

Chapter 5

Agriculture, Forestry and Fisheries



A scene of rice planting in Fujinomiya City, Shizuoka Prefecture, located at the foot of Mt. Fuji. In Shizuoka, the rice-planting season is from April to May. Japan's rice production was 8.48 million tons in 2010.

1. Overview of Agriculture, Forestry and Fisheries

Over the course of Japan's economic growth, its agricultural, forestry and fishing industries employ fewer and fewer workers every year, and their GDP share has also dropped. The number of workers decreased from 14.39 million in 1960 (32.7 percent of the total workforce) to 2.97 million in 2005 (4.8 percent), and the GDP share of the industries fell from 12.8 percent in 1960 to 1.4 percent in 2005.

Table 5.1
Agricultural, Forestry and Fishery Output

(Billion yen)

Item	2005	2006	2007	2008	2009*
Total	10,529	10,371	# 10,353	10,539	9,934
Agriculture	8,512	8,332	# 8,259	8,466	8,049
Crops	5,940	5,818	# 5,720	5,820	5,485
Rice	1,947	1,815	1,790	1,901	1,795
Vegetables	2,033	2,051	2,089	2,111	2,033
Fruits and nuts	727	773	756	741	675
Livestock and its products	2,506	2,453	2,479	2,585	2,510
Beef cattle	473	478	485	459	441
Dairy cattle	783	748	731	748	804
Pigs	499	498	523	579	509
Chickens	689	658	676	744	703
Forestry	417	432	441	445	412
Fishery	1,601	1,607	1,653	1,627	1,473

Source: Ministry of Agriculture, Forestry and Fisheries.

2. Agriculture

(1) Agricultural Production

Japan's total agricultural output in 2009 was 8.05 trillion yen, down 4.9 percent from the previous year. Crops yielded 5.48 trillion yen, down 5.8 percent from the previous year. This was due partly to the growth in dairy cattle output, notwithstanding the lower rice, vegetables, fruits and nuts, and pigs output.

Table 5.2
Agricultural Production

Products	(Thousand tons)				
	1995	2000	2005	2008	2009
Cereal grains					
Rice	10,748	9,490	9,074	8,823	8,474
Wheat	444	688	875	881	674
Vegetables, potatoes and legumes					
Potatoes	3,365	2,898	2,752	2,743	2,459
Sweet potatoes	1,181	1,073	1,053	1,011	1,026
Soybeans, dried	119	235	225	262	230
Cucumbers	827	767	675	627	620
Tomatoes	753	806	759	733	718
Cabbages	1,544	1,449	1,364	1,389	1,385
Chinese cabbages	1,163	1,036	924	921	924
Onions	1,278	1,247	1,087	1,271	1,161
Lettuces	537	537	552	544	550
Japanese radishes	2,148	1,876	1,627	1,603	1,593
Carrots	725	682	615	657	650
Fruits					
Mandarin oranges	1,378	1,143	1,132	906	1,003
Apples	963	800	819	911	846
Grapes	250	238	220	201	202
Japanese pears	383	393	362	328	318
Industrial crops					
Crude tea	a) 80	a) 85	100	96	86
Sugar beets ¹⁾	3,813	3,673	4,201	4,248	3,649

1), a) Figures are total of main producing prefectures.

Source: Ministry of Agriculture, Forestry and Fisheries.

Table 5.3
Production Volumes of Meat, Milk and Eggs

Products	(Tons)				
	1995	2000	2005	2008	2009
Pork	1,322,065	1,270,685	1,244,963	1,248,801	1,309,910
Beef	600,099	529,674	498,428	518,704	515,868
Veal	806	629	1,042	1,175	1,113
Horse meat	8,433	7,215	7,129	6,053	5,734
Mutton and lamb ...	208	112	126	128	143
Goat meat	153	155	73	54	41
Broilers	1,631,060	1,551,101	1,702,001	1,787,278	1,826,543
Cow milk	8,382,162	8,497,278	8,285,215	7,982,030	7,910,413
Eggs	2,550,586	2,540,075	2,481,000	2,553,557	2,507,542

Source: Ministry of Agriculture, Forestry and Fisheries.

(2) Farmers and Farmland

In 2010, the number of farm households engaged in commercial farming (which refers to households with cultivated land under management of 0.3 hectares and over, or with annual sales of agricultural products amounting to 500,000 yen and over) was 1.63 million. Of these commercial farm households, 27.7 percent were full-time farm households, 13.8 percent were part-time farm households with farming income exceeding non-farming income, and 58.6 percent were part-time farm households with non-farming income exceeding farming income.

Of the commercial farm household members, 2.61 million people were actually engaged in farming (commercial farmers) in 2010, of whom 61.6 percent were aged 65 years and over.

In 2009, the total income per commercial farm household was 4.57 million yen, down 2.0 percent from the previous year. Of that amount, 1.04 million yen was from farming income, 1.69 million yen from non-farming income, and 1.83 million yen from pension benefits and other sources.

Table 5.4
Commercial Farm Households and Commercial Farmers

Year	Commercial farm households					Commercial farmers	(Thousands)
	Total	Full-time	Part-time		Aged 65 years and over (%)		
			Mainly farming	Mainly other job			
1990	2,971	473	521	1,977	4,819	33.1	
1995	2,651	428	498	1,725	4,140	43.5	
2000	2,337	426	350	1,561	3,891	52.9	
2005	1,963	443	308	1,212	3,353	58.2	
2010	1,631	451	225	955	2,606	61.6	

Source: Ministry of Agriculture, Forestry and Fisheries.

Japan's cultivated acreage shrank year after year from 6.09 million hectares in 1961 to 4.59 million hectares in 2010. In the one-year period of 2010, there were 1,740 hectares of new cultivation but also a 17,700-hectare decrease. The most common cause for the decrease was cultivation abandonment, accounting for approximately 44.0 percent of all cases, followed by land-use conversion for residential and other lands, making up approximately 34.8 percent.

3. Forestry

Japan's forest land area is 25.1 million hectares (approximately 70 percent of its entire surface area). Of this, natural forests account for 50 percent while planted forests, most of which are conifer plantations, make up 40 percent. Meanwhile, Japan's forest growing stock is 4.4 billion cubic meters, of which 2.7 billion cubic meters are from planted forests.

Forests that were planted after World War II are now finally ready for use. The functions that forests play in soil conservation and the prevention of global warming need to be exercised in a sustainable manner by smoothly following the cycle of cutting, planting and tending planted forests.

Table 5.5
Forest Land Area and Forest Resources (2007)

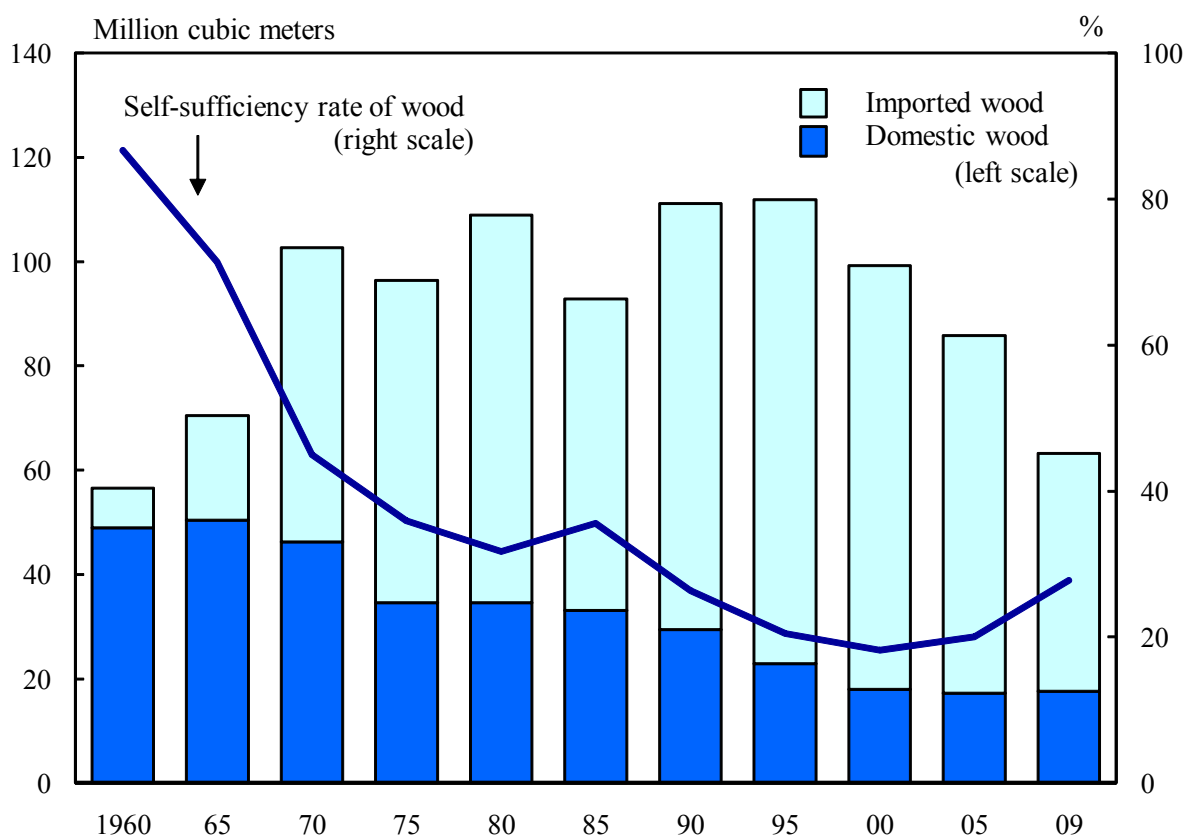
Item	Total	National forest	Non-national forest		
			Municipal	Private	Others
Forest land area (1,000 ha)	25,097	7,686	2,830	14,535	46
Forest growing stock (million m ³) ...	4,432	1,078	484	2,864	6
Planted forest					
Land area (1,000 ha)	10,347	2,364	1,247	6,724	12
Growing stock (million m ³)	2,651	424	295	1,931	2
Natural forest					
Land area (1,000 ha)	13,383	4,691	1,449	7,217	27
Growing stock (million m ³)	1,779	654	190	933	3

Source: Ministry of Agriculture, Forestry and Fisheries.

Domestic wood supply (log conversion) totaled 17.6 million cubic meters in 2009, which is equivalent to only 33.3 percent of the peak in 1967 (52.7 million cubic meters). In 2009, Japan's self-sufficiency rate for lumber was 27.8 percent. Currently, Japan depends mostly on imported lumber for pulp, woodchip and plywood material.

The slowdown in domestic lumber production activities has resulted in a decline in the number of workers engaged in forestry. In 2005, there were 47,000 workers engaged in forestry, a level which represented only 70 percent of the number recorded five years before. Also, one out of four workers was aged 65 and over, highlighting the aging of the labor force.

Figure 5.1
Industrial Wood Supply and Self-Sufficiency Rate ¹⁾



1) The volume in log equivalent.

Source: Ministry of Agriculture, Forestry and Fisheries.

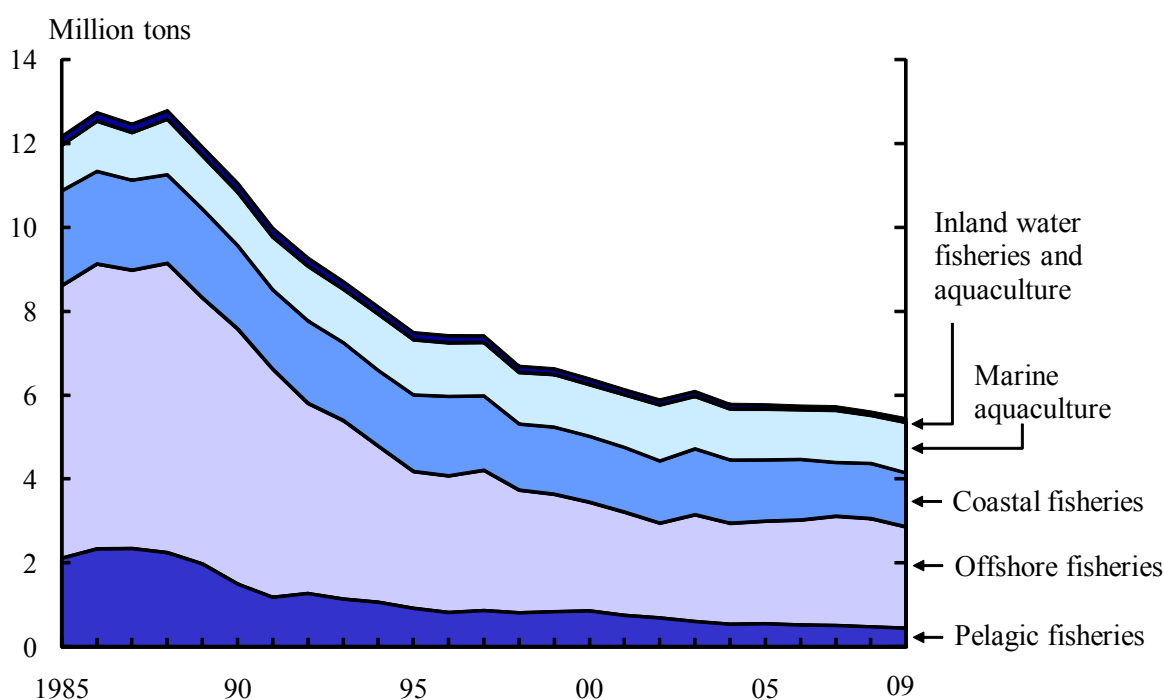
4. Fisheries

(1) Fishery Production

In Japan, a country surrounded by ocean, the fishing industry has played an important role in supplying animal protein and bringing a healthy and rich diet to the population. Recently, however, there has been a progressing "shift away from fish," particularly among the younger generations. Japan's fishing industry is also undergoing major changes. Lower fishery production, due to deteriorating resources in surrounding waters, and the declining and increasingly aging fishery workforce are among the reasons for those changes.

Japan's fishery output has been on the decline since 1989. Its 2010 fishery production totaled 4.67 million tons, excluding marine fishery and aquaculture production in Iwate, Miyagi, and Fukushima prefectures. Of this, marine fishery and aquaculture production amounted to 4.59 million tons.

Figure 5.2
Production by Type of Fishery



Source: Ministry of Agriculture, Forestry and Fisheries.

Table 5.6
Production by Fishery Type and Species

Fishery type and species	(Thousand tons)				
	1995	2000	2005	2009	2010*
Total	7,489	6,384	5,765	5,432	4,672
Marine fisheries	6,007	5,022	4,457	4,147	a) 3,659
Tunas	332	286	239	207	171
Bonito	309	341	370	269	274
Sardine	661	150	28	57	70
Mackerels	470	346	620	471	420
Alaska pollack	339	300	194	227	235
Crabs	57	42	34	32	31
Squids	547	624	330	296	225
Marine aquaculture	1,315	1,231	1,212	1,202	a) 934
Yellowtails	170	137	160	155	139
Oysters	227	221	219	210	149
Laver	407	392	387	343	302
Wakame (Sea weed)	100	67	63	61	13
Pearl (tons)	63	30	29	22	21
Inland water fisheries	92	71	# 54	# 42	40
Salmons and trouts	22	17	# 19	# 14	14
Sweetfish	14	11	# 7	# 4	3
Shellfishes	28	20	# 14	# 15	14
Inland water aquaculture	75	61	# 42	# 41	39
Eel	29	24	20	22	21
Trouts	18	15	12	10	9
Common carp	13	11	4	3	4

a) Excluding production in Iwate, Miyagi and Fukushima prefectures.

Source: Ministry of Agriculture, Forestry and Fisheries.

(2) Fishery Workers

The number of workers in the marine fishery industry (the workers who engage in work at sea for 30 days or more yearly) has been decreasing constantly. In 2010, there was a 4.2 percent decrease from the previous year, bringing the count to 203,000 workers. Among male workers, the ratio of those aged 65 years and over was 35.9 percent, showing the progressive trend of an aging workforce.

Table 5.7
Number of Enterprises and Workers Engaged in the Marine Fishery Industry¹⁾

Year	(Thousands)					
	Enterprises			Workers		
	Total	Individual households	Corporate entities	Total	Self-employed	Hired
2000	190	138	...	260	194	66
2005	164	119	...	222	166	56
2008	115	109	6	# 222	141	# 81
2009	108	102	6	212	135	77
2010	104	98	5	203	128	75

1) Including marine aquaculture.

Source: Ministry of Agriculture, Forestry and Fisheries.

5. Self-Sufficiency in Food

Japan's food self-sufficiency rate, in terms of calories, dropped from 73 percent in fiscal 1965 to 40 percent in fiscal 2009. The principal cause for the major drop in the food self-sufficiency rate is the fact that a significant change in the diet of Japanese led to a lower consumption of rice, a crop in which Japan is self-sufficient, while there was an increase in consumption of animal and lipid products that domestic agricultural production alone cannot supply sufficiently.

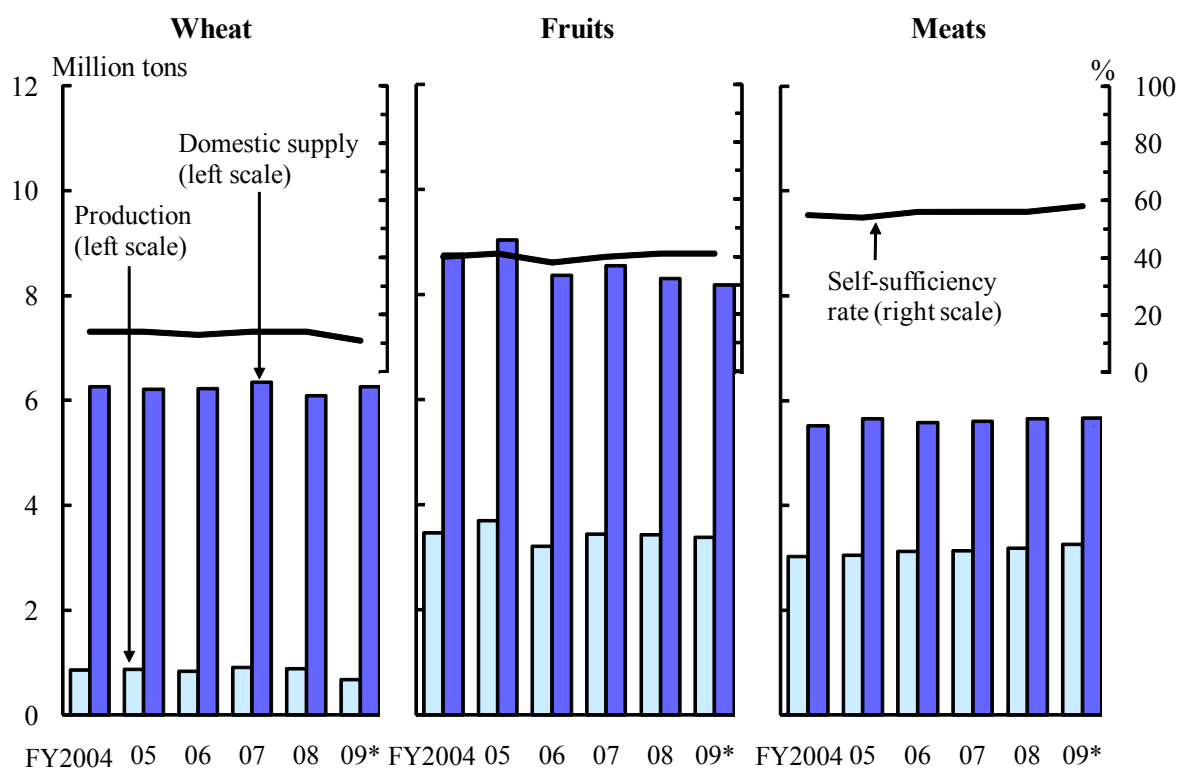
In fiscal 2009, the self-sufficiency rate (on an item-specific weight basis) was 100 percent in rice, 11 percent in wheat, 8 percent in beans, 83 percent in vegetables, 41 percent in fruits, 58 percent in meat and 62 percent in seafood. Although completely self-sufficient in rice, the staple food of its people, Japan relied almost entirely on imports for wheat and bean supply.

Table 5.8
Supply of Cereal Grains

Fiscal year	Area planted (1,000 ha)	Production (1,000 t)	Yield per hectare (t)	Imports (1,000 t)	Supplies for domestic consumption (1,000 t)
Rice					
1995	2,118	10,748	5.07	495	10,290
2000	1,770	9,490	5.36	879	9,790
2005	1,706	9,074	5.32	978	9,222
2008	1,627	8,823	5.42	841	8,883
2009*	1,624	8,474	5.22	869	8,797
Wheat					
1995	151	444	2.93	5,750	6,355
2000	183	688	3.76	5,688	6,311
2005	214	875	4.10	5,292	6,213
2008	209	881	4.22	5,186	6,086
2009*	208	674	3.24	5,354	6,528

Source: Ministry of Agriculture, Forestry and Fisheries.

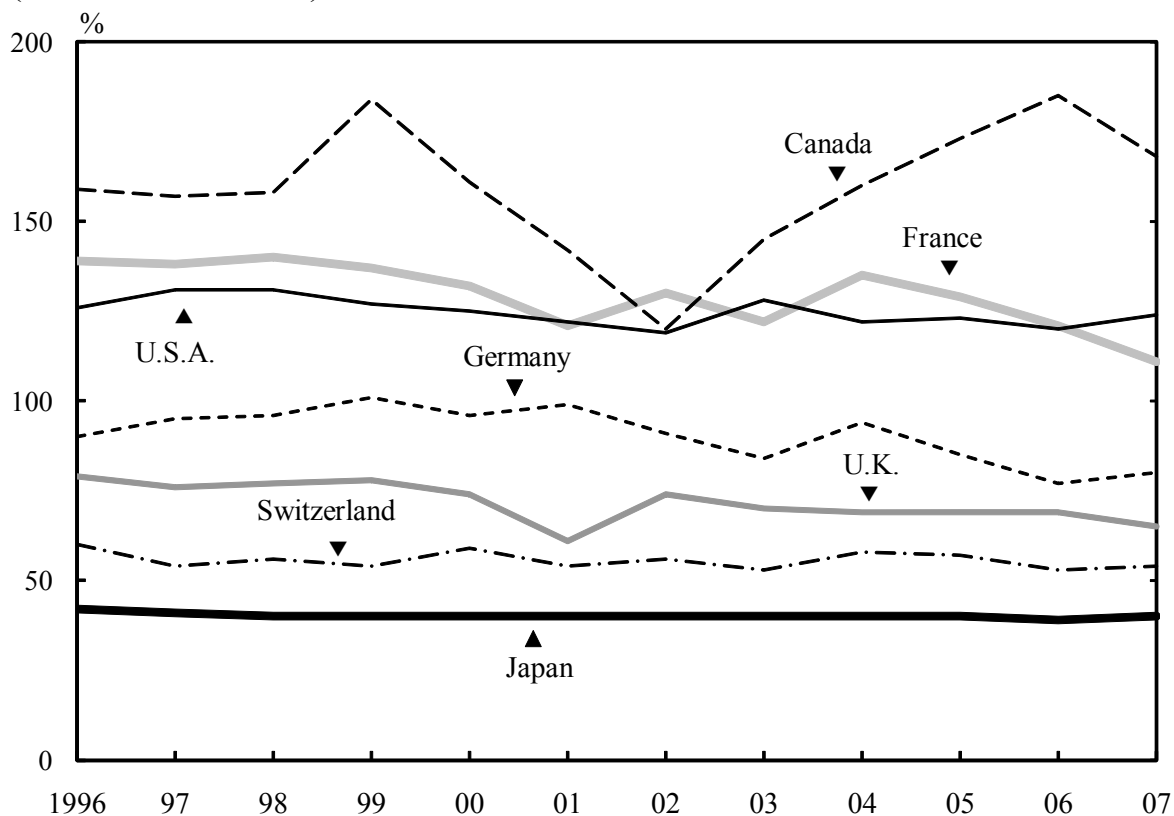
Figure 5.3
Self-Sufficiency Rates for Selected Categories of Agricultural Produce



Source: Ministry of Agriculture, Forestry and Fisheries.

Japan's present food self-sufficiency rate is the lowest among major industrialized countries, and Japan is thus the world's largest net importer of agricultural products.

Figure 5.4
Trends in Food Self-Sufficiency Rates of Major Countries
 (In terms of calories)



Source: Ministry of Agriculture, Forestry and Fisheries.