

# For Our Common Future



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# **Focus on Our Ecological Footprint**

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# I. What is Ecological Footprint?

## Knowing About Ecological Footprint

Clothing, diet, housing and travelling of us will consume the natural resources on the earth and will generate various wastes.



In fact, it is the ecosystem on the earth which provides us with the natural resources and absorbs the wastes. The land area needed for providing the natural resources and absorbing the wastes is called “ecological footprint” by the scientists. Just like a giant foot carried by the humans, the cities, factories, railways and farmlands created by human beings, it will leave a foot print on the earth, and the size of the footprint is ecological footprint. All the resources needed by human beings' clothing, diet, housing and traveling are from the natural system, and the generated wastes need a certain area of land to absorb.

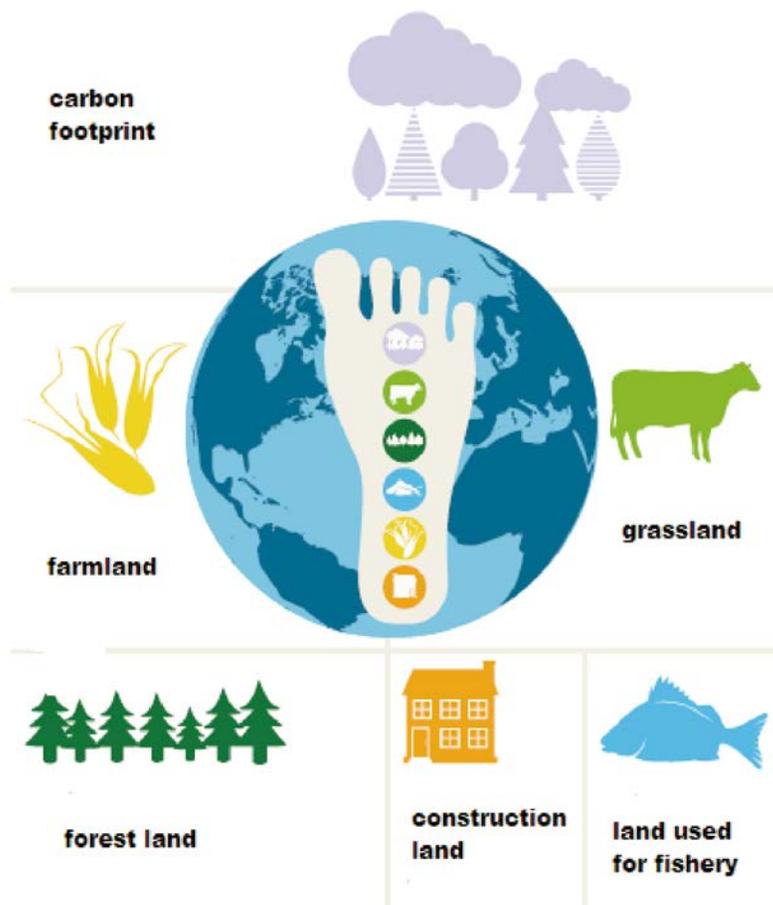


Figure 1.1 Composition of the Ecological Footprint

The ecological footprint can not only reflect how much resources we have asked for from the earth, but also show how much wastes we have discharged on it. The survival of human beings needs various kinds of resources from the earth; the wastes generated by them need the environment to absorb. The ecological footprints are different in different countries and regions due to different natural conditions and different living standards as well as different levels of production and absorption capabilities of different ecosystems.

### Activity 1.1



*Find more materials to learn what ecological footprint is. Write down the different concepts you may find and discuss with classmates to see what are the differences between those concepts of ecological footprint.*



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## Calculating the Ecological Footprint

How big is the ecological footprint of an individual? We can measure it through a simple calculation method. Generally, calculating ecological footprint needs to know the amount of resources consumed by an individual during everyday life. The ecological footprint is largely different in size because of different lifestyles and resource consumption amounts.



## Activity 1.2



Log on <http://www.wwfchina.org/site/2013/overshoot/footprint.php> to calculate the ecological footprint you've made in a year. Compare your ecological footprints to see whose is the smallest. Discuss: why is someone's footprint big while others' small?

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The ecological footprints are much different in different regions in the world, which is caused by different natural conditions, wealth and living standards in different countries. The per capita footprints in high consumption countries in North America and West Europe are bigger than that in low consumption countries in Asia and Africa.

### Activity 1.3



Why some countries have big ecological footprints?

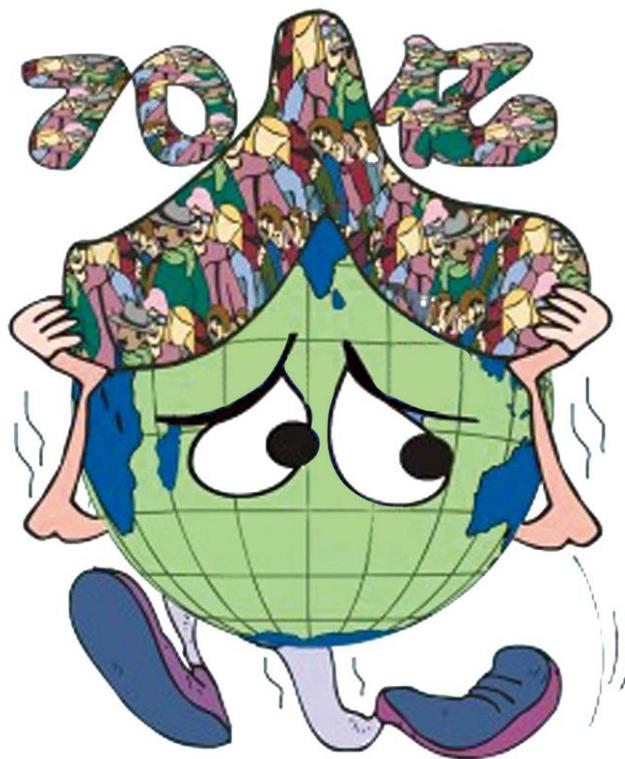
Country	If all the people live this way like the country, how many earths do we need?
U.S.A	6.5
Indonesia	1.5
China	2.5
Korea	4.5
Japan	3.7
India	0.9
France	4.0
United Arab Emirates	8.0

Source: Global Footprint Network, Annual Report, 2013

## II. Reducing Ecological Footprint

### We are Overdrafting the Earth

The surface of the earth is very large, but not all the lands can provide resources and absorb the wastes. Currently, the area capable of maintaining the human beings' survival is approximately 11.2 billion hectares. Well then, is the existing land area big enough to maintain the human beings' survival and development?



## Activity 2.1



The globally average ecological footprint is 2.7 gha (2008), i.e., each person needs 2.2 gha land to provide the natural resources for his survival and absorb the wastes discharged by him. Calculate based on per capita ecological footprint of 2.2 gha, how much land do we need for maintaining the survival of 7 billion people? Is the land area of 11.2 billion gha big enough for us? Refer to relevant documents to fill the following table.

Country	Ecological Footprint (gha)	Population ( Million )	Total Ecological Footprint (gha)
China	2.5	1359.8	
Japan	3.7	127.3	
Korea	4.5	48.4	
U.S.A	6.5	312.2	
South Africa	2.5	51.4	
Russia	4.5	143.6	
Brazil	2.6	195.2	
India	0.9	1205.6	

Source: Global Footprint Network, 2010; UN Department of Economic and Social Affairs, 2013

If all 7 billion people in the world adopt the lifestyle of the US people, we may need four earths to fully meet the demands of human beings. However, there is only one earth. Therefore, we must try to keep ecological footprint at a low level. High consumption countries shall try to reduce their ecological footprint and low consumption countries also need to live a green lifestyle, thus to make contribution to reducing the ecological footprint of human beings.



China



Japan



Australia



U.S.A



India

Figure 2.1 Life styles of China, Japan, Korea, US and Tanzania

# Reasonable Consumption

Reasonable consumption is one of the key factors for reducing ecological footprint. We should try to refuse use of products damaging the environment or wasting large resources, choose appropriate products, reduce excessive consumption and use and dispose of these products in right ways.



Figure 2.2 Recommendations for Reasonable Consumption



Using resources comprehensively instead of in a wasteful way, buying the products you really need, considering environmental protection first when choosing among similar products and trying to buy locally made products, these are the important methods of reducing the ecological footprint.

Choosing appropriate mode of travel is also a part of reasonable consumption. We should try to follow “green” pattern in shopping, travelling and going to work and school. Green travel means to choose the vehicles capable of reducing our ecological footprint.



## Activity 2.2



Private car, taxi, bus and bicycle are competing which is the smallest ecological foot print. Have a look at to their campaign statements, which one will you vote for? Discuss with your classmates.

### Bus

I discharge a lot of CO<sub>2</sub> as private cars do, but I can carry many passengers.



### Private car

I'm pretty, convenient and fast. I'm a sign of important position, and as many people are buying private cars, we are growing larger and larger.





## Bicycle

I do not discharge any waste gas, and I can help you exercise.

## Taxi

I'm as convenient and fast as the private cars, and I'm more comfortable than buses.



# Certified Green Products

## Activity 2.3



*Do you know the meaning of these labels? Think about whether you have seen them before. Besides these, have you seen other labels?*



Figure 2.3 China green certification labels

These labels usually appear on the packages of green products, showing such products are green, environment-friendly and nonhazardous. Once a product is given the green certificate, it means the production, use and disposal of such products meet the requirement of environmental protection and will not cause damage to human health. Such products may be recycled and reused because the wastes have no or little hazard.

**Production:**

- Use environment-friendly materials
- Adopt environment-friendly production process

**Utilization:**

- Use in an environmental manner
- Generate no or little hazardous substances

**Disposal:**

- Wastes may be recycled
- Simple disposal method and small impact on the environment

Therefore, the products with green labels will have smaller impact on the environment, which will help us reduce the ecological footprint. The certified green products include electric appliances, building materials, toys, textiles, food and beverage, office equipments and cars, etc.



# ← Choices of Low-carbon Products

## Activity 2.4



What kind of green products is in the supermarket near your house?

A large, blank white scroll with a yellow pencil icon at the top right corner, set against a green background.

# III. Action

## Recommendations for Reducing Ecological Footprint in Our Everyday Life

### Activity 3.1



We have learned a lot about ways of reducing the ecological footprint, which of them have you tried? What else can you do? How can we become a “low-carbon child” by doing the subtraction in our life and by doing the addition for the ecology?

What I have done	What I can do further
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....



## Activity 3.2



Make a beautiful card of "Guide for Footprint Reduction" and put it on your bed or on the wall to remind you to keep in mind what you can do for reducing ecological footprint.

Examples:

- Turn off light in the morning
- Buy locally made milk and bread
- Take subway to school

Seven empty boxes for additional tips are provided around the circle.

## Recommendations for reducing ecological footprint in our everyday life

- ◎ Save water by purchasing water-saving washing machine
- ◎ Try not to drink bottled water, because the production and transportation will have impact on the environment
- ◎ Try to use water resources for multi times, for example, flush the toilet with water left after washing vegetables
- ◎ Walk or ride a bicycle to the office, which is good for both the environment and the health
- ◎ Take a bus more often, car sharing is also a good idea; try to avoid unnecessary long-distance travel and, if necessary, travel by train instead of by plane
- ◎ If you really need to buy a family car, buy a new energy type or low-emission type
- ◎ Turn off the electric appliances when you finish using them; do not set them in the state of stand-by, otherwise the energy would be consumed
- ◎ Maintain an appropriate indoor temperature as the setup of lower indoor temperature in summer or higher in winter will result in the waste of energy
- ◎ Choose energy-saving products when you buy electric appliances, such as energy-saving bulb
- ◎ Choose reasonable way of eating, and do not waste food
- ◎ Eat the locally produced food in the season to reduce the use of pesticides during plantation and the emission of greenhouse gases during transportation
- ◎ Eat less meat and more vegetables



## IV. Stories from China, Japan and Korea

In China, Japan and Korea, there are many wonderful ideas for reducing the ecological footprint. Think about it and write in the boxes and share with the other kids.



*Stories from China*



A large white rectangular area with rounded corners, containing seven horizontal dashed lines for writing. The area is set against a yellow background that has a curled-up bottom-right corner.



*Stories from Japan*



A large white rectangular area with rounded corners, containing seven horizontal dashed lines for writing. The area is set against a green background that has a white speech bubble shape at the top left and a white corner at the bottom right, suggesting a sticker or a page being turned.



*Stories from Korea*



A large white rectangular area with rounded corners, containing seven horizontal dashed lines for writing. The area is set against a purple background that has a folded corner effect at the bottom right.



