Research Article

Environment-Friendly Behavior of New Agricultural Business Main Body Based on the Internet of Things

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Received 10 June 2022; Revised 2 August 2022; Accepted 16 August 2022; Published 29 August 2022

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The Internet of Things economy is necessary for the reform of China’s economic industrial structure and international development, and it brings new opportunities and new challenges to the Chinese economy. The comprehensive informatization of the society is the prerequisite for the economic development of the Internet of Things. The Chinese government will adopt a strategy of simultaneous development to continue to accelerate the development of traditional agriculture while developing emerging strategic agriculture of the Internet of Things, accelerating the transformation of economic production methods. Family farming is a new type of agricultural business in the microeconomy. It is not only a producer and mobilizer of agricultural products but also an important carrier for implementing agricultural innovation technologies and promoting agricultural modernization. This article uses game theory, resource endowment theory, expectation theory, etc. to describe the impact mechanism of economies of scale, profit maximization, and environmental behavior on family farms from a game perspective and discusses the specific effects of resource endowments and psychological expectations. Through the research of the Internet of Things and the rural green energy cycle, this article applies it to the new agricultural business entities, thereby promoting the development of proenvironmental behavior analysis.

1. Introduction

The Internet of Things has a practical foundation and can meet the needs of global economic development [1]. The world’s demand for the Internet is increasing, and the acquisition of computer equipment and technology is spreading. The Internet penetration rate in developed countries around the world is very high, and basic network resources have been established. In South Korea, Japan, and other countries, the Internet penetration rate has reached 100%, and wireless networks have been established [2]. Compared with developed countries, China’s Internet applications have certain differences, but the growth rate is very high. At this stage, domestic and foreign rural innovation research mainly focuses on the direction of livestock and poultry breeding, the direction of biogas recycling, and the direction of straw energy conversion [3]. Therefore, the research content of this article has a certain potential driving force in the field of rural energy research. Moreover, it has promoted the development of rural renewable energy in specific areas and has also optimized the rural green energy cycle structure and rural energy consumption structure to a certain extent [4]. The land transfer system is a system that develops and expands the household contract management system. During the contract period, through subcontracting, transfer, etc., the transferred land can be given the right to operate, and a large area of specialized rural land is also managed [5]. From the perspective of the natural characteristics of agricultural production or the management of hired workers, the family model proved to be the most suitable form of organization for agricultural production [6]. As a new type of agricultural business entity, family farm management is different from the traditional small-scale farming that people know, and the two cannot be compared.
Family farms are different from traditional smallholder production and other new agricultural business entities in terms of resource management and production management [7]. Social norms do not affect environmental protection behavior. The roles of natural empathy and social norms are separate in the process of implementing environmental behaviors. It is not social norms that affect our environmental behaviors, but the characteristics of natural empathy. In short, compared with external social norms and situational factors, the internal empathy of individuals has a greater impact on the implementation of personal environmental behaviors, which may be related to the fact that social norms have less impact on proenvironmental behaviors [8]. When individuals have a strong environmental awareness in some aspects, the influence of social norms is almost nonexistent. Secondly, in the dimension of daily environmental protection behavior, its implementation is basically not affected by external social norms and innate empathy. It may be because daily environmental protection behaviors are simple, the diversity and opportunities to participate in daily life have increased, and individuals have developed in daily life. Therefore, as mentioned in previous studies, general environmental protection behaviors may not be affected by external social norms. This is similar to the conclusion of the study. The more positive the individual’s attitude towards environmental protection, the more the daily environmental protection behaviors in daily life, and the more the social norms for personal environmental protection behaviors [9]. On the other hand, these daily environmental behaviors similar to choosing paper cups do not require much effort, have low cost, and are energy saving, and even recycling of daily environmental behaviors can also save costs and generate income. Therefore, an individual willing consciously to do so has a proenvironmental behavior that is beneficial to life and society [10].

We take family farms as the research object, examine the current situation of environmental behavior, and study the factors that affect their environmental behavior, which will help the government to formulate or implement relevant policies to better control agricultural nonpoint source pollution [11]. We mainly focus on the impact and degree of the two factors of resource endowment and psychological expectations, aiming to appropriately promote the environmentally friendly behavior of family farms, so that family farms comply with environmental protection requirements in the agricultural production process, and through this, it is a good way to suppress agricultural nonpoint source pollution [12] problems and promote the construction of a better ecological environment.

2. Materials and Methods

2.1. Data Source. Natural condition data includes topography, landform, vegetation, etc. The collected rainfall and temperature data can meet the writing requirements. The demonstration area has been in operation since the “Ninth Five-Year Plan.” By monitoring satellite remote sensing image maps, topographic maps, and the demonstration area, the terrain, topography, altitude, etc. of the area can be understood, and actual weather data can be obtained through data provided by the local meteorological bureau.

Demographic data: the demographic data of the demonstration area includes the total population, male and female populations, and labor force. The demographic data of the demonstration area was analyzed through the socioeconomic questionnaire at that time. Demographic data is based on statistics of different nationalities, ages and numbers, total labor force, and male and female labor force.

Socioeconomic data: a proof-of-concept survey was conducted on the socioeconomic data of the demonstration area in 2020, including population, income generation, education, family background, land quantity, social security, etc. The local area provides more detailed information about the demonstration area, national population, and education. Production and living materials are relatively detailed and abundant. During the period from the “Ninth Five-Year Plan” to the “Twelfth Five-Year Plan,” the demonstration area promoted scientific and technological research projects. At that time, large-scale socioeconomic surveys were carried out, including land area, income status, population, planting and breeding status, etc., collecting and accumulating for a long time. With rich data, the needs of writing articles can be met.

Land use data: 2020 ALOS multispectral and hyperspectral data were used to fuse remote sensing images with a fusion accuracy of 2.5 meters. According to the obtained remote sensing images, this can be accurately verified to meet the needs of land use data.

2.2. Theoretical Basis. Under the premise of continuous innovation, the rapid development of the Internet has been truly promoted. The development of the Internet of Things is inseparable from radio frequency identification technology and remote sensing technology.

Problems such as overpopulation, overexploitation of resources, and pollution of chemical plants are deteriorating the living environment of mankind. In 2020, air pollution will occur in cities in northeastern China, and the gradual decline in air quality will directly affect people’s livelihoods [13]. A drinking water monitoring center in a city also disclosed that the current quality of tap water in China is also worrying. Human life is inseparable from air and water, but the deterioration of the ecological environment has also deteriorated its quality. If the governance is not in place, nature will retaliate against the phenomenon caused by human beings, causing serious consequences. As people pay more and more attention to the living environment, measures are being taken to reduce the conflict between rapid human development and limited natural resources. Most countries in the world have begun to strengthen the protection and reconstruction of natural resources such as vegetation and wetlands and strengthen the management of pollution sources [14]. As the Internet of Things technology gradually matures and begins to be applied to the improvement of the ecological environment, the Internet of Things uses intelligent sensing technology to retrieve and
transmit information to monitor air and soil quality. The Internet of Things technology can be used for pollution source monitoring, early warning, and control. The construction of auxiliary water supply quality inspection network systems for reservoirs, rivers, residents, etc. is strengthened, to form real-time monitoring [15]. In the process of obtaining information on natural resources such as forest greening and wetlands, it is impossible to grasp the changes in the actual situation in time [16]. The use of sensor technology in conjunction with IoT facilities and spatial databases helps to control the ecological environment in real time.

2.3. Research Methods. The ecological capacity of renewable energy is mainly manifested in the use of renewable energy to generate electricity. The energy consumption of fossil energy thermal power generation can be converted into standard coal, which is calculated as

\[ A_j = \sum_{i=1}^{n} \frac{C_i}{E_i} - \sum_{i=1}^{n} \frac{P_i + I_i - E_i}{E_i} \times yF_i \]  

(1)

Providers of ecologically productive land include cultivated land, pastures, forests, and other renewable energy sources, waste recycling, and unused land. Different types of land have different methods of calculating ecosystem capacity.

Taking the output of the land in one year as a benchmark, the ecological capacity is obtained as

\[ A_j = \sum_{i=1}^{n} \frac{C_i \times yF_i}{E_i} = \sum_{i=1}^{n} \frac{P_i + I_i - E_i}{E_i} \times yF_i \]  

(2)

Bring yF, into the order and get

\[ A_i = \frac{C_i}{EP} \]  

(3)

The ecological capacity of renewable energy is mainly represented by the use of renewable energy to generate electricity. According to the energy consumption of thermal power generation, it is converted into standard coal through the following calculation:

\[ A_j = A_{\text{coal}} \times yF. \]  

(4)

The adjustment factor is calculated as

\[ yF = \frac{EP_1}{EP_1} = \frac{\sum A_i \times eP_1/\sum 1}{\sum A_{\text{wi}} \times eP_1/A_{\text{wi}}}. \]  

(5)

According to the revised calculation, first calculate the calories of fossil energy, then use the carbon emission coefficient to calculate the CO₂ emission, and then calculate the CO₂ absorption capacity of the forest based on the NEP coefficient, and finally calculate the use of the CO₂ that is absorbed by the combustion of fossil energy. The area of production land is calculated as follows:

\[ A_{\text{ce}} = A_{\text{ce1}} + A_{\text{ce2}} = \frac{C_{\text{ce}} \times H_{\text{ce}} \times C_{\text{de}} \times \text{Per}_f}{EP_{\text{f}}} \]  

\[ + \frac{C_{\text{ce}} \times H_{\text{ce}} \times C_{\text{de}} \times \text{Per}_g}{EP_{\text{g}}}. \]  

(6)

3. Results

3.1. Renewable Green Energy Cycle Research Results Based on the Ecological Footprint Method. Livestock and poultry breeding biogas technology is based on the quantitative breeding of livestock (Figure 1). Now that the technology is mature, there is no biogas supply in a certain river basin because of the backwardness of economic transportation and people’s lack of awareness. Due to the low cost, high cleanliness, and high availability of biogas, residents have an urgent demand for the use of biogas. At the same time, all farmers in the area are raising pigs and other livestock, which provides favorable conditions for the utilization and spread of biogas.

It can be seen from the figure that, after using the biogas digester for a period of time, biogas residue and liquid will be sent out. Generally, we call it biogas fertilizer, which is a kind of fermented product, but also an organic fertilizer. The growth of crops is extremely beneficial, and it is also environmentally friendly and harmless. At the same time, the straw of crops can be used as the raw material of the biogas digester for fermentation, forming a perfect circular chain. Based on the above technology, we can establish a complete supporting technology, such as livestock and poultry breeding-biogas-crops. Such a recycling mode can make full use of the resources of breeding and planting to realize renewable energy. This place is trying to cultivate around the way of large- and medium-sized biogas-crop recycling: to develop large-scale cultivation, so that the biogas digester can be reused. As one of the life energy sources of the villagers, the biogas residue and biogas slurry discharged from the biogas digester can be used as natural fertilizers for crops such as pepper and honeysuckle, achieving the purpose of recycling.

Based on planting and breeding, based on technologies such as biogas and straw gasification, combined with the natural resources of the demonstration area, construct an energy reuse model. Taking biogas as the core technology and using straw as raw materials not only enable farmers to generate income but also provide them with environmentally friendly renewable energy and, most importantly, reduce residents’ expenditure. Providing residents with a “multiple-energy supplement” energy utilization model, residents’ income levels have increased, and the energy structure has also been developed.

The region’s infrastructure is well established, and restoring the gas supply to the biogas digester is a key step in optimizing the energy structure. In large-scale breeding of livestock and poultry, raw materials for biogas digesters can be obtained from the farm. Combined with straw pyrolysis and gasification technology, a large amount of locally
produced straw resources can be used every year to provide farmers with energy for farming and living (Figure 2).

Livestock and poultry breeding provide a source of digestion of biogas, and the biogas slurry and residue produced by digestion of biogas can be used as organic fertilizer for corn in the experimental area. The planting of firewood forest not only protects the ecological environment but also provides firewood resources for farmers to avoid deforestation. As a result, a comprehensive utilization model of wood, biogas, and combustible gas based on wood-saving stoves is realized in the energy structure (Figure 3). There is a certain foundation for the improvement of energy utilization efficiency in this area, which can be combined with existing planting and breeding resources and biogas digester bases to supplement more energy. Due to the proper construction of biogas infrastructure in this area, restoring gas supply to biogas digesters is an important measure to improve the energy environment. Residents have a large number of herds and poultry, and the economic situation is good, which provides a large amount of biogas source for the biogas digester. Second, combined with straw pyrolysis gasification technology, a large amount of local straw resources can be used every year to provide farmers with cheap and preferential biogas energy.

The centralized mode is based on local planting and breeding resources, with medium-sized biogas fire extinguishing devices as the core, combined with wood-saving stove technology, firewood technology, and straw pyrolysis gasification technology to provide farmers in the village with efficient firewood energy, along with cleanliness of the technical system of biogas and combustible gas. This model is based on planting and breeding, introduces medium and large biogas digesters, creates a new model of environmental protection, and leads ecological agriculture. In the model shown in the figure, domestic livestock and poultry first provide raw materials for the biogas digester, and then the biogas residue and biogas slurry produced by the biogas digester over a period of time can effectively provides fertilizer for crops such as prickly pear and corn in the study area. This will not only keep the biogas digester continuously providing energy but also improve the economic benefits of crops and increase the income of farmers. The planting of firewood forest also provides two kinds of benefits. First, it plays a role in retaining water and soil. In addition, it provides farmers with fuelwood resources that can be used so that they do not need to deforest and protect vegetation. At the same time, the proposed firewood-saving stove technology realizes the efficient use of firewood, thus realizing the energy model of comprehensive utilization of firewood, biogas, and combustible gas in the energy structure of farmers.

3.2. Research and Development Results of Clean Recycling of Renewable Energy Based on Planting and Breeding. After being used in the biogas digester, biogas slurry and biogas residue will be discharged after a period of time. In addition to carbon and hydrogen, it also contains nitrogen, phosphorus, potassium, and other trace elements that are beneficial to crops, which are called biogas fertilizers (Table 1). Through the establishment of a new model in line with the recycling of livestock and poultry biogas crops, the full utilization and development of planting and breeding resources can be realized.

The demonstration area is mainly planted with corn and potatoes, and a large amount of straw is produced every year. Estimate the average output of straw per household based on the ratio of grass to grain (Table 2). Comparing the per capita straw yield among the three groups, village A is the highest, village D is the second, village C is the third, and village B is the lowest. The reason is that villages A and D have a large population base, a large amount of arable land, and low altitude, suitable for potato and corn growth, and the yield of straw is also high; the crop yields of villages B and C are generally low, resulting in low straw yield.

Among them, the ratio of straw to grain is the ratio between the amount of crop stalks and the yield of crops. It is generally calculated in kilograms, and the ratio of straw to grain = the amount of crop stalks that occur/crop yield. Common crops are shown in Table 3.

A small watershed is different. The area is mainly planted with peppercorns, and the yield of corn is low. The straw harvest in this area is obtained through the grain ratio coefficient. The straw pyrolysis and gasification technology based on a certain amount of straw resources is one of the technologies for the diversified development of energy in...
Figure 2: Participatory centralized model technology system of renewable energy based on planting and breeding of rocky desertification plateau canyons.

Figure 3: Participatory single-family model of renewable energy based on planting and breeding.
this region. As shown in Table 4, the amount of straw resources in this area is 1155.1865 t, and the total amount of straw is 1155.184 t. Therefore, the introduction of straw pyrolysis and gasification furnaces converts the straw resources into life energy and improves the utilization rate of straw and firewood.

The average straw yield per household in the basin is shown in Table 5.

3.3. The Results of the Impact of Agricultural Business Entities on Proenvironmental Behaviors. This article uses the family farm monitoring data in the “China Family Farm Development Report” to analyze family farms in the province where the family farm is located. The Rural Economic System and Business Department of the former Ministry of Agriculture has commissioned the China Institute of Rural Development and Social Sciences to supervise family farms, and the data obtained is reliable. By the end of 2020, the province has 21,000 family farms, an increase of 4.7 points from 2016. Among them, 22,000 were registered for industry and commerce, an increase of 34.5 points over 2015. The Ministry of Agriculture approved 7,610, an increase of 4.8 points from 2016. In the proportion of family farms, the proportion of planting industry was 56.6%, the proportion of animal husbandry was 11.5%, the proportion of fishery was 5%, the proportion of forestry and breeding was 18.1%, and the proportion of others was 8.8%. In 2017, 176 national demonstration farms were evaluated and declared, with funding support of 15 million yuan. A sample list of 1,325 family farms recognized at the third level was announced, and the demonstration was mainly engaged in planting, breeding, leisure agriculture, and intensive training for farm operators.

According to this monitoring, the average age of the surveyed farmers is 45.82 years, slightly lower than the national average age of 46.16 years. In terms of gender, 83.50% of farmers are men, 16.50% of farmers are women, and the proportion of women is higher than the national 12.3%, but not much. From the perspective of education level, it is divided into no school, elementary school, middle school, vocational high school, technical secondary school, college, undergraduate, graduate, and above. The education status of family farmers in China and a certain province is shown in Figure 4. The proportion of farmers with vocational high school education and above is higher than that of the whole country. In terms of household registration, the proportion of local villages is 74.77%, the proportion of villages outside the township is 10.67%, the proportion of other townships in this county is 12.63%, and the proportion of counties outside the province is 1.93%, which means that farmers will choose familiar areas for agriculture operation.

The ecological sustainability of family planting mainly investigates the green production behavior, analyzing the amount of fertilizer, the amount of pesticides, the formulation technology of soil testing, the method of straw treatment, irrigation, and the treatment of mulching film. Moreover, the use of chemical fertilizers and pesticides and the treatment of straws and mulching films are directly related to environmental pollution issues. Irrigation methods will also affect the effective use and protection of water resources. By comparing the fertilizer and pesticide usage of neighboring farms, it can directly reflect the farm’s application rate.

The ecological production of aquaculture family farms mainly considers the treatment of livestock and manure, which usually includes the direct release, manufacture, and sale of organic fertilizer after fermentation, the use of feed after fermentation, and the discharge of biogas and biogas residue. Figure 5 shows the proportion of manure treatment methods in family farms in a province and the country in 2020.

3.4. The Results of the Analysis of the Impact Mechanism of the Environmentally Friendly Behavior of Family Farms. When the subject of business decision-making changes from \( n \) to 1, the choice of business behavior has a significant
impact on the environment. Consumers generally hold an inclusive attitude towards environmentally friendly products, and their demand elasticity is lower than that of ordinary agricultural products.

Introduce an equal pollution curve (L), and set the contaminated curve as a downward sloping straight line. Each point on the curve represents a different combination of input factors under the same pollution level (as shown in Figure 6).

4. Discussion

4.1. Clean Recycling Mode of Renewable Energy Based on Planting and Breeding. The Ministry of Science and Technology’s “863 Program” and “Science and Technology Research Program” include the research and development of renewable energy such as solar energy and biogas. The current level of afforestation and biogas technology is very high. For long-term field trials, the technology itself is not a problem, but the local government strictly controls the construction of biogas digesters. China makes overall arrangements for biogas construction and provides unified technical guidance. After the biogas digester is completed, technicians conduct pressure and fire tests to confirm the safety of the biogas digester. At the same time, users will register, and there will be corresponding technicians to do related maintenance work. Building a wood-saving stove has become a tradition, and farmers will also make them themselves. Nowadays, firewood-saving stoves are very popular in most urban areas of a certain city. The demonstration activities of firewood-saving stoves in the demonstration area arouse the enthusiasm of farmers. Many people are familiar with this technology.

Participatory quality assurance system is a quality assurance system. Evaluate farmers’ production based on the activities of local stakeholders, and promote renewable energy in desert areas while sharing knowledge on social networks. To negotiate the development of renewable energy, it is necessary to strengthen the construction of a safety system. Farmers are the direct takers and beneficiaries of new energy. The main purpose of developing renewable energy is to serve the people, and mobilizing enthusiasm is the top priority. Due to the fragile ecological environment of desertification, the backward economy, and the single energy structure, a certain demonstration area has more urgent needs for cheap and easily available biogas and straw pyrolysis gasification.

4.2. The Influence of Social Norms and Natural Empathy on the Willingness of Proenvironmental Behavior. By exploring the influence of natural empathy characteristics and social norms on proenvironmental behaviors from multiple angles, individual environmental behaviors are affected by social norms and natural empathy qualities, and these two behavior methods do not match. The influence of natural empathy characteristics on individual will is relatively stable, while social protection behavior is relatively unstable, which directly guides citizens’ environmental protection behavior. The will of daily environmental protection behavior is not affected by social norms and natural empathy, which may be due to the simple possibility of daily environmental protection behavior and not too much cost (including cognitive resources, time, money, etc.). This may be reflected in the research results. Just like when most people choose cups of various materials, choosing environmentally friendly "paper cups" has become a habit. Internal empathy or external social norms can no longer work. This shows that reports about one’s daily environmental behaviors are too frequent and lack variability, causing a "ceiling effect" of fuzzy reasoning and explanation. Second, we have discovered the interaction between social norms and natural empathy in the social protection dimension of proenvironmental behavior.

The social norm information suggests that the impact on social environmental protection is adjusted by the characteristics of natural empathy. Behavioral information about

| Village group | Average land area per household (hm²) | Average crop yield per household (kg) | Straw scale output (kg) |
|---------------|---------------------------------------|---------------------------------------|------------------------|
|               |                                       | Corn | Potato | Beans |                         |
| Village A     | 0.534                                 | 1175 | 1631   | 26    | 3205.4                  |
| Village B     | 0.332                                 | 682  | 892    | 18    | 1837                    |
| Village C     | 0.266                                 | 806  | 2641   | 11    | 2952                    |
| Village D     | 0.326                                 | 1022 | 1024   | 23    | 2586.4                  |

Table 5: Average crop yield and straw yield per household in the basin.

![Figure 4: Number of years of education for family farmers in a province and across the country in 2020.](image)
social motives increases the willingness of individuals with various empathic characteristics to perceive and protect the environment. This proves that social behavior can affect behavior on the environment in a variety of ways, even if it is assumed that the impact of social behavior on environmentally friendly behavior can be controlled by other factors. Although information interventions do not always successfully affect individuals with poor environmental awareness, they make more environmentally conscious people more supportive of environmental behavior. We assume that these interactions may lead to information about behavioral norms to convey the behavioral value orientation of most people. It is normal and welcome behavior for individuals to actively participate in environmental protection activities and communicate with people around them on environmental protection topics. This kind of social behavior promotes the positive awareness and value orientation of individuals with obvious natural empathy towards the natural environment and natural creatures, so that high-scoring groups naturally have empathy, so as to better convey their feelings to the people around them. It is worth noting that, unlike our previous assumptions, the existence of social norms limits our willingness to act in the environment compared to the conditions without social norms. This is mainly reflected in citizens' willingness to protect the environment, that is, if 80% of volunteers are willing to donate 5 yuan to environmental charities, and they think this is the most appropriate decision in society. After social activities, the level of volunteer donations drops, which is in contradiction with the normative focus theory. This proves to a certain extent that when volunteers obtain information about social behavior, they show that they are concerned about other information about social behavior, and they create their own proenvironmental behavior by adjusting their behavior, and their level of preparation is sufficient for most people. On the other hand, the reduction of proenvironmental behaviors further confirms the researchers’ views. Although social ethics reduce the

Figure 5: Proportion of manure treatment methods in a certain province and national breeding family farms in 2020. (a) Proportion of manure treatment methods of family farms in a province. (b) Proportion of manure treatment methods of family farms in the country.

Figure 6: Traditional agricultural production model.
willingness of environmentally friendly individuals to manage the environment by citizens’ willingness to protect, this is a common behavior to donate to environmental charities, but the personal choices represented by these reductions are still choices that are beneficial to the environment. Personal daily environmental protection and social environmental protection performance are not affected by social behavior. In addition, through the analysis of demographic variables, it is found that gender plays an important role in the preparation of citizens’ environmental behaviors. Compared with men, women are more willing to participate in environmental protection practices and citizens’ environmental protection propaganda. Public interests, especially for upper-class women with natural empathy characteristics, are reflected not only in their degree of preparation, but also more clearly and enthusiastically in their willingness to send environmentally friendly materials. These results are consistent with the characteristics of natural empathy. In the study, the results of the stronger female innate empathy characteristics are consistent, which directly confirms this conclusion that women are more actively involved in proenvironmental behaviors than men. In particular, because of their higher social level, women are more empathetic than men and more concerned about the wellbeing of others and their environment. Whether it is empathy for others or empathy for nature, women always win out. In other words, women are more likely to encourage others to protect the environment with them, because women are more likely to find the pain of natural things in their proenvironmental behavior.

In addition, this is also a limitation of daily environmental protection field experiments: compared with disposable plastic cups, disposable paper cups are not only more environmentally friendly, but also healthier and more advanced. On-site environmental protection behavior needs to be improved and upgraded. Finally, the results of this study show that the higher the level of natural empathy, the higher the level of practicing environmental behavior in society. It is manifested in two dimensions: social environmental protection behaviors and citizens’ environmental protection behaviors. Specifically, field experiments on social and environmental protection behaviors have shown that individuals with strong natural empathy are more willing to spread environmental protection information to others than individuals with fewer distinctive characteristics. When donating to public welfare, natural empathy is more characteristic. People will be more generous. This research verifies that natural empathy can directly affect personal environmental protection behavior. In other words, natural empathy affects the implementation of social environmental protection and citizen environmental protection behavior but does not affect daily environmental protection. A number of studies on prosocial behavior have shown that empathy with others and the painful feelings of those experiencing distress can improve helpful behavior. In this study, this research method of prosocial behavior is also applicable to the field of proenvironmental behavior. The clearer the characteristics of empathy, the stronger the ability to feel the painful emotions of natural creatures, and the higher the will to make more proenvironmental behaviors to alleviate the discomfort brought about by empathy with nature. In addition, the type of household registration in demographic variables has a direct impact on social protection. Rural household registration respondents expressed to their friends that they are more willing to protect nature and respect the environment. In this survey, testers who are close to the natural environment will participate more actively in environmental behavior. Compared with urban areas, rural residents have more opportunities to contact or experience the natural environment, whether it is emotional environment or living environment, and have a closer relationship with the natural environment. In terms of research, the characteristics of natural empathy guide individuals to take environmental actions.

5. Conclusion

With the progress of time, the Internet of Things has demonstrated a vast development space and infinite charm to countries all over the world. In recent years, the human living environment has been deteriorating, and material energy is facing a series of practical difficulties, such as the exhaustion of material and energy. The maturity of the Internet of Things technology and the gradual integration of other fields are promoting the maturation of the industry, the rationalization of the industrial structure, the promotion of economic growth, and the transformation of the mode of production. Rural green circular agriculture is an important way to transform agricultural production methods and achieve sustainable agricultural development in accordance with the basic principles of circular economy reduction, reuse, recycling, and controllability. Based on the investigation and selection of typical green energy circular agricultural production models in the central region of a province, and an understanding of China’s green energy circular agricultural development practices, this research adopts renewable green energy analysis methods to explore the research and development results of green energy circular agricultural production. The conclusion part has been revised and supplemented with models.

This article analyzes the status quo of family farms in a certain province and finds that it is necessary to strengthen the proenvironmental behaviors, which is of great significance to the research of family farms’ proenvironmental behaviors. Next, based on the perspective of resource endowments and psychological expectations, and using the survey data obtained, we establish an orderly Logit regression model to determine whether resource endowments and psychological expectations will affect the family farm’s proenvironmental behavior.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.
Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

This work was supported by Research on the Incentive of New Agricultural Business Entities’ Proenvironmental Behavior from the Perspective of “Three Pin, One Standardization” Certification (AHSKQ2020D17).

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