

The Rise and Fall of Maca Planting in Yunnan and the Difficulty in Peasants' Learning of Economic Knowledge*

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ABSTRACT

On the way to get rich for peasants who mainly focus on farming, the phenomenon of "hurting peasants with low price" is the obstacle. One of the countermeasures to overcome the phenomenon of "hurting peasants with low price" is to improve peasants' reserve of economic knowledge. Based on the practical characteristics of peasants' learning of economic knowledge and the analysis of Maca planting in Yunnan, it is revealed that there are difficulties in peasants' learning of economic knowledge, such as not being able to grasp the economic laws and not having the opportunity to participate in the economic game. In order to help peasants learn economic knowledge better, learning resources need to be built through multiple channels from three levels: individual, society and government.

Keywords: Peasant, Farming, Economic knowledge, Knowledge learning, Maca planting.

1. INTRODUCTION

The issue of "agriculture, rural area and rural resident" has always been one of the major issues of national and social development that the Party Central Committee is most concerned about. Since the 18th National Congress of the Communist Party of China, General Secretary Xi Jinping has made a series of important remarks on the issue of "agriculture, rural area and rural resident" on different occasions. In the new journey to achieve common prosperity, General Secretary Xi Jinping has stressed: "For China to be rich, the peasants must be rich." [1] The essence of which refers to the issue of increasing peasants' income. In the process of urbanization in China, there are more and more channels for peasants to increase their incomes, such as going out to work. However, a significant proportion of the population is still

engaged in agricultural production, and farming is still the main source of income for peasants. Apart from natural disasters, the farming industry, as a channel for peasants to increase their income, is facing the situation of "hurting peasants with low prices". In addition, the state has introduced a policy of guaranteed purchase of staple foods to reduce peasants' farming risks. Peasants' planting choices are not limited to staple foods, and there will be some follow-up phenomena. The more prominent is to plant some crops that sell well in a specific year following the market price fluctuations, but encounter a sharp drop in prices in the coming year. For example, the words of "playing with beans", "vicious ginger" and "vicious garlic" on the Internet reflect the embarrassing situation of "hurting peasants with low prices". [2] Some studies have analyzed the causes of this phenomenon and put forward corresponding countermeasures, [3] but this countermeasure is mainly based on the thinking of organizational strength and ignores the action choice of peasants as the main body of action. In fact, what behind peasants' planting choice is essentially peasants'

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knowledge reserve. Studies have confirmed that peasants' learning ability often has a significant positive effect on their production and management. [4] But peasants' knowledge learning is distinctly different from students' school learning, and peasants' learning is based on a production practice model, so it is of practical interest to analyze peasants' learning dilemmas in terms of specific farming sectors. In this study, according to the analysis on the history of Maca planting in Yunnan Province, peasants' learning process was explored.

2. THE HISTORY OF MACA PLANTING IN YUNNAN

Maca (Maca is also translated as *Lepidium meyenii* Walp) originated in Peru, South America. Because of its high medicinal and edible value, it was introduced by Xiao Peigen in 2001, and was domesticated in Lijiang, Yunnan in 2002. Since then, planting experiments [5] have been carried out in high-altitude areas such as Dali, Huize County and Diqing Prefecture in Qujing, and the planting area has expanded rapidly. Maca planting has generally gone through three stages: introduction stage, expansion stage and decline stage.

2.1 Introduction Stage

This stage was from 2002 to 2012. There were three characteristics at this stage. First, the planting regions spreaded, and the planting areas gradually expanded, but it was not yet on a scale. Maca planting first started in Lijiang, Yunnan Province. In 2002, Lijiang began trial planting in Nanxi Town, located at the foot of Jade Dragon Snow Mountain. Within 10 years, Lijiang was the main producing area of Maca in China. In 2012, the output still accounted for 70% of the total in China. [6] The second major production area was Huize County, Qujing City. Huize County succeeded in trial planting in Dahai Township and Kuangshan Town in 2004, and then Maca was gradually planted in towns such as Daqiao, Xinjie, and Tuoche. By 2012, there were only more than 1,000 acres. [7] The second was to continuously explore planting techniques. The market price of Maca was slightly higher than that of other crops, the planting cycle was short, and it could effectively increase the income of peasants. The scientific and technological personnels of the promotion center of agricultural technology in the county conducted research on the introduction and high yield of Maca. For example, Xie Rongfang and others in Huize

County carried out practical explorations in terms of grow seedlings, production, and seed preservation. [8] Third, farmer households got benefits. Because it was a newly-introduced crop, it maintained a sense of freshness in the market, the supply was less than the demand, the price raised steadily, and each mu of Maca could bring about more than 1,700 net income to the farmers. [9]

2.2 Expansion Stage

This stage was from 2013 to 2016. This stage presented the following three characteristics. First, there was substantial increase in the planting area. In 2009, the planting area of Lijiang was about 2,000 mu. In 2013, it expanded to 21,000 mu, with a tenfold increase. After 2014, the planting area exceeded 70,000 mu. In 2015, it exceeded 140,000 mu. [10] Huize County, another major production area, also experienced rapid expansion. In 2013, the planting area was 2,500 hm². In 2014, it expanded to about 9,333.3 hm², with nearly quadrupled increase in just one year. [11] Second, the government listed Maca as a key industry. The provincial government and the townships all listed Maca planting as an industrial plan. For example, in the provincial industrial plan, the planting area would reach 200,000 mu by 2020, and the planting area in Lijiang would reach 100,000 mu by 2020. [12] Dahai Township of Huize County focused on the goal of "enlargement, speciality, optimization and scale", listed Maca planting as a key industry, introduced leading enterprises, established specialized planting bases, and built an "X+peasant" model. [13] Third, there was a myth of the efficacy of Maca, and the price increased rapidly. Maca was essentially an edible plant, but driven by the profit-seeking behavior. And then, Maca changed from an edible item to a item with sexual function enhancement and no side effects. Maca was a good medicine to solve the embarrassment of sexual affairs, resulting in the increase in price rapidly. Maca seedlings raised from 150 yuan/box to 700-800 yuan/box, and the seeds were as high as 20,000 yuan/catties. [10] Maca planting almost became a lucrative industry.

2.3 Decline Stage

This stage was from 2017 to now. At this stage, the most significant feature was that the planting area was not reduced, the price plummeted, and the government reduced its support. The price of dried fruit of Maca dropped from 600 yuan/kg to a few yuan/kg, and the price of fresh fruit dropped from

160 yuan/kg to 1 yuan/kg. [10] Peasants and investors all showed a huge deficit, the product bubble was disillusioned, and the situation of Maca being popular no longer appeared. Finally, Maca became a product abandoned by the market. Due to the sharp drop in prices, Maca was not enough to support peasants' income increase, and the government gave up its support. For example, Huize County excluded Maca planting from the poverty alleviation system of characteristic industries in 2016, and emphasized on walnuts, potatoes, etc. [14]

3. PEASANTS' SUMMARY FROM THE RISE AND FALL OF MACA PLANTING

The process of Maca planting from the introduction to the rapid decline is like a roller coaster in an amusement park. Farmer households have experienced hesitate, joy and misery in the "roller coaster". Whether they are witnesses or bystanders, they constantly learn economic common sense in a situational learning way in the rise and fall of Maca planting. In addition to economic knowledge, they also perceive the relationship among government, market and society, as well as the relationship between social structure and individual actions. To sum up, peasants have learned the following economic knowledge during the rise and fall of Maca planting.

3.1 Regret: Not Grabbing the "Invisible Hand"

Since Adam Smith, the English classical economist, published "The Wealth of Nations" in 1776, economics has become a discipline in its own right, and the principles of the price mechanism have been the focus of attention in economics. In the view of classical economists, as long as a perfectly competitive market is provided and individuals are fully rational in their actions, they will automatically allocate social resources according to market supply and demand, and the laws of the market will act as an "invisible hand" to govern human actions. When the supply exceeds the demand, the price will rise, and individuals will increase investment to expand the production capacity of the item. When the supply exceeds the demand, the price will fall, and the price always fluctuates around the relationship between supply and demand. The "invisible hand" exists only in people's minds. In reality, it is difficult to know where the equilibrium between supply and demand

lies. Thus, in the simple economic view of peasants, they only know that when the price rises, it is the best investment opportunity, but they ignore that the price mechanism and the supply of products are not necessarily synchronized, and there may be lagging price fluctuations or changes in supply and demand. In the process of Maca planting, a large number of peasants often invest in the expansion stage. At this stage, the risks of Maca planting are already revealed preliminarily. However, due to the lack of deep understanding of economic laws, peasants only perceive the appearance. With a large number of inputs, the subsequent supply of products is far greater than the market demand, resulting in poor sales and huge losses. Seeing the consequence, peasants sigh heavily. For peasants, it is suggested to enter the market early or exit it when prices are high, which is a point of economic knowledge, that is, to grab the "invisible hand".

3.2 Loss: Not Having the Chance To Participate Freely

In the view of classical economists or neo-liberalism economists, the visible hand of the government should be as small as possible, that is, the concept of small government and big society. In their concept, each subject is free to choose the profession they want to pursue, that is, each subject can freely produce goods that can bring benefits to them according to the rules. Of course, this view has also been criticized by other schools. For example, the Keynesian School believes that the visible hand of the government needs strong macro-control to prevent market failure. The new public choice school believes that the government, like the market, also acts selectively according to the principle of rationality, which will inevitably lead to the loss of control of government power and government failure. The relationship among government, market and society has always been emphasized by researchers. In any case, market production is always carried out under certain constraints. In the process of Maca planting, it is undeniable that it has brought benefits to peasants in a certain period of time. While obtaining land rent and seeing other peasants' income from planting Maca, peasants who have not put into planting also have the willingness to invest in Maca planting. However, despite having such willingness, it does not necessarily promote peasants to invest conditionally. For example, in the early stage of investment in Maca planting, the planting technology is not available and the seed price is high. Due to the lack of technology and funds for

purchasing seeds, some peasants can only admire other farmers to invest in planting and produce good economic benefits. In the stage of rapid expansion of Maca planting, many farmers have the conditions to plant Maca with the support of the government, the convenience of seed price and planting technology. However, at this stage, the government should pay attention to cultivate new peasants. Especially driven by the achievements of attracting investment, planting enterprises are introduced everywhere. Although the model of enterprise + farmers is implemented, it also means that some peasants are excluded from the production and operation community. When deep processing technology and capital are not dominant, the ability of "retail" farmers to resist market risks is weak. Under the collapse of Maca myth and the steep decline of price, the losses will be very heavy.

3.3 Conservatism: Following the Rules Is Helpless

From the perspective of economics, the price of commodities depends not only on the relationship between supply and demand, but also on the added value of the product, the degree of scarcity, and the importance of the product to the transaction object. In other words, when the relationship between supply and demand is stable and the added value of the product is higher, the price will rise accordingly. The higher the degree of scarcity, the higher the price. The higher the degree of importance to the buyer, the higher the price. However, it also means that conventional goods are less likely to go up or down in price in the market, and it also means that such goods are not highly profitable in the market. In the process of Maca planting, some peasant households have neither the economic foundation nor the technical conditions to invest in planting, nor the opportunity to join the planting and management community. They can only choose to plant common local crops, such as corn, potatoes, wheat, etc. In addition to extremely harsh weather conditions, the sales prices of these staple foods are unlikely to experience price fluctuations similar to the roller coaster, and of course it is unlikely to bring huge profits or extreme losses to peasants. Such peasants feel the rapid changes in Maca prices from a bystander's perspective. When farmers are in a state of huge losses, they will have a happy state of mind, which will also bring another kind of cognition of economic knowledge. In other words, it is necessary to adhere to the classic Marxist theory of labor for reward. What behind this "conservatism" road is an unselectable social

problem, which will then enter into the knowledge cognition of sociological structuralism, that is, social structure determines individual actions.

4. SOLVING THE DILEMMA IN PEASANTS' LEARNING OF ECONOMIC KNOWLEDGE

From the above analysis, it is found that peasants' economic knowledge learning is fundamentally different from students' learning of economics within schools, and students' learning is systematic and progressive according to the logic of subject knowledge presentation. However, peasants' learning of economic knowledge is a practical learning, which is similar to situational learning talked by Professor Jean Lave and Etienne Wenger and the learning in workplace by Stephen Billett. [16] Peasants' learning has a clear group dimension in terms of content, that is, it is specific and directed towards vocational skills. [17] This type of learning is strongly utilitarian. If the learning results are not used effectively, the enthusiasm of peasants to learn will be interrupted, and the road for peasants to move from traditional peasants to new professional peasants will be interrupted. [18] Therefore, it is necessary to solve the problem in farmers' learning of economic knowledge from the systematic perspective, and the three-level progression of the individual, society and government provides a systemic analysis perspective.

4.1 Individual Level

In the view of contemporary structuralism, the given social structure will affect the choice of individuals, but it does not mean that the individuals have no ability to choose action. Individuals can choose actions within a given range, and in turn further shape the social structure. [19] When this perspective is used to analyze the actions of peasants' economic learning, it provides a good explanation for peasants to carry out self-directed learning. According to the huge size of the peasant group, it means that it is difficult to impart minimum economic knowledge to peasants through formal education channels. On the other hand, because of the particularity of the field of practice, it also determines that peasants should carry out learning by themselves. Therefore, peasants' self-learning of economic knowledge needs to start from the three aspects. The first is to change their thinking. On the one hand, it is suggested to take the initiative to learn, not to regard learning as

nothing to do with themselves; on the other hand, it is required to understand learning from a broad concept, and not only understand learning as book knowledge learning. The second is to learn to use a variety of channels for learning, especially the use of learning resources from the mobile Internet and radio and television media. The third is to learn to reflect in practice and reduce speculative mentality.

4.2 Social Level

In the new journey towards common prosperity, it is the responsibility of the whole society to help peasants to become rich. The groups that are dominant in the society should help peasants practically based on good moral beliefs and eliminate the motives and actions of cheating peasants, and the groups should give full play to their strengths to help peasants to learn better and faster. Based on the sense of social responsibility and the healthy development of enterprises, agricultural product enterprises should help more peasants have the opportunity to enter the planting development community and lead peasants learn in a low-risk way in the community. For another example, universities and scientific research institutions should make use of summer vacation to arrange professionals and students to go deep into the countryside and publicize economic knowledge to farmers. New-media freelancers can make easy-to-understand economic videos in ways that farmers are comfortable with, such as TikTok. All in all, social groups should work together and give play to their own advantages. In addition, peasants enrich the knowledge from various channels.

4.3 Government Level

The government's ability to plan and regulate is crucial for peasants to learn effectively. In addition, it is possible to create and maintain a stable social order only when the government's functions are brought into full play. In fact, the effective learning of peasants needs to be in a stable social order. With a stable social order, uncertainty and risks will be reduced. And then peasants have the mind and motivation to learn. If there is an unstable social order, peasants' sense of insecurity will increase, and peasants have no intention to learn. Therefore, at the government level, it is necessary to help peasants learn based on the requirements of stabilizing social order. The first is to effectively carry out agricultural planning. Local governments should implement the development concept of "no self-defeating campaigns" proposed by the central

government, plan agricultural development in a scientific way, put an end to extravagant planning schemes, guide farmers to rationally choose planting directions through planning, and avoid piling on one another. The second is to strengthen the construction of public cultural services in rural areas, such as the construction of the Internet, books and materials and other infrastructure to provide convenient channels for peasants to study.

5. CONCLUSION

Peasants' learning plays a vital role in peasants' development. Due to the situational and utilitarian characteristics of peasants' learning, the advancement of peasants' learning needs to be continuously added to new practical situations to obtain the expected benefits from situational learning. Therefore, providing relatively stable situational opportunities has become the primary principle of peasants' learning policy-making. Although Maca planting has regional characteristics, it reflects the dilemma of peasants' learning in the process of planting other agricultural products, that is, the supply of learning opportunities is insufficient, the existing knowledge base is unstable, and the learning ability is not strong. Due to the limitations of objective conditions, it is neither realistic nor able to completely solve the problem by completely relying on the self-directed learning. To solve this problem, peasants, society and government should cooperate with each other. The government should play the leading role, the society should make up for the omission, and the individual should take the initiative. Only in this way can we promote the gains in agricultural learning.

AUTHORS' CONTRIBUTIONS

Rongjiang Gu is overall design and write, Qiulan Xia analysed data, and Weijun Dai wrote the manuscript.

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