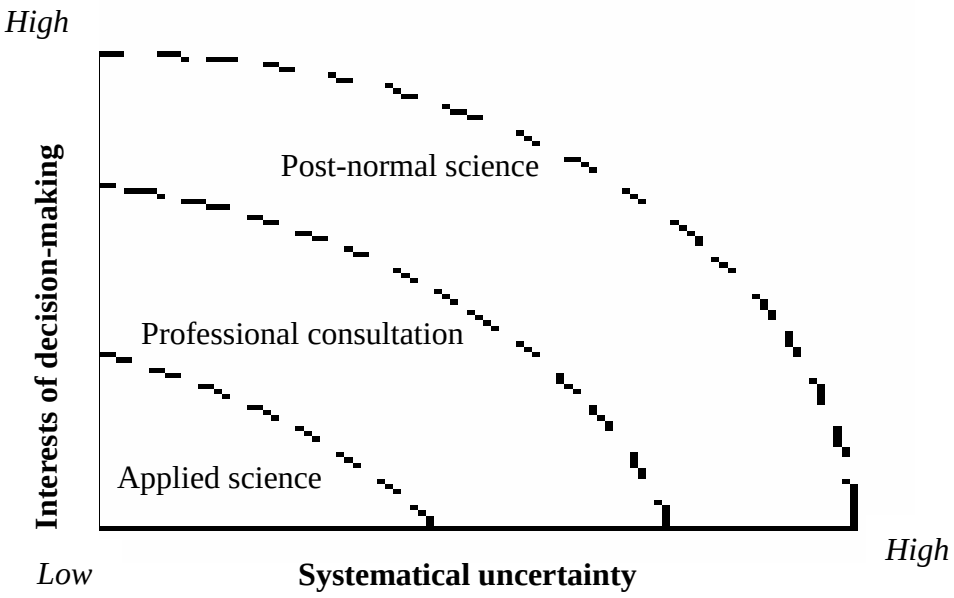
The core of deliberating paradigm provided by globalizational risk society lies in critically examining why industrial society being blind in development logic assessment towards these self-threatening and self-endangering civilization features. Overall, the follow passage discusses through which way of assessment industrial society applied to construct great disaster risks.

Traditional industrial society regards industrial pollution risks as side-effects of industrial production, which are countable, controllable, and amendable. Under such paradigm, risk assessments of industrial pollution and technological disaster could only limitedly resolve and simplify these unintended consequences. However, from the perspective of post-normal science (Funtowicz & Ravetz, 1992; Ravetz 1999), as the complexity and uncertainty caused by industrial and technological society grow severer, human being are no longer to be able to deal with these technological and ecological disaster risks with high complexity and uncertainty by applying such inferior and simplified risk assessment model（Figure 1）[1]. Concerning global climate

[1] Post-normal science indicates the general existence of scientific uncertainty. Yet, levels of fields of disputes caused vary due to different stages of issues development. For the lower level (applied science) such as applied techniques, it causes fewer disputes in applying relative variables in science. Hence, it is called "consensual science" (Rayner 1992: 101). That is, based on this level, tensions between science (technology) and society are still low and involve fewer risks. For middle level

change, the reasons of formation are with high uncertainty and complexity in scientific explanation, which can not be clearly explained by unilateral subject. In the meantime, severe threats which caused to threaten human lives and property are unpredictable, uncontrollable, and unable to amend antecedently. Bitter experiences formed in value judgment are unexpectedly as well. The eagerness to problem resolution and uncertainty of problem solving methods, to certain extent, even more brings about dilemmas. Catrina Hurricane disaster in the United States in summer 2005 could be an example.

Figure 1: ***Three Types of Problem-Solving Strategies***



Source: Redrawn from Funtowicz and Ravetz (1992).

(professional consultation), since it involves more information and value judgment, scientific knowledge application is usually assisted with well-trained consultation. It applies quantitative measurements to facilitate qualitative research and analyses in order to lower the risk of scientific uncertainty. However, due to gradual increases of the complexity of knowledge and applied variables, to certain degree, risks therein exist. For example, medical judgments were made based on medical professions and patients' conditions; therefore risks can not be excluded totally. For the third level (post-normal science), R&D and application of scientific (technological) knowledge involve quite a few variables beyond the boundary of scientific principle and they relate to different problems of value judgment, thus they are with high uncertainty and are more disputable. Risks in the third level tend to unable to explained and decided by single principle. Integrated risk assessment should be based on social, ethical, and ecological risks to attach importance to the prevalence and complexity of risk interests (Funtowicz and Ravetz 1992; Chou, 2005).

Relatively, from the paradigm of globalizational risk society, threats and disaster risks mentioned above all exceed the assessment model of traditional industrial society and become uncountable, uncontrollable, and unable to amend. As risk assessments of traditional industrial society are limited within imaginary boundary of unilateral country/region; and being considered if only industrial pollutions and developments can be solved and controlled partially, then disaster threats can be managed gradually. On the contrary, paradigm of globalizational risk society asserts the following – based on the horizon of post-normal science, impacts resulted from industrial and technological competition are not only unilateral, regional, and partial, but are diverse, integrated, and are bonded with close global interaction within the network. These impacts enhance complexity in development process and bring highly uncertainty and disputes in value judgment and research results. Sometimes they create various disputes in solution mechanisms. Overall, these impacts and developments enter the process of globalizational networks and possess higher heterogeneity and become more uncontrollable for human beings. That is to say, under such context, for doing risk assessment, we must draw out ourselves from traditional one-way and unilateral-principle model to a direction which deliberates solution mechanisms of globalizational risks with highly complexity in the thinking way containing diverse professional principles and values.

Essentially, in considering global climate change, new paradigm is no more limited within unilateral scientific principle but to expand professional knowledge, values pool of assessment. It not only integrates various related scientific principles but included assessment methodologies of social science. For the latter, global climate change is no longer one single ecological phenomenon but one involving action

decision-making of governments and the publics of world countries. Directly speaking, in the era of fierce technological and industrial competition of modern world, what governments and the public encounter are choices on techno-industrial policy decision-making – whether the public choose to go back to traditional production mechanism which cause high pollution or to opt alternative environmental-friendly production mechanism. Hence, public risk perception toward their national technological policy decision-making becomes one of the foundations of multi–source assessment.

III. Risk governance and technological policy

As we consider that global climate change is basically not a problem of environment, but one of politics and policies; techno-industrial and risk-prevention policies developed by world countries become even more significant.

When deliberating risk governance of local society, the key point lies in how Taiwan react on its techno-industrial policies in encountering global climate change. It is notified that the total amount of CO2 emission in Taiwan in 1990 was 103 million tons. The amount of CO2 emission in Taiwan in 2000 increased to 218 million tons. In 2004, it mounted to 250 million tons which ranked 22nd globally. In Taiwan, regarding energy consumption, each person consumes high as 4468 KLOEs per year (2002), per square kilometer population consumes 2750 TOEs; positioned at first in terms of energy consumption density. For energy consumption density of per person, it ranked only second to the US but higher than Japan and Germany. (Reported in China Times, June11.2004, O-Yung Chao-Huei). Such amounts of energy consumption appear two facts; 1) techno-industrial policies of Taiwan are in need of

major adjustments; 2) ways of energy consumption are in need of adjustments as well.

However, conference conclusions on Emission Reduction Measures of 1998 National Energy Conference [2] were cancelled in the 2005 National Energy Conference[3]. This is quite puzzling. As we consider overall CO2 emission from industrial production units, it is clear to see that policies of technological industries are in need of great adjustments and reflection. In 2003, the greenhouse gas emission amount of industrial units contributes 51.8% of the total Greenhouse Gas Emissions. Mainly are industries of steel-refining, petrochemical, electronics, cement, and papermaking, which contribute three-fourth of Greenhouse Gas Emissions of industrial units. Yet, the government is conducting "Two Trillion Double Start" Industrial Investment lately. Ministry of Economic Affairs publicly announced to support Chinese Petroleum Corp.'s No. 8 Naphtha and Formosa Petrochemical Corporation's Steel Refining Planet. It is estimated that in 2010, CO2 emission will immediately increase 49.1 million tons after the implementation of these two "Two Trillion Double Start" projects.

From the perspective of risk governance, basically, these two investment decisions violate global trend of Green Industry. And, it is possible to be sanctioned due to the advocate against such high-pollution industry and therefore more tremendous losses to industries will be caused. It also reveals that there is a lack of critical reflexivity of globalizational risk society. Of course, what worth clear

[2] 1998 National Energy Conference Conclusion, Issue 2 Item: After implementing all energy policies, in 2020, if fails to reach planned CO2 emission reduction goal, industrial structure should be adjusted. After industrial adjustment, if still fail to reach the planned CO2 emission reduction goal, the government shall lower the goal established It is suggested as in 2020 Co2 emissions per person per year is 10.1~11.0 tons with total emission of 257~285 million tons.

[3] 2005 National Energy Conference Conclusion, Issues 1 to 6 contain detailed regulations of CO2 emission. http://www.moeaec.gov.tw/hot/EnergyMeeting/conclusion_1.htm

deliberation is that why there is great gap between the vision of global risk governance and the practice of current techno-industrial policy in local society?

Reference:

1998 National Energy Conference Conclusion. http://sd.erl.itri.org.tw/fccc/ch/dec_mk/ener_con/con_98.htm

2005 National Energy Conference Conclusion. Bureau of Energy, Ministry of Economic Affairs. http://www.moeaec.gov.tw/hot/EnergyMeeting/conclusion_1.htm

Beck, Ulrich 1986, Risikogesellschaft. Auf dem Weg in einen andere Moderne. Suhrkamp.

Beck, Ulrich. 1993, Die Erfindung des Politischen. Zu einer Theorie reflexiver Modernisierung. Suhrkamp.

Chou, Kuei-Tien. 1998. The intercourse between action and structure in the risk society. *National Taiwan University Journal of Sociology, 26*, p. 101-150.

Chou, Kuei-Tien. 2003. From globalizational risk to glocalizational risk: critical rethinking of Beck's theory of risk society. *Taiwanese Journal of Sociology*, 31, p. 153-188.

Chou, Kuei-Tien. 2005. Knowledge, science and uncertainty - how does "unawareness" construct risk?. *Societas : a journal for philosophical study of public affairs*, *13*, p.131-180.

Funtowicz, Silivo O. & Ravetz, Jerome R. 1992. Three types of risk assessment and the emergence of post-normal science. Krimsky & Golding (ed.) Social Theory of Risk, Praeger Publischer.

O-Yung Chao-Huei. 2004. China Times. June 11

Rayner, Steve. 1992. Cultural theory and risk analysis. Krimsky & Golding (ed.) Social Theory of Risk, Praeger Publischer.

Ravetz, Jerome R. 1999. What is post normal science?. *Futures, 31*, 7, 647-653.