

Environmental Worries of the Beautiful “Chinese Dream”

Shanghai Forum 2013

1.Asian Environmental Crisis in Global Climate Change

Asia is known for its giant population especially for its densely distributed population along the coastal areas. In the process of global climate change, some threats facing Asia are specifically serious:

- 1) **Limited supply of water.** Global warming may cause an even bigger gap between the demand and supply of water in most Asian countries, which will lead to international disputes. Under the influence of global climate change, the desertification has recently become an pressing problem in the Northern-West of China. Another problem exists in the humid or semi-humid areas in the North-East of China. Here, the amount of precipitation has continuously stayed below the normal level since the 1990s. For example, the water level of Songhua River and Heilungkiang River has already fallen to the lowest historic level for many times. Drought has formed a threat to agricultural industry in the North--East of China.
- 2) **Threat from the extreme climate.** The frequency and intensity of the occurrences of extreme climate have become significantly large in Asia under the global warming trend. It is more likely that the extreme climate will occur even more intensely this century like a heat wave attack, which will directly cause the rise in mortality rate and high incidences of strokes and illness in the respiratory system. A survey of Shanghai shows that when it is over 34 degrees Celsius in the summer, the mortality rate rises rapidly. The increasing frequency and intensity of the heat attack will cause more illness and deaths and the threat is especially a serious problem to seniors, kids and the patients.
- 3) **The rising sea level.** Global warming will cause the glaciers melt at both the poles and Qinghai-Tibet Plateau as well. The sea water will expand (expansion of water molecules) because of the heat which leads to the rise of the sea level. The historical record has been broken since the year of 2000 according to the Chinese report of sea levels. It proves that the escalation rate of sea level in China is accelerating and even higher than of other seas. The Yangtze River Delta, Pearl River Delta, Yellow River Delta and coastal areas of Tianjin are known as the main affected regions. Apart from directly flooding the land, the surge of sea will bring more likelihood of storm tide, which causes salt tide and accelerates the salinization rate of land. Moreover, it will bring negative impact on the agriculture and forestry industry as well as the fishery; the urban water supply system will also be negatively affected.
- 4) **Climate transfer.** The growing temperature has made the previously fertile land in the middle and low latitude of Asia no longer qualified for farming due to the

lack of water, while the middle-high latitude areas have become more suitable to agricultural plant because of the increase in heat. This kind of climate transfer will cause and the urgency of adjusting the economic structure in a global realm, which will lead to a future full of uncertainty.

- 5) **Threat from epidemics.** The climate change will negatively influence the affects of epidemics through the infection process by disturbing the maturity of pathogens and the reproduction of vectors and changing the breeding spots of vectors or hosts. Global climate change might re-shape the distribution of epidemics and expand the spreading scope of the disease. The rise of the infection rate will lead to a severe threat to the fragile public health system of most developing countries in Asia. Moreover, it also threatens the stability of the society and causes economic loss and social problems.

2.Explore a collaborative way of improving the environment

- 1) **Enhance the regional cooperation in order to tackle the problems of climate change in Asia together.** Climate change is more than a meteorology problem; it is essentially a question of sustainable development. It is a question of benefit, which touches the areas of politics, economics, technology and even national defense among countries. The policy of easing the pace of global warming is realistic and it should deal with the equality and efficiency of global public goods' allocation. Any decision made by policy makers could cast profound impact on the economic development. The government of any country is facing the dilemma of improving short-term economic development and protecting the environment when they make any practical decision to slow down the global warming trend. Everyone wants to 'take a free ride' for the sake of their own benefits by shifting the GHG (greenhouse gases) abatement load to others. Asian countries should actively seek regional cooperation with each other to enhance the communication between the countries and regions. We should also strengthen our mutual trust and collaboration when dealing with the global warming problem in order to work with each other and make the Asian voices stronger in the world.
- 2) **Explore a collaborative way of improving the environment between different interest groups including the central government, local governments, enterprises, individuals and NGOs.** Currently we adopt the administrative-control method for environmental protection, so the government is the main skate holder. However, we should explore the ways of effective mutual cooperation between the government, enterprises, individuals as well as NGOs in order to achieve the goal of energy saving and GHG abatement and to implement government policy. Local governments should play a more active and creative role in making and implementing laws of climate change and other related polices. The central government can impose the policy of 'common but different responsibility' on each province and city to encourage those areas where process has been made to further contribute their efforts against the climate change while providing technological and financial support to other areas.

- 3) Develop a on multi-disciplinary approach in research.** The research on climate change covers issues such as environment, demography, energy, economics politics, etc. These subjects are closely connected and affect each other. However, strong academic barriers have made it hard for researchers of the different disciplines to solve a complicated environmental problem. Therefore, we lack an understanding of the mutual relation between human society and the evolvement of the ecological system. Thus, it is hard for us to win the right to speak in the discussion on global climate change, which is becoming more and more extensive and profound. As result, we will fail to protect the basic interests of the developing countries. To deal with this problem, each discipline alone cannot provide an effective solution. Collaborative research, especially of the natural and the social sciences, is required.

3.Policy suggestions for the Shanghai Government

- 1) Develop multi-disciplinary research projects to explore the natural laws of climate change and the interactions with the social life from a long-term perspective. We should integrate the advantages of each university in Shanghai to establish a cross-institute and cross-university ‘Climate Change Research Center of Shanghai’ based at the Fudan Tyndall Center. It can promote the study on global climate change through the collaboration between different academic disciplines such as meteorology, environmental science, political science, demography, history and public health. We can work out independent research findings to win more rights to speak for Shanghai in the discussions on global warming.
- 2) Enhance the communication and cooperation with other Asian countries and regions. We should develop collaborative relationships with different cities and regions across Asia to strengthen our mutual trust in order to face the threats and challenges brought by the global climate and specific environmental changes together.
- 3) Encourage enterprises, individuals, and NGOs to play a more active role in dealing with climate change and the environmental problems. We should create a system which can drive industries to willingly reduce GHG emission by providing financial, economic and social incentives in order to reduce the participant cost for environmental protection while increasing the benefits at the same time. Also, we should guide individual households to live a low-carbon life style and support the environmental protection activities of NGOs.
- 4) Accelerate the transfer of economic growth patterns. We should encourage the development of tertiary and high-tech industries while limit the production of high-energy consuming industries and develop green technology for energy saving.