

Research Article

Analysis of the Influence of Network Informatization Construction on Rural Economic Development

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At present, the pace of network information construction in China is accelerating. Foshan has constantly explored the construction road with Foshan characteristics. Many aspects of network information construction have reached a relatively high level in China, but compared with the coastal or foreign developed areas, the level of Foshan is far lower. With the steady and progressive development and construction of urban and rural overall planning, there has been a situation that “the rural area starts but the climax is in the city.” The relatively backward rural economy has become a stumbling block to the development of Foshan City. Taking Foshan as an example, this study expounds on the current situation of impact analysis and research at home and abroad, understands the connotation of network information construction, analyzes the current situation of rural economic development under the background of network information construction in Foshan, finds out the factors restricting the development of rural economy in Foshan, and puts forward relevant countermeasures and suggestions to reduce the impact of these factors and promote the development of rural economy in Foshan.

1. Introduction

1.1. Research Background and Significance

1.1.1. Research Background. Since the construction of network informatization, all aspects of social construction in China have been significantly improved. Especially in economic construction, the development achievements are remarkable. Industry, information sharing, ecology, infrastructure, and other aspects of construction between urban and rural areas have been developed to varying degrees. However, due to the policy constraints of the country's long-term investment focusing on cities, the relatively backward rural areas have an increasing impact on urban development, especially in the economic aspect. In 2007, Foshan was officially identified as the pilot area for overall urban and rural development. At present, Foshan is already a top-notch city in the second-tier cities in Guangdong Province, but it is still a level behind the first-tier cities such as Guangzhou and Shenzhen. As a city in the Pearl River Delta, the level of

network information construction is completely different. Foshan has many prominent problems, such as the large income gap between urban and rural areas and uneven regional development. There has been a phenomenon that “rural areas start but the climax is in cities” [1–6]. At the beginning of 2021, Foshan was admitted as a member of the “Guangdong Hong Kong Macao Greater Bay Area” development plan. Under this major historical opportunity, how to drive the development of rural economy through various urban resources in Foshan, so that rural areas can promote the construction of network informatization without dragging their feet, has become an urgent issue to be discussed.

1.1.2. Research Significance. The construction of network informatization is the inevitable trend of socialist modernization. The construction of network informatization is to collectively plan and develop industry and agriculture, cities and rural areas, urban residents, and rural residents as

a whole. We should change the current situation of the inherent urban-rural dual structure, realize policies to benefit the people, improve rural living standards, achieve equality in education and welfare, and let farmers also enjoy the fruits of development. The construction of network informatization is a process, in which the population, technology, resources, capital, and other elements of urban and rural areas circulate freely and promote each other's development. This process is not only the innovation of government policies but also the upgrading of ideas. It is not only the adjustment of the structure of agriculture and the secondary and tertiary industries but also the transformation of the long-term development method of Chinese society. Under this opportunity and challenge, taking Foshan as an example, this study analyzes the current situation and existing problems of local network information construction and rural economic development and puts forward countermeasures and suggestions to solve the problems, especially after the major blow of the "new pneumonia" epidemic in 2020; it attempts to promote the recovery and development of high-quality economy, gradually improve the network information construction, and rapidly and effectively develop the rural economy, so as to reach a new height of the overall development of Foshan, close to the first-tier cities [7–10].

1.2. Current Situation of Impact Analysis and Research at Home and Abroad

1.2.1. Domestic Impact Analysis and Research Status.

The report of the 19th National Congress emphasized that the "three rural issues" are fundamental issues related to the national economy and the people's livelihood. We must always take solving the three rural issues as the top priority of the work of the whole party. Implementing the strategy of rural revitalization is the general key to do a good job in the three rural issues in the new era, and is a major task to achieve the great rejuvenation of the Chinese nation. Rural revitalization is an all-round, all field, and all system revitalization. Only by focusing on the five revitalization of industry, talent, culture, ecology, and organization can we paint a magnificent picture of rural revitalization.

Su and Ye [11] believe that the sustainable land planning in the Chancheng District of Foshan City is worth learning from. In particular, it highlights the practice of transforming the "three old" into industrial transformation and urban development planning space in the Chancheng District. The successful case of Foshan entrepreneurial industrial park is that it effectively solves the problem of geographical location planning by integrating old towns, old villages, and old factories, but at the same time, the planning also occupies the land of many villages in the city, making the land use more compact and the place more crowded.

1.2.2. Development Trend of Impact Analysis and Research.

From the above impact analysis and research status of domestic and foreign scholars, we can see that everyone has their own opinions on the construction of network informatization

and the development of rural economy. From the last century to the present, the different views of different scholars have great reference significance for the development of rural economy, which is worth thinking about.

However, most impact analysis researchers are from the perspective of cities, and the construction of network informatization can not only affect the development of cities, rural areas, and villages are also the main body of network informatization construction. It involves government policies, per capita income level, national economic development level, and social thought. In other words, we cannot concentrate on developing cities as in the past. Only through the coordinated development of urban and rural areas, we can truly achieve the ultimate goal of socialism. Based on the study of scholars' analysis and research on the impact of network information construction, and combined with the current situation of rural economic development in Foshan, this topic takes Foshan as an example, analyzes the influencing factors of rural economic development in Foshan from the aspects of urban, rural, and government policies, and tries to explore effective countermeasures to provide useful suggestions for the rural economic development in Foshan and other areas.

1.2.3. Foreign Impact Analysis and Research Status.

Murray et al. [12] using the planning and application decisions of Northern Ireland from 2021 to 2021, combined with the contemporary debate on the transformation of the agricultural sector from productivity to multifunctional, this study discusses the interaction between development control and rural economic development. In general, the regulation and planning of economic development must be more deeply combined with the objectives of rural economic development. Zhu [13] believes that small villages and towns are the basis of urbanization and have become the key to urbanization and overcoming the construction of network informatization at this stage. He pointed out that only by building infrastructure and public service facilities, adhering to high standards of planning, strengthening guidance, and improving the quality of planning, the rural economy can develop rapidly and effectively, so as to complete the construction of network informatization.

1.2.4. Development Trend of Impact Analysis and Research.

From the above impact analysis and research status of domestic and foreign scholars, we can see that everyone has their own opinions on the construction of network informatization and the development of rural economy. From the last century to the present, the different views of different scholars have great reference significance for the development of rural economy, which is worth thinking about [14–19].

1.3. Research Contents and Methods

Literature Impact Analysis Research Method. Through literature review, combining the relevant theories at home and abroad on network information construction and rural

economic development, we can understand the key and current situation of scholars' impact analysis and research.

Qualitative Analysis and Quantitative Analysis. Collect relevant data and materials through the official website or the Bureau of statistics, sort them out, analyze the data with the help of Excel and other tools, and finally draw relevant conclusions and put forward corresponding countermeasures.

2. Overview of Rural Economy under the Background of Network Information Construction

2.1. Development Path of Rural Economy under the Background of Network Informatization Construction

2.1.1. Adjust the Agricultural Economic Structure

(1) *Develop Modern Agriculture.* Change traditional agricultural thinking and develop intelligent and modern agriculture such as "Internet + agriculture." Replace the traditional purchasing, sales, and logistics through e-commerce platforms and other modern and information-based ways to realize the docking of agricultural supermarkets and e-commerce of agricultural products. We have eliminated middlemen, accelerated the circulation of agricultural products, broadened sales and purchase channels, controlled price fluctuations, and effectively solved the problem of agricultural overcapacity

(2) *Agricultural Industrialization.* Investment is not only in line with market orientation, but also the production of products with "no one, I have less people, I have more people." Condense urban and rural capital, develop relevant leading enterprises related to agriculture, organize scattered farmers in rural areas, and realize large-scale agricultural production, so that farmers can not only be farmers but also participate in any process from production to final products, share profits, and fundamentally connect capital industry development.

(3) *Develop Agricultural Products Processing Industry.* Efforts to tap the potential of agricultural products can create new commodities. Develop rural specific processing industry and food industry, create new demand, provide new jobs, increase economic income, help rural revitalization, and realize the construction of network informatization.

3. Develop Rural Secondary and Tertiary Industries

- (1) The mutual development of supermarkets, restaurants, agricultural products processing, and snack factories in urban and rural areas can not only provide jobs and gradually transfer the surplus rural labor force but also facilitate the docking of rural agricultural products and promote the construction of network informatization.

(2) *Develop a Mixed Economy.* By integrating different elements, such as "agriculture + culture," "agriculture + health preservation," and "agriculture + e-commerce," we can broaden the industrial chain and develop new agricultural functions to increase income and get rich.

(3) *Vigorously Develop Tourism.* By improving the ecological environment and publicizing cultural and historical resources, we will build a tourist area with local rural customs and traditional cultural customs. The construction of network informatization is the premise of the development of rural tourism. The development of rural tourism can increase income, improve urban popularity, and feed back the city.

3.1. Image Gaussian Mixture Modeling. In this study, the Gaussian mixture model is used to establish the mapping between image low-level features and image high-level semantics. The extraction of image low-level features and Gaussian mixture modeling involved are introduced below [20–23].

3.1.1. Feature Extraction. In order to avoid the negative impact of inaccurate image segmentation, which leads to low retrieval accuracy, this study directly uses the overall features of the image to describe the economic regulation image; that is, only the first two common features of the image are extracted: color features and texture features.

HSV color space is considered to be closer to human perception of color. In this study, the first, second, and third-order color moments of HSV space are extracted to form a 9-dimensional feature vector (3 color components and 3 moments on each component) as the color features of the image. The color moment is calculated as follows:

$$\begin{aligned}\mu_i &= \frac{1}{N} \sum_{j=1}^N p_{ij}, \\ \sigma_i &= \left(\frac{1}{N} \sum_{j=1}^N (p_{ij} - \mu_i)^2 \right)^{1/2}, \\ s_i &= \left(\frac{1}{N} \sum_{j=1}^N (p_{ij} - \mu_i)^3 \right)^{1/3}.\end{aligned}\quad (1)$$

Gabor texture can minimize the uncertainty of space and frequency and can also detect edges and lines in different directions and angles in the image. Two-dimensional Gabor wavelet is defined as follows:

$$\begin{aligned}\Psi(k, z) &= \frac{\|k\|^2}{\sigma^2} \exp\left[-\frac{\|k\|^2 \|z\|^2}{2\sigma^2}\right] \cdot \left[\exp(ikz) - \exp\left(-\frac{\sigma^2}{2}\right) \right], \\ k_{\mu, \nu} &= k_\nu e^{i\varphi_\mu}.\end{aligned}\quad (2)$$

Of which

$$k_\nu = \frac{k_{\max}}{f^\nu}, \nu \in \{0, 1, \dots, 4\};$$

$$\varphi_\mu = \frac{\pi\mu}{8}, \mu \in [0, 1, \dots, 7].$$
(3)

In this study, the Gabor filter coefficients of 6 directions and 4 scales are selected as the texture features of the image; that is, the first 71 coefficients of the 24 coefficient matrix obtained from each image after the Gabor transformation of 6 directions and 4 scales are taken as the texture features of the image.

The 9-D color features and 71-D texture features are arranged in turn to form an 80-D feature vector as the overall description of the image.

3.1.2. Gaussian Mixture Modeling. The Gaussian mixture model (GMM) is one of the most widely used density estimation tools at present. It uses semiparametric density estimation method, combines the advantages of parametric and nonparametric methods, and uses the generated model for density estimation. Although the model itself does not limit the function form, if the number of model components is selected properly and the model parameters are selected correctly, the Gaussian mixture model can approximate any continuous density and achieve any accuracy.

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$$p(x|\theta, \alpha) = \sum_{j=1}^m \alpha_j p_j(x|\theta_j),$$

$$\sum_j \alpha_j = 1.$$
(4)

The mixed model can combine several simple density functions into a more complex function.

In this study, the Gaussian mixture model is used to simulate the feature distribution of image high-level semantics, and the mapping between image low-level features and image high-level semantics is established:

$$p(\mathbf{x}|\omega) = \sum_{k=1}^K w_k p_k(\mathbf{x})$$

$$= \sum_{k=1}^K w_k N(\mathbf{x}|\boldsymbol{\mu}_k, \boldsymbol{\Sigma}_k).$$
(5)

Of which

$$N(\mathbf{x}|\boldsymbol{\mu}_k, \boldsymbol{\Sigma}_k) = (2\pi)^{-\frac{d}{2}} |\boldsymbol{\Sigma}_k|^{-\frac{1}{2}}$$

$$\exp\left(-\frac{1}{2}(\mathbf{x} - \boldsymbol{\mu}_k)^T \boldsymbol{\Sigma}_k^{-1} (\mathbf{x} - \boldsymbol{\mu}_k)\right),$$
(6)

$$\sum_{k=1}^K w_k = 1.$$

3.2. Posterior Pseudo Probability Classifier. According to the Bayes formula,

$$P(\omega_i|\mathbf{x}) = \frac{p(\mathbf{x}|\omega_i)P(\omega_i)}{p(\mathbf{x})},$$
(7)

equation (8) can be derived:

$$\frac{P(\omega_i|\mathbf{x})}{P(\omega_j|\mathbf{x})} = \frac{p(\mathbf{x}|\omega_i)P(\omega_i)}{p(\mathbf{x}|\omega_j)P(\omega_j)}.$$
(8)

According to equation (7), the correlation between the posterior probabilities of the same category under different input modes is established to obtain the following equation:

$$\frac{P(\omega_i|\mathbf{x})}{P(\omega_i|\mathbf{x}')} = \frac{p(\mathbf{x}|\omega_i)P(\omega_i)}{p(\mathbf{x}'|\omega_i)P(\omega_i)}.$$
(9)

Formula (8) is similar to formula (9) in form but different in meaning. Equation (8) contains two classes and an input mode, indicating the relationship between posterior probabilities of different classes under the same input mode; equation (9) includes one class and two input modes, which represents the relationship between the posterior probabilities of the same class under different input modes.

3.3. Learning of Posterior Pseudo Probability Classifier. Before using a posteriori pseudo probability classifier for classification, it is necessary to determine the unknown parameter set. In this study, two methods are used to learn unknown parameter sets as follows: (1) expectation maximization (EM), which is a generative learning method. The EM method is used to learn the initial parameters of the posterior pseudo probability function; (2) max min posterior pseudo probabilities (MMP) is a discriminant learning method. The MMP method is used to continue to learn and optimize the model parameters on the basis of EM method, so as to achieve the best classification effect. We call the GMM-EM method and GMM-MMP method, respectively [23–26].

4. The Development Status of Rural Economy under the Background of Network Information Construction—A Case Study of Foshan City

4.1. Development Status of Network Informatization Construction in Foshan. As early as 2007, Foshan was included as the pilot area for the coordinated development of urban

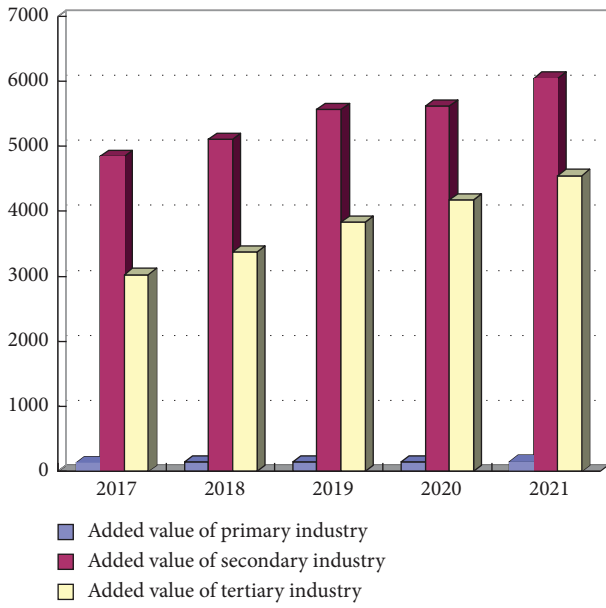


FIGURE 1: Total added value of each industry.

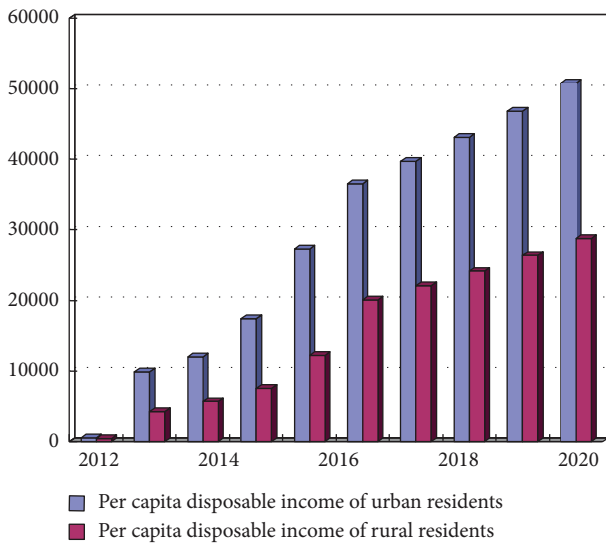


FIGURE 2: Income of urban and rural residents.

and rural areas. In addition, located in the Pearl River Delta, Foshan has accumulated valuable experience in the process of urbanization and achieved excellent results. It has achieved integration in industrial development, public services, social security, registered residence management, and other aspects. Through the “three modernizations” to solve the “three rural issues” and other measures, the comprehensive strength of Foshan has been continuously improved.

4.1.1. Degree of Urban and Rural Economic Integration. As shown in Figure 1, the total GDP of Foshan in 2021 was 1075.102 billion yuan. Among them, the added value of the primary industry was 15.692 billion yuan, an increase of 3.0% year on year; the added value of the secondary industry

increased by 6.3%, and the tertiary industry increased by 8.1%. The production growth of Foshan is relatively stable, and the overall economy is stable. However, compared with the output value and development growth rate between industry and agriculture, the added value of agriculture continued to decrease or even negative growth from 2021 to 2021, while the secondary and tertiary industries made steady progress. As shown in Figure 2, under the appearance of rising income, the distance between urban and rural areas is widening. Now, with the promotion of a new round of urbanization, the economic integration of Guangzhou and Foshan, the Pearl River Delta, and the construction of the “Guangdong Hong Kong Macao Great Bay Area” project, Foshan’s urban-rural economic integration is facing new opportunities and challenges, and the lagging rural economy will seriously affect economic and social development. From an economic point of view, the problem of “rural areas start but the climax is in cities” is very serious.

4.1.2. Degree of Urban and Rural Population Integration. According to the 2021 Foshan yearbook data, by the end of 2021, the number of permanent residents in Foshan was 7.9057 million, an increase of 3.3% year on year; the number of registered residence is 1312900, and the number of rural households accounts for 871900. The total population of registered residence is 4.3698 million; the rural population accounts for 3.4435 million, and the rural population accounts for a large share of the total permanent population. In recent years, the migrant population in Foshan has increased year by year. While providing labor for urban development, with the inflow of rural labor to cities, rural industrial transformation, and other factors, it has brought competitive pressure to rural labor. In January 2020, the government updated the work goal of eradicating illiteracy, striving to reduce the illiteracy rate of 1.36% in the “six universal suffrage” statistics again. The death rate of the population in Foshan City is 2.86%, while the proportion of healthy elderly over 60 years accounts for 64.68%. All kinds of policies in Foshan have effectively promoted the integration of urban and rural population, but the increasing birth rate and growth rate have caused problems such as population aging, imbalance of educational level, sudden increase of migrant population and even exceeding the registered residence population, and imbalance of gender ratio between men and women. On the whole, in the process of network information construction, the integration of population should be ahead of the integration of other aspects.

4.1.3. Degree of Urban and Rural Social Integration. In 2021, Foshan’s general social and public budget expenditure was 94.157 billion yuan, an increase of 16.69% year on year. Since 2020, Foshan, as a second-class area, has increased the minimum standard of urban and rural subsistence allowances by about 10%, which is actually 934 yuan/person/month. The integration of registered residence management is realized, the original “agricultural household registration,” “nonagricultural household registration,” and other categories are cancelled, and all registered residence household registration

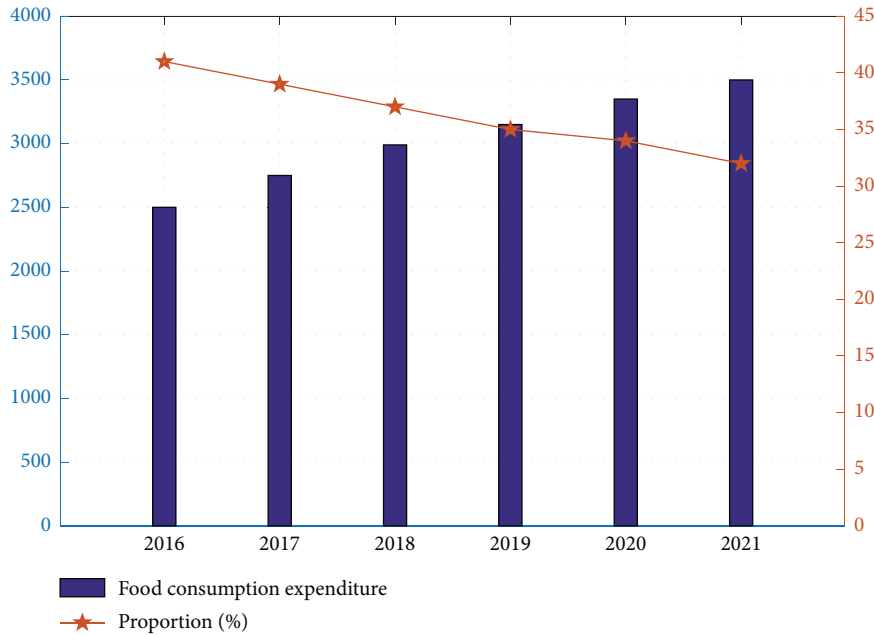


FIGURE 3: Per capita food consumption expenditure of rural residents and its proportion in total consumption expenditure.

population is registered as “Foshan resident household registration.” In 2021, Foshan invested 25.5 billion yuan in education, with a year-on-year increase of 9.9%. Nearly 90000 compulsory education degrees were newly added, and the popularization of compulsory education in urban and rural areas was continuously accelerated, with the coverage of public welfare preschool education reaching 76%. The enrollment rate after primary school graduation is 100%, the enrollment rate after junior high school graduation is 99.20%, and the enrollment rate after high school graduation is 97.95%, of which the undergraduate enrollment rate is 66.3%. In terms of health care, we have further promoted the integration of urban and rural medical assistance system and urban and rural medical insurance. The popularity of psychological counseling rooms in urban and rural communities has reached 100%, and the minimum payment standard of serious illness insurance has been reduced to 15000 yuan, of which the minimum payment standard for poor groups has been reduced to 3000 yuan, there is no annual maximum payment limit, and the participation mode of the poor population has been improved. Although all aspects of Foshan are moving towards integration, the level of urban-rural social integration is not high, especially the extension of urban infrastructure to rural areas is not high enough.

4.2. Current Situation of Rural Economic Development in Foshan. According to the statistics of the third agricultural census, there are 1.951 million rural labor forces in Foshan. Affected by factors such as the inflow of rural labor forces to cities and the transformation of rural industries, the labor force in the primary industry is only 192600, a year-on-year decrease of 10.02%. The rural development in Foshan is uneven. Some rural areas are leading and relatively developed, while some rural areas are still backward, which does

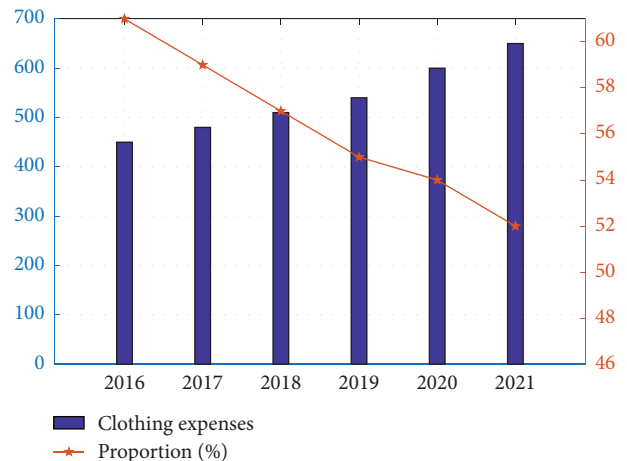


FIGURE 4: Per capita clothing consumption expenditure of rural residents and its proportion in total consumption expenditure.

not match the economic situation of Foshan and the national urban level. Especially in relatively developed Chancheng, Nanhai, and Shunde districts, most rural areas exist in the form of “villages in cities” and “villages in towns.” On the whole, the rural economy of Foshan is undergoing the transformation of production and lifestyle from rural to urban and is in the transitional stage of rural urbanization development.

4.3. Analysis of Various Consumption Expenditures of Rural Residents

4.3.1. Food Consumption Expenditure. As shown in Figure 3, the consumption of vegetables, edible fungi, and edible oil tends to be stable, which may be because the raw materials of

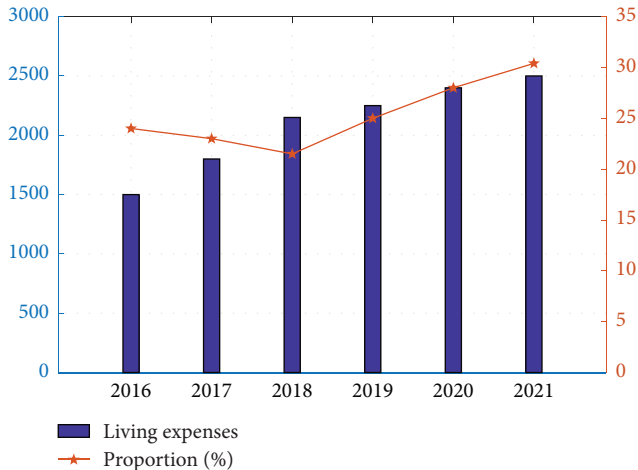


FIGURE 5: Per capita living consumption expenditure of rural residents and its proportion in total consumption expenditure.

vegetables, edible fungi, and edible oil are still cultivated in rural land, and farmers are used for self-sufficiency. In the life of rural residents, vegetables, edible fungi, and edible oil are generally indispensable food on the table of rural residents. However, the consumption of meat, eggs, poultry, aquatic products, and dried and fresh melons and fruits is on the rise, which is due to the improvement of the quality of life of rural residents, the diversity of food choices of rural residents, the increasing demand for food, and the increasing requirement for balanced nutrition of rural residents.

4.3.2. Clothing Consumption Expenditure. With the rapid development of China's economy, people no longer only require clothes to keep warm but keep up with the trend of the times and wear diversified styles. People are faced with a wide variety of choices in terms of clothing styles and fabrics. With the improvement of people's life, people pay more attention to the external image in the consumption of clothes, which not only brings the first impression to others from one's clothes but also is a symbol of personal taste. According to the survey, women and people with high family income are the people who spend a lot on clothes. For rural residents, rural residents generally pay more attention to clothing comfort and clothing quality. For poor and backward rural areas, some social charities will donate clothes to rural poor residents.

It can be seen from Figure 4 that from 2016 to 2021, the proportion of rural residents' clothing consumption expenditure in the total consumption expenditure decreased year by year, and clothing consumption expenditure belongs to the basic residents' survival consumption expenditure. However, from the data, rural residents' consumption concept of clothing has changed, which may be that rural residents not only pursue the role of covering and keeping warm but also turn to the beauty of clothing. At the same time, there is a love volunteer activity, in which urban residents donate clothing products to poor rural areas, which, to a certain extent, reduces the expenditure of rural

residents on clothing consumption. With the improvement of rural residents' income level, rural residents' clothing consumption expenditure also increases, which shows that the consumption level of rural residents in China is also improving, and the consumption structure of rural residents is also improving.

4.3.3. Residential Consumption Expenditure. In the traditional concept of Chinese people, people stress "falling leaves and returning to their roots." No matter where people go, they will eventually return to the place where they settled. China has a history of 5000 years, and there have been many wars. The people hate the displaced life, and the Chinese people have always yearned for a stable life. From ancient times to the present, living in peace is one of the most important things that Chinese people think from their bones. Among the eight categories of per capita consumption expenditure of rural residents, the annual per capita consumption expenditure of residents is second only to the per capita consumption expenditure of food.

From Figure 5, it can be seen that from 2016 to 2021, the per capita living consumption expenditure of rural residents increased year by year, which may be due to the increase of floating population and insufficient housing supply in the process of urbanization, which once caused a "real estate speculation boom," and the real estate industry developed vigorously. In 2016, the per capita living consumption expenditure of rural residents was 1579.8 yuan, and in 2021, the per capita living consumption expenditure of rural residents was 2660.6 yuan. The per capita living consumption expenditure of rural residents in 2021 was 1.7 times that of rural residents in 2016, which indicates that the cost of rural housing has gradually increased, and the per capita living consumption expenditure of rural residents accounts for 21% of the total per capita consumption expenditure of rural residents, although in these six years. The proportion of rural residents' per capita living consumption expenditure fluctuates little and tends to be stable. However, while promoting rural reform, the state should introduce relevant policies to prevent the housing cost of rural residents from rising too fast, so as to optimize the consumption structure of rural residents. From 2016 to 2015, the per capita consumption of rural residents showed a slight downward trend, which may be related to the "three limits" policy adopted by the state in 2016 to deal with the overheating of the real estate market. However, under the state intervention policy of price, purchase, and loan restrictions in the real estate market, the goal of macrocontrol has not been achieved. Therefore, the proportion of rural residents' per capita living consumption expenditure fluctuates little, accounting for more than 20%.

The state attaches great importance to rural construction and pays attention to improving the living standards of rural residents, among which the housing problem of rural residents is closely related to rural life. Targeted at poor households, we will implement targeted poverty alleviation and give priority to solving the problem of food and clothing for farmers. At the same time, the state has introduced a

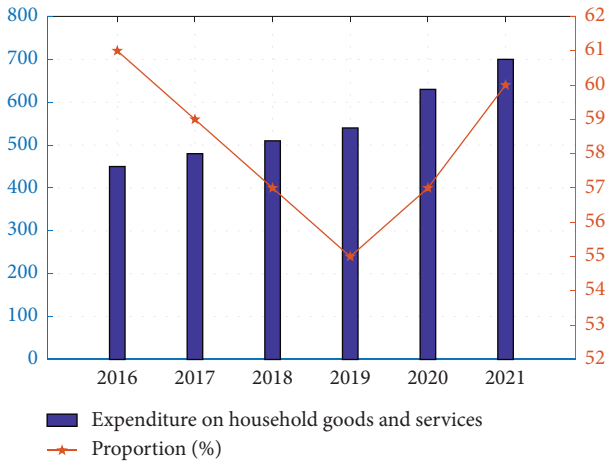


FIGURE 6: Per capita consumption expenditure of household goods and services of rural residents and its proportion in total consumption expenditure.

housing subsidy policy for rural residents. In 2019, the rural housing subsidy was increased, and the minimum subsidy was 3000 yuan.

4.3.4. Consumption Expenditure of Daily Necessities and Services. Daily necessities are items that meet the daily needs of ordinary people. With the increase of income, people will prefer high-priced and high-quality daily necessities, and the consumption expenditure of daily necessities and services will also increase.

It can be seen from Figure 6 that from 2016 to 2021, the per capita consumption expenditure of household goods and services of rural residents accounted for a small proportion of the total per capita consumption expenditure, fluctuating in the range of 5% to 7%, indicating that the demand of rural residents for household goods and services was relatively stable. The per capita expenditure on household goods and services of rural residents in 2021 was 720.5 yuan, and the per capita expenditure on household goods and services of rural residents in 2016 was 455.1 yuan. The per capita expenditure on household goods and services of rural residents in 2021 was 1.6 times that of rural residents in 2016. This may be caused by the rising price level, and rural households have increased the expenditure on durable goods.

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In the real life of rural residents, the per capita expenditure on household goods and services of rural residents is mainly household equipment expenditure. According to the National Bureau of Statistics, from 2016 to 2021, the average ownership of Major Durable Consumer Goods by rural residents per 100 households generally showed an upward trend, except for the declining ownership of cameras, which may be the embodiment of scientific and technological progress. The photography function of mobile phones is increasingly improved, and mobile phones are gradually replacing cameras. Among them, the consumption expenditure of daily necessities and services also includes the maintenance cost of household equipment. If rural residents purchase inferior household equipment, it will undoubtedly increase the cost of living. The state should encourage the policy of “sending household appliances to the countryside,” implement subsidies for rural household appliances, and reduce the living costs of rural residents.

4.3.6. Education, Culture, and Entertainment Consumption Expenditure. In the backward countryside of our country, the travel mode of rural residents is mostly on foot, or there are a few buses between cities and towns connecting the countryside, and the place that the bus can reach must be the rural road with cement road. Although there are all kinds of household vehicles in China, the roads in some rural areas are not suitable for the use of these vehicles. It is necessary for the national government to carry out rural construction, promote the development of urbanization, and increase the investment in rural infrastructure.

As for the development of rural communication, the emergence of various communication tools in the market is indeed conducive to the convenience of rural residents' communication. In backward rural areas, the older generation of rural residents will prefer the mobile phones of the elderly. Rural residents with low education level think that the mobile phones of the elderly are simple to operate, with large fonts and loud prompts. China's communication will enter the 5g era, which will lead to more convenient communication tools for human life. In order to obtain more information, rural residents' communication consumption expenditure is bound to rise.

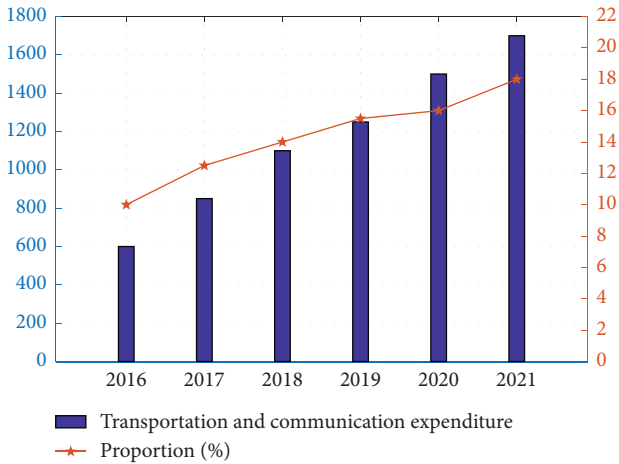


FIGURE 7: Per capita education, culture, and entertainment consumption expenditure of rural residents and its proportion in total consumption expenditure.

In rural areas of China, the conditions and facilities are relatively backward. Most educated rural residents will choose to stay away from rural development, and there are few entertainment places. In the real countryside, most of them are honest farmers, who have little chance to receive education. They are bent on intensive cultivation and live a down-to-earth life. At the same time, most rural residents have traditional ideas, hoping to rely on their old age, work hard, and place their hopes for the future on their children.

With the rapid development of economy, the state emphasizes the cultivation of talents, and new ideas and concepts have reversed the cognition of rural residents. Most rural residents pay special attention to their own cultural and educational level and the cultural and educational level of their children and increase the consumption expenditure of spiritual culture.

It can be seen from Figure 7 that from 2103 to 2021, the per capita consumption expenditure of education, culture, and entertainment of rural residents in China accounted for an increasing proportion of the total per capita consumption expenditure of rural residents, which may be due to the importance that rural residents attach to education investment with the improvement of rural residents' income level. The per capita expenditure on education, culture, and entertainment of rural residents in 2016 was 754.6 yuan, and the per capita expenditure on education, culture, and entertainment of rural residents in 2021 was 1301.6 yuan. The per capita expenditure on education, culture, and entertainment of rural residents in 2021 was 1.7 times that of rural residents in 2016, which may be the help of national policies. Making many graduates choose to support education is related to the implementation of nine-year compulsory education, which reduces the cost of education for rural residents. At the same time, in rural areas with better infrastructure, entertainment expenditure is also increased.

4.3.7. *Transportation and Communication Consumption Expenditure.* With the progress of science and technology, China's transportation and communication industries have achieved rapid development, which has improved the

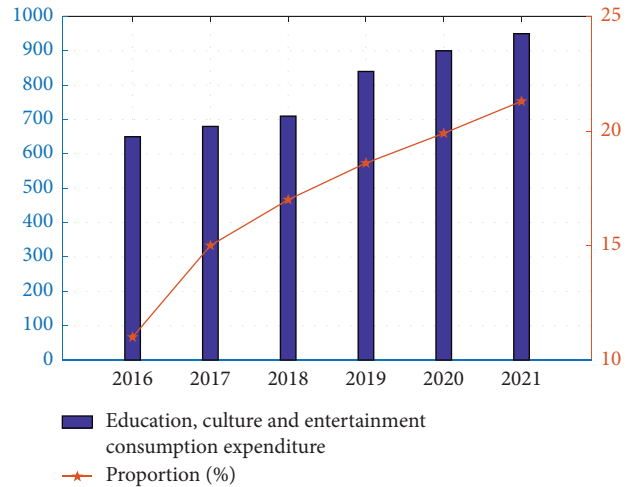


FIGURE 8: Per capita transportation and communication consumption expenditure of rural residents and its proportion in total consumption expenditure.

convenience of our residents' lives to a certain extent. The first impression of rural transportation and communication is often backward, but with the economic development of our country, the state has increased investment in rural infrastructure construction, and the rural transportation and communication situations are improving day by day.

It can be seen from Figure 8 that from 2016 to 2021, the proportion of per capita transportation and communication consumption expenditure of rural residents in the total per capita consumption expenditure of rural residents in China has increased year by year, which may be one of the reasons why rural residents have changed their ideas, prefer to be able to contact things outside the countryside, and are unwilling to be limited to the vision inside the countryside, leading to transportation and communication expenditure. According to statistics, the number of means of transportation in the average ownership of major durable consumer goods per 100 households of rural residents is on the rise, which may be due to the improvement of the convenience of rural residents to go out through various means of transportation, which increases the transportation consumption expenditure of rural residents, and is also the reason for the rapid development of China's communications industry. Mobile phones have become the main means of contact.

In the backward countryside of our country, the travel mode of rural residents is mostly on foot, or there are a few buses between cities and towns connecting the countryside, and the place that the bus can reach must be the rural road with cement road. Although there are all kinds of household vehicles in China, the roads in some rural areas are not suitable for the use of these vehicles. It is necessary for the national government to carry out rural construction, promote the development of urbanization, and increase the investment in rural infrastructure.

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5. Countermeasures and Suggestions for Rural Economic Development under the Background of Network Information Construction

5.1. The Government has Steadily Promoted the Implementation of the "Rural Revitalization" Strategy. The development of rural economy is inseparable from talent resources such as "returning college students" and the construction of rural ecology. We must change the impression of the city on the rural areas, complete the "toilet revolution" as soon as possible, create a good environmental ecology, and build a beautiful rural area with cultural characteristics that is ecologically livable. While various industries are developing at a high speed, the government should vigorously carry forward Foshan culture, actively build a "civilized Foshan" with "civilization orientation," promote the development of rural cultural industries, improve the popularity of rural industries, bring good economic benefits to the common development of rural industrial chains, and then invest in "rural revitalization" [27–29].

5.2. Attach Importance to Education and Cultivate Talents. In all aspects of network information construction and development, a large number of talents are needed. Especially with the development of rural economy, the current situation is that most farmers have low cultural level, have not contacted computers, and cannot make good use of the Internet to obtain relevant information and operate on the network platform. Grassroots personnel can be organized to open some simple basic skills training courses free of charge, adhere to the introduction of attractive talent policies, improve the return welfare of college students, and attract rural college students to return home. Second, we should continue to strengthen the cooperation between Foshan and universities, further expand the scope of cooperation with engineering colleges, carry out in-depth cooperation in talent training, and pay attention to the cultivation of compound agricultural technology talents.

5.3. Improve Information Sharing Ability. Foshan took the lead in exploring the "digital village" nationwide and cooperated with the "one door access" app to initially build a digital cloud map of the rural collective economy. Through informatization, residents, residents' property rights, disputes, etc. will be regionalized and collectively managed intelligently, striving to be the pioneer of rural governance modernization. The gradual development of convenience software and small programs such as WeChat and Alipay

will certainly make life more information-based and intelligent in the future. Important certificates will be registered synchronously with "Guangdong Province" small programs, and people will not spend money innocently if they forget to bring certificates when driving.

5.4. Improve the Application Infrastructure. The focus of infrastructure investment in Foshan is in rural areas. From the "four trillion infrastructure plan" to now, the investment is still strengthening, which also proves the difficulty and breadth of rural infrastructure. In addition to environmental construction such as "one village, one park," we should also increase investment in economic construction, such as the improvement of farmland water conservancy projects, the popularization of broadband networks, informatization, etc., and support the issuance of various preferential policies. Similar to the "u-point box + home server" implemented by Guangdong Radio and television network, which includes WiFi functions and can watch TV programs, the government should promote science popularization and support the popularization of convenience products.

Second, in addition to economic infrastructure, we should also improve cultural infrastructure, such as rural libraries and rural electronic reading rooms. With this kind of foundation, informatization can be more easily popularized and accepted in rural areas, accelerate agricultural informatization, step out of rural thinking, and enter the era of modernization.

5.5. Achieving Sustainable Rural Development. The economic growth mode of sustainable development was put forward in 1980, and it is also the development mode that China adheres to in the process of development. In the future development process, Foshan must pay attention to the sustainable development of rural areas. Its essence is to improve the rural production environment and living environment, reduce pollution, save resources, and recycle resources. We should focus on improving the awareness of sustainable development in rural areas, such as the impact of waste batteries on water, land, and people. Not only do rural people not popularize knowledge, but also the treatment methods of waste batteries in cities are not fully standardized. On the contrary, we should adhere to waste classification and implement waste classification in rural areas.

6. Conclusion

Through the impact analysis of the problems existing in the analysis and research of the current situation and countermeasures of rural economic development in Foshan under the background of network information construction, the following conclusions are drawn.

Therefore, the understanding of the theoretical basis of network information construction is bound to be insufficient, which will inevitably lead to defects and omissions, and the analysis is not accurate and in depth. Moreover, in this study, I only analyze the rural economic composition, the actual gap between the districts, and the development changes in the process of network information construction

in Foshan, but I do not have a deep understanding of the financial bearing capacity of Foshan municipal government, more preferential policies for agriculture, and more difficulties in rural areas in the process of network information construction. I hope to further improve and hope to communicate and learn with more scholars and teachers in the future.

Data Availability

The data used to support the findings of this study can be obtained from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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