

# Research on the Improvement of New Quality Productivity and Governance Capability

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**Abstract:** *Developing new quality productivity is the internal requirement and important focus of promoting high-quality economic development, and is of great significance for accelerating the realization of Chinese path to modernization. New productive forces are also an effective way to enhance China's grassroots governance capacity and promote the modernization of the national governance system and governance capacity. This article analyzes the connotation and characteristics of new productive forces, and the value and significance of empowering grassroots governance with new productive forces. Analysis shows that in the process of empowerment, there are practical challenges such as low levels of digitalization and intelligence in grassroots governance systems, differences in basic conditions for urban-rural development, weak links in grassroots cultural construction, and urgent need to strengthen grassroots ecological governance capabilities. Therefore, in the process of comprehensively promoting the modernization of grassroots governance, it is necessary to rely on new quality productivity as an empowering element, accelerate the formation of an efficient and transparent governance structure, promote industrial upgrading and resource optimization, enhance digital literacy and cultural life, achieve intelligent monitoring and green development, improve the construction of grassroots governance infrastructure, enhance high-level governance capabilities, and achieve modernization of grassroots governance.*

**Keywords:** New quality productivity, Grassroots governance, Elements enabling, Modernization of governance.

## 1. Introduction

In recent years, New quality productive forces are a qualitative leap in productive forces, an inevitable choice for high-quality economic development, a key move to improve China's governance capacity, and a new exploration to promote the steady and sustained development of China-style modernization. In September 2023, General Secretary Xi Jinping put forward the concept of "new quality productivity" for the first time during his investigation and investigation in Heilongjiang Province. In December 2023, the Central Economic Work Conference stressed the need to develop new quality productive forces. In January 2024, At the 11th collective study session of the Political Bureau of the CPC Central Committee, General Secretary Xi Jinping once again proposed to "accelerate the development of new quality productive forces and steadily promote high-quality development". General Secretary Xi Jinping has stressed that new quality productive forces play the leading role of innovation, escape the traditional mode of economic growth and the development path of productive forces, have high technology, high efficiency and high quality, and are in line with the new development concept. It comes from revolutionary technological breakthrough, innovative allocation of production factors, and deep industrial transformation and upgrading. It takes the improvement of workers, labor materials, labor objects and their optimized combination as the basic connotation, and the substantial improvement of total factor productivity as the core symbol. It is characterized by innovation, the key is high quality, and the essence is advanced productivity. We will promote industrial innovation through scientific and technological innovation, especially through disruptive and cutting-edge technologies to foster new industries, new models, new drivers, and develop new-quality productive forces. The party's 20th annual report clearly stated that the overall goal of modernizing China's governance system and capacity should be basically achieved by 2035. Governance ability refers to the comprehensive ability of the government or organization to achieve good

governance effect through a series of activities such as reasonable allocation of resources, formulating and implementing policies, regulating and managing public affairs, coordinating interest relations and solving social conflicts in the process of governance. It includes not only the formulation and implementation of rigid capabilities such as laws and regulations, policies and measures, but also the of soft capabilities such as communication and coordination, public participation and social mobilization.

## 2. New Quality Productivity and Grassroots Governance Capacity Academic Research Progress

In recent years, At present, scholars' research on new quality productivity and governance capacity mainly focuses on the following aspects: First, focusing on the theoretical level of new quality productivity. Wang Yu (2024) [1] believes that new quality productivity is the new characteristics of high-quality economic development under the new development pattern, and is a new form of productivity closely combined with cloud computing, green and low-carbon technology, artificial intelligence and other new elements [2]; Qi Wenhao (2024) [3] et al. believe that new quality productivity is compared with traditional productivity, With the characteristics of a cleaner and more efficient environment-friendly development model and the development of new quality productivity should focus on the training of new scientific and technological talents, to rely on basic research, to guide the demand to promote the construction of new infrastructure; Sun Liwei and Shen Kunrong et al. (2024) [4][5] is that the new quality productivity is "new". Because it highlights the "new" and "quality" double upgrade. "New" means a new stage, a new industry, a new factor and a new development model. "Quality" is the efficient integration of digital technology and production factors and follow the sustainable, high efficiency, low energy consumption and high quality development mode; Zhou Wen et al. (2023) [6] believes that the new quality productivity is a

new technology, new economy, new business forms as the main connotation of the productivity, It is different from the traditional high energy consumption, low output value of a new quality development mode; Yuan Lei, Hu Hongbin, et al. (2024) <sup>[7][8]</sup> believes that new quality productivity is a new factor and new production combination mode driven by a new round of scientific and technological revolution, Covering a series of fundamental changes related to the production process, including new industries, new models and new growth drivers; The second is the measure study of the new quality productivity. With the further research efforts, Some scholars began to explore the measurement of new quality productivity, Zhang Zhe et al. (2024) <sup>[9]</sup> constructed a new quality productivity evaluation system covering 27 indicators in the three dimensions of workers, labor objects and labor materials; Wu Jifei et al. (2024) <sup>[10]</sup> Build an evaluation index system from the four dimensions of new quality talent resources, science and technology, industrial form and production mode; Wu Wensheng (2024) <sup>[11]</sup> et al. Build the new quality productivity evaluation index system from the perspective of digital economy; Third, the research on the challenges and practical paths of governance capacity improvement, The introduction of new qualitative productivity, It provides a new research idea for the academic circle to analyze the improvement path of governance ability, At present, the academic circle mainly studies the following aspects: First, Wenfeng'an (2022) <sup>[12]</sup> By studying the challenges and dilemmas of rural governance, He believes that the main challenge of China's grassroots governance at the present is that the construction of digital governance needs to be strengthened, The links of rural autonomy, rule of law and rule of virtue are relatively weak. Second, some scholars believe that it is necessary to establish a community governance community structure, improve the institutional arrangement of governance responsibility, form a responsibility network composed of static structure and dynamic relationship, and promote the effective performance of community governance responsibility <sup>[13]</sup>. The third is to focus on the application of digital technology in grassroots governance, starting from the three dimensions of routine governance management, and research and analyze <sup>[14]</sup> through three mechanisms such as technical specifications, technology setting and technology integration. Some scholars are also committed to the study of the digital path, through digital information technology to alleviate the pressure of grassroots governance. Fourth, focusing on quantitative research on governance capacity, Sun Qingru et al. (2024) <sup>[15]</sup> Build 30 evaluation index systems of urban governance capacity from five dimensions of economy, science and technology, people's livelihood, ecology and administrative management. Liu Runfang et al. (2024) <sup>[16]</sup> They have constructed 19 evaluation index systems of governance capacity from the five dimensions of infrastructure, culture and education, ecological greening, health care, and social environment. The above scholars study and summarize the relevant theories of new quality productivity and grass-roots governance from different perspectives, which provides a theoretical basis for further improving the capacity of grass-roots governance. However, there is no research on the improvement of new quality productivity and governance capacity, so this paper explores the path of the improvement of grassroots governance capacity from a new perspective through the perspective of new quality productivity.

As the cornerstone of national governance, grassroots governance is the pillar of the modernization of China's governance system and capacity. To analyze how to improve the governance capacity from the perspective of the new quality productivity is not only the embodiment of the innovative development of the new quality productivity in the field of governance, but also an inevitable task to promote the modernization of the grass-roots governance capacity. The marginal contribution of this paper lies in broadening the perspective of the research of grass-roots governance capacity, providing ideas for the cross-field research of new quality productivity, and providing a new path and mode for the improvement of grass-roots governance capacity.

### **3. The Value and Significance of new Quality Productivity in Enabling Grassroots Governance**

#### **3.1 Adhere to the Due Meaning of the Marxist Theory of Productive Forces**

The proposal of new quality productive forces inherits and innovates the Marxist theory of productive forces, and provides a new theoretical support for the innovation path of governance ability. The innovative development of new quality productive forces in the field of governance is the concrete embodiment of the development of Marxist productive forces theory in contemporary society. Marxism holds that the productive forces are the fundamental force to promote social development, and the development level of the productive forces determines the economic foundation and superstructure of the society. In the process of modernization of grassroots governance, it is not only a theoretical requirement to give full play to the role of new quality productive forces, but also an inevitable choice in practice.

From the perspective of Marxist theory of productive forces, the development of productive forces can promote the reform of production relations, and then affect the whole social structure. The introduction of new quality productive forces makes the way and means of grassroots governance change. Through digital platforms and intelligent management tools, the government can obtain and process information more efficiently and respond to the needs of the people in a timely manner. This change is not only reflected in the renewal of technological means, but also in the transformation of governance concepts and models, reflecting the reaction of productive forces on production relations. In the traditional grassroots governance model, problems such as unclear rights and responsibilities and information asymmetry are more prominent, and the application of new quality productivity will help to break these obstacles and promote the formation of a transparent, fair and efficient governance system. With the help of big data analysis and artificial intelligence, grass-roots governments can more accurately grasp all kinds of dynamic information within their jurisdiction, and formulate more targeted governance policies and measures. Such a change is in line with the theoretical logic of Marxism that the productive forces determine the relations of production, and also reflects the great driving force of the new quality productive forces to the modernization of governance. Marxism emphasizes that practice is the only criterion for

testing truth, and that the effectiveness of the modernization of grassroots governance should ultimately be reflected in the people's sense of gain and happiness. The application of new quality productivity makes the governance process more open and transparent, more extensive participation, and more efficient services, greatly enhancing the people's trust and satisfaction with the government. This benign interactive relationship has promoted the continuous improvement and optimization of grass-roots governance.

### **3.2 The Inherent Requirement of High-quality Development**

Developing new quality productive forces is an inherent requirement and an important focus for promoting high-quality development, and it is also an inevitable task for promoting the modernization of community-level governance capacity. At present, grassroots governance is still a complex problem, which requires a lot of resources. The new quality productivity covers information technology, artificial intelligence, big data and other technologies. The application of these technologies has greatly improved the level of social productivity. To bring a rich material foundation for grassroots governance. At the same time, the new quality productive forces enabling the modernization of grassroots governance is not only the application of technology, but also the innovation of ideas. In grassroots governance, the technology brought by the new quality productivity can provide flexible and highly effective technical support for grassroots governance. The technological improvement brought by the new quality productivity covers big data, artificial intelligence, Internet of Things, blockchain, cloud computing, mobile Internet and many other aspects. The application of these technologies has provided strong technical support and innovation impetus for grass-roots governance, promoted the modernization and intelligence of governance models, and improved the efficiency of governance and service quality.

### **3.3 To Support Rural Vitalization**

New quality productivity is the endogenous driving force for all-round rural revitalization, and the improvement of community-level governance can boost the implementation of the rural revitalization strategy. Mentioned above, first of all, the new quality productivity brought by technology level can bring new patterns and methods for grassroots governance, new quality productivity drive the key is the agriculture, new quality productivity bring new workers, labor materials, labor object, at the same time, can assign rural industry revitalization, talent revitalization, cultural revitalization, ecological revitalization, organization revitalization. Secondly, the new quality productivity promotes the diversification and high-quality development of rural industries. The key to rural revitalization lies in industrial revitalization. Through the introduction of new quality productive forces, rural characteristic industries can be cultivated and expanded, and the diversification and sustainable development of rural economy can be promoted. Through the e-commerce platform, agricultural products can directly face the market, realize the connection between production and marketing, enhance the added value of agricultural products and farmers' income; through intelligent

manufacturing and processing technology, agricultural products deep processing industry can be developed, the industrial chain can be extended, and the value added of products and market competitiveness can be improved. The application of these technologies has injected new vitality into the rural economy and promoted the optimization and upgrading of the rural economic structure. Finally, the new quality productivity enhances the democracy and transparency of rural governance. Through the blockchain technology and information management platform, the openness and transparency of rural governance information can be realized, and the villagers' right to know and participate can be guaranteed.

## **4. The Real Challenges of New Quality Productivity Enabling Grassroots Governance**

With the transition of productivity, new concept of productivity, new quality productivity can assign grassroots governance, grassroots governance ability of ascension not only to maintain social stability, promote economic development, improve the well-being of the people's livelihood, but also can promote governance modernization, by strengthening grassroots governance, strengthen the foundation of national development, to achieve social stability and the people's well-being. However, at present, the new quality productivity enabling grassroots governance still faces great challenges, so this paper will deeply analyze the practical challenges facing the modernization of the new quality productivity enabling grassroots governance<sup>[17]</sup>.

### **4.1 The Digitalization and Intelligence Level of the Grassroots Governance System Needs to be Improved**

At the present stage, the grass-roots governance system faces the following challenges in digitalization and intelligence: First, the responsibilities and rights of the grass-roots governance are not clear, and in the grass-roots governance, the lack of responsibilities and rights is a long-term problem. Grassroots governments often overlap and fuzzy in the division of responsibilities, which leads to the lack of clear responsibility distribution and coordination mechanism when dealing with the complex problems brought about by grass-roots governance. In response to the needs of digital governance, the lack of clear division of responsibilities and process norms leads to low governance efficiency and affects the effective application of new quality productivity. Second, the level of digitalization is not high, in many grass-roots areas, the level of digitalization is relatively low. The lagging infrastructure construction, incomplete network coverage and lack of intelligent equipment make it difficult for new quality productivity to be fully applied in grass-roots governance. The possible reason for this is that after the funding, geographical and other factors. In addition, the lack of digital skills and technical literacy of grassroots staff also limits the application effect of new quality productivity. How to use the digital platform to realize the village affairs open, democratic decision-making and supervision and management is still a difficult problem that needs to be solved.

### **4.2 The Basic Conditions for Urban and Rural Development are Different**

The efficient operation of grassroots governance depends on the coordinated development of urban and rural economy [18]. In order to have a deep understanding of the current situation of new quality productivity enabling grassroots governance at the economic level, this paper selects panel data from 2019 to 2023 to analyze the income of urban and rural residents and infrastructure construction. As can be seen from Table 1, from the income gap, the per capita disposable income of national residents reached 34,830 yuan from 2019 to 2023. Among them, 18,781 yuan was used for rural residents and 46,942 yuan for urban residents. The per capita disposable income of urban residents is 28,161 yuan higher than that of rural residents, and is 2.5 times that of rural residents. The income gap is very significant. This income gap reflects the uneven economic development between urban and rural areas. The possible reason is that the income level of residents is significantly higher in urban areas due to more employment opportunities, higher wage levels and a better social security system than in rural areas. However, despite the increase in agricultural production in recent years, the overall income is still low. Farmers' income source is relatively single, mainly relying on agricultural income, while agricultural production itself is greatly affected by natural conditions and market fluctuations, and the income instability is strong.

**Table 1:** Per capita disposable income of national residents from 2019 to 2023

particular yea	countrywide	Urban dweller	Country dweller	D-value
2019	30733	42359	16021	26338
2020	32189	43834	17131	26703
2021	35128	47412	18931	28481
2022	36883	49283	20133	29150
2023	39218	51821	21691	30130
mean value	34830	46942	18781	28160

Note: The data comes from the National Bureau of Statistics, based in RMB (RMB). The difference is calculated as follows: per capita disposable income of urban residents-per capita disposable income of rural residents.

In terms of digital infrastructure, Internet penetration in rural areas was 72% in 2019-2023, compared with 80.3% in urban areas, with a gap of 24.34%. The gap in Internet penetration rate reflects the imbalance in digital infrastructure construction between urban and rural areas, which is closely related to the differences in grassroots governance capacity. Urban areas have invested more in Internet infrastructure construction, with more comprehensive network coverage, faster speed and higher service quality, thanks to the effective governance and resource allocation of grass-roots governments. Urban grassroots governance can better plan and implement digital infrastructure construction projects. However, due to the remote geographical location and low population density, the Internet infrastructure construction is relatively backward, the network coverage is insufficient, the speed is slow, and the service quality is unstable, which is directly related to the limited rural grassroots governance resources and insufficient planning capacity.

**Table 2:** 2019-2023 National Internet penetration rate

particular yea	countrywide	Town area	a rural area	D-value
2019	61.2	74.6	38.4	36.2
2020	70.4	79.8	55.9	23.9
2021	73	81.3	59.2	22.1
2022	75.6	82.9	60	22.9
2023	77.5	83.1	66.5	16.6
mean value	72	80.3	56	24.34

Note: The data comes from the statistical report of Internet development in

China, in which a small amount of missing data is supplemented by interpolation method. The unit is%. The difference is calculated as follows: Internet penetration rate in urban areas-Internet penetration rate in rural areas.

### 4.3 There are Many Weak Links in the Grassroots Cultural Construction

To improve the capacity of grassroots governance needs the joint promotion of all links of cultural construction. Although the new quality productive forces have great potential in promoting the modernization of community-level governance, there are still many weak links in community-level cultural construction. These weak links are mainly reflected in the following three aspects: First, the lack of cultural resources. By the end of 2023, there were only 1.16 libraries and about 1.23 cultural centers in each county-level administrative district in China. Cultural resources in many areas are relatively scarce, which seriously limits the promotion and deepening of cultural construction. Grassroots cultural facilities are insufficient, and cultural infrastructure such as libraries, cultural centers and activity centers is often relatively simple or even lacking. As a result, it is difficult for grassroots residents to obtain rich cultural resources, and the development of cultural activities is also limited. The lack of cultural resources not only affects the quality of cultural life of residents, but also limits the promotion of cultural education and the improvement of residents' cultural literacy, thus affecting the cultural foundation of grass-roots governance. Second, cultural activities are single and the shortage of talents, and the form and content of grassroots cultural activities are relatively single, which is difficult to meet the diverse cultural needs of residents. In many grass-roots areas, the cultural activities are mainly traditional festival activities, lack of innovation and diversity, and the grass-roots cultural construction is still faced with the shortage of cultural talents. Many regions are lack of professional cultural management personnel and literary and artistic creation talents, and the organization and development of cultural activities are difficult to achieve the expected results. The shortage of cultural talents not only affects the quality and level of cultural activities, but also limits the development of cultural innovation and cultural industries. Third, the lack of digital development thinking to build grassroots culture, mainly reflected in the lack of digitalization of cultural resources, low participation in digital cultural activities. Digital development requires the transformation of traditional cultural resources into digital forms for more widely spread and utilization. However, many regions have obvious deficiencies in the digitization of cultural resources. Traditional cultural resources, such as documents, books, historical archives, local operas and folk culture, often lack of systematic digital processing and storage. This not only makes it difficult to share and disseminate cultural resources online, but also limits the digital access and utilization of local cultural resources by residents. The lack of digital resources makes it difficult for grassroots culture to make full use of modern technology, and cannot effectively improve the efficiency and coverage of cultural communication.

### 4.4 The Ecological Governance Capacity at the Community Level Urgently Needs to be Strengthened

The modernization of ecological governance at the grassroots level is an important part of Chinese modernization, and it is

also an inevitable requirement for promoting the modernization of national governance system and capacity in the ecological field. The new quality productivity can face the following challenges: one is the ecological environment management mechanism is not sound, specification constraints, lack of strict laws and regulations and effective regulation, lead to some local governments and enterprises to environmental protection, the lack of effective specification constraint mechanism, makes the ecological environment governance lack of substantial binding and normative, difficult to form an effective governance mechanism. Second, the means and means of ecological governance are relatively backward. With the development of society, many new technologies and methods and intelligent monitoring systems have emerged in ecological governance at the grass-roots level. However, in some areas, there are still traditional means and methods of governance, which are lack of innovation and forward-looking. As a result, the effect of ecological environment governance is poor, and it is difficult to adapt to the complex and changeable ecological environment governance needs. Third, capital investment is insufficient. Ecological and environmental governance requires a large amount of capital investment. Due to financial pressure and limited resources, some capital investment in ecological and environmental governance is insufficient. Lack of sufficient financial support leads to the difficulty to start ecological and environmental governance projects, and the governance effect is not good. The lack of capital investment greatly limits the renewal and upgrading of the means and technologies, and affects the efficiency and level of the governance work.

## **5. New Quality Productivity Enables the Practical Path to Improve Grassroots Governance Capacity**

### **5.1 System Optimization: Forming an Efficient and Transparent Governance Structure**

the key to the modernization of grassroots governance lies in institutional innovation and management mode optimization. Relying on the new quality productivity, through big data, cloud computing and the Internet of Things and other technical means, to realize the digitalization and intelligence of grass-roots government management, improve administrative efficiency and governance level. The core of institutional reform is to promote institutional reform through technological innovation, so as to form an efficient, transparent and just governance system, and effectively improve the modernization level of grassroots governance<sup>[19]</sup>.

First, we will improve the governance mechanism. By introducing advanced technologies such as big data and artificial intelligence, we can effectively improve the community-level governance mechanism. The use of these technologies allows grassroots governments to make more precise governance and decisions. Through the application of relevant technologies, grassroots governments can have an in-depth understanding of residents' needs and social dynamics, and formulate more targeted policies and measures. Digital technology also promotes the optimization and reengineering of the governance process. Through the e-government platform, the grass-roots governments can realize the online processing of administrative examination

and approval, public services and other processes, reduce human intervention and corruption, and improve the administrative efficiency and service quality. The digital governance mechanism not only improves the government's execution and credibility, but also enhances the residents' trust and satisfaction with the government. Second, to strengthen the regulatory system, the new quality productivity can greatly improve the intelligent level of the grass-roots regulatory system. Using technologies such as the Internet of Things and blockchain, comprehensive monitoring of the environment, food safety, public health and other fields can be realized. In terms of food safety, blockchain technology can trace the whole process of food production, circulation and sales, ensure the transparency and traceability of food safety, and improve residents' trust in food safety. The intelligent supervision system not only improves the efficiency and accuracy of supervision, but also reduces the blind spots and loopholes of supervision, and guarantees the life, health and property safety of residents. Third, promote the rule of law in grassroots governance, and promote the process of the rule of law in grassroots governance through the empowerment of new quality productivity. Through the e-government platform, grass-roots governments can improve the enforcement and coverage of laws and regulations. The application of digital technology makes the publicity and popularization of laws and regulations more convenient and efficient. For example, the online legal consultation platform can provide convenient legal services for residents to help them understand and safeguard their legitimate rights and interests. At the same time, digital means can also simplify the administrative law enforcement process and enhance the fairness and transparency of law enforcement.

### **5.2 Economic Revitalization: to Promote Industrial Upgrading and Resource Optimization**

At the economic level, new quality productive forces drive the transformation and upgrading of the grass-roots economy through technological innovation, providing new impetus for rural revitalization. The application of new quality productivity technologies such as big data, cloud computing and the Internet of Things can significantly improve the efficiency of agricultural production, and promote the extension and optimization of<sup>[20]</sup> of the agricultural industry chain.

First, optimize the allocation of resources. Through big data and artificial intelligence technology, the allocation and utilization of grassroots economic resources can be greatly optimized. Big data analysis can help grassroots governments to deeply understand the bottleneck and potential of economic development in the region, so as to formulate more scientific and accurate development plans. The application of these digital technologies not only improves the efficiency and effect of resource allocation, but also promotes the sustainable development of grass-roots economy. Second, we will promote industrial upgrading. Through advanced technologies such as the Internet of Things, artificial intelligence and big data, we will promote the transformation and upgrading of traditional industries to an intelligent and digital direction. In agriculture, we can promote industrial upgrading and develop new agricultural productivity. Internet of Things technology can achieve precision agricultural

management, monitor soil, water and climate data through sensors, optimize the planting and management of crops, improve the quality and yield of agricultural products, reduce the use of pesticides and fertilizers, and reduce the impact on the environment. Third, we have promoted innovation and entrepreneurship. The development of new-quality productive forces has stimulated the vitality and creativity of the community-level economy. By building an Internet entrepreneurship platform and providing online education and skills training, grass-roots residents can more easily access the knowledge, technology and resources needed to start their own businesses. To provide entrepreneurs with entrepreneurial guidance, financial support and marketing services. At the same time, it can promote the development of e-commerce platform, and provide a new channel and market for the sales of grassroots agricultural products and handicrafts and other featured products. Rural residents can sell their local products across the country or even the world through e-commerce platforms, expanding their income sources and improving their living standards. The improvement of the digital entrepreneurship environment not only promotes the diversified development of the grass-roots economy, but also drives the growth of the employment rate and the improvement of the residents' income level, and promotes the coordinated development of the urban and rural economy.

### 5.3 Cultural Promotion: to Enhance Digital Literacy and Cultural life

At the cultural level, the new quality productive forces enable the modernization of grassroots governance, which enriches the rural cultural life and improves the cultural literacy of the residents by promoting the cultural construction and the innovation of the means of communication. At the same time, it also promotes the protection and inheritance of rural traditional culture, and uses digital means to record, preserve and spread the traditional culture, thus enhancing the cultural confidence and identity of rural residents. The strengthening of cultural construction not only enriches the spiritual life of residents, but also promotes social harmony and community cohesion, providing a solid foundation for the modernization of grassroots governance [21].

First, promote the digitalization of culture, and the new quality productivity enables the application of grassroots governance in the cultural field to digitize cultural resources. Through digital technology, grassroots cultural resources can be better protected and disseminated. Digital libraries, online museums and cultural resource sharing platforms can be built to enable grass-roots residents to access rich cultural resources anytime and anywhere. Digital cultural resources are not only convenient to be preserved and managed, but also can be widely spread through the Internet, enriching the cultural life of residents and improving their cultural literacy. In addition, the digital technology can also be used to protect and inherit the intangible cultural heritage. Through virtual reality and other technologies, the intangible cultural heritage projects such as traditional crafts and local opera are digitally recorded and displayed, which not only protects the precious cultural heritage, but also enables it to be widely spread and inherited. Second, to enhance cultural communication, through new media platforms and digital technology, greatly

enhance the breadth and depth of cultural communication. Emerging communication methods such as social media and short video platforms, such as grass-roots governments and cultural institutions, can promote local customs and traditional culture through short video platforms such as TikTok and Kuaishou, to attract more people's attention and participation. Digital technology also makes it easier to organize and participate in cultural activities. Online cultural activities, virtual exhibitions and digital artistic performances enable residents to enjoy high-quality cultural services without leaving home, thus enhancing the convenience and richness of cultural life. Third, to improve cultural education, injecting new vitality into the grassroots cultural construction. Through online education platforms and digital curriculum resources, grassroots residents can more easily access all kinds of cultural and educational resources, and improve their own cultural quality and skill level. Digital technology also supports the organization and management of community cultural activities. Grassroots governments can use intelligent management systems to plan and coordinate various cultural activities to enhance the sense of participation and belonging of community residents. Through the combination of online and offline activities, colorful cultural activities are organized to promote residents' interaction and community cohesion, and promote the harmonious development of society.

### 5.4 Ecological Wisdom: Realizing Intelligent Monitoring and Green Development

At the ecological level, new quality productive forces contribute to the modernization of ecological governance through technological innovation, and promote green development and ecological progress. The application of big data, the Internet of Things and other technologies makes environmental monitoring and management more accurate and efficient [22].

First, the realization of intelligent environmental monitoring, new quality productivity through the Internet of things, big data and artificial intelligence and other technologies, to achieve an intelligent environmental monitoring system. These systems can monitor environmental indicators such as air quality, water quality and soil pollution in real time, providing timely and accurate data support. The intelligent environmental protection system can use the sensor network to monitor the emission situation of various pollution sources, find and deal with environmental problems in time, and ensure the safety and health of the ecological environment. Through intelligent environmental monitoring, grass-roots governments can formulate environmental protection policies and governance measures more scientifically to improve the accuracy and efficiency of environmental governance. The system can also provide real-time environmental data and early warning information for the public, enhances the residents' attention to and participation in environmental issues, and promotes the co-governance and sharing of environmental governance. Second, promote the green economy, new quality productive forces promote the development and application of green economy. Through the introduction of smart agriculture, clean energy and green manufacturing technologies, it has promoted the dual profit of economic growth and ecological and environmental protection. In the intelligent agricultural management system

can realize precision fertilization, water-saving irrigation and pest prevention and control, reduce the use of pesticides and fertilizers, and improve the quality and output of agricultural products. Third, improve ecological management, enabling new quality productivity can enhance the intelligent level of ecological management at the grass-roots level. By means of unmanned aerial vehicles, remote sensing technology and satellite monitoring, the comprehensive monitoring and evaluation of the ecological environment can be realized, and the ecological and environmental problems can be found and prevented. At the same time, the intelligent management system can integrate and analyze all kinds of ecological data to realize the dynamic monitoring and management of the ecological environment. Through the establishment of a digital ecological database and information platform, the grass-roots governments can better formulate ecological protection policies and plans, and promote the in-depth implementation of ecological governance. Intelligent ecological management means not only improve the level of ecological environment protection, but also promote the construction of ecological civilization and sustainable development.

## 6. Peroration

In the current social background of rapid change, new quality productive forces enable grass-roots governance to improve governance capacity, which has become an important path to promote the modernization of the national governance system. Through theoretical analysis, it can be concluded that the introduction of new quality productive forces not only injects new vitality and efficiency into grass-roots governance, but also provides important support for the modernization of governance capacity. The effective integration and application of new technologies and new models can significantly improve the quality and efficiency of grassroots governance, and thus promote the participation and coordination of all sectors of society. In addition, it is necessary to attach great importance to the capacity building and professional training of grassroots cadres in order to meet the rapidly changing governance environment and the handling needs of complex problems. In general, the improvement of new quality productivity and governance capacity is integrated of two wings, supporting and complementing each other, injecting new impetus and vitality into the modernization of China's governance system and capacity.

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