

Unit 1 Waste and Recycling

Textbook update

1.2

In 2009, Japan's municipal waste per capita amounted to 377 kg per year.

Roughly 70% of all garbage is burned in incinerators and 20% is recycled. Recycling rates are: aluminum cans 93.4%, glass bottles 78%, plastic 77%, PET bottles 77.5% (2009).

Further information

The amount of waste per person in Japan (average 578 kg per person) is the lowest among 17 OECD countries. 50% of recycled PET bottles was used for textile products. Kyohei and Toyo Seikan recycle used PET bottles into new ones, cutting oil consumption by 60%.

However, Japanese consumers discard 950,000 tons of paper containers and packaging every year. Only 15% of this is recycled. Japan's garbage incineration rate (70%) is one of the highest rates in the world. In 2007, waste incineration generated 1,630 MW of electricity. The greenhouse gas emissions from incineration are much less than from landfill (IPCC).

Discarded electrical products in landfills contain valuable metals. In Japan, these "urban mines" are estimated to contain 6,800 tons of gold, 60,000 tons of silver and 1,700 tons of indium. The Ministry of Economy, Trade and Industry conducted a cell phone recycling campaign in 2010. From 567,000 phones, they reprocessed 22 kg of gold, 79 kg of silver, 2 kg of palladium and 5,670 kg of copper.

Aeon sells about 170 million biodegradable shopping bags each year at five yen each. They are made using bioethanol extracted from sugar cane and their use cuts CO₂

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emissions by 54%. In China, Italy, South Africa and Kenya, non- biodegradable shopping bags have been banned. 16% of marine animals found dead on coasts around the UK died because of plastic bags.

Removing waste illegally dumped at Japanese highway service areas costs about 1.5 billion yen each year. The waste includes televisions, furniture and even dead pets. (In the UK, highway service areas are monitored by surveillance cameras to catch offenders.)

Unit 2 Endangered Species

Textbook update

Estimated populations of species mentioned in the text, as of 2013:

- Asiatic lion (in Gujarat, India) 350
- black rhinoceros 4,880
- Californian condor 237 wild, 198 captive
- polar bear 25,000
- mountain gorilla 880
- Lear's macaw 1,200
- panda 1,600

Further information

In 2013 CITES named the worst eight countries for the illegal ivory trade as China, Kenya, Malaysia, Philippines, Tanzania, Thailand, Uganda, Vietnam. They all belong to CITES, but lack strict implementation. The biggest consumers of endangered species are China and Vietnam. They are mainly used in traditional medicine (e.g. rhino horns, manta rays, tiger bones, sea horses) and restaurant dishes (e.g. shark's fin soup). The Japanese government has opposed restrictions on the trade of many endangered species & products, including ivory, tortoiseshell, coral, musk, whales, sharks, eels, polar bears and blue fin tuna.

Some of the threats to endangered species not mentioned in the textbook: introduction of alien species (e.g. rats & goats on Galapagos), drought, trade in endangered species (e.g. ivory), plastic garbage (e.g. marine animals), underwater sonar testing (e.g. whales and dolphins), tourism (e.g. marine animals), river pollution (e.g. otters), unsustainable fishing industry (e.g. tuna and eels), traffic accidents (e.g. Iriomote wild cat), habitat loss (due not only to logging but also mining & development), loss of prey due to overhunting (e.g. of wild animals favored by tigers).

Endangered species include 41% of all amphibians (e.g. frogs), 25% of all mammals (e.g. orangutans) and 13% of all birds. According to UNEP, the cost of biodiversity loss is now \$4.5 trillion per year but the cost of preventing it would be only \$45 billion each year.

Why should we care?

- What threatens other species also threatens us: e.g. pesticides, pollution, global warming.
- Nature is a valuable source of new drugs. For example, some species of frogs produce bacteria that could be used to fight viruses that are resistant to modern drugs. Species of plants such as the rosy periwinkle contain substances that could be used to cure cancer and other diseases.
- Some wild species of crops such as corn and potatoes are resistant to diseases that attack the species commonly grown by farmers.
- Butterflies, bees, bats and other species carry pollen that helps increase crop yields. Their decline will cause food shortages.
- Many endangered species are important for the tourism industry. e.g. elephants, rhinos and leopards in East Africa, gorillas in Central Africa, etc.
- Many human communities depend on marine species for their livelihood and even survival.
- So far, we have no way to recreate a species once it has become extinct.

Hopeful signs: Populations of some endangered species are now recovering, thanks to conservation measures, e.g. in Europe: wolves, bison, lynx, bears, beavers, storks. In Japan, 12 panda cubs have been born in Adventure World, Shirahama, since 2000; 211 crested ibis (toki) have been born in Sado since the last died in 2003 and was replaced by some brought from China; the population of wild storks in Toyooka has grown to 134 since they became extinct in 1971 and were saved thanks to a captive breeding program.

Unit 3 Rainforests

Further information

The text refers to tropical rainforests, but there are also temperate rainforests in cooler areas such as North America, Chile, New Zealand and Japan. (65.8% of Japan's land area is forested, but only 3.5% of that is fully protected.) Tropical rainforests have much greater biodiversity. 30% of the earth's tropical rainforests are in Brazil. (The second largest area is the Congo Basin in West Africa, with 26%.) In 2003, Brazil began monitoring forests using satellite data and the army began arresting illegal loggers. Under the Forest Code, farmers have to keep forests on 80% of their land. Deforestation rates fell by 80%. In 2012, the Forest Code was revised to allow more logging and improvements were made to Amazon highways, and deforestation increased by 28%. Brazil is the world's top beef exporter, and 20% of its exports are produced in the Amazon region. Indonesia introduced a moratorium on new licenses for clearing primary forest, but deforestation continues regardless, even in national parks, due to corruption. The worst deforestation occurs in areas of peat forest cleared to create oil palm plantations. The Roundtable on Sustainable Palm Oil is an attempt by WWF and major companies to make production more sustainable, but some member companies continue unsustainable forest clearance. Unilever, the world's biggest buyer of palm oil, is only able to identify the source of 5% of its palm oil as of 2013. Forests are also cleared to grow coffee, rubber and spices. Illegal logging is rampant not only in Indonesia, but also in Malaysia, Cambodia and Laos.

The UN is promoting REDD (Reducing Emissions from Deforestation and Degradation) as a way of reducing global warming. It is controversial: forest owners may be paid for carbon offsets in one area, while opening up new areas elsewhere for logging; indigenous peoples may be forced to leave; REDD payments may be stolen by corrupt officials; and rich companies may continue polluting the atmosphere. Many big companies (e.g. Cosmo Oil) now support forest conservation and reforestation projects in order to offset their own responsibility for greenhouse gas emissions.

Unit 4 Global Warming

(Also referred to as Climate Change)

Textbook update

4.4

In 2012 New York was hit by a hurricane named Sandy that caused damage costing \$68 billion, second only to Hurricane Katrina (New Orleans, 2005). It killed 286 people in 7 countries.

Further information

Impacts:

In May 2013, the IPCC announced that atmospheric CO₂ had reached 400 ppm - the highest level for at least 800,000 years, and possibly 3 million years. The maximum safe level is estimated to be 350 ppm.

The IPCC says at the current rate of emissions, by the end of the 21st century there will be

- a rise in temperatures (0.3 - 4.8 degrees C)
- a rise in sea levels (26 cm - 82 cm)

and before that, floods, droughts, famines, severe storms, extreme heat waves, collapse of ecosystems, mass migrations ... Tipping points (at which climate change is no longer controllable) are expected within 7 years in some regions (e.g. Indonesia). Some low-lying islands will soon have to be evacuated (Carteret, Maldives, Tuvalu, Kiribati, Marshall Islands) due to rising sea levels and lack of food and clean water. But their populations are tiny compared to Bangladesh and Egypt. Within 25 years, 10 million people in Bangladesh and 8 million in Egypt may become homeless due to flooding and food shortages. The most vulnerable city in the world is Dacca (Bangladesh) where 13 million people may need to be permanently evacuated. The biggest victims of global warming are those who have contributed least to it: the

world's poorest people are those who will become homeless and unable to find food or clean water.

Predictions by the World Bank by the year 2043:

Africa's maize crop will decrease by 40%.

Fish stocks in South East Asia will decline by 50%.

(The sea absorbs a lot of CO₂ and is becoming more acidic.)

Bangkok will be submerged. (Tokyo will be affected too. The entrance to Sumiyoshi subway station in Tokyo is currently 3 meters below sea level.)

Responsibility for global warming

The world ranking for total CO₂ emissions in 2009:

#1. China #2. US #3. Russia #4. India #5. Japan.

Tons per capita emissions for the same countries:

- US 18.1
- Russia 11.7
- Japan 9.2
- China 6.3
- India 1.4

compared to Singapore 36.6 and Mozambique 0.1 ton per person.

US emissions fell from 2012 because of:

- clean air laws that forced coal power stations to close
- using shale gas instead of coal and oil
- economic recession.

CO₂ levels have been rising since the Industrial Revolution. Therefore some say responsibility for global warming lies with countries like the UK that industrialized first rather than those catching up, such as China and India. (The top three for historical emissions are the UK, the US and Russia/USSR.) But since one half of all emissions have occurred in the past 25 years, the newly-industrialized countries also have a big responsibility.

Measures to limit climate change

Clean energy and energy conservation: see Unit 5.

Cars powered by hybrid and fuel-cell engines. But a huge amount of energy is needed just to produce them!

Carbon taxes: researchers such as Lester Brown say we should tax pollution rather than income.

CCS: Norway has been testing CCS (carbon capture and storage) since 2000, using depleted oil fields, with no CO₂ leakage. There are similar projects elsewhere (e.g. Netherlands). Toshiba has a CCS project in Fukuoka.

Carbon trading (mainly in EU): not effective - cuts in CO₂ emissions are valued too cheaply.

An interesting comparison:

Paint roofs white to reflect solar radiation & keep house cool:

saves 100 kg of CO₂/sq m.

Install solar panels to generate electricity:

saves 67 kg of CO₂/sq m.

Cover roof with plants to convert CO₂ to oxygen:

saves 4.5 kg of CO₂/sq m.

Painting roofs white is also the cheapest option.

METI National Institute for Environmental Studies says a 25% cut in Japan's emissions is possible. Estimated costs vary from 130,000 Yen to 765,000 Yen per family per year for a 25% cut compared to 1990 levels.

Would it be worth it?

Climate change skeptics

The vast majority of scientists accept the IPCC conclusions.

But large corporations involved in fossil fuels (mining and energy) are strongly opposed, and employ scientists to challenge the IPCC and pay politicians to fight clean energy policies. A report published in 2013 shows that 90 corporations are responsible for 63% of all man-made global warming. 83 are energy producers (coal, oil, gas) and 7 are cement companies. Many of them have spent huge sums of money

to persuade the public that global warming is a hoax and to block environmental legislation.

Many politicians believe economies have to grow in order to pay for adapting to global warming, and that measures to prevent global warming harm economic growth. People in developing countries feel especially strongly about this and demand financial support from rich countries in exchange for reducing their own emissions.

Many ordinary people in rich countries are losing interest in global warming and care more about the economy, prices and employment.

What can we do?

There are many things we can do to prevent global warming that don't cost anything. For example, we can save energy and money by going to bed earlier, and we can get good exercise by using the stairs instead of the elevator. But as educators, we have a more important role: to inform and empower our students to live more sustainably.

Unit 5 Energy

Textbook update

5.4

Denmark now gets over 28% of its electricity from wind.

The nuclear power plant in Kashiwazaki-Kariwa was closed down after the Fukushima disaster of 11th March 2011.

Further information

Before the nuclear disaster which occurred in Fukushima on 11th March 2011, the Japanese government had a plan for 50-60% of all electricity to come from atomic energy. After the accident, all of Japan's nuclear reactors were shut down for maintenance and repairs, and the government proposed a long-term goal of getting 100% of all electricity from renewable sources. However, a new pro-nuclear government was voted into power and the vision of 100% eco-friendly electricity became just a dream. Is it possible? Yes, according to GENI.

(GENI: Global Energy Network Institute: How is 100% renewable energy possible in Japan by 2020? www.geni.org)

	Energy source (2011)	Estimated realistic potential
wind	2.2 GW	1,800 GW
solar	4.7 GW	350-700 GW
hydro	27 GW	?
biomass	3.2 GW	?

In addition, Japan has a 34,000 km coastline with great potential for wave and tidal energy. Japan's total electric generating capacity in 2012 was 243 GW, and this met the country's needs. Japan's potential capacity from renewable energy is more than ten times greater. Japan already has the world's largest number of renewable energy

patents (solar 34%, fuel cell 55%, geothermal 19.7%, wind 12%), so the technological capacity exists. It is also possible to reduce electricity demand through more efficient use. 100% renewable energy is achievable.

In Japan's offshore Exclusive Economic Zone (the world's sixth biggest), there may be vast quantities of methyl hydrates that could help bridge the energy gap until the 100% renewable energy goal has been reached.

Japan has no need for nuclear energy in the long term. When all costs are taken into account (including much higher safety standards and compensation payments in case of accidents) it is extremely expensive. With no permanent storage facility for high-level radioactive waste, it is extremely dangerous. In a country that is so vulnerable to earthquakes and tsunamis, building nuclear reactors and storing highly radioactive nuclear waste is very reckless.

Unit 6 Developing Countries

Textbook update

6.2

- 1.** As of 2012, all 6 countries mentioned are regarded as developing countries by both the IMF and the World Bank, mainly because they have Gross National Income per capita of less than \$12,476. Surprisingly, some EU members are also categorized as developing: e.g. Bulgaria, Hungary, Poland and Romania. Also, some countries with a much higher GNI but with a dependence on oil or other key exports are also regarded as developing: e.g. Saudi Arabia. Low levels of development are usually linked to low levels of education and high birth rates. Membership of the OECD is also regarded as an indication of development status, but Chile, Mexico and Turkey are also members.
- 4.** The Human Development Index shows Cuba is roughly equal to the US as regards life expectancy and education; the only difference is income.
- 8.** The top 16 countries with the biggest external debt in 2013 were all developed countries. #1 US #2 UK #3 France #4 Germany #5 Japan.
- 9.** The top donors in 2009 were #1 US #2 France #3 Germany #4 UK #5 Japan. The top donors as regards % of GNI were #1 Sweden #2 Norway #3 Luxembourg #4 Denmark #5 Netherlands. All gave over 0.7% of GNP. Japan was one of the lowest, with 0.18%. The top donors as regards quality of ODA (on the Commitment to Development Index) were Denmark, Norway and Sweden. Japan was ranked 26th. The top recipient nations were Afghanistan, Iraq, Vietnam, Sudan and Ethiopia.
- 10.** In 2010, 1.2 billion people (about 20% of the world's population) lived on less than \$1 a day. Note that this is \$1 Purchasing Power Parity, which takes into account what can be bought with \$1 in different parts of the world. MDG #1 was to cut poverty by 50% compared to 1990. The target date was 2015 but the goal was met in 2010. Yet 1.2 billion people still live in extreme poverty and on average, 50,000 people die each day due to poverty-related causes (mainly malnutrition) according to FAO in 2013.

Further information

Other relevant issues:

ODA that supports subsidies to farmers is often very effective. Malawi depended on food aid in 2005, but was able to export grain in 2008 after distributing subsidized fertilizer to farmers.

Fair trade has increased steadily since the 1970s. It offers farmers a fixed price, higher than the normal market price, and provides support with training and credit. But the extra amount consumers pay for fair trade products is much more than the extra amount farmers receive. Farmers would benefit more if the consumers simply donated cash through NGOs.

Microcredit has also increased greatly since it first appeared in Bangladesh. It has helped many people escape from poverty. But some researchers say it simply replaced wage income with business income, and many people have been unable to pay back their loans.

Corruption in developing countries often means ODA and NGO support is wasted. For example, the King of Swaziland has beautiful palaces and expensive cars, but his country is bankrupt. The World Bank refuses to lend money to Swaziland. In Niger, a drought that began in 2008 has made 6 million people desperately hungry. Niger exports uranium, coal, oil, iron, gold and diamonds, and is potentially rich enough to feed all its people.

Unit 7 Human Rights

Textbook update

7.2

1. North Korea, China, Myanmar, Iran, Cuba, Vietnam, Eritrea, Ethiopia, Russia, Belarus, Uzbekistan, Kazakhstan, and many more.
2. Now only the Philippines.
6. Also Hotel Rwanda.
8. Just over 100 countries have no compulsory military service.
9. The death penalty has been abolished for all crimes in 97 countries, abolished for ordinary crimes in 8 countries, retained but no longer used in 35 countries (total 140) and is used or likely to be used in 58 countries.

7.6

In a recent year, 2,700 children were born to unmarried parents of whom one was a Japanese father. Children can get Japanese nationality if the father acknowledges paternity before the birth. If not, they have to sue the government.

Further information

The situation in Myanmar has improved greatly since the parliamentary by-elections held in 2012, when the opposition National League for Democracy was allowed to take part, and won 43 out of the 46 vacant seats. Democracy leader Aung San Suu Kyi herself became a member of parliament. The worst violators of human rights are military dictatorships such as North Korea and one-party states such as China, Vietnam and Cuba. Countries that do not allow UN human rights inspectors to investigate complaints include China, Russia, Saudi Arabia, Vietnam and Algeria. Japan generally receives a fairly high rating from human rights groups such as Amnesty, Human Rights Watch and Freedom House. However, it has been criticized for its use of the death penalty, for human trafficking, for exploitation of foreign

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“trainee” workers, for its treatment of asylum seekers, for censorship of history textbooks, for censorship of negative reports about the nuclear industry prior to the Fukushima disaster and for the use of forced confessions to convict suspected criminals.

Unit 8 Tourism

Further information

In 2013, there were over 1 billion international tourist arrivals. Tourism is thought to provide more jobs than any other industry. However, many of those jobs are seasonal and poorly-paid.

Unit 9 Peace and Conflict

Textbook update

9.4

The Nobel Peace Prize in 2013 included a cash award of 8 million Swedish kroners, equivalent to about \$US 1.2 million.

Since 2007, the winners have been:

- 2008 Martti Ahtisaari of Finland (peace negotiator)
- 2009 Barack Obama (US president)
- 2010 Liu Xiaobo (Chinese human rights activist)
- 2011 Ellen Johnson Sirleaf (Liberia), Leymah Gbowee (Liberia) and Tawakkul Karman (Yemen), all for leading women's peace campaigns
- 2012 The E.U., for giving Europe 60 years of peace.
- 2013 The Organization for the Prohibition of Chemical Weapons (suddenly brought into prominence by its role in Syria that year)

9.5

Apparently Sugihara's requests to Tokyo were not rejected, but ignored. The Japanese government allowed the Jewish refugees with Sugihara's visas to enter, transit and leave.

9.8

Among the suggestions from Japanese students: draw the border right across the middle; create a new, independent country; auction the disputed territory; unite countries A & B under a single government; take turns to administer the disputed territory; decide by "stone, scissors, paper" (janken); do an annual tug of war to decide the border.

Apparently there was one case of joint administration: the island of Tromelin, claimed by Mauritius and France.

I have been unable to corroborate the story of the dispute between Qatar and Dubai. It appears to have been a hoax. I regret any misunderstanding caused by this interesting but false story.

Further information

As of 2013, there are 19 countries with no military forces, and 103 with no compulsory military service. In 2013, the UN approved a treaty regulating the international arms trade. Only three nations were opposed: Iran, North Korea and Syria. Also in 2013, Japan finally signed a statement at the UN calling on countries not to use nuclear weapons - but only after assurance that the statement was non-binding on Japan.

Thailand and Cambodia had a territorial dispute involving a World Heritage site named Preah Vihear Temple. The International Court of Justice ruled in 1962 that the temple belonged to Cambodia, and repeated its ruling in 2013. Thailand accepted the ruling.

According to the Global Peace Index, the world's most peaceful countries in 2013 were #1 Iceland #2 Denmark #3 New Zealand #4 Austria #5 Switzerland #6 Japan. This includes crime levels as well as military conflicts. The US ranked #99 and China #101.

According to SIPRI (Stockholm International Peace Research Institute, the top 5 countries for military spending in 2013 were:

#1 US #2 China #3 Russia #4 UK #5 Japan.

[The world's 6th most peaceful country is the world's 5th biggest spender on arms?]

In 2012, total global arms expenditure was \$1,753 billion, about 2.5% of global GDP. In 1998 Kiyoshi Amemiya's team of engineers produced a bulldozer that could clear landmines at a rate of 10 square meters per minute. Each costs more than 30 million yen. So far about 80 have been delivered to various countries.

Unit 10 Gender Issues

Textbook update

10.2

1. At least 46 countries have had a female president or prime minister. Some of the most famous: Margaret Thatcher (Britain), Indira Gandhi (India), Angela Merkel (Germany). In 2013 there were 19 female heads of state.

3. Saudi Arabia has no law against women driving, but does not issue licenses to women. Any woman who drives must therefore be driving illegally.

6. In 2013, the world's richest person was a man, Carlos Slims of Mexico, with \$73 billion. Forbes' 2013 list of 1426 billionaires includes only 138 women. The richest had almost \$30 billion, but like many other people on the list, she inherited her wealth. Others went into business with their husbands. However, some female billionaires created their fortune entirely by themselves. The richest of those was Chan Laiwa, the founder of a real-estate company in Beijing. Her wealth is estimated at \$4.1 billion. (*Source:* Forbes Billionaire List: Meet the nine richest self-made women. Christian Science Monitor March 5 2013.)

7. The 2013 World Economic Forum Report on Gender ranked Japan 105 out of 136 countries. The top country was Iceland. Japan's ranking for wage equality was 87.

10.5

See WEF report above. *Aera* magazine surveyed 95 major Japanese companies and found 55 had no female executives at all. Why? According to company spokespersons "few women qualify."

Unit 11 Refugees

Textbook update

11.3

The camp could be in Thailand, which hosts many refugees from Myanmar and does not allow them free movement.

11.5

As of June 2013 there were over 28 million internally displaced persons and over 15 million externally displaced persons around the world. 937,000 were waiting to be granted asylum by the host countries.

11.6

The roles reflected the reality in those countries when this book was written. However, the situation in some has improved, and there are other countries with greater problems now. As for the “secret” criteria for accepting refugee applicants, criteria a), b), c) and f) definitely apply to Japan, but the other criteria may or may not be referred to tacitly; and the “special consideration” factors are based purely on speculation. It is likely that any country would welcome immigrants (whether or not refugees) with such a background.

Further information

More than half of all refugees come from Afghanistan, Somalia, Iraq, Syria and Sudan. The top receiving countries are Pakistan and Iran, but since the war began in Syria in 2011, more than 2.5 million refugees have arrived in neighboring countries (Lebanon, Jordan, Iraq, Turkey & Egypt).

Under international law, refugees are people who are outside their country of nationality or habitual residence, who have a well-founded fear of persecution

because of their race, religion, nationality or membership in a particular social group or political opinion and who are unable or unwilling to avail themselves of the protection of their country or to return there for fear of persecution.

Japan ratified the Refugee Convention in 1981, but has accepted only 2,649 refugees since then. In 2011, Japan received 1,867 asylum requests and accepted 21. Roughly one person out of every 2,650 in Japan is a refugee. Japan thus ranks 93rd among 154 countries for its share of the world's refugees. However, Japan ranks third for the amount of funding given to UNHCR. This leads to comments that Japan is generous with cash and stingy with the help that refugees really need: a safe place to live. In 2008, the government agreed to accept about 90 refugees from Myanmar on a fast-track process. The first group of 27 arrived, were taught Japanese for 6 months and then went to work on farms in Mie.

Uniqlo donates used clothing to refugees and began hiring them in 2011. Their evaluation: refugees are hard workers.

According to the Japanese Immigration Policy Institute, Japan needs ten million immigrants over the next 50 years in order to maintain a stable population, which it needs in order to pay for welfare and old age pensions. The UN has reached a similar conclusion. At present, Japan has roughly two million foreign residents.

Unit 12 The United Nations

Textbook update

12.2

As of July 2011, the UN has 193 members. (South Sudan was the last member to join.)

12.4

The first opinion reflects the views of many members of US Congress, who have no idea how much the US actually benefits from the work of the UN. The second opinion may have been valid at one time, but now the developing countries are well-represented in the UN, and the UN is very sensitive to their needs. The third opinion refers to the period from 1975 to 1978.

12.5

There have been calls for India, Brazil, Germany, South Africa and Japan to become permanent members of the Security Council. Germany and Japan pay a lot of money for the UN budget; Brazil is the most influential country in South America; India is the world's 2nd most populous nation; and South Africa is the most economically developed nation in the region.