

# Rural fintech difficulties and further development

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**Abstract.** In recent years, fintech has played an important role in empowering rural revitalization. However, in the concrete practice process, the further development of the rural fintech has encountered practical difficulties, and it is necessary to further think about how the rural fintech can better integrate into the rural production and living environment. In practice, some cases emerging in agricultural production trusteeship services can give some enlightenment to the development of rural fintech. This paper in the comb the Tunliu District, Yicheng County and Yonghe County agricultural production hosting service financial technology application case, put forward should establish a bigger organization system docking financial technology, build a platform to promote comprehensive big data to solve the problem of data sharing, combined with "wisdom agriculture" rural information technology application results to get through information service system, accelerate the promotion of rural credit system construction, full publicity and popularization to enhance farmers and farmers financial technology literacy experience, finally based on this relevant suggestions.

**Keywords:** rural fintech; big data platform; agricultural production trusteeship; financial support

## 1. Introduction

In February 2021, the No.1 central document first proposed the development of digital inclusive finance in rural areas.[2] The development of digital inclusive finance depends on the development of fintech to some extent.[3] In fact, the further development of rural fintech is faced with difficulties, and the rural fintech lacks the channel and carrier to promote product innovation[4], and the system scale is still small.[5] The lack of credit data, such as loans makes it difficult for big data to play a role in fintech.[6] Moreover, due to the limited application scenarios and the "ceiling effect", it is necessary to further think about how rural fintech can better integrate into the rural production and living environment.[7] In practice, some cases emerging in agricultural production trusteeship services can give some enlightenment to the development of rural fintech.

The vigorous development of agricultural production trusteeship service has become an important development direction of large-scale agricultural service and the main way of socialized service system encouraged by the government. It is an important business mode to realize the organic connection between farmers and modern agricultural development. As a new business model, its service subject has a weak ability to resist risks and needs financial support.[9] With the further development of agricultural production trusteeship services, a large amount of capital investment needs to be added, and agricultural production trusteeship has changed from the early "single trusteeship" to the current "whole industry chain trusteeship". Through the integration of financial, insurance, risk control and big data resources, the rural credit system is established. In this process, fintech and agricultural production trusteeship service promote mutual development, forming a virtuous cycle.

In the newly identified 200 national agricultural socialization service innovation pilot units, Shanxi Province has five service organizations and three counties were selected, it can be said that agricultural production trusteeship services, Shanxi walk in the forefront of the country. In practice, the agricultural production trusteeship services in Shanxi Province have formed a variety of distinctive modes, among which the ways and paths of financial support are also different, but without exception, they all play an important role in the development of agricultural production trusteeship services. Among them, in the model of Tunliu District, Yicheng County and Yonghe County, the application of fintech has added a new financial support path for its development. Therefore, this paper will, on the basis of summarizing and sorting out the application cases of fintech in Tunliu

District, Yicheng County and Yonghe County of Shanxi Province, put forward the experience and enlightenment of the further development of rural fintech, in order to make a meager contribution to the new path of rural fintech development.

## 2. Related literature review

### 2.1 Rural fintech.

There are many existing literature researches on fintech, compared with the few literature studies on rural fintech. Relevant literature on rural fintech at home and abroad mainly focuses on application scenarios, development status, playing role play and practical difficulties, and innovation and supervision.

On the one hand, it points out the current situation and the important role of rural fintech. For example, Chen Jinyu and CAI Yangping (2020) [1] summarized the development status of rural fintech in China; Kong & Loubere (2021) [10] studied how JD and Alibaba provide fintech in rural China. Siddiqui & Siddiqui (2020) [11] pointed out by studying rural fintech in India that telecommunications can improve the financial inclusiveness of rural India and play a role in expanding rural financial services and improving rural residents' lives; Wu Yinkai (2020) [12] noted that rural fintech plays an important role in the process of comprehensively promoting rural revitalization; Zhang (2020) [13] pointed out that the application of fintech blockchain technology in the field of financial agriculture support will effectively improve the implementation effect of the financial agriculture support strategy; Benami & Carter (2021) [14] research suggests that emerging digital technologies will reshape savings, credit, and insurance services in rural markets; Hmba et al. (2021) [15] noted that fintech can improve access to renewable energy financing in rural areas; Hao Yuchen (2021) [4] indicated that rural fintech can promote the integration of rural three industries; Sun Jiguang and Hou Feifan (2021) [16] empirically test that fintech will make farmers live rich. Li Mingxian (2021) [17] explored the influencing factors of fintech adoption among rural residents through empirical research.

On the other hand, it points out the difficulties, existing problems and relevant suggestions of rural fintech development. Such as the Friedline et al. (2020) [18], through empirical research, it points out that poor rural areas and rural areas of color have limited access to fintech; Liu Saihong et al. (2021) [19] pointed out that the application of rural fintech is not deep enough, To promote the sinking of rural fintech services, Promote urban and rural economic integration by improving the conversion rate of agricultural scientific and technological achievements; Li Na (2021) [5] put forward the lack of rural fintech innovation in China, Lack of rural financial industry chain innovation; Hao Yuchen (2021) [4] pointed out that the innovation of China's rural fintech organizations is backward, Rural credit investigation system needs to be improved; Fu Qiong (2021) [7] pointed out that the development of rural fintech has practical difficulties such as insufficient infrastructure network construction, threshold effect and risk effect. Li Zhuolun (2019) [20] proposed the development of rural financial technology by summing up experience; Fang Haixin (2020) [21] pointed out that the coordinated development model of rural credit institutions can quickly promote the development of rural fintech.

### 2.2 Agricultural production trusteeship services.

The existing relevant literature on agricultural production custody services is mostly studied from two aspects of macro function and micro mechanism, and rarely discusses how financial support for agricultural production custody services from the financial field, and there is also a lack of relevant induction and discussion on the application of fintech.

On the one hand, it points out that how the trusteeship of agricultural production, as the main way of socialized services, can promote agricultural modernization and ensure food security in the macro aspect, such as Ji Mingfeng (2017) [22] thought of agricultural production trusteeship It is an important way to realize the modernization of agricultural production for small farmers; Wang Yubin (2018)

[23]also indicated that agricultural production trusteeship is the innovative choice between small farmers and modernization; Zhong Zhen et al (2020)[24]showed that agricultural modernization cannot scale operation, and land circulation is not the only way of scale operation; Ji Mingfeng (2020) [25]indicated that agricultural production trusteeship is a major innovation of agricultural management model. LuQianwen, YuanPeng (2021) [26]and Jiang Fan (2022) [27] research found that agricultural production hosting has become the key to maintain food security strategy, LuQianwen (2021) [28] also explore how to stimulate the seed industry high quality development, and Wu Shunchen (2021) [29]is from the perspective of policy implementation study why the agricultural production managed project results.

On the other hand, it explores the specific content and role of agricultural production trusteeship in the micro mechanism, mostly concentrated in the form of management [30], service subject [31], service relationship [32], how to organize [33], the mechanism and the service mode [34], benefit distribution mechanism [35], risk allocation [36], subsidy effect [37][38], institutional relationship (relationship contract) [39], regulatory mode [40], and so on. Of course, the existing literature also has the research and analysis of regional cases, such as Wen Weiyu et al., who have summarized the experience of "gain type, package type" mode exploration in Shanxi Province [41]. Zhang Ruijuan and Huan Meili summarized the experience of Lanxi County in Heilongjiang Province [42]. Du Hongyan et al. compared and analyzed the practice mode of Shanxi Province and Heilongjiang Province.[43]

In conclusion, on the one hand, the existing literature research has pointed out the necessity and important role of the development of rural fintech, and also indicated the existing problems and difficulties of rural fintech development, which remains to be further discussed; on the other hand, the role and mechanism of agricultural production and custody services in macro and micro aspects, lacking the combing and summary of the application of rural fintech. Therefore, this paper will summarize and sort out the application cases of fintech in Shanxi Province to provide experience and enlightenment for the further development of rural fintech.

### 3. Practical application

#### 3.1 Overall situation of Shanxi Province——"Industrial Internet + big data + finance".

Shanxi Province is a big province of agricultural production, is also the agricultural production hosting service to carry out earlier and achieved remarkable results in provinces, Shanxi Province in 2021 and construction bank (Shanxi branch) and the Pacific insurance company (Shanxi branch), take the lead in the national agricultural production hosting service financial support system, to promote the higher quality development of agricultural production hosting service development in Shanxi Province, has played an important role. Financial support is an effective measure to promote the improvement and improvement of agricultural production trusteeship services in Shanxi Province. In the specific practice process, Shanxi Province has adapted measures to local conditions and explored the characteristic financial support mode suitable for agricultural production trusteeship services in various districts and counties. Overall, in Shanxi Province through the agriculture, government and other data resources Shared with financial institutions, innovating the "industry Internet + big data + financial" mode of agriculture, give full play to the regional integration of data advantages and financial technology advantages, success in the province within the agricultural production hosting service financial support work, financial support and financial technology application makes the stability of agricultural production hosting project in Shanxi Province.<sup>1</sup>

Shanxi Province on the basis of hosting services in agricultural production<sup>2</sup>, through custody orders, pin orders, satisfaction evaluation to form agricultural big data further precipitation, fusion agricultural big data, and financial big data, using agricultural data credit, accurate credit, and promote the construction of the provincial rural credit system, for farmers, agricultural production

<sup>1</sup>Source: People's Daily Online News (<http://sx.people.com.cn/n2/2021/0123/c189151-34543738.html>).

<sup>2</sup>Source: People's Daily Online News (<http://sx.people.com.cn/n2/2021/0123/c189151-34543738.html>).

hosting service subject and each subject on the agricultural industry chain contains online and offline various types of credit products. By establishing rural credit system, improve the rural credit record, and further guide the farmers, agricultural production hosting service subject and other kinds of main body to enhance credit consciousness, form the good environment for the development of rural financial technology, for the development of rural financial technology through the data sharing channels, so as to further guide more financial capital and social capital into agriculture and rural areas, better realize the rural financial technology can assign the important role of rural revitalization.

Specifically, the following practices of Tunliu District, Yicheng County and Yonghe County in Shanxi Province have their own characteristics, and have formed a set of systems and models respectively.

### **3.2 The construction of——organization system in Tunmode reduces cost, and the construction of big data platform promotes information circulation.**

Through the establishment of agricultural production trusteeship service alliance<sup>3</sup>, The storage District has formed the "five whole agricultural production trusteeship" mode of "government + association + finance + service subject + farmers", integrating factors and jointly improving the benefits of agricultural production trusteeship service, which has attracted the attention of all parties and is the core of the "storage mode". The establishment of the agricultural production custody service alliance for the rapid application of financial technology provides an opportunity, by the alliance direct docking financial technology enterprises, etc., effectively reduce the application cost of rural financial technology before, alleviate the dispersed farmers and managed service subject because of the financial technology cost is too high and cannot make the rural financial technology application sinking problem. First to establish a larger organizational system, the integration of all resources, and then with the big data platform as a link to promote the construction of the rural credit system, which is the case experience of the detention area.

Tunliu District integrates resources and elements to form an agricultural production trusteeship alliance of "one center" + "two associations". The alliance now has 187 units, which plays an important role in promoting the financial support of agricultural production trusteeship services in Tunliu District. To sign an agreement in alliance, enhance the ability of "negotiation", for the service loans, from 96 million yuan in 2020 to 2,244 million yuan in 2021, enough to explain hosting service alliance compared to before the single "center" and "association" strong "negotiation ability", effectively solve the agricultural production hosting service subject in service before production, in, after the capital problems needed in the whole industry chain service.<sup>4</sup>

The construction of an organized system alone is not enough. We also need to establish a platform to make information transmission more accurate and fast. After the establishment of the system, big data platform services are needed to efficiently connect a large amount of resource information and improve the ability of information utilization. It can be seen that in the development process of agricultural production trusteeship service, Tunliu District has established the "agricultural production trusteeship big data management platform", which integrates its service subjects and various departments into the management system. On the one hand, it can be effectively supervised, and on the other hand, it improves the informatization and standardization level of agricultural production trusteeship. In fact, as early as 2019, TunDistrict has been preparing for the construction of a big data platform, and by 2021, the platform will be built and used. The perfect big data platform realizes visualization and intelligent supervision, and more clearly shows the track of the service subject in the storage area in each operation link, achieving real-time supervision, and also has the functions such as contract input, index analysis and trend prediction, which further improves the efficiency of agricultural production trusteeship service. The establishment of the big data platform

<sup>3</sup>From 2020 to 2021, it was promoted by the Ministry of Agriculture and Rural Affairs as a typical case of national socialized service for two consecutive years; CCTV, Central Video, Xinhua News Agency, Xinhuanet, People's Daily Online and other media have reported on the trusteeship of agricultural production in Tun.

<sup>4</sup>Financial institutions have provided a total of 244 million yuan of loans to trusteeship service subjects and farmers by purchasing prenatal agricultural materials, improving agricultural machinery and equipment in production, and providing postpartum grain purchase and sales.

has realized the integration of agricultural big data and financial big data, further improved the credit records of farmers and agricultural production trusteeship service subjects, promoted the construction of the rural credit system, and provided conditions for the development of rural fintech.

### 3.3 Yicheng County model——"agricultural big data + fintech".

The innovative mode of financial support in Yicheng County, Shanxi Province can be said to be the most worthy of popularizing and using for reference among the many modes in Shanxi Province: the new credit system of the agricultural operating subject is established on the basis of agricultural production trusteeship. In 2021, the Yicheng County model appeared in the list of financial agricultural support innovation pilot projects announced by the Ministry of Agriculture and Rural Affairs, and was recognized.

On August 25, 2021, Yicheng County launched the "Shanxi Province Agricultural Production Custody Service Platform", and signed a cooperation agreement with China Construction Bank (Linfen Branch). This platform is a new platform for Yicheng County to use fintech to serve agricultural production trusteeship, and also provides data, information and other resources for the whole agricultural production trusteeship services in Shanxi Province. In the case of Yicheng County, the establishment of agricultural production trusteeship service platform, on the one hand, facilitates financial institutions to further integrate data and better grant credit loans, and realize agricultural big data credit enhancement; on the other hand, it also brings all links of agricultural production trusteeship service into supervision, improves the efficiency of agricultural production trusteeship service, and reduces the "friction cost".

Through the platform construction, yicheng county realized the agricultural production related big data and financial related big data unicom, information sharing, and integrating the land approval, land transfer, hosting service signing farmers and service subject of "assets", give farmers and service subject can be accepted by bank financial institutions "credit record", solve the problem of the underlying data, can better play the financial technology data, cloud computing technology advantages, so as to realize the rural financial technology can assign rural revitalization important role.

In the case of Yicheng County, Zhongnong Rongxin Company played an important role in building the platform. Zhongnong Rongxin Company is a fintech enterprise. Through software product research and application, supported by big data and other fintech means, the company connects finance with agriculture, rural areas and farmers, providing a solution to alleviate the problem of rural fintech innovation. The big data platform developed by Zhongnong Rongxin Company has the functions of data risk control, data monitoring, data statistical analysis and product traceability, which opens up the sharing channel of agricultural big data and financial big data. The company in yicheng county, Shanxi Province and other areas to support agricultural production technology hosting service process, joint departments of financial supply chain company and coal insurance company in Shanxi Province, form a financial insurance team, finance, insurance, risk control, big data resource integration, to establish the rural credit system, make rural financial technology can truly assign to agriculture and rural development, provide power for agricultural production, rural revitalization.

With the establishment and improvement of the platform, more insurance companies are also involved in agricultural production trusteeship services, giving full play to the advantages of insurance technology. Pacific Insurance (Shanxi Branch) underwrites the wheat income insurance and corn income insurance in Yicheng County.<sup>5</sup>For comprehensive control risk, dynamic monitoring of ginseng crop production situation, Pacific insurance company in yicheng county agricultural production managed crops provide insurance, using his company developed "Pacific e agricultural insurance" and online insurance tools "agricultural insurance AI underwriting", implements the whole process the whole chain self-service and self-help claims, improve the efficiency of claims. At the

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<sup>5</sup>The specific product is that the wheat income insurance is divided into dry land and irrigated land. The corn income insurance is divided into spring corn and summer corn, different insurance amounts and rates are set, and the insurance amount of the whole-process trusteeship wheat is raised from 400 yuan to 864 yuan, realizing the improvement from cost guarantee to income security.

same time, during the epidemic prevention and control period, the underwriting work of winter wheat in Yicheng County was also carried out online. Through satellite remote sensing technology and unmanned aerial vehicle survey technology, the planting and distribution of winter wheat in Yicheng was intelligently identified, which greatly shortened the working time required for underwriting and ensured the orderly promotion of agricultural production trusteeship service.<sup>6</sup>

### 3.4 Yonghe County——information level leapfrog development.

Yonghe County used to be a state-level poverty-stricken county, with a weak agricultural foundation and a population of less than 60,000 people. It has a very backward infrastructure construction in all aspects, and belongs to an area that cannot be covered by either traditional finance or fintech. Based on such conditions, Yonghe County relies on the "intelligent agricultural production supervision platform" to realize the leapfrog development of the information level, and the number and use of all kinds of information technology and intelligent equipment have achieved the "leap-forward" growth. Of course, the overall poverty alleviation in Yonghe County does not only rely on the development of the level of informatization. The case of Yonghe County is mainly mentioned here to explain how the poor counties can promote the development of the level of informatization, and then introduce financial technology.<sup>7</sup>

In 2019, Yonghe County established an "intelligent agricultural production supervision platform" by using information technologies such as satellite positioning and sensor recognition, which can monitor the mechanical operations of the hosting service subjects in real time and understand the details of the whole process. Up to now, the county has completed a total of 207 GPS positioning system installations and 547 operation modules, which can realize the whole monitoring of the host body operation at the PC terminal or mobile phone App at any time.<sup>8</sup>Regarding the role of the platform, Tian Hua, director of the local agricultural economy center, said that first, it avoids the disputes between farmers and cooperatives and improves the actual efficiency of supervision; second, the agricultural informatization level of Yonghe County, a deep poor county in mountainous areas, has achieved leapfrog development.

Obviously, the development of information level is the basic condition for the sinking of rural fintech application, and the specific development also needs the construction of organizational system and platform. Like Tunliu District, Yonghe County has set up an "Agricultural Production trusteeship Service Federation" led by the agricultural production trusteeship service organization and absorbing the participation of finance, agricultural responsibility, insurance and other departments. The establishment of the federation further provides financial support for farmers and various agriculture-related subjects, while reducing market risks. Subsequently, the federation signed an agreement through cooperation, and launched the financial innovative products such as spring farming loan and agricultural machinery loan. The loan amount was also increased, and it also realized the "take with use and return with use", truly giving full play to the advantages of fintech in reducing service costs and improving service efficiency. Up to now, the financial department has granted a total of 120 million yuan in Yonghe County, helping 1,467 households, and opening up the financial service channels of the whole link of rural production.<sup>9,10</sup>

## 4. Experience summary and enlightenment

Through the practical application of rural fintech in agricultural production trusteeship service in Shanxi Province, The further development of rural fintech can be started from the following aspects: first, rural subjects should establish a larger organizational system to connect with fintech; Second, a

<sup>6</sup>Source: Sina Finance network (<https://finance.sina.com.cn/jjxw/2021-12-20/doc-ikyarmrz0018831.shtml>).

<sup>7</sup>It is worth mentioning that Yonghe County has achieved a comprehensive poverty alleviation process, and the Internet has successfully "turned into a" web celebrity "county" through marketing on "TikTok" and other platforms. The local government also takes this opportunity to further build cultural tourism resources, developing rapidly.

<sup>8</sup>Data source: Farmers Daily —— yonghe model exploration.

<sup>9</sup>From 10,000 yuan to 80,000 yuan.

<sup>10</sup>Source: China Food Safety Network (<https://www.cfsn.cn/front/web/site.newshow?newsid=68111>).

comprehensive big data platform can be jointly built to promote the solution of data sharing problems; Third, it can combine the application achievements of emerging rural information technology such as "smart agriculture", Get through through the information service system; Fourth, through the first two ways, namely, organizational system and big data platform, Accelerate the construction of the rural credit system; Fifth, it should be fully publicized and popularized, Enhance the financial literacy and digital literacy of farmers and various agriculture-related subjects.

#### **4.1 Rural subjects should establish a larger organizational system to directly connect with fintech.**

The case in Shanxi Province shows that a larger organizational system can reduce the application cost of rural fintech, and provides a reasonable object of negotiation and "negotiation" for the application of rural fintech.

On the one hand, a larger organizational system can effectively reduce the cost of rural fintech application, promote the sinking of rural fintech application, and truly play a role in serving agriculture and rural areas. The high cost of fintech services to agriculture, rural areas and farmers is one of the restricting factors for the development of rural fintech. Through the direct connection of fintech through the construction of organizational system, the application cost of fintech application can be reduced, so that rural fintech can be truly applied and play an important role. As you can see, due to small-scale farmers and agricultural production hosting services using financial technology cost is too high, rural financial technology in concrete practice for farmers namely the agricultural subject to provide more convenient financial services, and in Shanxi Province, the establishment of agricultural production hosting alliance improve the overall "negotiation ability", reduce the cost of using financial technology, thus provides an opportunity for the effective sinking of rural financial technology.

On the other hand, a larger organizational system can centrally give feedback on the basic financial needs of all subjects, and fully understand the needs can make rural fintech play in the right place, and improve the efficiency of rural fintech in serving agriculture and rural areas. Realize that the service subject in the process of business service facing different financial needs is just the first step, more important is to fully understand its needs, by the "grassroots" organization directly contact farmers and the agricultural subject, timely access to relevant information, for farmers and each subject of different financial needs, adjust measures to local conditions innovation for different subjects of financial products, provide effective financial innovation services. At the same time, some research has pointed out that in order to promote the development of rural fintech, intermediary organizations can be set up more close to the long tail of customers, and gradually form the path dependence of fintech use habits.[6]It can be seen that the establishment of a larger organizational system can realize the role of the so-called "intermediary", provide a bridge between farmers, service subjects and fintech, form a link role, make the rural fintech effectively close to the reality of rural production and life, and further play the advantageous role of rural fintech.

#### **4.2 We will jointly build a comprehensive big data platform to promote the solution of data sharing problems.**

At present, with the continuous development of the digital economy, data has become a new and increasingly important factor of production.[44] On the one hand, one of the difficulties of rural fintech is the difficulty of data sharing. Due to various considerations, departments are reluctant to share data, so data cannot be effectively integrated, which largely restricts the development of rural fintech; on the other hand, fintech reduces information search costs with big data and cloud computing, but many farmers and various agricultural subjects do not record such data "online", and it is difficult to really cover this group even with big data technology. Both financial subjects and service subjects need to integrate resource elements in concrete practice to better promote data and information sharing. Building a big data management platform is an effective way to build, In various cases in Shanxi Province, Tunliu District has established the "agricultural production trusteeship big data

management platform", Yicheng County has established "agricultural production trusteeship service platform" and so on, By building a platform, to realize the integration of agricultural big data and financial big data, Fully docking with the business systems of all departments, Efficient and high-quality integration of land, subsidies, credit, and insurance factor data, Use agricultural big data to increase credit for service subjects and farmers, Precise credit granting, Reduced financing costs, Truly realize the online loan application, "second application second loan" and "borrow with return", Make the advantages of rural fintech can be given full play.

The platform established in agricultural production hosting services is not only the "smart hosting" and "smart supervision" platform for hosting services, but also the fintech service platform for data sharing and credit investigation and monitoring. Financial institutions can also be further developed in the process of providing financial support. As mentioned above, yonghe county, Shanxi Province will satellite remote sensing, drones, sensor identification technology used to regulate agricultural production hosting services, which produced a lot of crops and other related data, financial institutions can further cooperation agreement, to establish a rural financial database, further for the construction of rural credit system, the development of financial institutions, which can also better provide financial support for agricultural production hosting services, this is a process of mutual promotion of common development. By perfecting the construction of big data platform, promote rural financial technology sinking service farmers and the main body, integrating agriculture, government affairs, financial data, strengthen the digital services, provide a variety of types of online credit products, greatly shorten the loan time, loan service efficiency and quality, real play to the important role of rural financial science and technology.

#### **4.3 The "smart hosting" platform in the hosting field plays a role.**

On the one hand, the "smart hosting" platform has accumulated a lot of data. Emerging technologies such as satellite remote sensing, the Internet of Things and big data can realize accurate and real-time monitoring of the weather, operation details and planting conditions such as quantity and quality required for agricultural production and trusteeship. In this process, a large number of information and data on farmers' "assets" such as land and crops have been accumulated. At the same time, it has further promoted the leapfrog development of the informatization level in the backward and poor areas. As mentioned above, yonghe county through agricultural production hosting service to establish "wisdom agricultural production supervision platform", the basic implementation make full use of emerging technology, from a information level of low county, to have more than two hundred GPS positioning system, operation module more than five hundred, the information level presents the leapfrog development, for the further development of rural financial technology provides a good infrastructure environment. On the other hand, relying on the "smart hosting" platform, smart agriculture has been further developed, which promotes the high-quality and efficient development of the field of agricultural production trusteeship, thus introducing more capital into it. Currently, Internet giants such as Alibaba and JD have developed a "demonstration farm" model by helping with order agriculture hosting agricultural production. It can be expected that in the future, more financial capital and social capital will enter the field of agricultural production trusteeship system, which will bring new development impetus to rural fintech.

#### **4.4 We accelerated the construction of the rural credit system.**

The lack of a perfect credit system is one of the reasons why the further development of rural fintech is hindered, and the improvement of the rural financial credit investigation system is the basis of rural fintech innovation.[4] At present, the construction of China's rural credit system is mainly led by the People's Bank of China, and the village two committees go to collect the relevant information of farmers. In the collection process, on the one hand, due to the high coordination cost of various government departments, the collection is difficult, and the updating speed is slow, due to the lack of understanding of rural residents' credit system construction and low financial literacy, the complicated procedures in the collection process are not high. And through agricultural production

hosting services, makes the combination of agricultural big data and financial big data become relatively easy, by sharing customer channels, to build a credit evaluation mechanism, formed the government, the subject, farmers and financial institutions of rural comprehensive financial service mode, effectively meet the demand of financial services, to further promote the construction of the credit system.

One side, The establishment of the big data platform integrates all subjects and departments, Combining the scattered different sectors organically, And out of the unified consensus of continuous implementation of agricultural production trusteeship services, A high degree of coordination and cooperation among all departments; on the other hand, Farmers through the early participation in agricultural production trusteeship to form the concept of change, Recognizing the benefits of agricultural production trusteeship and proactively participating in using relevant big data platforms, In this process, we will naturally cooperate with the collection of relevant information and data, And because the countryside is an acquaintance society, The driving role of the surrounding villagers and the "human favor" role of the trusteeship service subject, Further promote the rural residents to actively cooperate with and participate in the information collection work, Thus better promoting the construction of the rural credit system, Lay the foundation for the further development of rural fintech.

#### **4.5 Give full play to the role of training and publicity to improve the financial literacy of farmers and service subjects.**

The low financial literacy and digital literacy of farmers and various subjects restrict the development of rural fintech. Some studies show that the publicity and popularization of fintech can effectively affect the decision-making degree of farmers to adopt rural fintech behavior.[17] As what mentioned before, the platform has services such as information release and technology docking. Through learning on the platform, we can understand certain fintech knowledge, and further grasp the development initiative in the adoption and use of fintech. In agricultural production hosting service, through in-depth publicity and guidance, the farmers and all kinds of agricultural production hosting service subject to join the use of big data platform, familiar with and master the use of the platform process, and in the process to learn the knowledge of financial products, further improve the financial literacy, financial literacy has laid the foundation for the further development of rural financial science and technology.

## **5. Summary**

It must be pointed out that although the above experience has certain enlightenment for the further development of rural fintech, the further development of rural fintech still needs to be improved and reformed from the following aspects, so as to continuously develop, further promote financial innovation and empower rural revitalization.

First, We will improve relevant laws and regulations. On the one hand, the development of rural fintech needs oversight. For a long time, excessive regulation and lack of regulation at the same time restricts the development of rural financial technology, the development of rural financial technology has changed the rural financial system, the traditional financial risk method is difficult to fully cope with the challenge of new technical problems, the existing regulatory system and method tools cannot match the new development of rural financial technology. On the other hand, data security requires legislative protection. The relevant laws and regulations of rural fintech are not sound, and there are still hidden dangers and risks in data security. Although the development of rural fintech can stimulate rural financial vitality and promote the efficiency of financial services for agriculture and rural areas, it also brings new challenges and increases the risk of data leakage. As agricultural big data and financial big data fusion of the establishment of the big data platform, constantly relax the data access authority, although the government endorsement and block chain encryption technology, but the rural financial technology development hardware still may not be able to meet the demand of a large number of data encryption, every terminal and software update may produce new security

vulnerabilities. Therefore, the standard development of rural financial technology need relevant laws and regulations, in the financial technology regulation related laws and regulations and system gradually improve, will improve the rural financial technology market access threshold, although in the short term may cause rural financial technology due to the access threshold and limit the development, but in the long run, for the higher quality of rural financial technology development provides a better institutional environment, is conducive to the sustainable development of rural financial technology.

Second, We will promote further reform of traditional rural financial institutions. It can be seen that at present, the promotion of rural fintech mainly plays a role in the China Construction Bank, Agricultural Bank and other commercial banks, rural credit cooperatives, rural banks and other rural financial institutions play a limited role in the development of rural fintech. Can try to release its management area restrictions, release vitality, provincial association can transform function for rural credit cooperatives from the "top" technical guidance and information services, improve the level of rural financial technology, using financial technology to further broaden service coverage and improve market competitiveness, as the rural credit cooperatives gradually mature application of financial technology, provincial association for financial innovation of financial risk fears, administrative management and business management goals agreed together, can better promote the development of rural financial technology.

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