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Study on the Synchronous Propulsion of New Urbanization and Ecological Civilization Construction

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Abstract The construction of ecological civilization is the inevitable choice for implementing of the new urbanization strategy and is the objective requirement of promoting the new urbanization. It provides the power support for the new urbanization, and economic development has entered a new era in China. In order to better promote the new urbanization and the construction of ecological civilization, there is a need to optimize the use of land resources, provide space guarantee for new urbanization and the construction of ecological civilization; vigorously develop the financial sector to provide financial support for the new urbanization and the construction of ecological civilization; perfect information infrastructure to provide information support for the new urbanization and the construction of ecological civilization; stick to people-oriented principle and strive to build livable city of ecological civilization; establish ecological compensation mechanism to promote the coordinated development of regional new ecological town; make a blue map for cooperative promotion of new urbanization and ecological civilization construction through the establishment of a scientific and rational plan.

Key words New urbanization, Ecological civilization, Synchronous propulsion

1 Introduction

The 18th National Congress of the Communist Party of China clearly stated that we will build socialism with Chinese characteristics by economic, political, cultural and social development. The construction of ecological civilization is high on the agenda. This is undoubtedly new deployment by the Central Committee of the Communist Party which thoroughly implements the scientific concept of development based on overall domestic and international situations. Strengthening the construction of ecological civilization to create a good production and living environment for people, striving to build a beautiful China, and reversing the trend of ecological deterioration from the source to achieve sustainable development of Chinese nation, is the inevitable choice of China's economic development under the new situation, which fully embodies the basic requirements of the scientific outlook on development. The urbanization conference of China held in December, 2013 clearly proposed building a scientific and rational urban development pattern based on carrying capacity of resources and environment, and pointed out that urbanization should reflect respect for nature, and focus on the harmony between nature and man, and it was necessary to make the city integrate into the nature, so that residents could see the mountains, water, and get nostalgia. Its essence is to include ecological civilization construction into new urbanization process. Currently, China has entered a new era of

economic development, and the concept of ecological civilization is fully integrated into the whole process of the construction of new urbanization. It is an important way to realize China's new urbanization, and can ease the pressure on resources and the environment, and provide an important guarantee for building a beautiful China. Therefore, during promoting the new urbanization strategy, how to promote the new urbanization and synchronous construction of ecological civilization is especially important.

2 The construction of ecological civilization and the role of promoting the new urbanization

As a concept of ecological civilization, it reflects the extent of civilization from the perspective of the relationship between man and nature, emphasizes the interdependence of human and natural environment, and advocates building an environment-friendly society based on the carrying capacity of resources and environment and goals of sustainable development. The ecological civilization undoubtedly plays an extremely important role during the construction of new towns and cities and low-carbon development.

2.1 Ecological civilization is the inevitable choice to implement the new urbanization strategy

Based on the urbanization conference of China held in 2013, the implementation of the new urbanization strategy should focus on considering the ecological carrying capacity of the environment, green low-carbon environment, and full respect for nature during urban construction process. First, it is necessary to rely on the existing landscape context and other unique scenery to build urban landscape, and make the city integrate into the nature, so that residents can see the mountains, water, and get nostalgia. This is undoubtedly the clear direction of construction of new urbanization, that is, in the implementation process of urbanization, there is a need to actively promote the concept of ecological civilization, foster low-carbon

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environmental protection awareness and create new pattern of urbanization. Thus, strengthening the construction of ecological civilization is the inevitable choice to implement the new urbanization strategy.

2.2 Ecological civilization is the objective requirement to promote the new urbanization Generally speaking, urbanization is a process of rural residents' migration to urban areas, and they eventually become the urban residents, mainly involving population migration, land and space changes, transformation and upgrading of the industrial structure, urban infrastructure construction, people's life style change, and so on^[1]. Looking at the development process of urbanization in China, we can know that the urbanization rate is significantly improved, but it also brings a widening gap between urban and rural areas, such as the blind expansion of the city, ecological damage, environmental pollution, and a series of outstanding issues that can not be ignored. This traditional urbanization model is clearly not suitable for China's national conditions, and it is necessary to make adjustment and changes in the development process of urbanization, take the initiative to integrate the concept of ecological civilization, pay attention to the size of the expansion, and enhance the quality of urban development. It proves that the construction of ecological civilization is currently objective requirement to promote the new urbanization, and the construction of ecological civilization is not only about politics, economy and environment, but also related to people's livelihood and future generations.

2.3 Ecological civilization provides dynamic support for new urbanization Ecological civilization construction can provide a strong impetus and effective guarantee for new urbanization. Specifically, it can be reflected in the following aspects. First, the construction of ecological civilization can create new economic growth point for new urbanization. Development of environmental protection industry, new materials industry, renewable energy and clean energy industry will become a new economic growth point of new urban development. Correctly guiding the production elements to gather in environmental field will create more jobs, and promote the optimization and upgrading of industrial structure to form a vision of sustainable development of urbanization. Second, the construction of ecological civilization requires that new urbanization should have more investment in environmental protection. In the new urbanization process, we should not only focus on ecology and the development of new energy industry, but also increase investment in environmental protection, garbage disposal, road construction and other areas of the city, in order to enhance the level and quality of urbanization. Third, the growing demand of residents for ecological products is a powerful force to promote new urbanization. With the improvement of people's living standards, a better living environment has higher requirements, and thus the demand for organic products will greatly increase^[2]. Therefore, in the new urbanization process, considerable human resources, material and financial resources, implementation of major ecological restoration projects, and enhanced production and processing ca-

capacity of ecological products, will undoubtedly become the important engine of promoting sustainable and healthy development of new urbanization.

3 Path selection of synchronous propulsion of new urbanization and construction of ecological civilization

In the new urbanization construction, we should give full consideration to the carrying capacity of resources and environment, and mutual promotion and coordinated development of new urbanization and ecological civilization construction. This would certainly lead to quick resource depletion, environmental pollution, ecosystem degradation, thereby restricting the sustainable and healthy development of society and economy^[3]. Therefore, in the new historical period, we can choose the following path to promote the new urbanization and construction of ecological civilization.

3.1 Optimizing the use of land resources to provide space for the new urbanization and protect ecological civilization

The most difficult problem of urbanization and the construction of ecological civilization faced in China is shortage of energy resources, extensive use of land, as well as environmental pollution and ecosystem degradation in the process of urbanization. Use of land resources is not only related to steady new urbanization, but also related to the construction of ecological civilization^[2]. Therefore, optimizing the use of land resources is an important means of promoting coordinated development of urbanization and ecological civilization, to provide space for the new urbanization and protect ecological civilization. Specifically, we can proceed from the following aspects. First, based on the carrying capacity of the environment and resources in different regions, as well as existing land development density and development potential, it is necessary to consider the future urban population distribution, economic layout, land use and urban spatial layout, determine the main features of different regions, and further improve the ecological function areas and spatial development pattern in the urban areas. Second, according to the main functional areas in different parts, the scientific development of new eco-town planning should adapt to the resources and environment carrying capacity. For the areas with high resources and environmental load, it is necessary to optimize the layout of urbanization ecological space, enhance resources and environment carrying capacity, raise the level of regional economic development and focus on new urbanization. For key ecological function areas, it is necessary to limit large scale and enhance industrial urbanization development; for natural and cultural resource protection area, it is necessary to prohibit the development of urbanization. For different areas of the city, there is a need to focus on the scientific planning and industrial distribution function orientation through the implementation of differentiated industrial policies, investment incentives, fiscal policy and other related policies, to guide rational development of small cities and small towns, ease pressure on the central city and strengthen small and medium city's industrial capabilities, and enhance public services in small towns.

3.2 Developing the financial sector to provide financial support for the new urbanization and ecological civilization

For the implementation of new urbanization strategy, or ecological civilization strategy, we need the support of a lot of money, to provide funds or capital elements and promote rational allocation of funds or capital. It is an important function of the financial industry. The diversification of financial market system can provide the investment and financing channels for urbanization and the construction of ecological civilization, as well as standardized operation mechanism of financial markets in order to improve the efficiency of investment and provide the institutional guarantee for financing. If without the well-developed financial sector, it is unlikely to promote the normal implementation of new urbanization and ecological civilization construction strategy. Therefore, it is necessary to develop the financial sector and the service capability of urban financial industry, in order to ensure that the required new urbanization and ecological civilization construction financing needs are fully met, in order to better promote the coordinated development of new urbanization and ecological civilization.

3.3 Improving the information infrastructure to provide information support for the new urbanization and the construction of ecological civilization

On the one hand, with the rapid development of information technology and the rapid development of information industry, the city is internally networked and integrated. Without information, the concentration degree of urbanization will be greatly reduced, and it is unable to realize the true meaning of urbanization; at the same time, informatization can enhance and integrate urban functions, improve the employment structure of urban industry, enhance the quality of urban residents, and enhance the quality of urbanization. On the other hand, industrialization and urbanization are the two pillars of promoting economic and social development in the era of industrial civilization, which not only bring great changes in the mode of production, but also bring disastrous consequences of environmental pollution and ecological damage. Under the guidance of ecological civilization concept, how to utilize the convenience brought by the information civilization and give new meaning to urbanization is one of the problems the new urbanization must face. Therefore, first of all, we should focus on improving the urban information infrastructure, encouraging the development of software and hardware industry based on information technology and information services and other emerging industries, enhancing the urban information innovation, and creating new economic growth points of urban areas^[4]; secondly, the wisdom of urbanization is one of the most important goals and trends of the development of new towns, and is also an important step to realize the ecological civilization, and only when the combination of wisdom and urbanization is realized can the ecological civilization be fully realized in urban and rural areas in the future. In view of this, the use of networking and other advanced information technologies and striving to build a smart city, can help to realize the linkage development of informatization and urbanization, and greatly promote the construction

of ecological civilization, so as to provide strong information support for the new urbanization and the construction of ecological civilization.

3.4 Striving to build livable city of people-oriented ecological civilization

The construction of ecological civilization is related to the relationship between man and nature, and it emphasizes harmonious and sustainable development of the man and nature. The town will provide a good place for people to gather, so the development of new urbanization needs to reflect the people-oriented property, focus on all-round development of people, and give priority to improving the life quality of the urban and rural residents, and promoting stable employment of residents. In the process of urbanization, urban development should not only emphasize the balance and unity in the economic, social and cultural fields, as well as governance and homogeneous equality, but also pay attention to the urban development efficiency and fairness as well as rights of different subjects. At the same time, with the further advance of construction of urbanization and ecological civilization as a guide, the water, electricity, gas, road and urban infrastructure is becoming perfect, the public service ability unceasingly intensifies, cultural and ecological environment continues to improve, and people live more comfortably and conveniently. Finally, through creating a livable city of ecological civilization, it is necessary to meet the growing diversification, spiritual and environmental requirements for the realization of comprehensive human development.

3.5 Establishing ecological compensation mechanism and promoting the coordinated development of new ecological town

Firstly, it is necessary to establish the market compensation mechanism to adapt to market economy through the price, cost, tax and other forms, build a sound market mechanism for fair transactions of ecological environment resources, and encourage local governments to take the initiative to improve the ecological environment in the process of promoting the new urbanization. Secondly, it is necessary to use the ecological GDP index to evaluate construction of ecological civilization in each area, add ecological benefit on the original basis of green GDP accounting system, and calculate the ecological compensation standard in various regions through the evaluation. For the "ecological conservation area" and "ecological protection zone" where economic development is relatively backward and the local finance is weak, the difference between GDP and existing GDP environment can be used as the compensation gap. Thirdly, it is necessary to encourage inter-regional assistance and obtain ecological environment benefit through financial subsidies, targeted assistance and support in various forms, to compensate for the key ecological function areas, and promote the coordinated development of different regional urbanization^[5]. Finally, it is worth mentioning that for the implementation of new urbanization or the construction of ecological civilization, it is necessary to formulate scientific and rational planning which can provide a system blueprint for the new urbanization and

References

- [1] SUN LN, SUN TH, JIN CZ. The blurred appraise of heavy metal pollutions on soils in Wolongquan River Basin[J]. Research of Soil and Water Conservation,2006,13(1): 126–129. (in Chinese).
- [2] SUN TH, ZHOU QX. The research front and the prospects of pollution ecology[J]. Rural Eco-Environment,2000,16(3): 42–45,50. (in Chinese).
- [3] PU RF, KANG ES, WANG K, et al. Pollution status in soils of typical in Shi Yang of heavy metals industrial districts river basin[J]. Journal of Arid Land Resources and Environment,2008,22(9): 129–133. (in Chinese).
- [4] BAO T, LIAN MH, SUN LN, et al. Research progress on the phytoremediation of soils contaminated by heavy metals[J]. Ecology and Environment, 2008,17(2): 858–865. (in Chinese).
- [5] ZHAO YF, GUO HL, SUN ZY, et al. Principle component analyses based on soil knowledge as a tool to indicate origin of heavy metals in soils[J]. Scientia Geographica Sinica,2008,28(1): 45–50. (in Chinese).
- [6] DAI QW, ZENG ZM, WANG JY, et al. A preliminary investigation on the effect of main metal factories on animal husbandry in Jiangxi Province[J]. Agro-Environmental Protection,1993,12(3): 124–126. (in Chinese).
- [7] PAN P, YANG JC, DENG SH, et al. Proceedings and prospects of pesticides and heavy metals contamination in soil-plant system[J]. Journal of Agro-Environment Science,2011,30(12): 2389–2398. (in Chinese).
- [8] CUI DJ, ZHANG YL. Research advances on soil heavy metal pollution technology[J]. Chinese Journal of Soil Science,2004,35(3): 366–370. (in Chinese).
- [9] HUANG Y, HU Y, LIU Y. Combined toxicity of copper and cadmium to six rice genotypes (*Oryza sativa* L.) [J]. Journal of Environmental Sciences, 2009,21(5): 647–653.
- [10] LIAO ZI. The environmental chemistry of microelement and its biological effect[M]. Beijing: China Environmental Science Press,1993:301–303. (in Chinese).
- [11] LUO XW. Thoughts on accelerating the development of agricultural mechanization in China[J]. Agricultural Engineering,2011,1(4): 1–8,56. (in Chinese).
- [12] GUO DF. The sources of Pb and Cd in the environment and its harm to human and animals[J]. Progress in Environmental Science,1994,3(2): 71–76. (in Chinese).
- [13] ZHANG XM, ZHANG XY, ZHONG TY, et al. Spatial distribution and accumulation of heavy metal in arable land soil of China[J]. Chinese Journal of Environmental Science,2014,35(2): 692–702. (in Chinese).
- [14] ZHOU DC. Study on the ecological restoration technology of plants[D]. Changchun: Northeast Normal University,2006. (in Chinese).
- [15] BANUELOS GS, AJWA HA, MACKKEY B, et al. Evaluation of different plant-species used in phytoremediation of high soil selenium[J]. Journal of Environmental Quality,1997,26(3): 639–646.
- [16] RUGH C L, WILDE H D, STACK N M, et al. Mercuric ion reduction and resistance in transgenic *Arabidopsis thaliana* plants expressing a modified bacterial merA gene[J]. Proceedings of the National Academy of Sciences of the United States of America,1996,93(8): 3182–3187.
- [17] SIMON L. Stabilization of metals in acidic mine spoil with amendments and red fescue (*Festuca rubra* L.) growth[J]. Environmental Geochemistry and Health,2005,27(4): 289–300.
- [18] ZHANG P. Effect of vetiver on remediation of Pb, Zn and Cd toxicity in a soil and phytoremediation lead and zinc mining[D]. Guilin: Guangxi Normal University,2008. (in Chinese).
- [19] TANG SR, FANG YH. Copper accumulation by *Polygonum microcephalum* D. Don and *Rumex hastatus* D. Don from copper mining spoils in Yunnan Province, P. R. China[J]. Environment Geology,2001,40(7): 902–907.
- [20] WANG XL. Study on effects of heavy metal enrichment of plants in Fujian metal mines [D]. Fuzhou: Fujian Agriculture and Forestry University, 2008. (in Chinese).
- [21] HUANG HY. The absorption and accumulation as well as absorption and accumulation of ligneous plants to Cd in the soil[J]. China Environmental Science,1989,9(5): 327–333. (in Chinese).
- [22] XUE SG, CHEN YX. *Phytolacca acinosa* Roxb. (Phytolaccaceae): A new manganese hyperaccumulator plant from Southern China[J]. Acta Ecologica Sinica,2003,23(5): 935–937. (in Chinese).
- [23] GAO CX, LI C, PENG J, et al. Research status of heavy metal extraction from contaminated soil in mining areas by the plants [J]. Journal of Chongqing Technology and Business University: Natural Science Edition, 2013,30(4): 55–71. (in Chinese).
- [24] LIN ZQ, HUANG HY. The absorption and accumulation of plants to Hg in the soil and its tolerance[J]. Agro-Environmental Protection,1989,8(5):33–35. (in Chinese).
- [25] XIANG YL, LIN KF, HU QL, et al. The characteristic of cadmium (Cd) uptake in ramie and improvement of Cd pollution in farm field[J]. China's Fiber Crops,1994,16(2): 39–42. (in Chinese).
- [26] SHEN LB, WU LH, TAN WN, et al. Effects of *Sedum plumbizincicola*-*Oryza sativa* rotation and phosphate amendment on Cd and Zn uptake by *O. sativa*[J]. Chinese Journal of Applied Ecology,2010,21(11): 2952–2958. (in Chinese).
- [27] CHEN TB, ZHANG BC, HUANG ZC, et al. Geographical distribution and characteristics of habitat of As-hyperaccumulator *Pteris vittata* L. in China [J]. Geographical Research,2005,24(6): 825–833. (in Chinese).
- [28] LI TQ, ZHU E, YANG XE, et al. Studies on soil enzyme activity in rhizosphere of hyperaccumulator *Sedum alfredii* Hance[J]. Journal of Soil and Water Conservation,2007,21(3): 141–146. (in Chinese).
- [29] WANG YT, LIU PH, ZHANG SM. Cd content and contamination assessment of soil in area of Uranium Mine, East China[J]. Journal of Anhui Agricultural Sciences, 2015, 43(34): 15–17 (in Chinese).

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the construction of ecological civilization and better promote the coordinated development.

4 Conclusions

The new urbanization has rich connotation, and its realization needs multi-dimensional concept, policy and way. It plays an important role in leading, supporting, and controlling new urbanization based on ecological civilization and eventually make the two fuse and create synergy^[6]. In order to promote the new urbanization and the construction of ecological civilization, we should optimize the use of land resources, and provide space protection for the new urbanization and the construction of ecological civilization; vigorously develop the financial sector to provide financial support for the new urbanization and the construction of ecological civilization; provide information support for the new urbanization and the construction of ecological civilization by improving the information infrastructure; stick to the people-oriented principle and strive to build livable city of ecological civiliza-

tion; establish ecological compensation mechanism to promote the coordinated development of regional new ecological town; establish scientific and rational planning to provide a blueprint for promoting synergy between new urbanization and the construction of ecological civilization.

References

- [1] HE ZW, KUANG YP, LUO YH, et al. Mechanism and countermeasures of coordinated development of urbanization and small and medium enterprises clusters[J]. Chinese Science and Technology Forum, 2005(4):78–80.
- [2] BAO SY. Research on coordinated development between new urbanization and the construction of ecological civilization[J]. Realistic, 2014(8):59–63.
- [3] WANG Y, HAN P. Guide new urbanization with the concept of ecological civilization construction – Taking Mushi Town of Zaozhuang as a cases[J]. Rural Economy and Science, 2014 (12): 34–35.
- [4] LUO YH. Mechanism and path selection of coordinated development between Chinese urbanization and port logistics [J]. Journal of Chongqing Jiaotong University (Social Sciences Edition), 2015(2): 22–26.
- [5] XIAO HW. New town construction under perspective of ecological civilization[J]. Macroeconomic Management, 2014(5): 29–31.
- [6] SHEN QJ. New urbanization based on ecological civilization [J]. Urban Planning Journal, 2013 (1):29–36.