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Introduction

China has many environmental challenges. This essay is describing the current issues and problems in Chinese environmental protection. The biggest emphasis is given to the values and deeper connections behind the regrettable statistics. It is far well known that China is not doing an adequate work to solve its environmental problems. Maybe too much effort is put into economical matters in the cost of environment. The question is more complex than just to blame the economical growth for deteriorating environment.

The first two chapters explain the bleak realities of the current situation in the Chinese environmental questions. All though some profound aspects are to be found in the first two chapters the greatest quality of this essay lies in the last two chapters and conclusion. After the first two chapters come additional two chapters that tell two real stories about something that should have been avoided if the environment would have been in the calculations of the Chinese government.

Due to growing pains that environment has caused to China the matters are sifting into a more positive direction. Something can be done in China to create a healthier background for sustainable development. In spite of improvements it should still be desirable that the changes in the environmental issues would develop in a more rapid way.

The Facts about the Chinese Environmental Problems and Roots

A relatively recent study of the China Daily magazine (Xinhua, 2005) shows that the China's environmental issues have not improved. On the contrary the problems might even have deteriorated even though the magazine implies that environmental problems have remained unchanged. What is clearly stated though is that the qualities of urban air, surface water, offshore seawater and ecological environment have not gone better. According to the report 25 out of the 27 major lakes and the seven major rivers in China were polluted. The Haihe River in north China is the most seriously polluted river in China. Other rivers such as the Liaohe and the Huaihe rivers are also badly polluted. The groundwater is worsening approximately in one third of the cities and the seawater is also in very poor state quite widely (35%). It is estimated that 700

million people drink contaminated water every day. The acid rain is haunting about 60% of China's cities and the waste and the exhaust treatment are poor both domestically and publicly. 16 of the 20 most polluted cities in the world are in China. Also the forests are being cut down in an increasing rate, which along with the acid rain, effluents and poor water quality are causing soil erosion problems. Soil erosion problems are in every Chinese provinces, autonomous regions and municipalities. To emphasize that the China's environment is under stress on every front it can be added that over-cultivation of cropland together with the deforestation are also causing desertification.

The immediate reasons for example to bad air quality and acid rains can be found from the China's enormous use of coal to fuel its energy needs. China uses almost three-quarters solely coal to cope with its domestic energy demand. One other reason to bad air quality is the rapid growth of cars. China today has over 90 million cars, trucks, buses, agricultural vehicles and motorcycles (Economy, 2004). The numbers of these fossil fuel monsters are increasing at alarming rate. The quest for finding the deeper and more profound reasons to environmental troubles start from the extraordinary economic growth of China. China has gone through a wind of chance over the past two decades economically speaking that has caused a staggering 8% GDP growth annually. Unfortunately the regulation procedure of economic development has not been a very good one. It has not given emphasis to the environmental issues and the local governments have been all too eager to make economical profit more than a cleaner environment. Maybe the local governments are just bluntly greedy or they have to get some resources to sustain their county. All this is done with very low price of labour and that is one the reason why foreign investors are manufacturing their products in China. China has become the workshop of the world so the environmental problems will affect also the rest of the World. The deeper reasons might go very far to China's history but this text will deal mainly with the modern issues.

The Social and Political Characteristics of Chinese Handling of Environment

What good is money if you cannot breathe the air? This is a new Chinese phrase and it implies that the Chinese people understand the deeper connection (Becker, 2004). In

some ways this thinking also goes to policymaking level. After the formation of State Environmental Protection Administration (SEPA) 17 years ago at least some progress in environmental issues has taken place. New laws and regulations have been put forward. Emission trading and reduction of pollutant particles like sulphur dioxide is truly happening but the scale is still limited. Far too often the local authorities skip the laws and concentrate to earnings. Sometimes they just do not have the appropriate funding to implement the environmental laws. The local authorities are perhaps all too keen to report the environmental reality to central government but in most cases the reports are somehow embellished. The statistics can be one-sided: it shows the good things and nothing else or the data is gathered from a spot where there is not that much pollution.

Common people now this because they have to live in the poor environment. They suffer from the mischief. Besides this phenomenon one has to remember also the migration of people. At least 10 million farmers and other workforce are bound to move from their land. This is due to search of access to water, arable land and jobs. These migrants will be integrated to China's major cities and the energy challenge will leap forward. Urban residents on average consume 250% more energy than rural residents. This migration combined with the social consciousness has caused and will cause more social unrest. This could force the political system to open up and change China. The World Bank has reported that the cost of environmental pollution in China is equivalent to 8-12% GDP annually. The labour force is suffering. Contribution to the 8-12% GDP loss is coming from lost days of work, industry closures due to lack of water, and contamination of fisheries and crops. If China would put the maximum effort to its environment what would happen to its economy? Chinese government has not been all too eager to accept assistance to environmental issues. Now when the question is hot the government has not got any other choice than accept some help. Japan and USA have helped. EU is also interested about China's environment. Results of wrongdoings are clearly seen and understood by the habitants of China and the rest of the world so China is starting to put some slow steps towards better environment. Unfortunately it should run.

A Case Study Number One of the Chinese Environmental Disaster: The Floods of the Yangze River in 1998

The story of the Great Flood began from the attitude “man must conquer nature”, which was strongly present from the beginning of the Communist Party in China. This led to building of dams and irrigation works the length of the land. Peasants terraced slopes throughout the Yangtze converting hillsides into fields. With the reducing vegetation and erosion along with flooding influenced the leadership’s conviction that the best solution lay in building more dams. Spite of this the flooding kept worsening during the 1990s.

The point of disaster came in the summer of the 1998, when the Yangtze burst out. According to official Chinese government reports, the floods, the second worst to hit the country in more than 130 years, killed 3656 people. Many observers believe the death toll is higher, although it is unlikely the casualty rate will reach 1954's level of 30 000 dead. The floods have left 14 million people homeless, affected 240 million people, destroyed 5 million houses, damaged 12 million houses, flooded 25 million hectares of farmland, and caused over \$20 billion (\$US) in estimated damages. If the floodwaters had risen just a couple of centimetres higher the death toll and other damages would have been incomprehensibly vaster.

Fortunately policymaking sifted drastically in this respect. Former premier minister Zhu Rongji set in motion an extensive ban on logging natural-growth forest and a ten-year program to convert fields back to forest, lakes and pastures. This program concerns 200 million peasants. All though the nature is benefiting from this approach it entails moving about 2.5 million people onto higher ground. To look onto the positive side of this catastrophe is that it encouraged Chinese leaders to think differently about nature and the sustainable development. (Becker, 2004)

A Case Study Number Two of the Chinese Environmental Disaster: Mining

Is the mining industry in China an environmental problem? Usually mining in China is connected with the lack of safety of mining. This is so because of the news that report catastrophic events in mining in China quite often. Approximately 6000 mining workers perish each year. Mining is an unwanted job. Most mining in China today can

be categorized as Township and Village Enterprises (TVE). The answer to the question of the mining being an environmental problem or not, is an easy one. Yes, it is an environmental hazard because at least 50 tonnes of mercury is emitted annually from gold mines and much more from dirty coal combustion. Also erosion, sound, dust and visual pollution problems from mines, especially in the quarry and aggregate sectors and poor cyanidation practice are clearly noticeable (Gunson, 2001). The mining continues because of the need of cheap energy called coal. This coal gives 75% of China's energy needs and so the mining is not easily going to stop or change. It is a part of the Chinese environmental disaster. This is a hidden war. Every time you buy a cheap Chinese product you kill approximately 10μ of Chinese coal workers (statistics based on average consumption in U.S.). The reason for this statistic is to show that things are not always what they seem and if it is needed to find the bigger picture one should look behind the scenes.

China's Environmental Protection Strategy

SEPA (China's State Environmental Protection Administration) is the key player of the Chinese official environmental issues. It has 300 full employees, which is little for a country sized as China compared to USA that has 6000 permanent staff members. SEPA tries to put pressure on local authorities to tackle China's environmental questions. Often SEPA uses the media to openly criticize recalcitrant ministries. Environmental matters are handled uniquely in different counties. Richer regions like Shanghai have good record of environmental implementation but all too often the poorer regions must bear the load of environmental hazards. Sometimes even wealthier regions send their own waste to poorer regions. So the implementation of environmental laws varies. That is why SEPA sends inspection teams to crackdown on violators. Results from these inspections indicates that about 1/3 of Chinese enterprises use their pollution control equipment effectively, about 1/3 have the equipment but do not use it because they perceive it as an unnecessary expense, and the remaining third have never put into place any pollution preventing technology (Economy, 2004).

China cannot tackle all the problems by itself so it has engaged the international community to help it. The assistance is diverse. At least the World Bank,

the Global Environment Facility and the Asian Development Bank are giving their funds to alleviate the growing pains of China. Besides the banks many international Non-Governmental Organisations (NGO) are interested in helping China. Greenpeace, World Wildlife Fund, The Nature Conservancy and Natural Resources Defence Council are among the few international NGOs that help China. China has also NGOs of its own. Friends of Nature have used e.g. the media and legal system to make their message heard. Besides all this many private companies and individuals are giving their contribution to the environment effort.

Spite of all this activism SEPA announced that in early 2004 the government had failed to deliver on US \$9 billion of investment in pollution control projects promised in the Tenth Five Year Plan (2001-2005). This is shocking news but luckily China is devoting 1.3% of its GDP to environmental protection. This is the same amount that the other countries use in their environmental protection plans. China is a developing country with unique characteristics and because that have the scientists estimated that at least 2.2% of GDP should be given to environmental protection just to keep environment from deteriorating further. China has an environmental protection strategy but it is plagued by corruption and lack of transparency and reliable information. Guanxi often simply described as a personal connection to another person is very important in China. If you do not know the person previously, it is quite likely that you do not get any proper information at all. Guanxi is one of the reasons why the information can be inadequate at times. Many Chinese environmental NGO leaders also believe that the democracy might advance the access to the environmental knowledge. If you ask regular Chinese scholar's opinion about shift to democracy the answer is bleak. It is not plausible.

For Sustainable Development

The best way to meet the rising demand for energy is not necessary to supply more rather than modernize the appliances and equipment that use energy. The fastest, cleanest and cheapest energy resource is energy efficiency. China is the most distinct and striking case of a country that does not take energy efficiency seriously enough. China is building more and more coal plants to cover its energy demands. The officials have had to build one huge equivalent 1000-megawatt coal-fired power plant

every week (Odgen, 2006). The plants are old fashioned that use three times more energy than the global average. Making factories efficient and other demand-side investments saves more energy and lowers the pollution level than building new inefficient ones.

The China's leaders have shown a sense of understanding the need for energy efficiency and have added to new Five-Year Plan that energy efficiency should be improved 20%. If it should really succeed then the effects would be very large. The Plan's implementations are that 15% of China's energy should come from renewable energy, vehicle fuel economy improvements, development of more efficient consumer appliances and largest energy-consuming enterprises need to modernize their energy performance. China has a long way to go in restoring the balance between economic growth and energy demand. It needs to invest about 37\$ billion a year in modernizing electricity-consuming equipment. That is 12 times the amount that China is investing at the moment to better equipment.

Primarily the Chinese themselves must deal the energy and environmental problems in China. They have to make the effort for better future. The core of these problems comes neither from the high growth nor the inherent restraints on developing countries. They come from so-called system failures. These failures include a poorly functioning environmental control system, inconsistent energy supply and demand policy, low and obscure environmental consciousness and lack of supervising ability at both citizen and administrative levels. The logical next step would be system restructuring. This restructuring could mean reforms of the political system to help common people to enhance their quality as supervisors for nature, new government office for energy issues, and new innovation of environmental administrative and control systems. The world must also help China. China is exporting in growing numbers oil so the impact on the world oil market could be severe if the environmental issues of China are not pondered internationally and properly. Other matters such as cross-border pollution and food crisis may also affect the global economy in a drastic way. Mutual international cooperation is utmost important. Both parties should win in this work for sustainable development.

Conclusion

The main challenge to improve China's environment is to change its energy structure system. China is too much dependent of Coal as a primary energy Source. Coal increases the greenhouse effect by adding the carbon dioxide from the combustion. The combustion products emissions of sulphur dioxide and from that comes acid rain. China should invest more on energy efficiency. China is using considerably more energy for GDP growth than comparable countries. Compared with Japan, China uses six times more energy for every percentage point of GDP. With better equipment and research the energy efficiency matter could be conquered easily. Other problems like lack of transmission lines, transparency in pricing and central regulation are increasing the suffering of the environment.

China's environmental practices have a significant impact on its neighbours and rest of the world. China is one of the world's largest contributors to ozone depletion, global climate change and biodiversity loss. How China responds to its environmental challenges has critical implications beyond those for the global environment. The balance it is striking between development and environment is shaping China's political, economic and social future (Economy, 2004). The question of how to anticipate what China will look like in the future can be partly explained through China's attitude towards its environment.

The environmental understanding and participation have grown. More and more NGOs and SOEs (State-Owned Enterprises) have started to give their contribution to the cause along side with private companies. The government is increasing spending in an attempt to improve harmony between the man and environment. The increase still lacks behind. Rural spending in this year's budget was still lower than the increase in China's military spending. China needs to find ways to continue to grow while saving more energy. In this successful attempt of growth the environment has deteriorated. The air and water in most of the country is not fit to breathe or drink. This year's economic plan makes a brave commitment to cut the energy use by fifth over next five years. It could help the environment.

Government thinks that it can solve the environmental problems just by making new laws. One example is the SARS epidemic few years ago when some people were killed because of the disease. Government suddenly said that it had solved the problem. When an interviewer asked from the politician how this is

possible, the interviewee answered that they have formed new regulations to tackle the issue. Making great plans do not necessary mean that the problem is solved. The law must be implemented but all too often the local authorities think something else than environment. When Chinese people are suffering more than needed of the authorities incompetence to cope with environmental problems the civil unrest became more evident. This could give grounds to a better perspective to understand necessity of environmental protection for the local authorities and enterprises' leaders. What good is money if you cannot breathe the air?

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