

Oxford Revise | Geography | Answers

Chapter 36 Conservation and management of tropical rainforests

All exemplar answers given are worth full marks.

1.
 - a)
 - i) REDD stands for Reducing Emissions from Deforestation and forest Degradation.
 - ii) This UN initiative aims to combat global warming by stopping the destruction of forests. Governments in developing countries, and major companies like Microsoft are encouraged to fund the projects with the specific aim to reduce carbon dioxide emissions, conserve forest stocks and manage forests sustainably.
 - iii) Protecting an area of forest can mean that the local people lose their rights to forest products without getting any compensation. This can make unprotected areas even more vulnerable to clearance. *Accept suitable alternative answers.*
 - b) Tropical rainforests are of great value. They are major carbon sinks, as they take in carbon dioxide and give out oxygen. This is an important way global warming can be reduced. They are a unique ecosystem, with the greatest level of biodiversity of any biome. They are still home to indigenous people who make use of the forest sustainably. They are rich in timber resources particularly the valuable hardwoods such as teak and mahogany. Many of the world's medical drugs are derived from rainforest plants. Within the tropical forests there are large deposits of mineral such as gold and iron ore.
 - c) CITES is an international treaty banning cross-border trading in endangered plants and animals. It covers all the world's biomes and is aimed at stopping illegal hunting and collecting.
 - d) The advantages of the CITES approach to conservation is that it operates all over the world with 183 countries having signed up. It covers all the world's biomes, so a huge range of animals and plants are protected. These include critically endangered species like snow leopards, tigers, and chimpanzees. The successes include a halt in the decline of African elephant with the reduction of the trade in ivory.
 - e) Ecotourism is a type of sustainable development that aims to create local employment while preserving the natural environment. It is relatively small scale and so this lessens any negative impact. It involves the local community in decisions about how tourism will develop in a particular locality. It ensures that any infrastructure improvements necessary for the development of tourism benefits the local people as well as the tourists. Local people are employed, and any structural developments make use of local materials which means they do not stand out from the surrounding environment.
 - f) A rapidly increasing population in developing countries means there is an increased demand for food, so more forests are under threat of being cleared for agriculture. A greater population means there is a need to provide housing and employment, and this results in forests being destroyed to make room for industrial and residential developments.

- g)** Selective logging, where only mature fully grown trees are cut down, and trees of ecological value are left unharmed.

Agroforestry, where crops are grown in carefully cleared areas among the trees but still allows some trees to be cut down for timber and fuelwood.

Accept suitable alternative answers.

- h)** Reforestation is when seeds are collected from the forests are grown into saplings in a nursery before being transplanted, which is a good way of replacing areas where the trees have been destroyed. Ecotourism allows the local population to gain an additional source of income without damaging the natural environment. This is because it only has low impact, uses local produce and the profits stay in the local area.

Accept suitable alternative answers.

2.

- a)** REDD aims to stop the destruction of tropical rainforests. Governments and major companies are encouraged to fund projects with the aim of reducing the amount of carbon dioxide emissions into the atmosphere. Human actions have meant the increase in these emissions has enhanced the greenhouse effect resulting in global warming.
- b)** CITES conservation concentrates on individual species rather than the whole ecosystem. These species do not get protection from the treaty until they are on the brink of extinction, which may be too late in some instances. The effectiveness of the treaty depends on individual governments being willing and able to enforce the details of the treaty. Some poorer countries may not be financially able to do this. Also, because there is more concern nowadays about how to reduce the causes of global warming, CITES could get less attention and so less practical and financial support.
- c)** Selective logging is a very important part of sustainable tropical rainforest strategy. Instead of clearing a whole area of trees, selective logging allows only mature fully-grown trees to be cleared, leaving trees with important ecological value unharmed. It allows the unique ecosystem to remain and the trees that are left give some shelter, which may reduce the rate of soil erosion from wind and rain. It also gives the opportunity for new trees to be planted replacing those that have been cut down. The whole plan takes about 30 years from when the first trees are cut down to when the area is completely reforested again.
- d)** Rates of deforestation vary in different countries. Some countries see advantages in maintaining their forests by using them sustainably, recognising that by doing so they will remain a valuable resource for a long time. Other countries take a short-term view, exploiting their forests to obtain revenue from exporting the timber and minerals found there. Not all countries enforce the regulations laid down in the CITES and REDD treaties. This may be because they cannot afford to conserve their forests, or their forests are in remote and less accessible areas where it is difficult to enforce the terms of the treaties. Rapidly rising population and the need for more food, employment and housing mean some countries clear rainforest more quickly than others. War and conflict make forest protection more difficult and so, in countries with unstable political stability, forest deforestation tends to increase. Widespread rural poverty encourages less sustainable farming practices which increases the chance of fires burning out of control and destroying more forest. Countries with larger, wealthier urban populations, do not depend on the forests which means they are in less danger of being cleared or destroyed.

- 3.
- a) Many animals are camouflaged so they blend into the vegetation to either protect themselves from predators, or to conceal themselves from their prey, or both. Some species have adapted to living in the treetops. Sloths have long arms and curved feet with long claws to help grip tree trunks and branches.
 - b) Global warming causes an indirect threat to tropical rainforests. Drought is a feature of climate change and global warming. Water is returned to the air by evapotranspiration. Reduced rates of evapotranspiration caused by deforestation may cause the climate to become drier. Drought puts the forest ecosystem under stress. The leaf litter dries, reducing decomposition which interrupts the nutrient cycle. The vegetation becomes less luxuriant reducing the food supply and so the biodiversity of the forests.