

Aspect of Post-retirement Farmer on Agricultural Labor Force

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Summary

In the present, the number of aging farmers has demonstrated a remarkable growth. In particular, the population aged over 60 years mainly engaged in farming has risen over 50% in 2000. Concerning this increase of the population mainly engaged in farming, the number of post-retirement farmers is a relevant factor in supplementing the increase. The term "post-retirement farmer" can be defined as farm household members who mainly engage in non-agricultural jobs and after retirement from non-agricultural jobs resume agriculture on the full time basis. In agricultural sector, post-retirement farmer has played a role in contributing to either the enlargement of agricultural land or the prevention of the transfer of agricultural land to other sector. Thus, the purpose of this study is to consider the aspect of post-retirement farmers on agricultural labor force.

Key words: post-retirement farmer, Aging Farmer, part-time farm household

1. Introduction

The development of economic growth has given rise to a change in population in rural areas. The change in agricultural population in Japan began in the 1955s. That is, due to the high development in the non-agricultural sector in the latter half of 1970, the younger farm labor force in rural areas has been forced to move out of agriculture leading to a decrease in farm population. From this viewpoint, one may say that the massive outflow of younger farm labor force has left an older farm labor force in agricultural production. As a result, the number of ageing farmers has made remarkable progress; especially, the population aged over 60 years mainly engaged in farming has shown a growing number. The increase in this population mainly engaged in farming can be attributed to the number of post-retirement farmers. The word "*post retirement farmer*" is defined as farm household members who mainly engage in a non-agricultural job and change to only an agricultural job after retiring from a non-agricultural job. In other words, post-retirement farmers can be attributed part time farm household members who resume agricultural work after retiring from non-farm jobs.

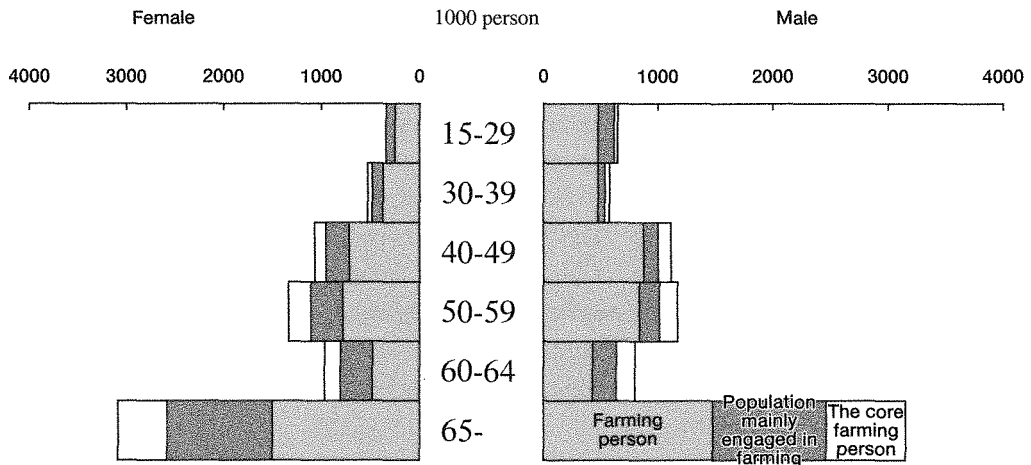
Post-retirement farmer can be classified into three main groups as follows. *First*, "the full time post-retirement farmers" are those who engage in non-agricultural jobs and live together with farm household and after retirement from non-agricultural jobs change to agriculture on the

full time basis. *Second*, “the U-turn post-retirement farmers” are those who engage in non-agricultural jobs and live outside of the village in urban areas, and after retirement from non-farm jobs return to the farm village to engage in agricultural jobs. *Third*, “the new post-retirement farmers” are those who are non-farm households that live in urban areas and enter farm villages to engage in agricultural jobs after retirement from non-agricultural jobs as a new farm household. Among the three types, the full time post-retirement farmer has taken up the highest proportion and has shown an increasing trend. Moreover, based on the pension income, post-retirement farmer can be divided into three types as follows. *First*, post-retirement farmers at early retirement age who are aged 50-54 years. *Second*, post-retirement farmers at first period retirement age who are aged 55-59 years. *Third*, post-retirement farmers at second period retirement age who are aged 60-69 years (Sawada, 2003).

The number of post-retirement farmers has begun growing up since 1990s by reason of the collapse of the bubble economy. Post-retirement farmer has played a role in preventing the transfer of agricultural land to other sectors and contributing agricultural organization as an operator of machinery in farming villages.

2. Ageing Farm Labor Force

By age group, Japan has occupied the highest proportion of population mainly engaged in farming aged 55-64 years and over 65 years in comparison with the developed countries. According to the Ministry of Agriculture, Forestry and Fisheries and Eu (Eurostat), the proportion of population mainly engaged in farming aged 55-64 years shows a significant rate at 24.4% in Japan, 16.3% in England and 12.7% in France. The rate of population mainly engaged in farming aged over 65 years old is 51.2% in Japan, France-3.9% and England-7.8%. The increasing number of ageing farmers has implied the following points. *First*, the younger generations are those who have moved out of agriculture to engage in non-farm job. *Second*, the impact of the promo-



Source: Agricultural Census

Figure I: Farm Labor Force by Age group in 2000

tion of the policy to transfer agricultural land to other sectors has forced the ageing farmers to continue farming to maintain agricultural land. *Third*, the increasing numbers of post-retirement farmers and the extension of the retirement age from agriculture for elder farmers have supported the growing number of ageing farmers (Uchida, 1998).

As shown in Figure I, by age group, the rate of agricultural population aged over 65 years increases by 28.6% in 2000 compared to 13.7% in 1975; in contrast, the population mainly engaged in farming and the core-farming persons occupy 52.9% and 51.2% in 2000 respectively. According to the Ministry of Agriculture, Forest and Fisheries, although the percentage of farm household members aged over 65 years will increase from 28.4% in 2000 to 35.1% in 2020, the total number of farm household members will decline from 13,172 (10000 persons) in 2000 to 6,810 (10000 persons) in 2020. As a result, the total number of farm household members will have steeply fallen, as the number of aging farm household members will be in rising.

3. The Number of Post-retirement farmer on Agricultural Area

A. Through Population mainly engaged in farming

The number of post-retirement farmers can be conceived via statistics of either population mainly engaged in farming or the working condition of farm household members. Concerning the population mainly engaged in farming, the cohort method is used to compare the population mainly engaged in farming at the beginning of the 5-year period with the end of the 5-year-period having become five years older. As shown in Table I, comparing the group aged 55-59 in 1990 with the age group of 60-64 years in 1995, the result exhibits the positive figure as +3.78%. It means that the population mainly engaged in farming aged 55-59 years in 1990 aging to be the group aged 60-64 years old in 1995 has increased 3.78% in 1990-1995. On the other hand, the number in 1995-2000 using the same comparison as in 1990-1995 has increased by 13.29% over in 1990-1995. This increasing number in 1990-1995 and 1995-2000 has confirmed the number of post-retirement farmer, especially; the increasing number in 1995-2000 has indicated the significant rise of the number of post-retirement farmers. The increasing figure of the group aged 55-59 years old in 1995-2000 is 1.39% that means second generations who engage in non-agricultural jobs and enter agriculture after retirement from non-farm jobs. The age group of 60-69 years in 1995-2000 has also shown an increase of 15.76%. Both figures have shown post-retirement farmer at first period retirement age and post-retirement farmer at second period retirement age.

By regional differences, Table II presents the movement of those who resume farming after retirement from non-agricultural jobs. Concerning the increasing rate in the group aged 60-64 years; almost all regions other than Chugoku area demonstrate an increasing rate in 1995-2000 rather than the increasing rate in 1990-1995. In particular, in 1995-2000 Tohoku area has taken up the highest number at 10,063 persons; in contrast, Shikoku area has accounted for the least number at 3,800 persons. Additionally, the five regions Tohoku, Hokuriku, Tokai, Kinki and Chugoku in 1995-2000 exhibit those who resume farming in both post-retirement farmer at first period retirement age and post-retirement farmer at second period retirement age. Except for the Kanto and Shikoku areas, show those who resume farming only post-retirement farmer at first pe-

riod retirement age equal to 463 and 327 persons respectively. The Shikoku area also explains those who resume farming at early retirement from non-agricultural jobs or the so-called post-retirement farmer at early retirement age.

Table I: The Rate of Population mainly engaged in farming (Male, Female) by Cohort Method

Age Group \ Year	Increase/Decrease by Cohort Method (%)	
	1990-1995	1995-2000
15-19	-	-
20-24	△9.95	△7.10
25-29	2.05	0.30
30-34	1.73	2.62
35-39	△3.46	△0.46
40-44	△4.54	△2.62
45-49	△3.24	△2.16
50-54	△0.86	0
55-59	△1.29	1.39
60-64	3.78	13.29
65-69	△7.03	2.47
70-74	△15.25	△11.12
75-	△46.75	△56.41

Source: Agricultural Census

Table II: The Movement of Post-retirement Farmer by Regional Differences (Commercial Farm Household)

Unit: person

Year \ Region	Increase and Decrease in Number (person)											
	1990-1995						1995-2000					
	50-54	55-59	60-64	65-69	70-74	75 †	50-54	55-59	60-64	65-69	70-74	75 †
Hokkaido	-1,748	-2,738	-4,616	-5,565	-5,020	-5,538	-1,129	-1,293	-1,963	-3,371	-2,775	-3,803
Tohoku	-3,296	-5,149	-1,847	-12,363	-17,366	-20,155	-488	639	10,063	2,799	-9,272	-22,142
Hokuriku	-443	2	3,181	-765	-5,158	-9,580	650	1,874	7,152	3,497	-3,523	-11,648
Kanto	-4,296	-6,817	-1,905	-17,431	-28,785	-47,544	-12	463	8,746	-5,349	-24,543	-56,368
Tokai	-26	69	5,338	1,059	-4,692	-16,500	986	1,947	9,442	7,179	1,046	-15,725
Kinki	-377	161	4,278	-251	-4,214	-13,046	1,002	1,746	5,777	2,091	-3,330	-14,023
Chugoku	175	745	7,691	795	-6,911	-23,481	259	1,170	7,565	2,183	-7,478	-28,399
Shikoku	-434	-857	2,089	-2,647	-6,033	-12,896	125	327	3,800	-33	-4,940	-14,749
Kyushu	-3,814	-6,980	-3,299	-14,475	-19,470	-25,982	-616	-277	7,089	-3,996	-15,767	-30,321

Source: The Write Report, 2001

B. Through the Working Situation of Farm Household Member by Age Group

As Table III shows, considering the group aged 60-64 years of farm household members, the increasing number of those who engage only in agriculture has confirmed the number of post-retirement farmers while the number of those who only engage in non-farm jobs has decreased. Thus, it can be seen that there are many persons entering the process of retirement from non-farm jobs and reverting to agriculture. With regard to the pension income, we have found that there is an enlargement of the number of both post-retirement farmers at first period retirement age and

post-retirement farmers at second period retirement age in 1995-2000. Namely, the age group of 55-59 years and 60-69 years in 1995-2000 shows an increase in number of 14,926 persons and 120,215 persons respectively.

Table III: Working Condition by Age Group

Year In-crease/ Decrease	Household member by working condition					Unemployment
	Age group	Only engaged in farming	Mainly engaged in farming	Mainly engaged in non-farm job	Only engaged in non-farm job	
1990-1995	55-59	Δ 5,962	Δ 6,198	Δ 79,504	Δ 2,151	+7,842
	60-64	+40,997	Δ 6,056	Δ 139,105	Δ 3,213	+18,889
	65-69	Δ 45,734	Δ 19,398	Δ 119,528	Δ 2,226	+28,490
	70-74	Δ 123,104	Δ 17,532	Δ 63,678	Δ 2,278	+48,019
1995-2000	55-59	+14,926	Δ 3,435	Δ 60,725	Δ 12,179	Δ 5,174
	60-64	+85,631	+437	Δ 133,559	Δ 10,296	Δ 5,305
	65-69	+34,584	Δ 19,048	Δ 136,037	Δ 7,463	Δ 9,008
	70-74	Δ 45,353	Δ 26,640	Δ 89,003	Δ 5,501	Δ 1,605

Source: The White Report, 2000

4. The Important Role of Post-retirement farmer on Agricultural Production and Agricultural Land

The role of maintenance of agricultural land according to agricultural policy has been entrusted to the ageing farmers in rural areas. In this respect, post-retirement farmer has played an important role as a farm labor force in agricultural organization, for example, being an operator of machinery in rural areas. Thus, it is reasonable to conclude that post-retirement farmer has established the system of being once-again productive person on agriculture and prevented the transfer of agricultural land to other sectors (Takahashi, 2002). Likewise, post-retirement farmer has encouraged a large number of aging farmers; however, post-retirement farmer is a factor that handicaps the development of independent farm management. In respect of the extension of agricultural land, post-retirement farmer has been able to enlarge agricultural land by a rental land. According to the results of rearranged agricultural census, post-retirement farmer has occupied 0.88 ha per household, as the total farm household is 1.2 ha per household. Since the 1990s, the cultivated land area of post-retirement farmer has increased 3,970 ha. The increase in cultivated land area can be explained in terms of the rental land. The rate of rental land for post-retirement farmer has increased 4,459 ha or 60% since 1990. However, the increase of rice cultivated land area of post-retirement farmer at 9,541 ha has less than that of the total farm household equal to 110,747 ha. Yet, the increasing rate of rice cultivated land area of post-retirement farmer since 1990 at 17% has exceeded that of total of farm household at 6%. In briefly, in spite of the cultivated land area of post-retirement farmer being less than 1 ha, they can enlarge the cultivated land area through the rental land. Almost post-retirement farmers have opted to engage in the traditional rice cultivation leading to slow down in the number of farm households with rice cultivation.

5. The Tendency of Post-retirement farmer next two Decades

In this study, post-retirement farmer has been roughly estimated through Cohort Method from the future data predicted by Uchida (2001). The result of prediction reveals that in the case of males, the population mainly engaged in farming will decrease from 17,224 (100 person) in 2000 to 14,401 (100 persons) in 2010 and 13,669 (100 persons) in 2020. The population mainly engaged in farming less than 65 years old will drop from 7,354 (100 persons) (42.7%) in 2000 to 3,652 (100 persons) (26.7%) in 2020. In contrast, the rate of the population mainly engaged in farming over 65 years old is going to increase from 57.3% in 2000 to 73.3% in 2020 though the total number of population mainly engaged in farming over 65 years old will decrease from 9,870 (100 person) in 2000 to 10,017 (100 persons) in 2020. By age group, almost all groups show a fall in number but for those over 75 years old will show a bit of an increase from 3,328 (100 person) (19.3%) in 2000 to 6,536 (100 persons) (47.8%) in 2020 (Table IV). In the case of females, the population mainly engaged in farming is going to decrease from 21,711 (100 persons) in 2000 to 15,958 (100 persons) in 2020. Considering the population less than 65 years old mainly engaged in farming the amount will show a decline in number rather than the amount for those over 65 years old. The number for less than 65 years old will drop from 11,005 (100 person) (50.7%) in 2000 to 5,576 (100 persons) (34.9%) in 2020. In contrast, the group aged over 65 years old is estimated to be an increase from 49.3% in 2000 to 65.1% in 2020 while the total number is going to be a decline from 10,706 (100 persons) in 2000 to 10,381 (100 persons) in 2020 (Table IV).

Table IV: Population Mainly Engaged in Farming by Male and Female in 2000-2020 (National Level)

Unit: 100 persons

Year Age	2000		2005		2010		2015		2020	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
15-29	1,494	977	1,223	810	991	673	800	533	690	457
30-34	240	534	216	477	208	460	188	416	139	307
35-39	370	781	261	549	234	494	226	477	205	431
40-44	578	979	400	699	281	492	253	443	244	428
45-49	835	1,271	642	982	458	701	323	494	290	444
50-55	909	1,469	900	1,453	696	1,124	496	802	350	565
56-59	926	1,923	979	2,021	968	1,997	749	1,545	534	1,102
60-64	2,002	3,071	1,492	2,290	1,570	2,410	1,552	2,382	1,201	1,843
65-69	3,107	3,842	2,291	2,829	1,709	2,110	1,798	2,221	1,778	2,195
70-74	3,435	3,602	2,944	3,090	2,169	2,276	1,618	1,698	1,703	1,787
75-	3,328	3,262	4,234	4,145	5,116	5,008	5,830	5,708	6,536	6,399
Total	17,224	21,711	15,580	19,346	14,401	17,747	13,834	16,719	13,669	15,958
65-	9,870 (57.3%)	10,706 (49.3%)	9,469 (60.8%)	10,064 (52.0%)	8,994 (62.4%)	9,395 (52.9%)	9,247 (66.8%)	9,626 (57.6%)	10,017 (73.3%)	10,381 (65.1%)

Source: The authors calculated data from comparison future agricultural population predicted by Uchida with population mainly engaged in farming in 2000

In addition, only the group aged over 75 years will show an increase in number from 326,200 persons in 2000 to 639,900 persons in 2020. As mentioned above, it can be said that although the total population mainly engaged in farming for both males and females will decline, in both the population aged over 65 years mainly engaged in farming shows a predominant increase.

Table V: Post-retirement farmer by Cohort Method for Male and Female in 2000-2020 (National Level)

Unit: 1000 persons

Year Age	Increase/Decrease (100 person)							
	2000-2005		2005-2010		2010-2015		2015-2020	
	Male	Female	Male	Female	Male	Female	Male	Female
50-54	+7	+18	+6	+14	+4	+10	+3	+8
55-59	+7	+55	+7	+55	+5	+43	+3	+30
60-64	+56	+37	+59	+39	+58	+38	+45	+29
65-69	+29	△24	+22	△12	+23	△19	+23	△18
70-74	△17	△75	△12	△55	△9	△41	△10	△43
75-	+253	+272	205	+223	146	+158	91	+109

Source: The authors calculated data by using the cohort method

In respect of post-retirement farmer, the results are shown in Table V. For males, the age group of 60-64 years of population mainly engaged in farming will show an increasing figure of 56,000 persons in 2000-2005 and 59,000 persons in 2005-2010, but later the increase figures in 2010-2015 and 2015-2020 will be less than the former figure equal to 58,000 persons and 45,000 persons respectively. The increase in the figures may indicate the movement of post-retirement farmers and the number for male will show a greater amount than females. In contrast, the increasing number of the group aged 60-64 years for females will exhibit an increase from 34,000 persons in 2000-2005 to 39,000 persons in 2015-2010. The movement of the increasing figure for females explains the decreasing trend in the number of post-retirement farmers since 2010-2015. The increasing number in 2005-2010 for males will predominantly show the greatest amount because of the retirement of those who were born at the peak period of birth, 1947-1949. The increasing rate of the age group of 55-59 years old for male is going to decrease from 7,000 persons in 2000-2005 to 3,000 persons in 2015-2020. On the other hand, the same age group of the increasing number for female will decline from 55,000 persons in 2000-2005 to 30,000 persons in 2015-2020. The above figures for both male and female clearly explain post-retirement farmer at first period retirement age, which will show a decreasing trend. The age group of 65-69 years is going to be an increase in number only for males as 29,000 persons in 2000-2005, 23,000 persons in 2015-2020, and these amounts exhibit post-retirement farmer at second period retirement age. The number of post-retirement farmers at first period retirement age in male and female can be attributed to the unfavorable economic conditions that force those who are engaged in non-agricultural jobs to quit early from job. Thus, these results lead to the conclusion that the tendency of post-retirement farmer will increase for a while although the agricultural population (commercial farmers) has shown a decreasing number.

6. Conclusion

According to the result of analysis, we can deduce that the tendency of post-retirement farmer will show an increase until 2010 and afterward show a decline. The increase of post-retirement farmer is an important supply of farm labor force to supplement agricultural production. In other words, the increase in number of post-retirement farmers has been able to offset the

decrease of the agricultural population. The decrease in agricultural population has led to difficult in sustaining the agricultural working level of the village unit, but the existence of post-retirement farmer has been able to maintain this working degree in spite of the instability of agricultural production. As mentioned above, post-retirement farmer has played not only the leading role as once again productive person on agriculture but also the prevention of the transfer of agricultural land in spite of the small farm size of post-retirement farmer as well as the enlargement of agricultural land through the rental land.

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農業労働における定年帰農者に関する一考察

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摘 要

2000年に17.3%であった日本の高齢化率は、今後ますます高まり、2025年には28.7%にまで達するといわれている。一方、農家においては、すでに60歳以上の農業就業者の割合が2000年で50%を超えている。ところで、この60歳以上の農業就業者の割合の増加には定年帰農者の動向が大きくかかわっている。また、定年帰農者は農業生産において重要な役割を果たしている。そこで、我々は、この定年帰農者に注目し、彼らの動向に関する将来予測を試みた。その結果、将来とも日本において定年帰農者数は明らかに増加するという結果を得ることができた。こうして、今後、日本農業の担い手として定年帰農者が重要な役割を果たしていくことが展望される。