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中国的环境问题：环境污染引起的后果

Environmental Issues In China: The Consequences Of Environmental Pollution

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Abstract

China has sustained remarkably rapid economic growth over the last 20 year. As the largest developing country and newly industrialized country, China faces dual challenges of protecting its environment, while strengthens its economy. However, this surge in growth is depleting China's physical, Capital, energy and natural resources.

In this paper, I mainly examine the relationship between water pollution and economic loss and the impact of water pollution on human health. Water pollution is a cause for serious health concern in China, especially in rural areas. From 2000 to 2008, the quality of surface water is worsened in northern China, where it is improved slightly in southern China.

Air pollution is another environmental issue, which need to be point out in China. China is the largest coal consumer and largest coal producer in the world. The heavily coal based energy model has led to continuously high levels of SO2 and particulate air pollution. China is currently the largest sulphur-emitting country in the world. In Chinese cities, outdoor air pollution is the biggest environmental challenge to public health. The sources of air pollution in Chinese cities have gradually changed from conventional coal combustion to a mixture of coal-combustion and motor-vehicle emissions. Land issues of dissertation and overuse pesticide causing other pollution issues in China. Land is heavily polluted with metal and toxic substances. Agricultural land has been contaminated with organic chemicals and pesticide chemicals, including petrochemicals, pesticide and polycyclic aromatic and

hydrocarbons. PESTLE model analysis macro-environmental used in the environmental scanning from Political, Economic, Social, and Technological Legal and Environment. The stability is the key issue for China, and in order to maintain that it has to protect its environment and improve its technology in order to sustain stability and growth.

Key word: FDI; land pollution; Air pollution； Water pollution; coal consumption; water scarcity; Environmental Kuznets curves；

摘要

在过去的 20 年里中国的经济持续快速的增长。中国是世界上最大的发展中国家及工业大国，面临着双重的挑战保护好环境同时增强本国的经济力量。然而这样的飞速增长十分依赖于中国本身的资本和自然资源的损耗。

在这篇论文里我主要研究水污染对经济的损失及水污染对人体健康的影响及它们之间的关系。水污染是另一个在中国引起人们对健康问题的担忧，尤其在中国的农村地区。从 2000 年到 2008 年，地表水质在中国的南部地区得到改善，然而在中国的北部去在继续的恶化。在中国空气污染是另一个必须被指出来的环境污染问题。中国是世界上最大的煤炭消费和生产国。以煤为主的能源导致高浓度二氧化硫和颗粒连续空气污染.中国是目前最大的硫排放在世界上的国家。在中国的城市里，室外空气污染是对人们最大的环境心理及健康的最大挑战。对中国城市空气的污染不再是传统的燃烧煤引起的逐步加至机动车的尾气排放及混合物的污染。土地污染问题在中国包括土地沙漠化及过渡使用农药。土地被大量用金属和有毒物质污染。土地被大量用金属和有毒物质污染。农田受到污染有机化工，农药化学品，包括石油化工，农药，多环芳香烃和碳氢化合物。用 PESTLE 模式对宏观环境从政治，经济，社会，科技，法律和环境方面进行扫描分析。社会的稳定是中国发展的关键问题，为了维护社会的稳定中国需要保护环境和推动科技来保证持续增长。

关键词：外国直接投资；土地污染，空气污染；水污染；煤炭燃烧；水资源缺乏;环境库兹涅曲线

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Chapter 1 Introduction

1.1 Motivation

As a developing and newly industrialized country, China is facing the dual challenge of protecting its environment, while strengthening its economy. During the past 10–20 years, the Chinese economy has increased rapidly. In 2004, the gross domestic product (GDP) of China was US$ 1931.7 billion, an increase of 10.1% (National Bureau of Statistics of China). Per capital GDP increased from 1,757 in 1978, when China declared its economic reform, to 14,002 Yuan in 2005. This is primarily due to gradually conducted open market policies and subsequent expansion of industrial sectors. However, this surge in growth has drawn heavily on China's physical, capital, energy, and natural resources (World Bank, 2005). [1]China's energy consumption amounted to 1970 million standard tons of coal in 2004. At the same time, the natural environment has deteriorated dramatically. The World Bank has reported that 16 out of the 20 most polluted cities in the world are located in China (Economist, 2005), and many other cities throughout the country also suffer serious air pollution problems.[2]

As the largest developing country and the second largest green house gas emitter,

[1] Xu, Jintao, Ran Tao and Zhigang Xu, 2006, "Sloping Land Conversion Program: Cost Effectiveness, Structural Change and Economic Sustainability-Analysis Based on Rural Household Survey in Three Provinces in the West", *China Economics Quarterly*, Vol.4, No.1: pp139-142.

[2] Cai Wenxiao, SANG lan, FU Chunsheng, et al. Analysis of China environmental pollution trend[J]. Environmental Protection, 2007, (10B): 42-45.

China's energy consumption has important implication for global climate change. In the past two decades, energy consumption in China was more than doubled. From an energy exporter, China has become a major energy importer since the middle of 1990s.[3]

Two-thirds of the rural population has no piped water, which contributes to diarrheal disease and cancers of the digestive system. Analysis of data from the 2003 National Health Survey indicates that two-thirds of the rural population does not have access to piped water. The relationship between access to piped water and the incidence of diarrheal disease in children under the age of 5 confirms this finding: the lack of access to piped water is significantly associated with excess cases of diarrheal disease and deaths due to diarrheal disease in children under 5 years of age. [4]Although there are many indications that surface and drinking water pollution problems contribute to serious health impacts, the lack of monitoring data on specific pollutants and data on household behavior regarding avoiding exposure to polluted drinking water make it difficult to quantify all of the health effects of water pollution. Preliminary estimates suggest that about 11 percent of cases of cancer of the digestive system may be attributable to polluted drinking water.[5]

Chinese economic growth is all along accompanied by the traditional

[3] PENG Liying, TONG Xingwei, SHEN Yonglin. Relationship between Environmental pollution and economic growth in Shanghai of China[J]. China Population, Resource and Environment, 2008, l8(3): 186-194.

[4] DU Jiang, LIU Yu. Urbanization and environmental pollution: empirical study based on provincial panel data of China [J]. Resources and Environment in the Yangtze Basin, 2008, 17(6): 825-830

[5] Beckerman, W., 1992. Economic growth and the environment: whose growth?whose environment? World Development, 20, 481-496.

industrialization extensive growth pattern and also characterized by "high consumption, high pollutants discharge and low efficiency "Future trend of both economic and environmental performance is of great concern in China. [6]China are also facing more and more serious environmental problems which caused the transfer of concern focus of both policy-makers and common citizens from how to increase national income to how to protect environment.

1.2 Overview of this Thesis

As the largest developing country in the world, China has achieved rapid economic development, averaging an annual gross domestic product (GDP) growth rate of 10% over the past two decades. But this success comes at the cost of deterioration of the environment. China's environmental problems, including outdoor and indoor air pollution, water shortages and pollution, desertification, and soil pollution, have become more pronounced and are subjecting Chinese residents to significant health risks.

In this paper the first, I examine the relationship between economic growth, foreign direct investment (FDI) and the environment pollution in China. I make specific contributions to the growth-environment literature. First, I focus specifically on China given the undeniable strain such a large and rapidly growing economy is placing on the natural environment. Given the vast FDI flows into China in recent

[6] Diesendorf, M., 2003: Sustainable development in China, China Connections,January-March.

years we analyze the contribution of FDI to China's industrial pollution emissions and also take the additional step of identifying FDI by source country.

Second, I examine the relationship between economic loss and Water pollution and the impact of water pollution on human health. Water pollution is another cause for serious health concern in China, especially in rural areas. From 2000 to 2008, the quality of surface water worsened in northern China, where it improved slightly in southern China. (In 2008, among 200 major rivers in China, water quality in 20.8% of 409 monitored sections was below grade V, the worst grade in the Chinese National Standard for Water Quality; water of this grade is virtually of no functional use, even for agricultural irrigation. Analysis of data from the 2003 National Health Services Survey [7]indicates that two-thirds of the rural population does not have access to piped water. Exposure to contaminated drinking water has been associated with increasing rates of digestive cancers and infectious diseases such as hepatitis and cholera. The World Bank estimated that the health cost of cancers and diarrhea associated with water pollution reached approximately US$8 billion in 2003 in rural areas of China.[8]

Third, I concentrate analysis on Chinese cities economic development and air pollution relationship. In Chinese cities, outdoor air pollution is the biggest environ-mental challenge for public health. The source of air pollution in Chinese

[7] Dasgupta, S., Hamilton, K., Pandey, K. D., & Wheeler, D. (2006). Environment during growth: Accounting for governance and vulnerability. World Development, 34(9), 1597-1611.

[8] Grossman, G. M., & Krueger, A. B. (2006). Economic growth and the environment. The Quarterly Journal of Economics, 110(2), 353-377.

cities has gradually changed from conventional coal combustion to a mixture of coal-combustion and motor-vehicle emissions. In rural areas of China, coal and biomass fuels are still widely used in stoves and produce substantial indoor air pollution. The evidence for adverse health effects of solid fuels is strong, including lung cancer, acute respiratory infection, and chronic obstructive pulmonary disease.

Fourth, I study land issues of dissertation and overuse pesticide causing other pollution issues in China. Other important environmental health problems in China include climate change, disposal and treatment of electronic waste, and heavy metal pollution in the soil. China is one of the country's most susceptible to the adverse effects of climate change. Although the Chinese government has paid great attention to climate change, there has been limited interest in the health impacts so far. Approximately 70% of the electronic waste generated worldwide is processed in China, posing substantial risk to human health and the environment. [9]Also, pollution from heavy metals such as lead, mercury, chromium, cadmium, and arsenic has become increasingly prominent, seriously endangering the health of local citizens. [10]The recent discovery of clusters of lead poisoning involving thousands of Chinese children has raised severe public concern.

[9] Lo, C. W.-H., & Fryxell, G. E. (2003). Enforcement styles among environmental protection officials in China. Journal of Public Policy, 23(01), 81-115.

[10] Ma, X., & Ortolano, L. (2000). Environmental regulation in China: Institutions, enforcement, and compliance. Lanham: Rowman & Littlefield.

1.3 Research method

In the past twenty years since the inception of reform and opening-up program, China has made remarkable achievements on economic development. China' GDP increases with an average annual growth rate of 9.5%, but negative effect here with is also remarkable due to merely pursuance of short-term positive economic growth and measurement of economic growth speed and scale only by means of GDP index. Chinese economic growth is all along accompanied by the traditional industrialization extensive growth pattern and also characterized by "high consumption, high pollutants discharge and low efficiency" Chinese government is taking with the international organizations to mitigate these problems. Even though China has taken many programs to cut down pollution, the result is not at all over whelming. Naturally a question trigger in our minds that even with the high profile programs by the government and international organizations why the situation is not getting better in the extent that it is supposed to happen.

I reviewed renowned foreign newspapers, relevant books, articles, journals, and some authentic websites of the relevant organizations. I used environmental sciences& pollution management article database which provides an important information regarding to Chinese environmental change and destruction. The Green FILE article database offer a collection of governmental and general interest titles on environmental pollution. I also used the ABI/INFORM Global article database which is a comprehensive database offers the latest business and financial information for researchers. These databases provide somewhat very crucial and important

information regarding the numbers and percentages of the air, water pollution, land pollution and PESTLE analysis and the current situation of environmental problems in China.

1.4Limitation of study

As the topic Pollution itself is a very vast subject in nature, it is difficult to address all the parts of pollution in China. And with that the theories and steps that the Chinese government took is also a vast topic to address. So I have tried to narrow down research area and focused only on the analysis of factors of pollution as a whole. Moreover more fieldworks as well as collection of more data about the pollution problem of China would have been possible hadn't the time constraints weren't there. Despite these limitations we have attempted to provide a minute picture of the current state of the pollution mainly of air, water and land pollution which are really creating hard time for China's sustainable development and the laws and regulations that China has for curbing the pollution.

Chapter 2 The Relationship between Foreign Direct Investment and Environment pollution in China

2.1An overview of foreign direct investment

With the rapid growth of economy, China are also facing more and more serious environmental problems which caused the transfer of concern focus of both policy-makers and common citizens from how to increase national income to how to protect environment. Undoubtedly, FDI (Foreign Direct Investment) have made an important contribution to economic growth of China and foreign-capital enterprises become an indispensable part of China economy system, naturally, people begin to think and check the environmental implications of FDI.

As the globalization of world economy speed up, international trade and foreign investment mainly by translational trade and foreign investment mainly by transnational corporations are continuously expanding. People began to pay attention to the relationship between trades FDI, economic growth and environmental pollutions. Although the ideal that “economy and environment win-win” has been widely known, many people still believe that economic growth and environmental protection are contradictory: economic growth will unavoidably lead to environmental degradation, and environmental protection will to some degree hinder economic growth.

Why consider trade and FDI when discussing the relationship between economic