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ENVIRONMENTAL POLICY ANALYSIS OF INDUSTRIAL DEVELOPMENT IN CHINA

Li Kang*

Experience shows that effective strategy and policy are the key to success, while those policies that are ineffective always signal failure.

The great upsurge in strategic studies in present China is not only favorable to the transformation of decision-making practice from empirical to scientific, but also motivates the development of a series of high level disciplines of science and technology.

The strategic development of the economy and society depends upon population and ecological balance; the only correct option is to establish and implement the strategy of coordinating development of the economy, society and the environment.

BACKGROUND OF THE TIMES FOR STRATEGIC STUDIES

The interactions of various conditions have depicted a pattern that a "new world war is not inevitable," hence the theme of contemporary human living is peace and development.

There exists in the world the complicated situations of contradiction, competition and compatibility among various social entities. The motivation of new technological revolution and informationalization makes resource sharing and international or regional integration increasingly more important. This develops a co-existence between opportunity and challenge, and cooperation and competition.

The scale, area, depth, and intensity of human exploitation increases continuously with rapid expansion of total consumption. This not only doubles the load on resources and the environment but also results in a much closer relationship between human beings and the environment as well as between themselves. This forms the interdependable and interactive

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compound of human activities among economy, society, science and technology, and resource and environment.

The predatory and lopsided development strategy cannot be sustained over a long period of time and would lead to failure. Therefore, it is imperative to have the strategy of coordinative development with systematic direction.

The velocity of development and change is increasing and the recycle period is shortening, yet the social economic phenomena and the intonation of the environment with human activities do not reoccur in compliance with the principle of symmetric inversion. Thus, it forces people to make the strategic decision confronting development of "not to lose opportunity since time does not come back again."

This background suggests that without establishment and implementation of the correct strategy and policy, it would in minor cases cause error and the cost of actions, and in major cases even lead to finding oneself at the impasse of not being able to maintain progressive living.

INDUSTRIAL DEVELOPMENT AND ENVIRONMENTAL PROTECTION

The strategic guideline of "tri-synchronization" and integration of economic, social and environmental benefits, as suggested by the Chinese State Council, is the fundamental basis of studying and treating the interrelationship between China's industrial development and environmental protection.

If rationality of the scale, intensity, location and structure of industrial exploitation exceeds the acceptable limit of the regional carrying capacity of the environment, pollution and deterioration of the environment tend to rise. This results in the "externality" (the loss from environmental pollution and deterioration) of economic activities and the rigid negative constraints that are a menace to economic and social development.

The various natural resources existing in the environment are the chain connecting industrial development and environmental protection. The exploitation of resources and environmental protection must be tackled as an organic whole—a huge system.

Thus, the industrial and related policies under a certain definite strategic direction are the key link for controlling the regional environmental quality and not just the major means for inducement, restraint and coordination of industrial development.

In order to properly treat the relationship between industrial development and environmental protection, it must be

recognized that to solve this contradiction depends mainly on the economic and technical strength, the environmental insight and the administrative level of the whole society. In this sense, it is difficult in China to avoid the growing trend of environmental pollution and deterioration. Also, since industrial development and commodities are under the guidance of planning, the State can induce, restrain and coordinate strongly industrial development and activities. The state takes a step by step approach toward the final accomplishment of the double objectives of economy and environment through the formulation and implementation of a complete set of industrial coordinating and developing policies, including the rational layout policy of industries and the related investment, resource, environment, tax, and price policies.

ANALYSIS OF THE MACRO-POLICY FOR RESOURCE AND ENVIRONMENTAL IMPACT FROM INDUSTRIAL DEVELOPMENT

The environmental impact from industrial development has been stated in the report "China's Environment in the Year 2000." Here, the brief analysis is mainly concerning macro-economy and macro-policy.

Lately, China has achieved initial success after the regulation of industrial development and industrial policy; however, the shortcomings and weak points developed after many years are still prevalent as follows:

1. The guiding principles of production prior to livelihood (economy prior to social development), high accumulation, and one-sided development of heavy industries have been practiced in China for a long time. This led to non-coordination among agriculture, light industries, energy resources and transportation, as well as among production, circulation and consumption. Moreover, a large portion of the heavy industries are resource and energy concentrated and result in heavy pollution, which increases the pressure on resources and the environment.

2. For more than thirty years, the high rate of growth of the national economy depended mainly on the increase of funds and labor. For example, growth comes from the extension of development so the technical structure and quality of most industries remains in a state of semi-stagnation. This type of development strategy not only seriously affects product competition and the economic benefits of production, but also damages the rate of utilization of resources and the level of comprehensive utilization with the lag in technology, facilities and management. This results in the loss and wasting of a

large amount of resources and increases environmental pollution.

3. The regional division of labor and the layout of productivity in China's industrial development is not rational. This not only comprehensively exploits the regions but is also harmful to the formation of a complete set of complementary regional industries, and enables the density of population and economy to be too high and the flow intensity of man, materials and energy to be too large. In addition to large debts from urban construction in the past, these aggravate the tension on land, water resources, energy resource, transportation and the structure of the whole city. They also accelerate the degradation of the urban ecosystem.

4. The vertical division of labor of departmental economy has been stressed too much, while the horizontal interceptions between related industrial departments and interdepartmental planning are very weak. This creates a situation unadaptable to the objective requirement of unification of economy, society, science and technology, and resources and environment. The framework of industrial management with vertical disparity is harmful to the coordinative development and synthesis of related industries and the effective operation and continuing developing vitality of technical progress and cooperative labor. This framework also retards the establishment of a regional economic integrated body and an industrial chain for increasing the rate of utilization of resources and reutilization of residuals, in order to create a strategic physico-technical foundation for the unification of economic, social and environmental benefits.

5. The agroecological environment based on the natural ecosystem has been inherently fragile for various reasons, especially in the north and west parts of China. Recently, the incentive of differential income between workers and farmers and the radiation of urban industries to rural areas made the enterprises in rural towns and villages develop rapidly in a geometric fashion. This kind of development is the only way for 800 million farmers in China to make a decent living and move into modern civilized society. Yet, due to the lack of respective policies and scientific knowledge for industries in rural areas, the results create new impacts on the fragile natural agroecological environment and the living environment in rural areas.

In summary, the industrial policy system with related complementary policies should be studied and drafted immediately. This policy must practice macro-control during the course of reformation and use. The high strategic level of interdependency of economy, society, science and technology, re-

source and environment, and the policy must be in accordance with the major contradictions in present and future development.

SUGGESTIONS ON THE RESOURCE AND ENVIRONMENTAL POLICY IN CHINA

RESOURCE AND ENVIRONMENTAL POLICY FOR COMPOSITE INDUSTRIAL EXPLOITATION AND REGIONAL DEVELOPMENT

Pay close attention to the work in the early stages of regional and urban land use planning, and then incorporate the development strategy, and study and prove the carrying capacity of regional resources and the environment. Using their criteria, draft a resource and environmental policy of composite industrial exploitation and regional development related directly to the industrial policy system. Examples are adjustment of the structure, the technical progress and the exploitation and preservation of water resources of the urban water consumption industries, composite exploitation of the sulfur associated coal mines, the comprehensive utilization of coal gangue and fine coal ash, the control of national air pollution by coal smoke and acid rain, open-pit mining, reclamation, land use and protection of ecological environment, several different types of natural agroecological environments, and suitable development patterns and the industrial structure of the enterprises in rural towns and villages across the country.

RESOURCE AND ENVIRONMENTAL POLICY FOR TRADITIONAL INDUSTRIES IN THE COURSE OF REGULATION AND REFORMATION

During the "Sixth-Five Year Plan", the traditional industries progressed in the area of technical reformation and implementation of "closing, stopping, combining, changing and migrating", but historical debts kept the lag behind a situation from changing. This not only affects the competition and economic benefits, but also causes difficulty in effectively controlling the industrial pollution of urban areas and accomplishing the environmental objectives of the "Seventh-Five Year Plan" put forward by the Environmental Protection Commission of the State Council.

Therefore, the following policies and countermeasures should be taken:

1. For old enterprises not yet reformed but crucial to development, classify, arrange, and integrate them into the

overall plan. Then give them financial and technical assurance with government investment, low-interest loans, incorporated self-raised funds, and the introduction of new technology.

2. For old enterprises to be adjusted and reformed, use the industrial policy of filling in the gap to complete a chain by these links. Also put equal importance on resource exploitation and environmental protection to create conditions for the coordinated development of the industrial community and the ecological industrial chain during the "Eighth-Five Year Plan" period and thereafter.

3. In the "upgrading and replacing" of traditional industries, implement the policy of encouraging minimal waste and non-hazardous technology and equipment, and stress comprehensive utilization of pollutants. This is the key to re-vitalizing traditional industries and to the unification of economic, social and environmental benefits.

4. During the adjustment and reformation of traditional industries, in an over-intensified economy where pollution sources of urban areas and enterprises are susceptible to fire and explosion, implement and enforce the policy of space dispersion to change irrational layout and land use.

5. For developed traditional enterprises thriving in the villages and towns, bring them into the overall plan through implementation of the policy of appropriate technical expansion, incorporation and renovation.

SOME ENVIRONMENTAL-ECONOMIC POLICIES

Industrial development gives rise to economic "externalities" and environmental pollution and degradation, resulting in an inverse constraint on itself, which proves that the environment is a precious and non-replaceable resource of unique value. This is the fundamental basis of the formulation and implementation of environmental-economic policies, such as the following:

1. In order to implement step by step the integrated objective of unifying the economic, social and environmental benefits suggested by the Chinese State Council, it is necessary to determine the appropriate ratio of allocation of national income between expansion of reproduction, social consumption, and environmental protection. This is in accordance with the need and potential of a certain definite period, so that the "externalities" from socio-economic development could be controlled within certain adjustable limits, creating favorable conditions for coordinative development of economy, society and environment.

2. Integrate the environmental economic policies to enhance the rate of comprehensive utilization of resources and to control the damage from environmental pollution and degradation. Then integrate these policies into the planning of economic activities of the nation, department and enterprises.

3. Use the ratio of internal economic benefits and external loss as a basic criterion for judging whether the new enterprises should be constructed or whether old enterprises could be reformed within a limited time or eliminated.

4. Establish an environmental protection industry. The primary starting points for establishing an environmental protection industry are: to reutilize the waste or to make it harmless step by step, to control environmental pollution and degradation concurrently with creating economic profits, and to change the nature of environmental protection to a purely social and public good. If the so-called industrial activities in general are the "first reproduction process," then the new environmental protection industry may be the "second reproduction process."

The environmental protection industry, including waste reutilization and the enterprises that manufacture equipment for reutilization of waste and the purification of pollutants, consist of integrated economic bodies of comprehensive resource exploitation established by central or local industrial sectors, enterprises established with capital from environmental protection departments, enterprises managed incorporatively by both of them, and those of local collectives.

The level of science of policy to study and design the industrial policy and its related policy system in China not only is the master switch and regulator for assuring the expansion of the economy but also physically reflects the implementation of the strategy of harmonized development of economy, society and environment.