

Kitakyushu Initiative for a Clean Environment: Successful and Transferable Practices
Jiangyin (China): Structural Adjustment in Urban Environmental Management

Policy Research Center for Environment and Economy¹

Target Area: Structural adjustment

Time Period:

Contents

	<u>Page</u>
1. Background	2
2. Industrial development and pressures on environment	2
3. Structural adjustment: Experiences from Jiangyin	4
3.1 Approaches	4
3.2 Mechanisms	5
3.3 Achievements	6
4. Discussions	7

Tables and Figures

	<u>Page</u>
Fig 1-1 Economic structure of Jiangyin	2
Fig 1-2 Gross industrial output value of Jiangyin (1995-2000)	3
Fig 1-3 Ownership categories and contributions to GIOV of Jiangyin in 1998	3
Fig 1-4 Comparison of emission loads of major pollutants	7

¹ State Environmental Protection Administration (SEPA), People's Republic of China

1. Background

Jiangyin City, situated in the Yangtse Delta, is a county level city in the south of China's Jiangsu Province. Covering 988 square kilometers, the city has 28 towns, one economic development zone and 514 villages, with a population of 1.15 million.

Taking advantage of its status as an important commercial port of the downstream of the Yangtse River, the export-oriented industrial sector, and in particular township and village enterprises (TVEs) in Jiangyin City, have developed rapidly since China's reform and opening-up. In 2000, the GDP and GDP per capita of Jiangyin City reached RMB22.3 billion and RMB19,377 (USD2,354), respectively.

2. Industrial Development and Pressures on the Environment

The economic structure of Jiangyin City is shown in Figure 1-1. The industrial sector, contributing to about 60% of its economy in value-added, is a dominant sector.

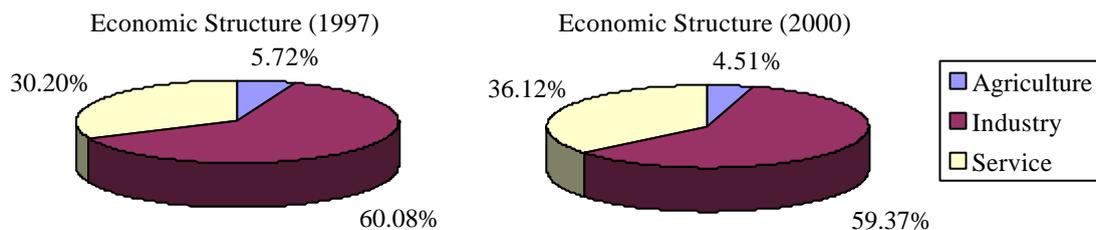
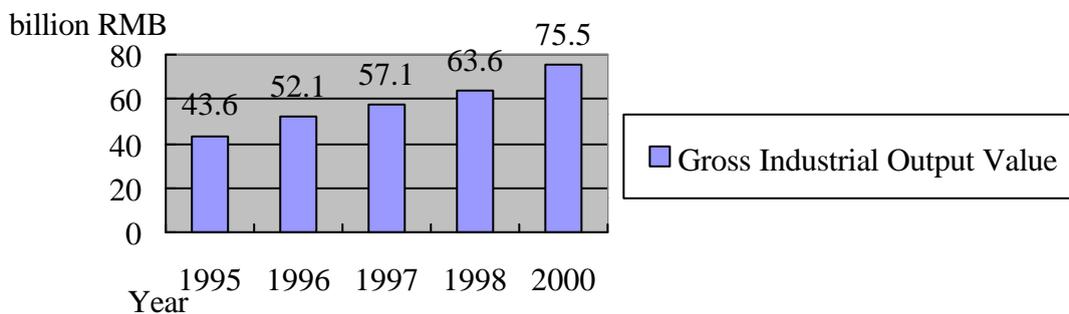


Figure 1- 1 Economic Structure of Jiangyin City

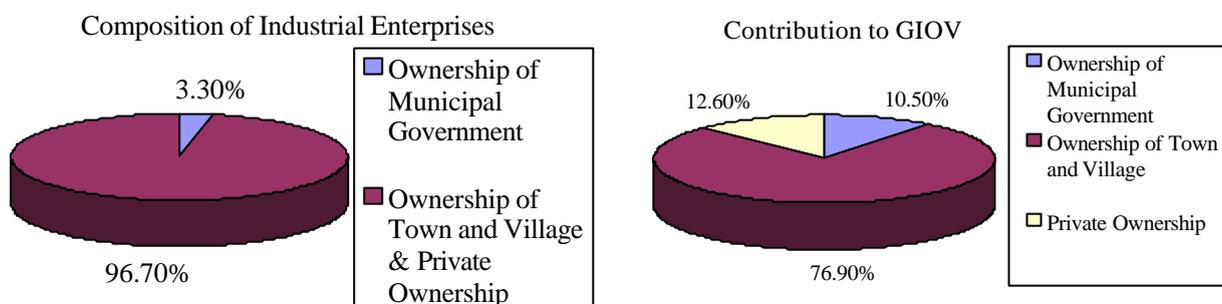
Figure 1-2 depicted the development process of industrial sector since 1995, which shows dramatic growth with an average annual growth rate of 11.6%.

Figure 1- 2 Gross Industrial Output Value of Jiangyin City (1995-2000)



According to the official statistics in 1998, there were 3011 industrial enterprises in Jiangyin City, covering such major sectors as textile industry, engineering industry, metallurgical industry, chemical industry, power industry and shipping maintenance, etc. Figure 1-3 shows the ownership composition of these 3011 industrial enterprises including three different ownership categories, i.e. municipal government ownership, township and village as well as private ownership, and the contribution of each category to the gross industrial output value (GIOV) in 1998. Industrial enterprises in Jiangyin City are characterized by a variety of ownership and township and village enterprises are dominant in terms of both their number and GIOV created.

Figure 1- 3 Ownership Categories and Their Contributions to GIOV of Jiangyin City in 1998



In conclusion, the economic development of Jiangyin City has the following three characteristics:

- The economic development is dependent on industrial sector
- Industrial sector developed rapidly
- Township and village enterprises played a critical role in industrial sector

Representing the economic structure, industrial structure and pattern of growth, these intrinsic characteristics of Jiangyin's economy and industrial sector inevitably disturbed the environment. In particular, a considerable number of TVEs - usually in small and medium size in their early establishment - covered many polluting sectors, scattered city-wide and grew in the pattern of quantitative expansion rather than quality development. This led to resource degradation and environmental deterioration in the city. In this case, industrial pollution control became the priority of urban environmental management in Jiangyin City.

Structural adjustment, as one of important components of an integrated urban environmental management strategy implemented by Jiangyin City, has played a significant role in solving environmental problems associated with environmentally unsound economic structure and industrial structure, and improper pattern of growth.

3. Structural Adjustment: Experiences from Jiangyin City

Aimed at fundamentally changing the pattern of economic growth to realize sustainable, sound and rapid development, structural adjustment has been implemented by the municipal government as a strategic program since 1994 to promote the harmonious development of the economy and the environment.

3.1 Approaches

The strategy of structural adjustment has four objectives:

- To optimize the economic structure and the industrial structure;
- To innovating in techniques and products;
- To upgrade the industry and promote high-tech; and
- To strengthen the competitiveness of enterprises.

Three approaches were employed in order to realize the above objectives.

(1) Industrial relocation and resource reallocation

Theoretically, industrial relocation and resources reallocation include: i) centralizing the scattered enterprises to industrial zones; ii) shifting human resources, materials, and investment to enterprises with good products, good market shares, good profits and good management; iii) shifting individual pollution abatement to centralized treatment. Accordingly, Jiangyin Municipal Government devoted to the construction of industrial zones, the development of small towns, the establishment of large-scale industrial groups and the construction of centralized pollution abatement facilities.

(2) Development towards high-tech, high value-added product and high profits

Jiangying City developed the “three-high” guideline for the development of industrial enterprises, i.e. high-tech, high value-added products and high profits. In recent years, investment in the introduction of advanced technology, process and equipment to upgrade Jiangyin’s industrial sector amounted to 3 billion RMB. Consequently, 75 percent of current industrial technologies in Jiangyin reached up to the international levels of the 1980s and 1990s around. In addition, the municipal government encouraged merging small enterprises into large enterprises with high tech and advanced equipment and promoted cleaner production.

(3) Pollution control at the source through “four constrains”

In screening new construction projects, the municipal government strictly constrained four kinds of new construction projects:

- Duplicated projects which influence the rational allocations of industrial resources;
- Labor intensified projects with low technologies;

- Small scale projects;
- Heavy polluting projects without proper abatement, especially small chemical enterprises, small cement factories, small steel industries and small power plants.

3.2 Mechanisms

An integrated mechanism is applied to implement the strategic structural adjustment.

(1) Institutional and regulatory arrangements

Dated back to 10 years ago, the Municipal Government as well as the Municipal People's Congress recognized the relationship between economic development and environmental protection and formed an institutional mechanism to integrate environmental protection into the economic development agenda.

- A. Environmental protection is considered in the medium and long-term planning of regional economic and social development as well as in the annual governmental work programme. As an independent chapter in the plan and in the programme, environmental protection consists of pollution prevention and control, adjustment of industrial layout, planning and construction of municipal environmental infrastructure, etc.
- B. The Municipal Committee of Environmental Protection (MCEP) was set up in 1996, including members from 17 governmental sectors, such as environmental protection, urban construction, water conservancy, public security, transportation, planning and economic committee, public health, education and the media, etc. Vice-mayor, responsible for environmental protection, is the Chairman of the Committee. The MCEP holds meetings twice to three times each year to coordinate inter-sectoral actions of solving major environmental problems.
- C. The Municipal Committee of Chinese Communist Party and the Municipal Government jointly built a regular meeting mechanism in 1997 to review environmental performance of the city.
- D. The goal-responsibility system of environmental protection for the chief executive of the administration, which is initiated by the national government, are well defined in Jiangyin.. Since 1990, the Municipal Government has implemented the goal-responsibility system to the official of township government and regularly reviewed the implementation results. The review results are regarded as one of factors to influence their promotion and as one of criteria for rewards or penalties.
- E. In China, any new construction project must obtain approvals by relevant governmental sectors before they go into construction. In 1996, the Municipal Government authorized its Environmental Protection Bureau (EPB) to make the first decision on the approval of any proposed project from the viewpoint of its potential environmental impacts before other governmental sectors made their decisions in accordance with other regulatory requirements. This authority for local EPB is called the system of "first approval right" in China. With this

system, the environmental impacts associated with new construction projects and mitigation measures can be fully taken into account.

In addition, the Municipal Government implemented shut-down policy to small-sized polluting enterprises. From 1996 to 1999, 47 small-scale polluting enterprises were shut down, which had an evident effects on structural adjustment and pollution mitigation.

(2) Funding/financial arrangement

The municipal fiscal administration established pollution prevention and abatement funds and allocated 2 million RMB annually to industrial pollution control. The banks also provide loans and credits to ensure environmental investment. Preferential policies such as subsidies on electricity consumption and reduction of tax rates are implemented as supplementary measures. The ratio of annual environmental investment to the GDP increased to 2.03% in 1999 from 1.52% in 1996.

3.3 Achievements

Industrial structural adjustment have obtained several achievements:

- Industrial relocation through moving scattered enterprises into industrial zones makes point-source management possible;
- Change in the growth pattern by increasing the productivity reduces emission loads;
- Centralized pollution treatment makes pollution abatement more efficient and effective
- Expansion in the scale of enterprises also improves corporate environmental management and environmental investment.

In general, the emission loads reduced greatly in the last several years. The comparison results are shown in Figure1-4. The emission loads of CODcr, smoke, SO₂ and industrial dust in 1999 dropped by 73%, 78.4%, 37 and 78%, compared to 1995 (see Figure1-4).

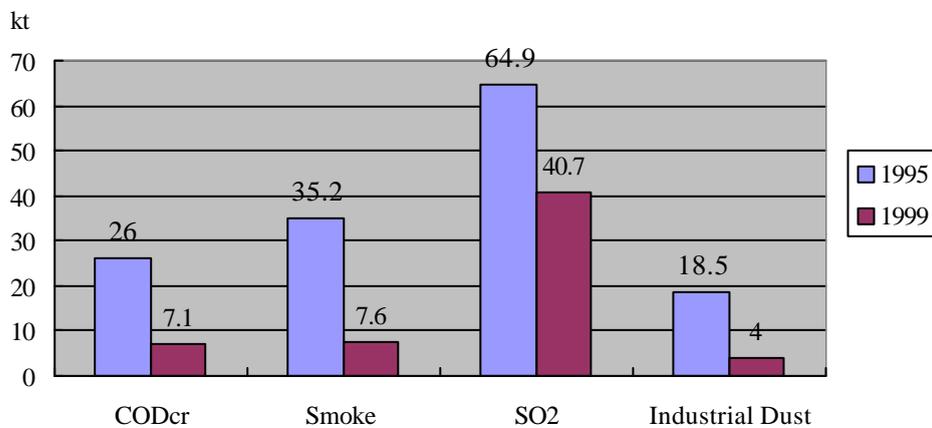


Figure 1- 4 Comparison of Emission Loads of Major Pollutants

4. Discussions

Structural adjustment implemented in Jiangyin City has proven to be an effective and efficient approach to solving urban environmental problems associated with improper economic structure and industrial structure, as well as pattern of industrial development. However, structural adjustment alone cannot fulfil the entire task of urban environmental management. The effectiveness of structural adjustment will be declined when the marginal cost of structural adjustment exceeds the threshold value of marginal benefits. Cleaner production and improved energy efficiency enhancement of end-of-pipe treatment are also crucial elements to constitute an integrated strategy of urban environmental management.