



Strengthening the Application of Statistical Monitoring in City Management Solving the Capital's Development Problem on Population, Resources and Environment

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Abstract

“City diseases” have become the main contradiction and bottleneck for Beijing’s economic and social development at present. On the basis of analyzing the current situation of population, resources and environment of Beijing, this paper posed the prominent problems existing in Beijing’s city management, and posed relevant opinions and suggestions from the aspects of population mitigation, environmental management and monitoring system, aiming at correctly mastering Beijing’s condition and development characteristics, effectively relieving the prominent contradictions of Beijing’s population, resources and environment, and accelerating the harmonious development of population, resources and environment.

Keywords: city diseases; harmonious; measures.

1. Introduction

“City diseases” brought by rapid expansion of population size and critical shortage of water resources, etc. have become the main contradiction and bottleneck for the capital’s economic and social development at present. How to understand this conflict? How to ease the contradiction? How to strengthen the role of statistics? Therefore, we made a study and proposed measures and suggestions.

2. Section 2

I. Capital’s Prominent Contradictions and Problems on Population, Resources and Environment

(I) Continuous expansion of population size brings about too large resources and environment bearing pressure

Beijing’s population size maintains a sustained and rapid growth. It promotes the economic and social development, but it also brings a heavy demand for many aspects such as new employment, transportation, education and hospitalization, and necessary resource consumption for satisfying these needs, such as housing construction, energy consumption and water supply.

From operation, in 2013, Beijing consumed 260 million KWH electricity, 27.077 million cubic meters natural gas, 31,000t product oil and 10 million cubic meters water every day. Compared with those in 2009, an increase of 60 million KWH electricity, 7.077 million cubic meters natural gas and 8,000t product oil is seen, respectively. From discharge, in 2013, Beijing’s daily household garbage output was 18,400t, and the sewage discharge was 4.255 million cubic meters, increasing 400t household garbage and 515,000 cubic meters sewage, respectively compared with 2009.

As a resource input type megalopolis, Beijing is short of natural resources, and 98% of its energy shall be transferred from other places. For such a megalopolis lacking of resources like Beijing, due to the large consumption of resources, low resource use efficiency and heavy environmental pollution, the resources and environment bearing pressure of Beijing is far from the requirement of low-carbon



development. It is obvious that rapid expansion of population size is the main cause for population resources contradiction.

(II) Critical shortage of water resources results in water environment pollution and potential ecological security issues

Critical shortage of water resources is one of key factors for Beijing's population, resources and environment contradiction. Beijing belongs to a resource-type serious water shortage city, and Beijing is in the largest dry season in history at present. The water supply structure of Beijing has transferred from new water (such as rainfall and extraneous water) dominated before 2000 to underground water dominated at present. Critical shortage of water resources not only poses an increasingly strong hard constraint for economic and industrial development, but also results in increasingly serious over-exploitation of underground water. At the end of 2013, the average buried depth of underground water was 24.5m in flat area of Beijing, a decrease of 18.1m compared with that at the end of 1980. The reserves correspondingly decreased 9.25 billion cubic meters. Along with continuous declination of underground water level, the environmental pollution of underground water also aggravates. Due to lacking of water for river way dilution, the water pollution problems of river way in the whole city, especially the central urban area, the water environment quality is shocking. This is far from the development requirements of Beijing as a cosmopolis.

(III) Wasting of resources and environmental pollution are serious, and city management level shall be improved urgently

Taking water and energy as an example, wasting of domestic water is obvious. In May of 2014, Beijing started to implement ladder-like water price. A uniform price had been implemented for household water-consumption previously, and resident was insensitive for price. Meanwhile, insufficient water-saving technology innovation and water-saving facility development, imperfect water-saving policies, laws and regulations, and inadequate water-saving propagation lead to obvious water-wasting in the field of life.

Unreasonable energy structure results in serious air pollution. Presently, the proportion of fossil energy in Beijing, especially coal, is still on the high side, while the proportion of clean energy is on the low side, which will have a direct influence on air environment quality. In 2012, coal accounted for 15.6% in Beijing's energy end-use, 5.8 percentage points higher than the world average, and 12.1 percentage points higher than the OECD countries; however, the coal usage rate of the Capitals of main developed countries is very low or approximates to zero. Low end energy structure is an important reason for air pollution. In 2013, the days with good air quality were less than half of the whole year in Beijing, and the percentage of level 5 and level 6 heavy pollution days reached up to 15.9%.

In recent years, we've made useful exploration in strengthening refined city management. However, city ills such as environmental pollution and serious wasting of resources still exist in quantity. The problem in the aspect of city management has become increasingly prominent. The overall management level of capital city is not suitable for the current economic and social development requirement.

(IV) Huge population size and the superposition of various functions in central city bring about serious traffic problem

With the acceleration of urbanization, in recent years, the permanent population of Beijing shows the trend of rapid growth, and the population size is not effectively controlled. In 2013, the permanent population reached 21.148 million, increasing 455,000 compared with last year, an increase of 2.2%.

The large-scale increase of population is mainly due to the large increase in external population. In 2013, the permanent external population reached 8.027 million, increasing 289,000, an increase of 3.7%, 1.5 percentage points higher than permanent population. Especially, excessive population aggregation in central urban area continues. The new town's role in relieving the population in central urban area is not obvious. From travelling condition, about 2.6 times of travel will be brought for 1 increased person at present. In 2013, the passenger volume of public transport everyday was 22.049 million person-times, increasing 4 million person-times everyday compared with that in 2009. The



rapid expansion of permanent population size will inevitably bring the absolute increase of transportation demand, and increasingly worsen the traffic problem.

(V) Concentration of particulate matter (PM_{2.5}) still stays high, and waste treatment facility is overloaded.

In 2013, PM_{2.5} of Beijing was 89.5 mcg/m³, not reaching the national grade II standard, and a larger gap to the annual average safe concentration value for PM_{2.5} (10 mcg/m³) required by World Health Organization (WHO).

In 2013, the transportation amount of household garbage of Beijing was 6.717 million tons, an increase of 3.6% over the previous year. Beijing has 24 harmless treatment plants for household garbage, and the daily garbage harmless processing capacity is 21,000 tons. According to the findings of 2011 item of expenditure on environmental protection in Beijing, the completed capacity of household garbage sanitary landfill took up 58.5% of design capacity; the actual processing capacity of household garbage incineration was 1,955t/day, 1,835t/day exceeding the design processing capacity. Recently, a notice published by Beijing Municipal Environmental Protection Bureau pointed out that 7 refuse landfills including Beishenshu will be filled and closed in the future two or three years. However, the pressure of constructing new waste treatment facility is huge. Together with the factor of population increase, the whole city may have a gap of near ten thousand processing capacity.

3. Section 3

II. Countermeasure and Suggestions for Easing the Contradiction of Population, Resources and Environment

At present and in the next period, the urbanization of China is in a new stage laying equal stress on quality and speed. Strengthening urbanization management and population service has become a strategic issue of national development. As a megalopolis with limited resources environment carrying capacity, highly concentrated and expanded population, and increasingly bothered by “city disease”, Beijing shall accurately master Beijing’s condition and stage characteristics of development, and reliably promote the regulation of population size according to the principle of balanced population, resources and environment as well as unified economic, social and ecological benefits.

(I) Unifying consensus, clarifying thought, and planning capital’s population development from the special importance of capital work

The 3rd Plenary Session of the 18th CPC Central Committee clearly proposed to strictly control the population size of megalopolis. General Secretary XI Jinping also made profound illustration on the planning, construction and management of megalopolis in central working conference on urbanization. The General Secretary further posed new requirements for Beijing’s city construction and development in a survey in Beijing, which pointed out the direction of our efforts in the future. The Municipal Party Secretary GUO Jinlong further clearly pointed out that the whole city shall practically unify the thought to the central requirement and the important address of the General Secretary, profoundly understand the importance and necessity of current population regulation, thoroughly study regulation objective and regulation means, and try to realize the coordinated development of population, resources and environment. Later, it was proposed that the synergetic development of Beijing-Tianjin-Hebei Region was rose to national strategic height, which directly responded to the General Secretary’s requirement for Beijing. Since Beijing is the capital of a large country having a population of 1.3 billion, we shall effectively improve our understanding for the special importance of Capital work. It is of great importance to maintain the Capital’s harmony and stability, and fully complete population work.

(II) Relieving population pressure from many aspects

1. Innovating population development and regulation and control system, coordinating population service management

The construction of comprehensive decision system for population development and regulation and control shall be strengthened. The Capital population development and coordination agency, composed by relevant ministries and commissions, army in Beijing and relevant departments of municipal government, is innovatively established, which will be responsible for coordinating general



management and service of population, supervising and urging the implementation of population policy and measure, and forming a more sound capital population work system. We shall establish the negotiation mechanism between Beijing and central ministries & commissions and army for settling down in Beijing.

2. Highlighting the importance of population problem, accelerating the establishment of population examination and evaluation mechanism

We shall fully understand the fundamental role of population in economic and social development, and regard promoting the harmonious development of population, resources and environment as an important content of scientific development and an important mission for realizing Capital function. We shall establish scientific population size regulation and control index system, and population and control regulation responsibility system, clarify the responsibility of departments, districts and counties, and realize joint linkage. At present, the municipal Party committee and municipal government have included the population size regulation objective in the performance assessment for the Party committee and government of districts and counties. We shall also accelerate the establishment of population evaluation mechanism of major policy, major project and public resource allocation. We shall promote the household registration system reform, establish residence permit system and promote the overall coverage of urban basic public service for permanent population.

3. Adjusting Beijing's urban function and relieving population pressure

We shall adjust and relieve non-capital core function, and accelerate the optimization of industrial distribution practically as per urban strategic positioning. Relevant functional departments of government continues to deepening the implementation and adjusting Comprehensive Planning of Beijing, relieve and adjust the industry not conforming to the Capital's urban strategic positioning requirement, and reasonably guide the industry conforming to the Capital's urban strategic positioning. We shall promote the economic development each functional area and surrounding areas of Beijing, improve the industrial competitiveness of the whole capital economy circle, effectively relieve the traffic jam, and promote the coordinated and sustainable development of population and economic society.

(III) Governing environmental problems with multiple means

1. Increasing propagation and strengthening the public's environmental protection consciousness

Controlling PM2.5 needs wide participation of the public. Relevant departments shall seize the opportunity and adopt multiple forms to propagandize in good time. For example, various TV programs, advertising videos, public service ads and cartoons, etc. can be made through various media; the public shall be promoted to participate in controlling air pollution, such as, do not set off fireworks and crackers; do not burn paper at street; reduce cooking fume; share car or take public transport means for travelling.

2. Classifying garbage in collection and transportation process

We shall suggest relevant departments to well do the kitchen waste classification work, especially the garbage classification in the collection and transportation process, ensure that the garbage is classified when entering the household garbage treatment plant, and establish a complete garbage classification & management system from source classification, storage and transportation to terminal treatment. Meanwhile, we shall also improve the harmless treatment level for garbage. We shall suggest relevant departments to introduce policies to encourage the reduction of household garbage source, preferentially adopt the comprehensive treatment, waste incineration and kitchen waste recycling technology on this basis, and reduce the handling capacity of landfill.

3. Utilizing scientific technology and guiding research and development to energy conservation and environment protection project

On the one hand, we shall strengthen the guidance of government, enhance the enterprise's enthusiasm on investing scientific energy conservation and environment protection project, especially investing part of scientific strength to energy conservation and emission reduction, so as to reduce pollution in earlier stage; on the other hand, we shall strengthen the cooperation of surrounding areas, pay attention to and support the energy conservation and environment protection enterprise whose service object is in surrounding area and cannot enjoy the preferential policy of Beijing.



(IV) Completing relevant statistical monitoring work from multi-angles

1. Constructing the comprehensive monitoring and evaluation system on population, resources and environment

We shall accelerate the comprehensive monitoring and evaluation system on population, resources and environment according to the requirement of combining population, resources, environment with upgrading of industrial structure, regional space arrangement and urban carrying capacity. The system shall highlight the contents such as regional population distribution, employment situation, functional localization, industrial distribution, energy consumption and economic contribution. The establishment of monitoring system will provide important data support and scientific decision-making basis for comprehensively reflecting the relationship between population, resources and environment of the whole city, controlling the population's disorderly and excessive growth, adjusting and relieving non-capital core function, improving urban construction quality and management level, increasing the regulation strength of air pollution, and promoting the synergetic development of Beijing-Tianjin-Hebei Region.

2. Establishing basic statistics system for greenhouse gas emission to deal with climatic change

Air pollution is an important component of greenhouse gas. Establishing and perfecting the statistics and accounting system for greenhouse gas emission is the objective requirement for China to effectively deal with global climate change, the crying needs for China to practically fulfill international obligations, and an important foundational work for controlling air pollution. However, the basic statistics of greenhouse gas emission is weak, which cannot satisfy Beijing's need for greenhouse gas emission accounting and assessment. We shall strengthen the study on basic statistics of greenhouse gas emission, formulate practicable basic statistics scheme for greenhouse gas emission, establish basic system for greenhouse gas emission, and provide basic data support for the establishment of greenhouse gas emission list of the whole city, districts and counties.

3. Strengthening basic statistics of resources and environment domain to deal with climatic change

To build a resource-saving and environment friendly society, First, we shall improve and perfect the statistical survey system and method of recycling economy, explore the evaluation system which can comprehensively reflect the developmental level of regional recycling economy, gradually establish the key index monitoring and evaluation system of Beijing's recycling economy, according to "reduction, reuse and recycling" of recycling economy, so as to provide complete reference basis for carrying out the construction of recycling economy evaluation index system in the "12th Five-Year Plan". Second, we shall coordinate relevant departments to establish the statistical system and accounting method for main waste output. We shall sort out the statistical index of main waste output, strengthen the communication and coordination of relevant departments, establish the consultation mechanism, and assist relevant departments to establish and perfect the waste statistical system, so as to lay a foundation for establishing the monitoring and evaluation system of recycling economy.

4. Conclusions

Unifying consensus, clarifying thought, and planning capital's population development from the special importance of capital work. Relieving population pressure from many aspects. Governing environmental problems with multiple means. Completing relevant statistical monitoring work from multi-angles. So aiming at correctly mastering Beijing's condition and development characteristics, effectively relieving the prominent contradictions of Beijing's population, resources and environment, and accelerating the harmonious development of population, resources and environment.

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