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Retraction

Retracted: The Index Data System of Agricultural Modernization Development Based on Internet Big Data

Wireless Communications and Mobile Computing

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This article has been retracted by Hindawi, as publisher, following an investigation undertaken by the publisher [1]. This investigation has uncovered evidence of systematic manipulation of the publication and peer-review process. We cannot, therefore, vouch for the reliability or integrity of this article.

Please note that this notice is intended solely to alert readers that the peer-review process of this article has been compromised.

Wiley and Hindawi regret that the usual quality checks did not identify these issues before publication and have since put additional measures in place to safeguard research integrity.

We wish to credit our Research Integrity and Research Publishing teams and anonymous and named external researchers and research integrity experts for contributing to this investigation.

The corresponding author, as the representative of all authors, has been given the opportunity to register their agreement or disagreement to this retraction. We have kept a record of any response received.

References

[1] C. Cao, "The Index Data System of Agricultural Modernization Development Based on Internet Big Data," *Wireless Communications and Mobile Computing*, vol. 2022, Article ID 5969829, 10 pages, 2022.

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Research Article

The Index Data System of Agricultural Modernization Development Based on Internet Big Data

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With the integration and development of the Internet, the Internet of Things, cloud data, and communication technology, data has grown rapidly. Although science and technology have promoted the upgrade and modernization of the modern agricultural system, it has also brought about the problem of a sharp increase in data, making it difficult to grasp the direction of agricultural development. At the same time, in order to better grasp the development of agricultural modernization, this article has carried out research on the agricultural modernization development index data system based on network big data and raised the problem that agricultural modernization based on network big data can accurately grasp the development direction of agricultural modernization. Experiments show that the index data system studied in this article has a good grasp of the state of agricultural modernization development and is the basis for judging and formulating correct agricultural policies. Among them, the indicator data on the rate of change of the national agricultural policy needs to be maintained between 1.84 and 2.01. The research in this article is of great significance to the development of agricultural modernization.

1. Introduction

1.1. Background. The development of agricultural modernization is a major challenge to the economy, society, and environment. Moreover, the environmental problems brought about by modernization are unprecedented, and the country needs to grasp the direction of the development of agricultural modernization. In addition, the healthy and sustainable development of agricultural modernization requires consideration of economic, social, environmental, and other factors. The impact of agricultural activities on environmental quality will cause market and social reactions, which in turn will affect agricultural and environmental decision-making. Therefore, it is urgent to realize the sustainable development of agricultural modernization. And with the help of network big data system to analyze and monitor the data indicators of various elements in the agricultural production process, it is more and more convenient and practical for the development of agriculture.

1.2. Significance. The significance of the agricultural modernization development index data system based on network big data researched in this article is very significant. Agricultural modernization urgently needs to achieve healthy and sustainable development, and the establishment of a development index system based on network big data can timely monitor the development of agricultural modernization and provide technical support for the sustainable development of agricultural modernization; different agricultural policies and measures have different impacts on the environment. The establishment of an index data system can effectively measure changes in the environment in agricultural production to promote the rationality of agricultural policies; it uses network big data to detect and monitor agricultural ecosystems, the natural attributes of the land, meteorological conditions, and the occurrence of random times, so as to reduce the losses caused by the natural environment; according to network big data, the implementation of chemical fertilizers and pesticides can be effectively monitored to avoid ecological imbalance caused by their excessive use, so as to ensure that agricultural production is green and healthy.

1.3. Related Work. In order to promote the healthy and sustainable development of agricultural modernization, relevant researchers have done a lot of research on agricultural production. Among them, in order to improve the effects of agricultural waste supervision and agricultural environmental pollution prevention and control, Yuzhen built a smart agricultural waste discharge supervision and prevention system based on big data technology under the concept of smart agriculture and circular economy. The research results show that the system constructed in this paper has certain practical effects and can lay the foundation for the sustainable development of agriculture in the future [1]. Wei et al. proposed to solve the problem that data is difficult to save, manual planting structure is difficult to draw maps, and does not match the needs of the existing management system. At the current stage, he designed and developed farm management, agricultural production management information system based on Web GIS technology with a "farm + production team" model to meet the requirements of large and medium-sized farm agricultural production management [2]. In order to examine the impact of agricultural modernization on the sustainable livelihoods of tribal and nontribal farmers in Bangladesh, Jannat et al. found that there are still great prospects for improving the living standards of the poor through agricultural innovation [3]. In-Seob et al. analyzed the operating indicators, debt ratios, and operating performance of livestock and agricultural enterprises after the introduction of South Korea's International Financial Reporting Standards (K-IFRS) in 2011 [4]. El-Shirbeny et al. tracked the interaction between NVG agricultural water use and agricultural system changes. He used the multitemporal normalized vegetation difference index of Sentinel-2 remote sensing images to distinguish important crops [5]. Jang et al. studied the PRIVA system and proposed a work management system that can collect agricultural production data according to working conditions, thereby reducing manual intervention [6]. These studies have certain theoretical value for the sustainable development of agriculture, but these studies have not formed a systematic agricultural data detection system and cannot fully consider the influencing factors of agricultural modernization. In addition, it has not constructed a set of evaluation index analysis framework related to agricultural policy and reflecting the sustainable development status of agricultural ecosystem.

1.4. Innovation. This article has the following innovations in the construction of the agricultural modernization development index data system. The first is to integrate network big data into the agricultural development index data system and provide a data storage system for this system to make the data obtained more comprehensive and specific. Second, the previous agricultural development cities developed in accordance with the general direction of the national agricultural policy. The system of this study can take into account the applicability of different regions to national agricultural policies and adjust measures to local and time conditions to achieve sustainable and balanced development of agriculture in different regions. Third, monitor environmental factors and soil changes to take relevant measures to ensure the greenness of agricultural products and the genetic purity of agricultural products and to prevent genetic mutations caused by environmental changes. Fourth, to detect the improvement of agricultural production efficiency by modern technology, monitor the quality of agricultural products while improving production efficiency, ensure the quality of agricultural products, and achieve the sound development of agriculture.

2. The Method of Agricultural Modernization Development Index Data System Based on Network Big Data

2.1. Network Big Data and Agricultural Production. Agricultural production data has obvious big data characteristics such as huge quantity, complex structure, diverse forms, real-time changes, and containing important information [7]. This makes it difficult for people to collect, transmit, store and manage, and cluster decision-making [8]. The data information of agricultural production is shown in Figure 1.

In Figure 1, the macro data information that will be generated about agricultural production is enumerated, which contains data about agricultural production ecosystems, environmental changes, market trends, and national policies. Of course, a large amount of data will be generated during the agricultural production process. In particular, in today's agricultural modernization, a large number of mechanical production will be used in the agricultural production process and in the automated production process; in order to ensure the growth state and condition of agricultural products, it is necessary to monitor and record the growth data information of agricultural products for the production of agricultural products [9].

The amount of agricultural production data is so large that it is difficult to conduct manual analysis. With the development of science and technology, the amount of data for agricultural modernization is even greater, so a new data processing system is needed to analyze and monitor the changes in agricultural production data and grasp the development direction of agricultural modernization. The emergence of network big data is to solve the problem that agricultural production is a huge amount of data and information, which is difficult to analyze manually [10]. Generally speaking, big data refers to a collection of data that traditional machines and software and hardware tools cannot perceive, acquire, manage, process, and serve within a certain period of time. Network big data refers to a kind of intelligent technology that is used to analyze and organize data and information generated by the intersection of the ternary world of "human, machine, and thing" in the cyberspace and mutual integration. The basic flat structure diagram of network big data is shown in Figure 2.

In order to store a large amount of agricultural production information, the network big data adopts a distributed storage system, which classifies and stores various types of information, and at the same time, there is a general server in the middle that summarizes and analyzes the data. In order to analyze various agricultural production data, the internal grade index of agricultural production is divided

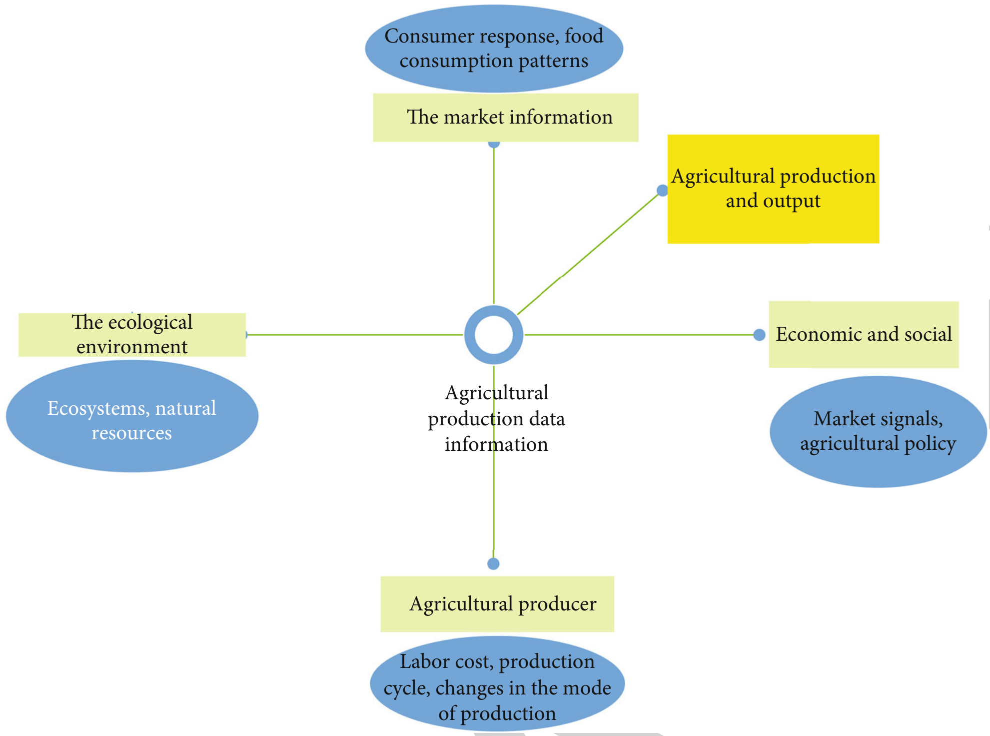

Figure 1: Data information of agricultural production.

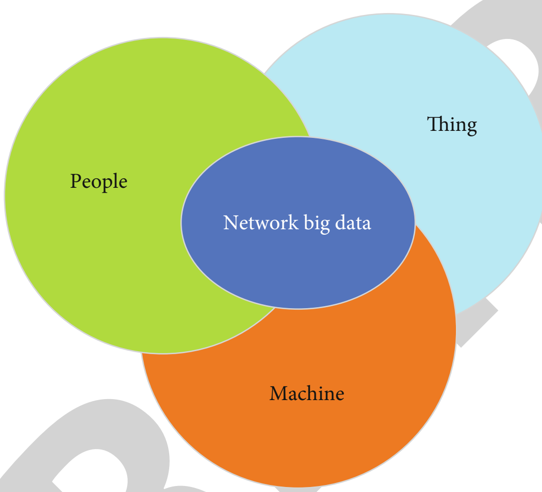

Figure 2: The basic flat structure of network big data.

into S first-level indicators, N second-level indicators, and M third-level indicators. How to determine the criteria for agricultural production indicators is shown in Table 1.

If the network big data is set to determine the level of agricultural production based on the indicators in Table 1, then the principle of the total server is as follows.

The network big data will analyze various collected agricultural production data, such as mechanization level data, agricultural product quality data, ecological environment data, and natural resource data of agricultural production areas, to determine whether the agricultural production in the area is healthy and sustainable. Then, the calculation method of the total agricultural production index g in a certain place in the table is as follows:

$$g = \frac{\left(\prod_{i=4}^{x} s^{N^{1/4}}\right)}{\sum_{i=4}^{y} \prod_{M}^{N} s^{1/4}} * \phi. \quad (1)$$

In formula (1), ϕ is a matrix generated during the analysis of agricultural production data in the network big data server to maintain the balance and clarity in the network big data; then, ϕ is

$$\phi = \begin{Bmatrix} x & N & s & g \\ S & y & M & r \end{Bmatrix}. \quad (2)$$

The total index obtained according to formula (1) is used to judge whether the agriculture belongs to which level or whether the agriculture reaches the index according to the index in Table 1 to judge whether the agriculture is healthy development. If it is necessary to estimate the agricultural production that meets the indicators at all levels, it needs to be based on various data information in the network big data, and then, the estimated total agricultural production W that meets the first-level indicators is

$$W_1 = \frac{1}{4} \sum_{i=4}^{x} \frac{S_g}{((x+y+s+r)/4)} * \lambda. \quad (3)$$

The estimated total agricultural production W that

Table 1: Standards for agricultural production indicators.

	Level of mechanization (x)	Quality of environment (y)	Quality of agricultural products (s)	Natural resources (r)	Total indicator (g)
Primary indicators	90%~95%	80%~90%	85%~90%	80%~85%	84%↑
Secondary indicators	80%~90%	70%~80%	80%~85%	75%~80%	77%~84%
Tertiary indicators	70%~80%	60%~70%	75%~80%	70%~75%	68%~77%

reaches the secondary index is

$$W_2 = \frac{1}{4}\sum_{i=4}^{y} \frac{{N_g}^2}{((1/4)(x+y+s+r) * \lambda}. \quad (4)$$

The calculation of the estimated total agricultural production W that reaches the third-level indicators is as follows:

$$W_3 = \frac{1}{4}\sum_{i=4}^{r} \frac{M_g}{1/4} * \left(\frac{(x+y+s+r)^2}{\lambda}\right). \quad (5)$$

In formulas (3), (4), and (5), λ is a square matrix carried by a data sensor in the network big data, which has an irreplaceable effect on the estimation of the total agricultural production. This square matrix is shown below:

$$\lambda = \begin{Bmatrix} x & s \\ r & y \end{Bmatrix}. \quad (6)$$

In the above-mentioned network big data processing of agricultural data, all the analysis principles to achieve third-class indicators are described. Then, the agricultural data that does not meet the minimum index means that the environment of agricultural production in this area or the quality of agricultural products does not meet the two standards, and the total agricultural production that does not meet the grade index W_c is

$$W_c = \frac{1}{4}\sum_{i=4} \frac{r_g}{(x+y+s+r)^{1/2}} * \frac{1}{\lambda}. \quad (7)$$

If the indicators of the above three levels are not reached, it is necessary to carry out a new and careful inspection based on the data of various aspects in the network big data to adjust the agricultural production activities and strive to achieve the harmonious development of agriculture and ecology. Network big data has great practical value in the development index data system of agricultural modernization, so the application of agricultural modernization to the development of agricultural modernization has great significance for its sustainable development.

2.2. Agricultural Modernization Healthy and Sustainable Development. The process of agricultural modernization is a process of transforming from traditional agriculture to modern agriculture and an important process for the integration and development of modern intensive agricultural products and highly commercialized agricultural products [11]. To master the basic concepts of agricultural modernization, we must focus on the following three basic characteristics. First, in the process of agricultural industrialization, it is necessary to use modern scientific and technological means and modern equipment and production facilities to transform traditional agriculture, use modern enterprise management technology, and manage the development of agriculture by professionals with high modern quality and agricultural knowledge [12]; second is the process of agricultural marketization, including the commercialization of agricultural products and the commercialization of agricultural production factors; the third is the sustainable development of agriculture. Agricultural modernization is the result of continuous social development and technological progress. It mainly adjusted the changes in the rural industrial structure and the employment structure of rural surplus labor, and the progress of rural industrialization and urbanization will inevitably promote the process of rural modernization in China [13]. The embodiment of agricultural modernization is shown in Figure 3.

As shown in Figure 3, there are many integrations between agriculture and modern technology, for example, the current drip irrigation system; the drip irrigation system needs professional talents to design and have a deep understanding of agriculture. In addition, many agricultural products in our daily life need to be processed by machinery. With the advancement of rural modernization, various tools of agricultural functions can be seen in rural areas, all of which are the embodiment of agricultural modernization. Therefore, rural modernization and agricultural urbanization promote each other. At the same time, rural modernization is also a dynamic historical process of continuous development, a process of continuous improvement [14]. Therefore, to promote the agricultural modernization project, we must persevere, continuously improve and perfect, and move forward to a higher stage of development.

Agricultural modernization has increased the efficiency of our agricultural production. At the same time, we cannot blindly pursue efficiency, and we need to allow agricultural modernization to enter sustainable and healthy development. Only when agriculture maintains sustainable and

Figure 3: The embodiment of agricultural modernization.

healthy development can it be regarded as agricultural modernization [15]. The combination of agriculture and technology will have a certain impact on the environment. At the same time, in the process of agricultural modernization, agricultural producers can use science and technology to carry out reasonable and appropriate fertilization, irrigation, and pesticide care for agricultural products. It is no longer like traditional agriculture that can only follow the subjective judgment of agricultural producers so that it pollutes the agricultural production environment and destroys the ecological balance. But the modernization of agriculture has also brought some negative effects on agriculture. For example, some use science and technology to change the genes of agricultural products to make them no longer suitable for the human body, which has caused considerable harm to the human body. Therefore, agricultural modernization needs to maintain a healthy and sustainable development, and an indicator data system needs to be established for monitoring. And since dynamically grasping the process of agricultural modernization is an objective requirement to promote agricultural modernization projects, it is necessary to form an evaluation index for the process of agricultural modernization and form a specific evaluation method [16].

2.3. Data System of Agricultural Modernization Development Indicators Based on Network Big Data. The evaluation index system refers to an organic whole with an internal structure composed of multiple indexes that characterize various aspects of the evaluation object and their interrelationships [17]. To scientifically evaluate the status and role of agricultural modernization and to study the development level and speed of agricultural modernization in different regions, it is necessary to conduct objective evaluations from different sides, different scopes, and different levels through a series of specific indicators. The accurate setting and correct application of the agricultural modernization evaluation index system will help the unity of evaluation standards.

The establishment of the index system of agricultural modernization needs to comply with the following three principles: the principles of systemicity, operability, and purpose [18]. In this paper, the agricultural modernization index data system based on network big data will have more advanced data analysis methods. It uses the data analysis system in the network big data to classify the information of various elements of agricultural modernization. The construction elements of the index system of agricultural modernization are shown in Figure 4.

In Figure 4, these data need to be included in the network big data for analysis and integrated agricultural development index data for comparison with the existing agricultural modernization development index data. In this way, the correct input of agricultural production factors and the adjustment of related agricultural policies can be made to ensure the sustainable and healthy development of agricultural modernization [19]. The storage of agricultural modernization data by network big data is shown in Figure 5.

Because the data information of agricultural modernization is huge and the storage of network big data is block storage, the data of agricultural modernization that each different network big data storage server system needs to store is different. Furthermore, it is necessary to use classification principles to classify agricultural modernization data and to classify different elements into different storages [5, 20]. In the storage, each memory will use related principles to calculate agricultural-related indicators. The calculation principles of the related indicators are as follows.

The productivity index is the core index of the degree of agricultural modernization, reflecting the efficiency of engaging in agricultural production activities [21]. In the network big data system, the calculation of its index data is as follows:

$$Q = \frac{S_t}{h} \prod_{g^2}^{p} f * 100\%. \tag{8}$$

In formula (8), S_t is the productivity of agricultural labor, which is an important indicator of agricultural productivity, h is the power of machinery per unit area, f is the amount of fertilizer and pesticide required for the cultivated area, and g refers to the effective irrigation rate. What is sought here is the production capacity index, which is referred to as agricultural production efficiency in the following. Of course, the production capacity index can also be calculated using the ratio D of the investment project income to the project investment and the output value R of the unit planting area. The principle is as follows:

$$Q = D^p * \sum_{g}^{h} R * 100\%. \tag{9}$$

In the above formula, p is the contribution rate of each agricultural person to the total value of agricultural production.

The principle of calculation of national policy for agricultural investment indicators is as follows:

$$X = \sqrt[U_t]{\frac{\left(U^S\right)}{U_t^{\,2}}} * 100\%. \tag{10}$$

In formula (10), U refers to the country's financial

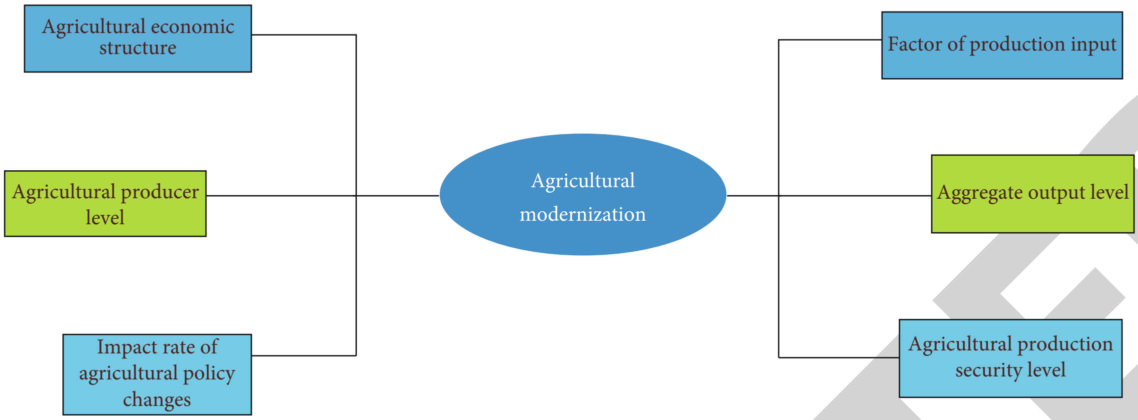

Figure 4: Construction elements of agricultural modernization index system.

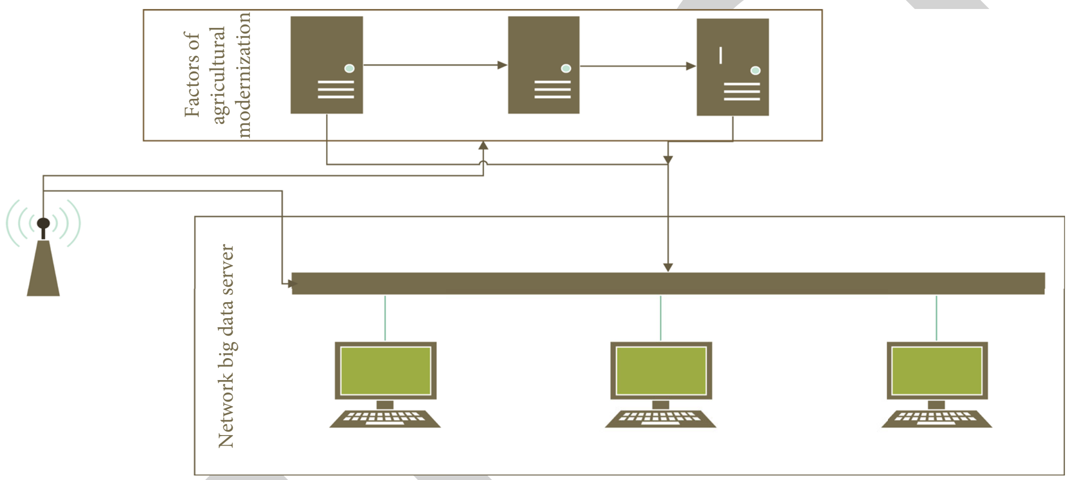

Figure 5: Network big data storage of agricultural modernization data.

expenditure on agriculture and s is the ratio of the speed of scientific research progress to the current existing scientific research technology. The level of agricultural science and technology is an indispensable and important index in the evaluation index of agricultural modernization [22]. It can reflect the level of agricultural science and technology and the degree of agricultural modernization from the aspects of scientific research investment in agriculture, the contribution rate of scientific and technological progress, and the degree of application of science and technology in agriculture.

Agricultural modernization is closely related to the ecological environment, so ecological environmental indicators are very important data for agricultural development. When the network big data obtains relevant data, the calculation principle of its index data is as follows:

$$E = \prod j * Y^2 \frac{O * \gamma}{C/M} * 100\%. \tag{11}$$

In formula (11), j represents the forest coverage rate and this index data is indispensable in agricultural modernization, and there will be patched natural disasters in agriculture. Therefore, O represents the rate of agricultural disasters, C represents the rate of soil erosion, Y represents the rate of guaranteed yield from droughts and floods, M is the indicator data of environmental humidity, and γ is an ecological environment data matrix, which has the following form:

$$\gamma = \begin{Bmatrix} C & M^2 \\ j^2 & O \end{Bmatrix}. \tag{12}$$

In today's agricultural modernization, the marketization index of agricultural products is also an important index data showing the healthy development of agriculture. It is calculated by the index K of the degree of marketization of agricultural products and the average retail sales of agricultural products i. In network big data, the calculation principles of market indicators are as follows:

$$M = i^N * K^{1/2} * 100\%. \tag{13}$$

The degree of marketization of agricultural products reflects the degree of agricultural modernization, which can also be calculated by the following formula:

$$M = \frac{i^N}{2} * K * 100\%. \quad (14)$$

The structure of agricultural economy not only reflects the status of agriculture in the national economy but also reflects the internal structure of the agricultural industry. Therefore, on the road to agricultural modernization, the balance between the agricultural economy and other economies is crucial. The calculation of its indicator data is as follows:

$$D = \frac{GDP}{2^N} * F * 100\%. \quad (15)$$

In formula (15), F represents the proportion of the population engaged in agricultural production. The agricultural economic structure index can be calculated based on the proportion of forestry, animal husbandry, sideline, and fishery in the total agricultural output value and the level of rural modernization. The calculation principle is as follows:

$$D = W * V^{2\alpha}\sqrt{GDP} * 100\%. \quad (16)$$

Among them, W represents the proportion of forestry, animal husbandry, sideline, and fishery in the total agricultural output value, and V is the level of agricultural modernization, which is a matrix with the following form:

$$\alpha = \left\{ \begin{matrix} F \\ W \\ V \end{matrix} \right\}. \quad (17)$$

After the above indicators are calculated, an average development indicator of agricultural modernization needs to be calculated. The calculation method is as follows:

$$\text{Index} = \frac{1}{5} * (Q + X + E + M + D) * 100\%. \quad (18)$$

In the system of agricultural modernization index data system based on network big data, in addition to monitoring changes in index data of various elements in agricultural development at any time, it can also predict agricultural development index data in the next two years based on past index data, in order to grasp the input of various elements in the development of agricultural modernization, to ensure the sustainable and healthy development of agricultural modernization.

3. Experiment and Analysis of Agricultural Modernization Development Index Data System Based on Network Big Data

3.1. Experiments on the Data System of Agricultural Modernization Development Indicators Based on Network Big Data

3.1.1. Experiment One. We must first compare a specific index data system as shown in Table 2.

In Table 2, the higher the quality index data of agricultural producers, the better the knowledge and professionalism of agricultural producers and agriculture-related knowledge. The development of our agricultural modernization requires better and better personnel with professional knowledge about agricultural production to participate in agricultural production activities. As for the input of labor elements in agricultural production, the level of mechanization in agricultural modernization will continue to increase, while labor costs will gradually decline and the production efficiency and marketization probability of agricultural products will also be higher. Therefore, the investment in production factors of agricultural products will be higher, because in addition to the elements required by traditional agriculture, modern agriculture needs to invest in agricultural production machinery related to science and technology. Naturally, the impact of national policies on fluctuations in agricultural production activities is as small as possible. Therefore, it is necessary to establish an index data system for agricultural modernization to monitor it, so as to grasp the development direction of agricultural modernization.

The experiment in this paper is based on the statistics of the index data of agricultural modernization production in the past ten years calculated based on the network big data, and the trend of changes is shown in Figure 6.

In Figure 6, Qp represents the quality index data of agricultural producers, Ap represents the agricultural productivity input index data, Ip represents the agricultural production factor input index data, and IA represents the national agricultural policy's impact rate index. The overall trend of agricultural producer quality index data and agricultural production factor input index data is rising, and the overall trend of agricultural productivity input index data and the national agricultural policy impact rate of change index data is falling. However, the quality index data of agricultural producers suffered a significant decline in 2016, falling back to the index data standard of the previous target. The national agricultural policy's impact change rate indicator data rose in 2016 and returned to the indicator data standard of the previous target, indicating that there were errors in the existing indicator data system in 2016, which led to the misjudgment of the development trend of agricultural modernization. In the same way, in 2015, the indicator data of agricultural modernization also showed obvious fluctuations and was affected. In the past two years, the development of agricultural modernization has suffered some setbacks, but the timely adjustment of agricultural modernization was able to return to the road of sustainable development in time.

Table 2: Index data system table for experimental control (%).

Variate	The early goal	Medium-term target	The late goal
Quality of agricultural producer	<10.5	[10.5,11.5]	>11.5
Agricultural labor productivity	>8.1	[8.1 ⟶ 7.5]	<7.5
Input of factors of production	<2.5	[2.5,3.2]	>3.2
Influence rate of national agricultural policy change	>4.5	[4.5 ⟶ 2.3]	<2.3

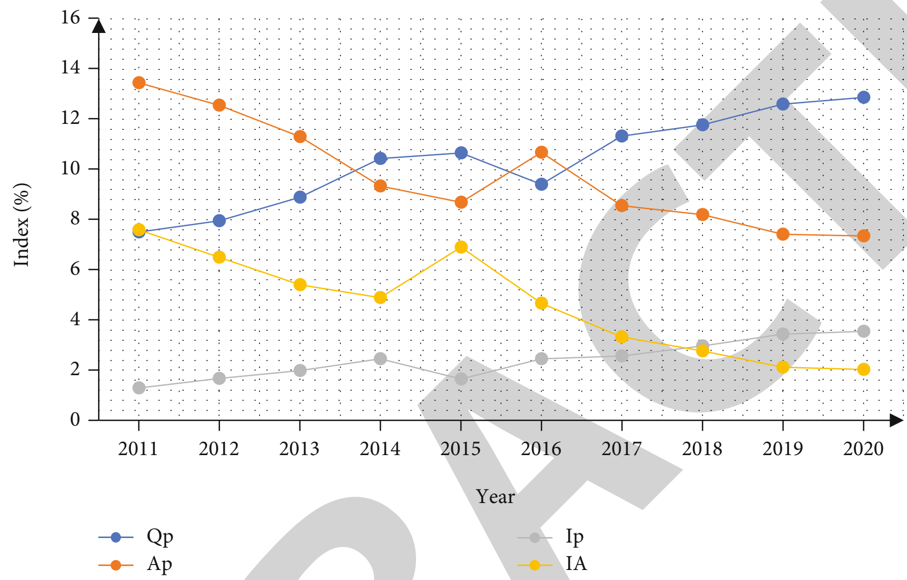

Figure 6: Changes in agricultural indicators in the past ten years.

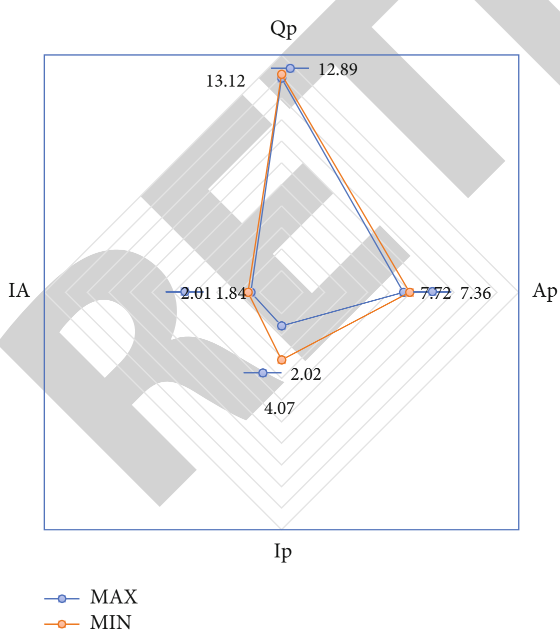

Figure 7: Predictor data graph.

3.1.2. Experiment 2. In order to better grasp the development of agricultural modernization, the index data system of agricultural modernization based on network big data is used to predict the various element indexes of agricultural modernization in the next two years as shown in Figure 7.

The index data of each element in Figure 7 uses a big data-based agricultural modernization index data system. It predicts the index data of various elements of agricultural modernization development in the next two years based on the agricultural index data of the past ten years. It can be seen from the figure that if the future agricultural modernization is to be sustainable and healthy, the Qp agricultural producer quality data index needs to be between 12.89 and 13.12, and the Ap agricultural productivity input index data needs to be kept between 7.36 and 7.72. The index data of Ip agricultural production factor input needs to be maintained between 2.02 and 4.07, and the index data of the rate of change in the influence of IA's national agricultural policies need to be maintained between 1.84 and 2.01. Therefore, agricultural modernization needs to stay within the above-mentioned indicators in the next two years to achieve healthy and sustainable development. And this system can monitor the changes of various agricultural indicators at any time, so it can adjust agricultural production according to the time.

3.2. Experimental Summary. One of the experiments in this article is that the index data of agricultural production in the past ten years has been calculated using the agricultural modernization index data system based on network big data constructed in this article to test the feasibility and accuracy of this system. After a series of experiments, the healthy development of agricultural production modernization needs to maintain the stable development of the indicators of various elements of agriculture. Once a factor fluctuates, it means that the indicator data of one or two factors does not meet the standard. The second experiment is to test whether the index data system of this paper has the function of predicting agricultural index data and whether its predictive function is feasible. After testing, it is found that the forecast function of the agricultural modernization index data system based on network big data constructed in this paper is feasible and has certain accuracy.

4. Discussion on the Data System of Agricultural Modernization Development Indicators Based on Network Big Data

The subject of this article is the research of agricultural modernization index data system based on network big data. First of all, the combination with network big data and agricultural modernization is the application of scientific and technological progress in agriculture. Network big data is a huge data storage system, which has good storage capacity for the huge data generated by agricultural development. In addition, in the process of modernization, the data generated will only become larger, and it is already difficult to analyze these data manually. In order to ensure and monitor the healthy and sustainable development of agriculture, it is necessary to use network big data for intelligent analysis [23]. Network big data will generate systematic and organized data for professionals to consult and make good judgments based on the principles described above.

The agricultural modernization studied in this article is the result of the continuous progress of science and technology and the continuous economic development, which provides technical support and economic foundation for agricultural modernization. In addition, the development of rural modernization has promoted agricultural modernization and provided soil for the development of agricultural modernization. Because in the process of agricultural modernization, the energy required for the mechanization of agricultural appliances, as well as the chemical fertilizers and pesticides in the agricultural production process, will cause environmental pollution and ecological imbalance, agricultural modernization requires healthy and sustainable development, and harmonious coexistence with environmental development requires a monitoring system and a reference data. Therefore, the agricultural modernization index data system based on network big data constructed in this article can monitor the index data of various elements in the agricultural production process. It serves as a data basis for comparison with standard index data to maintain the sustainable development of agricultural modernization. In addition, the application of agricultural modernization technology requires a large number of agricultural production personnel with professional knowledge. The index data of this part of the elements can well reflect the needs of the required high-quality agricultural producers and facilitate the national policy to effectively guide whether it is necessary to train professionals. It can realize the effective and reasonable distribution of agricultural human resources and promote the sustainable development of agriculture and the stable development of agricultural modernization [24].

The experiment in this paper shows that the agricultural modernization index data system based on network big data can monitor the changes of index data of various elements in agriculture at any time during the agricultural production process. At the same time, it can also provide index data reference for the development of agricultural modernization in the future, so as to help agricultural workers and the country make correct decisions. According to the index data system, agricultural policies can be formulated according to local conditions and play a good regulatory role in the development of agricultural modernization. The country can promote the convergence of agriculture and various technological innovations through policies, thereby promoting the sustainable development of agricultural modernization, and through relevant policies to guide rural collectives and rural individuals to invest in agricultural infrastructure construction, knowledge education, and other aspects to promote the development and promotion of agricultural technology.

5. Conclusions

The agricultural modernization index data system based on network big data researched in this paper is of great significance to the healthy and sustainable development of agriculture, and the ability of sustainable development of agriculture has a great effect on the stability of agricultural modernization development. To maintain the healthy development of agricultural modernization, it is necessary to use the indicator system to monitor the various elements of agricultural modernization. In order to ensure that the elements related to agricultural development can be adjusted in time, it is necessary that each element index reaches the required index data level. The index data system studied in this paper conforms to the principles of systemicity, operability, and purpose and also adds predictive functions to ensure the sustainable development of agricultural economy and agricultural modernization.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The author declares that they have no conflicts of interest.

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