
Impact of the Collective Forest Right System Reform on Poverty Reduction and Income Growth for Forest Farmer in Mountain Area — A Case Study of Jiangxi Province, China

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Abstract:

The long term economic growth in China has substantially decreased the population in poverty, but the elimination of poverty is still an arduous task. After entering the new era of poverty alleviation development, most poverty counties concentrated in mountainous areas are the focus of poverty alleviation development, and the collective forest right system reform launched in 2003 will exert far-reaching influence to the economic and social development in mountainous area. This article will take the example of collective forest right system reform occurred in Jiangxi Province, explaining the basic situation of the collective forest right system reform and results, and deeply analyzing the obvious impact of collective forest right system reform to poverty reduction and income increase to foresters in mountainous areas where is strong in resources while backward in economy. This article propose in the last chapter that the poverty alleviation development needs to integrate with the supporting policies issued by state collective forest right system reform, and the circulation of forest land and forest wood shall prevent the occurrence of new poverty due to land losing of foresters. Improving conditions and enhancing quality is the efficient method to eliminate poverty and become wealthy for foresters living in mountainous area.

Key Words: Collective Forest Right System Reform, Poverty Reduction, Forest Farmer

1. PREFACE

Poverty elimination is always one of the objectives that Chinese people are striving for. Since the foundation of new China, especially since the reform and opening up policy, China basically has enough food and clothing and has decreased substantially the poverty population through system innovation and poverty alleviation development in exploring path of socialism with Chinese characteristic. The family contract responsibility system for the reform in rural area is to emancipate and develop productive forces in rural area and then alleviate the extent of poverty problem in rural areas. Based on the poverty standard of Chinese government, the absolutely poverty-stricken population having no enough food and clothing has dropped from 250 million in 1978 to 14.79 million in 2007, and the proportion in total population of rural habitants has dropped from 30.7% to 1.6%; the low income poverty population who have barely enough food and clothing has dropped from 62.13 million in 2000 to 28.41 million in 2007, and the proportion in total population of rural habitants has dropped from 6.7% to 3%(Fan Xiaojian 2008). The collective forest right system reform launched in 2003 is the extension and expansion of household contract responsibility system from arable land to forest land, which will further emancipate and expand the productive force of forestry, promote the increase of forest resources, the income increase of foresters and the virtuous circle of ecological environment. Most of the poverty counties are located in mountainous areas. It is safe to say that the poverty problem can be solved to the maximum extent if we solve the poverty problem in mountainous areas. Some scholars believe that we can realize inflation-proof and increased ecological asset value to forestry, and poverty farmers can embark on the road of prosperity only through innovation to forest ecological assets property system and mobilizing the enthusiasm of government and poverty farmers into construction in areas with fragile ecological environment (Liu Weizhong and etc. 2008). Community forestry has active induction and promotion to poverty alleviation in rural areas. The sustainable poverty alleviation mode, forestry of farmers + technology demonstration mechanism + farmer professional association, is helpful for poverty farmers in mountainous area to change from survival to the industry direction of poverty reduction and become rich (Xu Jiaqi 2004). The poverty alleviation development project with participation of foresters embodies the dominant position status of foresters in community forestry, identifying an efficient solution to eliminate poverty and become wealthy in mountainous areas (Li Weichang 2004). The research achievements about collective forest right system reform and forestry policy expound the reform to collective forest right system and the income increasing function of effective forestry business (Jiang Chunqian 2008; Kong Xiangzhi 2008; Liu Can 2008; Cao Jianhua2004 etc.) The reform to collective forest right system is bound to exert far-reaching influence to the

poverty reduction and prosperity for the foresters living in mountainous areas. This article will provide analysis to the influence of collective forest right system reform to eliminate poverty and increase income for foresters living in mountainous areas based on the case of collective forest right system reform occurred in Jiangxi province.

2. THE BASIC SITUATION OF COLLECTIVE FOREST RIGHT SYSTEM REFORM AND THE EFFECTS IN JIANGXI PROVINCE

The forestland area of Jiangxi province is 159 million mu, which accounts for 63.5% of total area; the volume of living woods has reached 350 million cubic meters and the forest coverage is 60.05%. Forestry possesses extremely important position in the national economy and social development of Jiangxi. Along with the in-depth development of reform and opening up policy together with the gradual improvement of socialist market economic system, the profound problems in the forestry development of Jiangxi province is increasingly obvious with the increasingly outstanding problems of backward development of forestry and forest region. Although there are comparatively high forest coverage and favorable ecological environment that have provided advantageous conditions of verdant mountains and green rivers for Jiangxi, the abundant mountain and forest resources have not exerted social and economic benefits, the large resources province has not turned into strong forestry province and the ecological benefits, economic benefits and social benefits have not exerted in full play. The reason include unclear property and right definition of forestry, indirect benefits, disconnection among responsibility, rights and benefits, overburden of tax charges, non activation of business system, nonstandard circulation. The above all reason are the major bottleneck for the restriction of forestry development. In August 2004, Jiangxi province launched the collective forest right system reform in the whole province with the main content of establishing clear definition of property and rights, reducing tax charges, activating business and standardizing circulation. In order to reflect the effects of collective forest right system reform, Jiangxi Statistics Bureau and Provincial Forestry Department jointly carried out the special investigation targeting at the income increase of farmers and the labor force transfer following the forest reform by the province, the investigation will mainly focus on the income change of the farmers obtaining from forest, the selling price changes of wood and bamboo, the circulation price change of forest resources, income change of foresters in forest production and business activities, tax burden changes, labor force transfer for forestry production, production and business change of social investment to forestry and etc before and after forestry reform. The investigation includes 92 counties bearing forestry reform mission, 276 demonstration counties, 2484 demonstration households and the focus of investigation will include the reform effects of collective forest

right system in 12 key forestry counties such as Chongyi, Suichuan and Tonggu¹.

Tax reduction is one of the important content in collective forest right system reform. The major reform to collective forest right system is to define property and rights, identify the status of business body of farmers, constructing the basis of economic micro business dominant position. Farmers, as the operator body under market economic conditions, will pursue the maximum to economic benefits and the investment and production business decision will be made after comparison to returns and cost based on the features of forestry business. The definition of business body of farmers does not necessarily means the drive of farmers for forest business activities. Long periodicity, high risk, heavy assets of forestry will increase the cost for forestry business. Low benefits and high cost will not able to motivate farmers enough. It is an important measure to reduce tax so as to enhance the benefits and lower the cost of forestry business, and further motivate the enthusiasm of farmers for engaging in production and business activities of the forestry. The data from sheet 1 shows the tax reduction of 752 million yuan through policies and measures to alleviate tax charges, such as cancellation to tax on agricultural specialty products to wood and bamboo, cancellation of autonomous charges in city, county, town and village level, adjustment to the average billing basic price of woods raising fund, standardization to VAT and the collection scope of income tax.

**Sheet 1 Statement of tax reduction and profit-taking set of
foresters from forestry reform by Jiangxi Province**

	Condition of profit-taking set
Cancellation to tax on agricultural specialty products to wood and bamboo	164 million yuan
Cancellation of autonomous charges in city, county, town and village level	230 million yuan
Adjustment to the average billing basic price of woods raising fund	157 million yuan
Standardization to VAT and the collection scope of income tax	201 million yuan

Remarks: This statement is made based on the special investigation made jointly by Jiangxi Statistics Bureau and Provincial Forestry Department in 2006.

Thanks for tax reduction and business activation, and together with the trend of increasing

¹ This information is derived from the statistics special investigation jointly promote the forestry reform in the whole province to promote the income increasing of farmers and labor force transfer by Jiangxi Statistics Bureau and Provincial Forestry Department.

demand for forest resources product for a long run, foresters and other economic dominant position have favorable expectation to forestry business and the expected value and price of forest resources circulation keeps rising. Sheet 2 shows the circulation price changes of Chinese fir plantations and pine plantations in 2004 before the reform, and in 2005 and 2006 after the reform, and also the rental price changes of bamboo plantations and barren mountains.

Sheet 2 Statement of circulation price changes of forest resources before and after forestry reform

	2004 before forestry reform	2005	2006
Average circulation price of Chinese fir plantations (yuan/mu)	501.02	707.02	1041.98
Average circulation price of pine plantations (yuan/mu)	340.10	505.79	736.42
Bamboo annual rental price (yuan/mu)	47.01	71.79	107.69
Barren mountains average rental price (yuan/mu)	11.22	22.23	31.41

Remarks: This statement is made based on the special investigation made jointly by Jiangxi Statistics Bureau and Provincial Forestry Department in 2006.

During July to August in 2009, author has made investigation about the circulation of forest land in five counties and cities of Jiangxi Province, such as Xinfeng, Chongyi, Ganxian, Shangyou and Ruijin. The above five counties and cities are major forestry counties in Jiangxi Province. All forest coverage is above 73% except Xinfeng whose forest coverage is 66.9%. Sheet 3 listed the rental price of bamboo forest and barren mountains to the investigated counties and cities.

There is evident increase in income and investing forest land by farmers due to tax reduction and the increased expected value to forestry business activities. Sheet 4 and Sheet 5 shows farmers' average pure income of forestry industry after 2005, the average cash income of forestry, the average invested capital to forestry and the total afforested area of forestry in Jiangxi, and the obvious increase of employees in forestry than 2004. Based on the above description statistics of information, we can have a direct understanding to the obvious effects and motivation function to the income increase of foresters who have more forest land area following the reform of collective forest right system.

**Sheet 3 Statement of expected rental price of bamboo, forest land and barren mountains
and the number of people who would like to lease and rent**

Barren Mountains			Bamboo and forest land		
Price (yuan/(year mu))	No. of people for leasing	No. of people for renting	Price (yuan/(year mu))	No. of people for leasing	No. of people for renting
∞	97	0	∞	103	0
80yuan/mu and above	64	2	200 yuan/mu above	51	7
60-80 yuan/mu	83	9	150-200 yuan/mu	72	10
40-60 yuan/mu	21	24	100-150 yuan/mu	31	35
20-40 yuan/mu	12	93	50-100 yuan/mu	21	77
20 yuan/mu below	4	80	50 yuan/mu below	3	67
0	0	73	0	0	85

Remarks: the data of this sheet originate from actual investigation data.

Sheet 4 Income change statement of foresters before and after forestry reform

	2004 Before forestry reform	2005	2006
Average pure income of forestry (yuan)	288.33	370.26	490.7
Average cash income of forestry (yuan)	143.86	207.44	301.71
Average capital investment in forestry (yuan)	115.82	158.9	182.18

Remarks: This statement is made based on the special investigation made jointly by Jiangxi Statistics Bureau and Provincial Forestry Department in 2006.

**Sheet 5 Afforestation areas and employee change statement
before and after forestry reform**

	2004 before reform	2005	2006
Afforestation area in forestry (ten thousand mu)	11.2	213.13	273.3
Employees in forestry (ten thousand)	95.42	112.03	135.5

Remarks: This statement is made based on the special investigation made jointly by Jiangxi Statistics Bureau and Provincial Forestry Department in 2006.

In 2008, author has made tracing investigation to the reform performance of collective forest right system in Jiangxi including Tonggu, Fengxin, Wuning, Anyi, Ganxian, Shangyou and etc. Author also made questionnaire investigation to the income changes of foresters after the reform of collective forest right system and the results is as below sheet 6. Sheet 6 shows that the increased part of forestry income is as high as 1070 yuan in the major forest counties after the forestry reform.

Sheet 6 Forestry income increase statement for foresters after the forestry reform (2008)

No.	Forest income increased part	No. of people	Total income (yuan)
1	Increased 2000yuan	22	44000
2	Increased 1000-2000yuan	11	16500
3	Increased 500-1000yuan	17	12750
4	Increased 0-500 yuan	10	2500
5	No Changes	15	0
	Average		1070

Remarks: The data of this sheet originate from actual investigation data.

**3. THE IMPACT OF COLLECTIVE FOREST RIGHT SYSTEM REFORM ON
POVERTY REDUCTION AND INCOME GROWTH**

Based on the information of the added value of the primary industry in most of cities and counties of Jiangxi Province (see sheet 7), this article provides comparative analysis between 2002 and 2003 before the forestry reform and 2004 and 2005 after the reform, and also comparative analysis to the two types of high coverage and low coverage based on 50% forest

coverage of most of counties and cities in Jiangxi province.

Sheet 7 Comparative analysis information of most cities and counties in Jiangxi Province

Provincial Cities	Counties and cities
Ganzhou City	Gan County, Xinfeng County, Dayu County, Shangyou County, Chongyi County, Anyuan County, Longnan County, Dingnan County, Quannan County, Ningdu County, Yudu County, Xingguo County, Huichang County, Xunwu County, Shicheng County, Ruijin City, Nankang City
Ji'an City	Ji'an County, Jishui County, Xiajiang County, Xingan County, Yongfeng County, Taihe County, Suichuan County, Wanan County, Anfu County, Yongxin County, Jingganshan City
Fuzhou City	Nancheng County, Lichuan County, Nanfeng County, Chongren County, Le'an County, Yihuang County, Jinxi County, Zixi County, Dongxiang County, Guangchang County
Yichun City	Fengxin County, Wanzai County, Shanggao County, Yifeng County, Jingan County, Tonggu County, Fengcheng City, Zhangshu City, Gaoan City
Jiujiang City	Jiujiang County, Wuning County, Xiushui County, Yongxiu County, De'An County, Xingzi County, Duchang County, Hukou County, Pengze County, Ruichang County
Shangrao City	Shangrao County, Guangfeng County, Yushan County, Qianshan County, Hengfeng County, Yiyang County, Yugan County, Boyang County, Wannian County, Maoyuan County, Dexing City

Remarks: This sheet excludes Yingtan, Pingxiang and other districts.

Based on the correlative comparison between the added value data of primary industry from 2002 to 2005 and the forestry reform, we can have the results as sheet 8. The first variable represents the added value from primary industry, the second variable represents whether there is forestry reform or not; 2002 and 2003 represent the time before forestry reform and the valuation is 0, 2004 and 2005 represent the time after forestry reform and the valuation is 1. After deducting the economic growth impact of time factor, the results shows that the forestry reform has remarkable positive impact to the whole province.

Sheet 8 Related coefficient analytical statement

		Added value from primary industry	Forestry reform or not	Forest coverage rate
Added value from primary industry	Pearson	1	.331(**)	-.176(**)
	Correlation			
	Sig. (2-tailed)	.	.000	.004
		N	268	268
Forestry reform or not	Pearson	.331(**)	1	.000
	Correlation			
	Sig. (2-tailed)	.000	.	1.000
		N	268	268
Forest coverage rate	Pearson	-.176(**)	.000	1
	Correlation			
	Sig. (2-tailed)	.004	1.000	.
		N	268	268

** Correlation is significant at the 0.01 level (2-tailed).

After comparison analysis to both types of high coverage rate and low coverage rate based on 50% forest coverage rate, the third variable represents forest coverage rate; the valuation is 1 if the forest coverage is higher than 50%; the valuation is 0 if low coverage rate is lower than 50%. Please refer to sheet 8 for the results of comparison. The results shows the added value of primary industry in the above counties and cities is negative correlation with the high-low region of forest coverage rate, which illustrates that counties and cities with high coverage has rich forest resources but with low added value of primary industry, and counties and cities with less forest resources have comparatively high added value of primary industry. The results also verified the opinion that mountainous area is backward in economic development but with rich resources, and also the judgment made by decision-makers of Jiangxi province about that *Although there are comparatively high forest coverage rate and favorable ecological environment that have provided advantageous conditions of verdant mountains and green rivers for Jiangxi, the abundant mountain and forest resources have not exerted social and economic benefits, the large resources province has not turned into strong forestry province and the ecological benefits, economic benefits and social benefits have not exerted in full play.* In the meantime, it reflects from another side the obvious functions of forestry reform to the added value of primary industry in mountainous areas, which has promoted the income increase to foresters on the whole and reduced their poverty.

Jiangxi Province has 21 state-level poverty counties and most of counties have a forest coverage rate higher than 50% which are typical mountainous areas and forest areas. Sheet 9 listed the forest resources statement of poverty counties and cities in mountainous areas of Jiangxi Province.

Sheet 9 Forest resources statement of some poverty counties and cities in mountainous areas of Jiangxi Province (data from 2006)

Name	Country quantity	Collective forest area (hectare)	Collective forest storage (cubic meters)	Bamboo forest area (hectare)
Xiushui County	153941	200635	5939303	1584.4
Gan County	118323	137977	3608599	3102.1
Shangyou County	63387	61611	2602428	9371.8
Anyuan County	68142	120819	3483050	2278.5
Ningdu County	157042	179638	5985763	5291.5
Yudu County	172925	124319	3448327	3607.4
Xingguo County	146498	145063	3738682	1532.2
Huichang County	88124	136574	4050411	1240.1
Xunwu County	59681	103902	3380525	3002.5
Suichuan County	119110	106645	6196859	20659.6
Yongxin County	87228	79137	3983658	2369.5
Jinggangshan City	24072	52485	4499043	11548.7
Guangchang County	45956	61630	2322206	3955.1
Total	1304429	1510435	53238854	69543.4
Average for each household		1.16	35	0.001

The reform to collective forest right system in Jiangxi Province implemented most of collective mountainous forest to the household of farmers. The data in sheet 9 shows that the farmers in poverty counties and cities in mountainous areas of Jiangxi obtained, on average, 1.16 hectare collective forest land, 35 cubic meters of forest storage, 0.001 hectare bamboos forest. According to the investigation conducted by Jiangxi Statistics Bureau and Forestry Department, the property right and business rights after added above forest resources assets can reach 16 thousand yuan of economic value based on the forest circulation price in 2006 and the bamboo annual rental price. A considerate portion of farmers in poverty counties and cities in mountainous areas of Jiangxi belongs to household in poverty. The reform to collective forest

right system makes it possible for farmers to add important production resources, creating a better necessary condition for poverty alleviation, poverty reduction and becoming rich.

4. SOME THOUGHTS ABOUT COLLECTIVE FOREST RIGHT SYSTEM REFORM AND ACCELERATING POVERTY REDUCTION AND PROSPERITY IN MOUNTAINOUS AREAS

System together with several key variables of resources and technological factors has vitally important function to the economic growth in an area. The implementation of household contract responsibility system is a solution to provide enough food to 1300 million populations, and the performance of system is undoubtedly tremendous. Similarly, the reform of the collective forest right system has far-reaching influence to the foresters living in mountainous areas and we can see obvious effects since the launch of reform until now. But the deeper process of the reform remains many problems to be recognized and solved. As to the poverty counties, they also have their characteristics. The reform to collective forest right system shall be integrated with the policies of poverty alleviation development to realize better results.

One of the core content for Chinese collective forest right system reform is to implement the property of business rights and forest to collective forest to household and define the business dominant position status of farmers before maintaining the same ownership of the collective forest; to extend village family contract responsibility system from arable land to forest land so as to enrich and improve rural land management system with the purpose to further emancipate and develop productive force in rural areas. For farmers who have confirmed business dominant position, his production operational decision and investment decision about forestry development is made based on the maximum net earning from business activity cost benefits comparison. Due to the long periodicity, high risk and strong external effects, and moreover the geographical area and natural conditions are in big diversity for forestry operating activities, household's enthusiasm for operation will be enhanced if the forest land has potential high profitability; correspondingly, household's enthusiasm will be decreased if the forest land has low profitability. The supporting reform to the collective forest right system includes improvement to forest cutting management mechanism, circulation to forest land and forest woods, establishment of public financial system to support collective forestry development, acceleration of financing reform to forestry investment and improvement to socialized services of forestry. The purpose is to create better conditions for forestry economy, change the ratio of cost and benefits, and stimulate the enthusiasm of foresters to increase forestry operation. Currently these contents of supporting reforms are under the process of implementation and

intensification. But for poverty counties in mountainous areas, the above supporting reforms and measures must be integrated with the measures of poverty alleviation development, such as the capital from the supporting system of public finance department about capital to infrastructure together with the capital to poverty alleviation, integration of forestry investment and financing with poverty alleviation credit capital, the integration of socialized service system of forestry with the technical training to farmers of poverty alleviation development, combination of regional directional policy and the directional policy of specific group, so as to promote the development of forestry in mountainous areas and promote foresters to increase their income and alleviate poverty.

The circulation of forest land and forest wood is to facilitate the flow of production factors toward more efficient direction, promoting forestry management business to realize proper scale operation. But during the circulation process, we must prevent the occurrence of following situation, that is household in poverty circulate their forest land management right and forest ownership obtained from the reform to collective forest right system due to their economic difficulties, and new poverty occurred consequently following their losing land and lack of life security. Another is the unsuitable areas for dwelling in some remote mountains and reservoirs areas. From the opinion of poverty alleviation development, the move of immigrants is to move the household living in unsuitable areas for dwelling in some remote mountains and reservoirs areas to live in new areas, which is a new method of poverty alleviation development; immigrants move can be carried out combined with forest land circulation, that is from one aspect, forest land will be transferred to scale operation, and in another aspect immigrants can have better life in the new areas that is more suitable for living and development.

Condition improvement, quality enhancement, opportunity creation (Zhang Zhihao 2007) is the abstraction and summary to poverty alleviation development, and is also an illustration that enhancing the quality of foresters bears great importance to their poverty reduction, income increase and prosperity, especially the individual quality of foresters plays key role in deciding the net earning from forestry business activities after confirming the business dominant position of forest farmers. Therefore, we shall strengthen the trainings to technology, operation capacity and overall quality of foresters while combining the construction of socialized services system; we shall include foresters into the overall network system of forestry chains of production and business, which will accelerate the forestry development and poverty reduction and prosperity in impoverished mountainous areas. This is the most effective method.

REFERENCES

- [1] Cao Jianhua, 2004, *Commercial Forest Management: Environment and Economic Analysis and Policies* [M], Beijing: China Forestry Publishing House.
- [2] Fan Xiaojian, 2009, *Poverty Alleviation Development Performance by Our Country is a Tremendous Contribution to the World*,
http://www.cpad.gov.cn/data/2009/1010/article_341321.htm.
- [3] Fan Xiaojian, 2009, *Speech Made by Fan Xiaojian, Director of the State Council Office of Poverty Alleviation, during His Poverty Alleviation Development Inspection Made in Jiangxi Province*, <http://www.pado-jx.gov.cn/2009-3/200932164530.htm>.
- [4] *Jiangxi Statistical Yearbook 2002-2007*
- [5] Jiang Chunqian, 2008, *South China Collective Forest Property Right Reform and Study* [M], China Forestry Publishing House.
- [6] Kong Xiangzhi [etc.], 2008, *Collective Forest Right System Reform and Public Product Supply in Rural Areas* [M], China Renmin University Press.
- [7] Liu Can, 2008, *China Collective Forest System and Forestry Development* [M], Beijing: Economy and Science Publishing House.
- [8] Liu Weizhong etc., 2008, *Exploration to the Poverty Alleviation Development Mode of Forest Ecological Engineering in Inland Arid Areas* [J], *Ecological Economy*, 2008.12.
- [9] Li Weichang etc. 2004, *Community Forestry: the New Channel for Mountainous Areas to Realize Poverty Reduction, Green China*[J], 2004.24.
- [10] Xu Jiaqi etc., 2004, *Discussion about Sustainable Poverty Alleviation Development Mode in Community Forestry*[J], *Journal of China Agricultural University*, 2004.01.
- [11] Zhang Zhihao, 2007, *Some Thoughts On Poverty Alleviation Development in New Era*, <http://www.pado-jx.gov.cn/2007-7/200772492037.htm>.
- [12] *The Comments of State Council about Advancement of Collective Forest Right System Reform*, 2008, http://www.gov.cn/jrzg/2008-07/14/content_1044403.htm.