

farming in Japan

There are changes ahead for Japan's farmers: in 2002, the Ministry of Agriculture, Forestry and Fisheries (MAFF) undertook a review of paddy field farming and published a Framework for Rice Policy Reform. The Ministry's aim is to implement major changes in systems by 2010. Naturally, this has sparked heated debate within the Japanese farming community. But what are the current issues? What factors have influenced the state of agriculture in Japan? And what kind of future faces the industry and those who work in it?

These activities encourage students to draw conclusions using a range of sources: photographic, statistical and text. Use them together or as stand-alone exercises to supplement existing schemes of work. All the photos on these pages, plus additional images and resources, are available to download from our website www.japan21.org.uk Or, to obtain a CD of these resources from Japan 21, email: education@japan21.org.uk or tel: 020 7630 8696.

curriculum links

KS3 Geography

Pupils will:

- 1a ask geographical questions and identify issues
- 1d analyse and evaluate evidence and draw and justify conclusions
- 2d use secondary sources of evidence including photographs to understand farming in Japan
- 3c describe and explain the physical and human features that give rise to the distinctive character of places
- 3d explain how and why changes happen, relating to the development of agricultural land and the issues that arise from these changes

5 - 14 Environmental Studies Understanding People and Place

The Human Environment

- level D for a developed area or country, describe main features of economic life and how they are changing, eg farming

Human- physical interactions

- level C describe the main features of agricultural land use
- level D for a selected land use change, describe possible effects, good and bad, on the landscape / environment

what do photographs tell us about farming in Japan?

resource: photo set 1 (shown below)

- Give each student a different picture and ask him/her to jot down key words and adjectives to describe what they see. They should also write a statement about farming in Japan based only on the evidence provided by their picture.
- Pin up or project the set of photos for

the whole class to see. Ask a few individuals to read out their key words and adjectives to the class, who then have to decide which picture is being described. Then ask a few other students to read out their statements - is it still possible to work out which picture they were working with?

- Put students in groups so that each group has a full set of pictures. Students pool their information and produce a brief



summary of what they now know about farming in Japan to be presented to the rest of the class. While doing this they should consider how accurate their findings are likely to be, based only on pictures, and consider what other sources of information would confirm their conclusions.

using statistics to find out about farming

resource: statistical tables and supporting information
(note: additional statistical tables are available on line)

Continuing to work in groups, distribute the tables among the class, one for each group. First, students should each make a graph (or

Farming population by age group

(unit: thousands of people)

	15 - 64	65 Et over	TOTAL farming population*
1980	5262	1711	6973
1985	4507	1855	6362
1990	3222	1597	4819
1995	2342	1799	4141
2000	1834	2058	3892
2002	1672	2079	3750

Source: Statistics and Information Department, Ministry of Agriculture, Forestry & Fisheries

* refers to 'commercial farmers' ie workers on farms of over 30 ares of land and with an annual income of at least ¥500,000 from farm produce.

Rate of self-sufficiency in various foodstuffs

(unit: percent)

	1965	1975	1985	1995	2000	2001	2002
Rice	95	110	107	104	95	95	96
Wheat	28	4	14	7	11	11	13
Soya beans	11	4	5	2	5	5	5
Vegetables	100	99	95	85	82	82	83
Fruit	90	84	77	49	44	45	45
Beef	95	81	72	39	34	36	39
Pork	100	86	86	62	57	55	53
Fish	100	99	93	57	53	48	46
Seaweeds	88	86	74	68	63	62	64
Oils Et Fats	31	23	32	15	14	13	13
Self-sufficiency by calorific value	73	54	53	43	40	40	40
Self-sufficiency in monetary terms	86	83	82	74	71	70	69

Source: Ministry of Agriculture, Forestry and Fisheries

Agricultural earnings as a percentage of GDP

	1998	1999	2000	2001	2002
Brazil	8.4	7.2	7.2	6.1	6.1
China	18.6	17.6	16.4	15.8	15.4
France	3.2	3.0	2.8	2.8	2.7
Germany	1.3	1.2	1.2	1.3	1.2
India	27.7	26.2	24.6	25.0	22.7
Japan	1.6	1.5	1.4	1.4	...
Kenya	26.3	23.4	19.7	18.6	16.4
Tanzania	44.8	45.1	45.0	44.8	44.4
United Kingdom	1.3	1.2	1.1	1.0	1.0
United States	1.6	1.6	1.6	1.6	...

Source: World Development Indicators database



photo set 2: picture B



photo set 2: picture A

graphs) to illustrate the data. Then, as a group discuss what the graph shows: what does it mean for farming in Japan? Try and explain the reasons for changes shown in the graph. Each group should prepare a short report to feed back to the whole class.

evidence for changes in farming

resource: photo set 2 (shown above); hints card (on line)

Compare the two pictures. Both show rice being grown on terraced fields, but in very different styles. One is using much more traditional farming methods than the other. In picture B, changes have been made to convert the land from terraces very like those in picture A. What changes? And what effect have they had? Discuss as a class.

Now ask each student to make two lists, one of positive and one of negative impacts which the changes have made.

extension: look again at picture A. Imagine there is a plan to convert to larger scale farming here. Make a case for *either* the farmer, supporting the changes *or* a local resident who is opposing them. Use the Hints card to help make your case.

case study: a farming area near Himeji

Yamada is a small faming district in the west of Japan. The 100 farm households in Yamada set up an agricultural co-operative

in 1980. This means that although each farmer is still responsible for farming his/her own land, they benefit in various ways from being part of a larger group, as you will see. All their rice fields were grouped into three

blocks, and the fields in each block grow three crops over a two-year cycle. Planting is staggered so that the different blocks are always at different stages of the cycle, growing rice, wheat and azuki beans.

There are various advantages to this system:

- because the same crops are grown on all the land, the system is fair to everyone.
- crop rotation means that they do not have problems from repeatedly growing the same crops on the same piece of land.
- the co-operative can buy newer and larger farm equipment than individuals could. It trains a few people who operate the equipment and they will train others in the future.

The co-operative has total responsibility for farming the wheat and azuki beans, as well as 10% of the rice. 60% of the farms ask the co-op to give some help with rice production, for example planting out the seedlings. In the future the co-op will probably do even more as the population ages and the number of people who can't do farm work increases. In the future, it plans to start greenhouse cultivation as well.

- Compare this case study with the conclusions you have drawn from the picture and statistics sources you have already looked at. Do they agree? Does it answer any of the questions you had?

japanese agriculture: an overview

The Japanese climate is ideal for rice growing, with a warm rainy season followed by a hot summer. Rice is grown throughout Japan, but most is produced in the Tohoku region in the north of Honshu. Hokkaido is the centre of the beef and dairy industry and its farms also produce much of Japan's wheat and barley. Oranges are a common sight in the warmer south, while fruits such as apples and grapes are grown in the northern regions.

In land reforms in the 1950s, much of Japan's farmland was redistributed. Land owned by a few large landowners was given to the people who actually farmed it. Most of these farms were small units, below 3 hectares per household. Individual fields were often much smaller. In hilly areas, narrow fields or terraces have been cut into steep slopes. In urban areas, it is still common to see fields dotted among the buildings.

decline

The farming population continues to decline. The number of people living in farm households fell below 10 million for the first time in 2002. This is due to the decrease in the number of farms as well as the continuing trend towards nuclear families. 35% of people in farm households are now aged 65 and over. 55% of farm workers are over 65 and 60% are women. Over 67% of farm households earn most of their income from work other than farming.

Agricultural production has declined from 9% of GDP in 1960 to 1.4% in 2001. Japan's overall food self sufficiency on the basis of calories is 40%, the lowest of any leading industrial nation. The Ministry of Agriculture, Forestry & Fisheries has identified the drop in consumer demand for rice as one reason for this. Campaigns to promote rice as part of a healthy diet and

to increase the number of rice-based school meals are trying to change consumer attitudes. Producers are being urged to improve quality, eg of wheat and soya beans and to develop further production of fruit and vegetables. The '200g of fruit a day' campaign is designed to encourage people to eat more fruit.

policy changes

After the war, farmers were encouraged to produce lots of rice, but a glut of rice in the 1970s led to a change in policy. The



government tried to control the amount being produced and prevent a slump in rice prices. Since 1971 there has been a programme to reduce the amount of land being farmed for rice. Subsidies have been paid to farmers for setting land aside and for growing other crops. High rice prices mean that small scale farms have been able to survive. 36% of rice output (by value) comes from business-scale farms; this compares to 70-90% for other commodities.

As part of the Framework for Rice Policy Reform, announced in 2002, government control of rice output will end by 2008. Farmers and farming organisations will

decide how much rice to grow and the government will just advise them about production needs and check overall yield plans. Producers will sell rice through various channels which give them more direct contact with consumers. Subsidy programmes are also being reformed.

Instead of a standard rate paid directly to the farmers, the subsidy will be paid to local farming groups who will decide how it is shared among members. This will help them plan farming strategy for their area.

future plans

Looking to the future, it is clear that Japan's farming industry will have to make some changes. Rural areas are losing population and farm owners are aging, so it will not be possible to continue to run an industry based on many small farms. Farming needs to become larger scale and this is happening in various ways. Some farm owners contract out their land to be farmed by large farming companies while, in other areas, groups of farm owners have formed co-operatives which enable them to share the work and capital costs. Many small fields are being put together to make single larger fields.

However, moving to larger scale farming operations brings problems. Most families are reluctant to sell their land so any changes need to be agreed by many people. There are also financial costs. Fields need to be re-sized, then the irrigation, drainage and farm road infrastructure needs to be changed. The government provides some funding for this. In the long term, these moves will reduce the amount of labour needed to farm the land and make it easy to use fewer large machines instead of many small ones, thus cutting costs.

www.stat.go.jp/english/index.htm

www.maff.go.jp/index.html

www.usda.gov