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A Study on Forestry Successors in Korea Focused on Forestry Successors inGueonggi Province

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In Korea, 64%, or approximately 6.4 million ha, of the land is covered with mountains and forests. However, most owners of mountains and forests are not interested in investing in their mountains or forests, for it would be a long–term investment yielding relatively small profits. They are, furthermore, completely unconcerned with forest management. Under these circumstances, the government is beginning to put efforts into continuously cultivating devoted forest managers, forestry successors, and new knowledge foresters in order to activate the management of these private forests. As a result, the number of forestry successors increased from 1,554 in 2005 to 1,829 in 2007. However, most of them did not consider themselves as the leaders of forest management, as the income levels from forest–related businesses was low, and they also had relatively low ambitions when it came to the management of forest resources. While many respondents agreed that they could hardly meet the requirements for receiving state loans or financial support, many other forestry successors wanted to take the loan or wished that the scope of the loan scheme was extended to other areas, so that they could expand the value of their properties by managing accommodation facilities and purchasing forests for business purposes, such as recreation forests and pensions. Therefore, it is necessary to relieve restrictions to the greatest degree possible, and expand and intensify the support for those forestry successors who are actually fully engaged in forest management.

INTRODUCTION

In Korea, 64%, or approximately 6.4 million ha, of the 9.97 million ha of the territory is covered by mountain and forest areas, and 70% of that are privately owned. There were 2.2 million forest households as of 2005, each owning approximately 2 ha of land on average, with 55% of them being resident forest owners, and 45% being non–resident forest owners. However, most owners of mountains and forests are not interested in investing money into their mountains or forests, as doing so would be solely a long–term investment, yielding relatively small profits, most forest owners are rather indifferent toward forest management (Seo *et al.*, 1999). Under these circumstances, the government is continuously cultivating devoted forest managers, forestry successors, and new knowledge foresters into professional foresters that are able to lead private forest management in order to activate the management of private forests. As a result, the number of devoted forest managers increased from 368 in 2005 up to 390 as of 2007, with the number of forestry successors increasing from 1,554 to 1,829. The number of new knowledge foresters increased from 45 up to 558). In 2005, the largest number of forestry successors was found in Gyengsangnam–do and Jeollanam–do, 17% in each province, while Gyeonggi–do had 77 people, 5% of the total (Korea Forest Service, 2006c) (Table 1).

However, there have as yet been few studies on forestry successors in Korea[1)]. Therefore, this study examined the various support mechanisms of the government for forestry successors, examining the problems of current policy for cultivating forestry successors through empirical investigation, and searching for a direction for development in the future.

Table 1. Status of Forestry Successors by Year and Region

	Division	Forestry Successors (Persons)
By Year	2001	1,047
	2002	1,139
	2003	1,238
	2004	1,364
	2005	1,554
By Region	Gyeongsangnam–do	268(17.2)
	Jeollanam–do	267(17.2)
	Gyeongsangbuk–do	235(15.1)
	Gangwon–do	215(13.8)
	Chungcheongnam–do	204(13.1)
	Jeollabuk–do	191(12.3)
	Chungcheongbuk–do	91(5.9)
	Gyeonggi–do	77(5.0)
	Jeju Island	1(0.1)
	Other	5(0.3)

Note: Value in ( ) represents the distribution ratio (%).
Source: Korea Forest Service. 2006 Forestry Statistical Yearbook.

METHODS OF STUDY

The List of Devoted Forest Managers and Forestry Successors published by Korea Forest Service in 2005 was used for sampling, and the field survey was performed among 71 forestry successors in 14 cities and counties among 31 cities and counties of Gyeonggi–do Province (Korea Forest Service, 2005a). However, only

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17 in Gwangju, Yangpyeong–gun, and Gapyeong–gun were able to respond to the survey through interviews, as the locations of the forestry successors were not clear, some of which having moved to other areas, and absent for long periods of time. The survey was performed through direct interviews during a one–month period from the beginning to the end of May, 2007, and the survey was constituted with the reproduction structure involved with the organization of manpower · organization of income · land management status · forest management status, and agricultural and forestry management plans, as well as support for forestry successors and difficulties in forest management. The data were analyzed by age, scale of land, and scale of forests.

RESULTS AND DISCUSSION

Requirements for Forestry Successors and Support Systems

Definitions and Requirements for Forestry Successors

The Forest and Mountain Village Development Promotion Act defines a forestry successor as a person who has the intent and competence to engage in forestry for the succession and development of forestry, and is qualified as per the requirements specified by the Agriculture and Forestry Ministry Ordinance. The requirements for a forestry successor are as follows: a son or daughter of an individual devoted forest manager under the age of 50, who is engaged in forestry according to the forest management plan; a person who owns 3 ha or more of forest; a person who lent 10 ha or more of national or public–owned forest areas, or who is eligible to participate in the profit sharing forest program, or; a person who produces or wish to produce seeds and seedlings for the forestation, the quality of which equals or exceeds the standards announced by the Chief of the Korea Forest Service, of mushrooms, dwarf trees, wild flowers, wild edible greens, and other forest products (Korea Forest Service, 2005a).

Support for Forestry Successors and Progress

According to the Forest and Mountain Village Development Promotion Act, forestry successors have the priority over others to financial assistance or loans required for operating a forestry business, support for purchasing equipment and materials required for operating forestry businesses, and for those forestry successors with excellent management performance records, rewards and overseas training programs. The progress report and the plan show that the government secured 75.4 billion won for the forestry policy fund in 2005 to foster forestry into a viable industry, by stably providing long–term funds at a low interest rate to foresters, and eight billion won of this was provided under the title of the fund for cultivating devoted forest managers, forestry successors, and new knowledge foresters. 15 people received overseas training and 20 people received rewards. In 2007, the government also secured eight billion won as a fund for cultivating devoted forest managers, forestry successors, and new knowledge foresters, and is currently planning to give 20 people overseas training opportunities. Secondly, a scholarship program for the children of forestry successors is provided to encourage foresters, and on–the–spot discussions with forestry successors and meetings with mountain and forest owners are being held continuously in order to eliminate any difficulties in the field. Thirdly, professional training in each forest management field, as well as consigned training for forestry successors, are being provided through the model school for forest management, in order to enhance forest management capacities. Fourth, various supportive measures, such as maintaining the exemption or the reduction of comprehensive real estate holding tax, inheritance tax, donation tax, acquisition tax, and registration tax, continuous and expanded supplies of tax–exempted oil, and chestnut insurance are being examined to encourage forest management (Korea Forest Service. 2005b; Korea Forest Service, 2006a; Korea Forest Service, 2006b). However, there were many forestry successors who complained about the requirements they had to meet in order to received loans for purchasing forest land, and pointed out problems regarding the support provided and the system currently employed by the government.

Case Study on Forestry Successors in Gyeonggi–do

Reproduction Structure

a) Organization of Manpower

In 17 households that responded to the survey, 45 people were aged 20 or older, and the average number of people in a household was 2.6. Respondents were mostly in their 40s and 50s, in respective order, and eight of the 17 forestry successors were in their 40s. Nine others were in their 50s, and their average age was 49 (Table 2).

Table 2. Distribution of Manpower (Unit: persons)

Division	Total	Male	Female
Total	45 (100.0)	22	23
20s	1 (2.2)	1	
30s	3 (6.7)		3
40s	18 (40.0)	9	9
50s	12 (26.7)	9	3
60s	2 (4.4)	1	1
70s	9 (20.0)	2	7

Note: People under the age of 20 were excluded.

b) Cultivation Land and Forest Scale

Concerning 17 households that responded to the survey, one household did not own land, and the total area of the land owned by 16 households was 32 ha, (rice fields 12 ha, fields 20 ha). The average land area of all households was 1.9 ha. However, two households occupied more than half, over 16 ha, of the total land area of 32 ha. The total area of the forest owned by all 17 households was 733 ha, and the average forest area was 43 ha. However, the average forest area owned by the four households owning an area greater than 30 ha was 144 ha (Table 3). While 15% of the cultivated land was

on lease, 60% of the forest was owned.

c) Land Ownership Status

Concerning the purchase of cultivated land and forest areas, 57%, or 15 ha, of the total area owned was inherited, with the remainder purchased at a later stage −6 ha in 1990 and 5 ha in 2000. Concerning the forests, 85% or 255 ha of the total 297 ha area was owned through inheritance, and the rest was purchased later; 25 ha in 1990 and 17 ha in 2000. There were various reasons for purchase, such as stabilization of livelihood, agro–forestry management, and the increase of land prices (Table 4).

Concerning the disposal of cultivated land and forest areas, 84%, or 8.4 ha, of the total 10 ha area of the cultivated land was sold in the 2000s, and 68%, or 17 ha, or the total 25 ha forest area was disposed of in the 1990s. The cultivated land was mostly disposed of by those who were in their 50s or older, and in households managing

Table 3. Status of Cultivated Land and Forest (Unit: ha)

	Division	Cultivated Land			Forest		
		Total	Owned	Leased	Total	Owned	Leased
Age	Total (17)	31.6 (100.0)	26.9 (85.1)	4.7 (14.9)	732.8 (100.0)	296.8 (40.5)	336.0 (59.0)
	Average	1.9	1.6	0.3	43.1	17.5	25.6
	40s (8)	14.9	11.9	3.0	109.3	103.3	6.0
	50s (9)	16.7	15.0	1.7	623.5	193.5	430.0
Forest	Less than 10 ha (6)	11.1	7.4	3.7	39.5	33.5	6.0
	10–20 ha (5)	5.7	5.2	0.5	73.3	73.3	
	20–30 ha (2)	10.3	10.0	0.3	46.0	46.0	
	30 ha or higher (4)	4.5	4.3	0.2	574.0	144.0	430.0
Cultivated Land	Not managed (1)				330.0		330.0
	Less than 1 ha (8)	4.4	3.8	0.6	180.0	174.0	6.0
	1–2 ha (4)	6.2	5.0	1.2	134.0	34.0	100.0
	2–3 ha (2)	5.1	5.1		53.8	53.8	
	3 ha or higher (2)	15.9	13.0	2.9	35.0	35.0	

Note: 1. Value inside ( ) under 'Division' indicates the number of households.
2. Value inside ( ) indicates the distribution ratio (%).

Table 4. Status of Purchases of Cultivate Land and Forest (Unit: ha)

	Division	Total		Inherited		1990s		2000s	
		Cultivated Land	Forest	Cultivated Land	Forest	Cultivated Land	Forest	Cultivated Land	Forest
Age	Total (17)	26.8 (100.0)	296.8 (100.0)	15.2 (56.7)	254.8 (85.4)	6.3 (23.5)	24.8 (8.4)	5.3 (19.8)	17.2 (5.8)
	Average	1.6	17.5	0.9	15.0	0.4	1.5	0.3	1.0
	40s (8)	11.8 (100.0)	103.3 (100.0)	11.8 (100.0)	86.3 (83.5)				17.0 (16.5)
	50s (9)	15.0 (100.0)	193.5 (100.0)	3.4 (22.7)	168.5 (87.1)	6.3 (42.0)	24.8 (12.8)	5.3 (35.3)	0.2 (0.1)
Forest	Less than 10 ha (6)	7.4 (100.0)	33.5 (100.0)	5.8 (78.4)	22.5 (67.2)				
	10–20 ha (5)	5.1 (100.0)	73.3 (100.0)	5.1 (100.0)	73.3 (100.0)				
	20–30 ha (2)	10.0 (100.0)	46.0 (100.0)		27.0 (58.7)	5.0 (50.0)	19.0 (41.3)	5.0 (50.0)	
	30 ha or higher (4)	4.3 (100.0)	144.0 (100.0)	4.3 (100.0)	143.0 (99.3)		0.8 (0.6)		0.2 (0.1)
Cultivated Land	Not managed (1) Less than 1 ha (8)	3.7 (100.0)	174.0 (100.0)	2.9 (100.0)	174.0 (100.0)	0.5 (13.5)		0.3 (8.1)	
	1–2 ha (4)	5.0 (100.0)	34.0 (100.0)	4.2 (100.0)	22.0 (64.8)	0.8 (16.0)	5.8 (17.1)		6.2 (18.2)
	2–3 ha (2)	5.1 (100.0)	53.8 (100.0)	5.1 (100.0)	42.3 (100.0)				11.0 (20.4)
	3 ha or higher (2)	13.0 (100.0)	35.0 (100.0)	3.0 (23.1)	16.0 (45.7)	5.0 (38.5)	19.0 (54.3)	5.0 (38.5)	

Note: 1. Value inside ( ) under 'Division' indicates the number of households.
2. Value inside ( ) indicates the distribution ratio (%).

Table 5. Status of the Disposal of Cultivated Land and Forest (Unit: ha)

Division		Total		1990s		2000s	
		Cultivated Land	Forest	Cultivated Land	Forest	Cultivated Land	Forest
Age	Total (17)	10.0 (100.0)	25.0 (100.0)	1.6 (16.0)	17.0 (68.0)	8.4 (84.0)	8.0 (32.0)
	Average	0.6	1.5	0.1	1.0	0.5	0.5
	40s (8)	0.8 (100.0)	2.0 (100.0)			0.8 (100.0)	2.0 (100.0)
	50s (9)	9.2 (100.0)	23.0 (100.0)	1.6 (17.4)	17.0 (73.9)	7.6 (82.6)	6.0 (26.1)
Forest	Less than 10 ha (6)		3.0 (100.0)				3.0 (100.0)
	10–20 ha (5)	1.7 (100.0)	1.7 (100.0)			1.7 (100.0)	1.7 (100.0)
	20–30 ha (2)	3.7 (100.0)	7.0 (100.0)	1.6 (43.2)	7.0 (100.0)	2.1 (56.8)	
	30 ha or higher (4)	4.6 (100.0)	1.3 (100.0)			4.3 (100.0)	1.3 (100.0)
Cultivated Land	Not managed (1)	4.3 (100.0)	1.3 (100.0)			4.3 (100.0)	1.3 (100.0)
	Less than 1 ha (8)	3.8 (100.0)	10.0 (100.0)		10.0 (100.0)	3.8 (100.0)	
	1–2 ha (4)		4.7 (100.0)				4.7 (100.0)
	2–3 ha (2)	0.3 (100.0)	2.0 (100.0)			0.3 (100.0)	2.0 (100.0)
	3 ha or higher (2)	1.6 (100.0)	7.0 (100.0)	1.6 (100.0)	7.0 (100.0)		

Note: 1. Value inside ( ) under 'Division' indicates the number of households.
2. Value inside ( ) indicates the distribution ratio (%).

more than 3 ha of land. The forest areas were mostly disposed of by those who were in their 50s or older in those households managing more than 30 ha of forest. On the other hand, the reason they disposed of their land and forests were mostly financially oriented, including the need to raise funds for tuition for children and the redemption of debt (Table 5).

d) Household Gross Income Status

The average gross household income of forestry successors was 98 million won, higher than the national average of farmhouse incomes for 2005, 30 million won. The household income of resident employee households in city areas, by comparison, was 39 million won (Ministry of Agriculture and Forestry, 2006). Concerning the distribution of gross household income, forestry represented 25%, pine nut processing represented 24%, stationary wage labor represented 19%, and livestock represented 10%. People in their 50s had roughly twice the gross income than people in their 40s. The source of gross income for those in their 40s was constituted by stationary wage labor (44%) and livestock farming (16%), and that of those in their 50s, forestry (36%) and pine nut processing (35%). Concerning the scale of forest businesses, the average gross income of households owning less than 10 ha of forest was greater than the average gross income of all households, while that of other households was less than the average. Forestry constituted 81% of the gross income of the households owning 30 ha of forest area, with pine nut processing constituting 43% of the gross income of the households owning less than 10 ha of forest area, stationary wage labor representing 57% of the gross income of those households owning 10–20 ha of forest area, and livestock farming representing 43% of the gross income of those households owning 20–30 ha of forest area. Concerning the scale of cultivated land, the average gross income of households that owned 1–2 ha of land was more than twice the average gross income of all households, while that of other households was less than the average. Forestry was the sole source of income for households that did not own any land for cultivation, while stationary wage labor constituted 42% of the total income of those households that owned less than 1 ha of land. Pine nut processing constituted 51% of the total income of those households that owned 1–2 ha of land, livestock farming constituted 37% of the total income of the households that owned 2–3 ha of land, and 75% of the total income of the households that owned more than 3 ha of land. However, those households that enjoyed high average gross income levels were those engaged in pine nut processing. The gross income levels of these households were 400 million won, constituting 24% of the average gross income of all households. On the other hand, the forestry income was made mostly from Codonopsis lanceolate, and then lumbering, pine nut, and fatsia shoots in respective order. However, the one person who engaged in cultivating Codonopsis lanceolate and the one person engaged in lumbering constituted 73% and 24% of the total forestry income, respectively, with livestock income being made mostly from ox,

Table 6. Status of Gross Household Income (Unit: one million won)

Division		Total	House–hold Avera–ge	Forestry	Pine Nut Process–ing	Stationar–y Wage Labor	Livesto–ck Farming	Agricul–ture	Mushr–oom	Apicul–ture	Landsca–pe Plant	Pine Nut Produ–ction	Tempora–ry Wage Labor	Other
Age	Total (17)	1,669 (100.0)	98.2	413 (24.7)	400 (24.0)	319 (19.1)	168 (10.1)	129 (7.7)	78 (4.7)	10 (0.6)	8 (0.5)	2 (0.1)	1 (0.1)	141 (8.4)
	40s (8)	518 (100.0)	64.8			230 (44.4)	85 (16.4)	78 (15.0)	60 (11.6)		8 (1.5)			57 (11.0)
	50s (9)	1,151 (100.0)	127.4	413 (35.9)	400 (34.8)	89 (7.7)	83 (7.2)	51 (4.4)	18 (1.6)	10 (0.9)		2 (0.2)	1 (0.1)	84 (7.3)
Forest Scale	Less than 10 ha (6)	922 (100.0)	153.6	100 (10.8)	400 (43.4)	158 (17.1)	60 (6.5)	57 (6.2)	50 (5.4)	10 (1.1)	8 (0.9)	2 (0.2)		77 (8.4)
	10–20 ha (5)	248 (100.0)	49.6	5 (2.0)		141 (56.9)	13 (5.2)	28 (11.3)	28 (11.3)					33 (13.3)
	20–30 ha (2)	128 (100.0)	64.0	8 (6.3)		20 (15.6)	55 (43.0)	25 (19.5)						20 (15.6)
	30 ha or more (4)	371 (100.0)	92.8	300 (80.9)			40 (10.8)	19 (5.1)					1 (0.2)	11 (3.0)
Cultiva–ted Land	Not managed (1)	300 (100.0)	300	300 (100.0)										
	Less than 1 ha (8)	361 (100.0)	45.1	3 (0.8)		153 (42.4)	10 (2.8)	47 (13.0)	40 (11.1)		8 (2.2)			100 (27.7)
	1–2 ha (4)	788 (100.0)	197.0	102 (12.9)	400 (50.7)	151 (19.2)	18 (2.3)	35 (4.4)	38 (4.8)	10 (1.3)		2 (0.3)	1 (0.1)	31 (3.9)
	2–3 ha (2)	67 (100.0)	33.5			15 (22.4)	25 (37.3)	17 (25.3)						10 (14.9)
	3 ha or more (2)	153 (100.0)	76.5	8 (5.2)			115 (75.2)	30 (19.6)						

Note: 1. Value inside ( ) under 'Division' indicates the number of households.
2. Value inside ( ) indicates the distribution ratio (%).

deer, and goat in respective order (Table 6).

Forest Management Status

a) Commencement of Forest Work

17 households in the survey commenced forest management processes, such as thinning and natural forest, representing 18% or 130 ha of the total forest area of 733 ha. 89% of this work was thinning, however pruning was included in thinning. 64% of the people in their 40s had commenced forestry work, whereas only 9% of those in their 50s had begun forestry work. More of those who owned less forest and more cultivated land had started forestry work.

Species subjected to thinning were mainly Korean white pine, larch, and pitch pine, and half of the cost was self–provided, with the other half being subsidized. Four households used thinning logs as agricultural materials or fire logs, and one household disposed of them to earn five million won. However, other households left the thinning logs in the field. On the other hand, only 50 households performed natural forest tending, and more of those who had less forest and cultivated land commenced forest management. Five households used the byproducts from natural forest tending for cultivating oak mushrooms, earning approximately 63.2 million won (Table 7).

b) Utilization of Forests

Concerning the utilization of the forest areas, Codonopsis lanceolate was the most popular item, followed by pine nuts, oaks, larch, pitch pines, and other plants, in respective order. However, Codonopsis lanceolate, which represented 45% of the utilization of the forest areas, was planted by a single household that did not own land, by leasing 27 ha of national forest and 303 ha of private forest land. On the other hand, other tree species planted in the surveyed areas included chestnut trees, Korean raisin trees, white birch, lacquer trees, fatsia, and landscape plants. Artificially afforested species, such as pine nuts, larch, and pitch pines, were mostly 30 years old. However, many households almost gave up harvesting pine nuts due to damage caused by the Eurasian Red Squirrel, risks in the collection, and the increase in labor costs. Therefore, some households were interested in planting special purpose trees, such as Korean raisin trees, white birch, lacquer trees, and fatsia, that were able to yield profits in the short term (Table 8).

c) Agricultural and Forestry Management Plans

To the question regarding the major source of income for the household economy, six households answered that it was agriculture, five households answered self–employment, three households answered livestock, two households answered oak mushrooms, and one household answered forest management. Concerning the scale of cultivated land, nine households wished to expand, six households wished to maintain their current scale, and two households wished to

Table 7. Status of Forest Management (Unit: ha)

Division		Forest Area	Managed Area / Forest Area (%)	Managed Area		
				Total	Thinning	Natural Forest Tending
Age	Total (17)	723.8	17.8	130.0 (100.0)	116.6 (89.4)	13.8 (10.6)
	40s (8)	109.3	63.6	69.5 (100.0)	69.5 (100.0)	
	50s (9)	623.5	9.8	60.9 (100.0)	47.1 (77.3)	13.8 (22.7)
Forest Scale	Less than 10 ha (6)	39.5	60.8	24.0 (100.0)	21.5 (89.6)	2.5 (10.4)
	10–20 ha (5)	73.3	60.6	44.4 (100.0)	33.1 (74.5)	11.3 (25.5)
	20–30 ha (2)	46.0	56.5	26.0 (100.0)	26.0 (100.0)	
	30 ha or more (4)	574.0	4.5	36.0 (100.0)	36.0 (100.0)	
Cultivated Land	Not managed (1)	333.0				
	Less than 1 ha (8)	180.0	27.5	49.5 (100.0)	38.2 (77.2)	11.3 (22.8)
	1–2 ha (4)	134.0	18.2	24.4 (100.0)	21.9 (89.8)	2.5 (10.2)
	2–3 ha (2)	53.8	64.1	34.5 (100.0)	34.5 (100.0)	
	3 ha or more (2)	35.0	62.9	22.0 (100.0)	22.0 (100.0)	

Note: 1. Value inside ( ) under 'Division' indicates the number of households.
2. Value inside ( ) indicates the distribution ratio (%).

Table 8. Forest Utilization Status (Unit: ha)

Division		Total	Codonopsis lanceolate	Pine Nuts	Oaks	Larch	Pitch Pines	Other
Age	Total (17)	732.8 (100.0)	330.0 (22.0)	161.5 (22.0)	130.9 (17.9)	63.1 (8.6)	30.0 (4.1)	17.3 (2.4)
	40s (8)	109.3 (100.0)		20.0 (18.3)	32.8 (30.0)	19.5 (17.8)	30.0 (27.4)	7.0 (6.4)
	50s (9)	623.5 (100.0)	330.0 (52.9)	141.5 (22.7)	98.1 (15.7)	43.6 (7.0)		10.3 (1.7)
Forest	Less than 10 ha (6)	39.5 (100.0)		11.5 (29.1)	17.0 (43.0)	8.0 (20.3)		3.0 (7.6)
	10–20 ha (5)	73.3 (100.0)		22.0 (30.0)	27.9 (38.1)	8.1 (11.1)	10.0 (13.6)	5.3 (7.2)
	20–30 ha (2)	46.0 (100.0)		19.0 (41.3)	14.0 (30.4)	7.0 (15.2)		6.0 (13.0)
	30 ha or more (4)	574 (100.0)	330.0 (57.5)	109.0 (19.0)	72.0 (12.5)	40.0 (7.0)	20.0 (3.5)	3.0 (0.5)
Cultivated Land	Not managed (1)	330.0 (100.0)	330.0 (100.0)					
	Less than 1 ha (8)	180.0 (100.0)		88.6 (49.2)	32.8 (18.2)	43.2 (24.2)	10.0 (5.6)	5.0 (2.9)
	1–2 ha (4)	134.0 (100.0)		60.9 (45.4)	64.8 (48.4)	2.0 (1.5)		6.3 (4.7)
	2–3 ha (2)	53.8 (100.0)		3.0 (5.6)	19.3 (35.9)	8.5 (15.8)	20.0 (37.2)	3.0 (5.6)
	3 ha or more (2)	35.0 (100.0)		9.0 (25.7)	14.0 (40.0)	9.0 (25.7)		3.0 (8.6)

Note: 1. Value inside ( ) under 'Division' indicates the number of households.
2. Value inside ( ) indicates the distribution ratio (%).

reduce their scale. The nine households that wished to expand wished to expand the scale of their agricultural and plant landscaping businesses. The two households that wished to reduce scale chose financial circumstances as the reason for such reduction. 13 households wished to expand the scale of their forest business, two households wished to maintain their current scale, and two households wished to reduce theirs. Seven out of the 13 households that wished to expand their scale were planning to develop arboretum, natural forest resorts, and cottages, whereas four other households were planning to plant landscape plants and special purpose plants. The remaining two households were planning to increase their property size. The two households that wished to reduce chose financial circumstances and tax burdens as the reasons for the reductions (Table 9).

Forest Management Conditions of Forestry Successors

a) Support for Forestry Successors

Among the 17 respondents, four people did not benefit from the support program elements of loans and financial assistance. The reason given was that some of them did not apply for the loan as they were afraid that

Table 9. Agro–Forestry Management Plan (Unit: households)

Division		Total	Key Income Resource of Domestic Economy					Cultivated Land			Forest		
			Agric–ulture	Self–Emplo–yment	Lives–toc	Oak Mush–room	Fores–try	Expa–nd	Unch–anged	Redu–ce	Expa–nd	Unch–anged	Redu–ce
Age	Total (17)	17	6	5	2	2	1	9	6	2	13	2	2
	40s (8)	8	4	2	1	1		6	1	1	7	1	
	50s (9)	9	2	3		1	1	3	5	1	6	1	2
Forest Scale	Less than 10 ha (6)	6	1	3	1	1		4	1	1	6		
	10–20 ha (5)	5	2	2	1	1		3	1	1	2	2	1
	20–30 ha (2)	2	1						2		2		
	30 ha or more (4)	4	2				1	2	2		3		1
Cultivated Land	Not managed (1)	3			1		1		1		1		
	Less than 1 ha (8)	8	4	3		1		5	2	1	6	1	1
	1–2 ha (4)	4		2	2	1		2	1	1	3		1
	2–3 ha (2)	2	2	3				1	1		1	1	
	3 ha or more (2)	2		1				1	1		2		

Note: Value inside ( ) under 'Division' indicates the number of households.

it may turn into debt, some applied for the loan but were rejected, and some did not see the investment opportunity for what it was, as they considered the income able to be generated in the forestry field to be insignificant. 14 other people received the support in 17 cases, and most of them were loans. 13 of 17 cases include support for short–term crop cultivation, such as landscape tree planting, oak mushroom cultivating facilities, Codonopsis lanceolate, pine nut processing facilities, and fertilizers for chestnut trees. However, the average loan amount for each case, excluding the 300 million won for pine nut processing facilities and the 150 million won for Codonopsis lanceolate planting, was 38.5 million won. Another four cases involved money for purchasing forests and fields, the development of forest roads, and thinning. However, the average loan amount of three cases, excluding the case for thinning, which cost 20 million won, was 170 million won. The loans made for agro–forestry management offered much more advantageous conditions in terms of the interest rate and the maturity terms, compared with ordinary financial institutes. Despite this, many forestry successors wished to take the loan or wished that the application scope of the loan were expanded in order to increase the value of their assets by purchasing accommodation facilities, such as natural forest resorts rather than engaging in agro–forest management. The reason given was that the surveyed areas, Yangpyeong–gun, Gapyeong–gun, and Gwangju had excellent natural environments with large numbers of visitors from neighboring, densely populated areas, such as the National Capital region and Seoul.

On the other hand, there were other types of support offered, including a variety of information about forest management, training, invitations, and overseas visits to places with advanced forestry management systems, along with financial support. Yet, only eight of the 17 respondents answered that they participated in the overseas visits – on 14 occasions – while nine others answered that they could not, because they did not have the chance to leave. While some respondents showed positive attitudes toward the invitations, training, and the forest management information, many respondents answered that they were not interested, because they did not anticipate a large level of income from forestry.

b) Difficulties in Forest Management

There were many opinions given about the difficulties encountered in forest management. Firstly, concerning the funds required for purchasing forest, respondents complained that the loan conditions, such as excluding those forests and fields costing 10,000 won or more per 9.9 m^2 and that 90% of the total purchased area of the preserved land must be designated for forestry, were unrealistic. Respondents also added that dispersing forests under such unrealistic conditions detracted from the reason justifying the funding program, while collectivization increases the efficiency in forest management. Respondents also mentioned that the loan conditions for other forest businesses were also tough and small–scaled, and expressed the need for an expansion of the support for tax exempted oil, and its stable supply, as it is manifestly required for running the equipment used in forestry operations. Many respondents expressed the belief that the restrictions on the development of resort facilities within forest areas and the support thereof were excessive. They also suggested that the reductions of tax burdens, including the exception of donation taxes while the incomes from forestry businesses were relatively small, should be offered. They also asserted that the support must be expanded to cover more cases, such as those of seedlings, for use when a forestry successor wishes to plant species they want to plant. Many suggested that the support must be given to forestry successors who were actually and fully engaged in forest management. However, many respondents did not consider themselves as leaders of forest management, as the incomes they derived from

forest–related business were small, and because they maintained only limited ambitions to manage forestry resources.

CONCLUSIONS

1. Among the 17 households that responded to the survey, 45 people were older than 20 and the average number of people in each household was 2.6 people. Most respondents were in their 40s and 50s, and the 17 forestry successors were constituted with eight people in their 40s and nine people in their 50s, at an average age of 49.
2. The average size of the land and forest areas owned by the households in the survey was 1.9 ha and 43 ha, respectively. While only 15% of the land was on lease, 60% of the forests and fields were leased.
3. The average gross household income of forestry successors was 98 million won, higher than the national average of farmhouse incomes for 2005, at 30 million won, and the household incomes of city residents, at 39 million won. Forestry represented 25% of the entire gross income, the highest rate, and forestry income was constituted mostly with Codonopsis lanceolate, lumbering, pine nuts, and fatsia shoots, in their respective order of importance.
4. Forest management, including thinning and natural forest tending, represented 18% – or 130 ha – of the entire mountainous and forest areas, and the more places with less mountains and forests, or more cultivated land, tended to exhibit more extensive forest management practices. Species subjected to thinning were mainly Korean white pine, larch, and pitch pines.
5. 13 households planned to expand their scale of forest management, two households planned to maintain their current scale, and two households planned to reduce their scale. However, the reason for such expansion for those seven out of 13 households was to develop arboretum, natural forest resorts, and cottages, that of the four other households was to plant landscape plants and special purpose plants, and the reason for the two remaining households was to expand property. The reason given by the two households planning to reduce their scale of operations was their financial situation and tax burdens.
6. The forestry successor support program, the program developed to provide loans and assistance to forestry successors, was primarily constituted with the support for short–term income yielding items, such as landscape plants, oak mushroom cultivating facilities, Codonopsis lanceolate planting, pine nut processing facilities, and fertilizers for chestnut trees. There were many forestry successors who hoped to take the loan or hoped for the expansion of the scope of the loan, in order to expand their assets by purchasing accommodation facilities, such as pensions and forest resorts, rather than engage in agro–forestry management.
7. Concerning the difficulties faced in forest management, there were many opinions given about improving the strict conditions made for obtaining the loans for purchasing forests and fields, the reductions of tax burdens, relieving restrictions, and providing support for establishing resort facilities in mountain and forest areas. However, most respondents did not consider themselves as leaders of forest management, given the incomes they derived from forestry was low, and they also had limited ambitions to manage forest resources.

The following implications were derived from this study.

1. The government is considering direct support measures by securing more budgetary allocations. However, forestry successors considered that the requirements for receiving loan or assistance were too strict, and found the support offered subsequently difficult to access. Concerning the loan for purchasing forests and fields, there was even one case where the government retrieved the fund by stating that the use of the fund was inappropriate. It appears, therefore, that the support program must be expanded for those forestry successors who are actually and fully engaged in forest management.
2. The forestry successors who responded to the survey did not show enormous interest in going overseas to visit places with advanced agricultural systems, participate in on–the–spot discussions, or participate in the consigned training sessions for forestry successors. This was because they did not see a direct connection to their income earning potential. Therefore, it is necessary to find opportunities to make profit out of forest products, such as thinning logs, expand the use of various facilities that can be replaced with wood, and make more efforts to increase wood consumption by creating the demand in order to encourage more active participation in forest management.
3. Concerning the development of resort facilities inside mountain and forest areas, it is necessary to relieve the restrictions within the scope of observing the forest management goals of the state, and not damage the forests, so as to satisfy the demand for forest resorts, which is increasing every year, and oblige foresters to invest a certain percentage of the income they earn from resort facilities into forest management.
4. The government is offering various measures to promote the investments made by the owners of mountain and forest areas, such as direct support through investments and loans, indirect support through tax support, and the economization of the function of any forest which serves the public interest. However, the reduction of various tax exemptions and reduction programs, and the influence of WTO conventions are expected to cause many difficulties in maintaining such support programs.

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