

<<中国的荒漠化及其防治>>

图书基本信息

书名：<<中国的荒漠化及其防治>>

13位ISBN编号：9787040257977

10位ISBN编号：7040257971

出版时间：2010-4

出版时间：高等教育出版社

作者：慈龙骏，杨晖 编著

页数：513

字数：740000

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

## &lt;&lt;中国的荒漠化及其防治&gt;&gt;

## 前言

Desertification is defined by the United Nations Convention to Combat De-certification ( UNCCD ) as "land degradation in arid, semiarid and dry sub-humid areas resulting from various factors, including climatic variations and human activities". More than 100 countries on six continents and one-fifth of the world's total population are affected by desertification. Desertification throughout the world expands at an annual rate of 0.5 million km<sup>2</sup>. China is one of the countries affected seriously by desertification. It is estimated that the areas of dry land and susceptible dry land in China ( excluding hyperarid areas ) are 357.05 and 331.70 million ha, respectively, and in 2004, 263.62 million ha had suffered or was suffering from desertification. The desertification affected area covers seven main dry land provinces and autonomous regions ( Xinjiang, Inner Mongolia, Tibet, Qinghai, Gansu, Ningxia and Sha'anxi ) and 12 main deserts and sandy lands ( the Taklimakan, Gurbantonggut and Kumtag Deserts, the Deserts in the Qaidam Basin, the Badainjaran, Tengger, Ulan But and Qubqi deserts, and the Mu US, Otindag, Horqin, and Hulun Buir Sandy lands ) . The direct economic loss caused by desertification is estimated to be upwards of 5.4 billion RMB annually, and thus desertification and desert expansion have become a bottleneck for sustainable development in the dry lands of China. In the past 60 years, the Chinese government has made great efforts to combat desertification, and the tendency of overall expansion of desertification has been initially contained, although desertification continues to expand in some parts. There are a large number of books available on desertification and related topics in China. This book is not intended to include all the desertification topics in China. We attempt to cover some key topics related to deserts and desertification characteristics and their distribution. We discuss the processes and features of wind erosion, water erosion, soil salinization and vegetation degradation in rangeland, and detailed measures used in the struggle against desertification at field scale. We also consider the eco-productive paradigms for sustainable dry land management at a regional scale.

## <<中国的荒漠化及其防治>>

### 内容概要

Desertification and Its Control in China comprehensively discusses desertification from the views of formation, distribution, development and control models. This book truly elucidates basic theory and control models of desertification, especially the numerous results from research carried out for the UN Convention to Combat Desertification. This book will provide a theoretical and practical basis for ecological and environmental planning and design as well as guidelines for prevention/restoration for desertification projects. It will also provide practical examples.

## <<中国的荒漠化及其防治>>

### 作者简介

慈龙骏(Ci Longjun), 女, 1936年出生于安徽省桐城县。

1958年毕业于北京林业大学森林改良土壤硕士研究生班。

1991年毕业于美国康奈尔大学农学与生命科学学院, 获博士学位。

现任中国林业科学研究院首席科学家、研究员、博士生导师, 国家防治荒漠化协调小组高级顾问、全国治沙暨沙产业学会常务理事及其他兼职。

曾任中国科学院、国家计委自然资源综合考察委员会副主任, 林业部防治荒漠化管理中心(治沙办公室)主任, 中国林业科学院副院长, 国际景观生态学会中国分会副主席, 美国干旱与半干旱研究中心成员, 美国林学会会员, 北京大学、中国农业大学、北京林业大学兼职教授等职。

是《联合国防治荒漠化公约》政府间谈判中方代表之一, 多次参加《联合国防治荒漠化公约》政府间谈判, 积极策划和参与国际防治荒漠化活动, 为提高我国国际地位, 争取国际支持做出贡献。

享受国务院政府特殊津贴。

## &lt;&lt;中国的荒漠化及其防治&gt;&gt;

## 书籍目录

1 Concept and Global Status of Desertification	1.1 Concept and scientific connotations of desertification
1.1.1 Definition of desertification	1.1.2 Theoretical background to desertification
1.1.3 Scientific basis for combating desertification	1.2 Current status of global desertification
1.2.1 Introduction to distribution of global desertification	1.2.2 Regional features of desertification-prone lands and strategies to combat desertification
1.2.3 Status of desertification and activities to combat desertification in most affected developing countries	References
2 Natural Background of China's Drylands	2.1 Deserts, Sandlands and the Gobi
2.1.1 Deserts	2.1.2 Sandlands
2.1.3 Gobi	2.2 Loess Plateau
2.2.1 Geomorphological features of the Loess Plateau	2.2.2 Soil
2.2.3 Climatic characteristics of the Loess Plateau	2.2.4 Vegetation
2.3 Loess-desert transitional belt	2.3.1 Role of deserts in the formation of loess
2.3.2 Distribution of the Loess	2.3.3 Physical properties of the loess
2.3.4 Loess-desert transitional belt	2.4 Droughts
2.4.1 Historical record of climate change and droughts in modern times	2.4.2 Climatic change and droughts in modern times
2.4.3 Possible trends in droughts	2.5 Sand-dust storms
2.5.1 Sand-dust storms and their main sand sources	2.5.2 Factors influencing sand-dust storms occurrence in China
2.5.3 Relationship between sand-dust storm frequency and desertification	2.5.4 Sand-dust storms affecting Beijing
References	3 Natural Resources and their Utilization in the Drylands of China
3.1 Climate resources and their potential capability	3.1.1 Solar radiation and photosynthetic production potential
3.1.2 Temperature and the light-temperature production potential	3.1.3 Precipitation and light-temperature-water production potential
3.2 Land resources and prospects for agricultural development	3.2.1 Quality, quantity, and use status of land resources and existing problems
3.2.2 Development potential of agriculture and measures to develop the land production potential	3.3 Water resources and ecological water use
3.3.1 Type, quantity and distribution of water resources in drylands	3.3.2 Water resources use status and existing problems
3.3.3 Strategies for water resources development and managing water utilization	3.4 Protection and utilization of biological resources
3.4.1 Biological resources and their current status of utilization	3.4.2 Specific biological resources and their industrial development
3.5 Mineral resources and their development and utilization prospects	3.5.1 Metal mineral resources
3.5.2 Non-metal mineral resources	3.5.3 Energy resources
References	4 Sandy Deserts, Gobi, Sandlands and Sandified Land in Dryland
4.1 General situation of sandy deserts, Gobi, sandlands and sandified land	4.1.1 General distribution range of sandy deserts, Gobi, sandlands and sandified land
4.1.2 Distribution of sandy deserts, Gobi, sandlands and sandified land	4.1.3 Development trend and current situation of land sandification
4.2 Sandy deserts, Gobi and sandified land in Xinjiang Uygur Autonomous Region	4.2.1 Sandy deserts, Gobi and sandified land status and distribution
4.2.2 Effects of sandification	4.3 Inner Mongolia Autonomous Region
4.3.1 Present situation, type and areas of deserts, Gobi, sandland and sandified land	4.3.2 Effects of sandification
4.4 Tibet Autonomous Region	4.4.1 Bioclimatic zones of desertified land on the Tibetan Plateau
4.4.2 Types of desertified lands on Tibetan Plateau	4.4.3 Driving force of desertification
4.4.4 Hazards and pressures of desertification on the environment and development	4.5 Gansu Province
4.5.1 Current situation and distribution of deserts, Gobi and sandified land	4.5.2 Effects of sandification
4.6 Qinghai Province	4.6.1 Current situation and distribution of deserts, Gobi and sandified land
4.6.2 Effects of sandification	4.7 Ningxia Hui Autonomous Region
4.7.1 Current Situation and distribution of deserts, Gobi, sandlands and sandified land	4.7.2 Effects of sandification
4.8 Shaanxi Province	4.8.1 Distribution of sandlands and sandified land
4.8.2 Effects of sandification	4.9 Other provinces and cities
4.9.1 Beijing	4.9.2 Tianjin
4.9.3 Hebei Province	4.9.4 Shanxi Province
4.9.5 Liaoning Province	4.9.6 Jilin Province
4.9.7 Heilongjiang Province	References
5 Water Erosion in the Drylands of China	5.1 Distribution of water erosion and its regional characteristics
5.1.1 Distribution scope	5.1.2 Regional characteristics (Tang et al., 2004)
5.2 Damage from soil erosion	5.2.1 Impacts of soil erosion on land productivity
5.2.2 Water erosion and water quality	5.2.3 Water erosion and mud and silt sedimentation

<<中国的荒漠化及其防治>>

5.3 Fundamental water erosion control measures      5.3.1 Small watershed management      5.3.2 Small watershed management on the Loess Plateau      References 6 Soil Salinization 7 Steppe Degradation and Rehabilitation in Northern China 8 Biological and Technical Approaches to Control Windy Desertification 9 Engineering and Technological Measures for Combating Desertification 10 Optimized Sustainable Eco-production Paradigms in Latin Name Index

## &lt;&lt;中国的荒漠化及其防治&gt;&gt;

## 章节摘录

插图：desert interior, is covered by sand dunes. Eighty-five percent of the sand dunes are mobile. Fixed and semi-fixed dunes occupy only 15% of the desert area, and they are mainly vegetated with *Tamarix* spp. These fixed and semi-fixed dunes are only found in the periphery of the desert, on plains near the pied- mont and bordering the rivers which extend into the internal desert. ( ii ) The sand dunes are huge with complex forms The internal part of the Taklimaknn Desert is mainly covered by exposed huge sand dunes, which are often 100-150 m high, with maximum of 200 m to 300 m. Within the desert, dunes of more than 50 m in height account for 8070 of the total area of the mobile dunes, and some specific dune forms are unique and are not found in other deserts in China. For example, in the easternhalf of the Taklimakan Desert, huge complex dune chains generally extendfor 5-15 km, with a maximum length of 30 km, and are typically 1-2 kmwide. The leeward slopes are tall and steep while windward slopes are coveredwith secondary dune chains. The inter-dunes are flat with widths of 1-3 kmextending for a considerable distance. These inter-dunes are segmented by lowdunes which are vertical to them, forming some closed depressions with lakesscattered among them. In the center of the desert ( 820-85~ east longitude ) andthe southwestern desert, there are complex longitudinal sand ridges, whichnormally extend for 10-20 km, with a maximum of 45 km, typically parallelto the prevailing wind direction. The secondary dunes, above these ridges,are perpendicular to the main wind direction. The pyramidal dunes developin regions with changing wind directions, distinct landform undulations, oradjacent to the mountains, the distribution of which can be isolated ( suchas between Yutian and Minfeng ) , or continuous irregular ridge-mounds ( suchas between Qiemo and Minfeng ) . In addition, there are tall dome-shapedsand dunes in the northern desert and scale-like dunes in the western andnorthwestern parts. ( iii ) Plains within the desert have abundant water resourcesAlthough the Taklimakan Desert mainly consists of mobile dunes, thereare plains where the desert plant resources are abundant ( mainly desert ri-parian forests —— *Populus euphratica*, *Populus pruinosa* and *Tamarix ramosis-sima* ) . These plains are distributed in the river valleys in the desert interior,along the riverbanks at the desert edges and the front edge of alluvial-fluvialplains. Some rivers, such as the Hetian, Keliya, Niya, Andi'er and Yatongguzirivers, flow into the desert interior, either flowing across the entire desert, oracross two-thirds of the desert or 100-200 km into the desert. In the plainsalong these rivers, due to intermittent flooding, there is abundant shahowunderground freshwater beneath the alluvial layer, which can be found 1-3 m below ground. In some areas, the spring outflows form small lakes inthe interdune wadis or dry river beds. Hence, *Populus euphratica*, *Populuspruinosa*, *Tamarix ramosissima* shrubs and meadow reeds grow well.

## <<中国的荒漠化及其防治>>

### 编辑推荐

《中国的荒漠化及其防治(英文版)》是国家科学技术著作出版基金资助。



<<中国的荒漠化及其防治>>

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>