

UNIT 4

BEAUTIFUL HOME AND RICH RESOURCES

INTRODUCTION

China, with its vast territory, is endowed with abundant energy, ecological, and biological resources. As indispensable natural assets for human survival and development, resource security, ecological security, and biosecurity hold significant importance in China's national security framework.

HIGHLIGHTS

Resource Security

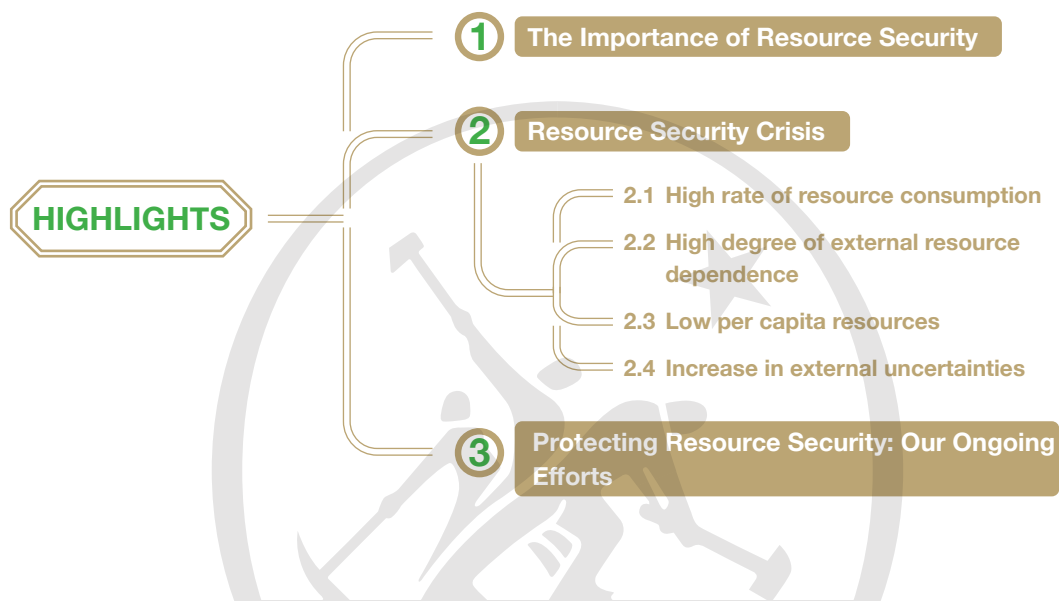
- Why is resource security important?
- What are the threats to the security of our resources?
- What can we do to keep resources safe?

Ecological Security

- What actions have been taken to protect ecological security in our country?
- What is the current situation of ecological resources in China?

Biosecurity

- What are the factors that undermine China's biosecurity?
- What are some examples of invasive alien species?



① The Importance of Resource Security

As one of the largest countries in the world by land area, China boasts a wide variety of resources in substantial quantities. Resources serve as the fundamental foundation for national development and are essential natural materials for human survival and progress. With the expansion of economic activities, the demand for natural resources has surged. However, many natural resources are not inexhaustible and require rational conservation.



Resource Security

Resource security refers to the state in which a country or region can sustainably, stably, timely, sufficiently, and economically obtain the natural resources it needs. It encompasses water resource security, energy resource security, land resource security, mineral resource security, biological resource security, marine resource security, and environmental resource security.

② Resource Security Crisis

2.1 High rate of resource consumption

Since the 21st century, China has become the world's largest resource consumer due to rapid economic growth. The consumption rate of resources continues to rise, with water, soil, and mineral resources facing varying degrees of depletion or crisis.



2.2 High degree of external resource dependence

In today's rapidly developing economy, China has transitioned from a self-sufficient resource nation to a resource-importing country. The dependency on external resources, especially strategic resources, has significantly increased. Currently, China's reliance on foreign crude oil exceeds 70%, and its dependence on natural gas imports surpasses 40%, highlighting the persistent imbalance between supply and demand.

2.3 Low per capita resources

Given China's massive population, the per capita share of resources is far below the global average. The limited and uneven distribution of habitable and productive spaces underscores the need to cherish existing resources and enhance awareness of resource conservation.



2.4 Increase in external uncertainties

China is in a critical phase of rapid development. However, challenges such as insufficient domestic supply of key resources, over-reliance on single overseas sources, and constrained transportation channels remain. Against the backdrop of major power competition, uncertainties in the international environment are increasing, complicating China's external development landscape.

③ Protecting Resource Security: Our Ongoing Efforts

The primary goal of protecting resource security is to maintain the basic quantity and quality of natural resources. In recent years, China has actively adjusted its resource structure, replacing non-renewable resources with renewable ones, improving the extraction and utilisation efficiency of coal, natural gas, and oil, and reducing dependency on external resources. Efforts to harness clean energy sources such as wind and hydropower have been intensified to minimise resource waste, while new pathways to safeguard resource security are continuously explored.



Explore

China's Declining Energy Consumption per Unit of GDP

According to a series of reports on China's economic and social development achievements released by the National Bureau of Statistics at the end of 2022, China's energy consumption per unit of GDP in 2021 decreased by 26.4% compared to 2012, with an average annual decline of 3.3%. This is equivalent to saving approximately 1.4 billion tons of standard coal. The energy consumption per unit of added value in large-scale industries decreased by 36.2%, with an average annual decline of 4.9%, 9.8% and 1.6% higher than the cumulative and annual declines in GDP energy consumption, respectively, demonstrating significant industrial energy-saving achievements.








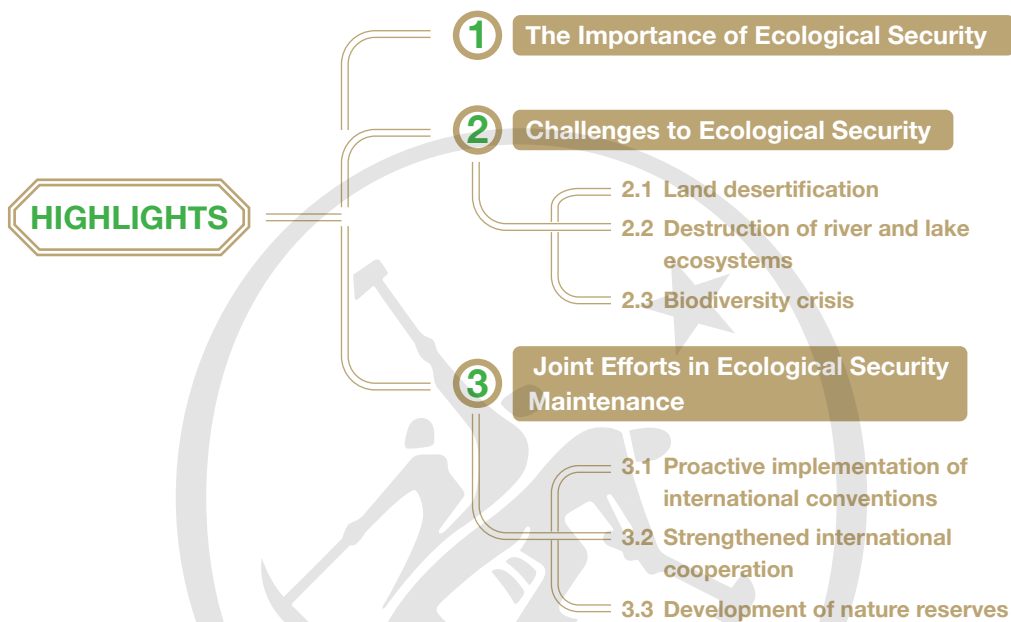
Engage

China is home to countless skyscrapers that require substantial energy to maintain comfortable indoor environments. Energy is also essential for the operation of infrastructure such as water supply, drainage, and road systems. Vehicles and aircraft rely on energy to function.

Curious about your daily resource consumption? After class, please pay attention to the number of various resources you need for a day and complete a small resource survey report.

Survey

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① The Importance of Ecological Security

Ecological security is a fundamental condition for human survival and development. The deterioration of the ecological environment poses a threat to human existence as critical as that of warfare. The Earth, home to a vast array of animals, plants, microorganisms, and conditions conducive to life, constitutes a complex ecological system. China boasts a diverse range of ecosystems, including forests, shrublands, meadows, grasslands, deserts, wetlands, and marine ecosystems such as the Yellow Sea, the East China Sea and the South China Sea.



Shiyang River, located at the eastern end of the Hexi Corridor in Gansu Province

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Challenges to Ecological Security

Ecological security issues can be categorised into three aspects: first, natural ecological security threats caused by astronomical and geological factors; second, ecosystem security concerns, primarily involving forests, wetlands, and marine systems; and third, human-induced ecological security challenges stemming from unsustainable economic activities and climate change. China faces significant ecological security threats, including fragile ecosystems, severe ecological degradation, and biodiversity loss. These issues represent critical challenges to the nation's economic development.

2.1 Land desertification

China is one of the countries most severely affected by desertification, with the largest desertified area, the highest number of impacted people, and the most severe sandstorm hazards. Over the years, China has implemented a series of measures to combat desertification.

Huairen Protection Forest, Shuozhou, Shanxi

2.2 Destruction of river and lake ecosystems

Rivers and lakes are vital carriers of water resources, water environments, and aquatic ecosystems, playing a crucial role in ecological systems. Excessive development of key ecological spaces, such as water source conservation areas, river and lake zones, and their buffer belts, has led to severe ecological degradation and biodiversity loss. Climate change has exacerbated the frequency of droughts and floods, intensified uneven spatial and temporal distribution of water resources, and heightened the vulnerability of water ecosystems, posing significant threats to aquatic environments.

2.3 Biodiversity crisis

The overall trend of biodiversity is largely determined by geographical units. The spatial overlap between human activity zones and species distribution ranges constitutes a primary factor affecting the survival status of endangered species in China. In the agriculturally intensive plains with high human activity, the loss of lowland habitats such as farmland and wetlands has led to population declines in numerous species including birds and mammals. Meanwhile, in pristine forests at lower elevations, intensifying human activities causing persistent forest fragmentation or disappearance have precipitated survival crises for many carnivorous species.

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Joint Efforts in Ecological Security Maintenance

Throughout the history of global development, a sound ecological environment has proven to be the most equitable public good and the most inclusive blessing for people's livelihoods. China has actively implemented concepts of green development, played a leading role in international climate cooperation, and achieved significant improvements in ecological conditions.

3.1 Proactive implementation of international conventions

As one of the earliest signatories to the United Nations Framework Convention on Climate Change (UNFCCC), China has actively participated in global climate governance. By undertaking substantial international responsibilities and becoming a pivotal force in implementing the Paris Agreement, China has emerged as both a driving force and leading advocate in advancing global climate governance, demonstrating remarkable global leadership.



3.2 Strengthened international cooperation

China has substantially engaged in major international forums including the UN Summit on Biodiversity and the Leaders Summit on Climate. Notably, our country convened the ministerial-level on-line round-table “Post-2020 Global Biodiversity Outlook: Building a Shared Future for All Life on Earth”, facilitating global consensus on post-2020 biodiversity governance. Through cross-border cooperation with Russia, Mongolia, Laos, Vietnam and other neighboring nations, China has also established cross-border nature reserves and ecological corridors. Furthermore, bilateral cooperation mechanisms with Germany, the UK, South Africa and other countries have been developed, enabling extensive collaboration in biodiversity conservation, ecosystem services, climate change mitigation, and biosecurity.

3.3 Development of nature reserves

As of January 2022, China has established 373 national-level nature reserves. Notable examples include the Changbai Mountain Nature Reserve focusing on Siberian tiger conservation and the Wolong Nature Reserve dedicated to giant panda protection.