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Improve Transportation Corn Harvest Level Based on New Rural Transportation Planning and Design

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Abstract: The construction of a new socialist countryside is a major historical task determined from the overall development of the cause of the party and the country, an important development strategy for China's development, and a grand and massive system project. In the process of planning and constructing a new countryside, we must adhere to Guided by the scientific concept of development, adhere to the scientific planning of new rural construction, improve rural quality of life, and further optimize rural human settlements. Based on the above background, the purpose of this article is to improve the transportation corn harvest level based on the new rural transportation planning and design. The research in this paper mainly adopts literature research analysis, historical analysis and comparative analysis to obtain basic data and facts; studies the basic status of China's corn harvest and transportation development, and analyzes the factors affecting the corn harvest and transportation in China. Then, the obtained survey data is characterized and comprehensively tested, and the binary model is used to conduct an empirical analysis of the sample data. Based on the results of the empirical analysis, the research conclusions of this article are drawn, and targeted countermeasures and suggestions are proposed. The experimental results showed that the area of conservation tillage in autumn reached 30,000 mu, an increase of 120% over the previous year; the return of corn straw to the field was 180,000 mu, and the rate of returning the straw to the field was 90%. Based on the above research conclusions, measures such as accelerating the rational circulation of land, expanding the publicity of new rural transportation planning, effectively using policy subsidy tools, and actively carrying out agricultural transportation innovations can promote the improvement of transportation corn harvesting levels.

1. Introduction

After the reform and opening up, rural productivity has been unprecedentedly liberated,

agricultural production conditions have improved significantly, comprehensive agricultural development has continued to advance, agricultural industrialization and modernization have improved, and the "upstairs, downstairs, electric telephones" that farmers have been waiting for have become reality. Agriculture and rural economy have entered a new stage. At this time, the construction of a new socialist countryside is "two civilizations". At present, China is the second largest corn producer in the world after the United States in terms of acres of planted corn and total output, with an annual output of more than 100 million tons, accounting for 20% of the world's total output. At the same time, China is also the number one consumer of corn. More than 90% of the volume depends on domestic production. In the past five years, China has imported corn for two years and exported corn for three years. Although the import and export volume is between millions and ten million tons each year, it occupies the second place in the international market (the number one exporter is the United States and the number one importer is Japan), but it accounts for domestic consumption, generally at 5 % -10%. However, during the entire operation of corn transportation, the amount of corn harvesting and transportation is very large, and the labor intensity is also relatively large. Therefore, it is necessary to improve the level of corn transportation.

With the development of the times, new rural planning research has been gradually strengthened, and more and more people are focusing on the research of new rural planning. Taking the planning of Sanzhangdian Community in Yangshuo Ling Town, Pingquan County as an example, Wang discussed the planning and construction of rural communities in the planning process of new rural construction. Taking the specific project as the starting point and the regional characteristics as the guide, after fully analyzing the characteristics of the project, the rural community planning was elaborated from the aspects of land layout planning, road transportation system planning, landscape planning [1-2].

And the new rural transportation planning and design has greatly improved the transportation corn harvest level, so people continue to study the improvement of transportation corn harvest level. Xian's research includes: the impact of deregulation of railway tariffs on corn and soybean transportation; fuel efficiency in cargo transportation; transport of coal to seaports through the Central American inland waterway transportation system; the impact of proposed transshipment facilities on coal tariffs in New York; The physical and operational characteristics of the ferry; the role of water transport in urban transport; and the water channel that enters the national recreation area and other waterfront recreation areas through passenger-tugboat combinations [3-4].

This article is based on the new rural transportation planning and design to improve the level of corn transportation, research the basic status of the development of corn harvest and transportation in China, and make a relevant analysis of the factors affecting the corn harvest and transportation in China. Characterize and comprehensively inspect the obtained survey data, use binary model to conduct empirical analysis of the sample data, and draw the conclusions of this article based on the results of the empirical analysis, and propose targeted countermeasures and suggestions.

2. Proposed Method

2.1. New Rural Planning

(1) Connotation of new rural planning

The "new socialist countryside" refers to the social state in a certain period of time that reflects the social development of rural society based on economic development and marked by all-round social progress [5]. The main content of socialist rural planning is the theoretical analysis and practical description of rural residential areas integration [6]. From the needs of farmers, the needs of cities to rural areas, etc., according to criteria such as survivability, functionality, institutionality, scale, and structure. Standards and scales for judging the rationality of the village layout are

proposed, and a classification guidance strategy for village planning and construction at the macro level is introduced.The villages are divided into different types of development models such as original site preservation and transformation, urbanization and relocation, and so on. Focus on environmental improvement and supporting infrastructure construction, encourage the demolition and relocation of residential areas, achieve intensive development, and build high-standard rural communities; village reconstruction in urbanized areas must achieve urban-rural development, and the cost of village reconstruction is included in urban construction costs. Avoid villages in the city; relocation villages should strengthen policy guidance in accordance with specific conditions and adopt land replacement to guide farmers to concentrate in towns or central villages [7]. This article mainly focuses on the first development model, which is to carry out old village reconstruction and environmental improvement to the village first, and then carry out regional construction and infrastructure construction of the new countryside.

(2) Significance of new rural planning

The new rural planning is the first step in building a new socialist countryside and improving the rural living environment. It should take "governing the old" as the core and the premise of farmers' autonomy, make full use of the village's existing facilities, existing foundations, and existing conditions to improve the rural environment, highlight rural characteristics, local characteristics and national characteristics, and integrate various public facilities in rural areas. 2. The improvement of the public environment is combined with relevant technical requirements in accordance with national regulations. The formulation of a new rural plan is a basic work for rural construction, and it will play an important role in standardizing village renovation work, improving village rehabilitation technology level, strengthening village renovation technology management, and ensuring farmers' basic production and living conditions and living environment quality. [8].

2.2. Characteristics of New Rural Planning

Specifically, the so-called "new countryside" mainly includes new aspects, namely new houses, new facilities, new environment, new farmers, and new fashion. These five are indispensable and together constitute the category of socialist "new countryside" [9]. That is, it is necessary to build residential houses with ethnic and regional customs in accordance with local conditions, and the construction of houses must meet the requirements of a "saving society"; infrastructure must be improved, and supporting facilities such as roads, hydropower, broadcasting, communications, and telecommunications must be available, so that Modern rural shared information civilization; good ecological environment and beautiful living environment [10]. In particular, new era characteristics should be reflected in environmental sanitation processing capabilities; farmers should be modernized to become ideal, cultural, ethical, and disciplined "four farmers"; they must be free to change customs, promote science, civilization, The concept of life under the rule of law strengthens the construction of socialist spiritual civilization in rural areas [11].

As far as this article is concerned, the main purpose is to carry out technical planning and design for the new countryside. Through the planning and design of the area, the material and visual "new countryside" is realized. By emphasizing the combination of development and protection, the sustainable rural planning is realized. Development; and try to achieve full regional coverage, be able to identify different spaces, plan differently, achieve technical support for new rural planning and the basis for future rural planning policies.

2.3. New Rural Transportation Planning and Design

(1) Increase the width of headroom

The construction of rural roads in China is limited by funding and topographical conditions. The

route often depends on the direction of the mountain and follows the plan of the mountain, so its excavation is difficult. During construction, the excavation width of some construction units is not enough.In addition, due to the lack of effective maintenance and rainwater erosion on rural roads, the clearance area of the road has gradually decreased, resulting in the reduction of road miscarriage areas. Coming back in time led to the accident. In order to change this situation, when designing, it is necessary to avoid it purposefully, increasing the width of the excavation and increasing the width of the roadbed during the design; or on the basis of meeting the drainage of the road surface and the roadbed, adding a drainage pipe with a concrete cover The plate or butterfly is set to increase the width of pavement clearance, thereby ensuring the safety of road formation.

(2) Hardened shoulder design

During the construction of rural roads, the shoulder is an important part of it. Dirt shoulders are often used in the construction of highways, but because the shoulders are easily affected by rain and other factors, the roadbed is suspended and other phenomena, which increase the road unsafe factors. Therefore, you can consider hardening the shoulder in the design.Although the cost may increase, the hardened shoulder design can increase the width of the road surface and make driving safer.On the one hand, you can optimize the drainage design and reduce the erosion of rainwater. Impact, effectively avoid the phenomenon of road surface suspension, use drainage ditch to drain rainwater, thereby prolonging the use time of the road and ensuring the safety of driving on rural roads.

(3) Improve traffic signs

Road traffic safety signs and signs are of great significance to road traffic safety and navigation, and road traffic signs are of great significance to the determination of road traffic safety accident liability. However, because the construction of rural road traffic facilities is generally started on a large scale, there are often insufficient funds and simple acceptance procedures. Paying attention to the quality acceptance of the main project rather than the acceptance of supporting safety projects often results in rural road traffic safety. The lack of facilities is also one of the main reasons leading to the frequent occurrence of traffic safety accidents.

(4) Strengthening protective facilities

The construction of rural roads often depends on the direction of the mountain. Therefore, there are often many sections near the water and cliffs. These sections are often areas with high incidence of accidents, which cause greater harm to the people and their social hazards. Therefore, when planning and designing rural road traffic safety facilities, it is necessary to strengthen the planning and design of protective facilities. According to the terrain and actual needs, strengthen the design of protective facilities. According to local conditions, the use of concrete guardrails or corrugated guardrails is a danger to road traffic. Effective protection shall be carried out in the area to effectively protect the safety during driving, to maintain a harmonious and stable society, and to reduce road traffic accidents as much as possible.

2.4. General Technology for Corn Transportation and Storage

The embryonic part of corn is rich in protein and soluble sugar, and has strong hygroscopicity and strong breathing intensity. When the storage temperature is around 30 °C, the activities of various enzymes in corn grains rise rapidly, while consuming dry matter, it also releases a lot of heat, which leads to the growth of molds and accelerates the deterioration of storage quality [12]. These unfavorable conditions have led to corn Extremely not resistant to high temperature storage [13-14]. In addition, corn is also endangered by maize elephants, large valley pirates, red quail pit pirates, mixed quasi pit pirates, saw valley pirates, rusty red pit pirate pits, wheat moth, and Indian valley moth, making it even more difficult to store grain.

Generally speaking, corn has the following five storage characteristics: First, the corn has high original moisture and uneven maturity. The main corn producing areas in China are mainly concentrated in the northern region. At the time of harvest, the temperature is low, and the ears of the corn ears have leaves. , Which further weakened the drying effect of sunlight, which caused the moisture of newly harvested corn to reach 20% ~ 35%. Due to the different pollination time of the top and the base of the corn, the maturity of the same ear of corn is different.The kernels on the top of the corn are usually immature, and the high-moisture kernels are vulnerable to physical damage during threshing, immature kernels and breakage during storage. The kernels are susceptible to attack by worms. If infected with aflatoxin, it will lead to corn poisoning. Second, corn germ is large and has high respiration intensity. More than 30% of corn germ is protein and more soluble sugar. Experiments have shown that the ingress and egress of water in corn grains are related to the germ. The embryos of large corn kernels have higher water content than the whole kernel. Third, the germ of corn is rich in fat, which is likely to cause 77% -89% of total fat in rancid corn to be concentrated in the germ, which is prone to rancidity and deterioration under poor storage conditions. Fourth, the corn embryo has a large amount of bacteria and is susceptible to microbial infection. The corn embryo is rich in nutrients and attached with a large number of microorganisms. Experiments have shown that the corn has a much higher bacteria content than other cereals after the same storage conditions and the same storage time. Maize embryo is most susceptible to mold damage, and under mild temperature conditions, corn is extremely susceptible to mildew. Fifth, the main pests of corn pests that seriously endanger the safety of stored grains are corn elephants, larvae, red quail worms, hybrid quail worms, sawn worms, rusty red worms, wheat moth and Indian valley moth Relatively intolerant to storage, corn infections and pests are more serious than other grains [15].

The best storage conditions for corn are low temperature and dry. Commonly used storage methods are dry airtight method and frozen low temperature airtight method. Due to the limitation of the area of corn cultivation in China, it is difficult to reduce the high-moisture corn to safe moisture after harvesting, and it is usually stored in a closed storage after low temperature freezing treatment. The specific operation method is to dry and cool outdoors in cold and dry places, remove frost and impurities when the grain temperature is lower than -10 ° C, maintain the lower temperature and store it in a closed storage on a sunny day. After the initial harvest, the corn needs to be stored in the form of ear storage, and it is necessary to perform "stem picking" before harvesting. This method can reduce moisture by 5% -6%. After harvesting, stack them into "corn building", "hanging seeds", "sun shop", "long narrow pile", etc., and dry them to dry high-moisture corn. According to the field operation and statistics display, after From 150d to 170d ear storage, corn water content can be reduced by 7% -26.5%. When the water content reaches a certain level, it can be threshed and transferred to grain storage [16].

In the process of corn threshing, some immature kernels, broken kernels, bran crumbs, and cob fragments are produced. If the machine is used for threshing, more impurities will be produced. After the conveyor is used for random stacking, most of the impurities are concentrated in the middle of the conical grain stack.These impurities have strong hygroscopicity, large respiration, rich in microorganisms, small porosity, and the generated damp heat is not easy to dissipate. As a result, it is easy to generate heat and mold in this area. Therefore, the corn needs to be coarsely sieved to remove impurities before being scattered. This operation can effectively guarantee the safety of stored grain. In the grain storage stage, it is necessary to ensure that the corn varieties are separated, separated from each other, separated from grades, separated from good and bad, separated from water, and separated from insects and insects. High-moisture corn should be treated in time to prevent mildew.

3. Experiments

3.1. Experimental Data Collection

This article collects objects in a certain province. This province is one of the main corn producing provinces in China. The sown area and yield are stable at about 10% of the sown area and yield of corn in China. In 2018, the province's corn sown area was 2917.3 thousand hectares, with an output of 19.32 million tons, accounting for 9.6% and 11.7% of the country's sown area and output, accounting for 41.3% and 44.3% of the province's total sown area of food crops and total output of food crops. The stable and healthy development of corn production in the province plays an important role in ensuring the national food security and the development of China's jade industry. The province's total corn yield and yield are shown in Table 1.

Table 1. Total corn yield and yield in the province

Years	Sown area (thousand hectares)	Changes in planting area(%)	Total corn production (10,000 tons)	Momentum change in total output(%)	Yield (kg / ha)	Month-on-month yield change(%)
2012	2405.9	-4.90	1499.1	6.24	6106	4.10
2013	2455.0	2.00	1735.4	15.74	6353	4.00
2014	2731.4	11.20	1761.3	1.49	6396	0.70
2015	2753.6	0.80	1816.5	3.13	6364	-0.50
2016	2854.2	3.60	1887.4	3.91	6567	3.20
2017	2874.2	0.70	1921.5	1.8	6589	0.30
2018	2917.3	1.40	1932.0	0.5	6538	-0.70

(1) Sown area. The area planted to corn increased from 2012 to 2018. Among them, the sown area increased the most in 2014, reaching 2731.4 thousand hectares, an increase of 11.2%. After 2014, the sown area increased slightly each year, reaching the highest level in history in 2018, and the sown area was 2917.3 thousand hectares.

(2) Corn production. The province's corn production between 2012 and 2018 has not fluctuated significantly.Among them, the fluctuation between 2012 and 2015 was large. The output in 2012 was 24.059 million tons. The annual output fell sharply to the lowest level in the year. The total output was 14.919 million tons. , A decrease of 14.1% over the previous year, and the output from 2014 to 2018 has steadily increased. After 2015, the production entered a period of steady growth. In 2018, the output was 29.173 million tons, reaching the highest level in history. From 2016 to 2018, the annual yield of maize in the province has not changed much. In 2013, the yield per unit decreased sharply to the lowest yield of 6106 kg in history, a decrease of 14.9%. In 2014, the yield increased to 6396 kg, an increase of 12.7. The annual yield is relatively stable, reaching 6,589 kg in 2017, reaching the highest level.

3.2. Experimental Road Traffic Planning and Design

As the saying goes: "If you want to get rich, build the road first." The degree of road construction plays a vital role in the economic development and living comfort of a region. We must pay attention to the planning of road traffic in the construction of new countryside. The road construction of the new countryside must be well-planned in the long run, which can not only meet the living needs of the current villagers, but also be compatible with the future rural development trends. Rural road planning and construction should be organically integrated with the adjacent urban road system, so that new rural villages have a reasonable road network suitable for internal use by villagers, and convenient external transportation links the city. In this way, the differences

between urban and rural areas can be gradually reduced from the road, and the living and production environment of the vast countryside can be improved.

The location of the road plane should use the existing road system to minimize the movement and reconstruction of the road to avoid damaging the local ecological environment. The plane position should conform to the national new rural road network plan. The longitudinal section of the road can refer to the urban road design specifications. The use of road building materials should be based on the consideration of protecting the local ecological environment and reducing construction costs.

The cross section of a new rural road should first meet the traffic needs, and carefully analyze the nature and function of the buildings on both sides of the road. Make the road formally meet the needs of transportation, and harmoniously unify with the buildings on both sides of it, maximize the role of road development and promotion of land on both sides, and functionally serve the village's production and life. The design of the cross section of the road should be adapted to local conditions, and it does not need to be unified in one or more forms. It should reflect the characteristics of the countryside as much as possible to enrich the form.

Compared with the urban planning and construction, the plot ratio of the new rural planning is relatively low, and roads can also be built more spacious. The road green space rate should be relatively high as much as possible. For the greening design of the cross section, local green plants should be adopted to protect the local ecological environment.

4. Discussion

4.1. Analysis of New Rural Transportation Planning and Design

Convenient, safe and efficient transportation system is an important part of the planning of the new countryside. The structure and function of the countryside determine the organization of the transportation system for the flow of people, logistics and traffic. In order to adapt to the characteristics of rural areas and the way of hierarchical organization, the road organization of this project is mainly based on the network format, which is divided into network format, hierarchical system, and loop system. In road traffic planning, it should be noted that over-emphasis on the orderliness and convenience of transportation functions will come at the cost of the loss of landscape resources and cultural atmosphere. Blindly widening roads and unilaterally emphasizing orderly organization will destroy the characteristics of rural areas different from urban areas. This problem is better solved in the road traffic planning of this project. The new rural transportation planning and design plan is shown in Figure 1.

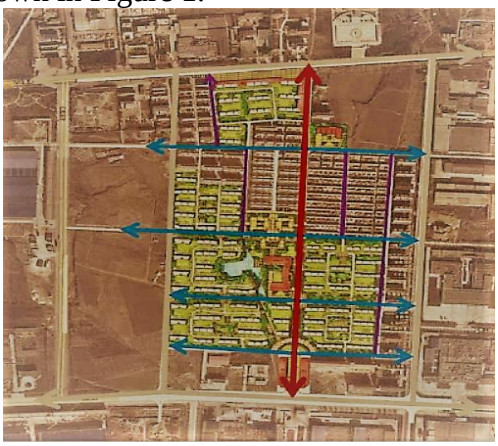

Figure 1. Internal traffic analysis diagram of new rural transportation planning and design

Considering that the traffic volume inside the village is not very large, and the speed of passing vehicles is also slow, the internal traffic of the base is mainly a "walking-oriented, people-car diversion" traffic mode. Based on the original road system of the base, the roads of the base were classified. Set up necessary connecting branches between various functional areas as needed to meet the needs of villagers. By rationally developing new rural road traffic and rationally planning new rural roads, the level of corn transportation and harvest can be promoted on the side. As the road traffic in the new countryside becomes more and more open, the same level of corn transportation will become higher and higher.

4.2. Analysis of Harvesting Corn Transportation

There are four regions in the world that are most suitable for planting corn. They are: Northeast China and North China Plain: the North and Central Corn Belt in the United States: Mexico and Peru in Central and South America; and the Douli River Basin in Europe. Among them, the output of the United States accounts for about 50% of the world's total production, and the world's largest planting volume, of which 2/5 of its output is exported abroad, which also shows the importance of corn as a food crop to the United States. The distribution map of the world's major corn producing countries is shown in Figure 2.

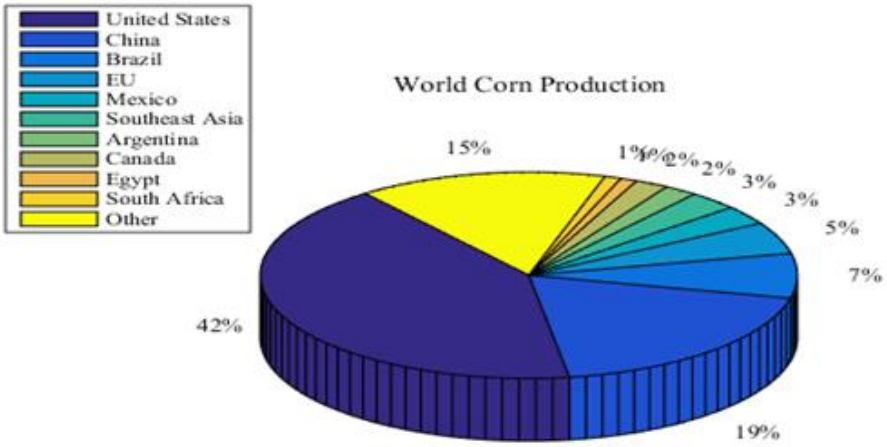

Figure 2. Yield distribution of major corn producing countries in the world

China's corn planting area is large, about 3 acres, and it is widely distributed.It is planted in 24 provinces, municipalities, and autonomous regions.However, the planting distribution of corn in China is not uniform, and can be roughly divided into Northeast China. , Southwest, and North China, three large concentration areas, this also objectively turned into a corn planting belt. Among them, Heilongjiang, Jilin, Liaoning, Hebei, Shandong, Shanxi, Henan, Shaanxi, Sichuan, Guizhou, Yunnan, and Guangxi are the main provinces. Northeast is China's main corn producing area, of which Jilin is China's largest corn producing province, with an annual output of nearly 20 million tons, followed by Shandong and Heilongjiang provinces with annual output of about 15 million tons; Hebei and Henan provinces The annual output is also over 10 million tons.

Regarding transportation costs, this is a more complicated issue. Relevant research shows that when the Northeast Road transportation enters the peak season, soybeans and other agricultural products are transported by rail from Jiamusi, Heilongjiang to Dalian, Liaoning. The whole journey is 1,500 kilometers, during which there are about 17 tolls. Some illegal charges are unimaginable,

such as directions The fee is said to have been collected for inclusion in the railway transport plan. In fact, the state's railway transportation cost for each wagon is only 50 yuan, but the carrier needs to pay 800 yuan. Compared with international transportation, the transportation cost of soybeans for 1500 kilometers from Jiamusi in Heilongjiang to Dalian in Liaoning is 0.9.yuan per kilogram, but from the Gulf of Mexico to Dalian, it is about 16,000 kilometers.The transportation cost is only 0.8 yuan per kilogram, so Many soybean demanders turned to the United States to import instead of buying from the Northeast.

Compared to rail transport, freight by water is lower. In 2003, the cost of water transportation from Dalian to Shanghai Huangpu Port and Guangdong Zhanjiang Port was about 50 yuan and 100 yuan per ton, respectively. Although the freight is low, due to China's limited water transportation capacity, it is far from meeting the demand (water transportation is mainly used to transport coal, steel, oil and fertilizer, etc., corn is only a small part). Therefore, domestic corn transportation is mainly based on railway transportation. As a supplement to water and railway transportation, road transportation is mainly carried out between short distances. Road transportation often has illegal charges due to various "gates" set up along the way. For example, some places intentionally set up checkpoints to impose inexplicable fees on passing trucks in other provinces. Otherwise, detaining vehicles will delay transportation time. But on the whole, transportation is still the main factor for China's grain circulation, which in turn affects the integration of local markets. Therefore, China has cancelled the railway construction fund, and the railway transportation costs before and after the railway construction fund is cancelled are shown in Table 2.

Table 2. Railway transportation costs before and after the cancellation of the railway construction fund

Departure station	Terminal	Railway Construction Fund	No Railway Construction Fund	Difference(%)
Railway station in the province	South Railway Station	248.87	191.80	-22.93
Railway station in the province	East Railway Station	209.82	167.46	-20.19
Railway station in the province	A provincial station	166.08	90.54	-45.48
Railway station in the province	A provincial station	53.45	38.71	-27.58

Studies have shown that the degree of short-term integration of corn markets across China is low, and the formation of an integrated market in China still requires continuous efforts. The prices of China's corn producing and selling areas in 2018 are shown in Figure 3.

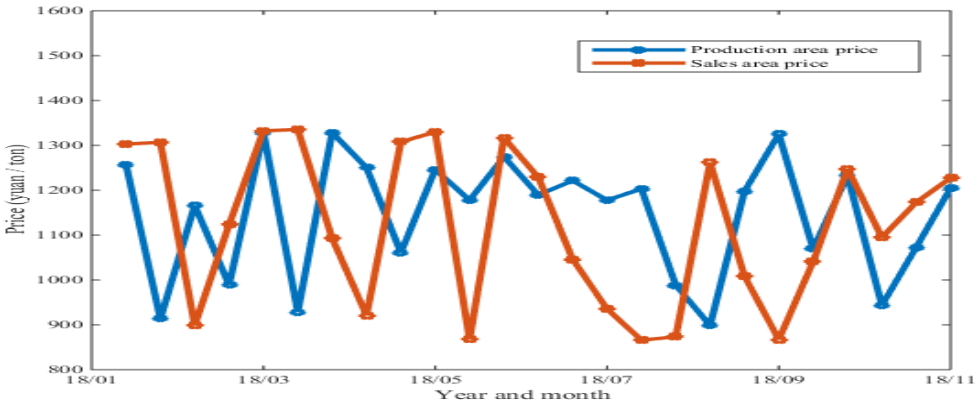

Figure 3. Prices of corn producing and selling areas in 2018

It can be seen from Figure 2 that the prices of corn production and marketing areas vary widely. Under the condition of complete market integration, the price gap should be equal to the transportation cost. In addition to the known freight costs, there are some hidden costs, including the cost of processing high-moisture corn before it enters the warehouse to reduce it to safe moisture and the loss of quality caused by shipping. Grain cooler can be used to reduce the moisture of corn, or natural ventilation precipitation can be used, but it takes a long time, and monitoring the grain pile during ventilation also requires manpower and material resources.

China has a vast area and a wide range of corn planting. The corn production conditions are complex and the agronomic differences are very large. In addition, it is also affected by the variety of corn, soil and climatic conditions. The difficulty of harvesting corn of different growing conditions is not the same. Relatively small, sparse plant plots are convenient for machine harvesting. Those plots that are long and clever and have high yields increase the difficulty of mechanical harvesting corn. Therefore, corn mechanical harvesting has higher requirements on the region, and not all corn harvesters can be applied to all. The applicability problems are mainly manifested in the inadequacy of different corn planting line spacing, planting methods and plot sizes. The sown area of China's main corn producing areas is shown in Figure 4.

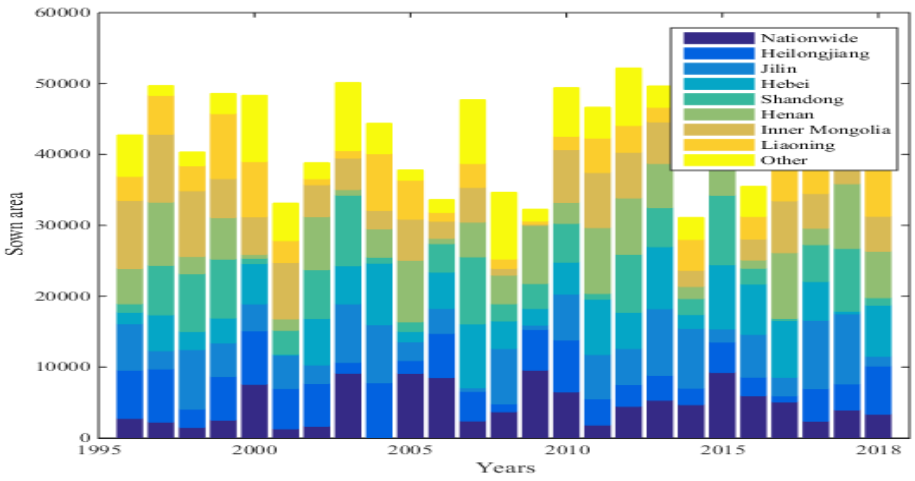

Figure 4. Sown area and changes in China's main corn producing areas in recent years

Corn that is planted continuously, with consistent crop varieties and basic maturity is most suitable for mechanization, but because the corn is planted in accordance with the farmers' own planting experience, the corn is planted in the harvested stubble field, which will lead to The planting line spacing of corn is somewhat different from the line spacing that can be achieved when corn is mechanically harvested.It is very random, the line spacing ranges from 30-7cm, and is restricted by the rural land system.The plots of farmers are divided in various corners. The planting scale is small, and the planting varieties are inconsistent, and there is also the phenomenon of intercropping and intercropping. The size of intercropping is not suitable for mechanized corn harvest. In addition, the lack of machine-tillage roads is also a major problem. There are not enough machine-tillage roads for the machine to walk, which seriously affects the transferability of the mechanical field, resulting in the inability of many land machinery to enter, which greatly limits the use of machinery. These unmatched factors of agricultural machinery and agronomy all restrict the development of mechanization of corn production. At the same time, the irregular line spacing greatly affects the efficiency of corn harvesting, leading to a decrease in farmers' acceptance of corn harvesting machinery.

5. Conclusion

In recent years, the development of new rural construction in China has been in full swing. The planning and construction of the new countryside has provided convenient living conditions and a good production basis for the vast rural areas, and has satisfied the living and production needs of farmers in the new era. The development of new rural construction is conducive to cultural exchange, information dissemination, and coordinated economic development. This paper mainly studies the improvement of transportation corn harvest level based on the new rural transportation planning and design. However, in the past, the theory of township and regional planning and construction paid little attention to it, and lacked specialized research and summary. This article is based on this. Based on the in-depth investigation and research of the new countryside, it summarizes the characteristics of the status quo. In order to sort out the status quo problems, I tried to conduct preliminary research and discussion on the key points of planning from the perspective of physical space planning and design.

The popularization and application of new agricultural machinery technologies such as corn mechanized harvesting will definitely accelerate the process of building a new socialist countryside and become an important productivity of modern agricultural production. Based on the collection, collation, reference reading, and summarization of a large number of domestic and foreign corn harvester related documents, this paper combines the development status of corn harvest mechanization in China, and systematically analyzes and summarizes the factors affecting corn harvest mechanization and summarizes them. Some main factors affecting the development of mechanization of corn harvest were presented. Finally, reasonable improvement measures and suggestions were put forward for mechanization of corn harvest.

This article summarizes a large number of domestic and foreign corn harvester-related literature, elaborates the domestic and foreign scholars' research progress on the development of corn harvest mechanization, recognizes the current status of domestic corn harvest machinery development, and combines the characteristics of China's corn harvest mechanization development. The specific research content and suggestions for improvement measures, as well as the technical route studied in this thesis. Due to limited time and research level, this paper has more qualitative analysis and less quantitative analysis. The data obtained are not comprehensive, so the theoretical knowledge and practical research methods are very limited, so there are many areas in this paper that need to be further deepened and improved.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

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