



# Proposal to Amend the Regulations on the Prevention and Control of Water Pollution in Lake Taihu



— SIP Lvse jiangnan Public Environment Concerned Centre

# Proposal to Amend the Regulations on the Prevention and Control of Water Pollution in Lake Taihu of Jiangsu Province

## 1. Background and purpose of the regulations

In May and June 2007, a serious outbreak of cyanobacteria in Taihu Lake caused the pollution of tap water in Wuxi, resulting in a serious shortage of domestic and drinking water, the barreled water in supermarkets and stores was sold out. The cyanobacteria incident in Taihu Lake attracted great attention of the central government at that time, Premier Wen Jiabao visited Taihu Lake several times and made important instructions. On the basis of implementing the decision and deployment of the central government to thoroughly control Taihu Lake, Jiangsu Provincial Party Committee and provincial government were determined to control Taihu Lake with higher standards and stricter measures. In view of the large proportion of traditional industries in the Taihu Lake Basin and the high emission of pollutants from textile, chemical and other industries, government departments took the adjustment of industrial structure as the fundamental way to improve the water quality of Taihu Lake, hoped that through the upgrading and transformation of traditional industries, the remediation of heavy polluting industries such as textile printing, dyeing and chemical industry, the development of emerging industries and production services, the total pollutant emission of industrial industries would be continuously reduced, turning from "end treatment" to "source prevention", promoting the emission reduction of water pollutants in Taihu Lake Basin.

Based on the vision of adjusting the industrial structure and restoring the ecological balance, the *Regulations of Jiangsu Province on the prevention and control of water pollution in Taihu Lake* (hereinafter referred to as the "Regulations") was officially implemented on June 5, 2008, and the " Harnessing Taihu Lake in a scientific way, control pollution with an iron fist " was started. The general provisions of the Regulations clearly required that the prevention and control of water pollution in Taihu Lake should "implement strict environmental protection standards, take strict control measures and establish a strict monitoring system", thus "control and reduce the eutrophication of Taihu Lake and promote the fundamental improvement of water quality in Taihu Lake". Among them, solving structural problems has become the focus. According to the statistics at that time, the six industries in Taihu Lake Basin, including textile, chemical industry, metallurgy, papermaking, electroplating and brewing, accounted for 65% COD emissions and 63.4% ammonia nitrogen emissions of the whole basin respectively. Therefore, Article 45 stipulates that "it is forbidden to build, reconstruct and expand chemical pulp and paper making, tanning, brewing, dyes, printing and dyeing, electroplating and other enterprises and projects that discharge phosphorus, nitrogen and other pollutants in the first, second and

third grade protection zones of Taihu Lake Basin", which aimed to optimize the mode of economic growth, evacuate the industrial layout and fundamentally solving the structural pollution problem of Taihu Lake Basin.

## 2. Environmental status of Taihu Lake Basin in Jiangsu Province

With the full implementation of industrial transformation and upgrading in Taihu Lake Basin of Jiangsu Province, great changes have taken place in the surrounding industrial layout since 2008. More than 4200 chemical enterprises have been closed, and more than 1000 enterprises with heavy pollution such as printing and dyeing, electroplating and papermaking have been closed, and the output value of emerging industries has increased by more than 15% year-on-year. Together, we witness the effectiveness of the governance of the Taihu Lake Basin in Jiangsu Province.

Compared with 2008, the water environment quality of Taihu Lake Basin has been continuously improved, from the concentration changes of main pollutants in Taihu Lake Basin from 2007 to 2014 ( Figure 1), the concentration of pollutants has decreased, among them, the decrease of permanganate is 16.67%, ammonia nitrogen is 58.97%, total phosphorus is 6.76% and total nitrogen is 6.38%. The overall water quality of Taihu Lake Basin has changed from inferior V to V, from moderate pollution to mild pollution, the average trophic state index of the whole lake has changed from moderate eutrophication to mild eutrophication, and the occurrence times and area of cyanobacteria both have decreased. The water quality compliance rate of key water functional areas in Taihu Lake Basin has generally shown an upward trend (see Table 1), the safety of drinking water has been basically guaranteed, and the short-term objectives in the *Overall Plan for Comprehensive Treatment of Water Environment in Taihu Lake Basin* have been basically achieved.

Since the implementation of the regulations, the water quality of rivers entering the lake has been significantly improved. In the pollution load of rivers around Taihu Lake in Jiangsu Province from 2007 to 2014 (Figure 2), the total nitrogen and total phosphorus decreased to a certain extent and showed a gradual improvement trend.

It can be seen from the changes in the total discharge of industrial wastewater and domestic sewage in Jiangsu Province from 2007 to 2014 (Figure 3) that in recent years, the discharge of industrial wastewater has decreased year by year, while the discharge of domestic sewage has continued to grow, and the proportion of domestic sewage discharge in the total discharge is increasing. Domestic sewage has become the main pollution source in Taihu Lake Basin. It can be seen that the contribution of industrial sewage to the pollution of Taihu Lake Basin is becoming smaller and smaller.

### 3. Economic development of Taihu Lake Basin in Jiangsu Province

Take Suzhou as a case of the economic development of Taihu Lake Basin in Jiangsu Province. The six pillar industries in Suzhou are: textile industry, chemical raw materials and chemical products manufacturing industry, ferrous metal smelting and rolling processing industry, general equipment manufacturing industry, electrical machinery and equipment manufacturing industry, computer, communication and other electronic equipment manufacturing industry. It can be seen from the changes in the proportion of the industrial output value of the six pillar industries to the total industrial output value in 2007 and 2015 (Figure 4). The overall economic structure is stable, and only the proportion of the industrial output value of the textile industry has decreased to a great extent, which shows that the implementation of the regulations had achieved immediate results in optimizing the industrial layout, but at the same time, it made the enterprises in the textile industry face the pressure of development.

In 2007, there were 2744 industrial enterprises above designated size belonging to the textile industry in Suzhou, accounting for 31.8% of the total number of industries above designated size. Suzhou's textile industry has achieved an industrial output value of 166.2 billion, accounting for 10.44% of Suzhou's total industrial output value. It can be seen from the industrial output value of Suzhou textile industry and its proportion in the total industrial output value from 2007 to 2015 (Figure 5), the output value of Suzhou textile industry increased year by year before 2010, but after 2010, the industrial output value of Suzhou textile industry decreased year by year, decreasing by 34.46% by 2015; the proportion of industrial output value of textile industry in total industrial output value decreased year by year, from 10.44% to 4.46%.

### 4. Restrictions brought by the Regulations on the sustainable development of the textile industry

Although the implementation of the Regulations in recent years has brought remarkable results to the improvement of water environment quality in Taihu Lake and the adjustment of industrial structure in Taihu Lake Basin, with the economic development, Article 45 of the Regulations is no longer in line with the current objective situation of economic and environmental development in Taihu Lake Basin, which strictly limits the sustainable development of the industry to a certain extent. It is also mentioned in the "*operation of China's textile industry in 2014 and situation forecast in 2015*" released by the Ministry of Industry and Information Technology: "the one size fits all restriction policy of no transformation for printing and dyeing

enterprises in some regions will not only be conducive to promoting energy conservation and emission reduction, but also affect the transformation and upgrading of the whole textile industry chain." Textile industry is a traditional industry and pillar industry in southern Jiangsu, especially small and medium-sized private enterprises, which are most vulnerable to changes in the external environment. The textile industry is the most affected by the restrictions of the Regulations. The textile industry in Jiangsu Province is mainly distributed in Wujiang, Changshu, Jiangyin, Zhangjiagang and Taicang, relevant industries have been impacted to varying degrees by the Regulations. The industrial output value of China's textile industry exceeds 6 trillion yuan, and Suzhou accounts for 2.27%. Shengze Town in Wujiang District of Suzhou is a famous textile industry gathering place in China. The printing and dyeing capacity of Wujiang accounts for about 60% of the whole Jiangsu Province. Since 2014, 32 textile enterprises in Shengze Town, Wujiang district have been shut down, accounting for 1.3% of the total. The following will take Shengze Town, Wujiang District, Suzhou as a representative to discuss the impact of the Regulations on relevant enterprises.

#### **4.1 Technical transformation encountered obstacles**

In the 1990s, the textile industry in Shengze Town developed rapidly, during which a large number of advanced technologies were introduced. At the same time, phased achievements have been made in cleaner production, energy conservation and consumption reduction, pollution control and emission reduction.

However, according to the Regulations, all new and modified projects in the printing and dyeing industry in southern Jiangsu are strictly prohibited. Therefore, the technical transformation of Shengze printing and dyeing industry is limited to a great extent. It can not eliminate backward processes and equipment and upgrade, which makes it difficult to improve the product grade and competitiveness level and lack of development potential, which seriously restricts the improvement of the overall level of the printing and dyeing industry. At present, 60% of Shengze printing and dyeing enterprises mainly print and dye medium and low-grade purified fiber products, while few enterprises print and dye high-grade pure cotton fabrics, blended fabrics and functional fabrics.

With the continuous expansion of the production field of the textile industry, the traditional single chemical fiber fabric can no longer meet the market demand, and needs to gradually change to the printing and dyeing of linen, pure cotton, blended and interwoven fabrics. The printing and dyeing ability of Shengze high-grade fabrics can not keep up with the development of fabric materials. Many high-grade fabrics can only be processed in other places, which weakens the competitiveness of Shengze printing and dyeing industry.

The printing and dyeing industry is an important part of the textile industry chain, which is of great significance to improve the added value of textiles. It urgently needs the support of the world's advanced equipment and technology. The printing and dyeing industry should speed up the technical transformation.

In addition, the testing standards for textile products at home and abroad are constantly improving. The printing and dyeing industry must speed up the renewal and re selection of technical equipment in order to meet the standards. However, according to the Regulations, the technical reselection projects for the introduction of key equipment for printing and dyeing finishing shall be stopped, and the printing and dyeing enterprises shall not be rebuilt easily, the technological transformation of printing and dyeing industry has encountered an insurmountable threshold. Therefore, the development of printing and dyeing industry needs policy guidance and support, and it is urgent to promote the upgrading of printing and dyeing industry.

The technological transformation of printing and dyeing industry is not only conducive to improving product quality, but also conducive to energy conservation and emission reduction. To achieve energy conservation and emission reduction, we must accelerate the elimination of backward equipment and processes with high energy consumption, high emission and low efficiency. In our investigation, we found that some enterprises do not hesitate to spend a lot of money to introduce advanced technology, process and equipment, hoping to get the support of relevant competent departments, but the Regulations draw a red line for the technical transformation of printing and dyeing and the renewal of equipment, which can not be crossed. Despite the introduction of reclaimed water reuse and advanced wastewater treatment technology in recent years, the end treatment of sewage in the printing and dyeing industry has been basically in place, but the current task of energy conservation and emission reduction is still very severe. We must start from all links and further improve the effectiveness of energy conservation and emission reduction through technology, equipment and process upgrading, so as to promote the continuous improvement of water environment quality.

It is stipulated in Article 40 of *the new environmental protection law* "The state promotes cleaner production and recycling of resources. Relevant departments under the State Council and local people's governments at various levels shall take measures to promote the production and use of clean energy. Enterprises shall give priority to the use of clean energy, adopt processes and equipment with high resource utilization rate and low pollutant emission, as well as technologies for comprehensive utilization of waste and harmless treatment of pollutants, so as to reduce the total amount of pollutants produced and discharged. "

In the "*Textile Industry Adjustment and Revitalization Plan*" issued by the State Council in 2009, it is required that the printing and dyeing industry should "by means

of modern electronic information technology, automation technology and biotechnology, we will promote efficient and short process printing and dyeing technologies and equipment with no or little water, and improve the level of automatic production control. We will focus on solving the problems of low automation, high energy and water consumption and serious environmental pollution in the printing and dyeing industry, and increase the development and production of new products and high value-added products.

The energy consumption per unit added value of enterprises is reduced by more than 10%, and the reclaimed water reuse rate is more than 35%; the proportion of high-end products such as new fiber fabrics and functional finishing products has increased from the current 20% to about 30%." "The printing and dyeing industry will focus on eliminating type 74 dyeing and finishing production line, backward flat screen printing machine, hot melt dyeing machine, hot air clip tenter, short ring drying and setting machine and other backward production process equipment with high energy and water consumption." For a long time, the state has always given guidance and support in eliminating the backward production capacity of the textile industry and promoting cleaner production, however, to ensure the sustainable and stable development of the textile industry in Jiangsu Province, the promotion and support of the local government needed.

Printing and dyeing is not only the key link of the textile industry, but also the key to the transformation and upgrading of the whole textile industry. Only by fundamentally promoting technological innovation and progress and optimizing industry and product structure to reduce water consumption, energy consumption and wastewater discharge, can the printing and dyeing industry truly realize energy conservation and emission reduction. Government departments should transform the heavy pressure exerted by the environmental protection policy forcing mechanism on enterprises into a strong thrust to promote the transformation and upgrading of the printing and dyeing industry, encourage enterprises to innovate in environmental protection, and encourage enterprises to achieve energy conservation, emission reduction and cleaner production.

#### **4.2 Upstream and downstream industries are both involved**

In today's Shengze Town, the textile industry has formed the most complete industrial chain from silk reeling, chemical fiber spinning, weaving, printing and dyeing, fabric deep processing to garment finished products, meanwhile the supporting R&D, production, market, logistics and service systems are also very mature. In the continuous development, Shengze Town has gradually become an area with the strongest supporting advantages, the largest amount of information, the most convenient transaction and the lowest production cost in China. In 2014, the output of chemical fiber filament fabric in Shengze Town reached 10.8 billion

meters, accounting for 1/4 of the country. The whole town has nearly 10000 textile enterprises, including more than 2500 textile industrial enterprises and more than 7000 textile trade enterprises.

In recent years, the market situation of the textile industry is at a low point. The shutdown and relocation of printing and dyeing enterprises in Shengze Town will lead to the involvement of upstream and downstream industries. If the printing and dyeing enterprises are shut down, many upstream enterprises whose main business is fabric textile may lose their sales, and many downstream enterprises engaged in fabric deep processing will also lose the market. Shengze has dense textile enterprises, which does great harm to the industry. Many enterprises are even puzzled and anxious about the "one size fits all" governance mode of the Regulations and government departments, and their business confidence is also deeply affected. "One size fits all" is unfair to printing and dyeing enterprises that meet the environmental protection standards, which not only aggravates the impact on the main economic development of the region, but also hurts the trust of enterprises in government departments.

Zhejiang Province and Jiangsu Province are major printing and dyeing provinces in China. With the high-pressure environmental protection policy of Jiangsu Province on the textile industry in southern Jiangsu, some textile enterprises began to move out to Zhejiang, since 2007, the proportion of printing and dyeing cloth output in Jiangsu in China has continued to decline, while that in Zhejiang has continued to rise (Figure 6)

At present, the annual output of all kinds of textiles in Suzhou is more than 10 billion meters, and Shengze alone is more than 6 billion meters. However, the printing and dyeing volume of the whole city is only nearly 3 billion meters, which means that 7 billion meters of textiles can only be sold in blank or transported to Shaoxing or northern Jiangsu for printing and dyeing, a large amount of profits are occupied by the downstream of other regions, which greatly increases the logistics cost of enterprises meanwhile. There is a serious mismatch between the printing and dyeing capacity and textile capacity in southern Jiangsu, resulting in that textile enterprises can only "make wedding clothes" for others, and the printing and dyeing link is seriously disconnected from the rapid development of the whole textile industry. In the long run, it will inevitably lead to the decline or transfer of the industry. The whole textile industry is closely linked. If government departments want to promote industrial upgrading, they must consider the overall situation and minimize the harm to the industry.

#### **4.3 Lack of internal driving force for industry progress**

Although the water quality of Taihu Lake section has been significantly improved, due



to the restrictions of the regulations, Southern Jiangsu is still unable to approve new printing and dyeing enterprises, resulting in the lack of confidence of enterprise owners engaged in the printing and dyeing industry, many enterprises have joined other industries, and the printing and dyeing industry lacks the competition of new forces.

At present, many printing and dyeing enterprises have small scale, backward production technology, low management level and poor economic benefits, which not only occupy more resources, but also directly restrict the further development of capable enterprises and the introduction of large projects, and seriously affect the improvement of the competitiveness of the whole printing and dyeing industry. Now, due to the Restrictions of the regulations, these enterprises invest less in the technical transformation of equipment and the development of new processes and technologies, and lack the initiative to introduce, digest and attract advanced technologies in the textile industry.

In our investigation, we found that the current policy is very unfavorable for printing and dyeing enterprises to introduce international advanced equipment. It is very troublesome to introduce printing and dyeing equipment from abroad and sometimes have to transit through other regions. Printing and dyeing industry plays a very important role in the whole textile industry chain, sometimes directly determining the price of finished products. The lack of internal driving force for industry progress and the weakness of printing and dyeing technology and equipment have largely restricted the improvement of the overall level of the textile industry, many textiles in Shengze can only be sold as blank, which has seriously affected the improvement of product added value and become the largest bottle neck for the development of Shengze textile industry.

#### **4.4 Form a new round of pollution transfer**

In order to improve the water environment quality of Taihu Lake, the regulations forced some enterprises with high pollution and energy consumption to relocate. Northern Jiangsu, Anhui and other places with low access threshold reaccepted these closed enterprises. Environmental pollution will transfer with the transfer of capital market. Such a development relay will evolve into a pollution relay, In this way, the pollution in Taihu Lake basin will still transfer to Hongze Lake or Chaohu Lake, and Northern Jiangsu and Anhui will repeat the process from pollution to treatment. However, the cyanobacteria event in Taihu Lake has proved that the cost of this process is extremely heavy, and other regions must not repeat it.

Compared with other regions, Southern Jiangsu has unique advantages. On the one hand, the overall R&D investment level is higher, the independent innovation ability is stronger, and it has the strength to promote economic transformation with

scientific and technological innovation, which is more conducive to industrial upgrading and transformation and realize cleaner production; on the other hand, the environmental protection work of government departments has been at the forefront of the country, with more comprehensive environmental protection policies, more scientific park construction planning, more sound environmental protection infrastructure construction in the park, which is more conducive to the total emission control and emission reduction of pollutants.

#### **4.5 The embryo of blueprint for the 13th five year plan of textile industry will undoubtedly lead the development of green ecology**

With the release of the *Outline of the 13th Five Year Plan for National Economic and Social Development of the People's Republic of China (2016-2020)*, the *13th Five Year Plan for the Textile Industry* (hereinafter referred to as the "Plan") is expected to be released in the first half of this year. According to industry insiders, the Plan puts forward an industry positioning description that has been adjusted with the past in the new period: "the textile industry is China's traditional pillar industry, an important livelihood industry and an industry that creates new advantages in internationalization. It is an industry integrating science and technology and fashion, clothing consumption and industrial use." This means that the textile industry will take off the hat of the previous heavy pollution industry and move towards high-end transformation and upgrading.

In the process of transformation and upgrading, the most important thing is to realize scientific and technological innovation and green development. To innovate and develop, we must deploy the innovation chain around the industrial chain and allocate the resource chain around the innovation chain. To develop green manufacturing technology, we must improve the green manufacturing level of the whole industrial chain, especially the printing and dyeing industry must adopt new technologies to realize green production, and promote advanced less water printing and dyeing processing technology, automatic auxiliary central distribution system and whole process digital intelligent control technology.

The 13th Five Year Plan period is a decisive stage for China to build a well-off society in an all-round way, and it is also a decisive stage for China's transformation from a big textile country to a powerful textile country. The printing and dyeing industry is at the middle end of the whole textile industry chain, the development of the industry is related to the innovation, transformation and upgrading of the whole textile industry, the printing and dyeing industry also needs new opportunities and breakthroughs. We must accelerate the pace of energy conservation, emission reduction and industrial upgrading, strive to improve product quality and promote the steady upgrading of the printing and dyeing industry, so as to further realize the green ecological development of the textile industry. This needs to loosen the tight hoop curse set by the Regulations for the printing and dyeing industry in order to

boost the upgrading, innovation and development of the industry.

#### **4.6 Summary**

The introduction of the regulations was based on the historical background of the outbreak of cyanobacteria at that time. The implementation in recent years was indeed conducive to the improvement of cyanobacteria, but now it has limited the sustainable development of the textile industry. As a pillar industry in southern Jiangsu, enterprises also need to develop although the pollution to the water environment does exist, environmental protection and development should not be opposed. Many enterprises have to break the law for their own development. Many enterprises hope to adopt advanced technologies to improve product quality and reduce total pollutant emissions., in this case, enterprises should be actively encouraged innovated and given more incentives without increasing total pollutant emissions.

Green printing and dyeing parks can be built to guide the centralized and intensive development of printing and dyeing enterprises, government departments can adopt centralized administration and adopt the methods of front-end pretreatment and back-end centralized treatment of pollutants discharged by enterprises in the printing and dyeing park, which is not only conducive to the technological transformation and sewage treatment of enterprises, but also conducive to the construction of public technical service platform of the industry. For some old printing and dyeing enterprises with backward equipment, backward technology and obsolete plants, the relocation is more conducive to improving the level of equipment and pollution control, on the premise of protecting the water quality of Taihu Lake basin and reducing the total discharge of pollutants, we can introduce technologically advanced printing and dyeing enterprises, concentrate advantageous resources on backbone enterprises, speed up the pace of enterprise technological transformation and improve the overall level of printing and dyeing industry. All this needs the support of local governments and relevant policies, and one size fits all administrative means cannot be adopted. At present, these means are too simple and extensive, which are obviously inappropriate. Simply allowing enterprises to survive on their own and the survival of the fittest has become the last straw to crush enterprises, seriously hindering the sustainable development of the textile industry.

### **5. Embarrassing situation of administrative law enforcement by environmental protection departments**

In our investigation, we found that various environmental protection departments in southern Jiangsu have encountered many embarrassing situations caused by the regulations in the work of environmental supervision and law enforcement, mainly

focusing on the following aspects:

- (1) Conflict with national development requirements, and the development of environmental protection work is limited. In the comprehensive promotion of cleaner production in key enterprises required by the *Environmental Protection Law*, due to the restrictions of the Regulations, the environmental protection department can only focus on reclaimed water reuse and sludge treatment and disposal, but can not promote enterprises to achieve energy conservation and emission reduction by improving and updating their equipment and processes; *The Guidance on Pollution Prevention and Control of the Golden Waterway in the Yangtze River Basin* requires "Strengthen the water-saving transformation of thermal power, iron and steel, papermaking, chemical industry, textile and other industries" and "Complete the special treatment tasks of key industries such as papermaking, tanning, electroplating, printing and dyeing and non-ferrous metals by the end of 2016. Strengthen the pollution control of industrial agglomeration areas and guiding industrial enterprises to concentrate in industrial parks". The "ten articles on water" requires "the printing and dyeing industry to implement the transformation of low drainage dyeing and finishing process". The requirements in these national laws and regulations are in conflict with the requirements of the Regulations, and the legal basis for administrative law enforcement of environmental protection departments is in contradiction, which is bound to affect the effect of environmental governance;
- (2) Some cases are reasonable but illegal. The environmental protection department said that although the Regulations are intended to force enterprises to close down through strict management, many enterprises are unwilling to wait for death because of survival pressure, and some have to break through laws and regulations. Many illegal construction projects are constructed not because the enterprises' awareness of environmental protection is not in place, but because the Regulations limit their reasonable living space. The dyeing machines of some textile enterprises have reached their service life and can not replace more energy-saving advanced equipment, some enterprises need to be relocated due to the impact of municipal road planning and land commercialization, but they can not be relocated due to the restrictions of the regulations; even if some enterprises are able to move, they are reluctant to move, because the upstream and downstream industrial chains and customers are local, industrial supporting has become a new problem, and the logistics cost will increase significantly after the relocation;

(3) The outflow of the project increases the pressure of the environmental supervision department. The current economic situation is not good., although the ammonia nitrogen discharged by many high-tech enterprises has been very low after being treated by the sewage treatment plant, they can not be used in new projects because of the restrictions of the Regulations; The Regulations prohibits the new, transformation and expansion of all projects that emit nitrogen and phosphorus. Many emerging industries, such as photovoltaic, photoelectric and LED, have small emissions, they can only use multi effect evaporation, reclaimed water reuse and mother liquor as solid waste to realize the closed-loop emission of nitrogen and phosphorus; Many enterprises have settled in Northern Jiangsu or Zhejiang due to the high cost of environmental protection, the project outflow puts great pressure on the environmental supervision department. According to the environmental supervision records of the local environmental protection department, in 2015, Suzhou textile enterprises had 42 records of violation of laws and regulations, of which 25 were due to procedural violations. In the face of these reasonable but illegal cases, the environmental protection department also expressed great helplessness.

## 6. Social needs

Since ancient times, Southern Jiangsu has been a developed area of textile industry, textile industry is the mother industry. Many local people rely on this industry to make a living. Only by ensuring the basic survival needs of enterprises can they meet the living needs of these people. Over the past few decades, the development of traditional textile industry has cultivated a group of talents with high quality and strong market adaptability from technology, operation to management. A considerable number of management talents have completed the original accumulation of capital. The rise of private enterprises for several generations has cultivated a large number of skilled labor force and a number of technical backbone in the textile industry. Only the full development of private economy is the inevitable choice to solve the difficulty of employment and improve the employment rate. Textile industry is a labor-intensive industry., once it is closed or relocated, it will lead to a lot of surplus labor force and highlight the problem of social instability. Simple legal means can not solve practical problems.

## 7. Our suggestion

The comprehensive prohibition of all new, expanded and modified projects in Article 45 of the Regulations on chemical pulp and paper making, tanning, brewing, dyes, printing and dyeing, electroplating and other pollutants containing phosphorus and nitrogen has indeed restricted the blind development of enterprises with high pollution and high energy consumption, optimized the industrial layout of the Taihu Lake basin and improved the water environment quality of the Taihu Lake basin, However, with the process of industrial development, many enterprises have fallen into the impasse of "backward enterprises are like hundred footed insects freeze and never die, and advanced enterprises hope to continue to upgrade, but hope for plum instead of quench their thirst". In conclusion, we put forward the following suggestions:

- (1) It is suggested to adopt a **relaxed and strict management model for key industries, encouraging innovation and strict management**. In the event of a major event such as the outbreak of cyanobacteria, forcing enterprises to close down according to environmental protection standards is a very effective emergency prevention and control measure, but in the long run, it is not conducive to the sustainable development of the industry and is not the best way to control pollution in a long term. It is suggested to refine the "reform" in the "new reform and expansion" and support the reconstruction of projects conducive to industrial upgrading without increasing the total amount of pollutants discharged. At the same time, strengthen the special law enforcement and inspection of environmental protection, and resolutely ensure that strict law enforcement is not soft, scientific governance of TaiHu Lake is not prohibited, and pollution control with an iron fist is not relaxed. It is suggested that the key industries should be concentrated in the park for unified supervision and management, which is not only conducive to the technological transformation and sewage treatment of enterprises, but also conducive to the construction of the public technical service platform of the industry. At the same time, strict environmental access, deepen project management, implement the decreasing control of total pollutant discharge in the park, improve the management system, strengthen environmental management, improve the prevention and control system, and ensure environmental safety.
- (2) Inject vitality into enterprise development and bring power to environmental governance. It is suggested to encourage the promotion of cleaner production from the aspects of structural adjustment, industrial upgrading, circular economy,

technological innovation and technological transformation, which can not only save energy and reduce emissions and effectively control environmental pollution, but also enhance the market competitiveness of enterprises and realize the sustainable development of green economy. Promoting cleaner production and reducing pollution emissions in chemical pulp and paper, tanning, brewing, dyes, printing and dyeing, electroplating and other industries is of great significance to promote the upgrading of industrial technology and management, promote the improvement of water environmental quality in Taihu Lake basin, and realize the sustainable development of green economy in this area.

- (3) The limitation of pollution items depends on the region and the situation. The Regulations completely prohibit the new, modification and expansion of pulp and paper, tanning, brewing, dyes, printing and dyeing, electroplating and other projects in the Taihu Lake basin. It is suggested that the three-level protection areas in the Taihu Lake basin should be protected at different levels, on the basis of strict management in the whole Taihu Lake Basin, the "prohibition" regulations are adopted in the primary and secondary protection areas to completely prohibit the construction of sewage projects; The "restrictive" provisions are adopted in the tertiary nature reserve. On the basis of not increasing the total amount of pollution discharge and decreasing, the new construction of certain projects is allowed. For the new pollutants, the policy of "reducing two and increasing one" can be adopted to promote cleaner production, energy conservation and emission reduction.
- (4) Industrial policies and emission standards in Taihu Lake Basin need to be unified. The governance of Taihu Lake depends on the joint efforts and cooperation of the whole region, especially in terms of industrial standards and planning and construction standards. Environmental protection planning, industrial access policies and pollutant discharge standards in Taihu Lake basin need to be unified and coordinated in order to facilitate fair competition and coordinated development of the industry. Only by taking the market as the guidance, taking the traditional industrial economy as the foundation and taking the harmonious development of economy and environment as the purpose, can we realize the true development of green economy.

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Attachment: data source

[1-3] *Taihu Lake Health Report 2007-2014*

[4] *Environmental Situation Bulletin of Jiangsu Province 2007-2014*

[5-6] official website of Suzhou Bureau of Statistics

[7] Jian Fan, *Analysis on the impact of the difference of sewage discharge standards between Jiangsu and Zhejiang on the development of printing and dyeing industry in Zhejiang* [J] *Statistical Science and practice*, 2012 (7)

*Scientific Governance of Taihu Lake and Iron Fist Pollution Control* by Zhu Mei



Figure 1 Concentration change of main pollutants in Taihu Lake Basin from 2007 to 2014<sup>1</sup>

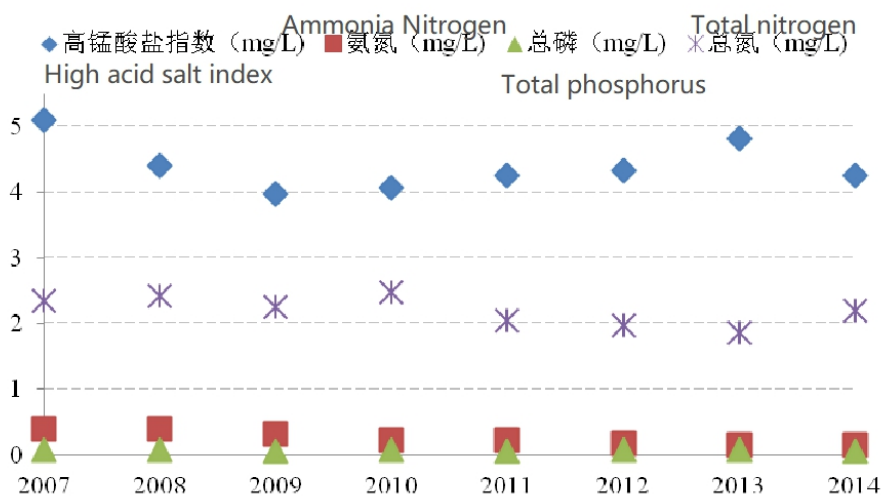
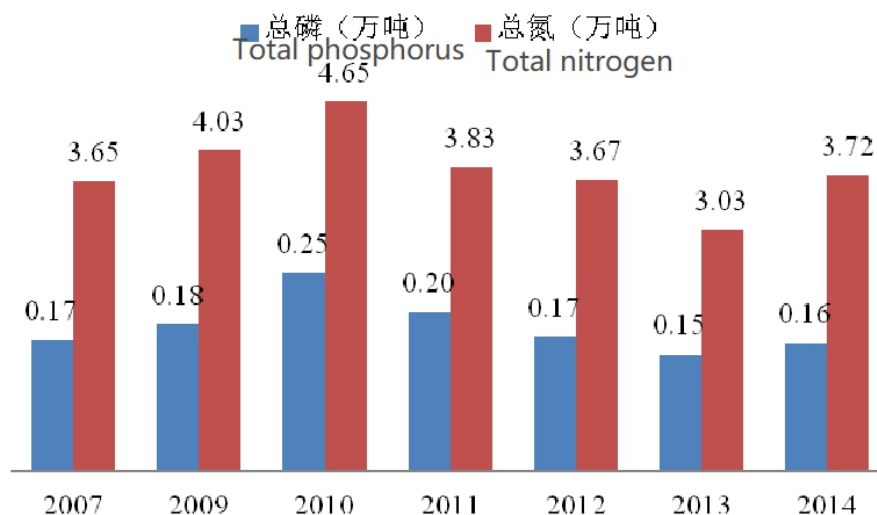


Table 1 Compliance rate of key water functional areas in Taihu Lake basin<sup>2</sup>

年份 Year	2007	2008	2009	2010	2011	2012	2013	2014
达标率 Compliance rate	22.5%	32.0%	29.7%	35.0%	32.0%	40.6%	33.7%	38.7%

Figure 2 Pollution load of rivers around Taihu Lake in Jiangsu Province from 2007 to 2014<sup>3</sup>



<sup>1</sup> Taihu Lake Health Report 2007-2014

<sup>2</sup> Taihu Lake Health Report 2007-2014

<sup>3</sup> Taihu Lake Health Report 2007-2014

Figure 3 Total discharge of industrial wastewater and domestic sewage in Jiangsu Province from 2007 to 2014<sup>4</sup>

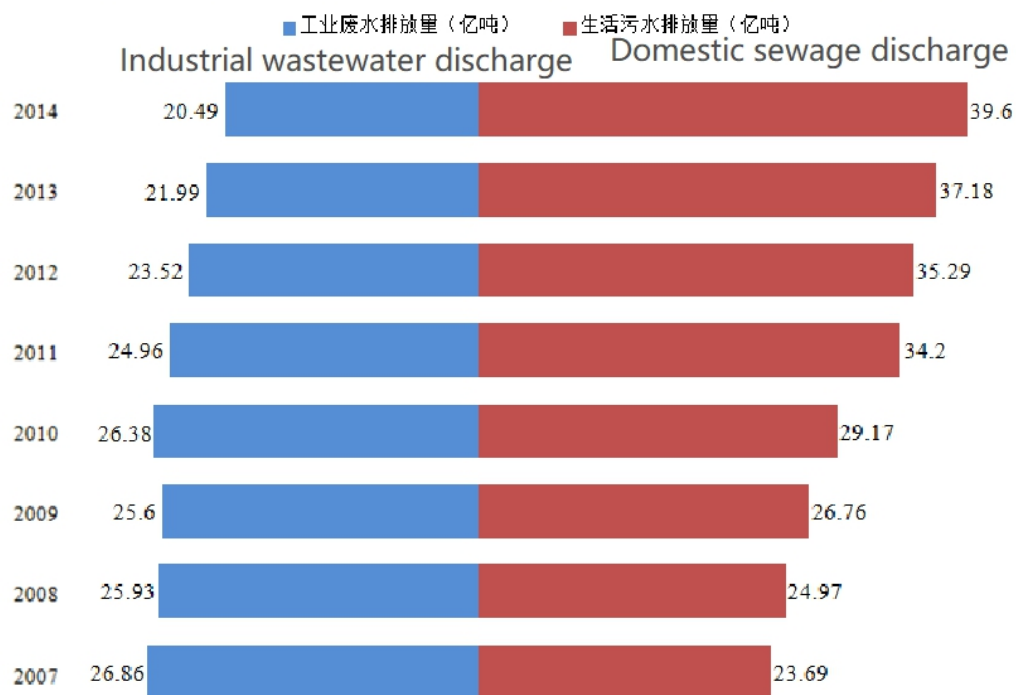
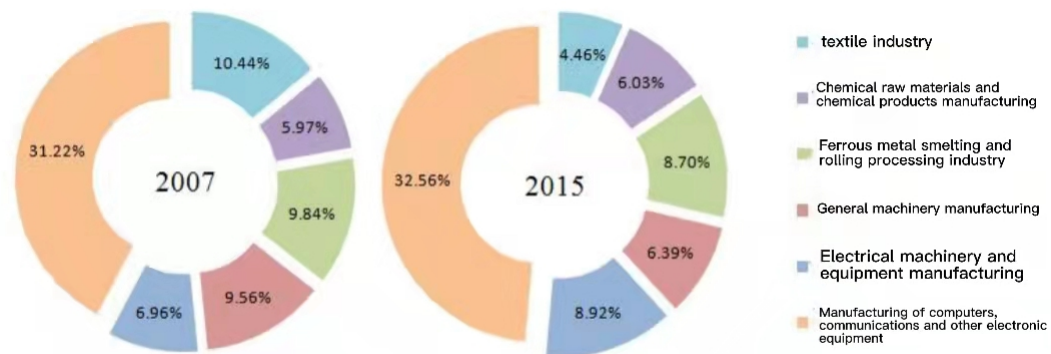


Figure 4 ratio of industrial output value of six pillar industries in Suzhou to total industrial output value in 2007 and 2015<sup>5</sup>



<sup>4</sup> Environmental Situation Bulletin of Jiangsu Province 2007-2014

<sup>5</sup> official website of Suzhou Bureau of Statistics

Figure 5 Industrial output value of Suzhou Textile Industry and its proportion in total industrial output value from 2011 to 2015<sup>6</sup>

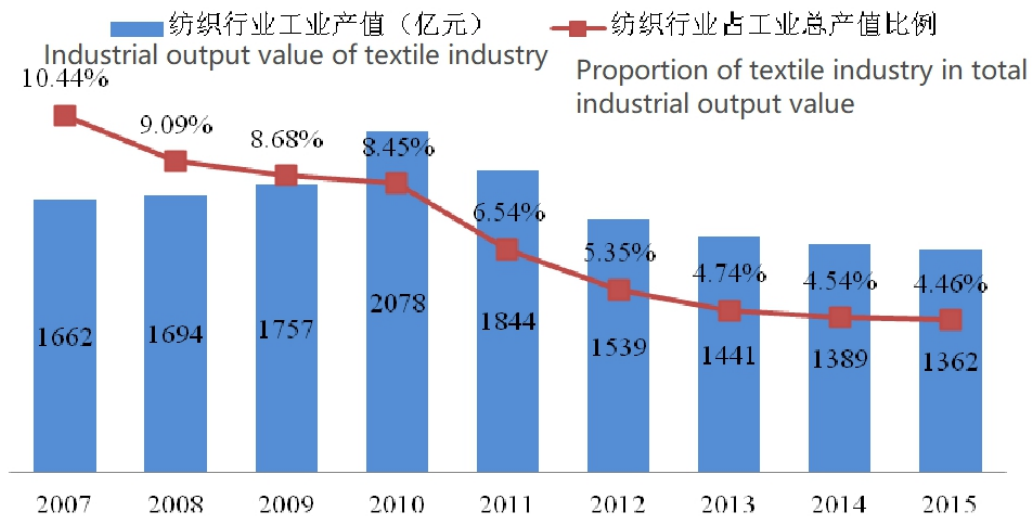
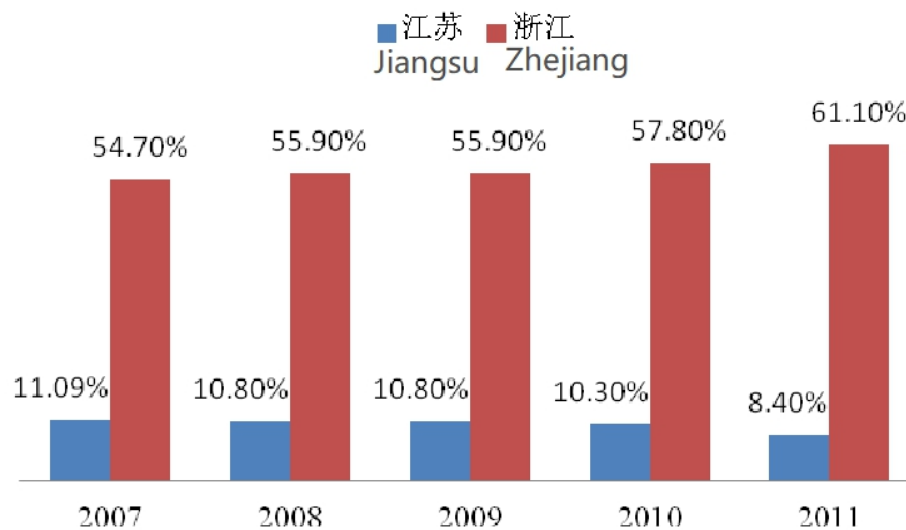


Figure 6 Proportion of printing and dyeing cloth output in Jiangsu Province and Zhejiang Province from 2007 to 2011<sup>7</sup>



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<sup>6</sup> official website of Suzhou Bureau of Statistics

<sup>7</sup> Jian Fan, *Analysis on the impact of the difference of sewage discharge standards between Jiangsu and Zhejiang on the development of printing and dyeing industry in Zhejiang* [J] *Statistical Science and practice*, 2012 (7)

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