Analysis on the construction path of information platform for high-quality development of urban and rural areas

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Abstract: *Rural community informatization is an important part of modern and harmonious community construction, as well as a means to narrow the digital divide between urban and rural areas, coordinate urban-rural development, strengthen community information management and services, improve community functions, and enhance the level of rural community information services. The construction of an information platform is not only to meet the needs of urban and rural community residents, but also plays an important role in promoting and changing the impoverished and backward lives of urban and rural residents, and coordinating urban and rural development. Therefore, the necessary means to build a modern agricultural society is to carry out rural community informatization construction, allowing information resources from all sectors of society to enter villages and households, and allowing the vast majority of farmers to effectively share the convenience brought by information technology. Through the active construction of information platforms, various information resources within urban and rural communities can be integrated, breaking the previous situation of information silos among residents in urban and rural communities, and enabling rural residents in the community to timely access and share the necessary information. At the same time, through the "three network linkage" of community service hotline network, community service informatization network, and physical service network, as well as the effective combination of information services and physical services, we can achieve a more effective promotion of community informatization construction, so that the achievements of information technology can benefit the residents of urban and rural communities, and thus achieve the goal of smart living and safe communities for urban and rural residents.*

Keywords: *Urban and rural development; Informatization; Platform construction*

1. Introduction

With the continuous promotion of China's urban-rural integration development strategy, high-quality urban-rural development has become one of the important goals of current economic and social development. As an important infrastructure supporting the integrated development of urban and rural areas, information platforms are of great significance in promoting the integrated development of urban and rural economy and society. Therefore, exploring the construction path of information platforms for high-quality development in urban and rural areas has become an important issue that urgently needs to be addressed. Firstly, with the continuous development and popularization of information technology, the information gap between urban and rural areas is gradually narrowing, and information platforms provide more opportunities and possibilities for urban and rural development. Secondly, the construction of information platforms can strengthen communication and cooperation between urban and rural areas, promote resource sharing and optimized allocation, and improve the overall efficiency of urban and rural development. Once again, the construction of information platforms can provide more convenient and efficient public services for urban and rural residents, improve their quality of life and happiness. However, there are still some problems and challenges in the current construction of urban and rural information platforms. On the one hand, the level of informatization in urban areas is relatively high, but the level of informatization in rural areas is still low, and the development of informatization in urban and rural areas is unbalanced. On the other hand, the construction of urban and rural information platforms lacks overall planning and unified standards, leading to resource waste and low efficiency. Therefore, it is necessary to conduct in-depth discussions on the construction path of information platforms for high-quality development in urban and rural areas, in order to solve the current problems and challenges.

2. Overview of Informationization Construction in Urban and Rural Planning in the New Era

With the widespread application of modern information technology, the design, approval, management, and supervision of urban planning in China can be scientifically carried out through human-machine interaction. With the transformation of the working methods of planning and design personnel, work such as auxiliary analysis and decision-making of urban and rural planning, automation of planning business management, and construction of planning information resource libraries can be scientifically carried out. With the development of the new normal of the economy and the continuous promotion of new urbanization construction, the overall ideas and concepts of urban and rural planning in China have undergone tremendous changes. The development of modern information technology has promoted the transformation of the traditional working methods of urban and rural planning workers. The construction of modern urban and rural planning information platform requires personnel with professional information literacy to complete[1].

2.1 New requirements for urban and rural planning in the new era

With the continuous changes in work content and requirements in planning and design, the planning industry is constantly introducing new technologies and means, and innovating outdated planning concepts. The relevant staff combined the content and methods of urban and rural planning and design in China, based on the existing goals and concepts of planning, and introduced appropriate information technology means, providing solid technical support for urban and rural planning and design in China. In the new era and under the background of the new economic normal, China's urban and rural planning work has undergone tremendous changes, mainly reflected in the following aspects.

(1) The planning industry is gradually changing from the former "technical process" to the "social process", that is, in terms of the preparation of planning results and planning research, the progressiveness of planning concepts and planning technical methods is no longer the main measurement standard. At present, urban and rural planning focuses on the implementation of planning and design schemes as the main evaluation index, and focuses on solving the interests of all parties, Intended to address the urgent urban development issues that the people are concerned about[2].

(2) Urban and rural planning has a certain "public policy" nature. Traditional urban and rural planning focuses on the socio-economic development within the region, promoting significant future development of the city through various economic and production activities within the urban space. With the development of modern humanistic concepts, the main content of urban and rural planning has begun to focus on the rational arrangement of human activities. Reasonably design and arrange people's housing, employment, travel, and rest to maintain social fairness and protect the legitimate rights and interests of citizens.

(3) Modern urban and rural planning has broad participation. Urban and rural planning work is a systematic and complex project that involves the interests of multiple stakeholders, and has certain professional and scientific characteristics. The planning concept of multi-party participation from all sectors of society is gradually emerging[3].

(4) The concept of "storage and reduction planning" was proposed. In the early urbanization process, the wasteful use of land resources and unreasonable urban-rural spatial layout caused by the extensive and inefficient land opening model were more prominent. With the deterioration of the ecological environment, urban management problems, and the emergence of various urban problems, modern urban-rural planning adopted quantitative analysis methods to achieve optimized layout of urban planning. The requirements of "storage and reduction planning" met the interests and demands of all parties.

2.2 New technological development requirements in urban and rural planning and construction

In the context of the Internet, big data, cloud computing, and other fields, people's production and lifestyle have undergone tremendous changes. New technological means have provided new methods for planning and design workers to obtain information, analyze data, observe cities, and promote the construction of future "smart cities"[4].

3. The dilemma of urban-rural development in the context of the new era

The dilemma of urban-rural development is reflected in the allocation of the three major means of production, upgrading of agricultural industry structure, income gap between urban and rural residents, development of rural infrastructure, and education resources, as shown in Figure 1.
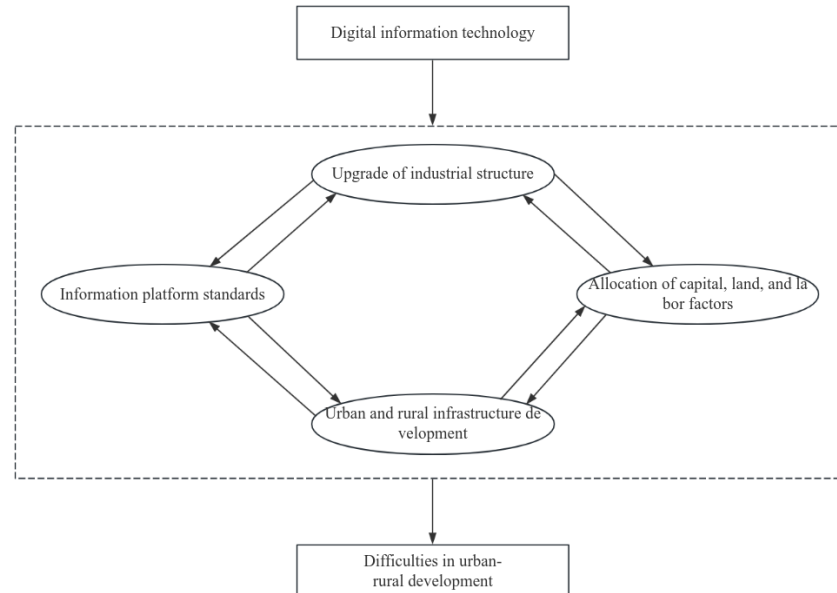

Figure 1: Difficulties in Urban and Rural Development

3.1 Imbalance between the allocation and circulation of production factors

Land, as one of the very important elements in rural areas, plays a crucial role in the development of agricultural modernization. Currently, a large amount of land in rural areas is idle. Although the promulgation of the new Land Reform Law has increased the transfer value of land and stipulated that land use rights remain unchanged for thirty years, in order to improve the use value of land, it has not achieved good results in the end. Due to rapid economic development, urban areas occupy most of the land resources, which forms a strong imbalance with the large amount of abandoned land in rural areas. Labor force, as an important resource for economic development, has been in a state of net outflow in China's history. Most of the labor force has migrated from rural areas to cities, resulting in the problem of rural hollowing out. This has led to a lack of development vitality in rural areas, once again widening the development gap between urban and rural areas and slowing down the pace of rural development. Due to the low quality of most labor force, they are mainly engaged in relatively simple physical labor. The imbalance under the influence of labor mobility hinders the economic development of rural areas and restricts the progress of urban-rural integration. Funds, as an important supporting force for economic development, are crucial for the economic development of rural areas. Due to their low cultural quality, farmers can only engage in physical labor with lower wages. At the same time, due to the influence of traditional erroneous reproductive concepts, the pressure of raising a boy has increased, which not only needs to solve the problem of family living and consumption, but also needs to solve the problem of education for future generations. Therefore, most of the labor funds are invested in the upbringing of future generations. Family savings are limited, and there is no surplus funds to choose from for self entrepreneurship. This long-standing financial imbalance determines the theoretical imbalance between rural farmers and urban residents in terms of development equity. How to solve the problem of farmers lacking funds is crucial for accelerating integrated development.

3.2 Imperfect agricultural industry system

The dilemma of weak foundation in rural industrial development during the process of urban-rural integration is one of the biggest obstacles to urban-rural integration. In recent years, China has

continuously demanded the development of modern agriculture and made efforts to build new forms of agricultural development. According to the Main Data Bulletin of the Third National Agricultural Census, out of the 314.22 million agricultural production and operation personnel in China, 12.89 million large-scale agricultural operation households account for only 24.4%. It can be seen that there is still a need to further expand the scale of agricultural industry development, develop a modern agricultural industry system, develop digital rural service industry, improve the technological level of industrial development, expand the limited development space, and solve a series of problems such as product sales backend[5].

3.3 Lack of unified standards for the construction of information platforms

At present, most research work in China has basically reached a consensus on the overall framework of community information systems, that is, the construction of community information platforms should be divided into three levels from bottom to top: data center layer, support layer, and application layer. However, there is still a lack of unified standards for the construction of a unified community information platform, and the application system functions are relatively single, making it difficult to meet the current development requirements of information communities. Lack of unified planning, coordination, and management standards on application terminals. The construction standards are uneven and have not yet formed a unified standard, resulting in phenomena such as duplicate construction and information silos.

4. The demand for information technology platforms for high-quality development of urban and rural areas

4.1 Government demand

From the perspective of the government, in order to achieve coordinated development between urban and rural areas, promote rapid progress in rural economy, and greatly improve people's lives, it is necessary to start from rural community management, digitize and digitize community platforms, and break away from outdated models. Overall, the responsibility and function of the government is to collect, manage, and publish information, comprehensively carry out services and management, establish efficient models for obtaining and publishing information, and achieve management and service of the community. This goal requirement can be further achieved by incorporating database type network technology and modern communication technology into the social information management platform.

4.2 Enterprise Requirements

In community informatization, enterprises refer to businesses that are closely related to residents. Residents obtain demand from these businesses, and businesses profit from them. After conducting a certain survey of the community, enterprises release more accurate, timely, and appropriate data. Improving one's own market competitiveness, or developing a simple way to obtain market information, solving administrative affairs such as approval, tax reporting, and auditing, achieving collaborative work with community management agencies, accelerating supply chain optimization, reducing workload, improving work efficiency, and facilitating community residents, is the pursuit of all enterprises. Nowadays, it is possible to complete this series of needs faster, more convenient, and faster by establishing a social information platform.

4.3 Community Residents' Needs

In the community information management service management platform, residents are the most important part of all users. It is also the ultimate target of government and corporate services. Residents need to improve their living standards, and their pursuit of this platform system is to obtain better social services, including government, enterprises, and other aspects, to meet their best interests. Residents hope that the services provided by the government will be more convenient and efficient, while the services provided by enterprises will be more comprehensive and thoughtful, preferably covering every corner of work and life. The various types of information and services required by rural residents include: provident fund, pension insurance, medical insurance, social security, subsistence allowance and other related e-government services; Remote healthcare, remote education, business information,

electronic entertainment, including various value-added services such as online health monitoring, online tutoring, online banking, online ticket booking, and online weather. Therefore, the services provided by the rural community information management service platform to residents must be as timely, effective, and easily accessible as possible. In addition, there is also a group of special groups among social residents, such as children, the elderly, pregnant women, vulnerable groups, etc. They also need social services, or more specialized services than ordinary people, which poses a significant challenge for social information platforms to solve. In summary, the government, enterprises, and community residents are the three main categories of users of community information management service platforms.

5. Principles for Creating System Platforms

5.1 Integration principle

The effective and orderly integration of information is the basic requirement that community information service platforms must first achieve. The informatization of rural areas is constantly accelerating, and community service departments are carrying out work in social security, family planning, health, cultural and sports, technology promotion, and infrastructure construction, committed to serving youth, the elderly, communities, schools, families, disabled people, women and other grassroots areas. This shows that many government departments and related organizations urgently hope to implement their work more conveniently and efficiently in relevant fields through the new platform of informatization than before. In the process of community informatization construction, information integration must be at the forefront. The community service center first needs to achieve effective integration of information resources, which is the foundation and key to community informatization. This includes information resources from various superior departments as well as dispersed information resources from different departments within the community. At present, there is a common phenomenon of independent data entry, storage, and processing in information systems of different departments, which leads to a large amount of redundant data and is not convenient for processing and calling. The informatization of community service centers should achieve a unified community information platform and reduce the cost of informatization construction. At the same time, community service resources should also be integrated in the process of informatization construction. By establishing an integrated public information service platform, community service centers can guide the stable development of volunteer services, livelihood services, convenient services, and other services, promote the focus on vulnerable groups, ensure their stable employment, and fairly enjoy social services. In addition, after the construction of the information platform is completed, it is necessary to establish unified standards and rules, which is conducive to achieving information sharing and cross departmental collaboration, as well as establishing a unified community information platform. Information sharing and cross departmental collaboration are also inherent requirements for the informationization construction of community service centers. Following the needs of community construction, promoting cross departmental communication and collaboration to upgrade and revolutionize, and achieving breakthroughs in the reform of relevant work systems and mechanisms under information technology conditions, is conducive to more orderly and convenient coordination and unity of various work across departments. In the process of cross departmental integration, the information data of each department is particularly important. Once changes occur and cannot be communicated to each other, if the data used for exchange is incorrect or outdated, the more data is exchanged, the higher the frequency of errors, and the greater the negative impact it brings. Therefore, when connecting the data information on the information platforms of various departments, it is necessary to standardize and improve the update mechanism of data collection, Timely data updates, accurate and effective data, and orderly and complete integration work are crucial for social security.

5.2 Systematic principles

When building a community information platform, the information of objects has the characteristics of large quantity and unstable focus, making it difficult for users to observe data concisely. In this case, the information platform needs to systematically integrate data to make it easier for users to accept.

5.3 Principle of practicality

Practicality is a basic requirement that every system needs to achieve, without making a vase.

Require the system to have a clear qualitative direction in data processing and functional development, simplify complexity, discard useless information, continuously optimize user needs, and achieve the ultimate goal of practicality.

5.4 Scalability principle

People's lives are diverse, and data information is constantly changing, which puts great demands on the expansion and compatibility of information in the system. The scalability upgrade of the platform is crucial. The principle of system platform scalability is to enable the platform to receive data quickly and perfectly with scientific planning, and maintain long-term error free operation.

6. Functions of the Information Platform for High Quality Development of Urban and Rural Areas

6.1 Community comprehensive service platform system

6.1.1 Community life services

With the rapid development of the Internet, people have developed a strong interest in online life, and even a sense of dependence, which is entirely due to the fast and convenient life on the Internet. The social informatization platform can establish a model of network and entity development based on existing public conditions, combined with online and offline. For example, providing online e-commerce and convenient living services for various communities, achieving online charging fees, water and gas payment, bus card recharge, communication fees, and TV payment, etc. Residents can also publish and obtain relevant life and work information on community platforms, making commodity transactions, job search information, and more transparent and open.

6.1.2 Community call services

In addition to public service hotlines, access to the Internet, mobile phone networks, landline phones, cable TV platforms, and other methods can also be quickly integrated to achieve interoperability and quick access to services. For all community residents, on the basis of the community call system, a community safety joint defense system can also be built, and emergency community call mechanisms and ordinary call services can be improved.

6.1.3 Community education services

The level of education is also a measure of the quality of life in a place. Therefore, in the construction of information community platforms, it is particularly important to establish a comprehensive youth education network for communities, schools, and families. Teenagers can learn about current events in the community online and educate their children from a young age; You can also obtain information about your school and home online, and achieve joint education and management between home and school.

6.1.4 Community Business Services

At present, business activity models mainly include B2C, C2C, O2O, etc. Most people are unable to have good opportunities and courage to engage in commercial activities. In the future, on information society platforms, they can boldly express their ideas through media such as computers, televisions, and handheld devices, seize every opportunity, and implement them.

6.2 Community Integrated Management System

6.2.1 One stop service system

Set up a dedicated service window within the community service center, integrate all to-do items into one system platform through a one-stop service system, including service fees, business consulting, material reports, etc. In order to achieve one-stop processing for these businesses, it is necessary to quickly obtain the necessary materials from the platform and integrate them for processing.

6.2.2 Visual Management

Input the terrain and topography of rural areas into a database, call GIS data, and use computer graphics to compile the data into a visual simulation model. Visualize the daily management of urban,

rural, and urban communities, making it convenient for higher-level government departments and other managers to directly browse, query, statistically analyze, and manage information within their jurisdiction, achieving information sharing.

6.2.3 Social assistance information system

In social informatization platforms, social assistance is also an extremely important aspect of convenience. The social assistance information management platform can be divided into various aspects of management, such as the minimum living guarantee for urban and rural residents, low-income, medical assistance, education assistance, social assistance, etc. Online management and approval are required, and finally, the personnel in need of assistance should be classified, counted, and managed. This can achieve the informatization, networking, and transparency of the entire process of assistance work from application, acceptance, approval to approval.

6.2.4 Community Elderly Care Service Information System

The issue of social elderly care is also a major challenge that China is about to face. In the social elderly care service information platform, it is necessary to include modules such as information management for the elderly, management of elderly preferential treatment certificates, management of elderly subsidies, and management of home-based elderly care services.

6.3 Community Collection Function System

With corresponding technical and functional support, to complete a comprehensive database platform, it is also necessary to fill in basic information such as community buildings, population, facilities, locations, and organizational teams. Combined with the data sharing of various higher-level management departments such as public security, land, labor, health, and industry and commerce, we will further improve the statistics of changes in data within the community, such as changes in housing locations, personnel transfers, and improved facilities. Enable managers to apply data more directly, allowing them to view and call at any time, ensuring real-time accuracy of data. Significantly reduce the workload and repetition rate of each community member. The three major functional systems constructed by the rural community information platform are mainly shown in Figure 2.
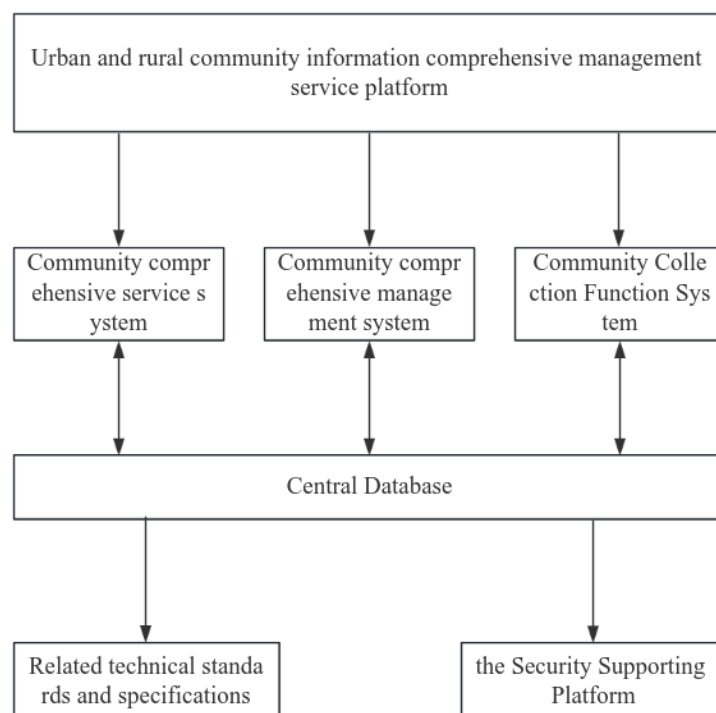

Figure 2: Three major functional system diagrams

7. Conclusion

With the deepening of China's urban-rural integration development strategy, the construction of information platforms has become an important support for promoting high-quality urban-rural development. This article explores the path of information platform construction from the perspective of high-quality development in urban and rural areas, aiming to provide reference for research and practice in related fields.

The government should play a role in overall planning, policy guidance, and resource integration in the construction of information platforms, promoting the integrated development of urban and rural areas. At the same time, the government should also strengthen supervision and evaluation of the construction of information platforms to ensure their effective operation and continuous improvement. Secondly, the construction of information platforms needs to fully leverage the role of the market. The market mechanism should play a role in resource allocation and incentive innovation in the construction of information platforms, guide all parties to actively participate, and promote high-quality development of urban and rural areas. At the same time, market entities should strengthen technological research and application, and promote the development of information platform construction towards intelligence and digitization. In addition, the construction of information platforms also needs to fully leverage the participation of society. Social organizations and the public should actively participate in the construction of information platforms, play the role of supervision and assistance, and promote the deep integration of information platform construction with high-quality urban-rural development. At the same time, society should strengthen the publicity and promotion of the achievements of information platform construction, and create a good social atmosphere. In short, the construction of an information platform for high-quality development in urban and rural areas is a complex system engineering that requires joint efforts from the government, market, and society. I hope that the analysis in this article can provide some reference and inspiration for research and practice in related fields, and promote the development of information platform construction towards a more scientific, standardized, and efficient direction.

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