

Response to Reviewer 1 Comments

Dear reviewer,

First of all, we would like to thank you for your affirmation on the significance of research. Your pertinent review suggestions should well guide the quality improvement of this paper.

We responded to the comments point by point, and explained our modification work for each comment. Please review the details as below.

Point 1: In the abstract, the authors claim that evaluation of the coordinated development of county urbanization can provide a basis for enhancing public service functions in urban-rural harmonious development. But, they argue that industrial agglomeration is the main factor in the process of urbanization in western china. How about the public facilities in this manuscript?

Response 1:

This opinion points out a key issue with China's special characteristics. The purpose of this paper is to provide theoretical ideas for the government to allocate public resources through the evaluation of county urbanization development. It is confirmed that the driving force of county urbanization mainly comes from industrial agglomeration. Actually there is no conflict between county industrial agglomeration and public facilities construction in counties of China. Industrial agglomeration in county has a close correlation with the construction of public facilities in China.

First of all, industrial agglomeration depends on the public facilities. It is different from the development mode of spontaneous industrial agglomeration in cities. China's county is the representative of the vast rural areas. Compared with the city, the county is relatively backward, and its element gathering capacity is insufficient. China's county industrial agglomeration largely depends on the government's planning for economic development. That is particularly prominent in western counties. In recent years government plans to move the large-scale manufacturing industry to small towns in the central and western regions, and guides industries to form cluster in the counties through financial inclination. For example, Shaanxi provincial government introduced *THE POLICY OF ACCELERATING THE DEVELOPMENT OF COUNTY INDUSTRIAL CONCENTRATION AREAS AND INDUSTRIAL PARKS* in 2018 (See the official website of Shaanxi Provincial government http://www.shaanxi.gov.cn/zfxxgk/zfgb/2018_3966/d11q_3977/201806/t20180619_1638029.html). And one of the important tasks of Development and Reform Commission in 2020 is the construction of County Industrial Park, through the construction of industrial park to guide the industrial agglomeration of counties.

In addition, although the main driving force of county urbanization is industrial agglomeration, population agglomeration also has a considerable contribution. Population agglomeration in the county is affected by the construction of production and living public facilities. Through the construction of public facilities it could form a high-quality production, living, and ecological space in the county which should strengthen the attraction to the

agricultural transfer population. All in all, the construction of public facilities assist the county population, industry and other factors gathering, and then enhance the county economy and urbanization.

Considering that the description of the relationship between China's county public facilities and industrial agglomeration is not clear, which may cause understanding obstacles for international scholars, we clarified the relationship from two aspects:

1) We explained the relationship between urbanization and public facilities in the particularity description of China county which is in the Introduction section. See the 5th paragraph of Introduction on page 3;

2) We explained the way to guide County Industrial Agglomeration through infrastructure construction in the part of policy recommendations which is both in 4th paragraph of the Discussion on the page 22 and 2nd paragraph of Conclusion section on the page 23.

Point 2: The relationship between urbanization development and that coupling coordination is not explained from the view of so-called "increment" and "quality improvement", and core-edge discussed in the abstract. It is necessary to describe the contribution to literature clearer.

Response 2:

“Increment” and “Quality Improvement” are terms describing the stage of China's economic and social development. “Increment” refers to the rapid development stage which generally refers to the urbanization stage of China's rapid economic expansion in the past. “Quality Improvement” refers to achieving high-quality development through improving efficiency. In this stage, it not only emphasis economic expansion, but also pay more attention to coordinated, efficient and green sustainable development.

“Increment” and “Quality Improvement” are two terms widely used in China's development policy, so we had not made much explanation before. This may affect the understanding of this paper by international scholars. Therefore, we have a more in-depth elaboration on this feature in corresponding part of this paper, and meanwhile we have a detailed discussion on the core-edge structure feature. The specific amendments are as follows:

1) In the part of comprehensive urbanization development trend, we explained the “Increment” and “Quality Improvement” stage of China's economic and social development. See the 1st paragraph of 3.1.1 on the page 8.

2) Added the content of discussing the core-edge structure of comprehensive and subsystem urbanization spatial distribution (The contents of the two maps) respectively in the 3rd paragraph of 3.1.1 on the page 10 and the 3rd paragraph of 3.1.2 on the page 14.

3) In the part of population-land-industry coupling coordination degree, we added the discussion of the stage “Increment” and “Quality Improvement”. Furthermore, combined with the characteristics of urbanization development trend in section 3.1.1, we discussed the relationship between urbanization development and that coupling coordination. See the 1st paragraph of 3.2.1 on the page 16.

4) In the part of Discussion, the development characteristics of county urbanization are elaborated around the stage of “Increment” and “Quality Improvement”. See the second paragraph of the 4 section (Discussion) on page 22.

In addition, we have made the following amendments to improve this paper:

First of all, we reconstructed the process of theoretical demonstration. From the perspective of rural urbanization, we re-demonstrated the significance and particularity of county urbanization.

Secondly, we added the scientific demonstration in the process of index construction and calculation. To increase the scientific basis for the index selection and add a robustness analysis of the algorithm by comparing results get from four calculation methods.

Finally, we adjust the logic and details of the whole article comprehensively. We revised the English expression to the whole paper, added a structure description, raised the clarity of maps, added description of the source and year of figures, etc.

Please review the details in the revised manuscript, thank you again!

Sincerely all the authors of this paper