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Study on the path of Xi Jinping's ecological view for the high quality development of islands

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Abstract

Purpose – The island areas, in particular, are characterized by a more fragile ecological carrying capacity and higher value of resources and environment, which requires us to take Xi Jinping's green ecological development view as the theoretical basis and adhere to the high-quality development path of gradual development and ecological environment priority. Taking Shengsi and Daishan counties as examples, on the basis of their high-quality development evaluation and identification of the main influencing factors, this study explores the specific path of Xi Jinping's ecological development view in the high-quality development of typical island counties in China.

Design/methodology/approach – This paper applies the interpretative structural model to construct an evaluation index system for the high-quality development of the island. In determining the factor weights of the index layer, the AHP hierarchical analysis method was combined with the Delphi method to increase the objectivity of the assignment process as much as possible. This study used the technique for order of preference by similarity to ideal solution to calculate island high quality development index. To measure the main obstacle factors, the index factor contribution rate, the index factor deviation, and the index factor obstacle degree were applied in this research.

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Corrigendum: It has come to the attention of the publisher of the *Marine Economics and Management* that the following article by Zhang, K., Tian, S.-Z., Yang, B., Guo, X.-C. and Zhang, Y.-F. (2022), "Study on the path of Xi Jinping's ecological view for the high quality development of islands", *Marine Economics and Management*, Vol. 5 No. 1, pp. 56-68. https://doi.org/10.1108/MAEM-09-2021-0008, showed Funding information in place of the Abstract's Findings in error. The missing Findings are now included in the article.

The authors sincerely apologise to the readers for any inconvenience caused.

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Findings – As China intensifies its maritime strategy, the sustainability of coastal and island regions is critical, particularly given their fragile ecosystems and high resource value. Our study reveals a declining trend in the high-quality development index for Shengsi, peaking at 0.4262 in 2010 and dropping to 0.3261 in 2012. To reverse this, it's essential to align with President Xi Jinping's green ecological development framework and commit to a high-quality development pathway.

Originality/value – The connotation and extension of Xi Jinping's view of ecological development should be continuously studied in depth and enriched, with green development as the core idea to guide the correct direction of the high-quality development of the island. In this paper, it is suggested that researchers are supposed to focus on these problems, such as the changes of sea water quality, the reduction of urban greening, the continuous negative growth of population in island areas, the decline of forestry added value and air quality protection, so as to ensure the sustainable high-quality development of example islands.

Keywords Xi Jinping's ecological view, Island evaluation, High-quality development, Path

Paper type Research paper

1. Introduction

Marx provided considerable theoretical foundations for ecological and green development and our party is a political party with Marxism as its guiding ideology. Xi Jinping's remarks on green development also reflect the rich connotation of the green development perspective. It is of far-reaching theoretical and practical significance to study Xi Jinping's application of the Marxist theory to solve a variety of practical problems that have appeared during the rapid development of China's economy and society. Since the 18th National Congress of the Communist Party of China (CPC), Xi Jinping has confronted a series of ecological and environmental problems in the practice and assessment of socialism in China. Since the fifth plenary session of the 18th CPC central committee, green development has been the center of the five development concepts proposed by our party. With the expansion and progress of China, the concept of green development has been gradually transformed from a perspective of economics to the basic consensus of China's economic and social development. Therefore, government and academia should also take into account the ideological connotation, specific content and green development path considered by different regions.

In 2018, the approach called "Xi Jinping Thought on Ecological Conservation" was formally introduced at the National Conference on Ecological and Environmental Protection, and its content was systematically and clearly demonstrated. After the 19th National Congress, a green-oriented perspective for ecological development, which is based on Xi Jinping's ecological thought, has been gradually created. In the report of the 19th National Congress, Xi Jinping pointed out "we will pursue coordinated land and marine development and increase efforts to transform China into a strong maritime country". At this stage, the marine economy has become the growth pole of China's economic development. It is evident that ensuring the vigorous development of the marine economy is one of the basic conditions necessary to achieve marine power. The new expression of high-quality development presented in the 19th National Congress in 2017 indicated that China's economy has shifted from the stage of high-speed growth to the stage of high-quality development. The establishment and improvement of the economic system of green and low-carbon circular development was proposed in the report of the 19th National Congress. Herein, the guidelines for high-quality development consider that the vitality, innovation and competitiveness of economic and social progress are inseparable from green development. In other words, green development is an important symbol of China's shift to high-quality development.

China is rich in coastline resources and has a large number of islands. The coastal zone and islands have become essential in the process of building a marine power strategy that considers their high-quality development. In order to avoid irreversible damage to the fragile ecosystems caused by excessive human activities in China's island regions, these zones urgently need to implement the high-quality development with the guidelines already mentioned. In the present study we proposed an evaluation index system for the high quality development of the island area, and identified the main potential obstacles. Herein, we suggest a specific path to successfully achieve the high-quality development of the island considering Xi Jinping's view of ecological development.

Most relevant studies have focused on the evaluation of sustainable development. Shi *et al.* (2004) proposed a coastal zone sustainable development evaluation index system, and used it to evaluate the Chongming Island, Shanghai. Kondyli (2010) used systematic analysis and built an integrated indicator to measure and evaluate the sustainable development of North Aegean Islands. Wang and Wei (2009) created an index system and model for evaluating sustainable development of islands. Samara *et al.*, 2015 proposed different criteria and indicators for sustainable land use planning in Skiathos Island, Greece. Chen (2019) used conditional logistic regression model and stochastic parametric logistic regression model to analyze the development of sustainable tourism in Lanyu Island. Kurniawan *et al.* (2019) selected the Gili Matra islands and used the socio-ecological status index, the coastal waters quality index and the coupling index to study the socio-ecological status in the tourism region. Long *et al.* (2020) applied an improved three-dimensional ecological footprint and urban-scale human development index and proposed a model to evaluate the ecological health of the islands. Nestico and Maselli, 2020 built the evaluation index data set for sustainable island tourism. Xu *et al.* (2020) used the entropy weight method and unstructured decision-making fuzzy set theory and proposed an evaluation model for the sustainable development of island tourism in the context of smart tourism. Also, Chen *et al.* (2021) built a perception-based method for evaluating the ecological sustainability of island tourism sites. Fang *et al.*, 2021 created the evaluation index system, evaluated the sustainable development capability of Hainan Island's blue economy.

In general, there are two shortcomings in related research at home and abroad as follows. Firstly, there is a lack of comprehensive quantitative evaluation research on the high-quality development of the island. Failing to comprehensively consider the conflicts between islands, land and oceans, nature and society and development and protection. Therefore, the proposed countermeasures lack systematic and comprehensiveness. Secondly, there is a lack of in-depth research on hindrance mechanisms of island development. At the same time, the theoretical basis for the evaluation of the sustainable development of islands is relatively weak.

In the present research, we built an index system for evaluating the high-quality development of islands that are applying Xi Jinping's ecological thought. In addition, in order to formulate a specific path for implementing Xi Jinping's ecological development view and promote the high-quality development of islands, we analyzed the main influencing factors.

2. Materials and methods

2.1 Research area

During the presidency of Zhejiang Province, Xi Jinping gradually formed the idea of ecological civilization with green development as the main theme. In the present study, we selected the Shengsi and Daishan counties located in the Zhoushan city of the Zhejiang Province as case-study regions (Figure 1).

The Shengsi Archipelago consists of 404 islands of various sizes, including Big Yangshan Island, Little Yangshan Island, Flower Bird Island and Shenjiawan Island. Among them, 13 islands display a population size of 100 or more. Shengsi Island group is located in the eastern part of Hangzhou Bay and the southeastern part of the mouth of the Yangtze River, with a total land area of 86 km^2, 8,738 km^2 of surrounding sea area and a total coastline length of 471.35 km. Shengsi Island group, which is under the jurisdiction of Shengsi county, Zhoushan city, Zhejiang province, was included in the second batch of regions awarded with the title of the national ecological civilization construction demonstration cities and counties in December 2018.

Daishan island group is composed of 660 islands of various sizes and shapes, including Daishan, Big Changtu Mountain, Little Changtu Mountain and Qushan, among others.

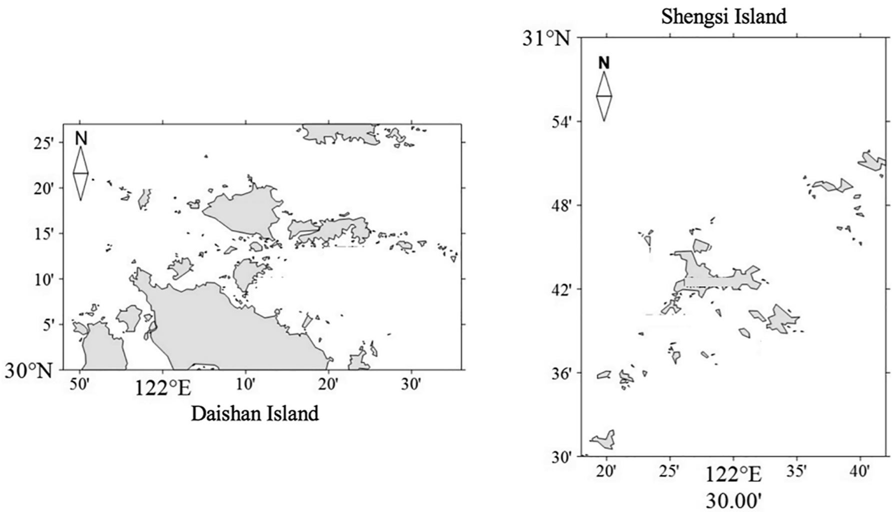

Figure 1.
Example area location
diagram

Between them, only 16 are inhabited. The Daishan Island group is located in the vast waters of northeastern Zhejiang Province in the middle of the Zhoushan Islands, and is delimited by the Shengsi Island group to the north and supported by developed metropolises such as Shanghai and Hangzhou. The total land area of the islands in the Daishan group reaches 326.5 km^2, the total sea area under the jurisdiction of this island group is about 4,916 km^2, and the total length of the coastline is greater than 717 km.

2.2 Research method

2.2.1 Weighting method. In the present study, we applied the interpretative structural model to create an evaluation index system for the high-quality development of the island. In order to determine the factor weights of the index layer and increase the objectivity of the assignment process as much as possible, the Analytic Hierarchy Process (AHP) method was combined with the Delphi method. The Delphi method is an expert consultation method. Back-to-back consultations with well-known experts and scholars in related fields were carried out to predict the future market opinions or decision methods (Feng, 2006). As an analytical method for calculating the weights of different levels, the AHP simplifies the multi-level index weight assignment to compare the importance of each index relative to the upper criterion level, which in turn facilitates the objective assignment of each index at multiple levels (Xu, 2005).

2.2.2 Evaluation method. With the purpose of calculating the island high quality development index, we used the technique for order of preference by similarity to ideal solution (TOPSIS). In this method, the positive and negative ideal solutions are selected, and the proximity of the evaluation object to the two solutions is calculated to determine the value of the evaluation index. In recent years, TOPSIS method has been widely used in the field of sustainable development evaluation, providing a proper accuracy and objectivity.

The first step was to build a standardized matrix. The normalization method was used to calculate Formula (1):

$$X_{i,j}^{*} = \frac{x_{i,j}}{\sqrt{x_{1,j}^{2} + x_{2,j}^{2} + \cdots x_{m,j}^{2}}}, \; i = 1, 2, \; \cdots m; \; j = 1, 2, \; \cdots n \tag{1}$$

The original data, which corresponds to the initial value of the ith index of the jth island group in each year in the study period, were normalized to get the matrix X*.

The second step was to construct a standardized evaluation matrix. The normalization matrix X^* was multiplied by the corresponding weight value to get the normalized evaluation matrix Y.

The third step was to determine the positive and negative ideal solutions. The evaluation indicators were divided into positive y_{ij}^+ and negative indicator y_{ij}^-. In addition, for the study period Y^+ was set as the positive ideal solution for the ith indicator in the evaluation data for each island group. The maximum value of the positive index y_{ij}^+ and the minimum value of the negative index y_{ij}^- were selected.

$$Y^+ = \left\{ \max_{1 \le i \le m} y_{ij}^+, \min_{1 \le i \le m} y_{ij}^- \right\} = \left\{ y_1^+, y_2^+, \cdots, y_m^+ \right\}, i = 1, 2, \cdots m \tag{2}$$

$$Y^- = \left\{ \max_{1 \le i \le m} y_{ij}^-, \min_{1 \le i \le m} y_{ij}^+ \right\} = \left\{ y_1^-, y_2^-, \cdots, y_m^- \right\}, i = 1, 2, \cdots m \tag{3}$$

The fourth step was to calculate the distance from the positive and negative ideal solutions. The distance was calculated using the Euclidean distance measurement formula (Lei and Qiu, 2016). D_i^+ indicated the distance of the $y_i^+ (i = 1, 2, \cdots, m)$ ith index, while D_i^- corresponded to the distance of the $y_i^- (i = 1, 2, \cdots, m)$ ith index. The corresponding formulas are shown in Equations (4) and (5):

$$D_i^+ = \sqrt{\sum_{j=1}^{n} \left(y_i^+ - y_{ij} \right)^2} \tag{4}$$

$$D_i^- = \sqrt{\sum_{j=1}^{n} \left(y_i^- - y_{ij} \right)^2} \tag{5}$$

In Formulas (4) and (5), $i = 1, 2, \cdots, m, j = 1, 2, \cdots, n$. The term y_{ij} corresponds to the standard value after the weighted normalization calculation of the ith indicator in the jth island group for a given year.

The fifth step was to calculate the post progress. The closeness degree, expressed as C_i, refers to the closeness level of the relative relationship between the evaluation object and the positive and negative ideal solutions. Calculations were performed using Equation (6).

$$C_i = \frac{D_i^-}{D_i^+ + D_i^-}, (i = 1, 2, \cdots, m) \tag{6}$$

2.2.3 Identification of main obstacle factors. In order to measure the main obstacle factors of the island high quality development index, we used the index factor contribution rate, the index factor deviation, and the index factor obstacle degree.

The index factor contribution was calculated as shown in Equation (7):

$$F_j = R_j \times W_j \tag{7}$$

Where W_j represents the weight value of the jth indicator, and R_j indicates the weight of the jth index factor corresponding to the criterion layer.

The index factor deviation was calculated as indicated in Equation (8):

$$I_{i,j} = 1 - \overline{X}_{i,j} \tag{8}$$

Where $I_{i,j}$ is the deviation degree of the index factor of the jth island high quality development index factor in the i year, and $\overline{X}_{i,j}$ represents the standardized value of the evaluation index factor of the jth item in year i.

The index factor obstacle degree was calculated using Equations (9) and (10):

$$o_{i,j} = F_j \times I_{i,j} \Big/ \sum_{j=1}^{m} F_{i,j} \times I_{i,j} \times 100\% \tag{9}$$

$$O_{i,j} = \sum_{j=1}^{m} o_{i,j} \tag{10}$$

Where $o_{i,j}$ indicates the degree of impact of the j index in the ith year on the relevant elements of island high quality development index, m represents a total of m evaluation index factors and $O_{i,j}$ is the obstacle degree for each evaluation index factor of the island high quality development index.

3. Evaluation index system

Taking into account an in-depth understanding of Xi Jinping's view of ecological development, in the present research we applied interpretative structural modeling to build an evaluation index system for high quality development of islands. Specifically, Comrade Xi Jinping has formed a green-oriented vision of ecological development, including the connotations of green development, green performance, green production mode and green lifestyle. He has pointed out that the development needed by China at this stage is the one that involves the development of both, economy and society. "We are supposed to look at not only economic growth indicators, but also social development indicators, especially humanistic indicators, resource indicators, and environmental indicators". We are also supposed to achieve "benign interaction between production, life and ecology". He introduced the perspective of "green GDP" and stated that "Lucid waters and lush mountains are invaluable assets", "to destroy the ecological environment is to destroy productivity; to protect the ecological environment is to protect productivity, and to improve the ecological environment is to develop productivity". Therefore, considering the three ideas of production, life and ecology, we set up three criteria layers: green production mode, green lifestyle and green protection mode. After consultation with experts in the industry, we finally proposed an evaluation index system for the high-quality development of the islands, which is composed of 25 index layer factors (Table 1).

Relevant data from 2010 to 2020 were collected separately, and island high quality development index of Shengsi and Daishan were evaluated.

4. Case study

4.1 Evaluation results

4.1.1 High quality development index. The evaluation results of the island quality development index of Shengsi and Daishan counties from 2010 to 2020 are shown in Figure 2. According to the results, the high-quality development in Shengsi shows an overall decreasing trend. The highest value corresponded to 2010 (0.4262) and the lowest value to 2012 (0.3261). Specifically, the period 2010–2012 showed a decreasing trend with a drop of 23.49%. In addition, between 2012 and 2015, a rising trend was observed, with an increase of 22.36%. The period 2015–2020 presented a fluctuating descending trend with a decline of 7.67%.

Between 2010 and 2020, the evaluation results of the high-quality development in Daishan showed an increasing trend, with the highest value appearing in 2020 (0.4421), and the lowest one in 2012 (0.3220). Specifically, the 2010–2012 periods displayed an initial increasing trend to finally decrease. The corresponding value was reduced in 5.68%. Also, section 2012–2020

Table 1.
Evaluation index system for the high-quality development of islands

Type	No	Index	Direction	Weight
A: Green production mode (0.2984)	A1	Per capita green GDP (万元)	+	0.0423
	A2	Proportion of tertiary industry (%)	+	0.0396
	A3	Growth rate of tertiary industry added value (%)	+	0.0312
	A4	Increase rate of tertiary industry investment (%)	+	0.0297
	A5	Change rate of marine economic added value (%)	+	0.0368
	A6	Proportion of aquaculture output (%)	+	0.0413
	A7	Change rate of forestry added value (%)	+	0.0432
	A8	Growth rate of total tourism revenue (%)	+	0.0343
B: Green lifestyle (0.3019)	B1	Natural population growth rate (%)	+	0.0398
	B2	County-wide rate of change in electricity consumption (%)	+	0.0372
	B3	County-wide water Supply (万 *t*)	+	0.0465
	B4	Change rate of real estate development investment completion (%)	+	0.0271
	B5	Penetration rate of internet user (%)	+	0.0262
	B6	Annual change rate of total import and export volume (%)	+	0.0337
	B7	Output change rate of agricultural and livestock products (%)	+	0.0271
	B8	Number of medical practitioners per 1,000 population (persons)	+	0.0323
	B9	Engel coefficient (%)	+	0.0320
C: Green protection mode (0.3997)	C1	Day and night average value in acoustic environment (dB)	−	0.0326
	C2	Greening rate of urban and town (%)	+	0.0572
	C3	Per capita public green space Area (m^2)	+	0.0511
	C4	Forest coverage (%)	+	0.0523
	C5	Rate of garbage harmless treatment (%)	+	0.0473
	C6	Centralized treatment rate of urban sewage (%)	+	0.0462
	C7	Proportion of days with excellent air quality (%)	+	0.0557
	C8	Compliance rate of sea water quality (%)	+	0.0573

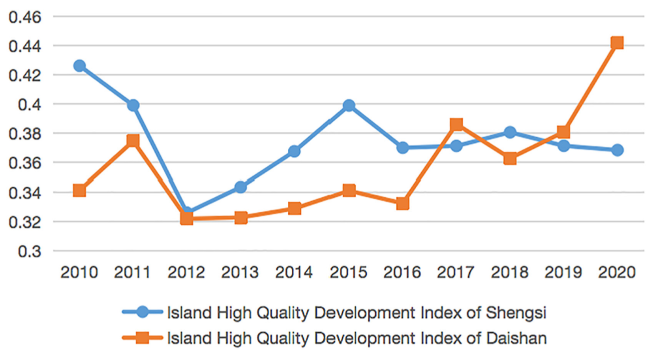

Figure 2.
2010–2020 Evaluation results of high-quality development index of islands

showed a fluctuating upward trend, with an increase in 37.3%. In 2010, Daishan's high quality development level was significantly lower than that of Shengsi, and the value was only 80.1% of that of Shengsi. However, after years of development, the results for Daishan surpassed those of Shengsi for the first time in 2016. By 2020, the results corresponding to Daishan's high-quality development evaluation results were 1.2 times of Shengsi.

From 2018 to 2020, Daishan vigorously promotes high-quality development. It has been selected for three consecutive years in the list of the top 100 counties (cities) in the country's county-level economic investment potential issued by the Chinese Academy of Social Sciences. This also indirectly confirms the accuracy of the evaluation of the model constructed in this research. Daishan has successively introduced 24 high-tech enterprises with a total investment of more than 7 billion CNY. At the same time, take the opportunity of technological innovation and talent introduction to promote the implementation of industrial innovation centers and industrial demonstration research institutes. Daishan is committed to building a beautiful large island garden in the whole region. In the future, the "Daishan Land and Space Planning" is expected to be completed with high standards. This will promote a new pattern of coordinated and the high-quality development of ports, industries, cities and people's lives.

4.1.2 Green production index. The results for the green production index of the guideline level factor for 2010–2020 are shown in Figure 3. Except for 2011, the green production index of Shengsi exceeded that of Daishan. The maximum difference between the two occurred in 2015, with a value of 0.1781. The lowest value for the green production index in Shengsi occurred in 2012 (0.3092). In addition, the highest value corresponded to 2015 with an evaluation result of 0.5003. Herein, the highest value was 1.62 times the lowest value. With respect to Daishan, the smallest green production index value occurred in 2012 (0.3039). Moreover, the highest value corresponded to 2011 (0.4191), which was 1.38 times the smallest one. In terms of green production, the implementation and promotion of relevant work in Shengsi was better than that in Daishan.

4.1.3 Green living index. The results for the green living index of the guideline level factor for 2010–2020 are shown in Figure 4. In 2010, the Daishan green living index was far inferior to that of Shengsi. Specifically, Daishan index value was 72.55% of that of Shengsi. However, Daishan green living index surpassed that of Shengsi for the first time in 2016, and this value

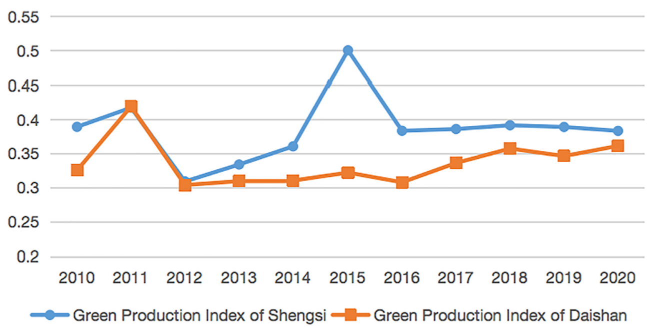

Figure 3.
2010–2020 Green production index evaluation results

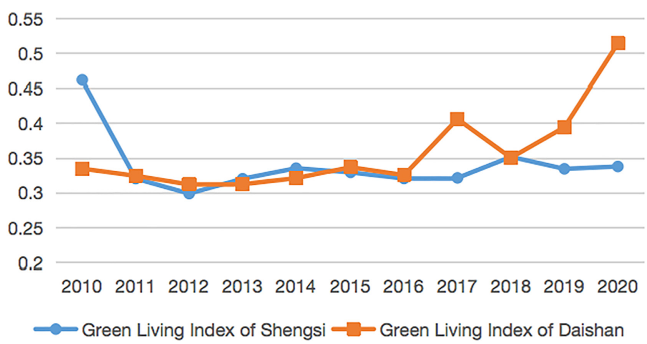

Figure 4.
2010–2020 green living index evaluation results

substantially exceeded that of Shengsi in 2020. In this case, Daishan green living index was 1.52 times that of Shengsi. The lowest value of Shengsi green living index was that of 2012 (0.2991). In addition, the highest value occurred in 2010 (0.4619). According to our data, the highest value was 1.54 times the minimum one. With respect to Daishan, the smallest green living index corresponded to the year of 2012, where value was 0.3123. Also, the highest value appeared in 2020 (0.5142), which was 1.65 times the smallest one. In 2010, green lifestyle in Daishan was 71.62% that of Shengsi. However, from 2011 to 2016, values for both cities were similar, with slight differences. Moreover, in 2017, the Daishan green living index was significantly better than that of Shengsi. Additionally, in 2020, the Daishan green living value substantially exceeds that of Shengsi, since it was 1.52 times higher.

4.1.4 Green protection index. The green protection index results from 2010 to 2020 are shown in Figure 5. Except for 2020, in every year the green protection index of Shengsi exceeded that of Daishan. The largest difference, which was of 0.1128, was observed in 2010. The lowest Shengsi green protection index value occurred in 2020, with a number of 0.4644. The highest value (0.5668), which was 1.22 times the lowest value, was observed in 2011. The smallest Daishan green protection index happened in 2010, with a value of 0.4470. In addition, the highest value appeared in 2019, with an evaluation result of 0.4870, which was 1.09 times the lowest value. During the period 2010–2017 and in terms of green protection approach, the implementation and promotion of relevant work in Shengsi was better than that in Daishan.

4.2 Major obstacle factors

4.2.1 Impact factor barrier grade results. Results for the obstacle degree of the impact factors for high quality development in Shengsi and Daishan are shown in Figure 6.

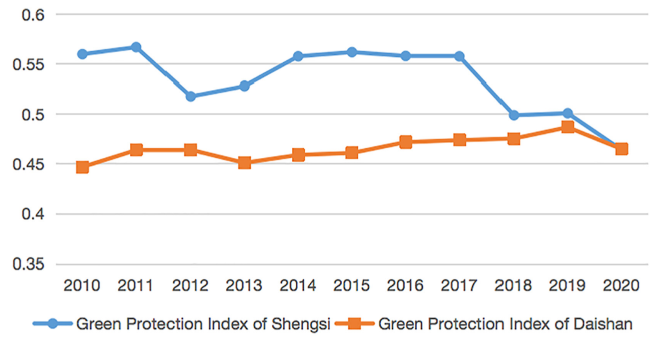

Figure 5.
2010–2020 Green protection index evaluation results

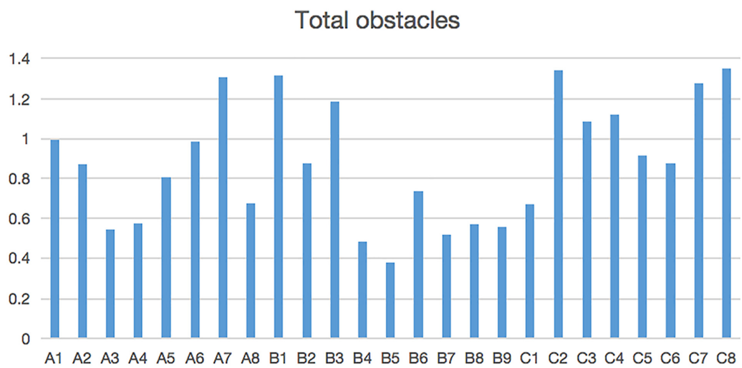

Figure 6.
The calculation result of the total obstacle degree of the index factor

In addition, data for the total obstacle degree of the index factor are shown in Table 2.

According to our factor obstacle degree results, classification and summary and grading standards, the change rate of forestry added value (A7), natural population growth rate (B1), urban greening rate (C2), proportion of days with excellent air quality (C7) and compliance rate of sea water quality (C8) were the main influencing factors that obstructed the high-quality development of the island. The obstacle level grading of the 25 evaluation index factors of the island quality development evaluation index system is shown in Table 3.

4.2.2 Trends in the degree of severe influencing factors. According to the grading results of the impact factor obstacle degree from 2010 to 2020, among the 25 index factors that constitute the evaluation index system for high-quality island development, 10 index factors including A3, A4, A8, B4, B5, B6, B7, B8, B9 and C1, presented a slight hindering effect on Shengsi and Daishan. In addition, 10 other factors including A1, A2, A5, A6, B2, B3, C3, C4, C5 and C6, displayed a general hindering effect on the case-study island. Moreover, the five index factors A7, B1, C2, C7 and C8, are impact factors that presented a severe hindering effect on the high-quality development of the island.

Our data indicated that, from 2010 to 2020, C8 compliance rate of sea water quality (1.3465) ranked first, followed by: (1) C2, urban greening rate (1.3417); B1, natural population growth rate (1.3149); A7, change rate of forestry added value (1.3065); and C7 (proportion of days with excellent air quality) (1.2724). The annual change trend of the five influencing factors that significantly hindered the high-quality development of the island is shown in Figure 7.

As shown in Figure 7, the obstacle degrees of the five main Shengsi influencing factors displayed different trends. Specifically, C8, C2 and A7 presented a slight downward trend, and a smaller decrease in obstacle degree. In addition, B1 and C7 displayed a large increasing trend. The obstacle degree of the five main Daishan influencing factors presented a slight increasing trend. This data is important and should be taken into account by the respective departments in charge of ensuring the high-quality development of this island.

5. Conclusions and recommendations

Taking into account the theoretical perspective of Xi Jinping's ecological development, in the present research we built an evaluation index system of the high-quality development of the island. By evaluating the relevant data collected from 2010 to 2020, it can be concluded that, under the guidance of Xi Jinping's ecological view, the development models of Shengsi county and Daishan county of Zhoushan city, Zhejiang province, are gradually progressing on the right path. Despite the decline in high-quality development results during the period 2010–2012, China has entered the fast track phase of the high-quality development of the island under the guidance of Xi Jinping's proclamation "Lucid waters and lush mountains are invaluable assets". In particular, since 2018–2020, Daishan county has continuously improved the high-quality development of the island with remarkable results.

Total obstacle degree	≧1.2	(1.2,0.8)	≦0.8
Obstacle level	Severe obstruction	General obstruction	Slight obstruction

Table 2. Total obstacles grade standard

Total obstacle degree	Severe obstruction	General obstruction	Slight obstruction
Impact factors	A7, B1, C2, C7, C8	A1, A2, A5, A6, B2, B3, C3, C4, C5, C6	A3, A4, A8, B4, B5, B6, B7, B8, B9, C1

Table 3. The statistical results of the total obstacles of the impact factors

Figure 7.
Changes in the degree of obstacles of major influencing factors from 2010 to 2020

In the process of the high-quality development of islands, the important content of implementing the specific connotation of Xi Jinping's ecological concept is to overcome the main obstacles that the island faces in the high-quality development through the theoretical guidance of Xi Jinping's ecological concept. Through this research, it can be known that the change rate of forestry added value (A7), natural population growth rate (B1), urban greening rate (C2), proportion of days with excellent air quality (C7) and compliance rate of sea water quality (C8) are impact factors that presented a severe hindering effect on the high-quality development of the island. In the process of promoting Xi Jinping's ecological view, we need to focus on these five indicators.

However, the obstacle degree analysis of the main influencing factors reveals that some problems and contradictions are concentrated in the economic and social development and environmental protection of the island. Therefore, the connotation and extension of Xi Jinping's view of ecological development should be continuously studied in depth and enriched, as well as take green development as the core idea that guides the correct direction toward the high-quality development of the island. Herein, we have stated that we are supposed to focus on these problems, including changes in sea water quality, the reduction of urban greening, the continuous negative growth of population in island areas, the decline of forestry added value and air quality protection. It is also necessary to take actions that ensure the sustainable high-quality development of the islands. Specifically, this study puts forward the following three specific suggestions based on the analysis results.

(1) Optimize the economic structure of the island. On the basis of extensive and in-depth investigations, guide the adjustment of the marine economic structure from a macro perspective. In particular, increase the proportion of new marine industries such as marine tourism, clean energy utilization industries, marine ranching and recreational fisheries. When measuring the economic development of islands, we should not only focus at the total volume and growth rate, but also whether the industrial structure meets the requirements of high-quality development.

(2) Increase the efforts of science and technology to promote the high-quality development of islands. The development of islands without technological content can only be extensive and resource-grabbing. It is impossible to meet the requirements of high-quality development. First of all, we must integrate scientific and technological teams and strengthen the construction of colleges and universities and scientific research institutions. Secondly, in response to major issues that urgently need to be resolved in the process of high-quality development of the islands, a bidding system for topics is adopted. Invite expert teams across the country and even the world to tackle key scientific and technological problems. Finally, promote the school-enterprise joint construction so that scientific research meets the actual needs of high-quality development.

(3) Strengthen integrated marine management and strictly protect the marine environment. Recognize the seriousness of the problem from thinking. Earnestly implement the specific content of Xi Jinping's ecological concept, and construct a bottom-line thinking that gives priority to ecology. In terms of actions, we should promptly formulate comprehensive plans for the protection and utilization of regional coastal zones and islands. Improve and strictly implement the paid use and ecological compensation system.

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