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A Study of Farmers' Rationality Based on Maslow's Hierarchy of Needs

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Abstract In this paper, on the basis of analyzing farmers' dominant position in society and explanation of farmers' rationality, we make use of Maslow's hierarchy theory of needs to divide farmers' needs into three levels in accordance with the different stages; survival needs, interpersonal harmony and social responsibility, which are the needs hierarchies for farmers to satisfy themselves. We combine Maslow's hierarchy theory of needs and farmers' rationality and confirm that farmers do have rationality and it is in a dynamic condition.

Key words Maslow's hierarchy of needs, Hypothesis of economic man, Farmers' rationality

1 Introduction

Today's booming market economy can be attributed to economic man's rational choice which constantly promotes the society to advance in the right direction. The proof of this fact lies in the remarkable socio-economic achievements, improvement of infrastructure, increase of income and social welfare and many other aspects since the reform and opening up. However, the situation of sluggish rural development can not be ignored, and the main reason mainly consists of two aspects: one is the biased national policies and long-term urban-rural dual structure, and the other is the inferior intellectual capacity or information acquisition ability of farmers. In this paper, farmers' rationality is divided into different levels according to hierarchy of needs, and the behaviors vary at different levels. Maslow's hierarchy of needs is a theory in psychology proposed by Abraham Maslow in his 1943 paper "A Theory of Human Motivation" in *Psychological Review*. Maslow's hierarchy of needs is often portrayed in the shape of a pyramid with the largest, most fundamental levels of needs at the bottom and the need for self-actualization at the top. While the pyramid has become the de facto way to represent the hierarchy, Maslow himself never used a pyramid to describe these levels in any of his writings on the subject. The most fundamental and basic four layers of the pyramid contain what Maslow called "deficiency needs" or "d-needs": esteem, friendship and love, security, and physical needs. If these "deficiency needs" are not met-with the exception of the most fundamental need-there may not be a physical indication, but the individual will feel anxious and tense. Maslow's theory suggests that the most basic level of needs must be met before the individual will strongly desire the secondary or higher level needs. Maslow also coined the term "metamotivation" to describe the motivation of people who go beyond the scope of the basic needs and strive for constant betterment. The views on farmers' behavioral characteristics usually diverge, mainly due to the par-

ticularity of Chinese farmers whose mindset is influenced by the traditional thinking of thousands of years. Farmers' ways of thinking and behavior activity are different from those of other social groups. Deep analysis of farmers' rationality can offer scientific explanation of some seemingly irrational behaviors of farmers. In addition to preferential policies and substance for rural areas, it is necessary to provide correct guidance and norms for farmers' behavior and take the road of scientific development step by step in order to fundamentally solve the problem of rural backwardness, so the deep research on farmers' rational behavior has great theoretical and practical significance.

2 Literature review

Experts and scholars at home and abroad have different explanation on farmers' rationality. Schultz^[1] endorses the hypothesis of "economic man" that farmers will be very careful about the cost-benefit calculation, and then make decisions in accordance with the results. Xu Yong^[2] points out that farmers forms their own awareness, attitudes and perceptions in the long-term agricultural production activities, which stem not only from their own emotional experience, but also from long-standing tradition accumulation; rationality plays a dominant role in human behavior, and the scope and effectiveness will be different in different environment. Peng Wenping^[3] believes that farmers' behavior is just a condition maximizing behavior, rather than "profit-maximizing" behavior asserted by mainstream economics. Ma Yan *et al.*^[4] use relatively rational economic man as a hypothesis for the theoretical analysis; economic man's decision is affected by the external environment, social background and other factors, there is reciprocal causation between an individual and constraints, and the judgment on farmers' rationality is also relative. Some experts represented by Simon believe that there is limited rationality in farmers, and make interpretation. Deng Hanhui^[5] believes that there is limited rationality in farmers; environment is complex, and the world people face is a world full of uncertainty in the form of non-personal exchange; people have limited computing power and cognitive

ability on the environment. However, it ignores people's experience, and good experience left by China's history of thousands of years has an important impact on farmers' behavioral decisions. Li Jigang^[6] brings up the community rationality and market rationality, and at different stages of development, there will be differences in farmers' rationality; farmers' behavior property is undergoing new changes, and farmers' behavior shows some rationality in accordance with their own logic; due to survival needs and expansion of the market economy, farmers' rationality makes them consciously adapt to these rules, and it evolves into market rationality; finally, due to the dominant role of social property, once the farmers put development as the premise of their behavior, it becomes revolutionary rationality. Liu Jinhai^[7] points out that the goal of rational behavior is to maximize utility, rather than to maximize profits; by analyzing economic behavior of farmers according to the profit-maximizing behavior of manufacturers under the conditions of developed market economy, it can be readily concluded that farmers are irrational. Ma Xiaoyong^[8] believes that the cost is high when farmers avoid access to information, and the decision made is confused with an irrational behavior.

3 Dominant position of farmers

3.1 Importance of dominant position China's rural areas still stay on the "small but complete" production and operation mode, and the field of agricultural production is wide, involving aquaculture, farming, handicraft and other industries. And farmers are personally engaged in the production, suggesting that farmers are always the basic unit and main body of various production decisions in rural areas. The academic research and government policy making need to be oriented by farmers' needs, so whether farmers can achieve their dominant position is the key to success of various new rural construction initiatives. Since the reform and opening up, industrialization and urbanization have made the labor demand increase dramatically, causing considerable high-quality human capital in rural areas to flow to the cities. Rural development has been constrained by lack of human capital, and the shift of focus of national development further increases the gap between urban and rural areas, leading to urban and rural dual structure. In recent years, the government's solutions to issues concerning agriculture, countryside and farmers have provided unprecedented impetus, but rural economy lags behind, and the problem of extensive development pattern is imminent. Exploring farmers' behavioral characteristics is the key to solving this problem. Farmers' behavioral research is the basis of studying all the problems in rural areas, and it is impossible to solve rural problems due to a lack of understanding of the behavioral characteristics of farmers. The farmers are not only the demanders but also implementers and beneficiaries of various agricultural policies. It is necessary to study the behavioral mechanisms of farmers, analyze the value orientation of farmers, explain farmers' behavior, and judge whether it is rational or not.

3.2 Current situation of dominant position Farmers are the

main social groups, and it is particularly important to highlight their position. Once farmers' dominant position is missing, the actual decision-makers on agriculture are no longer farmers, and in the process of making policy, it will be against the wishes of farmers, leading to serious consequences, for example, some projects for the benefit of the people will change into "image projects", which is bound to hinder the rural development. Traditional agricultural awareness and thousands of years of self-sufficient status have deeply influenced Chinese farmers, and farmers should have been main decision-making body to exercise their powers, to safeguard their own interests and create wealth. Due to the household contract responsibility system in rural China and slow rural information dissemination, there are features of organizational behavior dispersion and lack of knowledge reserves for farmers, and it is difficult to unify them in the new rural construction to safeguard interests, so that farmers are in the position of passive recipients. Maintaining the dominant position of farmers is a new source of power for promoting the construction of rural areas, preventing some local governments from getting out of line, and establishing farmers' self-management and independent decision-making mechanism, in order to let farmers be the master of their own affairs.

3.3 Reason for missing dominant position There are two reasons for missing dominant position of farmers. First of all, the blind "vanity project" perspective of government officials or village collectives distorts the essence of current construction of a new socialist countryside, and government ignores the dominant role of farmers and monopolizes farmers' right to speak, so that farmers are collectively "speechless", and low organizational level of small farmers is bound to bring a lack of unified decision-making behavior. Secondly, Gary^[9] believes that due to lack of enthusiasm for participation as well as weak ability to master knowledge and obtain information, farmers hold a wait and see attitude towards some problems or policies in the rural construction, and even have an irresponsible mentality.

4 Farmers' rational behavior

Adam Smith put forward the hypothesis of economic man, and the key point is that the persons in the market economy are perfectly rational, and make decisions for their own best interests. Herbert Simon introduces the concept of bounded rationality into economics, and believes that people's decision-making capacity is limited, and can only get the maximum benefit under the conditions of bounded rationality. According to Simon's point of view, the persons in reality as managers or policy makers are "managers" of bounded rationality between complete rationality and non-rationality. Managers' values and goals are often diverse, affected by many constraints, and in a dynamic state of change or contradiction; limited by intelligence, knowledge, experience and other factors, farmers' decision is absolutely impossible to achieve the optimal solution. Both Adam Smith's perfect rationality and Simon's bounded rationality can reasonably explain some economic phenomena or decisions of farmers, so they are widely used to provide

the theoretical guidance. However, there is still a big controversy with regard to whether the persons are rational, especially for farmers. Maslow's hierarchy of needs is based on the study of human behavioral characteristics in psychology, with demand as the key point, which can reasonably reflect the real needs of people and scientifically explain human behavior. Zhu Mei and Ying Ruoping^[10] point out that if the living problems in rural areas are resolved and the pressure to survive no longer plays a leading role in stimulating, the structure of people's reaction to pressure will also be changed. In the new era, people tend to use scientific attitude and approach to research problems, and various kinds of advanced knowledge and technology are widely used, which is the inevitable result of the market economy. As the old saying goes, "Well fed, well bred." It indicates that in ancient times, our ancestors realized that human needs can be divided into levels, and only after the most basic material needs are met will people consider the non-material needs such as spiritual and cultural needs. The hierarchical explanation of Maslow's hierarchy of needs is consistent with the diminishing marginal utility. The needs are for the purpose of obtaining utility, and after the needs at each stage are met to obtain a certain amount of utility, it shows the diminishing marginal utility effect, and the needs will shift to another level. Maslow's hierarchy of needs is applied to explore whether man is rational or not, and it can provide profound understanding of farmers' rationality.

4.1 Basic survival needs According to Maslow's hierarchy of needs, physiological and safety needs are the basic needs for human survival and development, and are at the highest priority level in Maslow hierarchy of needs. The needs are also the most primitive driving force for human to make choice. For livelihoods, farmers fully display their wisdom in the process of agricultural production, and meet the basic material needs of people while continuing to promote agricultural development. Agriculture has always been not only the basic industry, but also the most important industry. In these years, the importance attached to agriculture is not enough, and farmers grow crops to meet the most basic physiological needs. If without the most basic material security, all needs are out of the question. However, in the history of Chinese agriculture for thousands of years, improved farming tools, water conservancy facility construction and cultivation technology updating have laid a solid foundation for the development of Chinese agriculture. At this point, farmers' rationality is manifested in the material needs for survival and the material needs become the major driving force of farmers' decision-making behavior.

4.2 Interpersonal harmony needs In the history of human development, farmers toil all day long for survival to reflect natural man quality, and after the basic living conditions are met, not just farmers but also human beings will be moving in a more civilized direction. The natural environment is no longer a major constraint. According to Maslow's theory, people show needs for social interaction and respect. Social needs mean that people of social attributes have the needs for interacting with others, and it is unique to humans. Respect is a positive feeling of admiration or deference

for a person or other entity, and also specific actions and conduct representative of that esteem. Respect can be a specific feeling of regard for the actual qualities of the one respected, including the wishes for gaining confidence, competence, achievement and independence. At this stage, the social interaction and respect needs in Maslow's hierarchy of needs become the main motivating factor of farmers' action. Especially in the rural areas, farmers need to interact with the neighbors in their daily activities such as agricultural production, trade and intercourse. It is the goal of the farmers who do not seek maximum benefits. In this sense, farmers are inclined to maintain social relations, and "saving face" to get other people's respect may be the interpersonal communication purpose. The behavioral decision made may deviate from the hypothesis of economic man, and the pursuit of interpersonal harmony to get physical and psychological enjoyment is still a manifestation of rationality. Today the material conditions are very good, and people are no longer confined to seeking simple survival. The needs for interpersonal harmony, intercourse and respect gradually become people's concerns, and especially in the improved rural economic environment in recent years, interpersonal communication is more frequent, and the desire to socialize and get respect is also particularly prominent, suggesting that the objectives of the new rural construction rise to a higher stage.

4.3 Self-actualization needs Maslow describes self-actualization as the full exploitation and use of talent, ability, potential and so on. Self-actualization and self-transcendence is the highest level human pursuit, which can not be provided by material and social relationship. By virtue of their own efforts and opportunity given by the times, some farmers accumulate a certain amount of economic capital and obtain honor and status. The basic survival needs are met, self-development is realized, entertainment is increased, and pension system is gradually improved. After the physiological, safety, social and respect needs are met, farmers have crossed the basic survival and interpersonal harmony needs. The driving force of farmers' behavior has many manifestations in real life, and the enjoyment consumption is increased. Currently, China's rural areas have not yet fully reached this level, but some coastal villages have gradually entered into this stage.

5 Conclusions

The fundamental problems of China's rural areas are issues concerning farmers, and addressing these issues is the key to social harmony and stability. In rural policy formulation and implementation, it is necessary to focus on needs of farmers. The psychological changes of farmers always show a certain development law, and such changes need to be gradually promoted by policy in accordance with the hierarchy of needs. Only when we have a profound understanding of the real needs of farmers can the interests of farmers be protected. Based on Maslow's hierarchy of needs, we analyze farmers' rational decision-making, and divide the needs in

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vation of ginseng. In the 1940s, due to forest shortage, South Korea and Japan were forced to embark on the road of soilless cultivation of ginseng. After 20 years of efforts, the supporting technologies for soilless cultivation of ginseng have been improved, and the previous studies have confirmed that the soilless cultivation technology of organic ginseng is feasible. Therefore, it is necessary to discard the practice of deforestation for planting ginseng as soon as possible, and promote soilless cultivation technology of organic ginseng.

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to different levels. It is found that the original driving force of farmers' decision-making is need, and there is sufficient rationality when farmers make decisions. At different stages, the pursuit is different, and such difference reflects that farmers are in dynamic rationality, and change decisions according to the external environment and their own needs. Problems involving farmers loom large such as agricultural quality and safety problems, pollution problems in rural areas, rural left-behind children and the elderly problems and rural education problems. To solve the problems related to rural areas, it is necessary to fully tap the influence mechanism of farmers' rationality. Meeting farmers' food and clothing is the most basic problem to maintain social stability and promote social development. Only after the problem of food and clothing is solved can farmers live a well-off life. Agriculture is impossible to achieve leapfrog development, and farmers can not achieve development irrespective of food and clothing problems. Steady progress is a real demand, and a road of scientific development.

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