

## Chapter 5

### Agriculture, Forestry and Fisheries



A persimmon field in Miyagi Prefecture. Basking in the mild late-autumn sun, persimmons were picked from trees laden with fruits. Japan's 2007 persimmon crop was 244,800 tons.

## 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	2003	2004	2005	2006	2007*
Total .....	10,896	10,752	10,529	10,371	# 10,288
Agriculture .....	8,857	8,714	8,512	8,332	# 8,193
Crops .....	6,460	6,183	5,940	5,818	# 5,654
Cereal grains and potatoes <sup>1)</sup> ...	2,807	2,438	2,388	2,246	# 2,123
Rice .....	2,342	1,991	1,947	1,815	1,790
Vegetables .....	2,097	2,143	2,033	2,051	2,049
Fruits and nuts .....	714	763	727	773	751
Flowers .....	426	416	404	399	397
Livestock and its products .....	2,329	2,458	2,506	2,453	2,477
Forestry .....	448	435	417	432	441
Fishery .....	1,591	1,604	1,601	1,607	1,654

1) Including legumes.

Source: Ministry of Agriculture, Forestry and Fisheries.

## 2. Agriculture

### (1) Agricultural Production

Japan's total agricultural output in 2007 amounted to 8.19 trillion yen, of which 2.05 trillion yen, or 25.0 percent, came from vegetables. Rice earned 1.79 trillion yen, 21.9 percent of the total.

**Table 5.2**  
**Agricultural Production**

	(Thousand tons)				
Products	1995	2000	2005	2006	2007
<b>Cereal grains</b>					
Rice .....	10,748	9,490	9,074	8,556	8,714
Wheat .....	444	688	875	837	910
<b>Vegetables and legume</b>					
Potatoes .....	3,365	2,898	2,752	2,635	2,873
Sweet potatoes .....	1,181	1,073	1,053	989	968
Soybeans, dried .....	119	235	225	229	227
Cucumbers .....	827	767	675	629	641
Tomatoes .....	753	806	759	728	749
Cabbages .....	1,544	1,449	1,364	1,372	1,359
Chinese cabbages .....	1,163	1,036	924	942	918
Onions .....	1,278	1,247	1,087	1,161	1,265
Lettuces .....	537	537	552	545	544
Japanese radishes .....	2,148	1,876	1,627	1,650	1,626
Carrots .....	725	682	615	624	666
<b>Fruits</b>					
Mandarin oranges .....	1,378	1,143	1,132	842	1,066
Apples .....	963	800	819	832	840
Grapes .....	250	238	220	211	209
Japanese pears .....	383	393	362	291	297
<b>Industrial crops</b>					
Crude tea .....	a) 80	a) 85	100	92	94
Sugar beets <sup>1)</sup> .....	3,813	3,673	4,201	3,923	4,297

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**

	(Tons)				
Products	1995	2000	2005	2006	2007
Pork .....	1,322,065	1,270,685	1,244,963	1,246,525	1,250,511
Beef .....	600,099	529,674	498,428	496,229	502,969
Veal .....	806	629	1,042	763	933
Horse meat .....	8,433	7,215	7,129	6,549	6,087
Mutton and lamb ...	208	112	126	91	105
Goat meat .....	153	155	73	52	49
Broilers .....	1,631,060	1,551,101	1,702,001	1,750,297	1,754,396
Cow milk .....	8,382,162	8,497,278	8,285,215	8,137,512	8,007,417
Eggs .....	2,550,586	2,540,075	2,481,000	2,487,696	2,583,292

Source: Ministry of Agriculture, Forestry and Fisheries.

## (2) Farmers and Farmland

In 2005, 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 1.96 million. Of these commercial farm households, 22.6 percent were full-time farm households, 15.7 percent were part-time farm households with farming income exceeding non-farming income, and 61.7 percent were part-time farm households with non-farming income exceeding farming income.

Of the commercial farm household members, 3.35 million people were actually engaged in farming (commercial farmers) in 2005, of whom 58.2 percent were aged 65 years and over.

In 2007, the total income per commercial farm household was 4.84 million yen, down 3.2 percent from the previous year. Of that amount, 1.20 million yen was from farming income, 1.94 million yen from non-farming income, and 1.70 million yen from pension benefits and other sources.

**Table 5.4**  
**Commercial Farm Households and Commercial Farmers**

Year	Commercial farm households				Commercial farmers	Aged 65 years and over (%)
	Total	Full-time	Part-time			
			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

Source: Ministry of Agriculture, Forestry and Fisheries.

Japan's cultivated acreage shrank year after year from 6.09 million hectares in 1961 to 4.63 million hectares in 2008. In the one-year period of 2008, there were 2,010 hectares of new cultivation but also a 23,900-hectare decrease. The most common cause for the decrease was land-use conversion for residential lands or factory sites, accounting for approximately 45 percent of all cases, followed by cultivation abandonment, making up approximately 41 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 <sup>3</sup> ) ...	4,432	1,078	484	2,864	6
Planted forests					
Land area (1,000 ha) .....	10,347	2,364	1,247	6,724	12
Growing stock (million m <sup>3</sup> ) ..	2,651	424	295	1,931	2
Natural forests					
Land area (1,000 ha) .....	13,383	4,691	1,449	7,217	27
Growing stock (million m <sup>3</sup> ) ..	1,779	654	190	933	3

Source: Ministry of Agriculture, Forestry and Fisheries.

Domestic roundwood production totaled 18.6 million cubic meters in 2007, which is equivalent to only 35 percent of the peak in 1967 (52.7 million cubic meters). In 2007, Japan's self-sufficiency rate for lumber was 22.6 percent. Currently, Japan depends mostly on imported lumber for pulp, woodchip and plywood material.

The slowdown in domestic lumber production 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.

**Table 5.6**  
**Supply of Industrial Roundwood**

(Thousand cubic meters)

Year	Total	Domestic logs					Imported logs <sup>1)</sup>
		Total	By use				
			Saw-logs	Plywood	Pulp and chips	Others	
2000	99,263	18,022	12,798	138	4,749	337	81,241
2004	89,799	16,555	11,469	546	4,249	291	73,245
2005	85,857	17,176	11,571	863	4,426	316	68,681
2006	86,791	17,617	11,645	1,144	4,496	332	69,174
2007	82,370	18,635	11,981	1,632	4,681	340	63,735

1) Including wood products converted into roundwood equivalents.

Source: Ministry of Agriculture, Forestry and Fisheries.

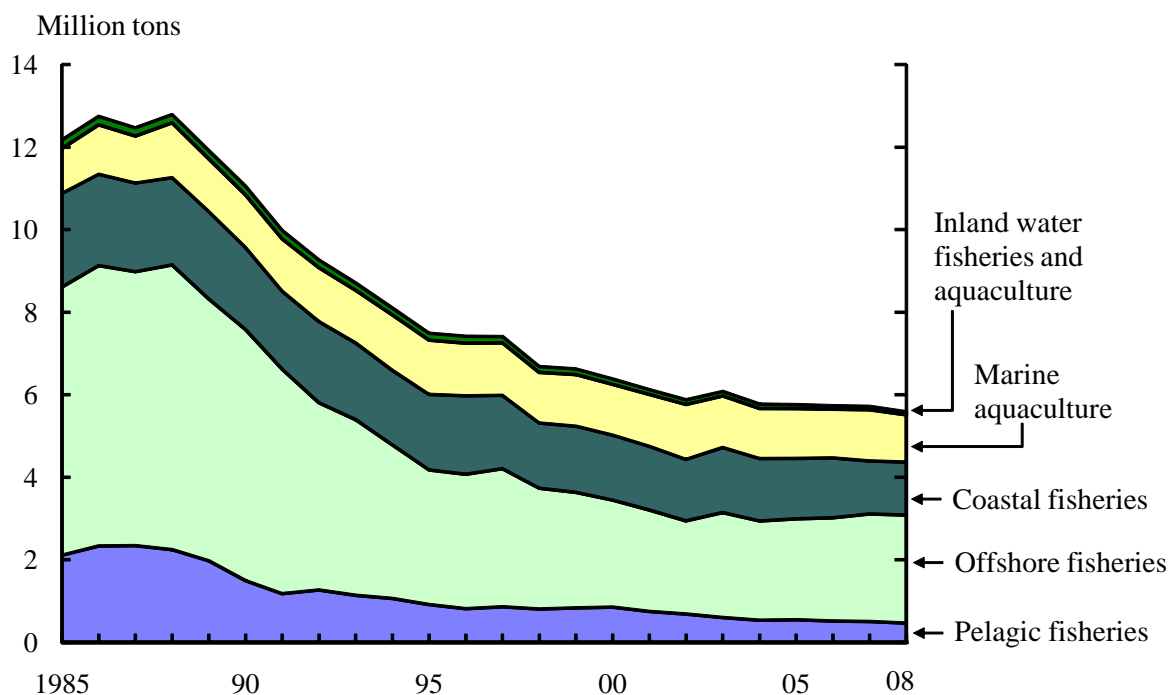
## 4. Fisheries

### (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 trend of "a 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 2008 fishery production totaled 5.59 million tons, down 2.3 percent from the previous year. Of this, marine fishing and aquaculture production amounted to 5.52 million tons.

**Figure 5.1**  
**Production by Type of Fishery**



Source: Ministry of Agriculture, Forestry and Fisheries.

**Table 5.7**  
**Production by Fishery Type and Species**

Fishery type and species	(Thousand tons)				
	1995	2000	2005	2007	2008*
Total .....	7,489	6,384	5,765	5,720	5,588
Marine fisheries .....	6,007	5,022	4,457	4,396	4,368
Tunas .....	332	286	239	257	217
Bonito .....	309	341	370	330	304
Sardine .....	661	150	28	79	38
Mackerels .....	470	346	620	457	514
Alaska pollack .....	339	300	194	217	212
Crabs .....	57	42	34	35	34
Squids .....	547	624	330	326	291
Marine aquaculture .....	1,315	1,231	1,212	1,242	1,148
Yellowtails .....	170	137	160	160	158
Oysters .....	227	221	219	205	190
Laver .....	407	392	387	396	338
Wakame (Sea weed) .....	100	67	63	54	55
Pearl (tons) .....	63	30	29	27	25
Inland water fisheries .....	92	71	# 54	# 39	33
Salmons and trouts .....	22	17	# 19	# 15	10
Sweetfish .....	14	11	# 7	# 3	3
Shellfishes .....	28	20	# 14	# 12	11
Inland water aquaculture .....	75	61	# 42	42	40
Eel .....	29	24	20	23	21
Trouts .....	18	15	12	11	10
Common carp .....	13	11	4	3	3

Source: Ministry of Agriculture, Forestry and Fisheries.

## (2) Fishery Workers

The number of workers in the marine fishery industry (the workers who are marine fishery or marine aquaculture household members and engage in work at sea for 30 days or more yearly) has been decreasing constantly. In 2007, there was a 3.8 percent decrease from the previous year, bringing the count to 204,000 workers. By type of fishery, coastal fishery workers (including marine aquaculture workers) numbered 178,000 and offshore and pelagic fishery workers 26,000. Among male workers, the ratio of those aged 65 years and over was 37.4 percent, showing the progressive trend of an aging workforce.

**Table 5.8**  
**Number of Households and Workers Engaged in the Marine Fishery**  
**Industry** <sup>1)</sup>

(Thousands)

Year	Households			Workers		
	Total	Self-employed	Hired	Total	Self-employed	Hired
1995	215	154	61	301	223	78
2000	190	138	53	260	194	66
2004	171	124	47	231	172	59
2005	164	119	45	222	166	56
2006	158	116	42	212	160	53
2007	151	111	40	204	155	49

1) Including marine aquaculture.

Source: Ministry of Agriculture, Forestry and Fisheries.

## 5. Self-Sufficiency of Food

Japan's food self-sufficiency rate, in terms of calories, dropped from 73 percent in fiscal 1965 to 40 percent in fiscal 2007. 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.

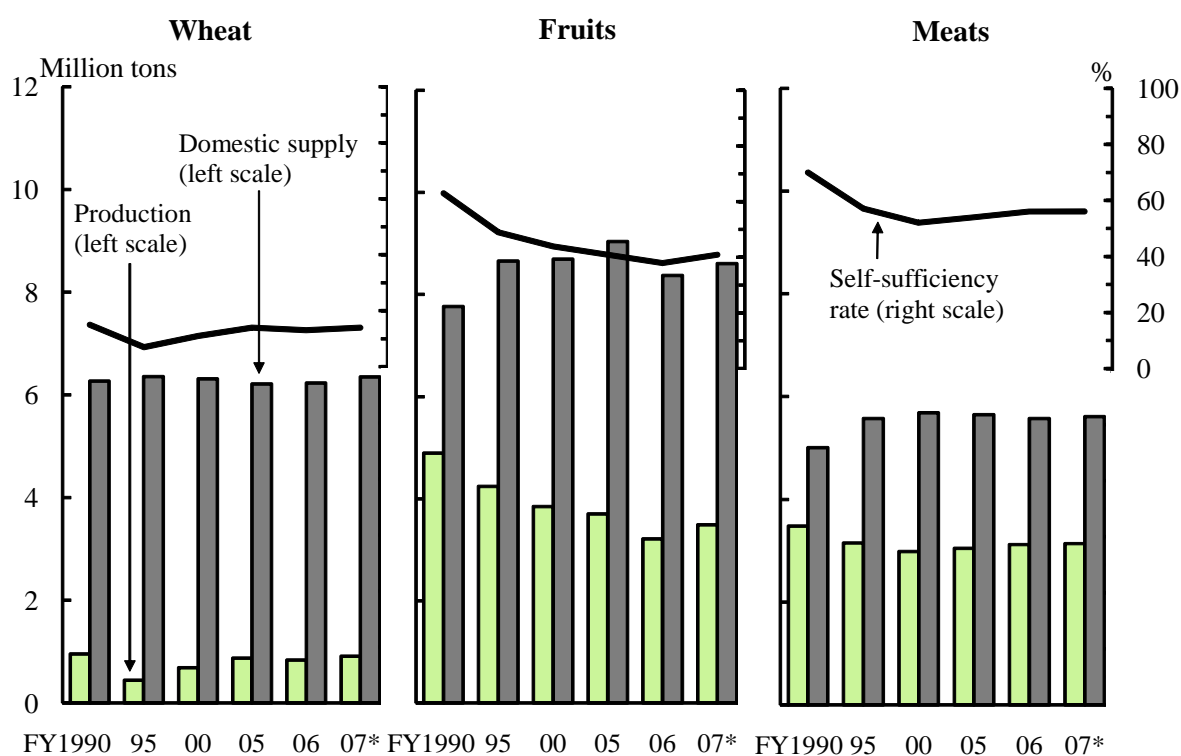
In fiscal 2007, the self-sufficiency rate (on an item-specific weight basis) was 100 percent in rice, 14 percent in wheat, 7 percent in beans, 81 percent in vegetables, 41 percent in fruits, 56 percent in meat and 62 percent in seafood. Although completely self-sufficient in rice, the staple food of its people, Japan relied almost entirely on imports for wheat and bean supply.

**Table 5.9**  
**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)
<b>Rice</b>					
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
2006	1,688	8,556	5.07	799	9,186
2007*	1,673	8,714	5.21	856	9,257
<b>Wheat</b>					
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
2006	218	837	3.83	5,464	6,228
2007*	210	910	4.34	5,386	6,348

Source: Ministry of Agriculture, Forestry and Fisheries.

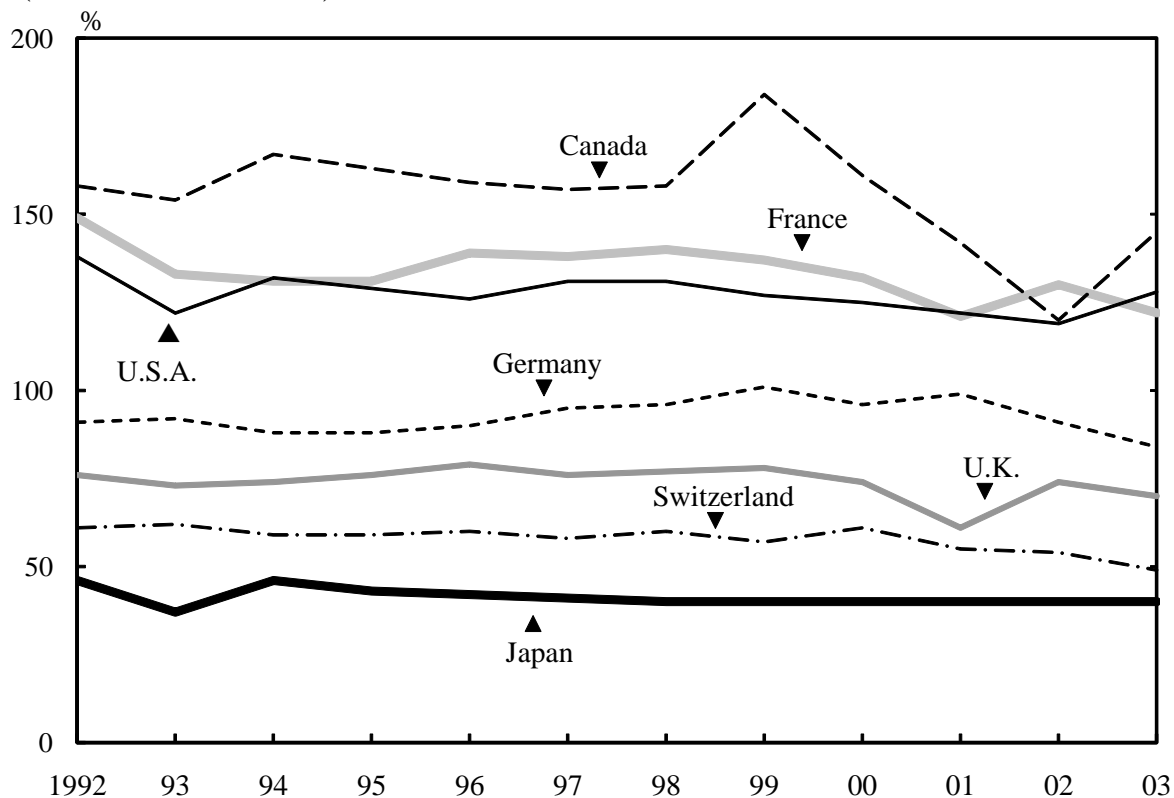
**Figure 5.2**  
**Self-Sufficiency Rates for Selected Categories of Agricultural Produce**



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 food importing country.

**Figure 5.3**  
**Trends in Food Self-Sufficiency Rates of Major Countries**  
 (In terms of calories)



Source: Ministry of Agriculture, Forestry and Fisheries.