

Thomas the Tank Engine and SDGs 関連入試問題	同志社大学
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Forestry is the science of developing and managing woodlands and the water resources that sustain them. The purpose of forestry is to develop fuelwood (for fuel), sawlogs (for lumber), and pulpwood (for paper production) that can be extracted through logging. The production of fuelwood sawlogs and pulpwood grew (a) steadily between 1960 and 2000, rising from 62 billion cubic feet\* in 1960 to 84 billion cubic feet in 1980, and 110 billion cubic feet in 1995. Global population growth increased demand for wood by 77 million cubic meters per year in the early 2000s. By 2005, production was expected to reach 122 billion cubic feet. About half the wood harvested each year is used for fuel.

Since forestry directly affects the environmental quality of every nation and involves the use of enormous amounts of public and private land, it is a focus of intense public debate in many countries. In most nations, the forest industry — which cuts timber — is also responsible for regenerating and maintaining the land. While intense worldwide debate continued over the extent and location of timber harvests, the forest industries of most major industrial nations have, for the most part, become more responsible and careful in their management of forest resources.

In some developing nations, overcutting of land to create farmland, ranchland\*, or fuel continued to degrade the environment. While Southeast Asian nations producing tropical timber moved to check overcutting through regulation, taxation, and export bans, overcutting was said to continue despite safeguards. The loss of tropical rain forests in South America is a major example of this problem. Another problem was the (b) massive damage done in Indonesia from 1997 through 2002, when fires — some (c) deliberately set — ravaged\* lands where timber had been cut or where forests were being cleared for agriculture. The burnings were supposed to help prepare or clear the land for agricultural purposes, but once the fires were out of control, they created intense smog and haze that affected the entire region for months. Monetary damages from the fires and the haze they caused were estimated at US\$4.4 billion in a study from the Economy and Environment Program for South East Asia (EEPSEA)\* and the World Wildlife Fund (WWF)\*. (中略)

While forests exist in every nation on earth, the scientific management of forests tended to be concentrated in countries that produce large volumes of forest products although these countries did not necessarily have the most total forest area. For example, Finland and Sweden were leaders in forestry management and produced very high volumes of forest products yet did not rank among the top ten countries in terms of total forest area. Leading areas in terms of total forest cover were the Commonwealth of Independent States (former Soviet Union), North America, (中略) continental Europe, Southeast Asia, New Zealand, and Latin America. In Latin America several companies established highly productive plantation forests (artificially planted forests intended for harvest at a specific time), particularly in Brazil and Chile.

Forest policies around the world differed based on each country's political history. In the United States, the federal and state governments own and manage substantial shares of forestland — especially in the West — but private corporations and individuals also own large woodland (d) tracts, particularly in the South. In former communist countries, where forests were owned by the state, emerging (e) market economies privatized forestry to varying degrees. Mixed ownership of woodlands, like that of the United States, is found

throughout most of Asia, Western Europe, and South America. In Japan, most forests — a precious (e) commodity in such a densely populated country — are state owned. In many African countries, tribal ownership is prevalent, a (f) practice that can make modern forestry management difficult.

Although there are thousands of tree, plant, and shrub varieties growing in the world's forests, foresters cultivate a relatively small number of tree species. Most forestry activities focus on two broad varieties of trees: coniferous\* and nonconiferous\* (broadleaf). (中略) Forested areas around the world also contain (g) a large variety of woody shrubs and grasses (such as bamboo). In 2005 about 41 percent of the annual world harvest of wood was comprised (Y) softwood species. Plantation forests (e) accounted for only 4.7 percent of forestry acreage\* worldwide.

Forests regenerate naturally through seeding or sprouts that grow from the roots of cut trees or artificially by planting seedlings\*. Hardwood trees are usually allowed to regenerate naturally. Most softwoods do not sprout from the roots of cut trees and are most often replanted after harvest. In the early 2000s, according to USDA\* statistics, about 2.6 million acres of trees were planted (h) annually in the United States: roughly 1.8 billion trees. The forest industry planted 45 percent of this total, and the national forest system planted 6 percent. Other government and industries accounted for another 7 percent, (Z) the remainder planted by noncommercial owners. Replanting by forest products companies and other groups created a net growth in the amount of forested land in most major countries. In Western Europe, for example, there was 30 percent (あ) forested land in the mid-1990s (い)(う)(え) 50 years prior. From the early 1970s to the mid-1990s, the total acreage of trees growing in the United States increased by 20 percent.

(From "Forestry," *Encyclopedia of Global Industries*, 4th ed., Gale, 2007)

[注] cubic feet (foot) 立方フィート (フット) : 1 foot = 30.48 cm ranchland 大牧場

ravage 荒らす EEPSEA 東南アジア経済環境プログラム WWF 世界自然保護基金  
 coniferous 針葉樹の nonconiferous 広葉樹の acreage エーカー(acre)単位による面積 : 1 acre = 4047m<sup>2</sup>  
 seedlings 苗木 USDA 米国農務省

I - A 空所(Y)および(Z)に入るもっとも適切なものを次の1～4の中からそれぞれ一つ選びなさい。

- (Y) 1 at            2 in            3 of            4 out  
 (Z) 1 for           2 of            3 on            4 with

I - B 下線部(a)~(h)の意味・内容にもっとも近いものを1～4の中からそれぞれ一つ選びなさい。

- (a) steadily  
 1 intensively            2 occasionally            3 rapidly            4 stably  
 (b) massive  
 1 artificial            2 huge            3 environmental            4 progressive  
 (c) deliberately  
 1 accidentally           2 cruelly            3 consciously            4 unwillingly  
 (d) tracts  
 1 areas            2 benefits            3 budgets            4 fortunes  
 (e) commodity  
 1 export            2 import            3 quality            4 resource