

Oxford Revise | Geography | Answers

Chapter 14 Why are tropical rainforests being exploited?

All exemplar answers given are worth full marks.

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- (a) Ecotourism usually involves small groups who have minimal impact on the environment. It conserves rainforest areas, provides jobs for the local people, and sustains their wellbeing.
- (b) The timber itself is very valuable, especially hardwoods like mahogany and teak which is used in making high-quality furniture. Deforested areas are no longer storing carbon or removing CO₂ from the atmosphere by photosynthesis, so do not mitigate the effect of burning of fossil fuels which contributes to global warming.
- (c) Global warming is increasing climate stress because of the increasing droughts. In tropical rainforest areas during dry conditions, fires release vast amounts of CO₂ and the forest ecosystem is put under stress by the drying of leaf litter. This kills decomposer organisms and so threatens the nutrient cycle and causes the tree canopy leaves to die. This reduces food supply for the animals living in the rainforests.
- (d) This question is level-marked:

Level	Marks	Description
3	6–8	<ul style="list-style-type: none"> • Thorough knowledge, understanding or analysis of the issue, process or concept. • Uses well-developed ideas and line of reasoning is clear and logically structured. • Information presented is relevant and substantiated.
2	3–5	<ul style="list-style-type: none"> • Reasonable knowledge, understanding or analysis of the issue, process or concept. • Uses developed ideas and line of reasoning with some structure. • Information presented is mostly relevant and supported by some evidence.
1	1–2	<ul style="list-style-type: none"> • Basic knowledge, understanding or analysis of the issue, process or concept. • Uses simple ideas with no developed points made. • Information is basic, unstructured, and supported by limited evidence.
	0	No response or no response worth of credit.

Example answer: *Forests are cleared for large-scale cattle ranches. These are responsible for 80% of the clearance in the Amazon. The next biggest use of cleared land is for commercial crops such as palm oil and cocoa beans which are often grown on plantations, many of which are run by foreign-owned transnational corporations. Other examples include soybeans grown for fodder for the beef cattle ranches. There is an increasing use of cleared rainforest land for growing crops like sugar cane which are made into biofuels. Increased population means more land is cleared to produce food and crops to sell. Small-scale subsistence agriculture is the next-biggest user of cleared land. Indigenous people practising traditional sustainable shifting cultivation are now added to by less experienced poor people who may have no other way of making a living. Consequently, slash-and-burn fires can grow out of control, destroying large areas of forest. Logging for timber, particularly the valuable hardwoods like teak, is another cause of deforestation.*

This produces a good income for a developed or emerging country. The exploitation of minerals requires the land to be cleared for the actual mining, but more forest is lost due to the infrastructure that must be built to support the mining companies' activities. This includes new roads, settlements, and even new reservoirs to produce hydroelectricity.

(e) This question is level-marked:

Level	Marks	Description
3	5–6	<ul style="list-style-type: none"> • Thorough knowledge, understanding or analysis of the issue, process or concept. • Uses well-developed ideas and line of reasoning is clear and logically structured. • Information presented is relevant and substantiated.
2	3–4	<ul style="list-style-type: none"> • Reasonable knowledge, understanding or analysis of the issue, process or concept. • Uses developed ideas and line of reasoning with some structure. • Information presented is mostly relevant and supported by some evidence.
1	1–2	<ul style="list-style-type: none"> • Basic knowledge, understanding or analysis of the issue, process or concept. • Uses simple ideas with no developed points made. • Information is basic, unstructured, and supported by limited evidence.
	0	No response or no response worth of credit.

Example answer: ***Ecotourism in Costa Rica, Central America***

Ecotourism is sustainable nature tourism, usually involving strictly controlled, limited numbers of people, and introducing them to the natural world. An example is the Samasati Nature Retreat. No heavy machinery was used in its construction. The colours of the buildings fit into the landscape and any timber used came from an afforestation project in Costa Rica. The buildings fit between trees in the forest, so no trees had to be cut down. Rainwater is collected and used in the toilets and showers. Visitors stay in eco-lodges using solar power and drinking water from natural springs. All ecotourist activities are intended to have minimal impact on the environment, for example, walking and hiking, river kayaking, white-water rafting, and bird watching. It is now a vital part of Costa Rica's economy, providing jobs and long-term income to local people and taxation revenue for the government, This means that there is a positive incentive to retain and protect the rainforest trees and biodiversity. Ecotourism can only be low-impact if it is kept small-scale, employs local people, uses local produce, and the profits stay in the local area.

Questions referring to previous content

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(a)

(i) shifting agriculture

(ii) Everything in this farming system is sustainable. The ash from the burnt wood is spread to add nutrients to the soil. The indigenous peoples' huts are made of timber, branches, and leaves. They are built in small clearings. This reduces exposure to soil erosion because the surrounding trees gives shelter from the regular intense rainfall. The trees are only cut to shoulder height. This is sustainable because it doesn't kill the trees' roots, which means they can continue to hold the soil together, preventing soil erosion. The trees can regrow when the clearing is abandoned after five or six years to

allow the vegetation and soils to recover. They leave sufficient time for the vegetation to recover from the effects of their actions.

- (iii) It supports a very low population density because clearings must be abandoned for 20–30 years of recovery before being cleared again.; There is increasing demand for the commercial exploitation of timber, farmland, mineral, or energy.