

The Problems in Sustainable Development of Resource Orientated City and Countermeasures

Zhen Wang

School of Business Management, Shandong University of Finance, Jinan 250014, China

Yuanyuan Liu

School of Control Science and Technology, Shandong University, Jinan 250061, China

Yan Xu

Shandong Science and Technology Museum, Jinan 250011, China

Abstract

Sustainable development of resource orientated city is a highly regarded problem in China and in the world. By analyzing the status quo of resource orientated city, this paper puts forward the problems in the development of resource orientated city, such as economic structure, spatial structure, environmental pollution, capital and technology, and puts forward countermeasures for these problems. It is concluded that cities should insist on sustainable development in the future.

Keywords: Resource orientated city, Economic structure, Sustainable development

Resource orientated city is the city that rises and develops because of the exploitation of natural resources, in which resource (including minerals, forests and so on) related industries account for large proportion of industry. The number of resource orientated city is one fourth of the total number of the Chinese city; they play important roles in national economic development. In a long period of time, resource oriented strategy is applied in resource orientated city, it destructively exploits and sells resource in order to accelerate the development of city and district. So the resources in many resource oriented city are gradually exhausted, the industry and product are single, follow-up industry and diversified economy are vulnerable, employment occupation is limited, and the social burden is heavier and heavier, accordingly, the environment is polluted and the natural vegetation is destroyed. The economic and social development of resource orientated city are being confronted with great challenge, so it is of significance to study and explore the sustainable development of resource orientated city and improve the economic and social development level of resource orientated city.

1. The status quo of resource orientated city development in China

Resource orientated city provides large amount of mineral product and energy for the economic development of China, and plays important role in Chinese economic development. The development of resource orientated city depends on the reserves of resources; mineral is non-renewable resource, so the development of mining economy will definitely undergo a process of exploration, flourish, decline and exhaustion, and the economic development in mining city will definitely undergo a process of rise, boom, and recession. In recent years, two thirds of the mines are declining, a quarter of the resource oriented cities are being confronted with resource exhaustion, the contradictions in resource orientated city in the aspects of economy, society and ecological environment are becoming more and more obvious. Generally speaking, resource oriented city is being confronted with the problems as follows:

1.1 Economic structure is single, there is little growth potential

Resource orientated city depends greatly on resource exploitation and manufacture, the chain of industry is short with feeble ability in sustainable development. In most resource orientated cities, resource exploitation and manufacture account for 30% of the gross output of industry, in many cities, it is 50%. State-owned economy accounts for large proportion in resource orientated city, and the public-owned economy lacks energy. Further effort should be made in the reform of state-owned enterprises, most of the enterprises have heavy historical burden, they mainly produce primary product, and have low economic efficiency, and the local economic development is directly influenced by the price fluxion of resource, so it is difficult to realize steady growth.

1.2 The spatial structure of the city is incompact

Resource orientated city is developed on the basis of mining region, usually, it is constructed along the mining region and develops with the mining region. Mining industry is restricted by deposited condition and mining condition, most enterprises are distributed in the mountain area and the outskirts of country. Besides, the distribution

of mineral resources has the characteristic that “the large mine is concentrated and the small mine is scattered”, so the spatial structure of resource oriented city is incompact, it has “many spots, long line and large area”, which increases the cost in urban construction, reduces the use efficiency of capital, and leads to the phenomenon of “establishing society by enterprises”, because enterprise has to establish its own school, hospital, store etc, it will greatly increase the burden of enterprise.

1.3 Environment is deteriorating because of “three wastes” and the destroy of geological structure

Mineral resource is the material foundation for the human and social development. The present usage of resources on the one hand caused severe pollution, on the other hand destroyed the geological structure, and severely influenced the ecological balance. In China, 220 billions of mine water and 28 millions of slime water are discharged every year, the farmland around the mine is polluted and the physical characteristic of the soil is changed, which directly influences the health of people, in some districts, poisoning caused human and livestock death. In addition, air pollution, acid rain and acid fog greatly influence the development of resource orientated city. Along the 5000 kilometers of coal transportation line in Shanxi, the crops are covered by the power of coal and the photosynthesis is influenced, 14 million kilograms of grain are reduced every year, the agricultural economy is severely affected.

1.4 Resource oriented city lacks effective capital accumulation mechanism and technology.

Capital and technology are the basic factors of regional economic development. Owing to the price system established by the government in the past, resource orientated city lost large amount of economic interest, so it lacks capital now. Meanwhile, resource oriented city is underdeveloped, national income is small, so the capital accumulation rate and the capital that is changed into save are extremely low. The situation of capital and finance make resource orientated city cannot develop local industries, and cannot carry out large scale infrastructure construction, so the regional economy and social development are far lagged behind comparing with that in other districts and cities. Further more, the quality of people is low, and the ability to use external capital and technology is poor. All these problems should be solved in the sustainable development of resource orientated city.

2. Sustainable development is the inevitable choice of resource orientated city.

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The problems in resource orientated city are comprehensive and have accumulated for a long period of time. So resource orientated city should be regulated in the aspects of economy, society, human, environment and resource so as to get out of the dilemma. Specifically speaking, resource orientated city should insist on sustainable development, which is the demand of the following three aspects, firstly, urbanization is a global development trend, urban development should transform the concept of sustainable development into action. The economic center is mainly in the area of town accumulation; regional sustainable development is based on the sustainable development of towns, and then will realize the national and global sustainable development. The exploration and protection of natural resources are the guarantee for the application of sustainable development strategy, the economic system and social system of sustainable development must be based on the reasonable utilization of resources and environment. In 21st century, the whole world falls short of resources, so resource will be one of the most regarded aspects in sustainable development. Secondly, the implementation of sustainable development strategy in China cries for the sustainable development of resource orientated city. In the China’s Agenda 21, Chinese government pays much attention to the sustainable development of residence and the protection and continuing utilization of natural resources. Resource orientated city plays irreplaceable role in the national economy and livelihood of the people, its problems should be solved immediately. Thirdly, sustainable development is needed for resource orientated city to overcome the difficulties and do second round of business establishment. Planned economic system and extensive growth manner are typical in resource orientated city, and the development of the city is greatly restricted by the two factors. So it is of realistic and long-term significance for resource orientated city to realize two fundamental transformations, accelerate the evolvement of economic structure, and carry out sustainable development strategy.

3. Countermeasures for resource orientated city to realize sustainable development

The sustainable development of resource orientated city relates to the important problems including national energy, safety of raw material supply, economic growth, environment protection and social stability. The resource oriented city should base on the commonness and individuality of resource orientated economic region, insist on the strategic programming of “unified planning, rational distribution, moderate exploitation and coordinated development”, base on the practical situation of resource orientated economic region, strengthen management, introduce reorganization and system reform, finally realize the common development of government, city and individual.

3.1 Resource orientated city should energetically adjust the economic structure

Adjust industrial structure, accelerate the harmonious development of primary industry, the secondary industry and the tertiary industry, try to establish new industrial pattern that is suitable for the local area, vigorously develop continued industry and substitute industry. Firstly, pay attention to the development of non resource orientated industry, which will be propitious to the foster of new economic growth point and the reinforcing the ability to resist economic risk. Secondly, accelerate the transformation of resource orientated industry to market orientated industry, and the transformation of single industrial structure to multiple industrial structures. Thirdly, pay attention to the development of the tertiary industry, increase the proportion of service industry. Fourthly, coordinate the relationship between new industry and traditional industry; realize the optimization of industrial structure. Fifthly, strengthen the adjusting of product structure, low grade, extensive and single product structure should be changed to high grade, intensive and diversified product structure, the product should be bettered and diversified. Sixthly, strengthen reorganization and reform in the traditional industries such as metallurgy, petroleum chemistry industry, and machinery industry, realize the upgrade of product.

3.2 High new technology will provide power for the sustainable development of resource orientated city.

Reforming and reconstructing the traditional industry by high new technology is the development trend of Chinese resource orientated city, is the key to industrial structure optimization and upgrading, and is effective measure to reinforce the competitive ability of the product of traditional industry. The application of high new technology will make labor intensive industry change to technology intensive industry in resource orientated city.

Firstly, technology introduction and technological innovation should be combined, when introducing new technology, resource orientated city should cooperate with the large companies in the world, and the introduction should avoid repeat and thoroughly think about the technology absorption ability.

Secondly, the innovation and development of high new technology should be combined. Enterprises that have strong technological ability should be encouraged to carry out technological innovation according to their own characteristics, and the high new technology development ability should be improved in these enterprises.

3.3 Construct ecological resource orientated city

It takes people long time to realize the ecological value of resources. In the past, people just paid attention to the commercial value of resource, and neglected its ecological value, accordingly, a series of ecological problems came up. The concept of ecological civilization should be built up in the construction of resource orientated city. Ecological civilization demands that the "human centered" idea should be discarded when considering the relationship between human and nature, human should be taken as one member of nature, so all the behaviors of human, especially the production and life, should abide by the ecological principle, the concept of nature-economy-environment should be established, and the needs of future generations should be taken into the civilization system. The concept of ecological civilization is the ideological basis for the construction of resource orientated city, much importance should be attached to the concept. Ecological city is a city, in which the productive and consumptive manner, the decision making and management method will be changed by using the principle of ecological economics and the method of system engineering, the potential of resource in the city will be thoroughly brought into play, with the purpose of establishing a series of industries that have sound economic effect and ecological effect, and realizing the unification of economic development and environmental protection, material civilization and spiritual civilization, natural ecology and human ecology.

3.4 Try to create good environment to attract foreign investment

Firstly, energetically carry out environmental improvement, and improve the ecological environment. The environment in resource orientated city is destroyed, and there is much wasted land. German and French invested much money in environment, for example, 500 to 600 hectares of wasted land are improved every year in north Nord-Pas-de-Calais of France, which is financially supported by the European Union, central government and local government. In Ruhrgebiet of Germany, many discarded mines were rebuilt as educational and training bases or exhibition base for traditional industry. Secondly, provide preferential policy for the foreign investment, as it does in Germany and France, including revenue support, investment allowance and so on.

It is a long-term and arduous job to promote the sustainable development of resource orientated city, the resource orientated city in the European and American developed countries also experienced long-term economic transition, which is 30-40 years or 70-80 years. It takes long time to solve the problems in resource orientated city, we should seize every minute, and try to make breakthrough with as short time as possible.

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