

林业科技英语自学丛书



# 世界的林业

## WORLD FORESTRY

中英对照

1

中国林学会国际联络部  
浙江省林学会

## 前 言

鉴于全国林学会会员、林业职工和林业院校师生学习英语的需要，中国林学会国际联络部于1978年编印了不定期活页油印本林业科技英语自学资料《世界的林业》。资料发行后得到了热烈的反响，各地读者纷纷来信，要求将资料汇编成册，铅印出版。

本书由黄秉端同志主编，田景明同志审定。参加与支持这项工作的主要有浙江省林学会副秘书长史忠礼同志、沈待春同志，中国林业科学研究院陈致生、赵青儒、黄婉文、赵志欧、徐化成、吕世建、刘奉觉、刘惠珍、张夫才等同志。此外，本书还采用了张士灿同志在“联合国育林”杂志上发表的英文短文。特向这些同志和所在单位表示谢意。

我们希望今后能继续出版林业科技英语自学丛书，使得读者通过这些丛书既能学习专业科技英语，又能了解世界各国林业和林业科技的进展情况。

编译者限于水平，也缺乏经验，书中错误和不足之处在所难免，请读者不吝提出批评和宝贵意见。

中国林学会

浙江省林学会

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## 世界林业现状鸟瞰

### A BIRD'S EYE VIEW OF THE PRESENT SITUATION OF WORLD FORESTRY

The forests of the developed countries in the temperate zone continued to supply most of the world's industrial wood products in the late 1970s, but attention was focused increasingly on exploiting the vast tropical forests of the developing countries. Tropical forests comprised 55 percent of the world's forests, but in 1975 the value of forest products from developing countries was less than one-fifth of the total world trade; eighty-five percent of their forest production went for fuelwood.

Since 1976, the Food and Agriculture Organization of the United Nations has been developing a programme which aims at making forestry's role in rural development and employment more effective. With a broad socio-economic basis, the programme emphasizes fuelwood production, helping people in the country to get more from their natural resources, encouraging the production of food and wood through systems of agri-silviculture, and the establishment of small-scale forest industries.

Forests have always been important to man. Today, apart from using wood for traditional products, he is turning trees into photographic film, explosives, alcohol, cattle fodder and even synthetic hamburgers. The forest provides the growing flow of paper used for newspapers, magazines, posters, books and writing paper needed to fuel the drive for literacy in the developing world.

Often more important than timber production itself is the role of the forest as a protective cover, regulating the flow of water and helping to prevent flooding and silting. The forest gives agriculture protection against erosion and acts as a barrier against landslides and avalanches. It furnishes shade, fodder and grazing for livestock, a habitat for wildlife, and a setting for public recreation.

#### **Forest Area and Composition**

Some 4,400 million hectares (11,000 million acres), or about 33 percent, of the world's land surface are covered by forests. Roughly 14 percent of the world's forests are in North America, 23 percent in Latin America, 20 percent in the Soviet Union, 15 percent in Asia, 3 percent in Oceania, 19 percent in Africa and 6 percent in Europe. Only a small fraction of the forests in developing regions are productive, compared with four-fifths of forests in developed countries.

The total growing stock of the world's forests is estimated at some 300,000 million cubic metres. Of this, some 135,000 million metres are of coniferous origin,

the balance deriving from non-coniferous trees.

Generally speaking, coniferous woods, such as pine, are used for making pulp and paper and to produce versatile sawn soft-wood. Nonconiferous woods are usually hardwoods and are largely used in construction and furniture-making. Technical advances, however, have made it possible to use hardwoods for pulp and paper and other non-traditional end-products.

### Supply and Demand

The removal of wood annually from the world's forests for all purposes totalled about 2,500 million cubic metres in the 1970s. About half was for industrial purposes and half for fuelwood. Some 80 percent of the industrial wood was taken from forests in developed countries.

With demand for wood rising rapidly, FAO estimates that in 1995 the world will need about 75 percent more wood and wood products than it did in 1976. By 1995 the world will need 2,300 million cubic metres of industrial wood and about 1,700 million cubic metres of fuelwood.

No overall shortage in total wood supply is foreseen for the next two decades. But in some regions there will be (and in some cases already are) serious local deficits. In western Europe and in Japan, industrial wood supplies will be substantially deficient, while in wood-poor countries of Africa and Asia the forest resources will support only one-third of per-caput levels of fuel-wood consump-

tion by 1995.

Although much of the additional industrial wood needed by 1995 is expected to come from the world's temperate forests, particularly from those of North America and the USSR, the contribution of the tropical forests will increase from one-fifth to at least one-quarter of the total.

Looking beyond 1995, it is evident that even the huge reserves of Canada and the Soviet Union are not limitless. The rich and extensive tropical forests of southeast Asia, west Africa and Latin America may come into prominence as timber-suppliers. This will happen only if much greater use is made of species now little used. Exploitation of tropical forests hinges upon the development of suitable forest management systems and on finding markets for a wider range of tropical hardwood species. Further progress is also necessary in developing technology and small-scale industries adapted to the special needs and conditions of developing countries.

Man-made forests are still only of slight importance in meeting the need for wood in Africa, Latin America and the Asia-Pacific region. However, in a number of countries in the northern hemisphere plantations are assuming an important role. In New Zealand nearly all the country's domestic and export requirements are covered by plantations. One-third of wood consumption in Brazil and Australia is met from plantations, and



they constitute a vital source of supply in Argentina and Chile. Climatic conditions favour the tropical regions of the world in the growth of trees since their man-made forests are capable of yields 5 to 10 times higher than those of temperate forests.

### **Kinds of Forest Products**

Sawnwood is still the most common processed wood product and is used in construction, furniture and packaging. In 1976, world output was 430 million cubic metres.

The three main types of wood-based panel products are plywood, fibreboard and particle board. Consumption of wood-based panel products is expected to grow faster than for any other product group, particularly that of particle boards, a relatively new product.

All but a small fraction of the wood pulp used in the world goes into the making of paper and paperboard. Annual needs were 112 million metric tons in 1976 compared with 85 million metric tons in 1967.

Fuelwood still accounts for nearly one-half of the wood used in the world. In Africa and Latin America nearly nine-tenths of all wood used is fuelwood, and in Africa it supplies two-thirds of the region's total energy. In Asia (excluding Japan) fuelwood is two-thirds of the region's wood consumption, in Europe and the Soviet Union more than one-quarter, and in North America one-tenth. Enormous and growing fuelwood

and charcoal needs put a heavy charge on African forests and those in parts of Asia and the Far East. The speed of forest depletion by clearing land for agriculture is even more alarming in some regions. The danger in many countries is the destruction of remaining forests and woodlands and the weakening of the forest's role as environmental protector.

Developing countries had only about 10 million hectares of man-made forests in the late 1970s; to meet their fuelwood requirements at 1977 per-caput levels by 1995 they would need to have an estimated 60 million hectares of such plantations.

#### **Trade in Forest Products**

World exports of all forest products rose to a value of \$31,000 million in 1976, about three percent of total annual world trade. Allowing for inflation, this represented an increase of 50 percent compared with 1966. About 80 percent of this trade was among developed countries.

The value of forest exports of developing countries increased from \$530 million in 1961 to \$4,170 million in 1976. The value of their imports in those two years was respectively \$835 million and \$4,080 million. The developing world as a whole by 1977 had a positive balance in forest products trade. Far East Asia was a substantial net exporter in value terms. Africa also had a positive balance, while the Near East and Latin America were substantial net importers.

## Forest Industries

In 1975 primary forest industries yielded some \$140,000 million. The pulp and paper industry contributed about 42 percent of the total production. Sawnwood, sleepers, and box boards accounted for more than 38 percent. The newest sector of the wood products industry, wood-based panels, in 1976 represented 17 percent of the value of all wood products.

## FAO'S Role

FAO's Forestry Department is concerned with the evaluation of forest resources and with how and where to grow, protect and harvest economically the rising volume of wood which the world requires. It investigates and advises on the role of forestry in soil and water conservation, recreation and wildlife. The Department is also concerned with the strengthening of national forest services and education and training for foresters and wildlife specialists.

The Department seeks to promote an expansion of viable forest industries in developing countries. For example, it devotes particular effort to promoting the establishment of pulp-and-paper mills in developing countries. Although these countries possess more than half the world's forests, they originate only four percent of the world's wood pulp. Recent advances in technology demonstrate that high-quality pulp can be produced from mixed tropical hardwoods on a practical and commercial basis. 热带硬木林

At the same time considerable development of infrastructure in the developing countries is needed to make many areas of tropical forests accessible to the producer. Governments of developing countries also needed to adopt and pursue policies to ensure the practice of scientific forestry, including the use of man-made forest plantations. These policies must be carried out with respect for ecological limitations.

FAO provides advice and assistance to developing countries seeking to build forest industries and substitute the more profitable export of wood products for exports of logs to be processed elsewhere. Much of FAO's help is provided through a wide variety of projects carried out in developing countries at their request. In 1977, 270 forestry experts, consultants and volunteers, 45 of whom were from developing countries, assisted in carrying out 135 field projects in 63 countries and at regional and inter-regional levels.

### New Words and Expressions

1. the temperate zone ['tempərit] [zoun] 温带
2. supply [sə'plai] *vt.* 提供、供应、供给
3. wood product 木制品
4. in the late 1970s 在七十年代后期
5. focus on ['foukəs] 集中在
6. the tropical forests ['trɒpikəl] 热带林
7. exploit [iks'plɔit] *vt.* 开发、开采、剥削
8. vast [va:st] *a.* 巨大的、广阔的、浩瀚的

9. comprise [kəm'praɪz] *vt.*

由……组成、构成、包括、包含

10. less than 少于

11. go for 适用于、用于

12. programme ['prəʊgræm] *n.* 方案、计划、纲要

13. aim at 目的在于

14. effective [ɪ'fektɪv] *a.* 有效的

15. emphasize [ˈemfəsaɪz] *vt.* 强调、着重

16. natural resources [ˈnætʃərəl] [rɪˈsɔːsɪz] 自然资源

17. systems of agri-silviculture [ˈsɪstəm] [ˈsɪlvi,kʌltʃə]

混农林制

18. encourage [ɪnˈkʌrɪdʒ] *vt.* 鼓励

19. small-scale [skeɪl] 小型的

20. apart from 除……外

21. turn into 制成……、变成…

22. photographic film [ˌfəʊtəˈɡræfɪk] [fɪlm]

摄影胶片

23. explosive [ɪksˈpləʊsɪv] *n.* 炸药

24. alcohol [ˈælkəhɒl] *n.* 酒精

25. cattle [ˈkætl] *n.* 牲口、牛

✓ 26. fodder [ˈfɒdə] *n.* 饲料

27. synthetic [sɪnˈθetɪk] *a.* 合成的

28. hamburger [ˈhæmbəːɡeɪ] *n.* 牛肉饼

29. poster [ˈpəʊstə] *n.* 广告

30. to fuel [fjuəl] *vt.* 支持、刺激、加油

31. drive [draɪv] *n.* 动力、干劲、魄力

32. literacy [ˈlɪtərəsi] *n.* 有文化、识字

33. provide the growing flow of

提供愈来愈多的……、供应源源不断的……

- 34. protective [prə'tektiv] *a.* 保护的、防护的
- 35. cover ['kʌvə] *vt.* 复盖
- 36. forest cover 森林复被
- 37. regulate ['reɪgjuleɪt] *vt.* 调节
- 38. flow of water 水流
- 39. prevent [pri'vent] *vt.* 防止
- 40. flooding ['flʌdɪŋ] *n.* 洪水、水灾、泛滥
- ✓ 41. silt [sɪlt] *n.* 淤塞、淤泥沉积
- 42. erosion [i'rouʒən] *n.* 腐蚀、侵蚀
- 43. barrier ['bæriə] *n.* 障碍、栅栏、屏障
- 44. landslide ['lændslaɪd] *n.* 山崩、崩塌
- ✓ 45. avalanche ['ævələ:nʃ] *n.* 雪崩
- 46. grazing ['greɪzɪŋ] *n.* (动名词)放牧
- 47. livestock ['lɪvstɒk] *n.* 家畜、牲畜
- 48. habitat ['hæbitæt] *n.* 生境
- 49. wildlife ['waɪldaɪf] *n.* 野生动物
- ✓ 50. setting ['setɪŋ] *n.* 环境、背景
- 51. recreation [,rekri'eɪʃən] *n.* 游憩
- 52. composition [,kɒmpə'zɪʃən] *n.* 组成
- 53. roughly ['rʌfli] *ad.* 大致地、粗略地、粗糙地、  
艰难地
- 54. Oceania [,ouʃi'eɪnjə] *n.* 大洋洲
- 55. compare with [kəm'peə] 与……比较
- 56. productive [prə'dʌktɪv] *a.* 生产性的
- 57. total growing stock ['grouɪŋ] [stɒk] (森林)总蓄积量
- 58. a small fraction of ['frækʃən] 一小部分
- 59. coniferous [kou'nɪfərəs] *a.* 针叶树的

60. non-coniferous [nɒn] *a.* 非针叶树的、阔叶树的
61. balance ['bæləns] *n.* 其余、剩余部分、平衡
62. derive from [di'raiv] 来自、从……得来、取得、导出
63. generally speaking 一般说来
64. versatile ['və:sətail] *a.* 多种的、多方面的、多样化的
65. hardwood ['hɑ:dwud] *n.* 硬材、阔叶树
66. construction [kən'strʌkʃən] *n.* 建筑
67. furniture-making ['fə:nitʃə] 家具制造
68. end-product [end-'prɒdʌkt] *n.* 最终产品
69. removal [ri'mu:vəl] *n.* (木材)采伐(量)、除掉、移掉
70. demand for wood [di'ma:nd] 木材需要(量)
71. industrial wood [in'dʌstriəl] 工业用材
72. foresee [fɔ:'si:] *vt.* 预见、予知
73. shortage ['ʃɔ:tɪdʒ] *n.* 不足、短缺、缺少
- ✓74. deficit ['defisit] *n.* 短缺、不足、亏空、赤字
75. deficient [di'fɪʃənt] *a.* 缺乏的、不足的
76. substantially [səb'stænʃəli] *ad.* 大量地、物质地、实际上地
77. per caput [pə:] ['kæpət] 每人的、按每人计算的
78. level ['levl] *n.* 级、标准、水平
79. fuel-wood consumption [kən'sʌmpʃən] 薪材消费量
80. additional [ə'dɪʃənəl] *a.* 另外的、追加的
81. expect [iks'pekt] *vt.* 期望、期待、予期
82. particularly [pə'tɪkjʊləli] *ad.* 特别、尤其
83. contribution [,kɒntri'bju:ʃən] *n.* 贡献
84. one-fifth 五分之一
85. one-quarter 四分之一

86. evident ['evidənt] *a.* 明显的、显然的、明白的
87. huge [hju:dʒ] *a.* 巨大的、大量的、其大无比的
88. reserve [ri'zə:v] *n.* 后备、保留林、贮备资源
89. limitless ['limitles] *a.* 无限的
90. extensive [iks'tensiv] *a.* 广大的
91. southeast Asia ['sauθ'i:st 'eɪʃə] 东南亚
92. west Africa ['æfrɪkə] 西非
93. Latin America ['lætin ə'merɪkə] 拉丁美洲
- ✓94. come into prominence ['prɒmɪnəns] 变得重要、变得突出
95. happen ['hæpən] *vi.* 发生、碰巧、偶然发生
96. only if (if only) 只要
- ✓97. hinge upon [hɪndʒ] 随……而定、以……为转移
98. forest management system ['mænɪdʒmənt]  
森林经理制度
99. suitable ['sju:təbl] *a.* 适宜的
100. a wider range of ['waɪdə] [reɪndʒ]  
许多的、较广范围的
101. technology [tek'nɒlədʒi] *n.* 工艺、工艺学、技术
102. employment [ɪm'plɔɪmənt] *n.* 雇用、就业
103. man-made forest 人工林
104. plantation [plæn'teɪʃən] *n.* 人工林、植树造林、  
种植园
105. of light importance 不太重要
106. northern hemisphere ['nɔ:ðən] ['hemɪsfɪə] 北半球
- ✓107. assuming an important role [ə'sju:mɪŋ] *vt.*  
承担(担任)重要任务、  
playing an important role [roul] 起重要作用



108. New Zealand [nju: 'zi:lənd] 新西兰
109. Asia-Pacific region ['eɪʃə-pə'sɪfɪk 'ri:dʒən]  
亚洲-太平洋地区、亚太地区
110. a number of 许多
111. domestic [də'mestɪk] *a.* 国内的、家里的
112. export ['eksɒ:t] *n.* 出口、输出
113. requirement [rɪ'kwaɪəmənt] *n.* 需要
114. constitute ['kɒnstɪtju:t] *vt.* 组成、构成
115. one-third 三分之一
116. wood consumption [kɒm'sʌmpʃən] *n.* 木材消费量
117. Brazil [brə'zɪl] *n.* 巴西
118. Australia [ɒs'treɪljə] *n.* 澳大利亚
119. a vital source of supply ['vaɪtl] [sə'plai]  
一个重要供应来源
120. Argentina [ˌɑ:dʒən'ti:nə] *n.* 阿根廷
- ✓ 121. Chile ['tʃɪli] *n.* 智利
122. favour ['feɪvə] *vt.* 有利于、有助于
123. climate conditions ['klaɪmɪt] [kən'dɪʃən]  
气候条件
124. 5-10 times higher than... 比……高五至十倍
125. forest products 林产品
126. sawnwood ['sɔ:nwud] *n.* 锯材  
processed wood product ['prəʊsɪs] 或 ['prəʊsɪs]  
加工木制品、木材加工品
127. packaging ['pækɪdʒɪŋ] *n.* 包装(用物)、包、裹
128. output ['aʊtpʊt] *n.* 产量、产品、输出量
- ✓ 129. wood-based panel ['pænl] 木质人造板
- ✓ 130. plywood ['plaiwud] *n.* 胶合板