

The Review Research on Chang-Zhu-Tan Urban Agglomeration

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Abstract: Chang-Zhu-Tan Urban Agglomeration is the core growth pole of regional development, the strategic fulcrum of the rise of the central region, the typical demonstration area of the nation's Two-Oriented Society. Scholars have a wide range of research on it. In this paper, we focus on the historical origin, development, urban structure, land use, transportation, ecological environment, spatial scope, legal system construction, public participation, new technology application and so on. To research and make prospect on Chang-Zhu-Tan Urban Agglomeration. This paper argues that the Chang Zhu Tan urban agglomeration is playing an important role in the process of urbanization in China. Experts and scholars should pay attention to the theoretical and empirical research on the national strategy and the large background, and the theory and method innovation in combination with the local actual situation.

Guidelines

With the deep and systematic development of the theory and empirical research of urban agglomeration in our nation, many experts and scholars began to pay attention to the development of Chang-Zhu-Tan urban agglomeration. Chang-zhu-Tan urban agglomeration become the national synthetically reform testing district in December 14, 2007. It can not only guide the development of Chang-Zhu-Tan urban agglomeration, but also have important reference significance to other cities in the same development stage. This paper summarizes the research status of the Chang-Zhu-Tan urban agglomeration systematically, makes a comment and puts forward some worthy studying directions.

History of Chang-Zhu-Tan Urban Agglomeration

Chang-Zhu-Tan urban agglomeration has a long history, Changsha, Zhuzhou, Xiangtan were formed in the Warring State Period(770 B.C. - 221 B.C.), Three Kingdoms period(220 years-280 years) and The Sui Dynasty(581 years- 618 years). Three cities are in the relative locations of“triangle” in the lower reaches of Xiangjiang, the center distance between each other is less than 40 kilometers. Our national approval of the Chang-Zhu-Tan urban agglomeration to become “a omprehensive reform pilot area of national resource-saving and environment-friendly society" in December 14, 2007 and create a new situation in the development of the Chang-Zhu-Tan urban agglomeration.

Research Status of the Chang-Zhu-Tan Urban Agglomeration

Experts and scholars involves a wide range of Chang-Zhu-Tan urban agglomeration, including the development of urban agglomeration, urban structure, land use, transportation, ecological environment, the definition of the scope of space, legal construction and public participation, new technology applications, etc..

The Development of Urban Agglomeration. Building urban and rural economic and social integration development evaluation index system and evaluation model and the development of the integration of urban and rural areas of Chang-Zhu-Tan urban agglomeration research carried out by Chen Xiangman[1]. Zhang Yabin believes that to achieve the goal of industrial development of the two oriented society of Chang-Zhu-Tan urban agglomeration, should be a reasonable layout of the regional industry, implementation of information driven, new industrialization and new urbanization development initiatives [2]. Qualitative and quantitative evaluation of Shi Yuhui on the impact of innovation on the industrial cluster of Chang-Zhu-Tan.

Urban Agglomeration and Urban Structure. Quantitative analysis was carried out by Zhou Guohua for urban system in Chang-Zhu-Tan from the scale of non agricultural population and urban comprehensive strength level two angles and proposed the construction of four levels in the area of the proposed system of grade [3]; Zhu Shunjuan believes that the integration of spatial structure optimization and integration of Chang-Zhu-Tan urban agglomeration should be formed into “ A nuclear five multi node, three axis and five circles”.

Urban Agglomeration Traffic. He Shaoyao based on the integration of transportation planning and Chang-Zhu-Tan urban agglomeration, to discuss the problems and solutions in the development of urban agglomeration, and put forward the integration method of urban agglomeration transportation planning and optimization principles [5]; Zhang Guohua studies the development trend of the integrated transportation of Chang-Zhu-Tan Expressway and proposed the idea of Huanghua Airport - high-speed railway comprehensive transportation hub of Chang Zhu Tan urban agglomeration spatial structure reconstruction scheme and development [6]; The traffic efficiency and traffic evolution of the core area of Chang-Zhu-Tan urban agglomeration were studied by using GIS technology, such as Wang Weidong and [7]~[8] respectively.

Legal Construction and Public Participation. Lan Ling believes that public participation is an effective way to realize the sustainable development of Chang-Zhu-Tan urban agglomeration. It is the only way to reduce the environmental pollution[9]. Peng Liqun put forward that the rational legislative model of Chang-Zhu-Tan is not only the basic administrative division of the three places and strengthen the construction of the responsibility system in the legislation of the regional economy of Chang-Zhu-Tan at the same time.[10]

Ecological Environment. Zhu Yulin based on the relevant statistical data of the 2008 year old Chang-Zhu-Tan urban agglomeration. Based on the comprehensive evaluation index system of urban ecological civilization, the ecological civilization degree of Chang Zhu Tan urban agglomeration was analyzed by the empirical analysis [11]; The urban ecosystem health assessment model and method based on the theory of the application of the theory of Xiong Ying, the ecological system of Chang Zhu Tan urban agglomeration was evaluated [12];

Summary of the study on the Chang-Zhu-Tan urban agglomeration

A comprehensive study on the Chang-Zhu-Tan urban agglomeration, despite the late start, but through the unremitting efforts of many scholars, we breakthrough in the theoretical research and empirical research and other aspects, broaden many new areas. Shows the following characteristics:

a. Diversification of research perspective. As the whole nation unique geographical space unit, scholars mainly from the perspective of geography, urban and rural planning, economics, sociology, ecology and so on, and the theoretical system has been perfected.

b. Combination of qualitative and quantitative research. On the basis of abundant theoretical research, many scholars from the urban and rural integration, economic relations, transportation development, ecological environment, spatial extent of the definition of the Chang-Zhu-Tan urban agglomeration conducted a quantitative analysis, to achieve a combination of qualitative and quantitative.

c. Focus on Industry Research. Combined with the existing research results of Chang-Zhu-Tan urban agglomeration, it has the higher proportion on the industrial layout, industrial structure optimization, the development of industrial integration. It not only shows the scholars' attention to the industrial research, but also reflects that the area has a lot of problems in the process of industrial development.

d. Application of new technology. With the increasing maturity of 3S and other new technologies. These new technologies have been widely used in the field of land use, spatial structure, ecological environment and so on. It is not only conducive to the implementation of scientific dynamic monitoring of urban agglomeration, but also help to scientifically predict the development trend of urban agglomeration.

The theory of the urban agglomeration of Chang-Zhu-Tan urban agglomeration is a multi discipline and comprehensive highlight, but the subject is still lack of full integration. We should integrate the various disciplines to form a perfect theoretical system and provide theoretical support for scientific planning and sustainable development. And the study of the works of Chang Zhu Tan city group is not much, and it has not yet formed the integrity and systematization;

Urban agglomeration in the area has been exacerbated by the spread of the Chang-Zhu-Tan urban agglomeration. Such as urban space layout chaos, the central area population and construction density is too large, traffic congestion, housing shortage, environmental pollution, ecological deterioration, etc. The research on the integrated management of the related integration is not enough;

The identification of the spatial extent of the Chang Zhu Tan urban agglomeration is a complicated problem. At present, most people think that the spatial range of the city group of Chang-Zhu-Tan is Changsha, Zhuzhou and Xiangtan three cities or "3+5" city administrative region combination. However, due to the development trend of urban agglomeration and spatial radiation range is dynamic, it is difficult to define the clear space limits. In order to realize the stable and healthy development of the urban agglomeration, it is necessary to define the scope of its space scientifically, and its growth boundary.

At present, the research on the government function, the legal system construction and the public participation of the Chang-Zhu-Tan urban agglomeration is lack of enough attention.

Prospect of the research on the urban agglomeration of Chang-Zhu-Tan

As the national level "two oriented society" construction comprehensive reform pilot area of Chang-Zhu-Tan urban agglomeration, it's developmental objective is trying to get out of a new path of Urbanization with "two industry" as the support of the new type of industrialization and environmental livable, urban and rural co-ordination to build a

competitive city group and trying to build the core of the development of the Hunan growth pole, the central rise of strategic fulcrum and typical demonstration area of the two oriented society in our nation. Therefore, the research on the Chang-Zhu-Tan urban agglomeration has a very broad space in the future.

At present, China's economy and the world economy are highly correlated, regional economy and national strategy are closely related. The the Chang-Zhu-Tan urban agglomeration should seize the national construction development strategy of "The Belt and Road", into the world economic system, actively carry out regional economic factors, urban and rural resources allocation and regional market integration research, to create an open, inclusive, balanced, inclusive regional economic growth.

Research on the transformation of economic structure of Chang-Zhu-Tan urban agglomeration under the background of large data. Big data represents the development of information technology has entered a new era, the explosion of data information to the technical challenges and difficulties brought about by the traditional computing technology and information technology, the data processing needed new techniques and methods, also on behalf of big data analysis and application of the new invention, new services and new development opportunities. In the era of big data, the dynamic mechanism of industrialization to promote urbanization will be a qualitative change, the economic structure will shift from industrial production to modern service industry and modern commercial. Therefore, the Chang-Zhu-Tan urban agglomeration should advance with the times, and strive to achieve the transformation and development of economic structure in the context of large data.

With the implementation of the national "overall plan for the reform of the system of ecological civilization", Chang-Zhu-Tan urban agglomeration has a new opportunity for development. Study on the population, economy, resources and environment balance of the ecological civilization mechanism of the Chang-Zhu-Tan urban agglomeration, as well as the research of population size, industrial structure and the carrying capacity of local water and soil resources; To carry out the mechanism of urban and rural governance, the functions of the government, legal construction and public participation of public policy research, the construction framework of area in urban and natural mutual role relationship, promote the sustainable development of Chang-Zhu-Tan urban agglomeration.

Conclusion

Chang-Zhu-Tan urban agglomeration is playing an important role in the process of urbanization in China. At present and in the future, Chinese experts and scholars pay attention to the theoretical and empirical research in the national strategy, the big background is very necessary. In addition, the Chang-Zhu-Tan urban agglomeration is an important growth pole in the central region of China. The research on it also needs the innovation of theory and method in combination with the local actual situation.

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Reference

- [1]X.M. Chen, Y.S., Z.Y Zou. Measurement and evaluation of urban and rural integration of the urban agglomeration of the ring of the Chang Zhu Tan City [J]. *eco economy: Academic Edition*, 2013 (2): 65-69.
- [2] Y.B. Zhang, H.S. Ai. Construction of two oriented society and construction of new industrial system [J]. *Journal of Hunan University: Social Science Edition*, 2009,23 (4):

135-140.

- [3] G.H. Zhou, X. Zhu, C.L. Tang. Optimization of urban hierarchy system of Chang Zhu Tan City [J]. Yangtze River basin resources and environment, 2001, 10 (3): 193-198.
- [4] S.J. Zhu. The spatial structure of Chang Zhu Tan urban agglomeration and Its Optimization Research [D]. doctoral dissertation of Central South University, civil engineering.2012:1-18
- [5] S.Y. He, Y.L. Ma, B. Xia. Study on transportation planning and integration of Chang Zhu Tan urban agglomeration [J]. urban planning, 2009,33 (7): 45-50.
- [6] L.L. Li, G.H. Zhang. Effects of comprehensive high speed transportation hub on urban spatial structure: a case study of Chang Zhu Tan area [J]. urban planning, 2009,33 (3): 93-96.
- [7] W.D. Wang, J. Wang, J. Wu. Changsha Zhuzhou Xiangtan City Cluster road traffic efficiency comparative study [J]. Journal of railway engineering, 2014 (3): 25-32.
- [8] week Zhesi, Changsha Zhuzhou Xiangtan city group core area traffic evolution [J]. Journal of Changsha University, 2014,28 (2): 54-57.
- [9] L. Lan. The necessity and feasibility of public participation in the construction of Chang Zhu Tan "two society" [J]. Journal of Hunan University of Technology: Social Science Edition, 2010,15 (5): 110-113.
- [10] L.Q. Peng. The choice of the legislative model of economic integration of Chang Zhu Tan [J]. Xiangtan University
Journal of philosophy and Social Science Edition, 2011,35 (2) 11-14.
- [11] L.Z. Yu, M.J. Li, Y. Liu. Based on the grey relational degree of urban ecological civilization comprehensive evaluation -- in Changzhutan Urban Agglomeration as example [J]. Central South Forestry University of science and technology: Social Science Edition, 2010,4 (6): 85-89 (5): 77-80.
- [12] Y. Xiong, H. Chen. Ecological system health evaluation of Chang Zhu Tan urban agglomeration based on the attribute theory [J]. Journal of ecological environment, 2010,19 (6): 1422-1427.