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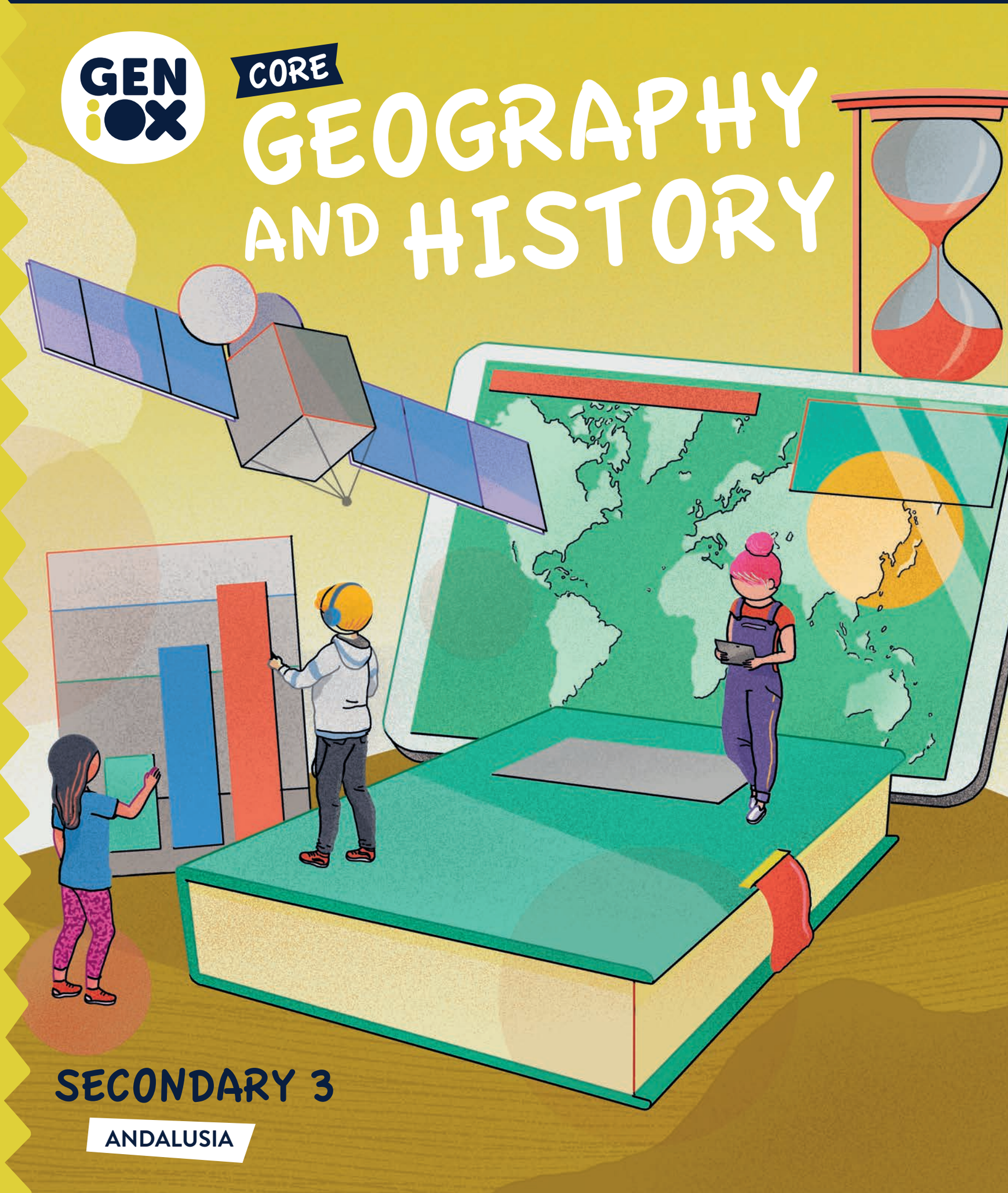
GEN iOX

CORE

GEOGRAPHY AND HISTORY



SECONDARY 3

ANDALUSIA

1 Rural landscapes

The primary sector includes **arable farming**, **livestock farming**, **forestry** and **hunting**. These activities take place in rural landscapes. They provide us with food and raw materials for other sectors of the economy.

Arable farming

Physical factors affect arable farming.

- **Climate:** extreme temperatures can reduce crops and affect **harvests**[1]. **Drought**[2] and **flooding**[3] can also cause damage.
- **Relief:** altitude and more sunlight or **shade**[4] affect crop growth.
- **Soil:** the amount and quality of soil is a key factor. Decomposing vegetation creates **humus**[5], which fertilises the soil.

Human factors also affect arable farming.

- Increasing **population sizes** mean more productivity.
- **Globalisation** makes it possible to import agricultural products from developing countries. As a result, in more developed countries, such as Spain, agricultural land suffers from depopulation.
- **Agricultural traditions** determine land use and the shape of plots.
- **Political decisions** affect investment and land use.
- Progress in **technology** increases production, with improved water use and artificial fertilisers. It also helps to farm less productive areas and allows agricultural waste to be effectively collected and treated.

[1]**harvest:** process of collecting crops.

[2]**drought:** period of very low rainfall which results in a water shortage.

[3]**flooding:** covering of land that's normally dry with a large amount of water.

[4]**shade:** area with little or no direct sunlight.

[5]**humus:** substance formed from decomposing organic matter found in soil.

Farmland in La Gomera, Canary Islands. The steep slopes make farming difficult, but terracing creates horizontal areas where crops can grow.

CLIL activities

1. In your notebook, list the physical and human factors that affect arable farming.
2. Listen and answer the questions.
   a. Where is humus usually found?
   b. What's it mainly made of?
   c. What else does it contain?
3. Use the Internet to find out about the destruction of the rainforest in the Amazon to clear land for farming. Write a blogpost about the causes and consequences.

   The causes of rainforest destruction are… This is because…

   The consequences are…

2 Elements of rural landscapes

Rural land is divided into **plots.** They have a regular or irregular shape and are separate. **Open-field systems** have no visible **boundaries**[1] between them. **Enclosed field systems** have fences or **hedgerows**[2] between the plots. This system is common in livestock farming as fences help control the movement of the animals.

An enclosed field system in France

Farms can be **smallholdings**[3] or large farms. In the EU, large farms are common in the Czech Republic. In Spain, they're common in Andalucía and Extremadura. Large farms have more than 100 hectares of land.

[1]**boundary:** line that divides two spaces or the limits of an area.

[2]**hedgerow:** row of mixed bushes and trees that forms a natural border or boundary between two spaces.

[3]**smallholding:** farm with less than ten hectares of land, normally used for subsistence agriculture.

[4]**artificial fertiliser:** chemical added to soil to increase its fertility.

Types of farming

On **monoculture** farms, a single crop is produced. An example is the olive groves in Jaén. On **polyculture** farms, various crops or products are produced on the same land at the same time. **Dry crops**, such as olives, are watered by rainfall. **Irrigated crops**, such as rice, cereals and vegetables, are watered using irrigation systems.

Intensive farms make use of all the available space. The crops are harvested several times a year. Both irrigation and **artificial fertilisers**[4] are used. **Extensive** farms are larger, but don't use all the available space, so they produce less.

Irrigated vegetable crops

CLIL activities

4 In your notebook, make a mind-map to show the different ways rural land can be divided and the different types of farms.

5 Listen and identify the type of agriculture the boy describes.

6 What crops are grown in Andalucía? Compare your ideas with a classmate.

In Andalucía ... is/are grown.

I think ... is/are also grown. I think the most important crops are...

Livestock farming

Livestock farming is the **raising of animals** to produce meat, milk, wool and **leather**[1] or to be used as **labour**.

Livestock farming can be extensive or intensive. On an **extensive livestock farm**, the animals **graze**[2] in open **meadows**[3]. Extensive farms can be family farms, farms with a small number of animals, or large herds that migrate with the seasons from one area to another. Herding is common in areas where the climate and conditions make it difficult to raise animals, such as in Sub-Saharan Africa.

Extensive herding

On an **intensive livestock farm**, animals live inside modern buildings. Intensive farms have a high level of productivity because the animals grow quickly, and it's cheaper to raise them. Intensive livestock farms are common in developed countries where farmers can afford to build modern installations, or where there isn't enough land to farm livestock extensively. An intensive farm with too much livestock can damage the environment.

Forestry

Forestry is the exploitation of forests as well as their maintenance. Forests provide many important **raw materials** and are essential for life on Earth, as they help reduce the effects of **global warming**. Forests are being destroyed in order to provide raw materials at an extremely high rate. This is a major **threat**[4] to the environment.

Forests provide food for domestic animals such as Iberian pigs, biomass fuels, and other raw materials, such as wood, resin, rubber and cork. Forests need to be **managed** and **replanted** in order to avoid misuse or destruction.

[1]**leather:** material made from the skin of animals, especially cows.

[2]**graze:** eat grass in a field.

[3]**meadow:** area of grassland used for animals to feed.

[4]**threat:** something that will probably cause damage.

CLIL activities

7 **In your notebook, describe the differences between these types of farming.**

a. arable and livestock farming

b. intensive and extensive farming

8 **Listen and answer the questions.**

a. Give an example of a conifer, hardwood and tropical species.

b. Where's rubber produced?

9 **Discuss the questions with a classmate.**

a. What products do you use that come from forests?

I use paper, for example my notebook, toilet paper...

I also use...

b. How can we reduce deforestation?

We could plant...

We could also...

3 Unseen elements of rural landscapes

There are other factors that influence how agricultural land is used.

Ownership: this can be **collective** or **private**. Collectively owned, or common land, belongs to everyone. Many African and Native-American tribes own land collectively. In western cultures, the state or regional government owns common land. Privately owned lands belong to individuals or companies.

Tenure: the farmer can be the owner of the land, or the farmer can rent the land from an owner (a person or company). The owner of the land can also be a **cooperative**[1]. In this case, each member contributes land and capital to buy equipment, and the **profits**[2] are shared among the members.

Type of production: in many developing countries, **subsistence farming** is the most common land use. These farmers don't use technology or sell their products on the international market.

In more developed countries, **commercial farming** is the most common land use. Farmers invest in modern technology for irrigation and fertilisation to ensure high **yields**[3].

There are various techniques commercial farms use.

- **Sanding:** sand is added to the soil to improve water retention.
- **Hydroponic farms:** crops are grown in water instead of soil.
- **Greenhouse cultivation:** crops grow under large plastic tunnels or in glass greenhouses.
- **Mulching:** straw, compost or plastic sheets cover the soil between plants.
- **Biotechnology:** **genetic modification**[4] creates stronger plants that are resistant to disease

A hydroponic farm

[1]**cooperative:** farm or other business which is owned and run by a group of people.

[2]**profit:** difference between the amount spent and the amount earned.

[3]**yield:** amount of crop produced.

[4]**genetic modification:** direct manipulation of a plant or other organism, in which genes are added or removed.

CLIL activities

10 **In your notebook, correct the mistakes in these sentences.**

a. Many African tribes own land privately.

b. Subsistence farming is very common in developed countries.

c. Commercial farming doesn't make use of modern technology.

11 **Listen and make notes about Fernando's farm. Who pays him subsidies?**

12 **Do research to answer these questions. Use the information to write a short text.**

a. In Spain, is most agricultural land collective or privately owned?

b. What type of agricultural production is more common in Spain?

According to ..., most agricultural land in Spain is...

... is the most common type of production is...

4 Rural landscapes in Spain

Spain has **three** main **biogeographical regions**[1]:

Atlantic or Oceanic landscapes: these are wet, green and mountainous, with moderate temperatures. There's abundant precipitation all year round. Smallholdings and **intensive polyculture**[2] predominate in agriculture, and forestry is important in the mountains.

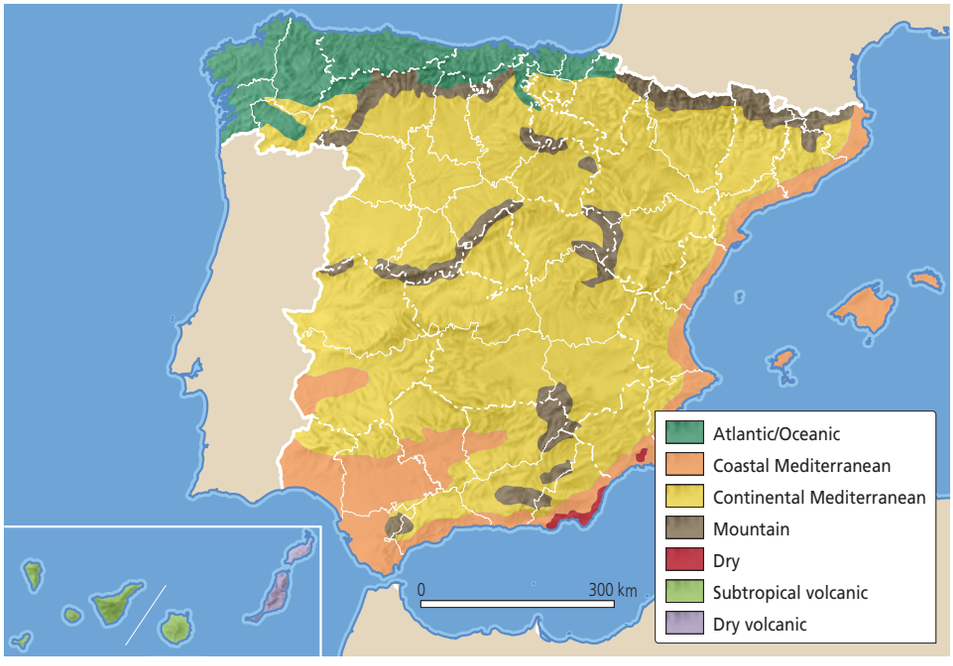
Volcanic landscapes: these have good soil and the subtropical climate favours crops that can be exported. However, the geographical location makes agriculture expensive. Bananas, potatoes, sugar cane, tobacco and cotton are produced, and smallholdings predominate. Technology, such as irrigation and sanding, helps farmers to maintain high yields in dry areas.

Mediterranean landscapes: these produce cereal crops, such as wheat, rye and oats. Farms are extensive. In Navarra and La Rioja there are many **vineyards**[3]. In the south and east, there's a coastal Mediterranean climate, with mild temperatures and infrequent precipitation. Dry crops are grown, such as vines, olives, almonds and rye. In Valencia, Castellón, Alicante and Murcia, there are irrigated vegetable crops. In mountainous regions, forestry and extensive livestock farming are common. In some very dry semi-desert areas, there are many small arable farms. Irrigation and greenhouses allow farmers to cultivate the land.

[1]**biogeographical region:** large geographical area with a degree of climatic and biological homogeneity.

[2]**intensive polyculture:** more than one crop is grown at the same time in a small area.

[3]**vineyard:** field of grapevines used to make wine.



CLIL activities

13 **In your notebook, match these to one of Spain's biogeographical region.**

a. livestock farming
b. smallholdings
c. irrigated crops
d. techniques such as sanding
e. dry crops

14 **Listen and identify the biogeographical region.**

15 **Hydroponic farms, greenhouses and sanding are used in Huelva and Murcia. Use the Internet to answer the questions.**

a. What crops are grown using these techniques?
b. What are the advantages of these techniques?

... is/are grown in Huelva/Murcia.

An advantage of ... is that it's...

5 Agricultural landscapes in the European Union

Agricultural land accounts for a total of 175 million hectares in the European Union (EU). In France, a high proportion of land is dedicated to agriculture (15.9%), followed by Spain (13.3%). Countries with low percentages of agricultural land include Germany, where it accounts for less than 10% of the total area.

Some EU countries, such as Germany, Austria and the Netherlands have **advanced technological** farming systems and extensive **agro-industry**[1]. In other EU countries, such as Rumania, Poland, Italy and Spain, many farms are smallholdings. Farmers don't have capital to invest in mechanisation and therefore continue to operate on a subsistence level.

[1]**agro-industry:** industry connected with agriculture, such as the production of chemical fertilisers.

[2]**scarce:** uncommon, not abundant.

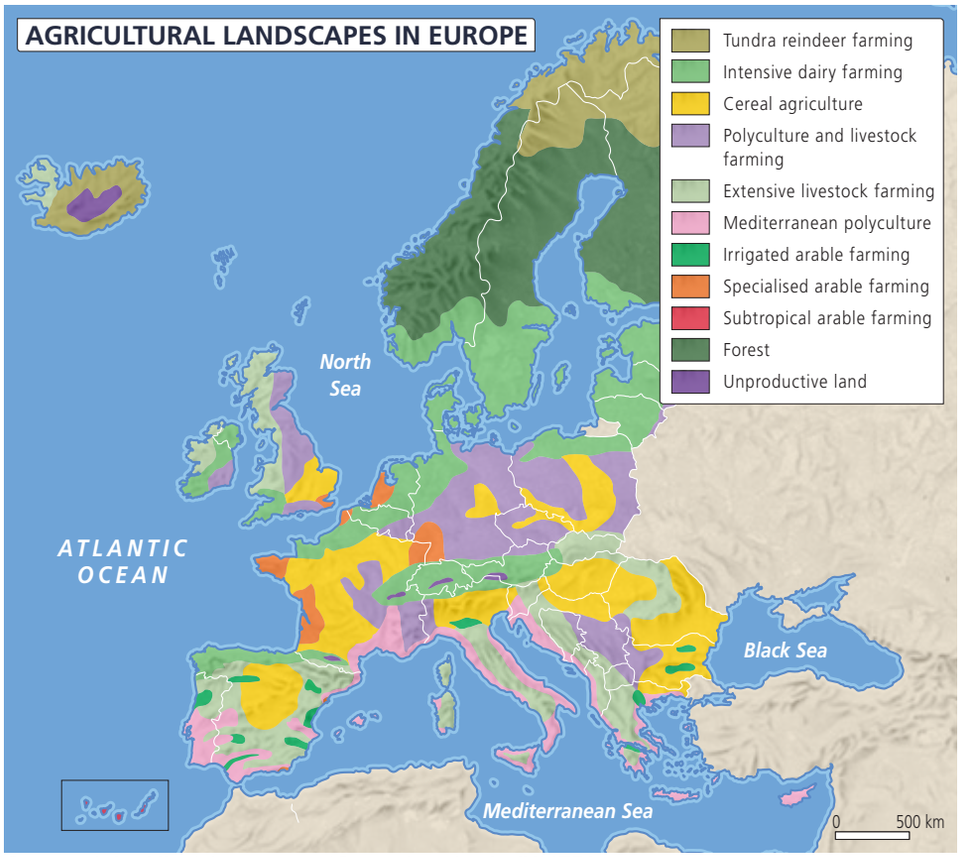
In Europe, there are various biogeographical regions.

Atlantic or Oceanic landscapes: here livestock farming predominates. This zone includes coastal Scandinavia, France and northern Spain.

Continental landscapes: technologically advanced cereal farms dominate Europe's central plain. There's also some hi-tech livestock farming.

Mediterranean landscapes: irrigation is common as water is **scarce**[2] in countries such as Italy, Spain and Greece. Polyculture (especially cereals, grapevines and olives) and livestock farming are common.

Mountain or Arctic landscapes: these regions are located in the north of Scandinavia, in the Alps and in the Scandinavian Mountains. They suffer intense cold, which makes many agricultural activities impossible. Nomadic or semi-nomadic subsistence livestock farming is common.



SOURCE: Atlas Histórico y geográfico universitario (UNED).

CLIL activities

16 **Look at the map. Then answer the questions in your notebook.**

a. Which types of activities are found mainly in the north of Europe?

b. In which parts of Europe are cereals an important crop?

c. In which countries is Mediterranean polyculture found?

17 **Listen and summarise the objectives of the CAP.**

18 **Work with a classmate. Take turns to choose a region or country from the map and describe its principal activities. Identify the region or country that your partner is describing.**

This region/country has a ... landscape.

There is/are ...

... is an important activity.

... is very common there.

6 Agricultural landscapes around the world

The level of development of a country and its geographical location affect its agricultural activity.

Developing countries

In these countries traditional or **subsistence agriculture** predominates.

- **Hunter-gathering**[1] is found in Africa, the Amazon and on Pacific islands.
- **Slash-and-burn farming**[2] is found in areas with rainforests, such as Central Africa, the Amazon, Central America.
- **Dry crops** and **nomadic grazing** are common in the savannah. Crops are rotated and fields are left **fallow**[3].
- **Traditional, intensive agriculture** can be found in densely populated regions in South and South-east Asia.
- **Plantations** are common in ex-colonies where cotton, sugar, coffee, cocoa, tobacco and tea were grown for export.

[1]**hunter-gathering:** nomadic existence based on collecting food from wild plants and hunting.

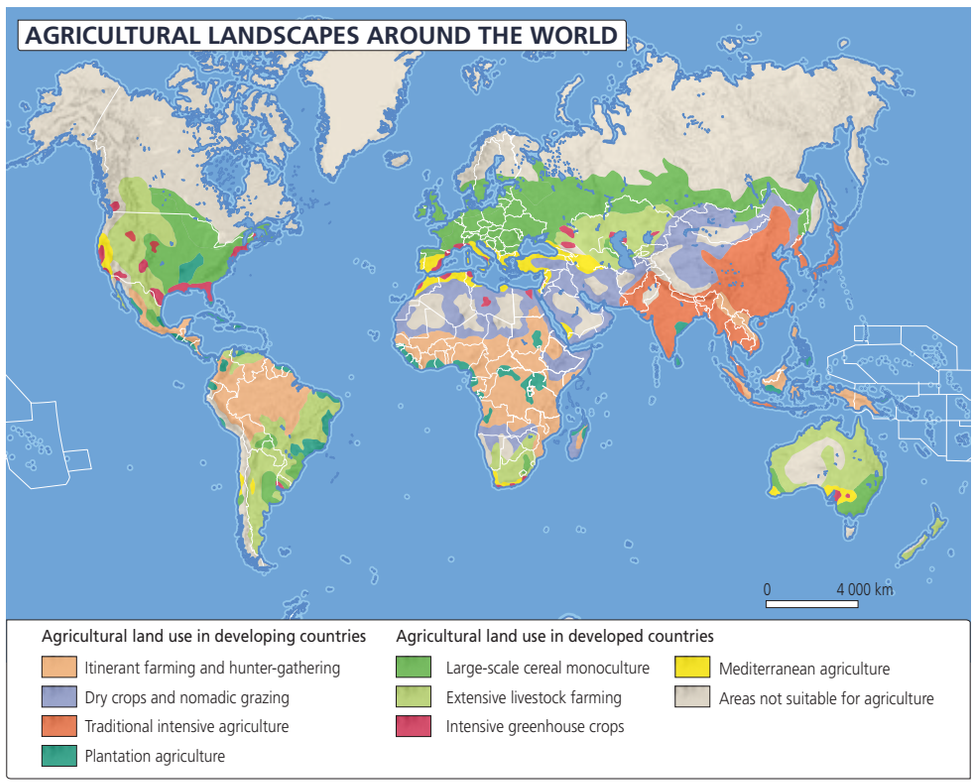
[2]**slash-and-burn farming:** agricultural technique that involves cutting and burning forest to clear land for agriculture.

[3]**fallow:** land left with no crops for a period, to allow the soil to recover.

Developed countries

In these countries, **commercial agriculture** predominates. Farmers use advanced technology to maximise production.

- **Large-scale, mechanised cereal monoculture** creates extensive, uniform landscapes.
- **Extensive, mechanised livestock** and **arable farming** is characterised by large, geometric plots.
- **Intensive greenhouse farming** allows farmers to increase yields. They also use hydroponics, mulching, sanding and other techniques.
- **Mediterranean agriculture** is characterised by the cultivation of olives, cereals and grapevines.



CLIL activities

19 Look at the map. In your notebook, describe the main types of farming on each continent.

20 Listen and answer the questions.

a. What's the news report about?

b. What caused the problem?

c. How does the government hope to solve the problem in the future?

21 What environmental problems could the types of agriculture described on this page cause? Make some notes. Then compare your ideas with a classmate or in a small group.

Large areas dedicated to the same crop could...

Another problem could be that...

Slash-and-burn farming causes...

7 Fishing

The sea provides many natural resources: it's a source of food, minerals and energy. 71% of the Earth is covered in water. It forms an important element of our lives: 75% of the world's population lives in a coastal region. Our use of the sea is often referred to as the '**blue economy**'. The need for our use of the sea to be more **sustainable** is increasingly important.

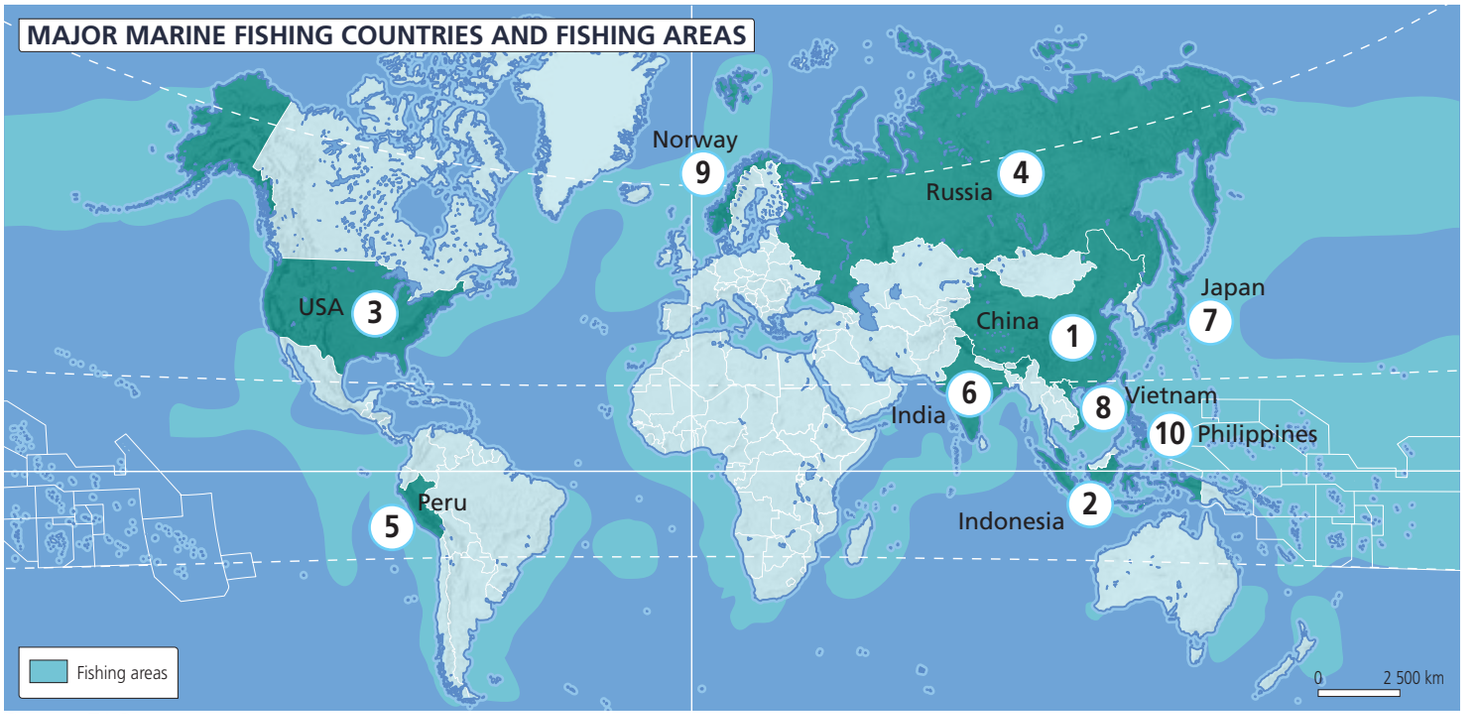
Marine fishing is fishing in the sea or ocean . **Inland fishing** is fishing in rivers and lakes. Fish and seafood are also produced by freshwater and marine **aquaculture**[1]. More than 60 million people worldwide work in fishing.

Marine fishing can be **coastal** or **deep-sea**. Deep-sea fishing requires a large **fleet**[2] of fishing boats. Within the EU, Spain is one of the biggest producers. The EU helps protect the sea from **overfishing**[3] with strict limits on the quantity of fish that can be caught. It also negotiates with other countries to make sure that EU boats can fish in seas and oceans around the world.

[1]**aquaculture:** breeding of aquatic species in underwater farms known as fish farms.

[2]**fleet:** group of ships that sail together.

[3]**overfishing:** excessive fishing, which depletes the number of fish in the sea.



SOURCE: FAO.

CLIL activities

22 Look at the map. In your notebook, describe where the world's main producers of fish are located.

23 Listen and answer the questions.

a. What's overfishing?
b. What problems does overfishing cause?
c. What's bycatch?
d. What problems does bycatch cause?

24 Discuss these possible ways to reduce overfishing with a classmate. What are their advantages and disadvantages?

- stricter government control
- increased aquaculture
- more protected marine areas
- better education for consumers

An advantage/disadvantage of ... is that

Fishing techniques

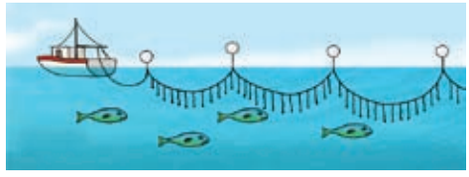
It's important that fishing techniques respect the environment and the biodiversity of fishing areas. These are some common fishing techniques.

- **Trawling:** fishermen drag a cone-shaped net along the bottom of the sea. Trawling damages biodiversity because it's impossible to be selective about what the net catches. Trawling is regulated, but not **banned**[1].
- **Seine fishing:** fishermen detect banks of fish with a radar. They surround them with a circular net, trapping the fish inside.
- **Trap nets:** fishermen install these **mazes**[2] made of netting close to the coast, in places that tuna often pass through as they migrate.
- **Longlines:** this technique is commonly used for deep-sea fishing. A long fishing line with **hooks**[3] along it traps hake, cod, tuna and sharks.
- **Tangle net:** three nets with different sized holes catch fish by their teeth or gills. These nets damage biodiversity and were banned in 1992.

Trawling

Seine fishing

Trap nets



Longlines

[1]**ban:** prohibit something by law.

[2]**maze:** labyrinth or confusing network of passages.

[3]**hook:** piece of metal which is curved at one end, used for catching fish.

[4]**fleet:** group of ships that carry out the same activity.

[5]**vessel:** ship or large boat.

Fishing in Spain

In recent years, the fishing industry has become slightly less important to Spain's economy. Spain's fishing **fleet**[4] has **modernised** with the help of the EU. The most important fishing areas are in Galicia, with 4 466 **vessels**[5], Andalucía, with 1 472, Canarias, with 774 and Cataluña, with 727.

The most exploited fishing banks are those closest to the coast. Spanish **deep-sea fishing** also takes place in the north-eastern and south-western Atlantic Ocean and in the Mediterranean Sea.

Aquaculture has increased rapidly in recent years, especially marine aquaculture. It's important in Galicia, Tarragona, Alicante and Murcia.

CLIL activities

25 In your notebook, list the autonomous communities and provinces where fishing and/or aquaculture are important.

26 Listen and answer the questions.

a. What type of fish farm is Jenson's?

b. What do they produce at Jenson's?

c. What are some of the benefits of these farms?

27 Which fishing techniques are more damaging to the environment and which are more respectful? Write sentences.

I believe that... is the most damaging because it damages.../isn't...

... is more respectful because it ... /doesn't damage...

I believe all of these techniques are damaging because...

8 Food production and hunger

Human nutrition depends on the food produced by agriculture and fishing. At the moment, fish is the main source of protein across the world. In second place, after fish, comes meat, with the exception of poultry. Food products are transformed by the food industry, which helps to conserve them. Salting, **pickling**[1], dehydrating and freezing are different methods of conserving food.

Today, we have the technology to provide enough food for the entire population of the planet. However, the UN reports that there are close to 800 million people across the world suffering from hunger, and most of them live in developing countries. Hunger is a problem that can be solved with better and fairer food distribution. By supporting less-developed regions to grow their own food, we can also help reduce world hunger.

Everyone has a right to physical and economic access to the amount of food they need in order to live a healthy life. People also have the right to choose the food they want to eat based on cultural or personal preferences. The World Food Programme is an agency of the **United Nations**[2] which works towards protecting these rights.

[1]**pickling:** process of preserving food by fermentation.

[2]**United Nations:** international organisation founded to promote peace and international cooperation.

SOURCE: UNICTAD.

CLIL activities

28 **In your notebook, list the continents in which most countries are net exporters of food, and those in which most countries are net importers of food.**

29 **Listen and answer the questions.**

a. What is goal 2 of the Global Goals for Sustainable Development?

b. Describe one of the things the World Food Programme does.

c. What can you do to help?

30 **Discuss the questions with a classmate.**

a. Do you think the problem of hunger will get worse or better over the next 10 years? Why?

b. What measures could help to reduce hunger?

In my opinion, the ... will get ... in the next 10 years because...

We could reduce hunger by encouraging people to.../ by improving.../by producing more/less...