

Analysis on the Current Situation and Countermeasures of Cultivating New Vocational Farmers in Tianjin

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Abstract: The rural revitalization strategy requires strengthening the construction of rural talent teams, proposing to implement the cultivation plan for new vocational farmers, and carrying out the cultivation action for rural entrepreneurial leaders to improve the cultivation effectiveness. Talent revitalization is the premise to achieve rural revitalization, the cultivation of new vocational farmers provides outstanding talents for agricultural modernization and strengthen the talent team of rural revitalization. This paper uses literature research, questionnaire survey, interview and other research methods to investigate 10 districts and counties in Tianjin, including Jizhou District, Baodi District, Jinghai District, Ninghe District, Xiqing District, Beichen District and Dongli District. On the basis of investigation, this paper first analyzes the current situation of the cultivation of new vocational farmers in Tianjin. Secondly, according to the research results, it is concluded that there are some problems in the cultivation of new vocational farmers in Tianjin, such as unreasonable age structure, unreasonable cultivation content hierarchy, traditional cultivation mode and inadequate post-training tracking service. Finally, in view of the existing problems, the paper puts forward effective countermeasures and suggestions in order to provide valuable ideas and methods for the cultivation of new vocational farmers in Tianjin, and have certain reference significance for other similar areas.

Keywords: Rural Revitalization; Talent Revitalization; Tianjin City, New Vocational Farmers; Farmer Training

1. Introduction and Literature Review

Since ancient times, China has been a large country with its roots in agriculture, which has

always occupied a central position in the national economy. The revitalization of the countryside can promote the comprehensive upgrading of agriculture, promote the overall progress of rural areas and raise the overall income of farmers. The key to realizing rural revitalization is the revitalization of talents. New vocational farmers are an important hand in building modern agriculture, and at the same time, they are an important breakthrough and key point in improving the comprehensive quality of farmers. Since the implementation of Tianjin New Vocational Farmer Cultivation Program, the team of new vocational farmers has continued to be expanded, but it is not yet able to meet the needs of rural revitalization and modernization of agriculture and rural development, so further efforts need to be made to increase cultivation, standardize the cultivation process, improve the quality of cultivation, and help the overall revitalization of the rural areas.

The overall level of new vocational farmers is closely related to the development direction of modern agriculture in China [1]. With the promotion of China's rural revitalization strategy, new vocational farmers, as the main human capital force to help rural industrial development and rural revitalization, scholars in China have conducted a series of studies on the cultivation of new vocational farmers from different perspectives. Some scholars have analyzed the importance of cultivating new vocational farmers. Li believes that the cultivation of new vocational farmers is a necessity to modernize agricultural production [2]. Han argues that from the height of ensuring social stability, the cultivation of new farming professionals plays an important role in maintaining a stable supply of food and guaranteeing a sustainable supply of other major agricultural products in China [3]. Some scholars study the dilemma of cultivating new vocational farmers. Lv et al. argues that in

practice, the “mixed-age” large-class cultivation in the form of “flooding” offered by training institutions has confused the differences between the collective needs and the individual needs of the trained farmers’, essentially dissolving the enthusiasm of farmers to participate in the cultivation of new vocational farmers [4]. Mei and Yang believe that the cultivation of new vocational farmers faces various challenges, including relatively low comprehensive quality of the trainees, insufficient media attention and publicity, resulting in insufficient understanding of the training policy information [5].

In recent years, there has been a gradual increase in scholars’ research on the importance, existing dilemmas and countermeasures of cultivating new vocational farmers, but most of them have been analyzed from a qualitative perspective. Based on the existing research results and combined with the results of a questionnaire survey, this paper analyzes the current situation and existing problems of cultivating new vocational farmers in Tianjin, and proposes countermeasures to improve the accuracy and scientificity of the research.

2. Current Situation of Cultivating New Vocational Farmers in Tianjin

Talent revitalization is the top priority of rural revitalization, and the development of modern agriculture not only relies on an adequate number of new vocational farmers, but also urgently needs new vocational farmers with a high degree of professional development potential [6]. In August 2024, a survey has been carried out for 620 farmers about their educational backgrounds and whether they have participated in the cultivation of new vocational farmers at Xiqing District, Dongli District, Beichen District, Jinnan District, Jinghai District, Baodi District, Wuqing District, Jizhou District, Ninghe District, Binhai New District, a total of 10 districts in Tianjin. The survey data shows that 65.97% of the farmers have an education level below high school, and currently, the education level of farmers in Tianjin is generally low. Compared with the sixth national population census of Tianjin in 2010, the data of the seventh population census shows that the proportion of urban population in Tianjin has increased by 5.26%, reflecting the trend of a large number of

rural labor force moving to cities and towns. The number of people returning home to engage in agriculture is too small, which has a negative impact on the rural talent resource structure. Therefore, it is urgent to improve the cultivation of new vocational farmers.

2.1 Analysis of Willingness to Participate in Vocational Education Cultivation

The results of the survey show that among the 620 farmers, 64.68% of them recognize vocational education and training very much, and 74.52% of them are very willing or willing to participate in vocational education and training, which shows that farmers are strongly motivated to participate in vocational education, and that vocational education has a strong sense of identity in the minds of farmers. In order to gain a deeper understanding of the reasons for farmers’ participation in education and training, a survey was conducted from the aspect of motivation, as shown in Table 1.

As can be seen in Table 1, in terms of training motivation, the reasons for farmers to participate in the cultivation of new vocational farmers are mainly focused on expanding professional knowledge and expanding horizons, keeping up with the rapid development of technology and concepts, which accounted for 70.81% and 64.84%, respectively. Just only a small number of people participate in new vocational training because they don't want to fall behind other farmers.

Table 1. Survey on the Motivation of Participation in Cultivation

Options	Quantities	Proportions
Expanding the pool of expertise	439	70.81%
Broaden the horizons and follow the rapid development of technology and ideas	402	64.84%
Increasing income	338	54.52%
Addressing the issues at hand	251	40.48%
Don't want to fall behind, participate in cultivation like others.	140	22.58%
Else	5	0.81%

2.2 Analysis of Cultivation Needs

With the widespread development of farmer education and training, the training demand of new vocational farmers is also increasing [7]. As can be seen from Table 2, among the selected 620 new vocational farmers, their demand for science and technology is diversified, mainly concentrated in the agricultural production process. 67.9% of farmers need to improve their professional

ethics, including enhancing their knowledge of agriculture, agricultural professional responsibilities, and professional ethics and etc. 55.65% of farmers need to improve their production skills, and 50.03% of farmers need to learn knowledge about innovation and entrepreneurship, and 44.84% of farmers need to learn about marketing knowledge. In addition, farmers also have needs to build and cultivate brands, understand cutting-edge policies and regulations, and learn internet knowledge. Thus, education and training work should not only focus on improving agricultural production skills, but also paying close attention to improving the quality of life of farmers and protecting the rural ecological environment, striving to achieve a harmonious and win-win situation in the “three life” fields of agricultural production, farmers' lives, and rural ecology [8].

Table 2. The Demand for Science and Technology

Options	Quantities	Proportions
Ways to enhance professionalism	421	67.9%
Production skill	345	55.65%
Knowledge for starting a business	312	50.32%
Knowledge of marketing	278	44.84%
Knowledge of building and cultivating brands	269	43.39%
Techniques for organizing teamwork	255	41.1%
Understanding cutting-edge policies of and laws and regulations	182	29.35%
Internet knowledge	167	26.94%
Else	2	0.32%

2.3 Analysis of Cultivating Faculty

According to the survey on the demand for teaching staff, the proportion of agricultural experts is the highest, reaching 57.86%, followed by industry elites and professional lecturers at 16.45% and 11.45%, respectively. The lowest proportion is experienced farmers, accounting for only 11.13%. From Table 3, while participating in vocational education and training, farmers tend to prefer a team of experts with professional agricultural knowledge, technology, and practical operation experience, also hope industry elites and professional lecturers who achieve success to guide and impart experience.

Table 3. The Demand for Cultivating Teaching Staff

Options	Quantities	Proportions
Agricultural experts	357	57.86%
Industry elites	102	16.45%
Professional lecturers	71	11.45%
Experienced farmers	69	11.13%
Indifference	13	2.1%
Else	8	1.29%

Based on the above analysis, the basic situation of cultivating new professional farmers in Tianjin is as follows: the team of new vocational farmers comes from a relatively small number of returning entrepreneurs, college graduates, agricultural technicians, etc., and the age of the people engaged in agriculture and its related industries is on the older side. Due to differences in educational levels and traditional agricultural experience, farmers have diverse demands for educational and training content. Most farmers participate in training to increase their agricultural knowledge, therefore, there is a high demand for a team of agricultural experts. By analyzing the current situation of cultivating new professional farmers in Tianjin, this paper investigates the problems existing in the cultivation of new professional farmers in Tianjin.

3. Problems in Cultivating New Vocational Farmers in Tianjin

3.1 Unreasonable Age Structure

The most important factor in promoting the modernization of agriculture is a reasonable human resource structure. With the rapid development of Tianjin, a large number of young laborers have flowed into urban areas, leading to a serious aging phenomenon in rural areas. The survey results show that the age of the cultivated objects is mainly concentrated in the group of 46-60 years old, accounting for 41.29%; The age range of 31-45 years old accounts for 40.48%; Only 13.06% are under 30 years old. From this, it can be seen that the rural population is gradually flowing to the cities and towns, and the number of new vocational farmers in training is decreasing. The reasons for this are the backwardness of the current rural infrastructure construction, the large gap between the human environment in the rural areas and that of the cities, and the low sense of professional identity towards agriculture.

3.2 Unreasonable Hierarchical Structure of Cultivation Content

The purpose of cultivating new vocational farmers is to improve their vocational skills as a whole and further meet the demand for talent in rural revitalization. According to the survey results, most of the participants in the

cultivation are older. People who used to live in rural areas have limited education levels and lower cultural qualities. Older farmers generally suffer from illiteracy, which increases the difficulty of cultivating new vocational farmers. Due to different educational backgrounds, the demand for agricultural skills varies. Traditional farmers with lower education level mainly rely on experiential production, overly relying on accumulated experience and traditional agricultural production techniques, lacking the ability to master new agricultural production technologies and concepts, which hinders the application of developed agricultural machinery and equipment, scientific production technologies and concepts in rural areas, and fails to significantly improve agricultural production efficiency.

3.3 Traditionalization of Cultivation Mode

The survey results show that among the 620 farmers, 74.19% choose to visit and learn. 70.16% choose group face-to-face teaching, in addition to offline cultivation activities such as practical operations, while only 31.13% choose online cultivation. Due to the fact that farmers' working hours are divided into two seasons, namely off-season and busy seasons, during the busy season, farmers are engaged in agricultural activities, and offline collective activities can only be organized during the off-season, resulting in a lack of continuity in cultivation.

Nowadays, we have entered into the new media era with technological development rapidly, During the off-season, online distance education platforms can be used to implement systematic long-term training plans for farmers [9]. The government can guide the process of cultivating new vocational farmers by combining modern communication software such as WeChat, QQ, DingTalk, etc., to communicate and exchange with new vocational farmers for a long time, carry out online teaching, achieve long-term cultivation, supervise the cultivation effect, and improve the quality of cultivation.

3.4 Inadequate Post-training Follow-up

The cultivation of new vocational farmers needs to realize the transformation from pure training to comprehensive cultivation, and strengthening the tracking service is a solid

foundation for this transformation [10]. In the process of cultivating new vocational farmers, after the course, the trainers should verify the learning outcomes of the farmers to ensure that they will implement the content of the cultivation into the production practice. And that will also provide a reference for the next section of the training and achieve the benign cycle of the cultivation of new vocational farmers. From the investigation, it was found that some training bases mainly focus on completing course content, lacking certain attention to the practical operation of trainees after training, and rarely actively contacting trainees about their subsequent production status, resulting in the next round of training content being set unrealistic.

4. Countermeasures and Suggestions

4.1 Improve Rural Infrastructures Construction and Intensify Publicity Efforts to Improve the Rural Human Resource Structure

The structure of rural human resources is improved by upgrading rural medical and health care, road transportation, cultural and recreational facilities, network communications, and other services to attract migrant workers back to their villages. Due to historical factors, farmers' lives are monotonous and lack hobbies. The government should provide support and encourage farmers to organize traditional cultural and artistic performances, agricultural product exhibitions, and other traditional cultural activities, and build farmer cultural activity centers to meet everyone's spiritual, cultural, and life needs, change the rural spiritual outlook, and increase the attractiveness of rural areas to young people.

The Government should swiftly introduce a series of supportive policies to encourage and support college and university graduates in agriculture-related majors and migrant workers to return to their hometowns to devote themselves to agriculture and engage in innovation and entrepreneurship. Through the guidance of these policies, more talents will be attracted back to the rural areas, and the cultivation team of new vocational farmers will be enlarged. This will enable them to become rooted in the rural areas and contribute their own strength to the great cause of rural revitalization. Intensify the promotion of

training and enrollment for new vocational farmers, encourage, support, and attract returnees to actively participate in learning. Conditions for participation in training should be appropriately relaxed, or restrictions on the types of enrolment should be lifted. Put those surplus workers into the scope of training who are engaged in agricultural production, processing and sales of agricultural products and have the willingness to participate in training to expand the coverage of new vocational farmer training enrollment.

4.2 Setting up a Reasonable Level of Training Structure

Before setting up the curriculum, it is necessary to fully understand the needs of the market and farmers, classify farmers of different ages, educational levels, and agricultural skill needs, and set targeted training courses based on different characteristics to increase the attractiveness of the training personnel to the curriculum. Innovative training structure can be approached from three aspects: firstly, farmers with rich agricultural production experience but low cultural level should focus on improving and updating agricultural production technology; Secondly, for young and high educated farmers, emphasis should be placed on cultivating their agricultural operation and management abilities; Thirdly, it is necessary to implement diversified training methods and adopt diverse training methods for different training stages and objects. To promote offline training such as group face-to-face teaching, or combine online training with visits and etc. to enrich training forms. Train talents involved in the entire production chain of the agricultural industry to promote the development of rural modernization.

4.3 Promote the Modern Cultivation Model

Many regions have introduced online education models and combined modern information technology to carry out new vocational farmer cultivation activities, overcoming the limitations of offline cultivation models. Make full use of online media, mobile applications, television media and other platforms to vigorously publicize the importance, successful practices, typical cases of trainees, and government support policies for cultivating new professional farmers. Increase the investment in online education. On the premise

that farmers have a certain internet knowledge base, they can learn according to their own actual conditions, providing convenience for farmers to learn and reducing teaching costs.

Online training can provide long-term supervision for trainees, increase tracking services for training, and make the training completely and continuously. The modern cultivation model is the future development trend.

4.4 Improve the Cultivation and Supervision Mechanism and Strengthen Post-training Follow-up Services

To improve the cultivation level of new professional farmers, it is necessary to strengthen the standardization of training for new professional farmers. In the process of cultivation, it is necessary to strengthen supervision, assign dedicated personnel to provide tracking services in order to promptly identify problems and resolve them. Manage the records of trainees for each training session to facilitate targeted follow-up visits in the future. After the training, we not only need to evaluate and assess the training results, but also provide continuous technical support to the trainees, personally solve the problems they encounter in technical practice, and regularly carry out follow-up activities and exchange forums for new vocational farmers to promote their continuous updating of agricultural knowledge and technology.

5. Conclusion

New vocational farmers are the main force in rural revitalization. The rapid development of modern agriculture is not only based on a large number of new vocational farmers, but also urgently needs new vocational farmers to lead and promote with strong potential for professional development. With the development of society, farmers' awareness of learning has generally increased. The sense of identification of cultivating new vocational farmers in the hearts of farmers has gradually strengthened. One batch after another of new vocational farmers has driven the development of the agricultural industry through participation in training. Of course, there still have problems in this process, such as unreasonable training content for new vocational farmers, low enthusiasm for learning of farmers', and inadequate application of new

media science and technologies.

This paper takes Tianjin as the research object, guided by human capital theory, and explores the current situation, existing problems, and countermeasures of cultivating new vocational farmers in Tianjin through methods such as literature research, questionnaire survey, and interview. The research has drawn the following conclusions.

This paper analyzes the current situation of cultivating new vocational farmers in Tianjin. It is believed that the overall education level and age of farmers in Tianjin are relatively low, which increases the difficulty of cultivating new vocational farmers. Most farmers rely too much on traditional experience and have relatively low enthusiasm to learn new agricultural knowledge and technologies.

Through the questionnaire survey, this paper analyzes the current situation of cultivating new professional farmers in Tianjin from the aspects of their cultivation cognition, cultivation willingness, and cultivation needs. The survey results show that currently, farmers in Tianjin have a strong willingness to participate in the cultivation of new vocational farmers, believing that the knowledge and skills obtained from training will be of great help to their own work, indicating that farmers of Tianjin's have a comprehensive understanding of the cultivation of new vocational farmers. Due to the uneven educational levels of farmers in Tianjin, there are certain differences in their cultivation demand, so the government needs to guide the implementation of hierarchical and classified teaching for the cultivation of new vocational farmers.

Based on the current situation and existing problems of cultivating new vocational farmers in Tianjin, corresponding countermeasures are proposed: the government should increase investment in cultivation, improve the professional status of farmers, and attract a large number of laborers to return to rural areas; Building a modern cultivation model; Improve tracking services to enhance the cultivation of new vocational farmers and cultivate a new team of vocational farmers who can promote agricultural modernization.

In summary, significant achievements have been made in cultivating new vocational farmers in Tianjin, but we still need to keep up with the times and improve the existing

problems. To achieve the maximum effect of cultivation, it requires the joint efforts of the government, universities, enterprises, and farmers to promote the high-quality development of cultivating new vocational farmers and realize the development of rural revitalization.

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