Citizenship and Social Development
Theme 3 Interconnectedness and Interdependence of the Contemporary World
Topic: Sustainable development

Learning focus:

The Rationale of Sustainable Development and the Practical Experiences of Environmental Conservation of Our Country, Hong Kong and Other Regions

March 2023
(Translated version)

Learning objectives

Knowledge

- To understand the development opportunities and challenges facing humanity and the rationale of sustainable development
- To learn about the practical experiences of environmental conservation of our country, Hong Kong and other regions

Skills

- To develop critical thinking skills through rational and objective analysis of development challenges facing humanity
- To apply the rationale of sustainable development and propose strategies to address environmental issues based on the practical experiences of environmental conservation

Values

- To recognise the importance of environmental protection and sustainable development
- To show concern about the environmental issues in Hong Kong, our country and the world, and to appreciate the interdependence between human beings and the natural environment
- To cultivate a sense of responsibility for environmental conservation and to actively participate in environmental initiatives

Opportunities and challenges for human development

Since the advent of industrial civilisation, human has witnessed technological advances, rapid productivity development, rapid growth in material wealth as well as significant improvements in living conditions.

However, human is facing serious problems such as rapid population growth, imbalanced economic development, social inequality and damage to the ecological environment.

Opportunities and challenges for human development

Imbalanced economic development

The global economy is growing rapidly, but the gap between the North and South is widening. So is the wealth disparity between developed and developing countries. There are significant imbalances in global economic development.

To know more

The imbalances in global economic development refer to the imbalanced economic development and power among different countries and regions, mainly between developed and developing ones. As most developed countries are in the northern hemisphere and most developing countries are in the southern hemisphere, such imbalances are also known as the North-South divide.

Wealth per adult in the world and selected regions and countries, 2021

Country / region	Wealth per adult (Mean in USD)	Wealth per adult (Median in USD)	Country / region	Wealth per adult (Mean in USD)	Wealth per adult (Median in USD)
North America	560,846	95,255	Asia-Pacific	64,700	5,218
Europe	180,275	26,385	Latin America	27,717	5,139
World	87,489	8,360	India	15,535	3,457
China	76,639	28,258	Africa	8,419	1,111

Source: Credit Suisse - Global Wealth Databook 2022, p.134, Table 4-1 (https://www.credit-suisse.com/media/assets/corporate/docs/about-us/research/publications/global-wealth-databook-2022.pdf)

Opportunities and challenges for human development

Social inequality

Leaving no village behind

Click on the image to watch the video

Around the world, four out of every five people facing extreme poverty live in rural areas. In cities, 5.3% people suffer from extreme poverty, while this share climbs to 18% for rural residents.

The *World Social Report 2021: Reconsidering Rural Development*, released by the United Nations, presented findings on how rural development can serve as a powerful driving force to achieve sustainable development. It calls for moving rural development to the centre of attention; for ending the rural-urban divide and inequality within rural areas; and for achieving rural development while preserving the environment.

Source of video and text: United Nations (https://www.un.org/en/desa/leaving-no-village-behind-0)

Opportunities and challenges for human development

Ecological damage

Human and nature are interdependent. Mankind has created massive material wealth by means of science and technology. Yet, it has come at a cost of intensified exploitation of natural resources and destruction of ecology. As a result, the balance of ecosystem has been disrupted, leading to problems such as a sharp decline in resources, ecological damage, environmental pollution and climate change.

To know more

- **Environmental problems** are caused by natural changes or human activities that lead to a decline in environmental quality or ecological imbalance, and they have a negative impact on production and life of mankind.
- Environmental problems can be divided into primary and secondary ones. When we talk about environmental problems, we usually refer to environmental pollution and ecological damage caused by human factors, i.e. secondary environmental problems.

Examples of global environmental problems

Global warming	Ozone depletion	Biodiversity loss	Spread of acid rain	Deforestation
Desertification	Air pollution	Water pollution	Marine pollution	Waste pollution

Activity

Opportunities and challenges for human development

Questions:

- What other environmental problems are facing the world, apart from the ones mentioned above.
- What are the impacts of these environmental problems on human beings?

Hints:

- Students are free to suggest other environmental problems such as soil pollution, heat island effect, noise pollution, light pollution and motor vehicle pollution.
- Students may explain the relevant impacts based on the problems, such as ecological damage, depletion of resources, environmental pollution, hindering of economic and social development, and threatening human health.

Click on the image to watch the video

Click on the images to watch the videos

Sources of videos: The China Current

- https://chinacurrent.com/hk/story/23488/national-botanical-garden-china (Cantonese only)
- https://chinacurrent.com/hk/story/22567/global-climate-change-glacier-disappearing (Cantonese only)

Formation of Rationale of Sustainable Development

Important Milestones

1972 — The first UN Conference on the Human Environment examined environmental issues from a global perspective

1987 — The UN World Commission on Environment and Development released the report "Our Common Future"

1992 — The UN Conference on Environment and Development adopted “Agenda 21” and signed a series of environmental conventions

2000 — The UN Millennium Summit adopted the Millennium Development Goals

2015 — The UN Sustainable Development Summit adopted "Agenda 2030 for Sustainable Development"

The first UN Conference on the Human Environment was held in Stockholm from 5 to 16 June 1972. The UN later designated 5 June as World Environment Day

In June 1972, the United Nations convened the first Conference on the Human Environment in Stockholm, which adopted the Stockholm Declaration and Action Plan for the Human Environment, marking the awakening of global environmental awareness. The Conference released the unofficial report "Only One Earth" and proposed actions "to protect and improve the environment for present and future generations", which was the first time that the relationship between the present and future generations was taken into account, giving shape to the idea of sustainable development.

Source: United Nations (https://www.un.org/en/conferences/environment/stockholm1972)

Photo credit: Webpage of United Nations https://www.un.org/en/about-us/history-of-the-un/1971-1980

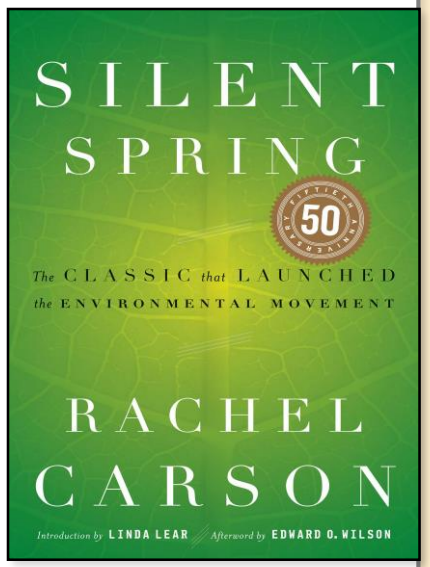
Reference

Formation of Rationale of Sustainable Development

Pioneers of Rationale of Sustainable Development

With population expansion, technological development and economic growth, environmental problems are becoming increasingly serious. Many knowledgeable people have warned about the model of human development. The American marine biologist Rachel Carson pointed out in her book *Silent Spring* (1962) the disaster of using man-made pesticides to increase agricultural production and sounded the alarm on environmental destruction by human beings with modern technology.

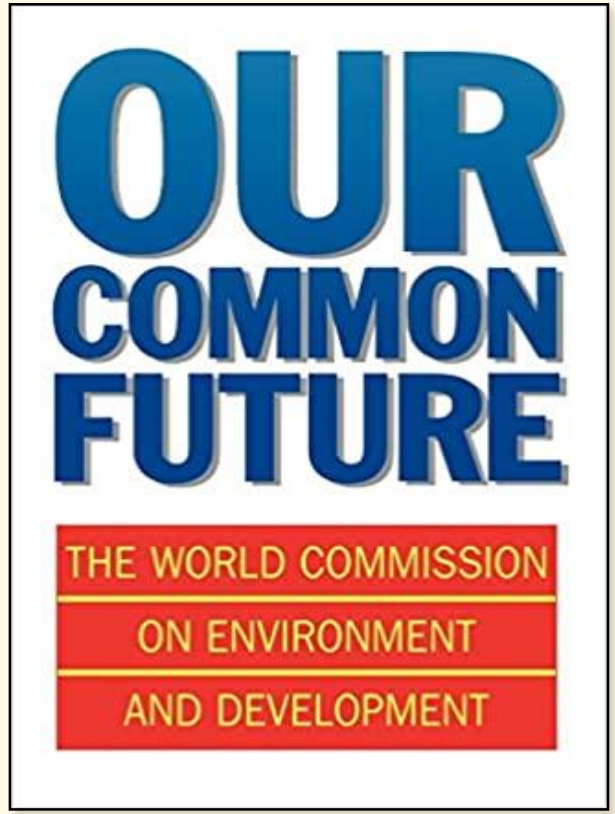
Silent Spring tells the irreversible damage caused to the environment by the abuse of DDT pesticides - a constant attempt to control the nature, which has led to destruction of the ecology and the unwitting accumulation of toxins for ourselves and even for future generations. Ultimately, mankind may face a silent world without birds, bees or butterflies.



Reference

Formation of Rationale of Sustainable Development

The rationale of sustainable development has been maturing in mankind's pursuit of solutions to environmental problems and has become a worldwide consensus. The report titled *Our Common Future*, published by the World Commission on Environment and Development in 1987, formulated the concept of sustainable development for the first time, that is, "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". The report is an important milestone in the formation of the rationale of sustainable development.



Our Common Future

Source: United Nations (https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf)

Formation of Rationale of Sustainable Development

Practice of Rationale of Sustainable Development

The concept of sustainable development has been gaining recognition as the world becomes more aware of environmental protection. In June 1992, the UN Conference on Environment and Development (UNCED, also known as the "Earth Summit", was held in Rio de Janeiro, Brazil. It discussed and adopted Agenda 21 (recommendations on education, conservation of natural resources and sustainable economic development were proposed), the Rio Declaration and other documents. It also witnessed the signing of the "United Nations Framework Convention on Climate Change" and the "Convention on Biological Diversity", thereby promoting global action to protect the ecological environment.

Source: United Nations (https://www.un.org/en/conferences/environment/rio1992)

The UNCED, attended by over 170 countries, was held in Rio de Janeiro, Brazil.

Source : United Nations https://www.un.org/en/about-us/history-of-the-un/1991-2000

Formation of Rationale of Sustainable Development

- In September 2000, the UN Millennium Summit adopted and signed the "United Nations Millennium Declaration" and set out the Millennium Development Goals (MDGs). The MDGs focus on the development of developing countries in terms of environmental sustainability and economic and social development.

Activity

What are the eight MDGs set out in the United Nations Millennium Declaration adopted by nearly 190 countries in 2000?

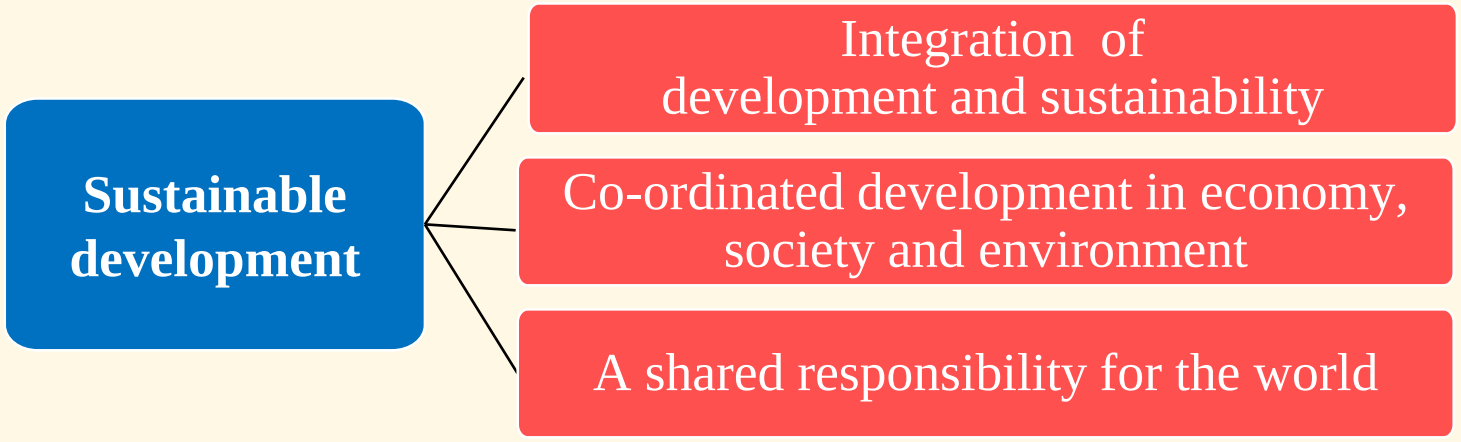
Source: United Nations (https://www.un.org/en/conferences/environment/newyork2000)

- In 2015, the UN Summit on Sustainable Development adopted a new plan to promote world peace and prosperity and sustainable human development. The new plan, called "Transforming Our World: The 2030 Agenda for Sustainable Development", included a declaration, 17 sustainable development goals and 169 targets. It also set out the 5Ps (People, Planet, Prosperity, Peace and Partnership), based on the three interlinked dimensions of economic growth, social inclusion and environmental protection. It marked a milestone for sustainable human development.
- In December 2015, the Paris Agreement was adopted at the Paris Climate Change Conference to address climate change in order to achieve a sustainable low-carbon future.

Source: Webpage of United Nations, https://www.un.org/sustainabledevelopment/development-agenda/

Rationale of Sustainable Development

Our Common Future explicitly introduced the concept of sustainable development for the first time, defining it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". "Transforming Our World: The 2030 Agenda for Sustainable Development" further refined the concept of sustainable development by setting out the goals of eradicating poverty, combating climate change, building economic growth and addressing a range of social needs.



Rationale of Sustainable Development

Sustainable development must be people-centred, with shared and equitable development, ensuring intra-generational and international equity for the current generation, as well as inter-generational equity between the current and future generations.

Intra-generational Equity

The development of one group of people in a country or region should not compromise the development of others

International Equity

The development of one country or region should not compromise the development of others

Inter-generational Equity

Development should meet the needs of the current generation without compromising the ability of future generations to meet their own needs

Rationale of Sustainable Development

Ecological Footprint

The ecological footprint of people varies greatly under different consumption patterns. Countries or regions with high ecological footprints overuse the resources of others and future generations, resulting in significant ecological deficits. This reflects inequalities in resource consumption and emissions. In other words, the development of one country or region compromises the development needs of other countries and regions and of future generations.

- Ecological footprint is a measure, in terms of the global hectare (gha), of the amount of resources consumed by a person, region or country of a particular lifestyle, and the amount of land or water needed to absorb waste.
- It is used to assess the sustainability of human activities. Higher values indicate higher human demand on natural capital-and more severe ecological and environmental impacts.
- An ecological surplus occurs when the ecological carrying capacity is larger than the ecological footprint; otherwise it results in an ecological deficit.

Source: "What is an ecological footprint" (Chinese only), Research Centre for Eco-Environmental Sciences, Chinese Academy of Sciences
http://www.rcees.ac.cn/kxcb/kpwz/200911/t20091103_2646904.html

Activity

Rationale of Sustainable Development

Currently the global ecological footprint per capita is about 1.7gha. Please complete the following activity with reference to this indicator:

1. Browse footprintnetwork.org and https://www.wwf.org.hk/en/cities/footprint/. Look for the ecological footprint per capita of 5 different countries/regions and Hong Kong. Share the information with your classmates.
2. Search "Ecological Footprint Calculator" online and calculate your own ecological footprint. Describe what you can do to adopt a low-carbon lifestyle in terms of clothing, food, living and travel in future.

Hints for activity

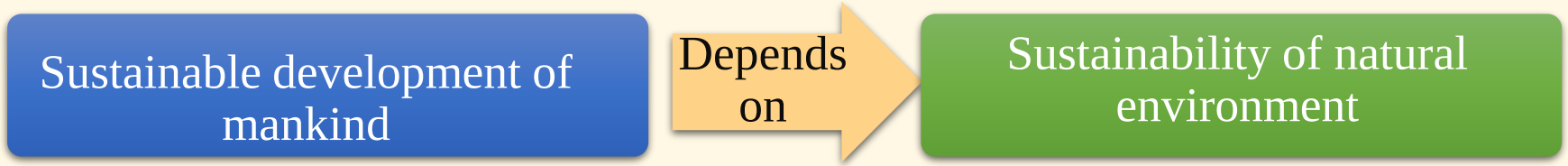
1. Students can analyse the data in different countries and compare their ecological footprints, so as to illustrate the inequity in ecological footprint and the related impact.
2. Students will fill in daily information online to calculate their ecological footprints. Explain how they plan to reduce their ecological footprints in terms of clothing, food, living and travel, in order to contribute to sustainable development.

Rationale of Sustainable Development

Sustainability as an urgent need for human survival and development

The natural environment is the foundation and condition for human survival and development. Only through sustainability can we achieve sustainable development of human beings.

- The reserves of natural resources and the carrying capacity of the environment are limited. They constitute the limits for economic and social development. But human needs are infinite. We must do our utmost to reduce/solve the resource crisis and ecological and environmental problems we face, and to ensure the sustainability of resources and the environment.
- In the process of development, we must consider not only our own development needs, but also those of future generations in terms of resources and the environment, so as to ensure the sustainability of human development.



Reference

Rationale of Sustainable Development

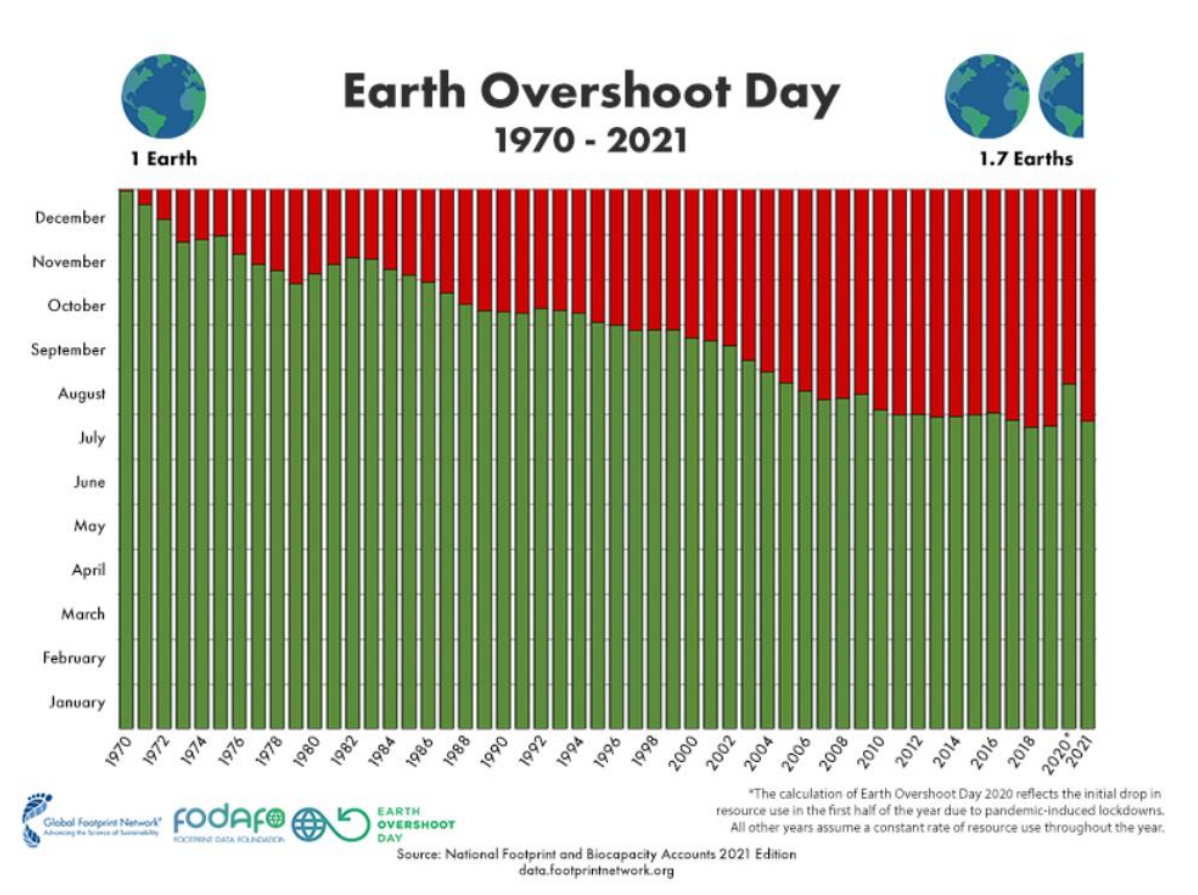
The continued exploitation and consumption of natural resources by mankind is putting enormous pressure on the planet. In 2022, mankind would need 1.75 Earths to keep up with the existing lifestyle. For some countries, it would even take the resources of 5.1 Earths to "break even". The massive overdraft has made the production and supply of the planet's resources unsustainable. We must promote responsible consumption and production to address the conflict between needs and limits.

Source: Earth Overshoot Day (https://www.overshootday.org/how-many-earths-or-countries-do-we-need/)

Reference

Rationale of Sustainable Development

The Earth went into ecological deficit for the first time on 29 December 1970. And since then Earth Overshoot Day has been arriving earlier in an alarming manner. In 2019 mankind exhausted its natural resources for the year on 26 July. The overshoot was delayed until 22 August 2020 due to the COVID-19 epidemic and the global economic downturn. But it approached the earliest date in history again in 2021.



Source: Earth Overshoot Day
https://www.overshootday.org/newsroom/past-earth-overshoot-days/

To know more

Earth Overshoot Day, also known as Ecological Debt Day, is the day of the year that human demand on the planet exceeds what it can regenerate for that year. For the rest of the year beyond that, humans are using up the resources of future generations in order to maintain their current lifestyles.

Think about it: How can we postpone the arrival of Earth Overshoot Day?

Rationale of Sustainable Development

Promoting co-ordination in the economic, social and environmental development

- Sustainable development emphasises the balance among the three elements of economic growth, social inclusion and environmental protection. These elements are interconnected and are all crucial for the well-being of individuals and societies.
- To achieve sustainable development, it is necessary to shift from a development model that simply pursues the quantity of development and the interests of the present generation to one that focuses on the quality of development and the well-being of future generations. It is also imperative to align immediate with long-term interests of mankind to promote harmonious development of population, economy, society, resources and the environment. Only in that way can we fully realise the goals of ecological conservation, economic development and social progress.

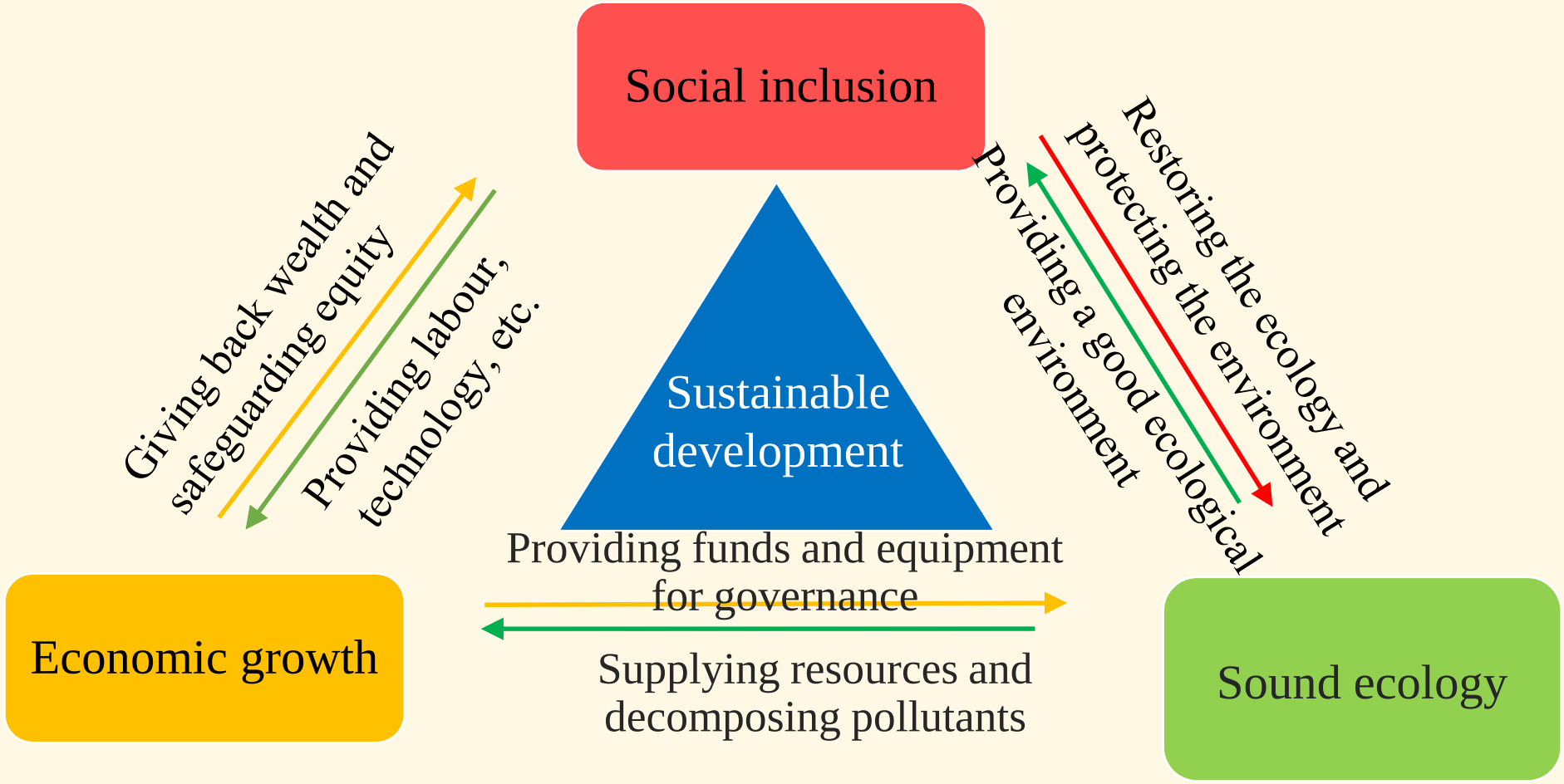
Source: Environment and Ecology Bureau
https://www.epd.gov.hk/epd/misc/ehk12/tc/ch13b.html

Rationale of Sustainable Development

Economic Sustainability	• Economic growth that does not degrade the quality of the environment and does not destroy the natural environment of the planet • Equity in wealth and shared growth across countries, regions and people
Social Sustainability	• Harmonious coexistence of humanity and nature through sustainable modes of production and consumption • Eradicating poverty and hunger, promoting holistic development of all people, and achieving social inclusion
Ecological Sustainability	• Maintaining or improving the Earth's life support systems, and ensuring the integrity of ecosystems and biodiversity

Rationale of Sustainable Development

Sustainable development must construct a virtuous cycle among the economy, society and the environment.



Reference

Rationale of Sustainable Development

Saihanba, Hebei Province, is located on the southeastern edge of the Inner Mongolia Plateau. It was once a hunting field for emperors. Before the 1960s, the high-altitude area was severely cold, with strong wind and little rain. Those factors, together with desertification, resulted in a harsh environment and extremely difficult lives. How was the local development balance the economic, social and environmental aspects to overcome those difficulties?

Click on the image to watch the video

Answer key

Through long-term efforts, the people of Saihanba have developed green industries, transforming the wilderness into forests. Getting rid of poverty, they have also created huge benefits economically, ecologically and environmentally. They have managed to provide abundant resources and a good environment for current and future generations. To promote sustainable development, they have achieved ecological restoration, economic growth and social development. In 2017, Saihanba was awarded the "Champions of the Earth" award, the UN's highest environmental honour. In 2021, it won the "Land for Life Award", the United Nations' highest honour in desertification control. It has become a role model in China for global environmental governance.

Sources:

- People's Daily Online (http://politics.people.com.cn/BIG5/n1/2022/0406/c1001-32392052.html, Chinese only)
- The China Current (https://chinacurrent.com/hk/story/20443/saihanba-national-forest-park, Cantonese only)

Rationale of Sustainable Development

Promoting international partnership

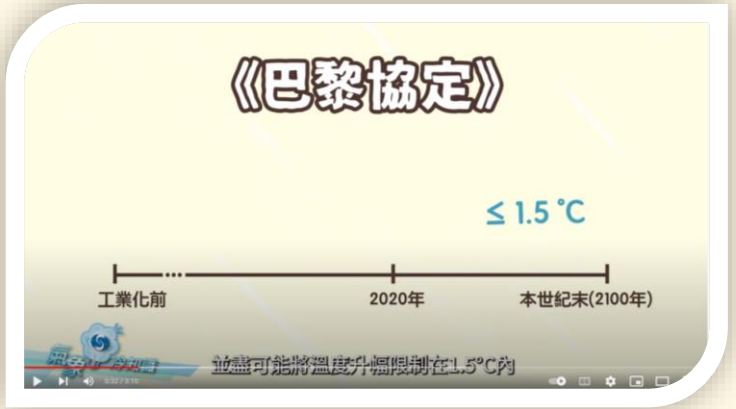
Sustainable development is a future-oriented and global development model. The United Nations calls on all countries to enhance prosperity while promoting equity and protecting the planet. Countries and regions, both developed and underdeveloped, must work together to eradicate poverty, reduce inequality and combat climate change. They must promote coordinated economic, social and environmental development to achieve the UN sustainable development goals.

To cope with common challenges, countries around the world have agreed that peace, development and environmental protection are interdependent and indivisible. It is imperative to strengthen international cooperation in the field of environment and development, and to pursue efforts in establishing a new and equitable global partnership. Under the leadership of the United Nations, a series of agreements have been reached and a number of actions have been taken to promote sustainable development.

Rationale of Sustainable Development

The Paris Agreement

In response to climate change, 178 parties from around the world signed the Paris Agreement at the UN Climate Change Conference in Paris, with an aim to control the rise in global temperatures through their nationally determined contributions and joint efforts. The goal is to limit the increase in the global average temperature to well below 2°C above pre-industrial levels and to purse efforts to limit the temperature increase to within 1.5°C.



Click on the image to watch the video

Source of video: Hong Kong Observatory (https://www.youtube.com/watch?v=h9XSkbQlHKU , Cantonese only)

History of the Paris Agreement

1992

UN Conference on Environment and Development held in Rio de Janeiro, with 154 countries signing the United Nations Framework Convention on Climate Change (UNFCCC)

1997

The Kyoto Protocol adopted by parties to the UNFCCC in Kyoto, Japan

2015

The Paris Agreement adopted by parties to the UNFCCC at the UN Climate Change Conference in Paris, creating a legally binding international agreement

2018

The UN Climate Change Conference in Katowice, with adoption of rules and guidelines for implementing the Paris Agreement

Rationale of Sustainable Development

Reference

Common but differentiated responsibilities among countries

The United Nations is actively coordinating the responsibilities of different countries for sustainable development. According to the United Nations Framework Convention on Climate Change (UNFCCC), the Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, developed countries should take the lead in combating climate change and the adverse effects thereof. They should also provide financial and technical support to developing countries to mitigate or adapt to climate change.

Source: United Nations Framework Convention on Climate Change, https://treaties.un.org/doc/treaties/1994/03/19940321%2004-56%20am/ch_xxvii_07p.pdf

Why are developed countries primarily responsible?

The remaining carbon dioxide in the atmosphere mostly stem from the industrialisation process of western countries. The largest part of global greenhouse gas emissions also comes from developed countries, whose per capita emissions are much higher than those of developing ones. And most high-carbon emission products produced by developing countries are sold to developed countries.

The 2030 Agenda for Sustainable Development

- The Sustainable Development Goals are a universal call for action to improve the lives and prospects of everyone, everywhere. The 17 Goals, as part of the 2030 Agenda for Sustainable Development, set out a 15-year plan to achieve the Goals. In 2020, the United Nations ushered a decade of ambitious action to deliver the Sustainable Development Goals by 2030.
- In September 2019, the UN Secretary-General called on all sectors of society to mobilise for a decade of action on global, local and people levels to achieve the 17 Goals as the blueprint for a better and more sustainable future for all.

Click on the image to watch the video

Source: United Nations (https://www.un.org/sustainabledevelopment/decade-of-action/)

The 2030 Agenda for Sustainable Development

To achieve the 2030 Sustainable Development Goals, in September 2019, the UN Secretary-General called on all sectors of society to mobilise for a decade of action at three levels:

Global level

Global action to secure greater leadership, more resources and smarter solutions for the Sustainable Development Goals;

Government level

Local action embedding the needed transitions in the policies, budgets, institutions and regulatory frameworks of governments, cities and local authorities;

Individual level

People action, including by youth, civil society, the media, the private sector, unions, academia and other stakeholders, to generate an unstoppable movement pushing for the required transformations.

Click on the image to watch the video

Sources: United Nations

- https://hlpf.un.org/
- https://www.un.org/sustainabledevelopment/decade-of-action/

Activity

Formation of Rationale of Sustainable Development

Learn about the UN's 17 Sustainable Development Goals for 2030 and their detailed descriptions through the following webpage and video.

Click on the image to watch the video

Sources: United Nations

- https://www.unhcr.org/hk/en/what-we-do/2030-agenda-for-sustainable-development
- https://www.un.org/sustainabledevelopment/sustainable-development-goals/

Practical Experiences of Our Country in Environmental Conservation

China has been actively engaged in environmental conservation, with a lot of successful experiences. In 1994, China released "China's Agenda 21: White Paper on China's Population, Environment and Development in the 21st Century", becoming the first country in the world to produce a national action plan, setting out four key strategic objectives for its sustainable development:

- Maintaining rapid economic growth, while continuously improving the quality of development by means of technological advances and better workforce quality;
- Promoting comprehensive social development and progress, and building a social foundation for sustainable development;
- Controlling environmental pollution, improving the ecological environment, and protecting the resource basis for sustainable use;
- Gradually establishing policy and legal systems for the country's sustainable development, as well as a comprehensive mechanism for decision-making and coordination in that regard.

Watch the video to learn about China's top 10 environmental achievements in 2021, as well as our country's environmental efforts in multiple aspects.

Click on the image to watch the video

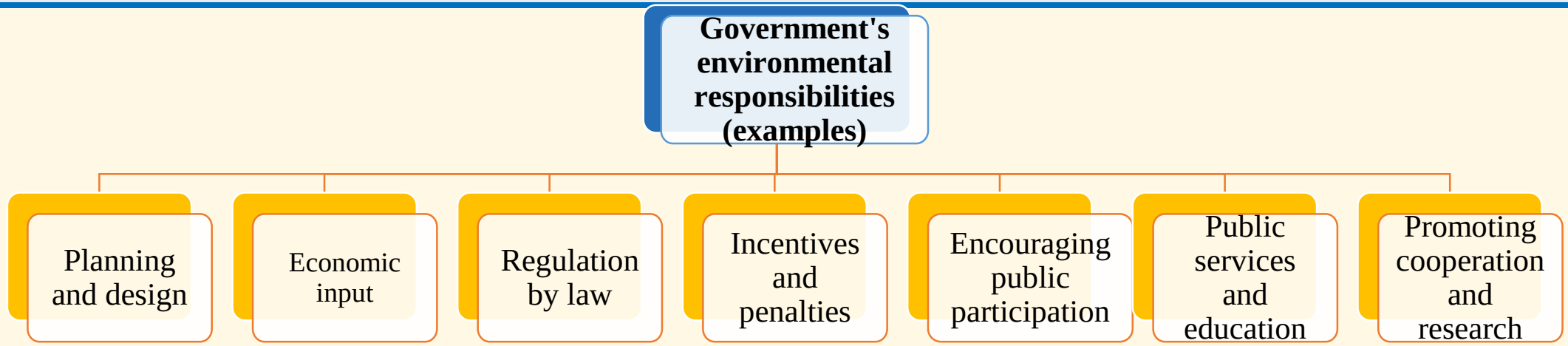
Sources:

- China Climate Change Info-Net (https://www.ccchina.org.cn/Detail.aspx?newsId=27870&TId=59, Chinese only)
- The China Current (https://chinacurrent.com/hk/story/23219/10-green-gains-for-china)

Practical Experiences of Our Country in Environmental Conservation

China has adopted long-term planning, overall design and regional co-ordination for ecological environment. Besides, it improves policies and measures, raises funds and utilises new energy-saving technologies to keep skies blue, waters clear and land pollution-free. A large number of major ecological projects have been established in China, gradually realising the harmonious development of the economy, society and ecological environment.

Through the co-ordination of laws, policies, planning, education and publicity, China is mobilising different stakeholders to participate in ecological construction and climate change mitigation, for the sake of sustainable development.



Extended reference: Guiding Opinions of the State Council on Accelerating the Establishment of a Sound Economic System with Green, Low-carbon and Circular Development (http://www.gov.cn/zhengce/content/2021-02/22/content_5588274.htm, Chinese only)

Practical Experiences of Our Country in Environmental Conservation

Improving the environment and ecosystem through legislative and administrative means

China attaches great importance to environmental legislation and has established a stringent legal system for environmental conservation at three levels: laws, administrative regulations and departmental rules.

Laws

The Environmental Protection Law, Water Pollution Prevention and Control Law, Air Pollution Prevention and Control Law, Yangtze River Protection Law and many other laws.

Administrative regulations

Nature Reserve Regulations, Regulations on National Census of Pollution Sources, Regulation on Implementation of Environmental Protection Tax Law and many other regulations.

Departmental rules

Regulations by relevant environmental authorities on the management of pollutant discharge permits, pollution prevention and control of agricultural land, environmental management of construction sites, etc.

Other countries/ regions around the world also have similar legislation to protect the environment. Find out more about some examples of relevant legislation in other countries/regions.

Reference

Practical Experiences of Our Country in Environmental Conservation

Government-led environmental planning and implementation of environmental conservation

Legislation: Yangtze River Protection Law

- The Yangtze River Protection Law of the People's Republic of China was adopted at a meeting of the Standing Committee of the National People's Congress in 2020, with an aim to strengthen ecological and environmental protection and restoration of the Yangtze River Basin.
- On 2 March 2021, a ship was given an administrative penalty for failing to comply with the above legislation. It was the first fine issued by Nanjing Maritime Safety Administration of Jiangsu Province (江蘇南京海事局) for violation of the Yangtze River Protection Law.

Administrative Regulations: Notice by the Ministry of Agriculture and Rural Affairs on Voluntary Fishing Moratorium on the High Seas in 2021(農業農村部關於實施2021年公海自主休漁措施的通知)

Click on the image to watch the video

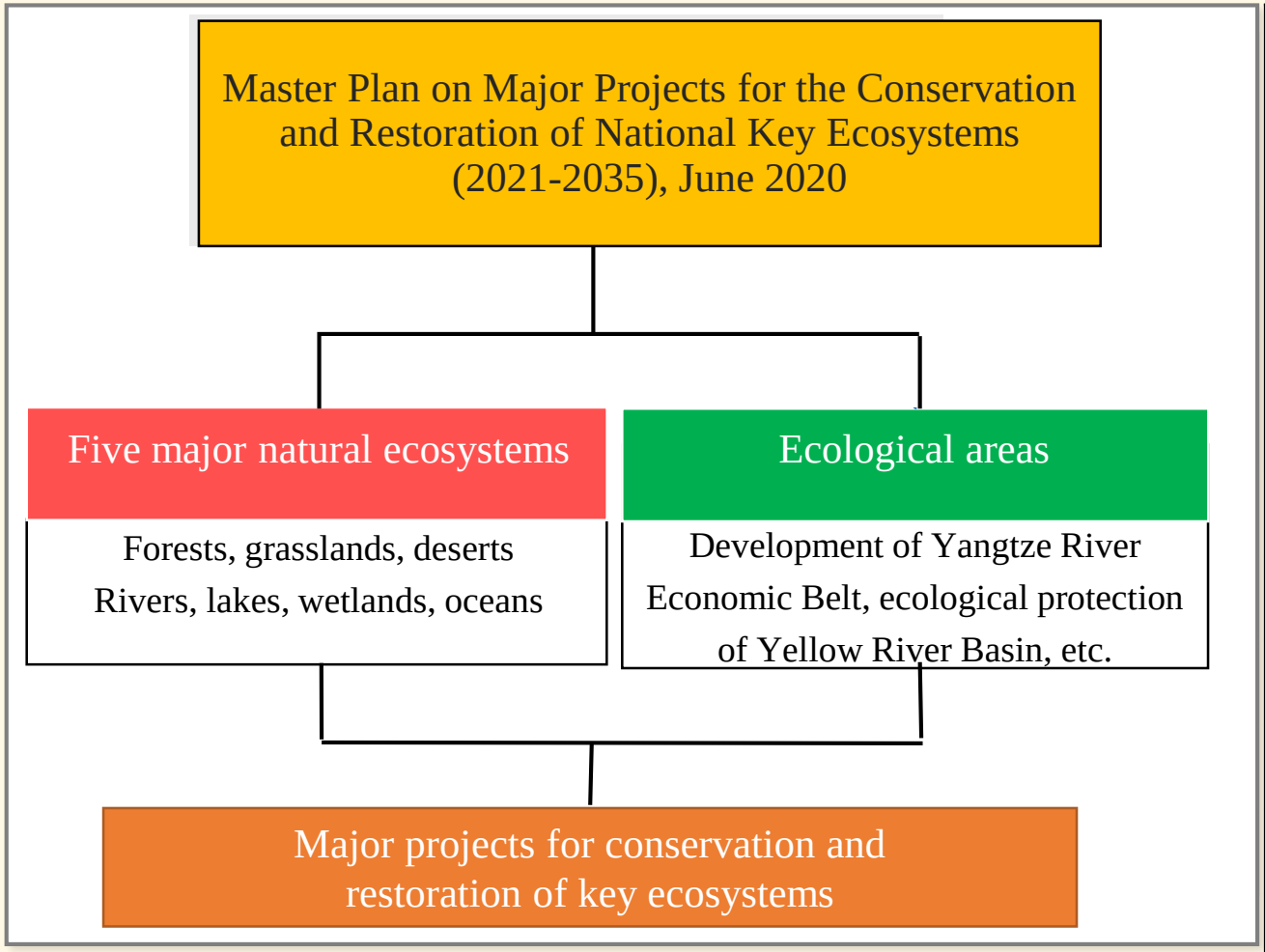
Sources:

- Yangtze River Protection Law, Ministry of Ecology and Environment of the PRC, https://english.mee.gov.cn/Resources/laws/environmental_laws/202104/t20210407_827604.shtml
- Notice by the Ministry of Agriculture and Rural Affairs of the People's Republic of China on Voluntary Fishing Moratorium on the High Seas in 2021, http://www.yyj.moa.gov.cn/gzdt/202107/t20210701_6370834.htm (Chinese only)
- Our Hong Kong Foundation, https://www.ourhkfoundation.org.hk/en/event/90/our-hong-kong-foundation/china-today-ep38-china-fishing-moratorium

Practical Experiences of Our Country in Environmental Conservation

Long-term planning

China has undertaken systematic conservation planning for natural ecosystems and ecological support areas.



Reference: National Development and Reform Commission, Ministry of Natural Resources

Major projects for conservation and restoration of key ecosystems	
1	The Qinghai-Tibet Plateau Eco-zone
2	The Yellow River Eco-zone (including the Loess Plateau Ecological Barrier)
3	The Yangtze River Eco-zone (including the Sichuan-Yunnan Ecological Barrier)
4	The Northeastern Forest Belt
5	The Northern Sand Control Belt
6	Hilly and mountainous areas in the South
7	Coastal zones
8	Nature reserve construction and wildlife protection
9	Support systems for ecological protection and restoration

Practical Experiences of Our Country in Environmental Conservation

Promoting environmental and ecological protection and restoration

The Chinese Government has implemented action plans to prevent and control air, water and soil pollution. Besides, it has established nature reserves and launched major projects to protect and restore ecosystems.

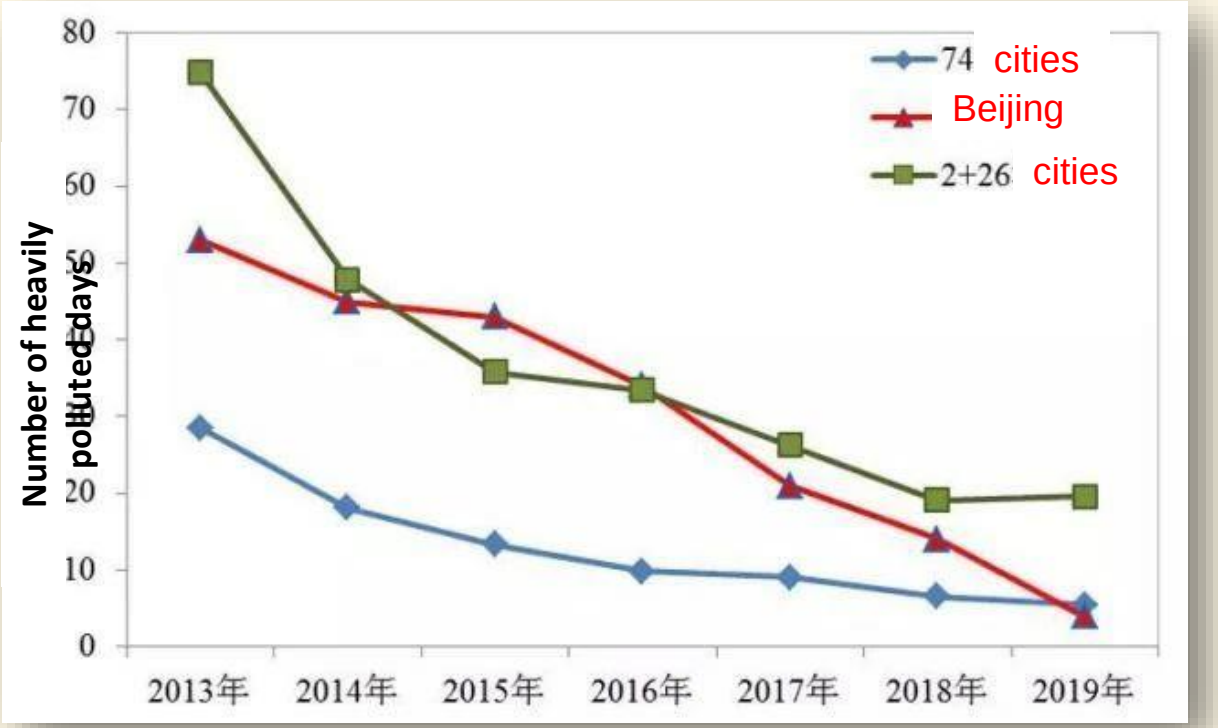
Protecting the blue sky

In June 2018, China implemented the "Three-Year Action Plan for Winning the Blue Sky Defense Battle".

After three years of efforts, air quality was improved across the country in 2021. The ratio of days with "excellent" air quality in cities at and above prefecture level was 87%. And the average concentration of PM2.5 in cities under par went down by 28.8% from the 2015 level.

- Phasing out outdated production capacity
- Controlling the use of coal
- Establishing a discharge permit system for enterprises
- Improving regulations and standards and the environmental monitoring network
- Strictly enforcing environmental laws
- Fostering energy-saving and green industries

Reference: State Council (http://www.gov.cn/zhengce/content/2018-07/03/content_5303158.htm, Chinese only)



The number of heavily polluted days in major cities in China has been decreased in recent years under the Government's policies and rectifications efforts in environmental and ecological conservation (such as industrial upgrading).

Practical Experiences of Our Country in Environmental Conservation

Protecting water quality

Examples

01 Implementation of the River and Lake Chief System

02 Protection and restoration of Yangtze River

03 Comprehensive treatment of pollution in the Bohai Sea

04 Protection of water sources

05 Treatment of black and smelly water bodies in cities

06 Control of agricultural and rural pollution

Click on the image to watch the video

To know more

Under the River and Lake Chief System, major leaders of the Communist Party of China committees and different administrative levels organise and lead efforts to manage and protect the corresponding rivers and lakes. A mechanism, with clear responsibility, good co-ordination and strict monitoring, is established for the management and protection of rivers and lakes, so as to guarantee water quality, ecological functions and sustainable use.

Sources:

- Chinese Government Website (http://www.gov.cn/gongbao/content/2017/content_5156731.htm, Chinese only)
- People's Daily Online (http://finance.people.com.cn/BIG5/n1/2021/1223/c1004-32315220.html, Chinese only)
- The China Current (https://chinacurrent.com/hk/story/20355/river-protection, Cantonese only)

Practical Experiences of Our Country in Environmental Conservation

By the end of 2020, up to 98.2% of the 2,900 black and smelly water bodies in cities at the prefecture level and above had been eliminated. The water quality of all seagoing rivers of Inferior Category V in the Yangtze River basin and along the Bohai Sea had improved. All water bodies along the main stream of the Yangtze River had meet the Category II standards. The proportion of surface water sections with excellent quality across the country increased to 83.4%, up 15.6 percentage points compared to 2016. The quality of drinking water for the public had improved.

To know more

According to the national environmental quality standards for surface water, Categories I, II and III are identified for water which can be used for domestic consumption after treatment. Water of Category IV or below is inferior and not potable.

The Shenzhen Municipal Government started to restore large rivers at source in 2016 and brought water quality back to a satisfactory level by 2019. Watch the following video for details.

Click on the image to watch the video

Sources:

- Ministry of Ecology and Environment of the PRC, (https://www.mee.gov.cn/ywgz/fgbz/bz/bzwb/shjbh/shjzlbz/200206/t20020601_66497.htm, Chinese only)
- The China Current (https://chinacurrent.com/hk/story/22749/solve-discharging-sewage-into-rivers, Cantonese only)

Practical Experiences of Our Country in Environmental Conservation

Protecting clean soil

- China has adopted a policy focused on prevention, protection and proper risk management, so as to strictly control new pollution and gradually reduce soil pollution. Efforts are also made to improve the productivity, quality and biodiversity of agricultural land.
- By 2020, China had achieved the goal of reducing 10% in emissions of heavy metal pollutants from key industries. Around 90% of contaminated farmland across the country could be utilised safely after treatment, and the proportion exceeded 93% for contaminated plots.



Jiangxi Province's high-standard farmland produces high yields and food-safe grains in Jiangxi Province

Sources:

- Ministry of Agriculture and Rural Affairs of the PRC (http://www.moa.gov.cn/ztzl/gdzlbhyjs/jscg/202108/t20210803_6373397.htm, Chinese only)
- National People's Congress (http://www.npc.gov.cn/npc/c30834/202104/3686107825e44b5d9d735ee05a580837.shtml, Chinese only)

Practical Experiences of Our Country in Environmental Conservation

Establishment of protected areas system with national parks as its mainstay

Natural protected areas are divided into three types based on ecological value and protection sensitivity :

- National parks: Areas that protect China's unique ecosystems to achieve scientific conservation and rational utilisation of natural resources.
- Nature Reserves: Areas with particular ecosystems. natural and concentrated distributions of rare or precious endangered wildlife species, and natural relics of special significance.
- Nature parks: Areas that protect important ecosystems, natural relics and natural landscapes of ecological, sightseeing, cultural and scientific values that can be used sustainably.

Setting up national parks, including Sanjiangyuan, Qilianshan, Giant Panda, Wuyishan and Shennongjia

More than 11,800 natural protected areas of different types at all levels, with a total area of more than 1,728,000 sq km.

Strengthening supervision of natural protected areas and building pilot projects for ecological protection and restoration

Sources:

- CCTV, http://www.gov.cn/fuwu/2021-10/12/content_5642183.htm (Chinese only)
- National Forestry and Grassland Administration, National Park Administration, https://www.forestry.gov.cn/main/5981/20210216/063533609649236.html (Chinese only)
- Xinhua News Agency, http://www.gov.cn/zhengce/2019-06/26/content_5403497.htm (Chinese only)

Practical Experiences of Our Country in Environmental Conservation

National greening campaigns

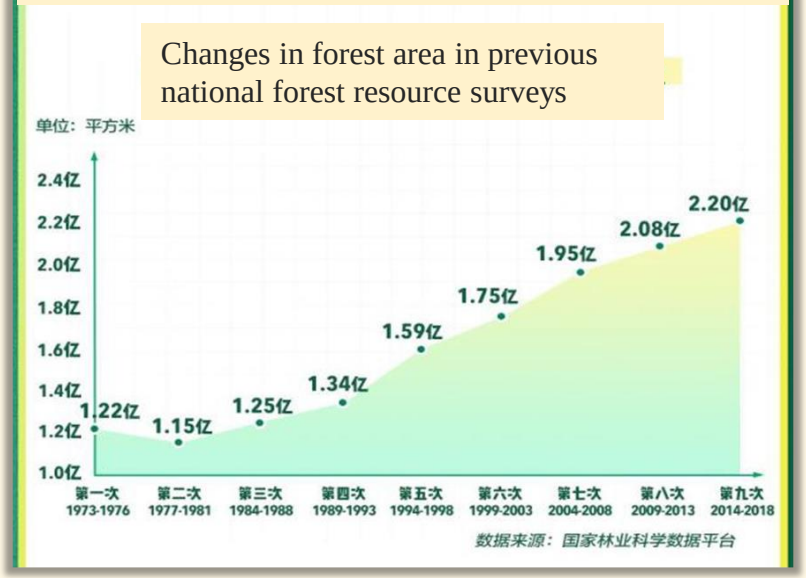
China continues to launch ecological projects such as the Three-North (i.e., Northeast China, North China and Northwest China) Shelterbelt Forest Program, conservation of natural forests, as well as programmes returning marginal farmland to forests and returning grazing lands to grasslands, so as to increase the greenery coverage ratio of forests and to slow down the effects of desertification and climate change.

Since 1981, more than 100 million hectares of forests have been planted annually under the nationwide voluntary tree-planting campaign. The amount of forest resources in China has increased from about 9 billion cubic metres to about 17.5 billion cubic metres, maintaining growth for 30 consecutive years. The increase in forest resources in China is the largest among all countries in the world.

Click on the image to watch the video

Afforestation

Since the nationwide voluntary tree planting campaign was launched in 1981, 16.43 billion people has participated in voluntary tree planting across the country, and 72.2 billion people has participated in voluntary tree planting



Sources:

- People's Daily Online (http://politics.people.com.cn/BIG5/n1/2019/1210/c1001-31497864.html, Chinese only)
- The China Current (https://chinacurrent.com/hk/story/20428/green-china-green-earth, Cantonese only)

Reference

Practical Experiences of Our Country in Environmental Conservation

- The deserts in Northwest, North and Northeast China cover a total area of 1.49 million sq km (about 1,347 times the size of Hong Kong). Drought, sandstorm and soil erosion have caused ecological disasters that have severely limited the economic and social development of the northern regions.
- In 1979, China decided to launch the Three-North (i.e., Northeast China, North China and Northwest China) Shelterbelt Forest Program, which will last for more than 70 years from 1979 to 2050, spanning 13 provincial regions from Xinjiang to Heilongjiang in northern China, and covering an estimated area of 4.069 million sq km.
- By 2020, over 30 million hectares of forests had been planted and 336,000 sq km of desertified land have been treated, raising the forest coverage ratio in the programme regions from 5.05% to 13.57%. It has become the world's "largest afforestation project" and internationally known as "China's Great Green Wall".

Source: People's Daily Online (http://qh.people.com.cn/n2/2022/0311/c181467-35169246.html, Chinese only)

Practical Experiences of Our Country in Environmental Conservation

Applying various strategies

China adopts various strategies, such as increasing financial investment, collecting environmental and resource taxes, public education, and carbon trading, to build and improve environmental infrastructure (e.g. building clean energy facilities and green industrial parks), recycle resources, and promote innovation, research and development, so as to protect the environment and compensate for damage to ecosystems.

Reference

Action Plan for Carbon Dioxide Peaking Before 2030

By 2030, China's share of non-fossil energy consumption is expected to reach around 25%, and carbon intensity will have dropped by 65% compared with the 2005 level, thus achieving carbon dioxide peaking before 2030.

Governments at all levels are investing large amounts of money and subsidies to develop renewable energy, new power systems, construction and transportation to promote environmental protection. They are also encouraging low-carbon initiatives nationwide to educate and promote green and low-carbon lifestyles. Efforts are also made to promote recycling of used materials. Besides, China encourages innovation and research in energy-efficient transportation, eco-friendly farming tools and other carbon-reduction technologies, so as to develop a green and circular economy.

Sources:

- Circular of the State Council on Action Plan for Carbon Dioxide Peaking Before 2030 (http://english.www.gov.cn/policies/latestreleases/202110/27/content_WS6178a47ec6d0df57f98e3dfb.html)
- National Development and Reform Commission (https://www.ndrc.gov.cn/xxgk/jd/zctj/202110/t20211026_1301254.html, Chinese only)

Practical Experiences of Our Country in Environmental Conservation

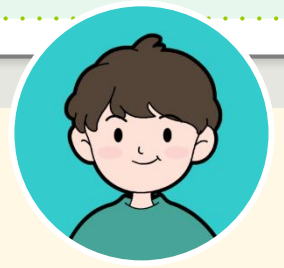
Funding and subsidies: Increased investment in environmental conservation and local environmental protection funding (examples)

From 1999 to 2019, China had invested a cumulative RMB517.4 billion to return around 515 million hectares of marginal farmland to forests and grazing lands to grasslands, which accounted for more than 4% of the new greening area in the world in the same period.

From 2016 to 2019, the country's fiscal expenditure on energy conservation and environmental protection was RMB 2.4 trillion.

From 2018 to 2020, RMB18 billion was allocated from the state budget to finance the establishment of a compensation system for ecological conservation in the Yangtze River Economic Belt.

In 2020, the National Green Development Fund was established to improve diversified channels for investment in ecological and environmental protection. RMB88.5 billion was raised for the initial phase of the Fund.



Sources:

- Xinhuanet (http://www.xinhuanet.com/politics/2020-06/30/c_1126176757.htm, Chinese only)
- People's Daily Online (http://finance.people.com.cn/BIG5/n1/2020/1230/c1004-31983560.html, Chinese only)
- Chinese Government Website (http://www.gov.cn/xinwen/2018-02/02/content_5263332.htm, Chinese only)

Practical Experiences of Our Country in Environmental Conservation

Taxes and subsidies on environmental protection and resources

Examples:

- The discharge for pollutants was introduced on 1 July 2003 based on the "polluter pays" principle.
- On 1 January 2018, the Environmental Protection Tax Law of the People's Republic of China came into force, introducing a comprehensive environmental protection tax and establishing an incentive mechanism to reduce emissions. Polluters with greater emissions and high risks should pay more, and vice versa. Besides, corporate income tax is reduced for those engaged in energy saving and environmental protection, and subsidies are provided for certain environmental protection industries and scientific research.

Source: Ministry of Ecology and Environment of the PRC, (https://www.mee.gov.cn/ywgz/fgbz/fl/201811/t20181114_673632.shtml, Chinese only)

To know more

Eco-compensation mechanism

It is an environmental policy with an economic incentive, based on the principles of “polluter pays”, “beneficiary pays” and “damager pays". It focuses on protecting regional ecology and preventing environmental pollution.

Extended reference:

- State Council (http://www.gov.cn/gongbao/content/2016/content_5076965.htm?gs_ws=tsina_636191458704204535, Chinese only)
- People's Daily Online (http://cpc.people.com.cn/BIG5/n1/2021/0913/c64387-32224864.html, Chinese only)

Practical Experiences of Our Country in Environmental Conservation

Sustainable waste management

Cities, such as Beijing, Shanghai and Shenzhen, have amended law or legislated on domestic waste management to strengthen separation in all procedures, strict enforcement and monitoring through supervision and guidance. In 2019, the "Regulations of Shanghai Municipality on Municipal Solid Waste Management" came into force, bringing waste separation into the rule of law in the city.

In 2021, the NDRC* issued the "Administrative Measures for the Special Management of Investment in the Central Budget for Pollution Control, Energy Saving, and Carbon Reduction" to strengthen and regulate pollution control, energy saving and carbon reduction, and to improve the effectiveness of the use of central funds, with a focus on supporting the construction of environmental infrastructure such as sewage and waste treatment, as well as energy saving, carbon reduction, efficient use and pollution control. Measures are also in place to support the development of circular economy across the country, such as the harmless treatment and resourceful use of typical urban waste, including scrapped cars, electronic waste, used batteries, used tyres and plastic waste, as well as biodegradable plastic items.

*National Development and Reform Commission of the PRC

中华人民共和国中央人民政府
www.gov.cn

Please refer to the following sources for the above policies and legislation:

- http://www.gov.cn/xinwen/2019-06/24/content_5402650.htm (Chinese only)
- http://www.gov.cn/zhengce/zhengceku/2021-05/19/content_5608645.htm (Chinese only)

Watch the videos for an introduction to waste separation in Shanghai.

Sources:
The China Current (https://chinacurrent.com/story/19194/will-shanghai-solve-the-global-waste-wars);
(https://chinacurrent.com/hk/story/20309/shanghai-waste-recycling, Cantonese only)

Practical Experiences of Our Country in Environmental Conservation

Low-carbon transport systems

Transport emissions account for about 10% of China's total carbon emissions. According to the *Action Plan for Carbon Dioxide Peaking Before 2030* issued by the State Council, China will accelerate the development of green and low-carbon modes of transportation, continue to promote the construction of green transport infrastructure, and continuously optimise and adjust the transport structure. Accordingly, China has achieved positive outcomes in energy saving and emission reduction.

Case: In 2017, the world's first "ART" (Autonomous Rail Rapid Transit) train, a new transport means with pure electric drive and zero pollution emissions, started operation in Zhuzhou, Hunan Province. Later it is seen in Yongxiu, Jiangxi Province and Yibin, Sichuan Province, among other places.

Line matching and test ride of the first ART system in Zhuzhou, Hunan Province

Watch the video for the achievement of the ART Train in 2021.

Sources

- Chinese Government Website (http://www.gov.cn/xinwen/2022-01/14/content_5668085.htm, Chinese only); (http://www.gov.cn/xinwen/2017-10/24/content_5233971.htm#allContent, Chinese only)
- The China Current (https://chinacurrent.com/hk/story/22731/autonomous-rail-rapid-transit, Cantonese only)

Practical Experiences of Our Country in Environmental Conservation

Strengthening international co-operation on environmental conservation

By 2019, China had ratified more than 30 multilateral treaties or agreements related to the ecological environment, with extensive exchanges on environmental conservation with more than 100 countries. At the same time, China is actively expanding its co-operation with international organisations such as the United Nations and the World Bank, as well as with developed and developing countries.

01 Co-operation with international organisations such as the UN on environmental conservation

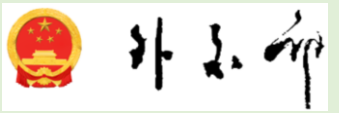
02 Collaboration with developed countries on environmental technologies and projects

03 Sharing of experience with developing countries on environmental conservation

04 Collaboration with neighbouring countries to solve common environmental problems

05 Contributing to the Global Environment Facility

Refer to the MFA webpage for information on treaties or agreements signed by China on ecological conservation:



The Ministry of Foreign Affairs of the PRC (https://www.mfa.gov.cn/web/ziliao_674904/tytj_674911/tyfg_674913/, Chinese only)

Reference: People's Daily Online (http://cpc.people.com.cn/19th/BIG5/n1/2017/1024/c414305-29605595.html, Chinese only)

Reference

Practical Experiences of Our Country in Environmental Conservation

Co-operation with international organisations such as the UN on environmental conservation

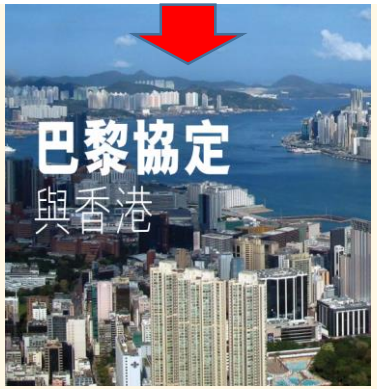
Our country has established co-operation with international organisations, such as the UN Development Programme, the World Bank and the Asian Development Bank, for joint efforts on environmental conservation.

Practical Experiences of Our Country in Environmental Conservation

- As the largest developing country and a party to the Paris Agreement*, China not only has met its emission reduction targets, but has also taken on the role of a responsible power in the international arena. China is committed to the "3060 Dual Carbon Targets", i.e. peaking carbon dioxide emissions before 2030 and achieving carbon neutrality by 2060.
- In 2017, it met the Paris Agreement commitments to reduce carbon intensity and increase forest stock volume by 2020. In the same year, it signed an *Economic and Technical Cooperation Agreement* with the UN Environment Programme to provide US$2 million to relevant countries to promote the Green Development of the Belt and Road.

*Effective November 2016

Click on the picture below to learn more about the Paris Agreement and Hong Kong, as well as China's voluntary national contributions



Click below to watch videos on "carbon peaking" and "carbon neutrality" as well as our country's proposed targets

References:

- State Council, http://english.www.gov.cn/archive/whitepaper/202110/27/content_WS617916abc6d0df57f98e3f3b.html
- National Development and Reform Commission of the PRC, https://www.ndrc.gov.cn/wsdwhfz/202111/t20211111_1303691.html?code=&state=123 (Chinese only)
- United Nations Climate Change, https://unfccc.int/
- The Paris Agreement and Hong Kong, https://www.climateready.gov.hk/files/report/en/1.pdf
- The China Current - 2060 "Carbon Neutral" (https://chinacurrent.com/story/20548/2060-carbon-neutral, Cantonese only; https://chinacurrent.com/story/20680 /what-is-carbon-neutrality, Cantonese only)

Practical Experiences of Our Country in Environmental Conservation

Providing funds to assist developing countries

Apart from working with developed countries to promote environmental conservation, China has been investing in helping developing countries to sustainably improve their environment, in order to reduce the negative economic and social impacts of environmental degradation. For example, in 2015, China set up the South-South Co-operation Assistance Fund, providing an initial US$2 billion to support developing countries in implementing their development agenda.

Co-operation with neighbouring countries on environmental conservation

China has collaborated with neighbouring countries on various fronts, including water resources, combating climate change and low-carbon development. For example, the Lancang-Mekong Environmental Cooperation Center was established in Beijing in 2017 to actively promote the Green Lancang-Mekong Initiative and to boost joint efforts to address pollution along the river.

References:

- Chinese Government Website (http://www.gov.cn/xinwen/2018-02/12/content_5266017.htm, Chinese only)
- Lancang-Mekong Cooperation (http://www.lmcchina.org/eng/index.html)
- Lancang-Mekong Environmental Cooperation Center (http://en.lmec.org.cn/)

Reference

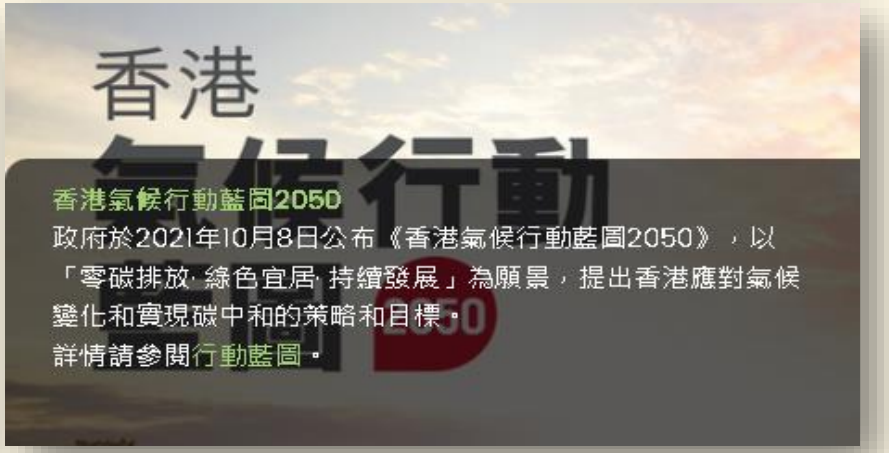
The Lancang-Mekong River, that spans the six countries of China, Laos, Myanmar, Thailand, Cambodia and Vietnam, is facing transnational environmental problems related to water resources, water pollution and river ecology.

Practical Experiences of Hong Kong in Environmental Conservation

The HKSAR Government has formulated and implemented a series of policies on environmental conservation, with economic incentives and application of technologies to meet the goals. Related initiatives include resource management, assessment and environmental planning, environmental legislation and enforcement, air, noise and water quality control, waste reduction and recycling, use of low-carbon energy mix, conservation of natural environment and historic buildings, partnership with green groups, cross-boundary and international co-operation, as well as environmental education for the public, companies and schools. The Government also guides companines and citizens to put responsible production and responsible consumption in practice respectively, promoting social participation in environmental protection.

Click on the images to learn more

Examples of policy planning



What other plans or measures does the HKSAR Government have for environmental conservation?
Please read the relevant information and share one of the plans or measures with your classmates.

Sources: Environment and Ecology Bureau

- https://www.eeb.gov.hk/sites/default/files/pdf/waste_blueprint_2035_eng.pdf
- https://www.eeb.gov.hk/sites/default/files/pdf/cap_2050_en.pdf
- https://www.eeb.gov.hk/sites/default/files/pdf/Clean_Air_Plan_2035_eng.pdf

Practical Experiences of Hong Kong in Environmental Conservation

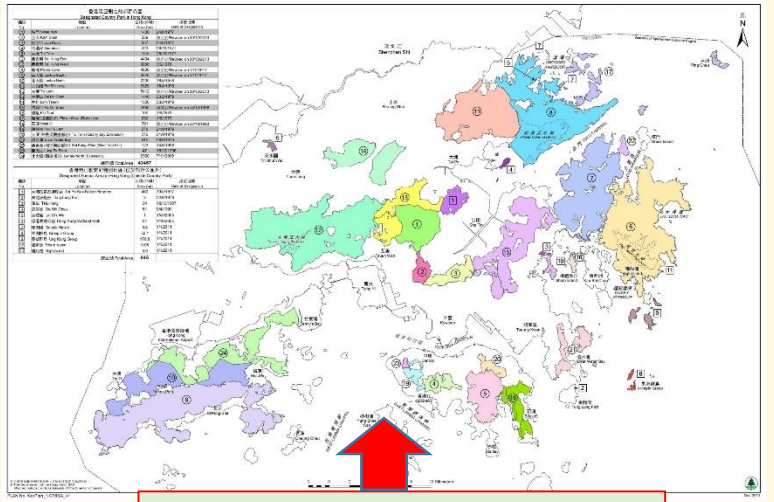
Enhancing overall planning and provision of facilities for environmental conservation

Of the 1,114 sq km of land in Hong Kong, more than 500 sq km is designated as protected areas, including country parks, special areas and nature conservation zones.

The Country Parks Ordinance provides a legal framework for the designation, development and management of country parks and special areas. As of 2023, there are 24 country parks, 22 special areas and 7 marine parks (providing education centres, campsites, hiking trails, off-road cycling trails, etc.). They cover a world-class geopark, bushlands, reservoirs, coasts and beaches. The country parks are legally mandated for recreational and conservation purposes, and they are intended to protect the habitats of flora and fauna.

Country Parks & Special Areas

About 443 sq km in total, accounting for about 40% of the land area of Hong Kong.



Click on an area to view the enlarged map

Click on the pictures below to learn more about Hong Kong Geopark

Sources:

- Hong Kong Yearbook 2020 (https://www.yearbook.gov.hk/2020/en/pdf/E20.pdf)
- Agriculture, Fisheries and Conservation Department (https://www.afcd.gov.hk/english/country/cou_vis/cou_vis_cou/cou_vis_cou_1.html) (https://www.afcd.gov.hk/english/country/cou_lea/the_facts.html)
- Hong Kong UNESCO Global Geopark (https://www.geopark.gov.hk/en)

Reference

Practical Experiences of Hong Kong in Environmental Conservation

Countryside Conservation Funding Scheme - Lai Chi Wo

The Hakka village of Lai Chi Wo, built more than 300 years ago, is one of the oldest, largest and best-preserved rural settlements in Hong Kong. The Countryside Conservation Office was established under the Environment Protection Department in 2018, and $1 billion was earmarked to support its work in the remote countryside areas. An example is the minor improvement works in Lai Chi Wo, including trail restoration, improvements to public toilets and the commissioning of a consultancy study on feasible options for improving sewage collection. In recent years, the place has been revitalised with the support of environmental organisations, universities, professional groups, the business sector and volunteers. Now farmland in Lai Chi Wo has been restored. Services including education, eco-tourism and countryside conservation are provided. The rural revitalisation project at Lai Chi Wo was awarded "Special Recognition for Sustainable Development" in the "2020 UNESCO Asia-Pacific Awards for Cultural Heritage Conservation".

Click on the image below to learn more about the rural revitalisation project at Lai Chi Wo which was awarded the Special Recognition for Sustainable Development by United Nations in 2020.


Lai Chi Wo Rural Cultural Landscape

Sources:

- HKSAR Government Press Releases (https://www.news.gov.hk/eng/2021/02/20210227/20210227_183548_588.html)
- Commissioner for Heritage's Office (https://www.heritage.gov.hk/filemanager/heritage/en/content_46/Heritage_Newsletter_75.pdf)
- Hong Kong Tourism Board (https://www.discoverhongkong.com/eng/explore/great-outdoor/wellness/lai-chi-wo.html)

Practical Experiences of Hong Kong in Environmental Conservation

Low-carbon transport systems

In response to the Paris Agreement, the HKSAR Government has drawn up the "Hong Kong's Climate Action Plan 2030+", which proposed using railway network as the backbone of Hong Kong's low-carbon public transport network, improving public transport and facilitating daily walking for short and medium distances. This strategy is also re-emphasised in "Hong Kong 2030+: Towards a Planning Vision and Strategy Transcending 2030".

GOING FORWARD

Example

Expanding rail and better integration of urban planning, housing and transport

Improving accessibility and connectivity for walking, and quality of urban footpaths and streetscapes

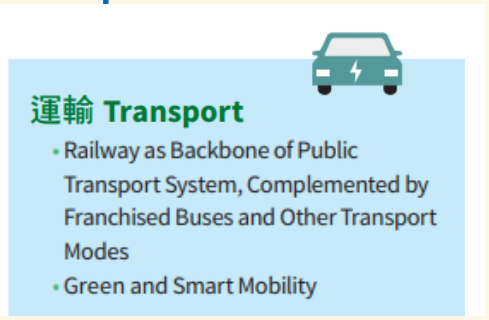
Example

Partnering with public transport operators to further improve operational efficiencies, trial greener vehicles, study the applicability of green ferry technologies, as well as save energy

Facilitating the introduction of new automotive technology

Example

Fostering further a bicycle-friendly environment in suitable areas



Source:

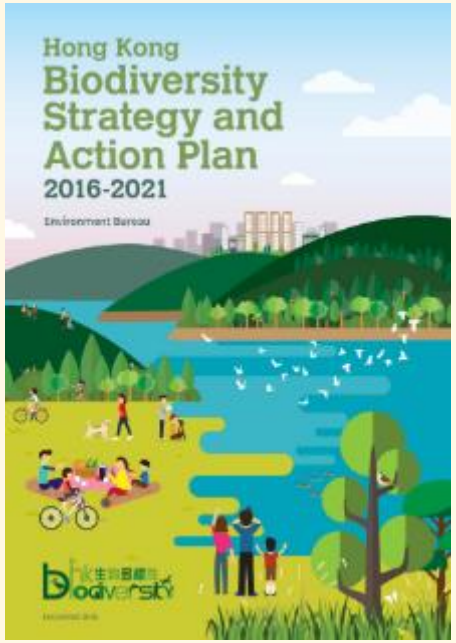
Hong Kong's Climate Action Plan 2030+ (https://www.climateready.gov.hk/files/report/en/HK_Climate_Action_Plan_2030+_booklet_En.pdf)

Click on the images to learn more

Practical Experiences of Hong Kong in Environmental Conservation

Stepping up biodiversity conservation

The HKSAR Government attaches great importance to biodiversity conservation and sustainable development. Facing the challenges of ecological environment degradation, such as climate change, pollution and urban sprawl to the suburbs, the Environment Bureau* formulated the first city-level Biodiversity Strategy and Action Plan (BSAP) in 2016 to step up biodiversity conservation and support sustainable development in Hong Kong over the next five years according to Hong Kong's own conditions and capabilities. The BSAP contains 67 specific actions in four areas.



- Enhancing conservation measures
- Mainstreaming biodiversity
- Improving our knowledge
- Promoting community involvement

Source: Environment and Ecology Bureau (https://www.afcd.gov.hk/english/conservation/Con_hkbsap/files/HKBSAP_ENG_2.pdf)

Enquiry and sharing
Click on the pictures below to learn more about
the current state of biodiversity in Hong Kong and read about ecological studies and surveys.

Hong Kong Biodiversity Information Hub

Source: Hong Kong Biodiversity Information Hub (https://bih.gov.hk/tc/feature-studies/index.html)

Note: Now the Environment and Ecology Bureau

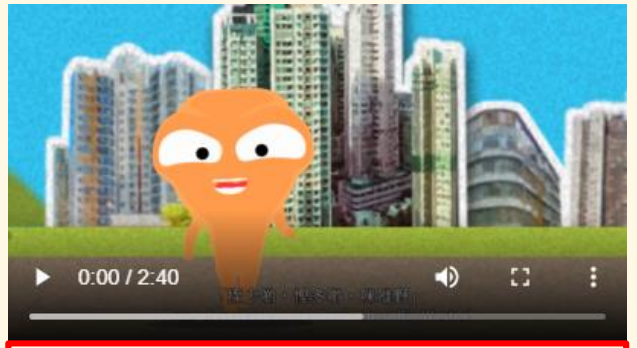
Practical Experiences of Hong Kong in Environmental Conservation

Enhancing environmental conservation through legal and economic incentives

In line with the "polluter pays" principle, charges are based on the quantity of waste generated, so that people become more aware that waste disposal comes at a cost. Quantity-based waste charging aims to create financial incentives to drive behavioural changes in waste generation and hence reduce overall waste disposal. The passage of the Waste Disposal (Charging for Municipal Solid Waste) (Amendment) Bill 2018 by the Legislative Council on 26 August 2021 signified a critical milestone in waste management work in Hong Kong.

Built upon the existing MSW (municipal solid waste) collection and disposal system, MSW charges are proposed to be levied through the following two modes:

- Charging by designated garbage bags/designated labels
- Charging by weight through "gate-fee" (read below for details)



Click on the image to watch the video

Sources: Hong Kong Government:

- https://www.gov.hk/en/residents/environment/waste/management/mswcharging.htm
- https://www.news.gov.hk/eng/2021/08/20210826/20210826_130833_725.html

Practical Experiences of Hong Kong in Environmental Conservation

Enhancing environmental conservation through legal and economic incentives

To improve the quality of our environment, the HKSAR Government has from time to time introduced environmental policies, such as the Product Eco-responsibility Ordinance and the Scheme of Control Agreements (SCAs), as appropriate, to promote responsible production by companies and responsible consumption by the public through economic incentives.

Product Eco-responsibility Ordinance

Implementation of producer responsibility schemes (PRS)*; producer waste recycling and MSW charging policies for quantity-based MSW charging; promoting responsible production by companies and responsible consumption by the public.

Scheme of Control Agreements

SCAs signed between the HKSAR Government and the two power companies: People who install solar or wind energy generation systems at their premises can sell the renewable energy they generate to the power companies at a rate higher than the normal electricity tariff rate.

PRS is a key policy tool in the waste management strategy in Hong Kong. Enshrining the principle of "polluter pays" and the element of "eco-responsibility", the PRS concept requires relevant stakeholders including manufacturers, importers, wholesalers, retailers and consumers to share the responsibility for the collection, recycling, treatment and disposal of end-of-life products with a view to avoiding and reducing the environmental impacts caused by such products at the post-consumer stage.

Sources:

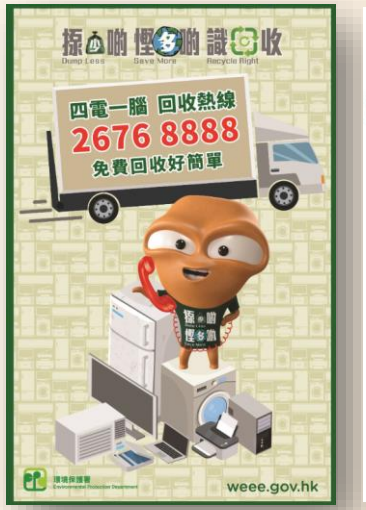
- Environmental Protection Department (https://www.epd.gov.hk/epd/english/environmentinhk/waste/pro_responsibility/index.html)
- Environmental Protection Department (https://www.epd.gov.hk/epd/english/environmentinhk/waste/pro_responsibility/index.html)
- GovHK (https://www.gov.hk/en/residents/environment/sustainable/renewable/feedintariff.htm)

Reference

Practical Experiences of Hong Kong in Environmental Conservation

Producer responsibility schemes (PRS)

- **Public engagement on control of single-use plastics and the Plastic Shopping Bag Charging Scheme** aim to reduce the excessive use of plastic shopping bags through a direct economic disincentive imposed on consumers as a mandatory charge.
- **The PRS on Waste Electrical and Electronic Equipment (WPRS)** covers air-conditioners, refrigerators, washing machines, televisions, computers, printers, scanners and monitors. It provides a convenient means for recycling and also facilitates the proper treatment of abandoned regulated electrical equipment, turning waste into resources.
- **The PRS on Glass Beverage Containers** has been implemented to better promote the recycling of waste glass containers, which, after treatment, are used for producing eco-pavers, exported for recycling or used as fill materials in different local public works projects.
- **The PRS on Plastic Beverage Containers and Beverage Cartons** is in the progress of drafting the legislative proposal. The Government has decided to press ahead with the introduction with a PRS targeting at plastic beverage containers which accounts for 60% of the overall waste plastic containers disposed of in Hong Kong. To tie in with the PRS, EPD rolled out a one-year RVM (reverse vending machine) Pilot Scheme in 2021 and 2022, in order to test the application of RVMs in Hong Kong.



Source: GovHK, Producer Responsibility Schemes (https://www.gov.hk/en/residents/environment/waste/management/prs.htm)

Activity

Practical Experiences of Hong Kong in Environmental Conservation

Classroom discussion and sharing

1. How should you dispose of the waste regulated electrical equipment, glass containers and plastic bottles in your home now, in order to live a greener life?
2. Why did Hong Kong introduce MSW charging? How can this environmental policy promote sustainable development?

Some examples of ways to dispose of recyclable items

Video 1: Dump Less, Save More, Recycle Right (Waste Plastics)

Video 2: API on control of single-use plastics

Click on the images to watch the videos

Sources of videos: Information Services Department of HKSAR Government (https://www.isd.gov.hk/eng/tvapi/18_ep190.html); (https://www.isd.gov.hk/eng/tvapi/21_ep202.html)

Practical Experiences of Hong Kong in Environmental Conservation

Introducing low-carbon technology; Use more low-carbon clean energy

Hong Kong has developed an environmental policy and introduced new technologies to increase the use of clean energy. At present, Hong Kong uses wind and solar power and the waste-to-energy process to develop renewable energy and achieve sustainable development, shouldering the regional responsibility for combating climate change.

Adoption of "Waste-to-energy" technology

O Park recycles food waste, reducing organic solid waste and GHG emissions. The biogas produced during decomposition is used to generate electricity.

Adoption of advanced incineration technologies

High-tech thermal treatment of sewage sludge reduces pressure on landfills and the residual heat can be converted into energy. T·Park in Tuen Mun is a good example.

Use of Renewable energy

Building solar farms, such as the one at Siu Ho Wan Sewage Treatment Works.

Click on the images to watch the videos

Sources:

- O Park (https://www.opark.gov.hk/upload/Videos/Food%20Smart%20program%20(Aug)/201022_Corporate_Video_ENG_Final.mp4)
- Hong Kong's Climate Action Plan 2050+ (https://www.climateready.gov.hk/files/pdf/CAP2050_booklet_en.pdf)
- Information Services Department of HKSAR Government (https://www.isd.gov.hk/eng/tvapi/16_ep180.html)
- Drainage Services Department (https://www.dsd.gov.hk/EN/DSD_Events/Solar_Farm_at_Siu_Ho_Wan_Sewage_Treatment_Works/Videos/index.html)

Practical Experiences of Hong Kong in Environmental Conservation

Education for sustainable development

The HKSAR Government promotes education for sustainable development at different levels through relevant government departments, schools and green groups. For example,

- the Environmental Protection Department promotes environmental education by means of:

  - Raising environmental awareness

  - Producing environmental education kits

  -Organising environmental education exhibitions and environmental resource centres, etc.

- EDB urges schools to formulate and put in place their school-based environmental policy with an aim to enhance students' environmental awareness and develop their environmentally friendly attitude, and to promote green practices and environmental education on campus. Schools are also expected to promote co-operation among the school management, staff and students on ways to make the best use of resources.

Similar educational outreach efforts are also made in other countries/ regions. Find out some relevant examples in other countries/ regions.

Green prefects promote energy saving measures on campus

Sources:
Environment and Ecology Bureau Green Schools 2.0 https://www.eeb.gov.hk/en/green-schools-2.html
Environmental Protection Department (https://www.epd.gov.hk/epd/english/envir_education/edu_maincontent.html)
Education Bureau (https://www.edb.gov.hk/en/sch-admin/admin/about-sch/effective-use-sch-resources/index.html)

Practical Experiences of Hong Kong in Environmental Conservation

Environmental co-operation with Guangdong Province

Hong Kong and Guangdong have joined hands to implement a number of initiatives to improve the environment, such as:

Regional air pollution

1. The Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network comprises 23 air monitoring stations for collaboration on forecasting air quality.
2. The Cleaner Production Partnership Programme is implemented to help Hong Kong-owned factories in Hong Kong and Guangdong adopt cleaner production technologies and practices, so as to reduce air pollutant emissions and bring environmental benefits.

Water pollution

In 2000, the Hong Kong SAR and Guangdong Provincial Governments jointly established the "Mirs Bay and Deep Bay (Shenzhen Bay) Areas Environmental Management Special Panel" under the "Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection" to strengthen co-operation to protect the water environment of Deep Bay and Mirs Bay.

Deep Bay and Mirs Bay

Sources:

- GovHK (https://www.gov.hk/en/residents/environment/air/raqi.htm)
- Environmental Protection Department (https://www.epd.gov.hk/epd/english/environmentinhk/water/hkwqrc/regional/deepbay.html)

Practical Experiences of Hong Kong in Environmental Conservation

Green groups promoting community involvement in environmental actions

Green groups provide a lot of professional advice on policies to promote environmental protection in Hong Kong. They actively promotes public awareness of environmental protection through public education and activities. They also participate in a wide range of environmental protection initiatives.

01

Launching community recycling programmes to demonstrate green living and encourage the development of a more holistic and sustainable lifestyle.

Examples:

Food Waste Recycling Projects in Housing Estates, Lai See Reuse and Recycle Program

02

Participating in organisations such as the Advisory Council on the Environment to provide practical advice and suggestions to improve the environment in line with EPD's actions.

Example:

Providing suggestions on Waste Management and Reduction Initiatives

03

Using their expertise and working with the Government on specific projects such as the operation of environmental resource centres and the implementation of nature conservation management agreements.

Examples:

Management of Mai Po Nature Reserve, nature conservation for Ho Sheung Heung, Long Valley

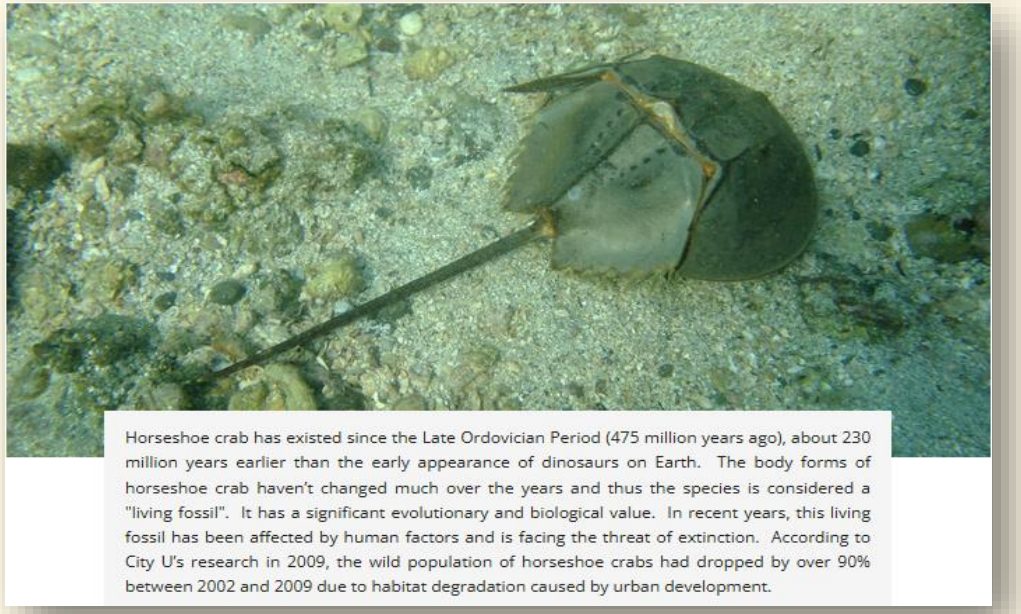
Reference

Practical Experiences of Hong Kong in Environmental Conservation

Green groups

Example: Ocean Park Conservation Foundation

Expert technical advisors for the "Juvenile Horseshoe Crab Rearing Programme"



The Foundation has been collaborating with the City University of Hong Kong since 2009. They have funded and encouraged many enterprises and secondary school students to participate in the conservation of horseshoe crabs, a living fossil of the earth, and to learn about marine pollution and biology.

Source: Ocean Park Conservation Foundation (https://www.opcf.org.hk/en/community-education/juvenile-horseshoe-crab-rearing-programme)

Think about it

Practical Experiences of Hong Kong in Environmental Conservation

What other actions have been taken by the HKSAR Government and non-governmental organisations in environmental conservation? Please select one example and explain how it can promote environmental protection and sustainable development in the community.

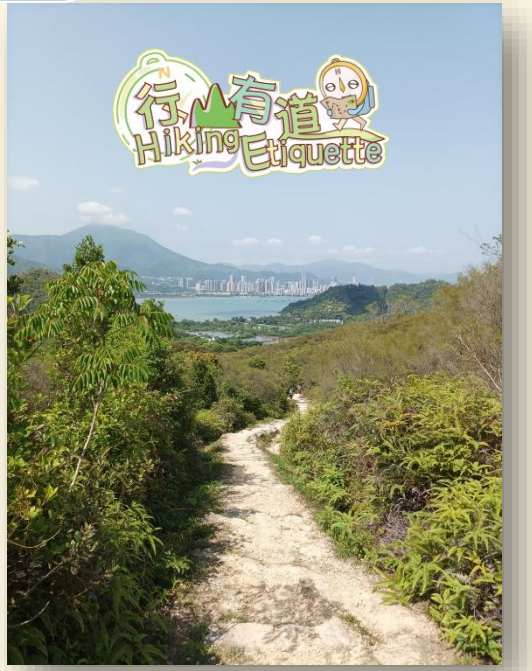
Stakeholders in environmental protection and ecology conservation (examples)

- Environment and Ecology Bureau, Development Bureau
- Environmental Protection Department, Agriculture, Fisheries and Conservation Department
- Education Bureau (e.g., school education on Mai Po Nature Reserve, the Field Studies Centre, Student Environmental Protection Ambassador Scheme, Community Youth Group, etc.)
- Government advisory committees and statutory bodies (e.g. Environmental Campaign Committee, Council for Sustainable Development)
- Approved projects under Government-run funds (e.g. for Community Waste Reduction Projects, Environmental Education and Community Action Projects, Environmental Research, Technology Demonstration and Conference Projects)
- Projects undertaken by the business community as part of social responsibility (e.g. environmental social enterprises, Corporate Afforestation Scheme)
- Green groups
- Green initiatives with public participation

Think about it

Practical Experiences of Hong Kong in Environmental Conservation

Cherishing the natural environment



- Why do people like hiking, camping and other activities in the countryside?
- As good citizens, how can we protect the precious environment and ecological resources in Hong Kong for the sake of sustainable development?

Photo credit: Agriculture, Fisheries and Conservation Department, Hiking Etiquette ((https://www.natureintouch.gov.hk/takeyourlitterhome))

Practical Experiences of Other Regions in Environmental Conservation

Ecological issues are global problems that require concerted action by all members of the international community. Many countries and regions attach great importance to sustainable development and environmental conservation, including urban planning, environmental construction, promotion of environmental protection, development of eco-friendly technologies and implementation of environmental protection standards. Similar policies, measures and legislation are being promoted around the world in response to the UN's objectives, including:

- Enacting relevant laws
- Implementing policies with economic incentives
- Cultivating public awareness of environmental protection
- Developing green industries with technology
- Developing low-carbon transport systems

You can find examples of relevant policies in different parts of the world from the webpages below. Try to find out relevant policies in other regions.

EU's policy on sustainable development
- https://ec.europa.eu/info/strategy/international-strategies/sustainable-development-goals/eu-and-united-nations-common-goals-sustainable-future_en

Australia's policy on environmental sustainability
- https://www.servicesaustralia.gov.au/environmental-sustainability-policy?context=1

South Korea's Sustainable Development Goals
- https://eng.me.go.kr/eng/web/index.do?menuId=469

Practical Experiences of Other Regions in Environmental Conservation

Using technology to turn waste into treasure

Countries/ regions around the world also focus on innovation in technology to promote ecological protection. They have developed many new eco-friendly materials and technologies to recycle waste, promoting environmental protection and the development of green industries.

Activity

Watch the video: Nzambi Matee, winner of UNEP's 2020 Young Champions of the Earth award, is an engineer and social enterprise founder from Kenya. She advocates for a world where every job is based on clean and renewable energy and practise how to turn waste into treasure. Click on the image to watch the video for details.

Think about it

What are the other examples of turning waste into energy around the world?

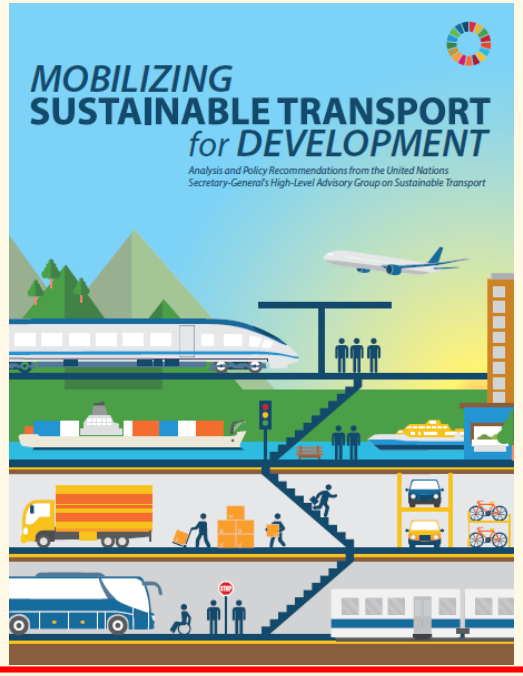
Sources of videos:
United Nations

- https://news.un.org/en/story/2020/12/1080152
- https://www.unep.org/youngchampions/bio/2020/africa/nzambi-matee

Practical Experiences of Other Regions in Environmental Conservation

Developing low-carbon transport systems

- Transport is an important area for addressing the global climate and energy crisis, and implementing strategies for economic and social transformation and sustainable development. The United Nations Global Sustainable Transport Conference focuses on the opportunities, challenges and solutions for sustainable transport. It provides a clear direction for the development of sustainable transport and promotes the Goals of the 2030 Agenda for Sustainable Development. The 2nd Conference was held in Beijing on 14-16 October 2021.
- According to the related UN report in 2016*, sustainable transport is the provision of services and infrastructure for the mobility of people and goods—advancing economic and social development to benefit today's and future generations—in a manner that is safe, affordable, accessible, efficient, and resilient, while minimising carbon and other emissions and environmental impacts, especially the impact on biodiversity.



Click on the image for details

**Mobilizing Sustainable transport for Development, 2016*

Sources: United Nations

- https://sustainabledevelopment.un.org/content/documents/2375Mobilizing%20Sustainable%20Transport.pdf;
- https://www.un.org/zh/conferences/transport2021

Practical Experiences of Other Regions in Environmental Conservation

Developing low-carbon transport systems

One of the many success stories in the UN's 2016 report on sustainable transport is the example of "ElectriCity" in Göteborg, Sweden.

One of the most advanced bus lines in the world, the Gothenburg Electric Bus Route 55, is in operation and runs on electricity from green and renewable energy sources such as wind and hydroelectric power. With low noise levels and zero emissions, it is considered an important component of the public transport system in the city. In addition, the ElectriCity project is developing and testing a new bus stop system, a traffic management system, as well as a safety and energy supply system.

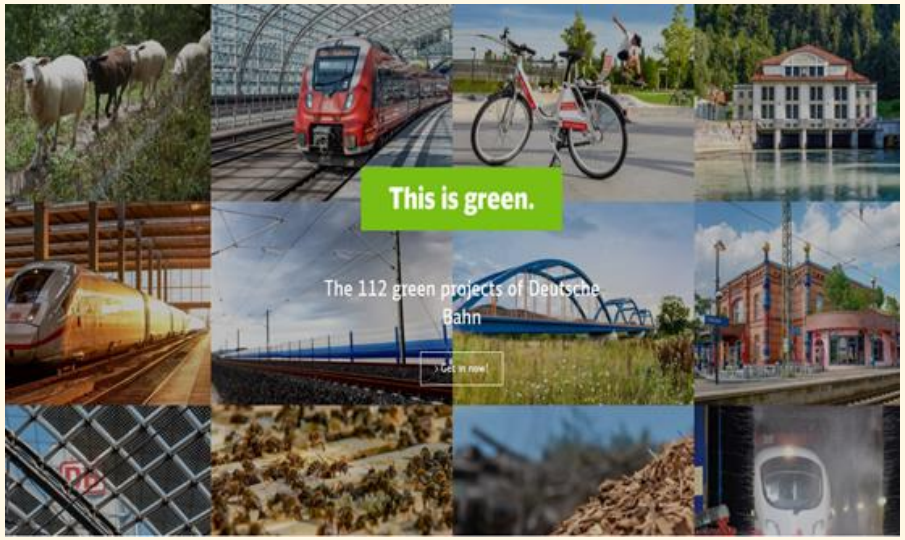
Sources:

- United Nations (https://sdgs.un.org/topics/sustainable-transport;)
- Lindholmen Science Park (https://www.electricitygoteborg.se/en)

Practical Experiences of Other Regions in Environmental Conservation

Developing low-carbon transport systems

Many countries/ regions around the world have adopted the transit-oriented development (TOD) concept to plan and improve the convenience and accessibility of public transport systems. They use low-emission transport means powered by electricity or LPG. They encourage carpooling or car rental in the community and promote local employment, so as to develop low-carbon transport system and reduce carbon emissions.



Introducing low emissions
as a design consideration for roads

A bicycle autobahn in Germany

Public buses and shared bikes in London

Finland's electricity-driven railway network covers all major cities in the country, reducing carbon emissions

Sources:

- https://gruen.deutschebahn.com/en
- http://www.transferproject.org/low-carbon-transport-g20-track/

Practical Experiences of Other Regions in Environmental Conservation

Developing low-carbon transport systems

Copenhagen, the capital of Denmark, is a long-standing example of a city that has been working hard to promote bicycle mobility. In Copenhagen, all the 28 bicycle lanes from the suburbs to the city centre are separated from motorised lanes. The entire capital region now has more than 1,000 kilometres of dedicated bicycle paths and several hundred kilometres of bicycle lanes. Cycling is one of the main means of local transport and is known as a cultural characteristic of the city.

Video: About the Danish cycling culture

Copenhageners using bicycles on the streets

Sources:

- Danish Government (https://denmark.dk/people-and-culture/biking)
- United Nations (https://news.un.org/zh/story/2020/10/1069412, Chinese only)

Practical Experiences of Other Regions in Environmental Conservation

Using technology to promote sustainable development

Singapore opened its first plant to produce NEWater (high-purity reclaimed water) from treated used water in 2003 to diversify its sources of water supply. Over the past decade or so, NEWater has been developed to the extent of becoming one of the "National Tap" of Singapore. The Government of Singapore has planned to further expand the capacity of producing NEWater so that it can meet up to 55% of Singapore's future water demand by 2060.

Video: NEWater: A Singapore Success Story

Sources:

- https://www.pub.gov.sg/watersupply/fournationaltaps/newater
- https://globalwaterforum.org/2018/01/15/newater-in-singapore/
- https://www.pub.gov.sg/watersupply/waterquality/newater
- https://www.legco.gov.hk/research-publications/english/1516fsc22-newater-in-singapore-20160226-e.pdf

Practical Experiences of Other Regions in Environmental Conservation

Solid Waste Sorting and Recycling

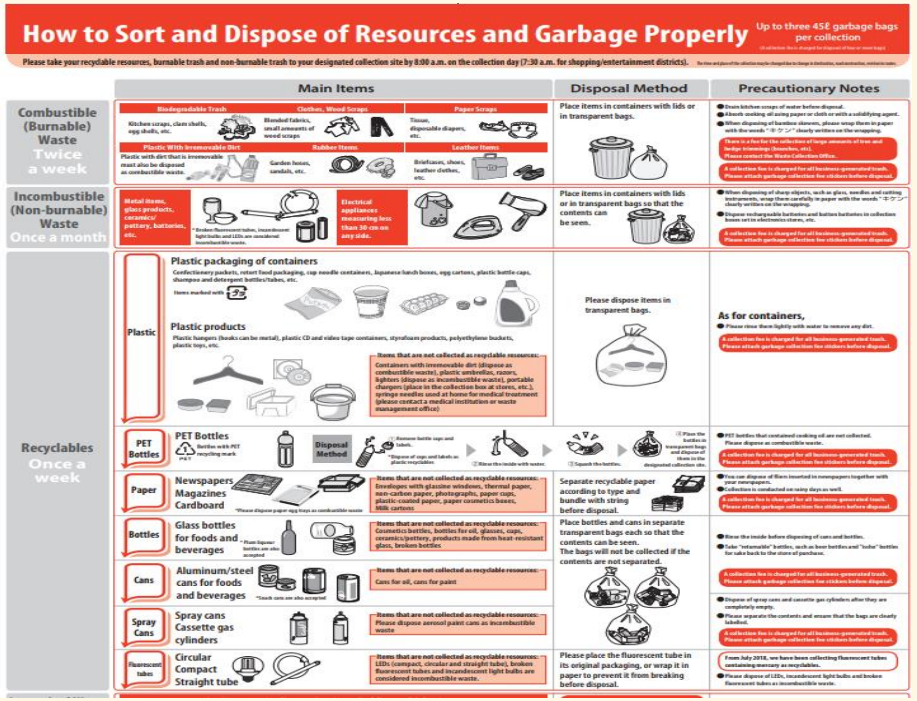
The Japanese government has a clear policy objective to establish a good system of solid waste separation and recycling, and the policy is very detailed. For example, a mineral water bottle is divided into three parts: the cap, the wrapper and the bottle. They should be put into three different sorting and recycling bins. Local residents have developed a good habit of recycling solid waste.

Video: What is the significance of waste sorting in Japan? (Chinese only)

Click on the image to watch the video

Activity

Find out more about waste sorting and recycling in Shibuya, Tokyo, Japan. Click on the image to zoom in.



Think about it

1. What is the importance of the policy on solid waste sorting and recycling to environmental protection?
2. How can we do better in solid waste sorting and recycling?

Sources:

- China News Service: http://video.chinanews.com/flv/2019/0701/0005.mp4 (Chinese only)
- Shibuya City webpage (https://www.city.shibuya.tokyo.jp/kurashi/gomi/kateigomi/gomi_panf.html)

Practical Experiences of Other Regions in Environmental Conservation

Green Urban Design

- In response to global environmental issues, different regions are developing green city projects. Songdo IBD (International Business District) in South Korea is a good example.
- Songdo is part of the Korean government's initiative to promote green and low-carbon development. Songdo IBD is a sustainable city with 40% green space coverage and is also known as one of the world's largest concentrations of LEED (Leadership in Energy and Environmental Design) certified projects, with major buildings meeting or exceeding LEED standards.
- Many green features are widely used in Songdo IBD, including green public open spaces, a green transport system, energy and water efficient buildings, wastewater recycling facilities, a central waste collection and disposal system, as well as digital infrastructure and systems.

Songdo IBD, South Korea

Location of Songdo IBD

Source: Songdo IBD, South Korea (http://songdo.com/)

Conclusion

In the course of economic development has led to many environmental problems, which threaten our survival and development. We can't meet such threats and challenges, unless we adhere to the rationale of sustainable development, enhance environmental conservation, and constantly reflect and learn from our experiences. There are many successful experiences from our country, Hong Kong and other regions that can be shared with other parts of the world.

Environmental conservation is not only a matter of co-operation between countries and governments around the world, but it also requires the support and co-operation of each and every one of us to put the rationale of sustainable development into practice in our daily lives.

User Guide

- The primary users of this resource are teachers. It aims to provide teachers with content knowledge relevant to the topic to enable teachers to have a deeper understanding of teaching content when preparing for their lessons.
- All data, videos, photos, pictures, questions and suggested answers can be used for multiple purposes, such as teachers' teaching materials, references for curriculum planning and learning and teaching, and student assignments, etc. To align with Citizenship and Social Development Curriculum and Assessment Guide (Secondary 4-6) (2021) (C&A Guide), this resource should be adapted to cater for students' learning diversity, classroom teaching and assessment needs, among others.
- Teachers may provide appropriate supplementary notes/ explanations to enrich this resource in order to enhance students' understanding of the topic and information provided.
- In accordance with the curriculum rationale and aims, teachers may select other learning and teaching resources which are correct, reliable, objective and impartial to help students build up a solid knowledge base, develop positive values and attitudes as well as enhance critical thinking and problem solving skills, and various generic skills.
- If some information cannot be provided in this resource due to copyright issue, teachers may visit relevant websites provided.
- Some information may have been updated when being used by teachers, teachers may visit the corresponding websites to obtain the up-to-date information.
- Please also refer to the C&A Guide to understand the requirements and arrangements of the learning and teaching of the curriculum. Teachers are welcome to point out the areas need improvement, and welcome to provide updated information to enrich the content for all teachers' reference.