Ecotourism in Ecuador

By Paul Sheppard

A case study about the recent development of tourism in Ecuador

This case study examines the development of a new type of tourism – ecotourism – in Ecuador. Ecotourism involves visits by small groups of people to more remote parts of the planet, and Ecuador still has some areas of original rainforest, including the Cuyabeno Wildlife Reserve. The Galapagos Islands, located offshore in the Pacific Ocean, are also a part of Ecuador. Here, the increasing number of visitors to the islands is a serious threat to the unique flora and fauna that are found here, and tourism requires particularly careful management.

This case study covers:

• the recent development of ecotourism
• ecotourism in Ecuador: Cuyabeno Wildlife Reserve and the Galapagos Islands
• the need for careful management of vulnerable environments.

Key vocabulary
ecotourism, ecosystem, flora, fauna, indigenous tribe, habitat, hotspot, continental drift

Learning outcome
At the end of this case study, you will have learned about ecotourism, looking in detail at two areas of Ecuador where this type of tourism has been developed. You will also have learned that this type of tourism needs especially careful management.

Relevance to specifications

<table>
<thead>
<tr>
<th>AQA A</th>
<th>Unit 2: Human Geography, Section B, Tourism, page 21</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>OCR A</th>
<th>Unit A731: Contemporary Themes, The Global Citizen, pages 16–17</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>OCR B</th>
<th>Unit B561: Sustainable Decision Making Exercise, Theme 4, Economic Development, Managing Economic Development and Environmental Conflict, page 19</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>WJEC A</th>
<th>Unit 2: Human Options, Theme 10, Tourism, page 20</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>WJEC B</th>
<th>Unit 2: Development and Problem Solving Geography, Theme 2, Physical Processes &amp; Relationships Between People and Environments, Ecosystems, page 21</th>
</tr>
</thead>
</table>

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<tr>
<th>CCEA</th>
<th>Unit 2: Living in Our World, Theme C, Managing Our Resources, page 22; a copy of the specification can be downloaded from:</th>
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<tr>
<th>Cambridge IGCSE</th>
<th>Theme 3, Economic Development and the Use of Resources, Environmental Risks, page 14</th>
</tr>
</thead>
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<tr>
<th>Edexcel IGCSE</th>
<th>Section D, Global issues, Topic 8, Globalisation and migration, see page 17</th>
</tr>
</thead>
</table>
Interest in the natural world and wildlife habitats has increased because of television and wildlife documentaries. This has fuelled interest in the natural world and the number of people wishing to visit these environments. Ecotourism has developed because of this.

Ecotourism is an aspect of tourism that involves visits to some of the more isolated and often undisturbed areas of the world. This means places that have not been greatly modified or altered by people. Here, ecosystems are fragile and unable to accommodate large numbers of people without irreparable damage being done. They include areas of tropical rainforest, Arctic tundra and desert environments.

The type of tourism that has developed in these environments has to involve low numbers of tourists, and their impact on the environment must be minimal. Ecotourism is not for the mass market and is more suited to people with a genuine interest in the fauna (animals) and flora (plants) of an area, and in the unique lifestyle of the people who inhabit such areas. Ecotourists generally have concern for the natural world.

Ecuador is one country where ecotourism has developed. Tourists visit the various unique environments within its 283 560 km² land area. The country is one of 17 nations of the world that are described as ‘megadiverse’. Ecotourism enables visitors to visit its many diverse environments in a sustainable way.

Ecuador is located in South America – the name means ‘Equator’ in Spanish. It borders the Pacific Ocean and has land borders with Peru on the east and south and Colombia to the north. The Andes mountain range runs north–south through the country, including both active, dormant and extinct volcanoes (Figure 1). The mountains act as a divide between the Amazon rainforest to the east, comprising 2% of the entire Amazon rainforest, and the plain area to the west which borders the ocean. Offshore, a thousand kilometres to the west, are the Galapagos Islands (or Archipelago de Colon) and they are also a part of Ecuador. Each island is volcanic in origin.

**Ecotourism**

Ecotourism is a way for Ecuador, an LEDC (less economically developed country), to earn foreign currency. It uses its natural assets but in such a way that they are also protected from over-development. Tourism has become Ecuador’s seventh most important source of foreign exchange and it also provides employment, often in areas where there are few other opportunities. One area where ecotourism has become an important economic asset is in the Cuyabeno Wildlife Reserve of Amazonian Ecuador (Figure 2).

**Cuyabeno Wildlife Reserve**

The Cuyabano Wildlife Reserve (CWR) was created in 1979 and is the second largest National Park in Ecuador. It includes eight macro-ecosystems and is located in the foothills of the Andes Mountains. Its rivers flow eastwards towards the Atlantic Ocean. With an altitude of between 180 and 300 metres, its milder climate and gently sloping terrain produce a unique environment. It is a poorly drained plain with forests that are often inundated with water, together with lakes and creeks. Its typical forest structure comprises the floor layer, an understorey, a canopy and emergent trees protruding through the canopy (Figures 2 and 3).

The area is inhabited by the indigenous Cofane and Cuyabeno tribes. Until the 1980s they lived a life based simply on fishing, hunting and subsistence farming.

**Figure 1** Ecuador

with Peru on the east and south and Colombia to the north. The Andes mountain range runs north–south through the country, including both active, dormant and extinct volcanoes (Figure 1). The mountains act as a divide between the Amazon rainforest to the east, comprising 2% of the entire Amazon rainforest, and the plain area to the west which borders the ocean. Offshore, a thousand kilometres to the west, are the Galapagos Islands (or Archipelago de Colon) and they are also a part of Ecuador. Each island is volcanic in origin.

**Figure 2** The Aguarico River and the surrounding rainforest

Source: Photo by Paul Sheppard
Ecotourism in Ecuador

With the development of Ecuador’s oil fields in the region, and the road network that accompanied it, the peoples of the CWR have had increased contact with the outside world. The first ecotourists arrived in 1986. Most take the 35-minute flight from Quito, the capital, to Lago Agro, and then travel overland along rough jungle roads to the Aguarico River. From here they are transported by speedboat for a three-hour journey to reach the Cuyabenpo Wildlife Reserve.

On average, 6000 tourists visit annually – over 80% of them are foreign nationals.

Once in the reserve, the visitors can stay on a floating hotel or use the purpose-built lodges within the rainforest. Excursions take visitors to explore the habitat and experience the rainforest at first hand. Guides, often from the local tribes, locate and describe the fauna and flora and explain how the plants can be used – many have medicinal value, while others are poisonous. Visits are also made to replicas (copies) of the local tribes’ villages, where their lifestyle is explained, underlining how they live off the environment and in harmony with it. This ensures their privacy – the real villages are located deeper in the rainforest (Figure 4 shows a real village, not a replica).

The Cofane and Cuyabeno also make blowpipes from hollowed-out tree branches. These are used to blow darts at animals that are caught for food. Tourists are given the opportunity to try for themselves the effectiveness of the blowpipe.

**The Galapagos Islands**

The other aspect of ecotourism in Ecuador is firmly focused on wildlife. This is the prime reason for people to visit the Galapagos Islands.

The Galapagos Islands are located in the Pacific Ocean 1000 km west of Ecuador (see Figure 6 on page 6). They are a series of 15 volcanic islands located on the northern edge of the Nazca tectonic plate which is moving south-eastwards and meeting the South American plate. The South American plate is composed of lighter continental material and the heavier Nazca plate sinks below it, causing the other plate to rise and produce the Andes Mountains.

The islands themselves are formed at a hotspot, where the crust is thinner and the magma is able to rise to the surface. Once the volcanic matter breaks above the surface of the ocean, an island is formed. However, an island will only continue to grow and remain active while it is located over the hotspot. Once continental drift has transported the island away from the hotspot, the volcanic activity ceases and the volcano becomes extinct. It does not grow any more, and in fact will be eroded away entirely over time. In the Galapagos Islands group there are both active and extinct volcanoes.

All of these islands have different habitats. Originally they were bare of any vegetation, and it is only with time that fauna and flora have

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**Figure 3** Ecosystem of the Cuyabeno Wildlife Reserve

**Figure 4** A Cuyabeno settlement on the banks of the Aguarico River

*Source: Photo by Paul Sheppard*
been able to establish themselves. They first arrived either by being blown here by the wind, or carried here by ocean currents. Initially rainfall was low, as the volcanoes (islands) were too small to force the ascent of moist tropical air that would create rain. Once an island had achieved a certain height, air was forced upwards and its moisture condensed to produce rainfall. However, as islands eroded their height reduced and consequently rainfall was reduced, restricting the existence of both plants and animals.

These unique conditions have had a major effect on both the flora and fauna across the islands. Any animal or plant that arrived on an island had to adapt to that island’s unique habitat (Figure 5). This led to variations of similar species on different islands – a fact recognised by Charles Darwin following his visit to the islands in 1835, and set out in his book *The Origin of the Species*, published in 1859.

An area equivalent to 97.5% of the Galapagos Islands was designated as Ecuador’s first National Park in 1959 – the date marking the centenary of the publication of Darwin’s book. In 1979 UNESCO declared the Galapagos a Natural Heritage for Humanity Site – but by 2007 it also became a World Heritage Site in Danger.

**Why are the Galapagos Islands special?**

Darwin made a special study of the birds now known as Darwin’s finches. He noted that of the 14 specimens he collected in the Galapagos, 12 had different beaks, indicating adaptation to the food sources which differed on each island. This was called ‘speciation’. Similar adaptations were recognised in many of the reptiles, including iguanas and giant tortoises, found on the different islands. The ‘theory of evolution’ that developed from this study has marked the Galapagos as a unique area of study and interest. The resultant increase in residents and visitors to the islands has led to the ‘danger’ facing the islands.

The islands were sparsely populated until recently. In 1950 only 1000 people lived on the islands but today the figure is in excess of 26 000 people. This number is expanded by the ecotourists which numbered 109 000 in 2004 and today the figure is over 180 000. Most travel by and explore the islands on cruise vessels catering for between 15 and 100 people. Others arrive by air at one of the three airports which serve the 15 islands. Each pays a levy of US$100 which was a sum introduced by the Ecuadorian Government to assist with ‘the conservation and sustainable development of Galapagos Province’.

To cater for the influx of visitors, settlements grow and transport links are developed. This puts stress on the islands and can harm and pollute the natural environment which people come to see. Early settlers also brought with them domestic animals such as goats which were released onto the islands, and rats were introduced unintentionally. All have a negative effect of the environment and threaten the native species. The park rangers and the Charles Darwin Research Station work to reverse the effects of these invasive species. It is hoped that all rats and goats can be eradicated from all of the islands, along with dogs and cats which are also harmful to the plants and animals.

However, ecotourism is also seen as a way of preserving the Galapagos Islands and their unique life forms. A balance has to be maintained between what is good for the islands and the needs of the native species which the tourists come to see. These also need to be preserved because of their biological uniqueness. There is considerable debate as to whether ecotourism is a good way of preserving the islands, and whether ecotourism is a valid economic activity.

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**Figure 5** A giant turtle, the Galapagos Islands  
Source: Photo by Unai Segurola Azkarate
Conclusion

Ecotourism is the seventh largest source of income for Ecuador and the country thus uses its natural environment as an economic asset. It needs to do so in a sustainable way. The rainforest has always been home to a low-density population of native tribes people. The Galapagos were not even inhabited in any number until the 1950s. Both environments can benefit from ecotourism, but careful management is needed.

Ecotourism, if it is well regulated, can be seen as a way in which unique habitats are visited and people educated about them, at the same time being preserved for future generations to visit and enjoy.

Activities

1 Using an atlas, draw a map of Ecuador and mark on it the land borders with Colombia and Peru. Also locate the Andes Mountains, the coastal plain and the section of rainforest within Ecuador’s borders. Mark on the Galapagos Islands and label the Pacific Ocean. Also label the capital Quito and Guayaquil, the second city.

2 Make a large copy of Figure 6. Conduct some research to name as many of the islands as you can, and include the names of any other important features you think would be helpful for a visitor to know about. Remember to include a title for your map.

3 In your own words define the term ecotourism. Share with a partner and if necessary adjust your definition.

4 In Ecuador, which two specific locations are popular with ecotourists? Why?

5 Describe the rainforest environment. Conduct some research and explain why the rainforest is able to support such diverse flora and fauna.

6 How do people access the Cuyabeno Wildlife Reserve and the Galapagos Islands?

7 What are the positive and the negative impacts of tourism in such fragile environments?

8 a How were the Galapagos Islands formed?
   b Why does rainfall vary depending on the height of the island?
   c How did plant and animal life reach the islands and what were (and are) the effects of isolation on individual islands for these creatures?
   d Who recognised this in the 19th century?

9 Why are there only birds and reptiles on the Galapagos Islands, and no natural mammals?
Different people and organisations have differing views as to how to either develop or restrict ecotourism in Ecuador. Choose one of the following groups and describe what it is, what it wants for the two tourist areas, and to what extent its views should be considered:

- Worldwide Fund for Nature (WWF)
- the Government of Ecuador
- representatives of the residents of the Galapagos
- the Cuyabeno Wildlife Reserve (CWR)
- The Charles Darwin Research Station
- ecotourist travel companies.

In groups, discuss the advantages and disadvantages of ecotourism for Ecuador. Develop a list of guidelines for local people and tourists to use in both the Cuyabeno Wildlife Reserve and the Galapagos Islands.

Either in groups or individually, prepare a 3-minute speech on whether ecotourism is beneficial or harmful. Explain what you think the future should hold for ecotourism in Ecuador.

Ecotourism is a recent development in more remote parts of the world.

Ecuador is developing its ecotourism: two sites there are the Cuyabeno Wildlife Reserve and the Galapagos Islands.

Careful management is needed to protect these vulnerable environments.

To help you remember this case study, make notes under the following headings:

- Ecotourism – what it is
- Cuyabeno Wildlife Reserve and the Galapagos Islands – why they are special
- Management of each site

Try to make your notes fit a single sheet of A4.

Write glossary definitions for these terms:

- Continental drift: Flora
- Ecosystem: Habitat
- Ecotourism: Hotspot
- Fauna: Indigenous tribe

Checkpoint

Remember this case study

Glossary task