

A New Goal for Playing Global Climate Change Game

Qian Ye* and Peijun Shi

State Key Laboratory of Earth Surface Processes and Resource Ecology, Beijing Normal University, Beijing 100875, China

Abstract From an integrated risk governance point of view, we propose a new goal in order to solve the current dilemma in the international global climate change negotiations. We demonstrate that for global climate change issues, identifying a common interest so that all players are willing to play the game with the same rule is the key. Green economy could be that key.

Keywords climate change, common interest, integrated risk governance, UNFCCC COP

1 Introduction

International negotiations on global climate change issues, like the global warming trend in the past several decades, have been getting hotter first among the international scientific community, and now, stakeholders from almost every societal sector are joining in. Because of the dramatic complexity in both climate sciences and the social impacts of climate change, the negotiations have been experiencing increasing hardness from natural sciences domain to social, political, and economic domains. The past two United Nations Framework Convention on Climate Change Conferences of the Parties (UNFCCC COP) in Copenhagen, Denmark, and Cancun, Mexico showed that the world, on the one hand, is extremely worried about what could happen to the Earth's ecosystems in the long term due to the interactions between human beings and nature that is now mainly driven by human activities; on the other hand, policy makers, business decision makers, and others who have either the political power or economic resources, or both, still focus on and are interested in making decisions in a very short term.

2 The Game

“UK airports struggle to ease snow chaos,” “Snow causes travel chaos across Europe,” “Cold blast strains farmers (in Florida, USA),” “Prices soar on South America drought,” “Rains hinder mines in Australia,” “Mongolia opens coal

tract to investors,” “Six die in New Years’ eve tornadoes.” In December 2010 these are headlines that appeared in the *Wall Street Journal* and in *The Financial Times*, two highly regarded financial newspapers on both sides of the Atlantic Ocean. They appeared during the month of the UNFCCC sixteenth Conference of the Parties (COP 16) in Cancun, Mexico.

In a careful reading of these articles, one can hardly find a mention of the phrase “climate change.” This is interesting and important because climate change was measured as the most frequently used phrase in the first decade of the 21st century as rated by the Global Language Monitor (Wikipedia 2011). This is a simple example that shows how in the course of just one year, the world has witnessed a dramatic change of public and political attitudes toward global climate change issues: from its hottest moment in Copenhagen, Denmark in 2009 at COP 15 to its coldest moment in Cancun, Mexico in 2010.

As a response to the call from UN secretary-general Ban Ki-moon, who at the opening session told the Cancun conference “the world, particularly the poor and vulnerable, cannot afford the luxury of waiting for the perfect agreement,” the negotiations in Cancun proceeded calmly when compared to the Copenhagen summit with its threatened walkouts and open conflicts. Because of the nature of global climate change, its global spatial scale, long-term, slow, incremental but cumulative impact on societies and the ecosystems on which they depend, parties engaged in global climate change negotiations are similar to those playing a card game, poker, in a gambling casino. In a fair game of poker each player plays to win based on his own personal interests using both the cards he holds in his hand and the knowledge he has of the behavior of the players against whom he is competing. But unlike a casino's poker game, one in which the House (the casino) always wins in the long run and the players in a given poker hand either win or lose depending on their skills and luck, the winners of a global climate change game of chance may not be easy to identify, for a variety of reasons. The loser of the game, the Earth, and eventually humanity as a whole, is certain! While the House always wins among gamblers, the Earth seems always to lose when societies interact with the environment.

Currently, around the analogous poker table, there are two major players who joined the game earlier and dominate the

* Corresponding author. E-mail: qianye@yahoo.com

process: (1) the natural science community (mainly the atmospheric scientists); and (2) international governing bodies (mainly UNFCCC) and the 193 national governments. A messenger between these two players has been the Intergovernmental Panel on Climate Change (IPCC). Unfortunately, both the “Climategate” and the “Glaciergate” controversies occurred before the Copenhagen summit, undermining the objectivity of the natural science community and weakening its position in future game-playing. ICSU, the international scientific community that led several global scale research programs starting in the 1980s, including the World Climate Research Programme (WCRP), the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme (IHDP), and DIVERSITAS – An International Programme of Biodiversity Science, is now trying to repair the damage by integrating all these programs into a super cluster program, the so called Earth System Science Partnership (ESSP). The aim of ESSP is to improve understanding of the Earth system as a whole and of the forcing factors that affect global change.

By watching the pool of money lying in the middle of the poker table (the betting pot) growing in size financially and politically, four newly added players are now actively involved, making the strategies and goals of playing the game more complicated. Players now may have to make secret deals to share whatever winnings they make as opposed to each poker player operating alone with a lower probability of success. The social science community is one of the new players. Unfortunately, due to its own disciplinary diversity, this player has been in and out of the game mainly because of a lack of cohesion among its members. The international community is now fully aware of this problem and as a result ICSU and the International Social Science Council (ISSC) have called for more active involvement of social sciences in the global environmental change issues (ICSU 2010).

The general public and its representatives, the non-government organizations (NGOs), are the most influential and fastest-growing player in the global climate change poker game. Because of its grassroots nature and support by new web-based social networks, including Twitter, Facebook, Youtube, and Hi5, this player could have a role in dealing with global climate change. But as an old Chinese proverb says: “Not only can water float a boat, it can also sink it.” So it is very crucial for the other players to deal equitably and sensitively with this group.

The media is now fully accepted as a player at the poker table by the other players. The mass media including newspapers, magazines, radio, and films, CDs, and the Internet, among others, is responsible for communicating information to a large, sometimes global, audience. Most media, however, are business oriented and are playing with other players for their own financial or political interest and benefit most of the time. Because of their short attention span and extreme wide spectrum of its 24-7-365 coverage, media players will lose interest during the game every once in a while, depending on the activities of the other players.

The business sector is the newest player, but its members are playing as both potential trouble makers and as potential solution providers. The shift between these two seemingly opposing roles is dependent on the bottom line of a simple benefit-cost assessment. Lacking a full understanding of the complexities of global climate change among many in this community, economic assessments made by this group are often misleading, in part caused by simplified climate change education by the media and in schools. For example, the biofuel production from crops like maize, sugar, and palm oil have more than tripled since 2000. This frenzy was responsible for 70 to 75 percent of the price rises in the 2007–2008 food crisis (Mitchell 2008). The expansion of biofuels could cause significant land reallocation in a few countries and a significant reduction in food supply in developing countries like India and those in sub-Saharan Africa (Timilsina et al. 2010), which then could dramatically affect the development pathways available for these countries (Wolde-Georgis and Glantz 2009). Financial benefits in the short term could overshadow longer term negative effects on environment, society, and economy.

The six players listed above have shown their face-up cards in the global climate change game, though they have not yet shown other players their face-down cards. A seventh player is now receiving a sharp increase in attention. From renewable energy to hybrid and electric cars to large, even global scale, geo-engineering schemes, engineers are now being called on to provide to the world their silver bullet solutions on global warming. For some environmental problems such as global climate change, however, there is no “second best” solution. The world must be very cautious when applying any large-scale engineering scheme. Yet engaging engineers in the climate change poker game is a must, since they are the foot soldiers so to speak that societies eventually call on to do the job.

3 The Solution

After sixteen years, the slow movement of UNFCCC has clearly demonstrated how difficult it is to reach an agreement among a group of players who are from different disciplines and have joined the game for different reasons and with different goals and interests. Unlike poker, which is a winner takes all game, the game of global climate change played by current players against the House, the Earth, is a winner takes nothing game. It may be the right time now to call an end to the global climate change poker game and start a new “game,” which has as a goal the guarantee that the Earth and all players could win in the long run.

In the past decade, every continent on the Earth suffered loss of life and property due to various extreme weather and climate events (WMO 2010). Although it is still impossible for scientists to clearly identify which extreme weather event was caused by climate change, it is anticipated that the magnitude, frequency, duration, and even location of extreme events will likely be altered as a result of the Earth’s

atmospheric warming due to the increased concentrations of greenhouse gases. Since 75 percent of natural disasters are triggered by extreme weather and climate phenomena (see online at www.unisdr.org/eng/media-room/facts-sheets/2008-disastersin-numbers-ISDR-CRED.pdf), the cost of future disasters will increase dramatically due to both more frequent and intense extreme events such as storms and floods associated with global climate change and change of human development, for instance the trillions of dollars' worth of beachfront housing and infrastructure (SPARC Project 2010).

It is worth pointing out that even though there are great differences among all players on how to deal with the complexity and uncertainties of global climate change, mainly global warming, they all seem concerned about various kinds of risks associated with climate and climate change. Therefore, it raises a hope that the goal to ensure that the Earth and all players could win in the long run could be achieved from a risk perspective as discussed in the following.

First, from a risk governance perspective, local values always must be taken into account. The local perspective is a key consideration when dealing with global issues because learning from successes and failures of how other international protocols work is a key ingredient in achieving long-term success (Ye and Usher 2009). Climate changes are happening in a global scale. To make any solution work, however, it must have local value and local concerns attached. For example, without local support, the international scientific community could not conduct a scientific experiment of ocean sequestration at a reasonable scale (<http://Miller-McCune.com/carbon> 2010). The controversial development of biofuels plants in Africa is another example as discussed by Wolde-Georgis and Glantz (2009).

Second, risks of climate hazards and climate change and their impacts are now receiving high priority from all players when considering measurements for both mitigation and adaptation. For example, starting in 2006, the world leading insurance companies, such as Munich Re, have recognized the significance of global climate change on their business operations. Although their first concern is about increasing risks associated with global climate change, it has been recently noted that as many hundreds of new insurance initiatives, including green building credits, drought-protection in developing countries, and incentives for investing in renewable energy and carbon emissions trading, are being offered to tackle climate change and reduce weather-related losses in the United States and globally (Ernst & Young 2010). More sustained interactions between the scientific community, including both natural sciences and social sciences, and the business community along the lines of what has been done between the sciences and policy makers (IPCC is the best example) to really transfer the risks of climate change into opportunities, is required.

Third, the cause of the current deadlock in global climate change negotiations is due mainly to excessive attention

being paid to mitigation issues, for example, how to reduce and limit the carbon emission fairly among all countries. As demonstrated by Bueno de Mesquita (2009), to get people to sign a universal agreement and not cheat, the deal must not ask them to change their behavior much from whatever they are already doing. This finding explains the reason behind the successful ratification of the Kyoto Protocol as well as most of the failures in Copenhagen. From the risk research community's perspective, which mainly focuses on the instability of the global climate system and the resulting interactions in the social-ecological system, reducing variations is even more important than keeping the temperature increasing in less than 2 degree Celsius. Recent research found that a new green revolution could play a role by "killing two birds with one stone." On the one hand, by increasing the size of the carbon sink with new bio-technologies such as the carbon-sinking capabilities of the plants reported recently by Lavania and Lavania (2009) and Orcutt (2010), and, on the other hand, by reducing the impact of climate variations, for example, with trees and grasslands that regulate runoff and lower the risk of floods and droughts (Shi, Shi, and Wang 2010), "green" development can play a great role in enhancing the sustainability of local ecosystems.

4 Conclusion

To successfully tackle the global climate change issue, instead of looking for a silver bullet with which miraculously to solve the problem, the key is to find common interests for all players so that all players, including the Earth, will win in the long run. It is foreseeable that risks linked with global climate change will increase if society still develops under the business as usual pathway. This trajectory is the likely reality in the next couple of decades. But integrating all risk system components, organizations, and stakeholders at all levels from local to global within a green economy, despite difficulties and complexities, could more successfully address the complexity of natural hazards, human-nature relationships, and the uncertainty of global change (Shi, Jaeger, and Ye 2011).

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