The Concept of Family Tree, Family Forest Farm Its Identification Standard and Judgment

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Abstract: The traditional concept of family tree can not reflect the actual characteristics of family tree farm in practice, by comparing the differences in the characteristics of ordinary farmers and family farms, the main characteristics of the family forest farm were sorted out, and the concept of the family tree was reconstructed. Using the opportunity cost theory to establish the model of the most important features of the family tree farm the minimum access standard of the area of the forest land. It analyst the characteristics of several aspects between common present household forest farms and family tree farm , then combined inductive characteristic of the family tree farm, rebuilt the concept of family tree farm, which fixed the deviation between the theory research and practice. It built a model based on the opportunity cost theory, which measures woodland area of minimum access standard. Then set a convenience sample of (Tai Bai) town in Shanxi province measured the woodland area of minimum access standard by using the model. It was found that local family forest woodland area should reach about 2413 mu. It creates a kind of new method and theory through which affirms the family tree farm. The theory and method are provided for the identification of family tree farm in each country.

Keywords: Family tree farm; Characteristics; Concept; Identification standard; Judgment

INTRODUCTION

The family tree farm is a kind of economic entity which takes the family as the basic organizational unit, and carries on the commercial production of the forestry as the main product. It is a kind of forestry production and management mode based on the forestry contract responsibility system. The difference between family farm and forestry cooperatives is the family farm has a fixed production base to achieve a certain economic scale, a higher level of management, more scientific and intensive forest management, integration of industry and Commerce [1-3]. In June 8, 2008, the CPC Central Committee, the State Council issued document No. 10, 2008, "on deepening the reform of collective forest right system reform opinions", as of 2015 based on clear property rights, the right to households has been basically completed, the establishment and consolidation of the basic unit of the family oriented forestry household management form [4-6, 12] in the country, actively guide the family farm development in many areas showing a good momentum of [7, 8]. However, the concept of the existence of the management process is not clear in all parts of the family farm. The identification standard is not realistic and so on.

At present, the contents of the theory and the prospect of development of family farm path and the problems of [9-12], not much research on its concept and features, is widely accepted that forestry as an important part of agriculture, the concept of family farm only come from the concept of family farm transplantation, proposed family farm generally refers to the family as the basic management unit, to its own population as the main labor force in forestry production and management based commodity economic entity, is the new business entities with scale and intensive characteristics of the formation of Forestry Based on the household contract responsibility system [13-15] obviously, this concept did not consider the characteristics of the family tree, not the empirical test. In recent years, the number of the provincial forestry department has formulated and promulgated standards of family farm (conditions), mainly from several forest area, forestry income, labor sources assessment [16, 17], but did not show an accurate formulation of the method and the principle, the method of making the lack of theoretical basis, the principle is not scientific. Based on the actual survey data, this paper analyzes and summarizes the essential characteristics of the family tree, and puts forward the new concept. Using the opportunity cost theory to establish the core characteristic measurement forest area

minimum access standard model in Shaanxi province Tai Bai town as an example using the model measured local family farm minimum forest area.

MATERIAL AND METHODS
Data sources
Data from the State Forestry Administration "reform of collective forest right system monitoring database, a total of 7 samples, including Liaoning, Shaanxi, Gansu, Hunan, Jiangxi, Zhejiang, Yunnan; in each province, 10 Town, 5 Villages and each were collated 10 households data, a total of 3500 households data were collected and summaries on the end of 2014, the national household monitoring samples, a total of 40 households have established the family farm, including their own business and his family partnership two business forms, including Fujian Province, Hunan Province 14, 4, 6 in Liaoning Province, Jiangxi Province, Shaanxi Province, 7, 3, 6 in Gansu Province.

Research methods

Analysis method of family forest farm mainly used statistical analysis method. The 3500 sample households in accordance with the establishment of the family farm was divided into two groups: family farm and ordinary farmers, choose the education level, the non-agricultural experience, the area of forest land, the main source of income, forestry management benefits, forestry income of labor input, a total of 7 key indicators of comparative analysis. Measurement method for minimum access standard of forest land area refers to the opportunity cost theory, the 6 basic assumptions based on the established model to measure the forest area, and select Shaanxi Province as the sample to measure the minimum access standard of county forest area in the region.

RESULTS AND DISCUSSION
Reconstruction of the concept of family forest farm
The analysis of family forest farm compared with ordinary farmers, family farms in many aspects showed a significant feature (Table 1 & 2).

Table 1: Comparison and analysis of main characteristics

Main index		Ordinary peasant household (3460 household)		Family tree farm (40 household)	
		numerical value	Proportion %	numerical value	Proportion %
Education the head of household	Primary school and below	1387	40.08	12	30
	Junior middle school	1496	43.24	11	27.5
	High (technical secondary school)	506	14.62	13	32.5
	College and above	71	2.05	4	10
No farm experience	Whether to do business	464	13.41	10	25
	Accept the forestry training	1276	36.88	18	45
	Whether cadres	853	24.65	14	35
Scale of operation	Forest land area (MU)	81.78	-	192.12	-
Main source of income	Work	1304	37.68	9	22.5
	Do business	323	9.34	9	22.5
	Fixed salary	180	5.2	2	5
	Agricultural production	1227	35.46	16	40
	Forestry production	244	7.05	3	7.5
	Government subsidies	34	0.98	0	0
	Other	148	4.28	1	2.5
Forestry management benefit	Annual expenditure（元）	9378.04	-	55218.38	-
	Average annual income（元）	11172.65	-	72952.64	-
	Input output ratio（%）	1.19	-	1.32	-
Forestry income composition	Timber income（元/Year）	4109228	10.63	343500	11.77
	Bamboo income（元/Year）	6830025	17.67	252100	8.64
	Economic forest income（元/Year）	14114566.5	36.51	69500	2.38
	Economic income（元/Year）	5275910.5	14.65	2005770	68.74
	Income from forest work（元/Year）	1745800	4.52	144400	4.95
	Property income（元/Year）	226458.5	0.59	0	0
	Transfer income（元/Year）	2506412.52	6.48	42835.75	1.47
	Other income（元/Year）	3148344.79	8.14	60000	2.06
Average labor （元/Year）	Labor investment	4400	-	4200	-
	Employment of labor force	2300	-	20900	-

*（元）: Yuan Chinese currency

Table 2: Family forest farm input and output per year

Annual income of forestry management （元） M_1	Forestry non operating income （元） M_2	Annual expenditure on production data （元） N_1	Annual expenditure on Employment （元） N_2	Mechanical or animal expenditure. （元） N_3	Total annual income （元）	Total annual working years （元）	Minimum access standard C （Mu）
539399.95	330185.44	226710	77300	53000	906600	340500	2412.81

* （元）: Yuan Chinese currency

First, the general household heads of households have only junior high school and below the level of culture; family forest owners have a part of the high school or college education and the overall level of education than ordinary farmers. Second, family forest owners in the three aspects of the work of cadres, business and training are more abundant than ordinary farmers' experience. The survey found: family forest owners are not always engaged in agricultural activities, the practice of nonfarm household registration of entrepreneurs through the forest to establish a successful case of forest farm. Third, the average family farm land area of nearly 200 acres, is 2.5 times that of ordinary farmers, has begun to take shape, to verify the characteristics of existing in the concept of scale. Fourth, the main source of income of the family farm is agricultural production and business, forestry production and business income accounted for only 7%, in line with the general level of farmers. The main economic activities that forestry activities are not farmers, more family income depends on working or doing business in these economic activities. Especially in the northwest region, the ecological public welfare forest [17, 18], most belong to the scope of [19] forest natural forest protection project, the main business is the forestry management and tending, the main income of forestry is the forestry subsidies, characteristics of family farm is not primarily the forestry income is more prominent. This characteristic is completely inconsistent with the characteristics of the family income in the concept of family forest farm, and it needs to reconstruct the connotation of family forest farm.

The average annual expenditure of forestry fifth, family farm is 5.9 times the average annual income of farmers, forestry is 6.5 times that of ordinary farmers, family farm input-output ratio than ordinary farmers nearly 10% or so, the intensive characteristics, should be recognized when the family farm is another important reference index. The main source of economic income on forestry income sixth, the family farm (68.74%), followed by timber forestry income; income of average household income mainly comes from the economic forest (36.51%), the second is the economic income and income of bamboo. Forest economy is an important part of the production and management activities of the family farm, and it is the main way to obtain economic benefits. Seventh, the family forest owners are more inclined to hire from the outside of the labor force, the expenditure is 5 times of the labor force; and ordinary farmers mainly rely on their own labor. This feature is completely different from the traditional definition of the family farm, which is defined as "the main force of its own labor". On the one hand, it is decided by the special nature of the forest land itself. Forestry production activities can not be a large number of mechanical operations, management of forest land area beyond the scope of the domestic labor force to have to employ a large number of labor forces. On the other hand, it is the result of a large number of rural young workers to transfer to cities and towns. Along with the rural young labor transfer of a large number of [20] empty nest phenomenon is becoming increasingly serious, the establishment of family farm just for the "empty nest" farmers and farm surplus labor to provide convenient employment opportunities. Therefore, the definition of family forest farm is not limited to the "family oriented", mainly by the family members can only be operated.

Family forest farm

According to the above analysis of the characteristics of the family farm, in the family business, the scale of forest owners, particularity, to hire labor, main sources of family income, the ratio of input and output of forestry, the main source of income, after authorities found many other features, main characteristics, forest management, scale, after the relevant identification is characteristic of family the most important and the most basic family farm. Based on this, this study will be defined as: the family farm family farm refers to the family as the basic unit, mainly by family members of organization management, forest owners have certain management ability, management of forest area reached a certain scale, engaged in forestry production management, identified by the local forestry department of the main business.

After clarifying the concept and essential characteristics of the family farm, it provides an important theoretical basis for the establishment of the standard system for the identification of the family

farm. The area of forest land is the core index in the identification standard of family forest farm. In practice, only the core index of forest land area needs to be determined, so this paper only focuses on the measurement method of forest land area.

Build model forest land area

Using opportunity cost theory to establish the measurement model of forest land area. The opportunity cost is the highest net profit that is obtained by giving up the same factors in other purposes. Due to the scarcity of resources and the use of the opportunity cost is a cost [21, 22], the choice of migrant workers will have to give up the family business when the family farm, the annual net income migrant family annual net income is equal to the family farm, farmers began to shake to migrant workers at home business ideas, consider the family farm, accordingly the principle of minimum standards and establish estimates of forest area model. This model should be based on the following basic assumptions:

(1) Each family is independent of each other and only exists to go out to work and to operate in the family of two forest farm, do not consider doing business and other economic activities.

(2) Do not consider other factors such as willingness to work, children in school and other factors, only consider the level of annual net income.

(3) Working income and operating income of family farms are not related to the cost of related taxes and fees, regardless of the cost of living in addition to other expenses related to forestry activities unrelated.

(4) Working income does not include a fixed wage income, only refers to the farmers to give up the annual income of forestry production in the physical labor income.

(5) To determine the forest land area based on the current operating situation and income of forestry, and not to consider the increase or decrease in the efficiency of the family tree.

(6) The area of the forest land refers to the forest land which has the right to operate and can control the right of the forest land area.

According to the principle of the introduction of the model is as follows; the region engaged in forestry production average annual net profit per mu * Minimum acreage (minimum access standard) the area of migrant workers the average annual net income per capita * families in the area of labor, $R_{林} = R_{外}$

$$\frac{M_1 + M_2 - N_1 - N_2 - N_3}{C_{总}} \bullet C - N_0 = \frac{\sum_{i=1}^{n} M_i - N_i}{\sum_{i=1}^{n} P_i} \bullet L_0$$

M_1, M_2, N_1, N_2, N_3, N_0, $C_{总}$, C, M_i, N_i, L_0, P_i, n representing the area of forestry production forestry operating income, the non operating income of the local production and Forestry (mainly with forestry related subsidies), forestry production expenditure, employment expenditure, mechanical expenditure in this area, the average annual household consumption amount, the effective area of the total forest area, the lowest access standard family farm land area, the total annual income of households (i) migrant workers, migrant workers in (i) households total annual expenditure, per capita labor number of families in the area, the number of the (i) family of long-term working outside of the sample (the number of households surveyed). In the formula, the minimum access standard is needed to calculate the area of forest land.

Survey report

In Shaanxi Province as a sample, the survey data retrieved from the database of the county in 2014 50 households, the effective area of forest area of $C_{总}$ =30262.5 acres; household consumption amounted to 533000（元 Yuan), the average annual consumption amount of N_0 =10660（元 Yuan); a total workforce of 160 people, the average labor L_0 =3.2 people; the number of migrant workers for a total of 51 people; long-term work total annual income, long-term work total annual expenditure, income and expenditure and forestry results showed in Table 2.

According to the analysis of the opportunity cost theory, without considering other factors, in Tai Bai County in 2014 the state of the economy based on estimates, the forestry development in the area of family area at least 2412.81 acres farmers can earn the equivalent of going out to earn income. From Tai Bai county forestry income situation, ordinary farmers per mu forest land average annual net income of about 20（元 Yuan), the output is very low, the main reason is that most of the families have abandoned in forestry production, no forestry production business income, the forestry income only from the state issued the ecological benefit compensation and other subsidies.

CONCLUSIONS

Family forest with a new round of collective forest right system reform of the completion of the opportunity to live, highlighting its unique advantages, a number of regions have achieved gratifying results. However, practice shows that the problems in the development process including the concept of theory and practice that deviation, emerging standards lack of theoretical basis and identification method does not restrict the scientific development of family farm.

Through the collation and analysis of survey data, the essential characteristics of inductive family farm combing, to see the reality of the family farm is the family as the basic business units, households have more management skills and experience, use a large number of hired labor, the formation of large-scale, intensive management, and the existing concept of the mentioned family farm is a family since the vote labor based this feature has significant deviation. The based on analysis and the results that the essential characteristics of the family tree, the new definition of the family farm, to make up the existing deviation, and to provide the theoretical basis for the establishment of the standard system of family forest. For the first time introduced the opportunity cost theory to establish the measurement model of forest area, forest area and measure the sample County minimum access standards for 2412.81 acres, alleviate the current shortage of forest land area standard method to measure the plight of family farm provides a theoretical and practical methods to improve the woodland area identified around that scientific method in the formulation of standards.

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