

Time Use Patterns and the Quality of Life of the Poor and the Non-poor in Rural Areas in Korea*

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ABSTRACT

The purpose of this study is to compare the quality of life of the poor with the non-poor farming households by examining the patterns of time use and life satisfaction. The data were collected using time diary and questionnaire from the 369 rural households in eight provinces of the nation, which were divided into two subgroups based on their annual income, the poor and the non-poor. The questionnaire consisted of questions about the subjective satisfactions of life domains.

The major findings are summarized as follows. The average age of the poor farming household respondents is 10 years higher than that of the non-poor household respondents. The average annual income of the poor farming households was only about one sixth of the non-poor. The major crops of the non-poor farming households are evenly distributed compared to those of the poor.

There is no difference in time use except for non-agricultural activities between the two groups during the peak farming season, but there is a great difference during the slack season. The poor spent less time on farming, social participation, voluntary activities and traveling, but spent more time on housekeeping, social gathering and leisure during the slack season.

The time use difference between peak and slack seasons for the poor and the non-poor farming households can be attributed to the females' use of time rather than that of the males. In other words, time use for men was almost same regardless of poverty levels but women's time use differed by poverty levels and resulted in the longer

working hours for the non-poor women.

The poor tended to show a higher level of satisfaction with married life and a lower level of satisfaction with consumption and living environments than the non-poor.

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I. Introduction

In Korea, the income levels and general welfare conditions of rural residents are very low compared with those of their urban counterparts. Particularly after the 1990s, the annual income of rural households has drastically decreased. Medical services, along with cultural facilities, are concentrated in the cities, and the welfare conditions in the countryside remain inferior. According to official statistics, the monthly average household income of farm households was 112.8% higher than that of urban workers' households in 1985. However, it has drastically fallen since the 1990s down to 78.2% in 2005 (see Table 1). In addition, it has been reported that all medical and cultural services remain unevenly distributed with a 90% concentration in cities (Pak D.S., et.al., 2001).

The statistics also show that this vast difference exists not only between rural and urban areas but within rural areas, as the income disparity between the different classes of rural residents leads to the polarization within the agricultural sector (Ministry for Agriculture and Forestry, 2006). Figures from the 2004 earnings gap between the top 20% and the bottom 20% of rural residents show that the higher earners make 9.3 times more than the lower, a much greater disparity than that found in urban areas where the top 20% earn 5.4 times more than the bottom 20%. This shows how the problem of earnings polarization within the rural population is deepening in comparison to the situation of urban households (Kim, H.J., 2007).

Research up to now has generally focused on a comparative study of the poverty of farming households relative to urban households. However, the relative poverty of rural areas should not be simply compared to the poverty in cities, but it is necessary to grasp the situation of internal disparity within the countryside. Agricultural production system in Korea has changed from a rice and barley-centered system to a more commercialized one centered on fruits, greenhouse and livestock. In this changing period, the farming households that were unable to appropriate the changes in new agricultural methods including those headed by the aged and/or by women, have come to form the poor segment of the rural population.

According to the research conducted by Choi and Roh (1995a), poor farming households have few members and are headed by the aged with little education. In addition, the size of their possessions and arable land is small, and their opportunities to earn income outside agriculture are very limited with low earning levels. Generally, the problem of income in poor families results from, in addition to their low earning potential, the lack of security in such earnings. The sources of their earnings are often unclear and limited; crippled and marked by irregularity. With the absence of the promise of future earnings, poverty becomes intensified. With poor farming families, these tendencies are stronger, and the absolute sum of their earnings is low. Their income stability falls, depending on weather conditions and drops in the prices of agricultural products. They also face the problem of their cash earnings being confined to a particular time frame during the year, e.g., the reaping season.

The pattern of time use and the content of time allocation are essential elements that form the quality of life. For instance, such questions can become a measure of the quality of life as whether time allocation forms a balance between labor, leisure and life's necessities and whether leisure time is adequately maintained. If leisure time increases, the quality of life is generally expected to increase. However, in that time spent in labor is closely related to income, the decrease of labor time affects the amount of earnings, likely to lower one's quality of life. Such is the case of the elderly and the poor class: an increase in leisure time does not lead to the increase in life satisfaction.

Thus, by observing the patterns of time use and the degree of life satisfaction, we attempt to compare quality of life of poor farming households with that of the non-poor. By such comparison, we shall also examine the differences that can be seen between the patterns of time use pertaining to the two groups, and examine whether these patterns

can be used as an important measure to explain the poverty of rural families. Furthermore, we shall analyze the causes of the differences between the two groups.

. Methods

1. The Sample

The sample for this research was selected from the whole nation. Focusing on the Rural Women's Centers from the eight provinces of Korea (excluding Jeju Island), 50 households from each region totaling 400 households were chosen as the sample. Following the 2004 distribution of the number of farming households, households were grouped regionally divided among the main agricultural products: 20 households each for rice and barley; 10 for greenhouse cultivation; 10 for livestock; and 10 for fruits.

2. Data Collection

Data on how the rural population spends time were collected twice: In June 2005, during the peak-farming season and in November of the same year, during the slack season. During both times, time use diaries were distributed to each member of a given household at age ten and older. The self-reporting method was used to gather data, each household member recording his/her actual activities over a two-day period; materials were also gathered through interviews conducted with the subjects, considering their age and level of education. The form of the time diary consisted of recording the subject's use of time in 10 minutes intervals during two days of the peak-farming season and two days of the slack season. Using the content of the time diary as the basis, activities were grouped using the ex post facto coding method. The method of assorting the activities followed the method found in the 2004 Time Use Survey of The Korean National Statistical Office. In addition to the time surveys, questionnaires for life satisfaction were distributed. These questionnaires were used together with the time use surveys used during the peak-farming season, targeting the heads of the household and their spouse. The following is an analysis of 369 cases, the total number of the subjects who completed time use surveys for both the peak-farming and the slack season among the respondents of life satisfaction surveys. The data were analyzed using SPSS 12.0.

. Results

1. The characteristics of poor farming households

The sample was classified into two groups, the poor vs. the non-poor farming households, by the average annual household income. The minimum income for subsistence in 2006 set by the government was 700,800 Korean won per month for a two-member household. This criterion was used as the basis for separating the 60 households under 8,400,000 Korean won (approximately \$9,000) which is the annual income threshold of the poor farming households. Table 2 reveals the characteristics of the poor farming households marked by the respondents. The gender ratio of all research subjects was 6:4, with the number of males surpassing that of females, but men made up only 45% of the poor farming households respondents. The average age of the respondents was 58 for the poor farming respondents, 10 years higher than the average age of 48 for the non-poor respondents. 55% of the respondents were poor farming household respondents at age 60 and over, indicating that the number of the elderly in poor farming household population was much higher than in the non-poor farming household population. The figure reflects how poverty in rural areas has concentrated on elderly farming households. The average annual income of poor farming families grouped into 60 households was 5,725,000 won (\$6,100), only about one sixth of the family income of the non-poor households.

As for the distribution of major crops, rice and barley make up 63.3% of major crops for poor farming households. For the non-poor farming families, rice and barley make up 36.6% of major crops but are supplemented by greenhouse, fruits, and livestock industries. Livestock industry, which yields high earnings, makes up one fourth of major crops of the non-poor farming households. With fruits and greenhouse each making up 20% of major crops, it can be seen that major crops of the non-poor farming households is evenly distributed as compared to those of the poor farming families.

2. The comparison of time use patterns of the poor and the non-poor farming households

The differences of time use between the poor and the non-poor farming household

respondents are shown in Table 3. The differences between the two groups' time use pattern have become more pronounced during the slack season. First, personal maintenance time does not appear to differ between the two groups, either during peak or slack season. In both groups, personal maintenance time increases during the slack season, particularly with the increase in sleeping hours, just as labor time decreases.

Secondly, when examining paid work time, poor farming household respondents spend less time doing agricultural and non-agricultural work both during peak and slack seasons than their non-poor farming counterparts. This difference is statistically significant, with the exception of agricultural work hours during the peak season. The low income of the poor farming households comes from the fact that their paid work time is short. Furthermore, for the poor farming households, the difference in the time spent doing agricultural work depending on the farming season is much greater.

The paid work time of the poor farming households shows a difference of 4 hours and 41 minutes between hours worked during the peak season (7 hours 4 minutes) and hours worked during the slack season (2 hours and 23 minutes). For the non-poor farming households, the difference was 3 hours and 51 minutes (7 hours and 52 minutes during the peak season and 4 hours and 1 minute during the slack season). When considering the large difference between hours worked during the peak season and that worked during the slack season that exists in the rice and barley industry, it can be seen that the marked expression of this difference in the poor farming households shows that the higher rate of their labor is focused on rice and barley. The poor farming households' greenhouse and livestock production figures at about 25%, compared with the rate of the non-poor farming households' production in these industries which lies at 45%.

The poor farming households spent more time on housekeeping than the non-poor farming households did. This difference in housekeeping time was significant during the slack season. The difference in the area of housework was especially significant in food preparation and cooking: time spent on these chores ran longer in the poor farming households during both the peak and the slack seasons. However, such difference in housekeeping time can be seen as originating from the gender ratio of the respondents, rather than the actual difference of the amount of housework being done. Fifty-five percent of the poor farming respondents were females in comparison with only 38% of the non-poor respondents.

There was no difference in the use of family care time between the two groups either during the peak or the slack season.

However, for time spent in social participation and voluntary activities, as well as in social gathering and leisure, there was a significant difference between the two groups. Non-poor farming household members spent more time in social participation and voluntary activities while the poor household members spent more time in social gathering and leisure. The hours engaged in social participation and voluntary activities were low for poor farming household members. It suggests that their average age is relatively high. The longer hours spent in social gathering and leisure for these poor farming household members naturally result from the fact that these subjects spend fewer hours in agricultural labor and in other types of work. Dividing the social gathering and leisure activities into three areas shows that time spent using the media during the slack season for the poor farming households was 30 minutes longer than that for non-poor farming households. But this shows that the poor farming household members are not using their increased leisure time during the slack season actively, given the fact that both the poor and non-poor farming households spend more than half of their total leisure activities hours watching television.

A significant difference between the two groups can also be seen in time spent in traveling and doing other activities during the slack season. It was found that a household member spends more time in traveling during the slack season and that this could be attributed to the fact that there is more time for labor, social participation and voluntary activities during the peak season.

We also looked at whether or not there was a gender difference in time use between the two groups (see Tables 4 and 5). According to Table 4, in the case of male members, there were significant differences in the time spent for non-agricultural work during the peak season and time spent in social participation and voluntary activities, social gathering and leisure for the slack season. There was no difference in the time spent for paid work. However, a big difference was noted when the time use was compared regardless of gender between the poor and the non-poor farming households. There was also no difference in housekeeping time for the male subjects.

When activities were examined in detail, male poor farming household members

spent more time in social gathering and leisure than the non-poor farming household males. The result shows that there was less difference in time use during the slack season between the male respondents than when the two groups' use of time was compared without regard to gender.

Table 5 compares the time use difference in females of the poor farming households and of the non-poor farming households. There was significant statistical difference in the women's time spent in non-agricultural labor during the peak season compared with non-agricultural labor, housekeeping time, social participation and voluntary activities during the slack season. This is to say that, compared to the poor farming household females, the non-poor farming household females spent more time in paid work and in social participation and voluntary activities. The poor household females, on the other hand, spent more time for housekeeping, social gathering and leisure than the non-poor females.

Tables 4 and 5 show that the time use difference between peak and slack seasons for the poor and non-poor farming households can be attributed to the females' use of time rather than that of the males. In other words, time use for men was almost same regardless of poverty levels but women's time use differed in regard to poverty levels and resulted in the longer working hours for the non-poor farming household women.

3. The life satisfaction of the poor and the non-poor family members

Among the elements that make up the standards for quality of life, life satisfaction was examined by two dimensions. One is the level of subjective life satisfaction with work and leisure, family and neighbor relations, economic life, environments of community, and the one's living environment. The other is the general measure of overall satisfaction with individual and family life.

Table 6 shows the life satisfaction levels perceived by the heads and their spouses of the entire farming households. Examining the satisfaction levels by the specific domains that make up the quality of life, the satisfaction level with one's living environment for the poor farming households shows a significant difference. The level of consumptions and marital relations, among the designated areas of satisfaction, shows a marked difference. Compared to the non-poor farming family members, the

poor family members show less satisfaction with consumption yet higher satisfaction with married life.

A general comparison of life satisfaction levels shows no significant difference for individual life, but the non-poor household members showed a higher satisfaction with family life than their poor counterparts. For the poor farming households, satisfaction with objective conditions such as economic life and living environment, as well as satisfaction with general family life, was lower than that of the non-poor households. Thus, there is a relatively urgent need to improve these areas to raise the quality of life for the poor farming family members. On the other hand, the poor farming household members' satisfaction with marital relations is high, showing how affective relationships between couples play an important role in maintaining the lives of poor farming household members.

IV. Conclusions and discussions

The following are the conclusions drawn from a comparative study of the quality of life levels for the poor and non-poor farming households by examining the patterns of time use and subjective life satisfaction.

First, the patterns of time use for farming households can serve as an index to show their quality of life. That is to say, paid labor time in farming households was an important variable that predicted the farming households' earnings; the length of paid labor time, which included both agricultural and non-agricultural labor, differed according to poverty levels.

The specific differences in time use pattern for the poor and non-poor farming households became more apparent during the slack than the peak season. While their time spent on housekeeping and social gathering and leisure activities was long, the poor farming family members' time spent in agricultural and non-agricultural labor, social participation and voluntary activities, traveling and other activities was short in comparison to time spent in these activities by the non-poor family members. During the peak season, the poor farming family members' time spent in non-agricultural work was shorter. The comparatively shorter time spent by poor farming household members in paid work time, including both agricultural and non-agricultural work, shows the

direct relationship between paid work time and income.

Secondly, the types of crop and industry that the families are engaged in and the age of the family members also are related to the difference in work time between the poor and non-poor farming households. The rate of engagement in traditional crop of rice and barley for poor farming households was high as well as the number of the elderly. Rather than seeing the problem of poverty in rural areas at the individual level of laziness or inertia, it must be addressed as a difference in the ability to adapt to the market changes related to the scale of agricultural production, specialization, and expansion of opportunities for non-agricultural work. This concurs with the results of the research conducted by Kim, H.J. (2007). Furthermore, because poor farming households are generally led by heads and their spouses of advanced age, family sponsored transfer income used currently should be replaced by government assistance for the sake of protecting the income of elderly farming family members. This report supports the research findings that urge the expansion of public, government-sponsored transfer income such as pensions for government workers and the elderly, as well as basic life protection allowance for citizens (Kim, Y. D., 2005).

Thirdly, subjective life satisfaction can also be used as an index to measure the quality of life in farming families. As levels of life satisfaction differ according to poverty levels, the poorer one is, the lower the satisfaction level. A detailed look at the results of the analysis shows that poor farming family members fare low in the satisfaction with objective domains of life such as economic and living environment, as well as with family life in general.

Lastly, our research also shows that life satisfaction for the non-poor farming households was not high, according to the breakdown of levels at different areas. As this situation has worsened with policies of open trade such as that established by the Korean-America FTA pact, it is of necessity all the more to set up measures to raise the earnings of the farming households, as well as various other welfare countermeasures to improve the quality of life for the members of the farming communities.

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■ Tables

Table1. Comparison of income level between urban and rural families

Year	Urban worker family(A)	Farm family(B)	B/A (%)
1975	65,540	72,744	111.0
1985	423,788	478,021	112.8
1995	1,911,064	1,816,880	95.1
2005	3,250,837	2,541,918	78.2

Source: Kim, H.J. (2007). Family problems of the rural society and policy

recommendations in an age of polarization.

(Data: Korea National Statistical Office, Annual report of urban household (Urban worker family), Statistics of farm household economy (Farm family), each year)

Table2. The characteristics of the poor and the non-poor farming households

		Whole		Poor		Non-poor	
		N	%	N	%	N	%
gender	Male	218	59.1	27	45.0	191	61.8

	Female	151	40.9	33	55.0	118	38.2
Age	20's - 30's	72	19.5	6	10.0	66	21.4
	40's	137	37.1	10	16.7	127	41.1
	50's	90	24.4	11	18.3	79	25.6
	60's	56	15.2	25	41.7	31	10.0
	70's	14	3.8	8	13.3	6	1.9
Income per year (Korean won)	Under 10million	67	18.1	60	100.0	7	2.3
	10million-20million	112	30.4	-	-	112	36.2
	20million-30million	68	18.4	-	-	68	22.0
	30million-40million	46	12.5	-	-	46	14.9
	40million-50million	36	9.8	-	-	36	11.7
	Over 50million	40	10.8	-	-	40	12.9
Major crops	rice and barley	151	40.9	38	63.3	113	36.6
	greenhouse	72	19.5	10	16.7	62	20.1
	fruits	63	17.1	7	11.7	56	18.1
	livestock	83	22.5	5	8.3	78	25.2

Table3. Time use of the poor and the non-poor

(unit: Hr.:Min.)

Activities	Peak Season		t-value	Slack Season		t-value	
	Poor (N=60)	Non-poor (N=309)		Poor (N=60)	Non-poor (N=309)		
Personal Maintenance	9:24	9:13	.932	10:21	10:18	.178	
sleep	7:03	6:57	.623	7:52	7:46	.463	
Meals	1:48	1:46	.312	1:47	1:51	-.453	
Related activities	0:33	0:30	.832	0:42	0:41	.164	
Paid Work	Agricultural work	7:04	7:52	-1.572	2:23	4:01	-3.613***
	Non-agricultural work	0:04	0:29	-4.377***	0:06	0:25	-3.087**
Housekeeping	1:46	1:16	1.915	3:36	2:18	3.563***	
Cooking	1:06	0:41	2.079*	2:08	1:08	3.042**	
Laundry	0:13	0:10	.929	0:14	0:09	1.349	
Cleaning	0:16	0:14	.615	0:28	0:23	.814	
Related activities	0:11	0:11	.041	0:46	0:38	.716	
Family Care	0:45	0:25	1.324	0:35	0:25	1.013	
Social Participation and Voluntary Activities	0:19	0:12	1.011	0:07	0:29	-3.722***	
Social Gathering and Leisure	3:06	3:05	.068	5:50	4:33	3.102**	
Media	1:14	1:16	-.144	2:53	2:23	2.117*	
Socializing	0:36	0:41	-.490	1:21	1:03	1.559	
Hobby and related activities	0:49	0:53	-.505	0:52	0:43	1.168	
Related activities	0:27	0:15	1.867	0:44	0:24	2.066*	
Traveling	1:10	1:05	.484	0:58	1:24	-2.852**	
Others	0:22	0:23	.069	0:04	0:07	-2.031*	

p<.05 ** p<.01 *** p<.001

Table4. Time use of the poor and the non-poor in case of men

(unit: Hr.:Min.)

Activities		Peak Season		t-value	Slack Season		t-value
		Poor (N=27)	Non-poor (N=191)		Poor (N=27)	Non-poor (N=191)	
Personal Maintenance		9:50	9:16	1.841	10:39	10:21	.883
sleep		7:24	6:56	1.780	8:06	7:49	1.017
Meals		1:53	1:47	.633	1:53	1:49	.425
Related activities		0:33	0:32	.217	0:40	0:43	-.502
Paid Work	Agricultural work	7:38	8:34	-1.297	3:45	4:40	-1.357
	Non-agricultural work	0:03	0:29	-3.940***	0:10	0:27	-.872
Housekeeping		0:38	0:35	.172	1:49	1:25	1.025
Cooking		0:13	0:15	-.185	0:54	0:27	1.602
Laundry		0:04	0:04	.207	0:05	0:02	1.090
Cleaning		0:10	0:08	.505	0:14	0:17	-.365
Related activities		0:11	0:09	.239	0:35	0:39	-.240
Family Care		0:30	0:17	.714	0:35	0:18	.653
Voluntary Activities		0:10	0:12	-.174	0:07	0:31	-3.099**
Social Gathering and Leisure		3:38	3:08	1.154	5:50	4:45	2.055*
Media		1:30	1:19	.797	2:53	2:35	.478
Socializing		0:39	0:40	-.021	1:21	1:02	2.263*
Hobby and related activities		0:56	0:58	-.156	0:52	0:46	.919
Related activities		0:32	0:11	.217	0:44	0:22	1.626
Traveling		1:11	1:10	.071	0:58	1:26	-4.590***
Others		0:22	0:23	.312	0:04	0:07	-1.019

* p<.05 ** p<.01 *** p<.001

Table5. Time use of the poor and the non-poor in case of women

(unit: Hr.:Min.)

Activities	Peak Season		t-value	Slack Season		t-value	
	Poor (N=33)	Non-poor (N=118)		Poor (N=33)	Non-poor (N=118)		
Personal Maintenance	9:03	9:09	-.444	10:06	10:14	-.408	
sleep	6:46	6:58	-.974	7:40	7:42	-.178	
Meals	1:44	1:45	-.068	1:42	1:54	-1.001	
Related activities	0:33	0:27	.970	0:44	0:38	.815	
Paid Work	Agricultural work	6:35	6:45	-.225	1:16	2:59	-3.841***
	Non-agricultural work	0:05	0:28	-2.318*	0:02	0:20	-2.307*
Housekeeping	2:42	2:22	.826	5:03	3:45	2.457*	
Cooking	1:48	1:24	1.643	3:09	2:13	1.858	
Laundry	0:20	0:20	.005	0:22	0:20	.149	
Cleaning	0:21	0:24	-.444	0:39	0:34	.597	
Related activities	0:12	0:14	-.351	0:53	0:37	.907	
Family Care	0:57	0:39	.916	0:38	0:35	.179	
Voluntary Activities	0:26	0:13	.923	0:08	0:25	-2.135*	
Social Gathering and Leisure	2:35	2:59	-.871	5:35	4:12	2.889**	
Media	1:01	1:09	-.706	3:00	2:04	2.776**	
Socializing	0:34	0:43	-.706	1:04	1:03	.034	
Hobby and related activities	0:42	0:45	-.191	0:48	0:37	1.018	
Related activities	0:22	0:22	-.025	0:43	0:28	1.155	
Traveling	1:09	0:57	1.158	1:00	1:20	-.998	
Others	0:23	0:26	-.458	0:05	0:08	-1.484	

* p<.05 ** p<.01 *** p<.001

Table6. Life Satisfaction of the poor and the non-poor ^a

	Poor (N=60)	Non-poor (N=309)	t-value
Work and Leisure	2.99	2.91	.747
Work	2.93	3.02	-.683
Domestic division of work	3.48	3.20	1.737
Leisure	2.54	2.53	.116
Relations with families and neighbors	3.90	3.81	1.256
Marital relations	4.24	3.84	2.722**
Parents-children relations	3.90	4.01	-1.185
Relations with relatives	3.77	3.62	1.534
Relations with neighbors	3.73	3.76	-.356
Economic life	2.52	2.74	-1.987
Level of incomes	2.47	2.68	-1.548
Level of consumption	2.64	2.90	-2.030*
Whole economic life	2.42	2.65	-1.735
Environment of Community	2.96	2.87	.794
Healthcare service	3.26	3.17	.683
Education service	2.69	2.70	-.079
Administrative service	3.24	3.16	.667
Facilities for Culture and leisure	2.62	2.52	.714
Living environment	3.09	3.32	-1.995*
House	2.93	3.17	-1.569
Durables	3.29	3.47	-1.567
Whole life satisfaction			
Family life	3.39	3.66	-2.454*
Individual life	3.10	3.26	-1.291

a Level of satisfaction was measured by 5 point Likert-type scale

* p<.05 ** p<.01 *** p<.001