

The Palm Oil Story

What does it mean
to be "Eco-friendly"?



Objectives

This course aims to inform us about the problems occurring in producer countries of palm oil, which is used in potato chips, chocolate, cup noodles, ice cream and many other familiar items. It helps us to understand the structures behind these problems and their relationship to consumption in our daily lives. It encourages us to think about what we can do to solve the problems.

Most palm oil is produced in plantations in Malaysia and Indonesia. In Japan it is used mainly for food items. It is also used in detergents, soaps, etc., which are promoted as "eco-friendly" products since they are made of natural vegetable oils. But is palm oil really "eco-friendly"?

Many problems are occurring in the producer countries. In Sarawak state on Borneo Island in Malaysia, palm oil production leads to logging and deforestation of tropical rainforests, and destroys the living environment of indigenous peoples. In Peninsular Malaysia, workers including child laborers have no choice but to stay in the plantations for many generations with almost no external contact. Of course these are not simple problems that can be solved merely by stopping consumption of palm oil. Many intertwined historical, cultural and other structural issues must be considered.

The problems remain unresolved. However, we may find hints to the solution by understanding the problems occurring in palm oil producer countries, and how they relate to our consumptive lifestyles.

It is hoped that this course will help us to feel closer to the people and environment in producer countries, and to ponder what it really means to be "eco-friendly."

Note: The English translation of the Development Education Teaching Materials produced by Development Education Association and Resource Center (DEAR) was organized by Education for Sustainable Development Research Center (ESDRC), Rikkyo University.
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Education for Sustainable Development Research Center
Rikkyo University

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- To communicate with the government and give suggestions on its policy
- To develop networks and exchange information with related organizations in the world.
- To research Development Education.
- To gather information on Development Education in both Japan and the world and share the information.
- To help to provide learning opportunities in communities and schools.

Development Education Study Kit

The Palm Oil Story

What does it mean to be “eco-friendly”?

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Other Materials

Photo Panels (10)

Storyboard: A day in Meena's life

Parchisi game "Living three generations on the plantation"

Problems with Oil Palm Plantations in Malaysia

	Sarawak	Peninsular Malaysia
Area under Oil Palm Plantations (2004)	5,083 km ²	22,016km ²
Main issues	1) topical deforestation 2) destruction of living environment of indigenous peoples.	1) child labor 2) continuous living in plantations for more than a century.

Plantations:

The Difference in Labor Conditions between Peninsular Malaysia and Sarawak

The management of plantations and labor conditions vary between the Peninsular region and Borneo island (Sarawak and Sabah) in Malaysia. Most oil palm plantations in Peninsular Malaysia were converted from earlier rubber plantations, and the workers are of Indian or Malay descent. Some are managed by foreign firms, others by Malay companies, and still others are government-run. Though the number of plantations with problematic labor practices is not small, government-run plantations generally pay more than the minimum wage (though still inadequate) and some provide educational facilities for the children. One cannot say that "all plantation work is harsh and abusive." On the other hand, as explained in Section II, most of the plantations in Borneo (Sarawak, etc.) were developed recently, causing problems such as rapid destruction of tropical rainforests and the living environments of indigenous peoples, etc. Many of the plantation laborers in Borneo are migrant workers from Indonesia. They must bear harsh working conditions, but often accept them as they are still better off than in their home country.

Section I. Palm oil and our lifestyle

Aims

To learn that there are many products made with palm oil in our daily lives, and to gain basic knowledge about palm oil.

Time

30 minutes

Materials

Products made using palm oil (ice-cream, potato chips, cup noodles, chocolate, seasonings for rice, soap, detergent, etc.); Photo Panel 1; Q&A sheet; map of Malaysia

How to proceed

1. Lay the above products out, and ask what (ingredient) is common to all of them.
2. The facilitator gets the participants to voice their views, informs them that the common ingredient is palm oil, and asks them to check the package labels.
3. The quiz, photo panels and materials are used to explain about oil palm.
4. The photo panels and graphs are used to explain how palm oil is produced, how it is used in consumer countries, why demand is increasing, etc. (refer to commentaries)

Expanding on the subject

1. Study about other vegetable oils (soy-bean oil, rapeseed oil, corn oil, etc.) and compare how they differ from palm oil.
2. Discuss why oil consumption is increasing in your country.
3. If the packaging only says the product contains "vegetable oil," call up the company to ask what types of oils are used, and in what proportions.

Q&A

Q1 What is the vegetable most used in the world? How is in your country?

rapeseed oil soy-bean oil coconut oil palm oil

Q2 From which country is the largest amount of palm oil imported into Japan?

Indonesia Philippines Taiwan Malaysia

Q3 What is oil palm imported into Japan used for the most?

margarine, shortening and other processed oils

deep frying oil for potato chips, etc.

lipstick and other cosmetics

soap and detergents

plastics and other industrial uses.

Q4 Why is palm oil used in so many different types of products?

Because oil palms can be harvested around the year for about 24 years after planting.

Because the amount of oil harvested per acre is greater than soy-bean oil or rapeseed oil.

Because it has no taste or smell, making it easy to use in processed foods.

Because it is thought to be better for the health than animal fat.

Because it is thought to be an eco-friendly product obtained from plants.

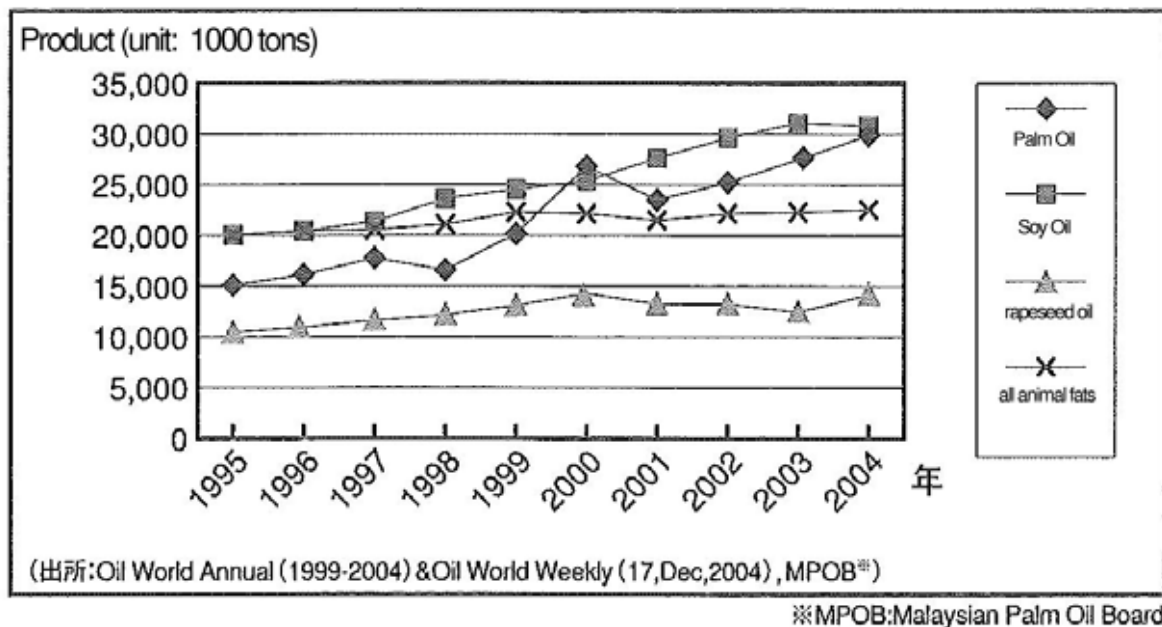
Answers: Q1 = 2 (worldwide), 1 (Japan); Q2 = 4; Q3 = 1; Q4 = All the above.

1. Vegetable Oils in the World and in Japan

1) Worldwide Consumption

Vegetable oil is obtained from palm oil as well as soybean, rapeseed, safflower, corn, cottonseed, sesame, olives, coconuts, sunflower, rice and other plants. According to 2004 statistics, the vegetable oil produced the most worldwide is soybean oil (30,887,000 tons), followed by palm oil (29,953,000 tons)(see Figure 1).

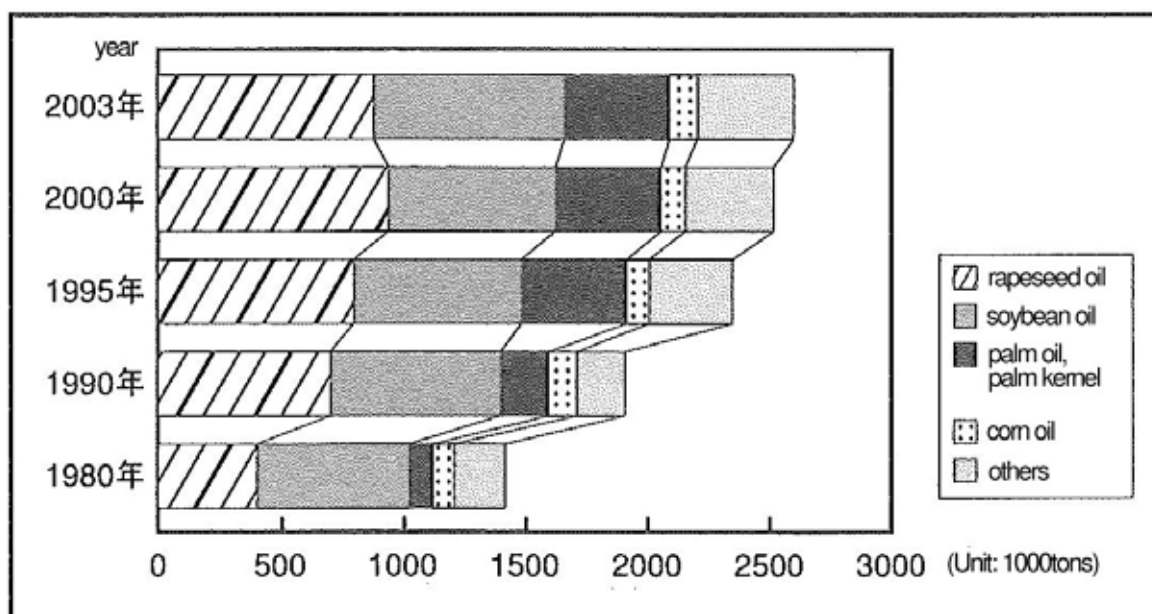
Figure 1: Worldwide Production of Edible Oils



2) Consumption in Japan

Vegetable oil is consumed almost 2.5million tons in Japan. Except for rice oil, Japan relies on imports for almost all of its vegetable oils. Japan imports Soybean from United States and Brazil the most, Rapeseed from Canada and Australia. And all of them extracted in Japan. Palm and olive oil are exported as they are. In Japan, the vegetable oils that are consumed the most are rapeseed oil, soybean oil and palm oil, in that order (see figure 2). According to Japan Ministry of Agriculture, Forestry, and Fishers, Japanese people consume an average of 13 kg of vegetable oil per person each year. This condition has continued in over 10 years, it is said that the consume of vegetable oil draws to the saturation level.

Figure 2: Change of vegetable oil supply in Japan (Japan Ministry of Agriculture, Forestry, and Fishers)



2. About Palm Oil

1) What is palm oil?

Palm oil is the vegetable oil extracted from the pulp of the fruit of the oil palm plant. The oil palm is a tropical plant native to the Congo in West Africa. It was transplanted to Asia in the middle of the 19th Century. The oil palm is a perennial plant whose fruit can be harvested year-round for about 24 years, starting about 3 years after planting. Oil palms can be planted in a broader range of climates than other palms, not only along the coast but also in hilly areas or swamps inland. Each oil palm tree produces 10 to 12 bunches of fruit each year, and each bunch of fruit (20-25 kg) has more than 300 fruits, each about 4 cm long.

The oil from the seed of the oil palm is known as "palm kernel oil." Oil from the coconut palm is known as coconut oil, and is different from palm oil.

2) Production in Plantations

Oil palm grows best in the tropics within 10 degrees of the equator. The oil needs to be extracted within 24 hours of harvest, otherwise the quality degrades. For this reason, oil palm is usually produced in large plantations with an attached factory for processing the oil. At the factory, the oil palm fruits are heated at a high temperature, and the oil is extracted and refined. The plantation needs to be at least 3000 hectares (approximately 5.5 square kilometers) in size to be economically viable.

Malaysia produces about 50% of the palm oil produced worldwide (as of 1999). Full-fledged commercial production began in the sixties, when many rubber plantations were converted to oil palm plantations in Peninsular Malaysia. In recent years, tropical rainforests in Sabah and Sarawak states on Borneo Island have been developed to expand the area under plantations.

Production of palm oil has tended to increase from year to year, since palm oil provides a very high yield per hectare (approximately 4 to 6 times the yield of soy-bean oil per hectare), provides stable harvest levels, and is inexpensive. The area under oil palm cultivation has expanded hand in hand with the increase in palm oil production. According to PORLA, the area under oil palm cultivation in Malaysia was only 54,000 ha in 1960, but rapidly increased to 290,000 ha in 1970, and 1,020,000 ha in 1980. Oil palm cultivation in Sarawak began to increase from around this time. The area further increased to 2,030,000 ha in 1990, 3,310,000 ha in 1999 and 3,870,000 ha in 2004, which is approximately 11.7% of the total land area of Malaysia.

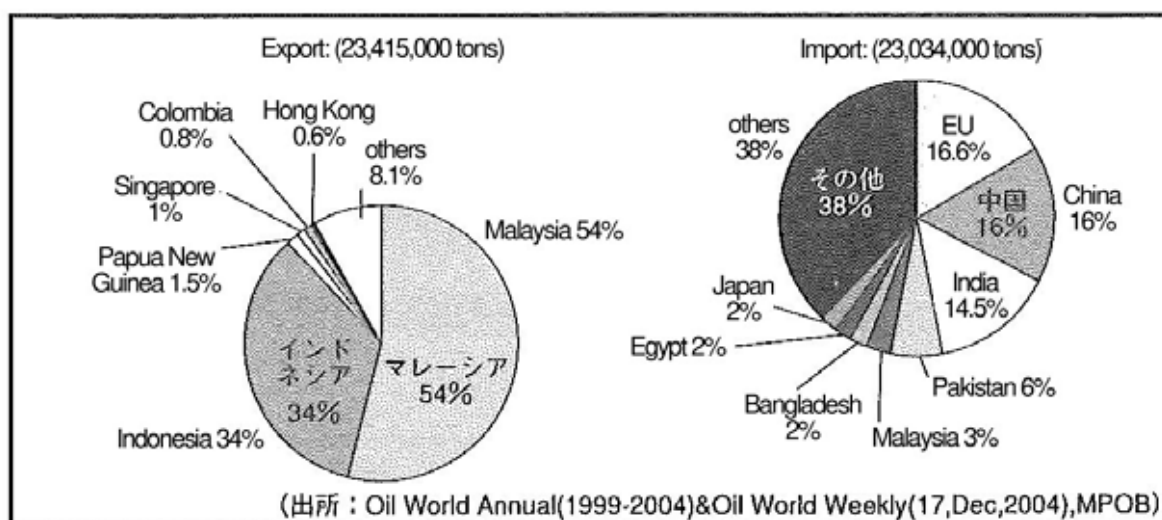
3) Production and Exports of Palm Oil

The production of palm oil has increased slowly but steadily from the late sixties. According to FAO statistics, they amounted to 1,940,000 tons in 1971, exceeded 3 million tons in 1976, doubled to 6 million tons in the eighties, and reached 10 million tons in 1990 (Oil World magazine). In 2004, Malaysia produced 13,976,000 tons of palm oil, 46.7% of worldwide production (see Figure 2). Indonesia has the next highest production levels, with 11,400,000 tons in 2004.

Worldwide exports of palm oil were 23,415,000 tons in 2004, of which 54% (approximately 12,575,000 tons) was exported by Malaysia, followed by Indonesia (11,400,000 tons) (34%)

And worldwide import of palm oil were 23,034,000 tons in 2004, of which 16.6% (approximately 3,825,000 tons) was imported by EU, followed by China (3,680,000 tons), India (3,345,000 tons) (see figure 3).

Figure 3: Worldwide export and import of palm oil (2004)



4) Palm Oil in Japan

All palm oil used in Japan is imported; 90% is from Malaysia. Japan's imports in 1960 were 13,000 tons, the late increased 35 times in 44 years to 452,000 tons in 2004. This figure says that Japanese people consume an average of 3.5 kg of palm oil per person each year

Of the palm oil used in Japan, about 80% is for food processing (see Figure 3). Factors such as the following help to explain the increase in consumption of edible oil, and palm oil in particular, by Japanese people.

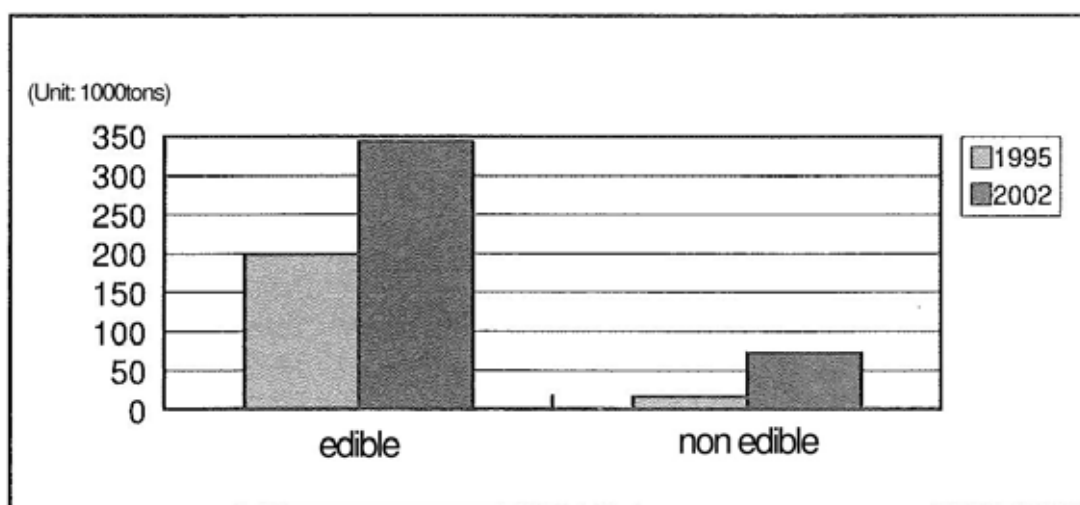
1. Total consumption of edible oils has grown rapidly due to increased consumption of cup noodles, snacks, vacuum-packaged foods, eating out, etc.
2. Heightened health consciousness has led to a shift from animal fats to vegetable oils.
3. Refined palm oil is not prone to oxidation, and can be stored as a solid at room temperature. Due to its lack of taste or smell and other characteristics, it is often used in processed foods. Its most common use is as processed edible oil such as margarine or shortening, which is used to make sweets, bread, ice-cream, and many other products. It is also used to deep fry instant noodles, snacks, etc., and as a substitute for cacao butter in chocolate. Furthermore, use of palm oil in non-food products such as detergents, cosmetics, etc., is also increasing.

The following are some of the reasons.

1. Consumers switched from petroleum-based products to palm oil-based products, since they are thought to be gentler to the skin and hair.
2. River pollution became a problem, and products made with vegetable oil gained the image that they are gentler for the environment.

But there is a need to validate whether palm oil is really friendly to the environment.

Figure 4: Changes in Worldwide Palm Oil Production (Japan Ministry of Agriculture, Forestry, and Fishers)



Example of a label on ice-cream

<p>Category: Ice milk</p> <p>Non-fat milk solids 8.0%, Vegetable fat 13%</p> <p>Ingredients: saccharine (sugar, starch syrup, glucose, fructose, syrup), vegetable fat (palm oil, coconut oil), milk products, egg yolk, fragrance, stabilizer (cellulose), salt, anato, coloring.</p> <p>Contents: 200 ml</p> <p>Manufacturer:</p>

Breakdown of Uses of Palm Oil

Category	Product names:	Names of ingredients made of palm oil	What it is used for
Foods	curry, white stew, coffee whitener, cup noodles, cookies, ice cream, bread, chocolate, snacks, frozen foods	vegetable oil, emulsifier.	as an oil (margarine, shortening, etc.); as a substitute for fresh cream or (cocoa) butter; as a food additive.
Detergents	toothpaste, soap, detergent, shampoo, rinse.	fatty acid salts of sodium, surfactant (sodium alkyl sulfate, sodium laurylsulfate, triethanolamine)	as an oil raw material; as cleansing agent.
Cosmetics	cream, lotion, lipstick, perfume.	vegetable oil, fatty acid (palmitic acid, myristic acid, lauric acid, etc.), laurel alcohol, and glycerin.	as an oil/substrate; as a surfactant (emulsifier, solubilizer, dispersing agent, etc., for product stability)
Pharmaceuticals	ointments	surfactant, glycerin.	as a raw material, substrate, or glaze for medicines.
Industrial use	cellophane, resin, coatings, plastic, synthetic rubber, fiber, candles, etc.	fatty acids (lauric acid, myristic acid, capric acid, etc.)	as a raw material for various synthetic products, lubricants and plasticizers.

Section II. The blessings of the forest of Sarawak

Unit 1 Tropical Rainforest

Aims

To learn that the tropical rainforest is one of the places with the most diverse fauna and flora in the world, and that our daily lives are made richer by the many blessings of the forest (palm oil is one of them). To also realize that the tropical rainforest is being destroyed and decreasing rapidly.

Time:

60 minutes.

Materials:

Photo panels of the tropical rainforest (2, 3, etc.), Q&A sheet, flow chart, map, check sheet.

How to proceed

1. study about the tropical rainforest using the photo panels, Q&A, flowchart on impacts of tropical forest destruction, etc.
2. note the location of Sarawak state, Malaysia, on the map.
3. Have participants study up on the lifestyle and culture of the indigenous peoples of Sarawak, as well as the forest fauna and flora (orangutans, the world's largest flower the Rafflesia, etc.) using the library and the internet, or by visiting an ethnological museum, zoo, botanical garden, etc.
4. Use the checksheet to confirm what has been learnt.

Expanding on the subject

1. Investigate the causes of tropical deforestation in Southeast Asia, Central and South America, and Africa.
2. Investigate the relationship between consumption of tropical timber in Japan, and the tropical forests of Southeast Asia.

Points to keep in mind

- * Be sure to encourage awareness that tropical rainforests are an extremely important asset for humanity, as well as for the local and global environment.
- * Though tropical rainforests are different from the forests in Japan, nature observation in nearby forests can help us to learn about the forest ecosystem, biodiversity, soil protection and other natural mechanisms. Including time for this can be useful for learning about the tropical rainforest. It can help us to pay attention not only to tropical rainforest destruction, but destruction of the local environment as well.
- * Also for the sake of Unit 2, it would be good to provide an opportunity to learn about indigenous peoples.

Q&A

Q1 What is common to cacao (the raw material of chocolate), bananas, natural rubber, plywood, and pharmaceuticals?

Q2 Where is these tropical rainforests?

Where the average temperature in the hottest month is above 40 degrees Celsius, and there is much rainfall in the summertime.

Where the average temperature in the coldest month is above 18 degrees Celsius, and there is a dry season and a wet season.

Where the average temperature in the coldest month is above 18 degrees Celsius, and there is much rainfall throughout the year.

Where the average temperature in the coldest month is below 10 degrees Celsius, and there is much rainfall throughout the year.

Q3 How tall are the tallest trees in the tropical rainforest?

20 m 40 m 60 m 80 m

Q4 Tropical rainforests cover 3% of the earth's surface. What percentage of the world's plant and animal species live in them?

more than half of the world's species

about 30% of the world's species

about 15% of the world's species

about 5% of the world's species

Q5 The tropical rainforests are disappearing. How much is lost each minute?

1 ha (100 m x 100 m)

4 ha (200 m x 200 m)

16 ha (400 m x 400 m)

29 ha (540 m x 540 m)

Q6 If tropical rainforest destruction continues at the present rate, what percentage of plant and animal species living in them will be threatened with extinction by 2025?

5% 10% 17% 25%

Answers: Q1 = (natural things or made from natural things); Q2 = 3; Q3 = 4; Q4=1; Q5=4; Q6=4

1) Though the tropical rainforests are far from Japan, they are closely related to our daily lives. The questions raised in this Q&A session are relatively easy to grasp and find answers to, but can be substituted with other questions according to the needs of the participants. The important point is to have the participants learn about tropical forests as something deeply related to them rather than as a distant topic.

2) Tropical rainforests exist in tropical climates (with an average temperature equal or above 18 degrees Celsius in the coldest month of the year) where rainfall in the driest month of the year exceeds 60 mm. Such climactic conditions are referred to as a "tropical rainforest climate" or "tropical wet climate." In simpler words, it means a "climate without a winter or a dry season." In addition to tropical rainforests, there are tropical monsoon forests, tropical mountain forests, and mangroves; together they are referred to as tropical forests.

3) Tropical forests are comprised of broad-leaved evergreen trees, the large ones of which grow to a size of at least 30 meters. Some of the dipterocarp trees in Southeast Asia reach a height of 80 meters.

4) On earth, there are approximately one and a half million animal and plant species, which have been given a name; more than half of them are said to live in the tropical rainforest. There are also many other species, which have not been given a name, and most of them are thought to be in tropical regions. Many of the living things (animals) of the tropical rainforest are living in the upper branches of the trees, known as the canopy. Tropical rainforest tree species are extremely diverse. An investigation of a 52 ha plot in Lambir, Sarawak state, Borneo found 1200 tree species with a trunk diameter of 1 cm or more (Japan has a total of about 1000 tree species).

5) According to a report by International Agriculture Exploration Inquiry Group, which is an advisory body to the World Bank, some 29 hectares of tropical rainforest are disappearing every minute around the world. The report points out that "despite heightened concern, and increased aid for tropical rainforest conservation around the world, the rate at which tropical rainforest are disappearing each year has not slowed down." According to the United Nations Food and Agriculture Organization (FAO), an area of tropical forest approximately equal to five times the size of Japan disappeared in the 15 years from 1980 till 1995. Furthermore, in the five years from 1990 to 1995, 14.5 million hectares of forest cover were lost in Asia, and 1 % of the total forest cover was lost each year in tropical Asia (The annual deforestation rate was 0.56% for Asia as a whole, while the area of temperate forest in Asia increased by 0.007% per year). The

highest deforestation rates were in Southeast Asia, with the Philippines (3.2%) followed by Thailand (2.5%) and Malaysia (2.3%).

6) According to reports of the World Bank, in the worst case scenario, 25% of the bird and plant species living in tropical rainforests will be threatened with extinction by 2025 if destruction of these forests continues unabated (This is 10,000 times the pace of natural selection). Another report indicates that species in the tropical forests are going extinct at a rate of more than a species a day. Some researchers point out when one tropical tree species goes extinct, it takes with it twenty to thirty species of insects that are dependent on it.

Column 1 Japan consumes the tropical forests of Southeast Asia

Japan imports and consumes more tropical timber than any other country in the world. Though Japan has recently been overtaken by China in terms of its share of tropical hardwood logs imports, Japan's share of tropical plywood imports is more than half of the worldwide total. Roughly half of the imported tropical timber is used in construction and public works, and another thirty percent is used for furniture. Tropical timber panels used for molding concrete are thrown away after an average of 2 or 3 uses. Tropical timber is also widely used as wood sheathing in houses; Japanese houses are torn down and rebuilt every 20 to 30 years. But most of the imported tropical timber comes from trees that take at least 50 to 100 years to grow to a mature size. The Japanese are consuming the tropical forests more quickly than they can grow back.

Over the years, Japan has imported massive amounts of tropical timber from the island countries of Southeast Asia, starting with the Philippines and moving on to Indonesia, Sabah and Sarawak states of Malaysia, and more recently Papua New Guinea. The Philippines, which was the main source of Japanese imports from the 1950's through the 1970's, suffered severe depletion of forest resources partly as a result, with vast areas of mountains turned bald, ecosystems destroyed, and increased landslides. Imports from Indonesia and Sabah increased next, until exports of logs were banned a number of years later, and exports shifted to higher value-added plywood and sawnwood. Timber from Sarawak increased in the 1980's; Sarawak remains the number one source of tropical timber consumed in Japan.

The loss of the tropical rainforest is due to various factors, but we must not forget that one of them is that Japan has continued to import massive quantities of timber from various parts of Southeast Asia due to its "cheap" price. Japan's consumption of tropical timber is closely linked to the history of forest destruction and disruption of the livelihood of forest-dwelling indigenous peoples in Sarawak and other regions. (Source: Sarawak Campaign Committee)

Column 2 The tropical rainforests are an indispensable asset of humanity

1) A cornucopia of biodiversity and genetic resources

Already approximately 1.5 million species have been identified worldwide, but the actual total is much higher, estimated to be at least 10 million species. More than half of these species live in the tropical rainforests, creating extremely diverse ecosystems.

Loss of biodiversity due to tropical deforestation is a very real loss for humanity, causing "depletion of useful genetic resources." Wild plants and animals are a potential source of genetic resources for genetic engineering and other new technologies. Though medicines (active ingredients) to completely cure AIDS and cancer have not been found yet, many scientists think that such active ingredients may be found from tropical rainforest plants. The tropical rainforest is a cornucopia of such useful genetic resources. The indigenous peoples of the forest have traditionally used many medicinal plants to stop external bleeding or infection, as well as to cure internal ailments such as stomach ache, headache, coughing, etc. Nowadays researchers are paying much attention to such knowledge. There are already reports that a material with potential to inhibit growth of the AIDS virus has been found from a tree in the tropical rainforest of Sarawak, Malaysia. But such genetic resources, which are a treasure for humanity, are being lost at a rapid pace.

2) CO₂ absorption to prevent global warming

Plants absorb carbon dioxide, fixing carbon inside themselves and the soil while releasing oxygen. Tropical rainforests absorb 16.8 billion tons of carbon each year; this is one seventh (1/7) of the carbon absorbed by vegetation in the dry land area of the earth. When the tropical rainforest is cut down and burned, the fixed carbon is released into the atmosphere, accelerating global warming. It is said that 1.6 billion tons of carbon are released into the air each year due to tropical forest destruction (the carbon dioxide released by burning fossil fuels is 5.2 tons per year in carbon equivalents.)

3) Conservation of the local environment

Trees with a height of several dozen meters form the canopy of the tropical rainforests, protecting the thin, fragile topsoil from being washed away by the rain. Three fourths (3/4) of the rainwater is absorbed by the trees, so that only one fourth flows into the rivers. The forest has so much water-holding capacity that it functions like a "green dam." The water absorbed by the tree evaporates and again falls as rain. However, when the forest disappears, the rainfall suddenly becomes less and the land becomes dryer. Areas that have lost their "green dams" tend to suffer more from tropical storms, floods, drought, and other natural disasters.

4) Indigenous culture

Tropical rainforests everywhere have provided a living place for people from time immemorial (indigenous peoples). Indigenous peoples have lived in the forests for countless generations, collecting the food, medicinal plants, building materials and other essentials of daily living from the forest, and passing on the wisdom of how to live in the forest to the next generation. They have lived in harmony with the plants and animals of the forest, developing a way of life, culture, and identity rooted in the forest.

Column 3 Traditional shifting cultivation

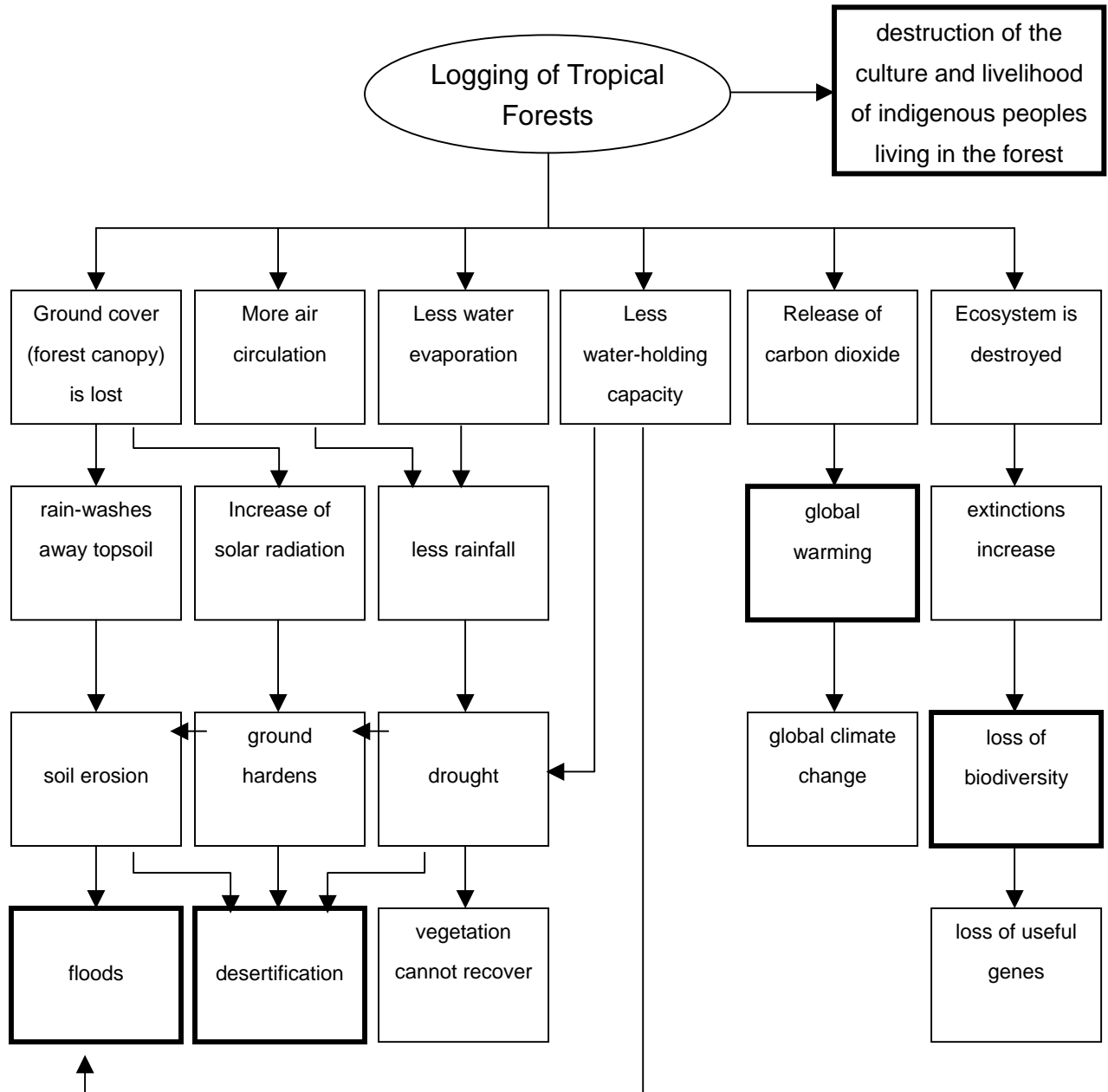
It is often said that the main cause of tropical forest destruction is shifting cultivation. It is true that the population explosion in tropical Africa has led to attempts to increase food production by expanding the area under shifting cultivation, and that the shortening of the fallow cycle after cultivation has caused forest destruction. In Central and South America, landless people have migrated into tropical forests and converted them into farms, whereas companies have cut down and burned them to make way for huge ranches. Logging and shifting cultivation also occurs in the tropical forests of Southeast Asia.

Massive forest fires occurred in Indonesia in 1997, causing serious smoke pollution in neighboring countries. At first it was suggested that the fires were sparked by traditional shifting cultivation, but the truth was different. The fires had spread from forests that large companies had cut down and burned to develop oil palm plantations.

In this way, "shifting cultivation" carried out in a reckless manner by companies or migrants without knowledge of the forests is very different from that carried out traditionally by indigenous peoples who have lived in the tropical forests for many generations. Traditional shifting cultivation carried out by the indigenous peoples of Sarawak and other regions, is characterized by shifting the area under cultivation in a well-defined cycle. Once an area has been cultivated for 1 or 2 years, the farm is shifted to another area. After a fallow period of six to twenty years, when the vegetation has recovered, the same area is again cleared for cultivation. Most of the areas cleared are secondary forest rather than virgin forest, so it is a cyclical type of agriculture. The earth is not tilled, so soil erosion is minimized. Traditional shifting cultivation is a form of sustainable agriculture in harmony with the forest environment. However, the loss of forest has made it more difficult to continue this tradition in recent years.

Flow Chart

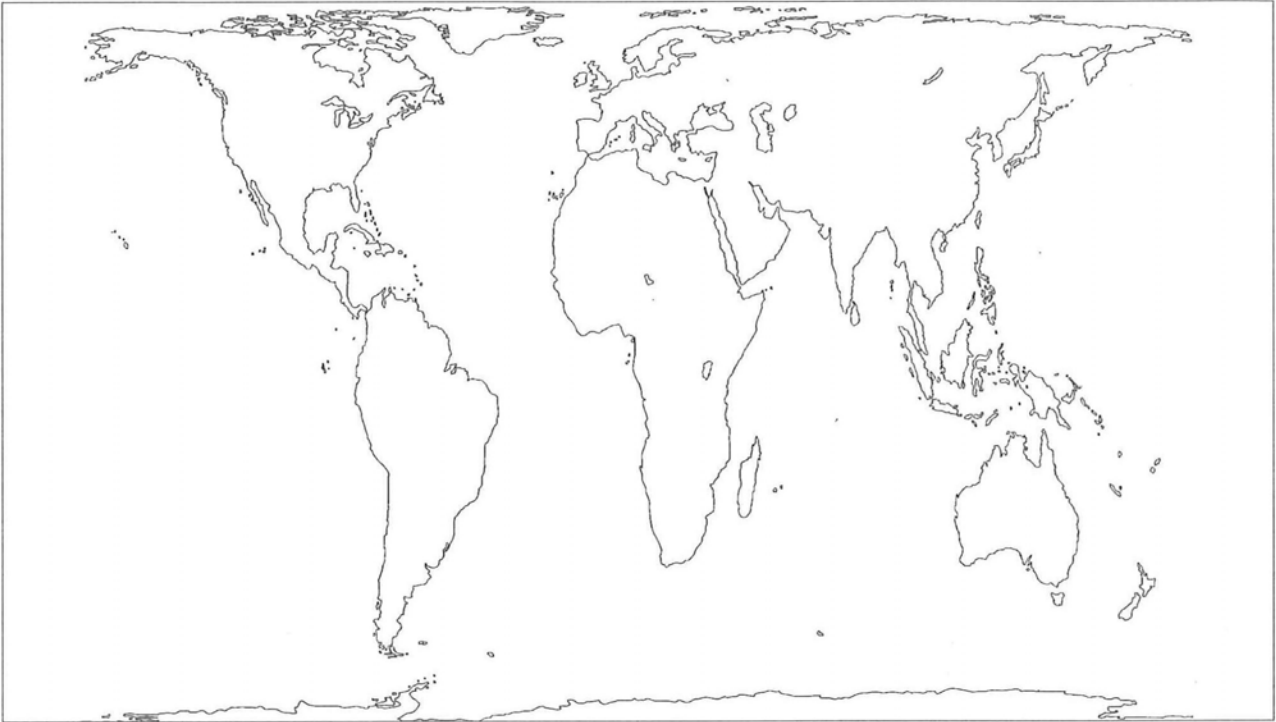
Impacts of Tropical Forest Destruction



Source: Ishi, Hiroyuki, *Global Environment Report*, Iwanami Shinsho, 1988: p. 91

Check Sheet

1) Let's color the areas with tropical forests on the map.



出所： Mapping Our World (Oxfam,2000)

2) More than () of the world's plant and animal species live in the tropical rainforests.

3) Let's list some of the things obtained from the tropical rainforests:

4) Every minute, () hectares of tropical rainforest are lost. An area of tropical forest approximately () times the size of Japan disappeared between 1980 and 1995.

5) When tropical forests are destroyed, what are the impacts?

6) The country that produces the most oil palm in the world (half of global production) is (). Most of the palm oil imported into Japan is from this country.

7) Let's list some of the things that are made using palm oil:

Answers: 1) please refer to map, 2) 50% / half, 3) please refer to Q&A section, 4) 29 ha / 5 times, 5) please refer to flow chart, 6) Malaysia, 7) please refer to Section I

Section II. The blessings of the forest of Sarawak

Unit 2 Tropical Rainforest

Aims

To learn about the complex economics of oil palm through role-play. To engage in group discussion about the pros and cons of clearing tropical forests to develop plantations, and how to achieve development without destroying the tropical forests or the living environments of indigenous peoples.

Time

90 minutes or more. Activity A takes 30-40 minutes, and Activity B takes 30-40 minutes.

Materials

Photo panels (1-8); handouts: "Oil Palm Plantation Development Plan" (one per participant); Role-play Cards (1 set per group)

How to proceed

The moderator uses photo panels to explain how the rainforest is cleared -> the oil palm plantation is established -> and how oil palm is harvested (Refer to Section I Commentary 2). It would also be good to give a brief explanation of shifting cultivation by indigenous peoples.

*Don't talk about the pros and cons of plantations, as it could influence the discussions.

Make group(s) of 6 people. Give one role to each member.

* If there are not enough people, give some member(s) two roles.

The moderator explains what is to be discussed in the meeting, and the participants read their cards carefully to understand their roles (important points are in bold type). The moderator encourages the participants to play their roles as they discuss about the development plan. The government official Sunil serves as the moderator. The group must reach a decision whether to develop Area A or to cancel the project. Once the group discussions have come to a conclusion, each group is asked to explain how its discussion went to all the participants (Activity A).

Next, the moderator asks the participants to have a free discussion about the development plan without playing their assigned roles. Each group will determine whether the participants themselves support or oppose the development of Area A. Otherwise, the groups may be asked to discuss what kind of development is possible without destroying the tropical forest or the living environment of the indigenous peoples. Each group is asked to explain how its discussion went to all the participants. The moderator summarizes the results on the blackboard (Activity B).

The moderator carefully takes note of the views and perspectives raised during the group presentations, so that they are shared with everyone. The moderator can add commentary as needed, and leads a wrap-up to reflect on the results.

Points to keep in mind

* Some may say that the balance between pro- and anti-development people is lopsided. However, those in favor of development tend to be in a strong position, not only in Malaysia but also in Japan. It is often difficult for voices against development to be heard. This tendency can also be discussed during the wrap-up.

* This activity is a simplified role-play to understand the different views and interests of stakeholders in palm oil plantations. Such meetings to discuss plantation development are usually not held in real life.

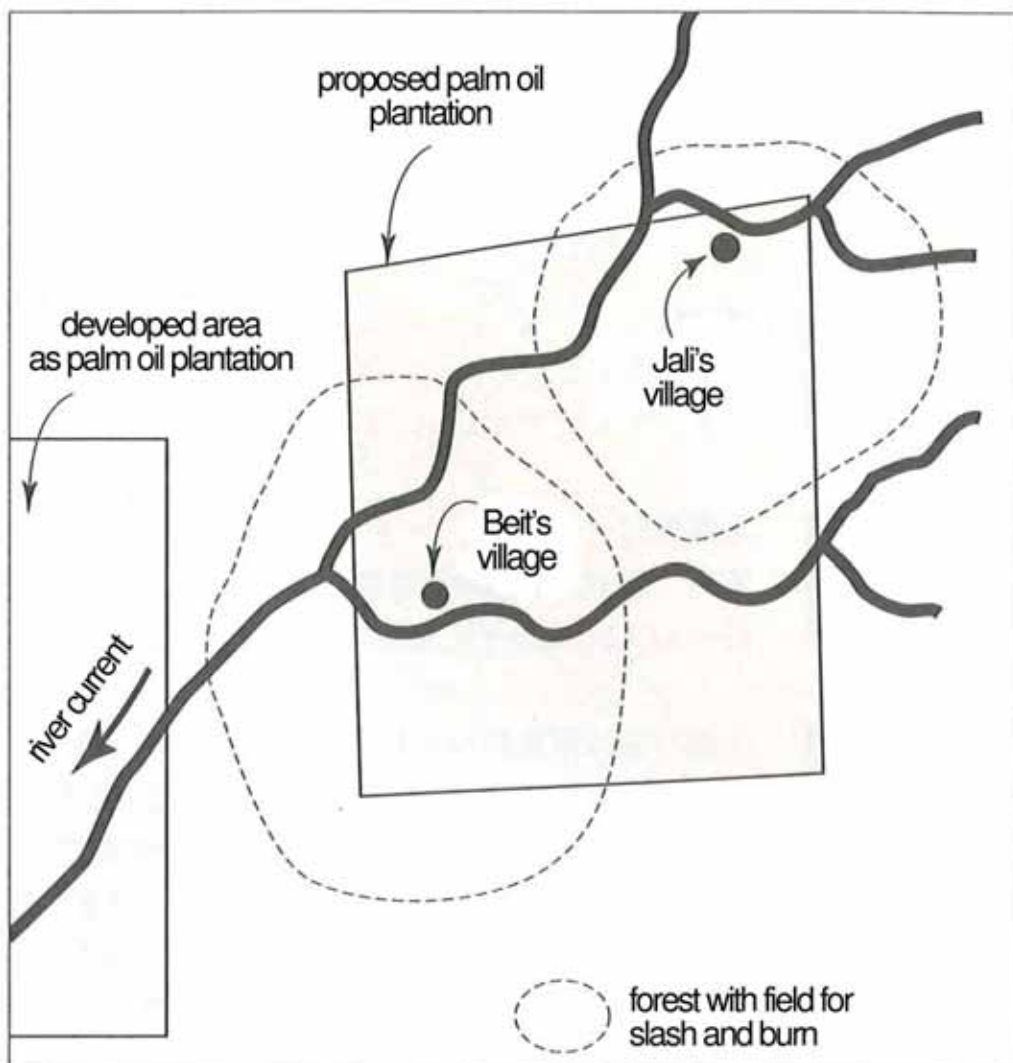
* The relationship to our consumptive lifestyle should also be kept in mind.

Data on Sarawak State	
Land area	124,449 km ²
Population	2,027,100
Ethnic groups	<p>There are approximately 30 ethnic groups. Malay people, who are the most influential in the government make up about 21%, the Chinese people, who have the most economic power, make up some 29%, and the indigenous peoples account for some 49% of the population.</p> <p>* Breakdown of indigenous peoples: Iban (30%), Bidayuh (8%), Melanau, Penan, etc.</p>
Population density	14 people/ km ²
Industries	<p>Petroleum and natural gas are produced, accounting for 50% of exports. The Malaysian federal government holds almost all of the rights for extraction or use of underground resources, so they do not profit the Sarawak state government. However, the Sarawak state government holds the rights to log the forests, and has gained much of its revenue from forestry. In recent years, forestry is in decline due to a reduction in timber resources. The state government is responding to this situation by promoting the development of oil palm plantations in logged areas as a new revenue source. It is also focusing on tourism.</p>

Stakeholder meeting on oil palm plantation development in Sarawak

The government and a development company are currently discussing a plan to develop Area A (approximately 3000 ha) in Sarawak state as an oil palm plantation. The land due to be developed includes the forests of two villages where indigenous peoples live. Today, stakeholders will get together to discuss this development program.

Six people are attending the meeting: Sunil, who is a Malaysian civil servant; Anasu, who is an executive officer of a plantation developer; Yoshimi Takayama, who is an employee of a detergent manufacturer; Jali and Beit, who are headmen of the villages in the project area; and Yasuko Ohjima, who is a staff member of an environmental NGO.



The stakeholders' points of view

In favor of the project	<p>Malaysian government (Sunil)</p> <ul style="list-style-type: none"> * The palm oil industry is an important source of foreign exchange. * The forests must be developed to become an industrially developed country. * Palm oil production is very stable.
	<p>Detergent manufacturer employee (Yoshimi Takayama)</p> <ul style="list-style-type: none"> * "Eco-friendliness" is a strong sales point. * Detergents made of vegetable oils are popular among consumers.
	<p>Plantation developer (Anasu)</p> <ul style="list-style-type: none"> * A large land area is needed to supply the factory and make a profit. * We have a good relationship with the government. * The land in Sarawak is suitable for growing oil palm.
	<p>Indigenous village headman (Jali)</p> <ul style="list-style-type: none"> * The land must be developed to improve our standard of living. * We will get compensation money.
Opposed to the project	<p>Indigenous village headman (Beit)</p> <ul style="list-style-type: none"> * We have lived in the forest for many generations. * The forest is our source of livelihood. * We want to pass on this forest to our children and grandchildren.
	<p>Environmental NGO activist (Yasuko Ohjima)</p> <ul style="list-style-type: none"> * The plantation will destroy the forest as well as the livelihood of the indigenous peoples. * The plantation will cause massive tropical forest destruction.

Role Play Card

Sunil	Government Officer, Malaysia, Male 36 years old
<p>Palm Oil is our main product; it is the second largest export of Malaysia. The more we increase the area for palm oil plantations, the more jobs and more money we will gain.</p> <p>It is crucially important to expand industry to become a member of the industrialized countries like Japan and US in the near future. Palm oil is relatively cheap and stably supplied. So it can be used as a raw material for food and industrial products. We plan to advance projects to expand palm plantations in Sarawak and Sabah.</p> <p>It must be good for the indigenous people because they can work in the plantations and their life will be improved.</p>	
Anasu	Executive officer, Plantation Development Industry, Male 43 years old
<p>Our company develops palm oil plantations and manufactures palm oil. We need a processing factory on the site of the plantation because we must make oil from the fruits of oil palm within 24 hours of harvest. The quality becomes rapidly worse after that. We need at least 3000 ha to make a profit. Sarawak is one of the best places to obtain such wide estates. There is not much damage from typhoons. We are planning to expand more in Sarawak with the cooperation of the Malaysian and Sarawak governments. We will contribute to the workers' livelihood, the economy of Malaysia and consumers around the world.</p>	
Yoshimi	Staff of Japanese detergent maker, Female 29 years old
<p>We sell detergent made from palm oil as an 'earth-friendly' vegetable detergent. The vegetable detergent is good for the hands because it is made of natural materials. And it is reported that vegetable detergent is less harmful to the river than detergent made of petroleum. As consumers are concerned about the environment, we advertise our goods as 'earth-friendly' products.</p> <p>The Japanese consumers are cleanly and use much detergent. Vegetable detergent is popular among them because many of them are interested in 'green consumerism'. The consumption will increase in the future. So the development of oil palm plantations will contribute to our company and Malaysia as well.</p>	

Jali	Village leader of an indigenous community, Male 56 years old
<p>We have been hunting in the woods and doing shifting cultivation, moving our farms every one or two years. Our life has been poor and the same for hundreds of years. We want to have a good life like people who live in the town. The company man said that they would buy our land for a good price and we could work for the plantation to earn a regular income. If it comes true, we would be able to buy televisions and refrigerators and to send our children to the high schools or colleges in town.</p> <p>The development project is necessary. So we will sell our rights to the forest to the developer.</p>	
Beit	Village leader of an indigenous community, Male 69 years old
<p>We have been living in the woods for generations even before the establishment of this country, Malaysia. We have grown crops by shifting cultivation and made a living by hunting animals in the woods and fishing in the river. The woods have been sustaining our livelihood.</p> <p>But outsiders have cut down the woods in Sarawak. The woods were logged for exporting to Japan in the past, but now they are being cut to make plantations of palm oil, that is also for exporting. There are village people who sell their woods to developers but I oppose it. It is impossible for us to survive without woods. I hear that the salary of plantation workers is low.</p> <p>In any case, I want to leave the woods for our children and grandchildren.</p>	
Yasuko	Staff of environment NGO, Female 30 years old
<p>Soap and detergent made from palm oil are sold as 'earth-friendly' goods in Japan. But the method of palm oil production in Sarawak is never 'earth-friendly.' Because developing palm oil plantations requires clear-cutting a vast area of rainforest. The plantation destroys not only the ecological balance but also the traditional life style of indigenous peoples.</p> <p>And the rivers are polluted by weed-killers which are prohibited in other countries. We feel strongly that oil palm plantations should not be expanded any more in Sarawak. Plantations have already caused a lot of forest species to die out.</p>	

1) The way of life of indigenous peoples

The Ibans, one of the indigenous peoples of Sarawak, lead a settled life along the riverbanks in collective housing units called "long houses." They practice shifting cultivation of various crops, so they use quite a large area of land, including the fields where they are currently growing crops, as well as fallow fields previously used (secondary forests to be used again in the future). For instance, if it is assumed that a family clears 5 ha each year for shifting cultivation, and waits 15 years before returning to farm this land again, the family will use approximately 75 ha. Fifty such families would require 3750 ha of land. In addition to the land used for shifting cultivation, other forests are left untouched as a source of various plants, wild game, and other blessings of nature.

On the other hand, the Penans live as nomads in the forest, building simple huts of wood and leaves in the forest, hunting wild game and collecting plants growing naturally in the forest. With the depletion of the forests, an increasing number of Penans have settled down to grow rice, but their livelihood still largely depends on the forest. Since the Penans live in the deepest forests, they have not been confronted by plantations in their immediate area. However, they have protested most strongly against

commercial logging of the forests by developers. Some have protested by blockading logging roads.

* For more information about the Penan people, refer to: Bruno Manser, "Voices from the rainforest: Testimonies of a threatened people," Bruno Manser Foundation and INSAN (1996).

2) The land system in Sarawak

Though the Sarawak state government recognizes the indigenous peoples' customary rights to land, it also holds the power to easily extinguish such land rights. So the state government can decide to authorize logging or plantation development on land that was recognized as native customary land. The indigenous peoples generally oppose such development projects, but often the village leaders are persuaded by the government or the company into signing away the land, and sometimes the development project is carried out without any consultation with the affected communities.

* Native Area Land: can be held by natives under title.

* The Minister may designate any land as Native Area Land by notification in the Gazette.

* Native Customary Land: land in which native customary rights have lawfully been created prior to 1 January 1958.

* The Minister can declare by order in the Gazette that Native Customary Land is extinguished, and

is free to dispose of the land.

** For more information on the Sarawak land system, please refer to Evelyne Hong, "Natives of Sarawak-Survival in Borneo's Vanishing Forests," Institut Masyarakat, Malaysia, 1987.

3) The problems of large scale monoculture

For an oil palm plantation to be profitable, it needs an area of at least 3000 ha. One of the problems with oil palm plantations is that they are used for large scale cultivation of just one crop, oil palm, which is not native to the region, and is not used as food or for daily living of the local people. The tropical forest ecosystem and the livelihood of the indigenous peoples is destroyed as a result. Furthermore, a monoculture economy is susceptible to fluctuations in the international market. If the market price drops so that the plantations can no longer earn a profit, the producing regions and the lives of the indigenous peoples are severely impacted as it is no longer possible to go back to a traditional lifestyle, and all that is left is inedible oil palm.

4) Workers at oil palm plantations

In the days that oil palm plantations were starting to be developed in Sarawak, there were some indigenous peoples who settled in the plantations as laborers. In 1972, Peit, who is an indigenous person, settled in a plantation owned by a public corporation of the Sarawak state government, and at first was able to earn 4 times the salary of factory workers in the town. However, when the international price of palm oil plummeted in the mid 80's, the public corporation went into debt and transferred ownership of the plantation to a British company. From then on, the native settlers including Peit were treated as day laborers, and the purchasing price for oil palm dropped to nearly one fourth of what it once was.

Nowadays, local people generally avoid work at the plantations due to the low pay. Some 85% of the plantation workers are migrant workers from neighboring Indonesia. However, there are some plantations that pay a relatively good salary.

Column 4 A culture of sharing - the way of life of the indigenous peoples

Half of the population of Sarawak (about 900,000 people) consists of forest-dwelling indigenous peoples who belong to about 30 different ethnic groups. One thing that all indigenous communities share is a "culture of sharing." Some people who visited Sarawak had the following to say about the Iban and Penan people they met there.

The Ibans

I visited a longhouse with some fifty homes connected by a hallway. It must have been several hundred meters long! In the morning, the men would go out to the fields with their farming tools. The women, with bamboo baskets on their backs, would go to the river to fish. Some women who stayed in the longhouse were busy weaving baskets out of rattan. On the other side, an old man was cutting thin slices of bamboo, probably to weave a basket. At the clothes-drying area, colorful sarongs (skirts) were fluttering in the wind above a man who was chopping firewood. The chopping sound resounded pleasantly through the hallway. An old lady lay napping on a mat which was spread out on the hallway floor. The kids running around noisily were scolded by one of the older girls. The children would tease the people in the hallway, who gently told them to mind their manners. Everyone was having a good time chatting as they sat in the hallway. It was like one big family; you couldn't tell who belonged to which household.

(Saki Nakagawa, Tokyo Agricultural University)

The Penans

"The most notable aspect of the Penan way of life is sharing. For instance, hunting for wild boars is very hard work. It takes a lot of energy to carry the wild boar, which can weigh 60-70 kg, from deep in the forest back to the settlement, cutting a path through the underbrush. But boar hunter gets back to the village, s/he will not take more meat than the others. Every part, including the head and the brain, is shared in equal parts. The Penans live by hunting the animals in the forest, catching the fish in the rivers, and gathering the plants in the jungle. They barter with other natives to get things that cannot be found in the forest (metal goods, tobacco, sugar, etc.) Everybody works together to prepare the staple food, sago powder. The children do all the household chores spontaneously, and take good care of the smaller children. They think that "how to live" and "how to be" is much more important than "what one has." Though the Penans have almost no possessions, they seem to be living more happily than us "civilized" people who have so many things.

(Bruno Manser, who spent 6 years living with the Penan people.)

Source: Sarawak Campaign Committee, Booklet for "2001 Sarawak Natives' Symposium in Japan"

Section II. The blessings of the forest of Sarawak

Unit 3 What can be done to prevent unnecessary tropical forest destruction

Aims

To contemplate how our daily lives are connected to tropical forest destruction, and to consider what we can do to prevent needless destruction of the tropical forest.

Time

20 to 30 minutes.

How to proceed

1. Prepare a "fill-in form" similar to the sample below (leave it blank).
2. Ask each participant to think about "what can be done to prevent unnecessary tropical forest destruction," and to write his/her ideas in the form.
3. The ideas are shared within the group, and other possibilities are also discussed.

	In 1 week:	In 1 month:	In 1 year:	In 10 years:	In 50 years:
Individually					
At home					
At work/ school					
In the community					
At the national level					
Inter- nationally:					

Ex; "What can be done to prevent unnecessary tropical forest destruction"

	In 1 week:	In 1 month:	In 1 year:	In 10 years:	In 50 years:
Individually	<ul style="list-style-type: none"> * Don't eat too many snacks. * Study about environmental protection * Don't waste paper * Tell someone about today's discussion * Don't waste things * At the coffee shop, don't take creamer you won't use * Start collecting information * Switch to recycled toilet paper * Recycle your used furniture. 	<ul style="list-style-type: none"> * Reduce paper waste * Tell many people * Check the contents label before buying things * Organize the information gathered * Identify the causes of the problem (and how it is related to our lifestyle) * recycle paper resources 	<ul style="list-style-type: none"> * Tell enough people around you about the palm oil issue, so that they say "I've heard about that before!" * Make efforts to communicate the information * Try to help many people learn about the problems * Learn about the situation on ground (e.g., visit Malaysia, etc.) * Invite an NGO staff person to give a talk 	<ul style="list-style-type: none"> * Tree planting * Do volunteer work * Help foresters to thin tree plantations; learn how to make best use of timber; choose an eco-friendly job (or company) * Visit the affected areas to learn the real situation * Plant useful trees somewhere 	<ul style="list-style-type: none"> * Lead a nearly self-sufficient lifestyle * Teach your grandchildren to value nature
At home	<ul style="list-style-type: none"> * Tell your family * Conserve energy and separate the garbage * Pay attention to what you eat and use * Check what palm oil products are being used at home * Don't waste 	<ul style="list-style-type: none"> * carry a shopping bag * switch to recycled copying paper at your office 	<ul style="list-style-type: none"> * Re-use furniture 	<ul style="list-style-type: none"> * Tell your relatives * Tell your children 	<ul style="list-style-type: none"> * Live in a house made of local timber * Tell your grandchildren * Discuss with your children
At work/ school	<ul style="list-style-type: none"> * Re-use the reverse side of paper * Tell your colleagues * Don't waste * Only use the copy machine when really necessary 		<ul style="list-style-type: none"> * Give a presentation at your school festival, discuss what you can do together, and take action * Make your own soap * Plan to use recycled paper envelopes * Study about the tropical rainforest in the classroom 	<ul style="list-style-type: none"> * Prepare study materials for junior/senior highschool that portrays the situation of the tropical forest from the local people's perspective 	
In the community	<ul style="list-style-type: none"> * talk with the staff of the environmental section of your local government 		<ul style="list-style-type: none"> * Give a talk in your community * Join a local study group 	<ul style="list-style-type: none"> * Promote local timber use 	
At the national level	<ul style="list-style-type: none"> * Study about Japan's consumption of tropical timber 	<ul style="list-style-type: none"> * Study about domestic forestry * Ask paper companies where they get their raw materials 		<ul style="list-style-type: none"> * Establish an organization to monitor and manage the use of tropical timber, so that it is not wasted 	<ul style="list-style-type: none"> * Re-vitalize Japanese domestic forestry
Inter-nationally:		<ul style="list-style-type: none"> * Use the internet to study about forest protection efforts worldwide 	<ul style="list-style-type: none"> * Make friends with environmentalists in other countries, and share information with them 		<ul style="list-style-type: none"> * Travel around the world to learn about environmental issues (and enjoy nature!)

Source: Prepared from views of participants of 2001 Development Education Practitioners' Seminar

Section III. Children of the plantations

Unit 1 Our lives, our future

Aims

To reflect upon our daily life in Japan, and what it means to "work." To understand that we have broader career options than many others.

Time

90 minutes

Materials

Worksheets A and B (for each participant)

How to proceed

The moderator hands out worksheet 1, and asks the participants to write in their activities for a typical week. The following categories are to be used. * If the participants are adults, ask them to remember their activities during junior high school.

a) Study at school, b) study at home/cram school, c) free time (hobbies, sports, play, etc.) d) eating, e) chores/work, f) sleep.

Ask the participants to add up the total hours for each activity, and to rank them according to the amount of time spent for each (most to least).

* Total time is 168 hours. A rough estimate is enough. If the total is less than 168 hours, count the remainder as "other." Each participant writes in the ranking of his/her activities in the "ranking" column, and the result for everyone in the "all" column.

Leave the right-most column in the worksheet blank, as it will be used in Unit 2.

Have a group discussion about how we spend our time.

Hand out worksheet B, and have the participants think about their plans for the future. Ask them fill out the worksheets with their plans for further study, getting a job (including part-time work and career changes), getting married, having children, etc.

* Ask older participants to write in what they would do if they could "have a second try," or what they would do if they were their own children, etc.

Have the participants explain what they have written to the other group members.

Have group brainstorming about what occupation each member would like to have, if s/he were to start working now.

Have each group report their thoughts to everybody. Encourage them to explain the reasons for their choices as well.

About this unit

The participants' activities during the week and their life plans are discussed in preparation for the next unit concerning plantation child labor (the case of Meena). The goal is to get participants to realize that their patterns of activity and future plans are quite diverse, and that they have a relatively broad range of options.

Child laborers in plantations do not have such freedom of choice. Their life is a repetition of the same activities every day, and their options for the future are limited. It is necessary for the participants to get a realistic grasp of this contrast. It is hoped that they will think of the life and work choices of the child laborers in light of their own lives.

This is why we have included this unit on "Our lives, our future." If done at school, the two worksheets for this unit may be handed out at the same time, so that steps 1, 2 and 4 are homework. Then it would be possible to finish this unit in one class hour, so that you can move on to the next unit.

Child labor in Japan

The Labor Standards Law specifies as follows:

- * Children 12 years old and above can engage in light work that does not harm their health or welfare (newspaper delivery, store clerk, etc.)
- * Children 15 years old and above can seek full-time employment. However, they are not allowed to work late at night or in dangerous jobs.
- * The following laws and regulations also deal with child labor:

Articles 32 and 27 of the "Convention on the Rights of the Child" and Article 34 of the Child Welfare Law.

Work Sheet A: My life

1. My week

Think about your activities during a typical week, and write them down in the chart. The categories are: study at school, study at home/cram school, free time (hobbies, play, etc.), eating, chores, and sleep.

		Mon	Tues	Wed	Thu	Fri	Sat	Sun	M
AM	6:00								
	9:00								
PM	3:00								
	6:00								
	9:00								

2. After you have finished, add up the number of hours for each category. A rough estimate is sufficient.

Category	Hours you spent	Ranking	All	M
Study at school				
Study at home/cram school				
Free time				
Meals				
chores/work				
sleep				
other				
Total	168 hours			

3. After completing the table, discuss what you notice about it.

Work Sheet B: My future

1. What do you think you will be doing in your life in the future? Write in the major events such as the examples listed below:

Examples: higher education (high school, college, graduate school, vocational school, etc.), employment (including career changes, part-time work, etc.), marriage, having children, and other important personal events.

Age	15	20	25	30	35
Important events					

2. what occupation would you like to have, if you were to start working now?

Occupation	Reason

Section III. Children of the plantations

Unit 2 Life of Meena

Aims

To learn about the living and working conditions of Meena, who is a plantation worker. To develop a mental picture of the lives of people who working behind the scenes to provide us a cheap supply of palm oil. To understand that such a way of life has continued for several generations.

Time

90 minutes

Materials

picture-story, photo panels (1, 6, 7, 9, 10), Work sheets A and B for Unit 1, parchisi board, top, dice.

How to proceed

The moderator reads aloud the picture story "A Day in Meena's Life."

The participants listen to the picture story, and make a record of one day in Meena's life by filling out the "M" column on the right side of Table 1 in Worksheet A. M stands for Meena.

Use of the picture story:

[How to use the picture story]

* Make enlarged photocopies of the original drawings, and cut and paste the explanations on the back of the photocopies. The participants could also be asked to color the pictures.

* It is also possible to cut up the explanations into individual pieces of paper with the numbers removed, and to ask the participants to match them to the pictures in the picture story.

[How to describe Meena's daily activities]

A rough estimate of the time is sufficient. The moderator should explain slowly how Meena helps with the chores, prepares the food, goes to work, etc., so that the participants can keep up and fill the blanks.

Once the moderator has finished reading the picture story, the participants fill out the right-most column in part 2 of Worksheet A (the "M" column).

The participants are asked to add up the number of hours for each activity, to think about why Meena has to spend her days in this way, and to write down their thoughts and any questions in the open space at the bottom of Worksheet B.

The moderator points out that it is not just Meena that faces such hardships, but that the whole family has been forced to live in this way for many years. Next, the parchisi game is played in order to understand what it is like to live this way for many generations.

[How to play the parchisi game]

- * Groups of 4-5 people are formed.
- * The "explanation cards" are placed facing downward on the center of the board (the cards should be in the right order). The moderator explains that the parchisi game lasts 25 minutes.
- * The game starts with the life of Meena's grandmother. The place-markers are moved forward clockwise as many spaces as the number on the dice.
- * The front-most player always stops at the place with the "explanation cards." When s/he stops there, s/he draws the card and reads what it says so everyone can hear. The second person and those following do not stop.
- * After going all the way around the board, the next round will describe the life of Meena's mother. The game is played in the same way as above. The third round describes Meena's life. After completing, go to the end point. There is no need to go back if the number on the dice is more than the number of steps to the end point. The participants are asked to discuss how Meena can escape from this vicious cycle (best to write down the ideas on paper). The participant who proposes an idea that two thirds of the group members agree with is the winner.
- * After 25 minutes are up, the participants are asked to discuss what they thought and felt while playing the parchisi game.

All the groups get together and explain what they discussed and what ideas they found for Meena to free herself from her restricted existence.

Explanation

The participants may want to write a story or act out a play about "Meena's Future."

About Meena

Meena is the main character in the cartoon "Meena-A Plantation Child Worker" published by the Malaysian NGOs Institute for Social Analysis (INSAN) and Child Workers in Asia Support Group. There is also a Japanese language version, translated by Sarawak Campaign Committee.

Meena is a Malaysian of Indian descent who works in a Chinese-run plantation deep in the countryside of Peninsular Malaysia. Her family came from India to Malaysia during her grandmother's time under British colonial policy to promote migration, and has worked in the plantations (at first rubber plantations) ever since. Meena is now 13 years old. She is the eldest of four siblings (she had an older sister, but she passed away). She works in the plantation with her family everyday to supplement the family income. For this reason, she is not going to school. Since Meena is still a child, she is not paid for her work. The salary is paid to the head of the house according to the amount of oil palm that the family harvests.

The issues of workers in oil palm plantations

1) Wages

In Malaysia, workers' wages in the plantation sector are paid on a daily basis. The pay was 10.4 ringgit per day for plantation laborers as well as raw rubber collectors (1 ringgit = 35 yen). This is one of the lowest wage levels among the different industries in Malaysia. The monthly income is only about 300 to 350 ringgit, including incentive pay. For instance, in 1990 the average monthly wage of construction workers was 734 ringgit, and that for factory workers was 657 ringgit, but plantations earned an average of only 353 ringgit per month.

For this reason, negotiations were held between the National Union of Plantation Workers (NUPW) and the Malaysia Agricultural Producers Association leading to an agreement to raise the wages of

some 62,000 workers in the plantation sector by 14 - 16%.

(Source:http://www.jil.go.jp/jil/kaigaitopic/1999_04/mareshiaP01.htm)

2) Agrichemicals and women

Harvesting oil palm is heavy labor. Large bunches of fruit weighing 20 to 25 kg must be cut off with a scythe attached to a pole more than 10 meters long. So this work is generally done by men. It is the women's' work to carry the harvested fruit bunches to the truck road and to collect the fruits that scatter when the fruit bunches fall to the ground. Additionally, the women are in charge of spraying and injecting pesticides and herbicides onto/into the plants. Many agrichemicals that are banned in Japan and many other industrially developed countries, such as

Paraquat, DDT, 2-4-D (same as the defoliants used in the Vietnam War), BHC, Lindane, etc., are still used in Malaysia.

Furthermore, the workers do not receive any education about the dangers of agrichemicals, and are not provided masks or gloves. There are said to be several tens of thousands of such women in Malaysia who handle agrichemicals 10 hours a day, 6 days a week. Many of them suffer from menstrual problems, stomach cramps, skin diseases, nose-bleeding, deformation of nails, blurry vision, difficulty breathing, and other ailments.

3) Migrant Workers

About one hundred years ago, when Britain had colonized Malaysia and was operating plantations there, the British tried to relieve labor shortages by encouraging people at the bottom of the caste system in South India, known to be hard-working and obedient, to move to Malaysia. Many of them were Tamils. These people intermarried and lived in the plantations for many generations. The children were needed as labor to help the family, so that

many were not even able to get a proper primary education. The children became trapped in a vicious cycle, forced to spend their entire lives as low wage plantation workers.

In the recently developed plantations in Sarawak, there is a tendency to hire migrant workers from Indonesia, Bangladesh, and other countries, as a cheaper source of labor. Many of them are unable to receive any legal protection as they are staying in the country illegally.

4) Child Labor

As the income of workers depends on how many kilograms of oil palm fruit bunches they can harvest, there is an incentive for the whole family to work together to increase the harvest and thus income. This leads to cases of child labor. Some parents feel that increasing the income and consumption level that day is more important than sending their children to school. The low wages also further this tendency.

Section III. Children of the plantations

Unit 3 Child labor and our lifestyle

Aims

Participants will consider how Meena's growth as a child is affected by being a child laborer, and why she is forced to work in this way. This will provide an opportunity to think about the changes in the economy and lifestyle of people in Japan and Malaysia, as well as the problems between industrially developed and developing countries. Participants will gain insight into the close connection between Meena's life and our lives.

Time

90 minutes.

Materials

Worksheets C and D (one each for each participant).

How to proceed

the participants fill out worksheet C, and form small groups of two or more people to discuss about Meena and other children living in situations similar to hers.

everybody will get together to discuss their answers

Participants fill out worksheet D, and consider the connections between the lives of children like Meena, and our lives.

Thoughts are shared, either in small groups or with everyone.

Commentary

Child labor

1) About children

- The age of "a child": from ages 5 through 14 (according to the definition of the International Labor Organization (ILO)).
- The number of working children: 250 million worldwide (excluding industrially developed countries).
- Of these children, at least 120 million are working full-time.

2) The Number of Working Children (2002)

Region	Number of Children	% of total child population
Asia / Pacific Ocean	127,300,000	60%
Africa (south of Sahara)	61,400,000	23%
Latin America/Caribbean	17,400,000	8%
Middle East/North Africa	13,400,000	6%
Former Soviet/East European	2,400,000	1%
Developed countries (age 5~14)	2,500,000	1%

Male : Female ratio (the whole male 52%: female 48%)	
Age 5 -14 male 51%: female 49%	Age 15-17 male 57%: female 42%

3) Industries that Children Work In (2002)

Agriculture, hunting, forestry, fishing	70.4%
Retail, distribution, restaurants, hotels	8.3%
Manufacturing	8.3%
Services (local, social, personal)	6.5%
Transport & communications	3.8%
Construction	1.9%
Mining	0.9%

(Source: ACE website)

4) Child Work and Child Labor

The ILO refers to work that is detrimental to the child's wholesome upbringing as "child labor." The worst forms of child labor are the following:

- i. indentured servitude and other forms of forced labor tantamount to slavery.
- ii. prostitution and pornography
- iii. dangerous and harmful work in which the child's health and safety are unprotected.

On the other hand, work that has a positive effect for the growth and advancement of children is referred to as "child work."

5) The background to child labor

Children work to make a living, for survival. This is certainly the case for street children. There are also many cases in which the parents send their children to work, expecting them to contribute their labor to the family income.

From the employers' perspective, children can be paid a lower wage, and are easier to handle as they are unlikely to form labor unions, etc. Poverty is often claimed to be the cause of child

labor. However, the views expressed in the following column can also be noted.

6) Meena and child labor

It is important to not lump all forms of work by children together as "child labor." Child labor can occur under widely varying circumstances. The issue that needs to be addressed is that of children who have no choice but to do heavy labor for low wages under coercive conditions against their will. Such children are unable to choose their occupation or way of life, and are even deprived of the opportunity to get an education. This exacerbates poverty. Even though Meena is working for her family, her situation is such a case.

Column 5 Child labor causes poverty?

When discussing about child labor, there are people who say that "the problem of child labor is born from poverty." So they say "child labor will not end until poverty ends." But this is a myth. Such thinking must be discarded immediately.

When one observes the situation of various "developing countries" and regions suffering from poverty in Asia and elsewhere, one finds that there is a correlation between increased adult unemployment and the increase in the number of cases of child labor. There are about 65 million children working full-time in India, but the number of unemployed adults is a nearly identical 65 million. The parents of the working children are often unemployed, or forced to work under wretched conditions for a minimal wage. In other words, it is a vicious circle in which children are forced to work while their parents must work under terrible conditions or are jobless.

It is more convenient for the employer to hire children than adults, as their wages are lower, and they are less mature physically and mentally than adults. The employers think "children will not form unions, do strikes, or file court cases." For each child employed in this way, an adult loses a job opportunity. As a result, many families become poorer and poorer, and the children who have no choice but to work for long hours have almost no time to go to school, so that many of them never learn to read and write. This leads to further poverty in the future. Furthermore, poor families tend to think "having more children increases the number of workers." When such thinking leads to increased population, poverty deepens further. It is thus obvious that child labor is a cause of poverty, and not the other way around.

(Source: Interview with Kailash Satiarthi, Chairperson of Global March) in October 2001 issue of "ALTA" magazine by Pacific Asia Resource Center (PARC).

Work sheet C: child labor

1. How many children like Meena, who have to work from an early age, do you think there are in the world?

2. In which regions do you think there are the largest numbers of such children? Try to rank the regions according to the number of such children.

- Asia/Pacific Ocean Region
- Africa (South of Sahara)
- Central/South America and Caribbean Region
- Middle East/North Africa

3. What kind of work are the children doing? Try to rank the following job categories according to the prevalence of child labor.

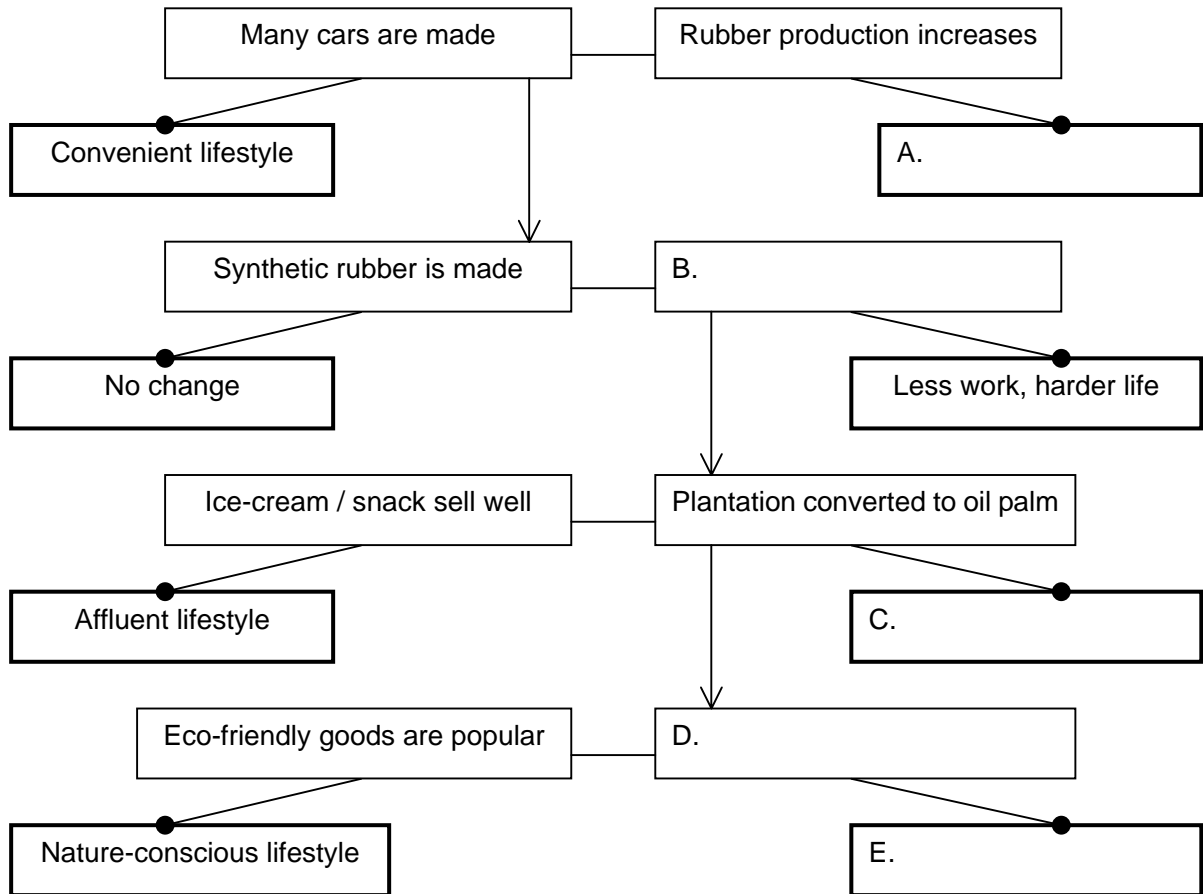
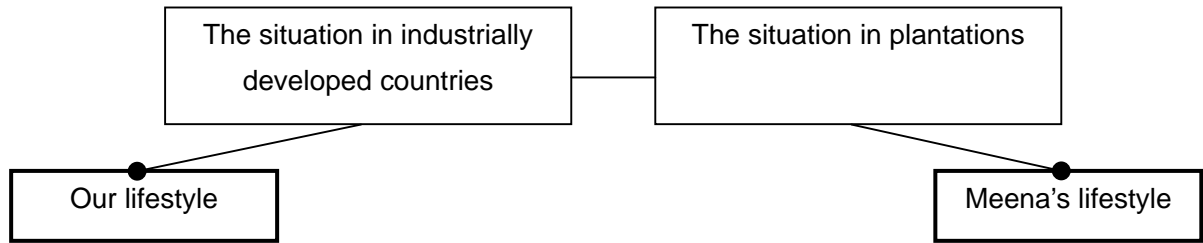
- a) the primary sector, such as farming, fishing, etc.
- b) working in factories/manufacturing
- c) the services sector, as an employee in a store, hotel, etc.
- d) services done individually or in a group, such as collecting unwanted articles, shoe-shining, etc.

4. If a child must work from the time s/he is small, how does this affect his/her later life? Note down whatever comes to mind.

5. What are the background factors of child labor? Why are the children working from such a young age?

6. Of the reasons given in 4) and 5) above, which apply to Meena's case? Mark them.

Work sheet D: Meena and us



1. Which words fit best in the above spaces(from A to E)? Cut and paste them in

1. harvest fruit bunches	2. collect rubber sap	3. rubber plantation workers lose their jobs
4. work hard to keep up with demand	5. Clear virgin forests to make more plantations	

2. What does "work" mean for us in industrially developed countries, and what does it mean for Meena? What is the same, and what is different?

Aspects that are the same:

Aspects that are different:

3. What is the relationship between Meena's restricted life in the plantation, and our lives in industrially developed countries? Please write about one aspect that you feel strongly about.

Answers to Worksheet C

1. Approximately 246 million people.
2. Asia / Pacific Ocean Africa (South of Sahara) Latin America / Caribbean
Middle East / North Africa
3. 1-a), 2.-b) ,c), 4.-d)
4. growth inhibited due to carrying heavy burdens, etc./ illness due to working long hours in a poorly ventilated place / accidents due to handling dangerous machinery / being unable to get an education due to long working hours, etc.
5. From the worker's perspective, the family is poor and looks to the children to provide labor. From the employer's perspective, the wages of child labor are cheap, there is little risk of forming labor unions or strikes, and children learn tasks quickly, etc.

Answers to Worksheet D

1. A-2 B-3 C-1 D-5 E-4

Malaysian Rubber and Oil Palm

1) Under colonial rule by the British for many years, Malaysia developed a "monoculture economy" that specialized in the export of particular primary products such as tin and natural rubber. Many Chinese from southern China and Tamils from South India were mobilized as laborers. Malaysia is now a multi-ethnic nation with ethnic Malays, also known as "bumiputras" (children of the earth) comprising 62%, ethnic Chinese 26%, and ethnic Indians 8% of the population.

2) Production of rubber exploded from the end of the 19th to the beginning of the 20th century, due to the invention of the inflatable tube and growth of the automobile industry, which greatly increased demand for rubber. Rubber cultivation on the Malay Peninsula began in Singapore, spreading to the colonies on the Malacca strait, and to Johor, where production rose rapidly. A "rubber belt" was formed. Nearly half of the arable land in Peninsular Malaysia was converted to rubber plantations.

3) During the Sino-Japanese and Russo-Japanese wars, Japan rapidly developed its heavy industries and also increased its trade volume with the world. Japan's economic boom was occurring just as worldwide demand for rubber was escalating, so many Japanese companies

invested their excess capital in the management of rubber plantations in the Malay Peninsula. As the price of rubber shot up around 1908, the Japanese rubber investment fever peaked as Japanese investors poured their money into rubber plantations in the Malay Peninsula. However, the rubber industry exhibited its instability and weakness to changes in the world market during the Great Depression following World War I. The boom years of Japanese rubber plantation management were over, and went downhill after the 1920's.

4) With the invention of synthetic rubber, natural rubber began to suffer from severe price competition in the 1960's, and the area under cultivation decreased. Nowadays, Malaysia has lost its international competitiveness in the rubber industry due to the decline in the market price of natural rubber and the increased in wage levels. However, the ratio of synthetic rubber to natural rubber in the tire and tube industry has remained constant for some time due to maturation of the technology. Increased demand for radial tires, which require a higher percentage of natural rubber, has been advantageous for Malaysia. Furthermore, old rubber trees can be saw milled as a light colored wood that makes beautiful furniture. Some plantations are starting to grow rubber exclusively as wood for furniture.

5) Large-scale commercial production of oil palm in Malaysia started in the 1960's. With increased global demand, more and more tropical forests in Sarawak are being clear-cut to make plantations (see sections I and II).

6) Today, Malaysia is the world's number one exporter of palm oil. In 1999, it is said to have exported to 110 countries, accounting for 65% of the worldwide palm oil market. More than 80% of the plantations in Malaysia are said to be oil palm plantations now. The 7th Five Year Plan (Malaysia Plan) states the goal to have oil palm account for 43% of agricultural output by 2000. However, this does not mean that the palm oil market is doing so well. While the basic economic conditions in Malaysia have changed, the market price for palm oil has fallen below favorable levels. Though palm oil is still the most profitable agricultural product, being overly dependent on just one agricultural product has its risks.

The Malaysian government has been trying to develop new trade partners, for instance, by allowing importing countries to purchase palm oil without immediate cash payment, etc.

Section IV. What does it mean to be "Eco-friendly"?

Unit 1 Sorting out the issues of palm oil

Aims

After studying sections I through III, to sort out the issues concerning palm oil and to understand how they relate to each other.

Time

30 minutes.

Materials

very large sheets of paper, sticky notes, felt pens, pencils.

How to proceed

Form groups of four or five people.

Participants write comments on the sticky notes regarding anything they learned, discovered, got curious about, or want to know more about, etc., regarding palm oil.

Write "Producer Countries" and "Our Lives" in the middle of the big sheets of paper.

Place the sticky notes with the participants' comments/keywords on the large sheets of paper, grouping similar ones together.

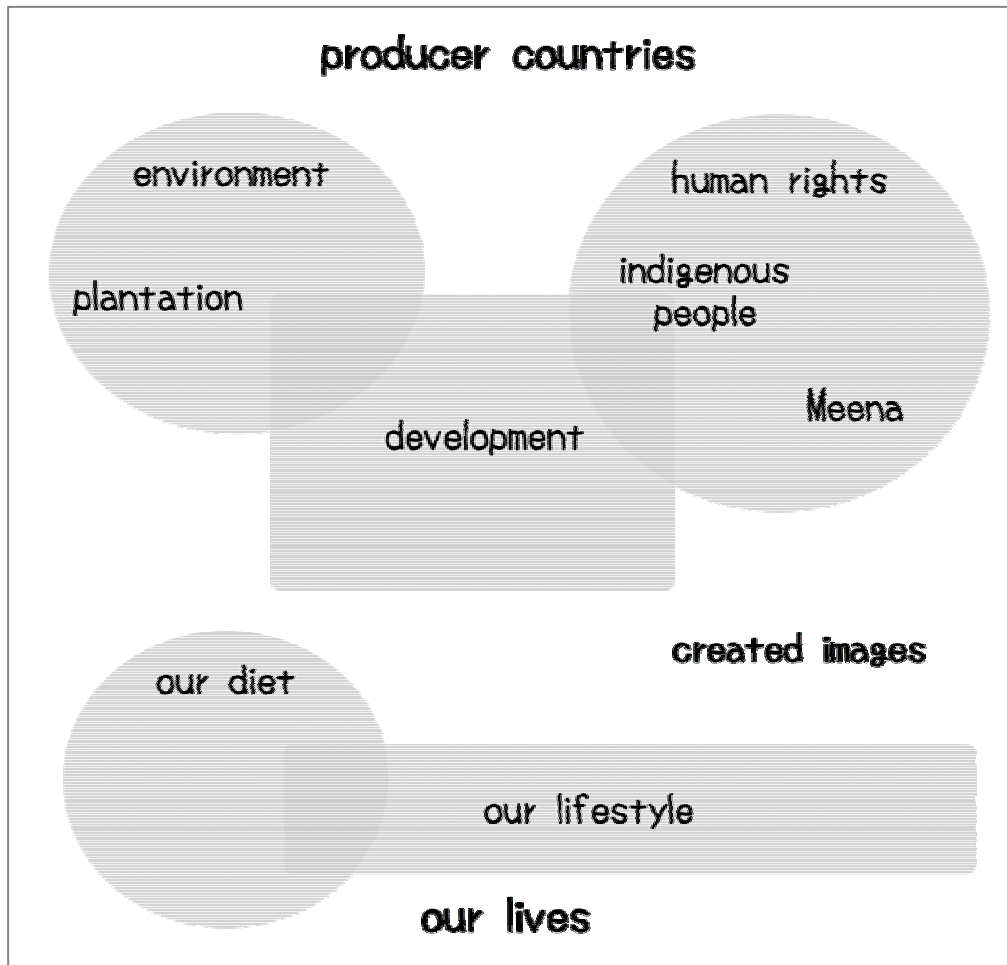
Once a number of groupings have been formed, draw lines to interconnect them.

Have each group report how they sorted out the issues.

Adaptation

By the same method, brainstorm about what it means to be "eco-friendly." Do brainstorming about "producer countries" and "our lives" and group your ideas on the sheet of paper.

Example < Issues surrounding oil plantations >



< Keywords >

Environment

Logging of tropical forests / destruction of living environment / loss biodiversity / virgin forest lost forever / plantations / monoculture / pesticide hazard / history of colonialism

Development

Oil palm plantation development / indigenous people's rights / loss of tradition & culture / earn foreign exchange / government policy / labor conditions / massive land development / multinational corporations

Human rights

Life of indigenous people / whose land? / education / wisdom of the forest / no information / children

Meena

Every day in the same / child labor / rights to choose the future by herself / school is life enjoyable? / Living for many generations in the plantations, etc

Section IV. What does it mean to be "Eco-friendly"?

Unit 2 What we can do?

Aims

To reflect upon our lifestyle and consider what we can do as consumers.

Time

30 minutes.

How to proceed

Rank the following items based on a number of criteria such as "what is most important," "what is realistic," "what can be done right away," etc. The 9-option "diamond ranking" method, etc., can be used if wanted.

First do the ranking activity individually, then share in the group or with everyone.

Points to keep in mind

* There is no need to use every option.

* Have participants add any other options that they think are important or can be achieved.

Expansion

Make waste oil soap.

Make bread with oil (an emulsifier) and bread with non oil, and compare them.

Research oil intake in a week, compare to life of 30 years ago.

Our options as consumers

1. Tell family and friends about palm oil	2. study about palm oil using the internet, library, etc.	3. Get friends together for a study group to discuss solutions	4. Check the label when shopping
5. Don't waste things. Buy things that can be reused/recycled	6. Eat less vacuum-packed or instant food	7. Boycott all products using palm oil	8. Use soap made from cow fat or waste oil
9. Don't be taken in by TV commercials	10. live every day thinking about Meena and the rainforest	11. Shampoo less often	12. Visit producer countries to learn about the real situation
13. Point out the problems to Japanese food and detergent companies	14. Participate in or support activities of environmental groups (NGOs) working on palm oil issues	15. Vote for people / parties that value the environment and human rights.	16. Write letters to the editor of your newspaper
17. Demand that companies give proper consideration to labor conditions and environmental issues when they purchase materials	Your choice	Your choice	Your choice

Solutions to the Palm Oil Issue

The issues surrounding palm oil are very complex. It would be very difficult to completely stop consuming palm oil in our daily lives in Japan. This is because palm oil has entered into all aspects of our lifestyle, changing its form into all sorts of foods and industrial goods. However, there are a number of things we can do.

1) Investigate and communicate

One difficult aspect of the palm oil issue is that we have few chances to learn about the situation in producing countries and the characteristics of palm oil, even though our daily lives are very dependent on it. It is hard for us to have a clear image of the issue. However, the problems occurring in producer countries are severe, so it is highly problematic to continue to advertise palm oil products as "eco-friendly" without knowing the real situation.

The issue is made even more difficult by the complex interactions between the local governments, which are keen to develop palm oil to earn foreign exchange, the importer countries which seek a cheaper supply, and the different international bodies and multinational corporations involved.

It is important to investigate into the real situation and its impacts, and to communicate and share this information with our friends and others. By continuing to have a heightened awareness of the

issues, we may be able to throw light on the complex structural issues. This could be a first step to finding the right direction to solve the problems.

2) Heighten our consciousness as consumers

Rather than accepting the manufacturers' commercials and "eco-friendly" or "environment-conscious" image at face value, it is important for us to always check things out for ourselves. Detergents using vegetable oils may be more biodegradable than those made just from petrochemicals, but most are nonetheless synthetic detergents using surfactants made from petroleum. Even detergents with a vegetable oil content of only about 30% are often advertised as detergents born from natural plants. On the other hand, soap is made from cow fat and vegetable oils without as many synthetic chemicals. They are labeled "pure soap content: xx%." Soap is biodegradable and has less acute toxicity for marine organisms, so it is better for the environment than detergent.

Furthermore, we can take a second look at our consumption of oil in general. Increased popularity of processed foods, instant foods, and the restaurant industry has led to increased oil consumption, making us consume too much oil in the developed countries.

An obsession with cleanliness has also caused us to increase use of bleach and shampoo. In olden days, the Japanese people washed their hair with the oil of the camellia tree, etc. Maybe we should consider using oils that are locally available. Our personal choices as consumers have the potential to have an impact on the market.

As consumers of companies' products, we are also able to directly raise issues with food companies, detergent companies, etc., and ask them to disclose information about their products. It is also possible to encourage companies that procure palm oil to pay proper attention to the producers' working conditions and environmental issues in producing countries, etc. For instance, it might be possible to propose guidelines on protection of indigenous peoples' rights and the environment, the amount of use of pesticides and herbicides, laborers' working environment, etc., and to make fulfillment of such guidelines a pre-condition for procurement palm oil.

3) Take action

Column 6 What we can do to change our companies and government

The tropical forests of Sarawak continue to be logged in order to produce palm oil. The indigenous peoples wish deeply "please don't destroy the forest any more!" Though most of the plantations in Malaysia are managed by Malay companies, their parent companies are often based in Britain or Singapore, or are overseas Chinese concerns. Some of their most important trading partners are Japanese firms.

Japan is one of the world's largest consumers of timber and oil palm in the world. It is important for all of us who live in Japan to reflect upon this fact, review our lifestyles, and take action to halt any further forest destruction. Japanese companies have links with Sarawakian firms that are logging the last tropical rainforests of Sarawak. The Japanese government has also loaned money to the Sarawak state government for development projects without taking into consideration the views of local people. Such investments have enabled the Sarawak state government to re-invest the profits of logging and oil drilling in dams, pulp and rayon factories, and other wasteful projects unwanted by the local people. Is it not possible for us to tell our government and companies to change their ways of investment and to stop promoting harmful development projects? (Source: Sarawak Campaign Committee)