

Grow now, clean up later – does China have to follow the path of western development?

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It is a great honor to stand here in place of Prof. Qian Yi. She cannot come because China's national congress is in session these days. As vice chairman of Environment and Resource Commission of the Congress, she has to be there. She sent me a paper yesterday, which reflects the issues in her concern. So I will begin with her first paragraph.

She said, "In the last 50 years, fast industrialization coupled with dramatic growth of population has resulted in serious environmental problems. Increasing pollution of water, air and soil, fast depletion of natural resources, deforestation, desertification, ozone depletion, acid rain, global warming. All these are threatening the human beings, and at the same time destroying the foundation which the world economies have long been depending upon. Analysis of these environment problems will tell us one fact that it is human beings ourselves who created these problems and these problems came along with the development of modern industries and technologies."

Then she raised a question: "Do we have to pollute first and then clean up later?" which is the title of her speech. Next 15 minutes I will try to answer this question.

Development is 100% justifiable

A few months ago, Stern Review was published. The review told the world a conclusion: the benefits of strong, early action considerably outweigh the costs in the future. In order to take actions for the future, we need to understand the present. What are the realities today for the largest population in the world? Let me state a few facts:

1. According to UN an report, entering into the 21st century, 1.1 billion people have their income less than \$1 a day, i.e. living in poverty, 70% of them living in rural areas and thus driven into the force of depleting ecological systems for surviving.
2. According to a recent FAO report, nearly 1 billion people in the world are undernourished, 90% of them in developing countries. Over 100 million in China. The actions taken to reduce the number and reach MDG are far behind.
3. UN estimates: 20% of the world population have no safe drinking water and 6000 people die of drinking unsafe water everyday.

Many of you may say that China is no longer a developing country for its fastest growing economy in almost 30 years. This is true. However, China is big. The regional disparity between the east and west is large. China also has the largest population, and the national living standard is still behind the world average. I have been working in the poor regions of China, and poverty reduction was my everyday

task there.

The same is true to all the developing countries. When the emphasis is made on the inter-generation equity in discussing the sustainable development, all the developing countries including China also have to deal with intra generation equity issues. In other words, we have to develop our economies to remove poverty for a better living, and it is an urgent task for us. As Deng Xiaoping, the Chinese leader and designer of China's economic reform, said, "Development is a hard truth," which means development for China is 100% justifiable.

Environment degradation threatens development

China's economic reform has resulted in great economic and social benefits for the Chinese people, which did impressed the world. At the same time the achievements are coupled with resource depletion and environment degradation. During the 10th 5-year plan period (2001-2005), China's GDP was growing at an annual rate of 9.5% while its energy consumption increased at 10% annually. Although the energy consumption per person is still far below the world average and has a huge gap from that of OECD countries, China has become the largest SO₂ emission country and No.2 GHG emitter, responsible for 16% of the world total amount of carbon from energy in year of 2000. Last September, the Chinese State Environmental Protection Administration reviewed the environmental cost of 2004 and found it making for 3.05% of the GDP produced that year.

Reading Prof. Qian's words at the beginning, we all cannot avoid asking ourselves these questions, "Can China afford to develop our economy in a way that is depleting the foundation of the development?" "Are there any alternative paths so that the development can be sustainable?" Now we are facing a new challenge.

Alternative economic solutions in the premise of sustainable development

My answer to these questions is "YES but depending on us to take actions". I saw with my own eyes the entirely new solutions which create profits, jobs and healthy environment. Built in these new practices are not only technologies but more importantly people and leaderships with innovative minds, new vision, strong commitment and capacity of making economic analysis in a longer time frame, managing the details and bridging disconnections which are often the barriers to the new solutions. Let me tell a few true stories.

Desertification of the Kerqin grassland in the Inner Mongolia which is my hometown, today people call it Kerqin desert, forced local farmers to leave their homes all the time. Scientists from the Chinese Academy of Sciences set up a research station there, and together with local farmers created a new farming system called "household ecological economic habitat". The local government provides financial subsidies to encourage the application, and NGO joined the promotion efforts, providing training, technical support and organizing farmers for effective implementation. The "household ecological economic habitat" not only enabled farmers to produce food and raise animals on the land that had lost its productivity to desertification, but also

effectively recovered the desert back to grassland. Farmers income has been increased, the ecological system improved.

In the city of Nanjing of Jiangsu province, a lady was working in a hotel which was at the edge of bankruptcy. Having read a book about environment protection, she decided to revive this hotel. She made a bank loan and bought over this hopeless hotel in a low price. Then she invested 480,000 RMB or \$60,000 to replace the hotel's coal burning heating and hot water system with solar panels. Next year, the city adopted new environment standards, requiring replacement of coal burning for natural gas. A couple of years later, the price of natural gas began to go up. Last year, she told me that the solar panel itself brought her over 2 million RMB profit each year because of low operation cost. Now she has taken over two other hotels and become a very successful entrepreneur.

A government official in charge of the economic reform and development in the Ningxia Autonomous Region made decision to support building three biomass power plants in the region, which cost more than conventional coal burning power plants. As an economist he has a different view. He said, "In the long run, I see three types of bigger profits that coal burning power plants would never achieve. Firstly poor farmers make income by selling their crop waste as raw materials of biomass energy. Secondly, the power plants make profit by producing electricity, and the thirdly both poor farmers and the power plants get another source of income by selling carbon." He also plans to invest in an energy conservation facility if proper technologies are identified. As an economist with a vision of sustainable development, he understands from the economic analysis that the same or less amount of investment made in building a new power plant can build an energy conservation facility that generates the same amount of electricity. Running energy conservation facility also creates jobs but consumes far less natural resources.

Over 10 million of rural biogas digesters built by Chinese farmers not only successfully resolve the energy shortage, but have turned to be an integrated solution to removing poverty, improving livelihoods and recovering the ecological conditions in the vast countryside of China.

Taking actions now in search of alternative development paths

The good practices of such are increasing in China. But they are still scattered without becoming a trend to replace the traditional mode of production and consumption. The Chinese government set up a very ambitious target to reduce energy consumption by 20% per GDP unit in 5 years, but the performance is not so satisfactory. To reach the national economic target by 2020, China's energy demand will exceed 3.6 billion TCE. Do we have enough to meet the demand?

To stop the environmental degradation, to mitigate climate change, or to answer Prof. Qian's question "do we have to pollute first and then clean up?", we have to take actions. We need concrete economic analysis in a new value premise, just as that government official did for Ningxia, but at the national level. We need strong political

commitment from the government so as to adopt policies in favor of environment friendly economic activities. We need effective institutional innovations to break through the sector-based barriers. We need greater participation just as what is happening on the Kerqin desert – participation of poor farmers, NGO, scientists and government, particularly participation of corporations with social commitment and responsibilities. We need transparent legislation framework and process to enable fair competition for practicing sustainable business models. We need active international technological cooperation. To do so we need to deal with intellectual property issues in innovative and participatory manners to remove the obstacles to such cooperation. We need strong education program to communicate scientific findings to the general public.

Chinese economists have made great contribution to China's economic reform, generating valuable experiences for many developing countries. Now they are taking a new challenge, in collaboration with SEI which I am working for, to form a research agenda and to explore an alternative development path toward greater sustainability. Together we hope to make another round of contribution to the world. I am very optimistic about this mission.