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Agricultural Statistics in Japan - Survey System and Utilization for Policies

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機密性・情報 〇〇限り

Agricultural Statistics in Japan

- Survey System and Utilization for Policies -

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Challenge of Japan after WW 2

- Because of serious food shortage, Japan had to make an accurate supply and demand plan for providing people with rice.
- In 1945, the statistics showed the production of rice was 5.9 million tons which was far shorter than real production.
- The fact is that farmers declared less production than real one because they did not want to deliver rice to government under the compulsory delivery system.

➔ The government had to cope with the problem.

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Challenge of Japan after WW 2

- Establishment of New Organization to Conduct Survey by the Staff of the Ministry of Agriculture and Forestry
 - The Ministry of Agriculture and Forestry directly controlled crop survey.
 - The Ministry established Statistics Department within the Ministry which was independent from other departments.
 - The Ministry established offices all over Japan which collected data directly from farmers or fields.

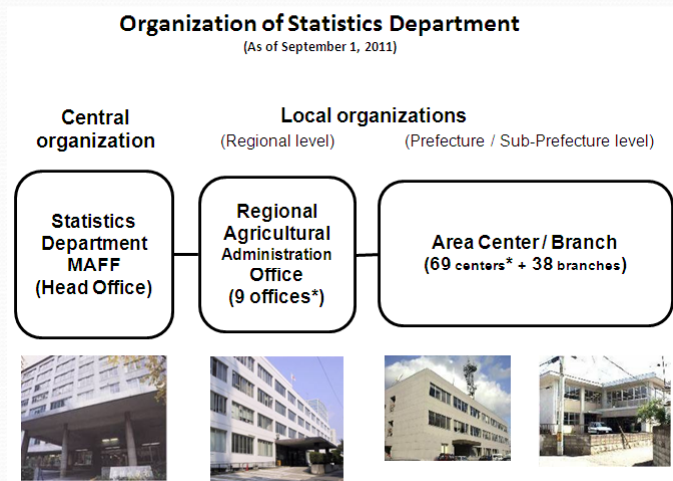
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Challenge of Japan after WW 2

- Providing Accurate Data
 - The Ministry of Agriculture and Forestry introduced the sampling survey with actual measurement
 - Production of rice were estimated based on the result of yield survey through crop cutting and area survey where number of samples were decided to satisfy the aimed precision.

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Present Situation of Statistical Survey (in the case of Crop Survey)



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Present Situation of Statistical Survey (in the case of Crop Survey)

Flowchart of Area Survey

To prepare population, i.e. three million “Area Survey Units” one size of which is about 2 ha.



To select sample Area Survey Units to survey



To conduct field survey



To estimate the area by using the ratio of registered area of Area Survey Units and surveyed area of sample Area Survey Units

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Present Situation of Statistical Survey (in the case of Crop Survey)

Flowchart of Yield Survey of Paddy Rice

To prepare Area Survey Unit (same as that for an area survey)



To select sample Area Survey Unit



To select sample lots



To harvest rice in sample lots



To weigh rice after threshing, drying



To estimate average yield

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Present Situation of Statistical Survey (in the case of Crop Survey)

Production Surveys of Other Crops

- Wheat, barley, soybean
 - Questionnaires in the mail to relevant organizations and sample farmers

- Vegetable, Fruit
 - Questionnaires in the mail to shipping organizations and sample farmers
 - Checking through patrol

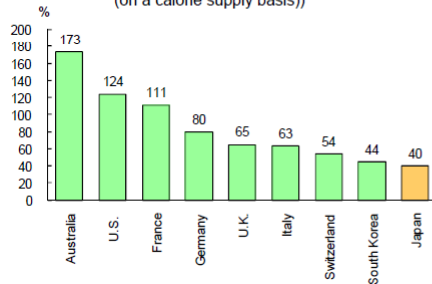
- Tea
 - Questionnaires in the mail to sample factories

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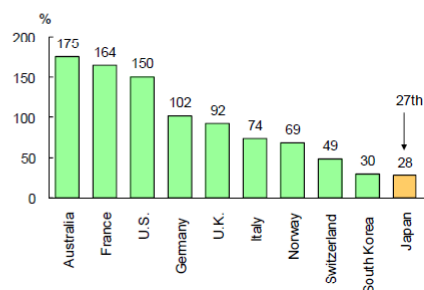
Utilization for Policies

○ Food self-sufficiency ratios in major foreign countries (on a calorie supply basis)

(Food self-sufficiency rates in major foreign countries (on a calorie supply basis))



(Grain self-sufficiency ratios in major countries (2007))



Source: Prepared by MAFF based on MAFF "Food Balance Sheet," FAO "Food Balance Sheets," etc.

Notes: 1) The South Korean data are from the Korea Rural Economic Institute's "Food Balance Sheet" and Swiss data from an annual agriculture report by the Federal Office for Agriculture.

2) Japan's data are for FY2009 and other countries' data for 2007.

3) The food self-sufficiency ratio on a calorie supply basis is the ratio of domestic calorie supply to total calorie supply. For livestock products, imported feeds are taken into account.

Source: MAFF, "Food Balance Sheet"

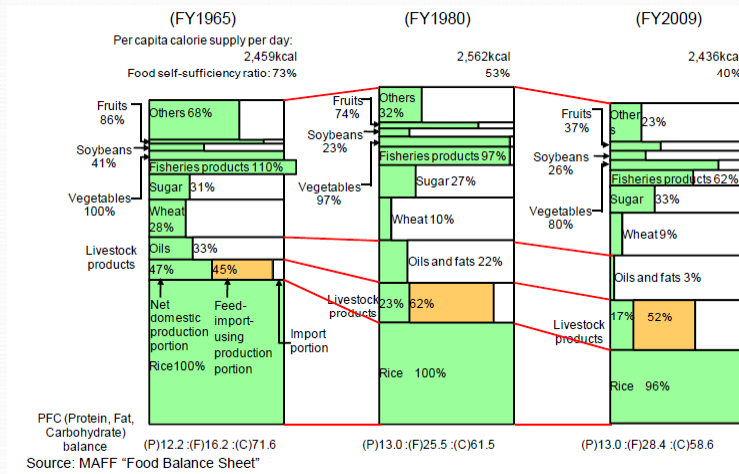
Notes: 1) Ratios are specified for 10 out of the 30 OECD members.

2) The grain self-sufficiency ratio covers rice, wheat, barley, naked barley, corn, kaoliang and other cereals, including those for feed use.

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Utilization for Policies (continued)

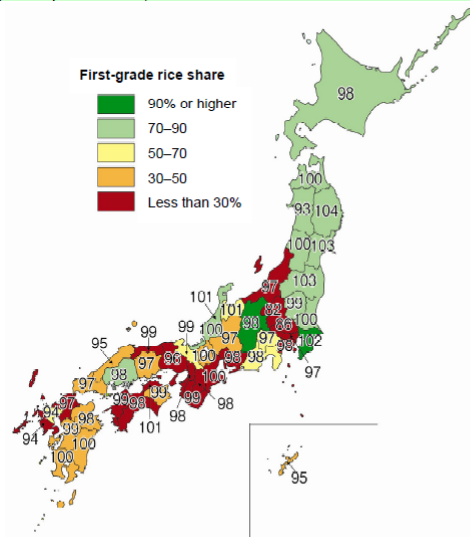
○ Trends of category-by-category food self-sufficiency ratios (on a calorie supply basis), etc.



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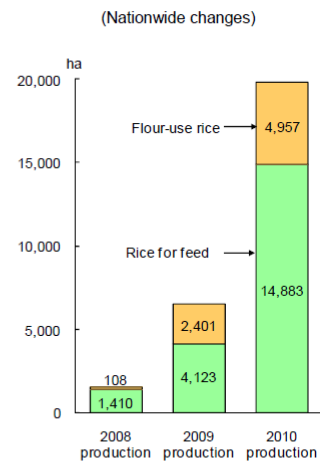
Utilization for Policies (continued)

○ First-grade rice share and crop condition by prefecture (2010 production)



Sources: MAFF, "Crop Statistics" and "2010 Rice Inspection Results"
Note: Figures in the map are crop condition index values.

○ Planted areas for rice for flour and feed uses

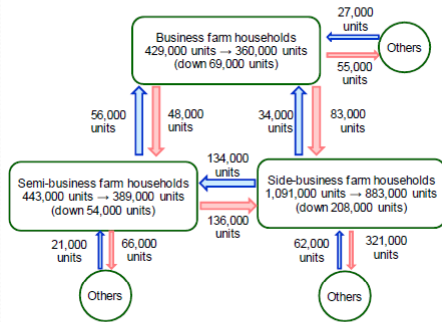


Source: MAFF survey
Note: Figures indicate area sizes counted for new-demand rice (flour-use and feed-use rice) in production adjustment.

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Utilization of Policies (continued)

○ Business farm households' shift to other categories (from 2005 to 2010)



Sources: Prepared by MAFF based on MAFF, "Census of Agriculture and Forestry" (custom-ordered tabulation)
 Notes: 1) Others include noncommercial farm households and non-farm households having cultivated land
 2) Estimates for 2010.

○ Changes in average operation size per farm household by category (entire Japan)

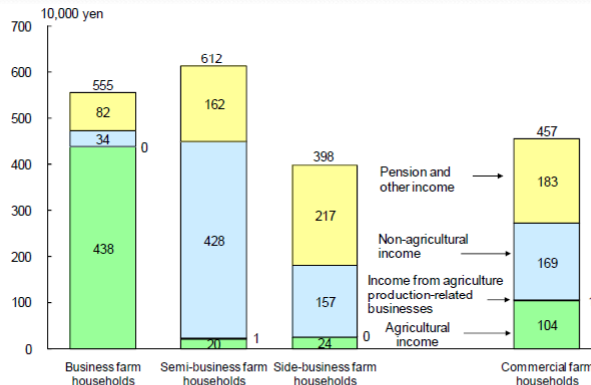
	1960	2000	2005	2010	Operation size expansion rate (times) (2010/1960)
Rice (ares)	55.3	84.2	96.1	105.1	1.9
Vegetables (ares)	8.6	55.0	53.4	64.4	7.5
Fruits (ares)	20.1	56.8	60.7	64.3	3.2
Milk cows (number)	1.1	34.2	38.1	44.0	40.0
Beef cattle (number)	1.2	24.2	30.7	38.9	32.4
Pigs (number)	2.4	838.1	1095.0	1437.0	598.8
Layers (number)	-	28,704	33,549	44,987	1,666.2
Broilers (number)	-	35,200	38,600	44,800	50.2

Sources: MAFF, "Census of Agriculture and Forestry," "Livestock Breeding Trends," "Livestock Statistics" and "Livestock Distribution Statistics"

- Notes: 1) Milk cows are delivered cows. Broilers are young chickens for meat.
 2) The operation sizes for layers and broilers are compared with levels in 1965.
 3) Operation sizes for pigs and layers in 2005 are 2004 values and those in 2010 are 2009 values.
 4) The operational size for broilers in 2010 is the value for 2009.

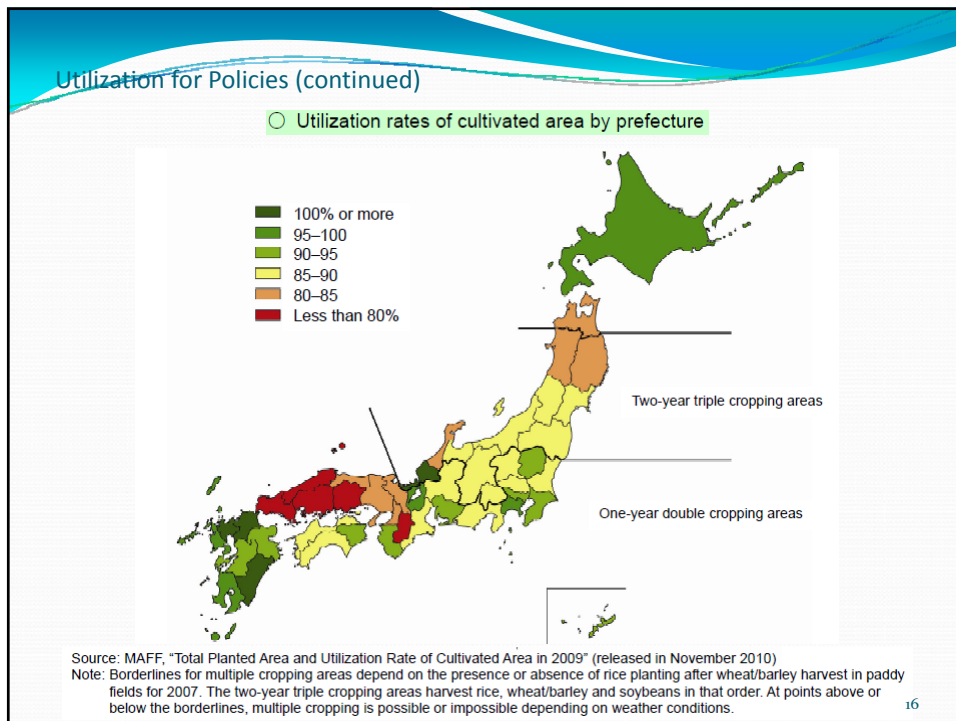
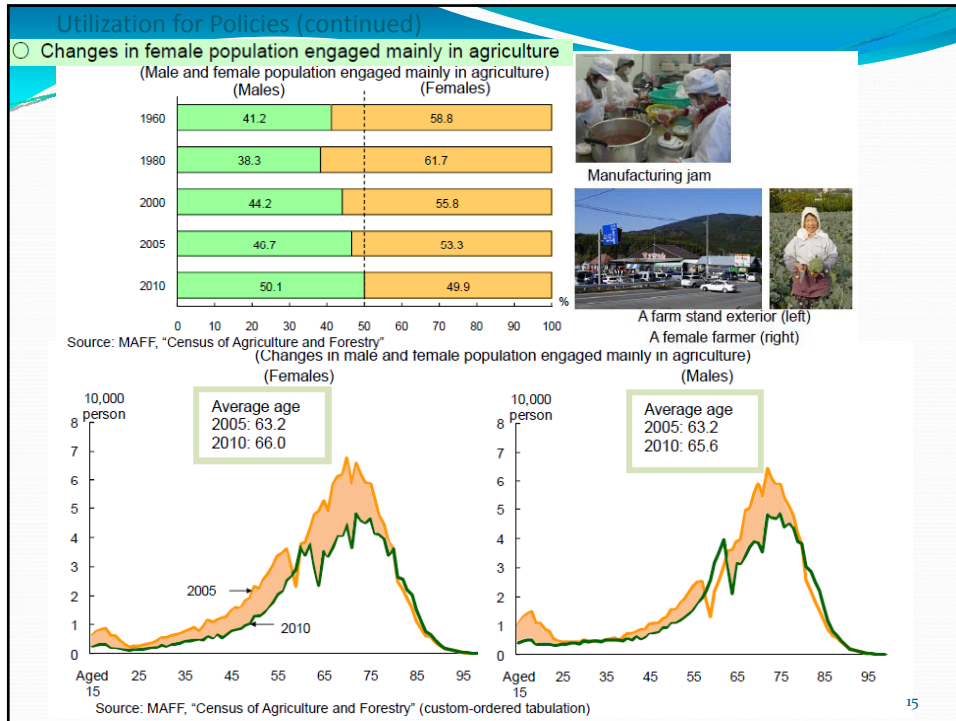
Utilization of Policies (continued)

○ Income breakdown for commercial farm households by farm household category (2009)



Cultivated land under management (ha)	5.3	2.1	1.3	2.2
Self-employed farmers' work hours (hours)	4,492	2,101	980	1,820
Degree of dependence on agriculture (%)	92.7	4.5	13.4	38.1

Source: MAFF, "Statistical Survey on Agriculture Management by Farm Household Category (individual management)"



Utilization for Policies (continued)

Major indicators

	(FY1960)	⇒	(FY2009)
■ Food self-sufficiency ratio (on a calorie supply basis)	79%	⇒	40%
■ Food self-sufficiency ratio (on a production value basis)	93%	⇒	70%
■ Annual per capita net food supply		⇒	
Rice	114.9kg	⇒	58.5kg
Meat	5.2kg	⇒	28.6kg
Milk and dairy products	22.2kg	⇒	84.8kg
Oils and fats	4.3kg	⇒	13.1kg%
	(1975)	⇒	(2005)
■ Share for non-home meals	28%	⇒	42%

Sources: MAFF, "Food Balance Sheet." Estimates by Foodservice Industry Research Institute
 Note: Share for non-home meals = (food service industry market size + restaurant market size) / (household food, beverage and tobacco expenditure – tobacco sales + food service industry market size)

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Major indicators

	(1960)	⇒	(2009)
■ Total agricultural output	1,914.8 billion yen	⇒	8,049.1 billion yen
■ Agricultural income	230,000 yen	⇒	1.04 million yen
■ Agricultural income/pension and other income	220,000 yen	⇒	3.52 million yen
■ Number of farm households	6.06 million	⇒	1.63 million ^{*1}
■ Population engaged mainly in farming	14.54 million	⇒	2.61 million ^{*1}
Share for elderly people aged 60 and more	17%	⇒	74% ^{*1}
Share of total working population	33%	⇒	4%
■ Cultivated area	6.07 million hectares	⇒	4.59 million hectares ^{*1}
■ Abandoned cultivated area	130,000 hectares ^{*2}	⇒	400,000 hectares ^{*1}
	(1970)	⇒	(2005)
■ Current status of developing rural living environment		⇒	
Paved road ratio	5%	⇒	68%
Garbage collection ratio	47%	⇒	93%
Water supply coverage	63%	⇒	93%
Sewage coverage	1%	⇒	47%

Sources: Ministry of Internal Affairs and Communications, "Population Census" and "Survey on Public Facilities;" MAFF "Agricultural Production Income Statistics," "Statistical Survey on Farm Management," "Census of Agriculture and Forestry" and "Cultivated and Planted Land Statistics"
 Note: *1 for 2010 and *2 for 1975

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List of Surveys

- Structure
 - Census of agriculture and forestry
 - Survey on movement of agricultural structure
 - Survey of new farmers
 - Survey of community farming etc.

- Economic activities
 - Survey on farmers' management and economy
 - Survey on prices etc.

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List of Surveys (continued)

- Production
 - Survey on crop
 - Survey on livestock etc.

- Distribution of food from processing to consumption
 - Survey on food waste
 - Survey on milk and dairy products
 - Survey on food prices at various stage of distribution
 - Survey on wholesale market
 - Survey on promoting "Sixth Industry" etc.

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List of Surveys (continued)

- Forestry
 - Census of agriculture and forestry
 - Survey on forestry household economy
 - Survey on lumber etc.

- Fisheries
 - Census of fisheries
 - Survey on Fisheries economy
 - Survey on fisheries production
 - Survey on marketing of fisheries products etc.

Thank you for your attention

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