Primary Economic Resources

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Primary economic activities are those in which unprocessed raw materials are produced from the earth's rocks, soils and waters. Examples of this include fishing, farming, mining and forestry.

Renewable resources or non-finite resources:
These resources can be used again and again with careful management. They include water, solar energy and fish.

Non-renewable resources or finite resources:
These resources, once used, cannot be used again. They include coal, oil and peat.

Sustainable exploitation:
This occurs when the present generation uses a resource for its needs without placing the needs of future generations at risk. An example of this would be the cutting down of trees and the planting of new trees to replace them

Oil and Gas

Oil is a very important source of energy. It is a Finite or non-renewable resource.
Once oil is used, it cannot be used again. Without careful conservation, the world's oil resources will be used up completely within the next 100 years.

In 1938, oil was discovered in Saudi Arabia and its neighbouring countries. Chemical plants and oil-based industries were set up. As a result, the Middle East became the world's largest exporter of oil.

Society consumes oil in the following ways:
Domestic: To generate electricity and to heat homes.
Industry: To generate electricity for machines and lighting.
Transport: To fuel cars, buses, ships and aeroplanes

THE ADVANTAGES OF OIL AS AN ENERGY SOURCE

1. Oil is a clean **fuel** to burn, as it emits very little smoke.

2. It is very efficient as it gives out large amounts of energy quite quickly.

3. Oil is easy to transport over long distances by **pipeline** or **oil tanker**.

4. When oil is refined, it produces by-products such as plastics, paints and dyes

THE DISADVANTAGES OF OIL AS AN ENERGY SOURCE

1. Oil tankers and other ships at sea can cause oil spills. This can kill huge numbers of fish and other marine life such as seagulls and seals.

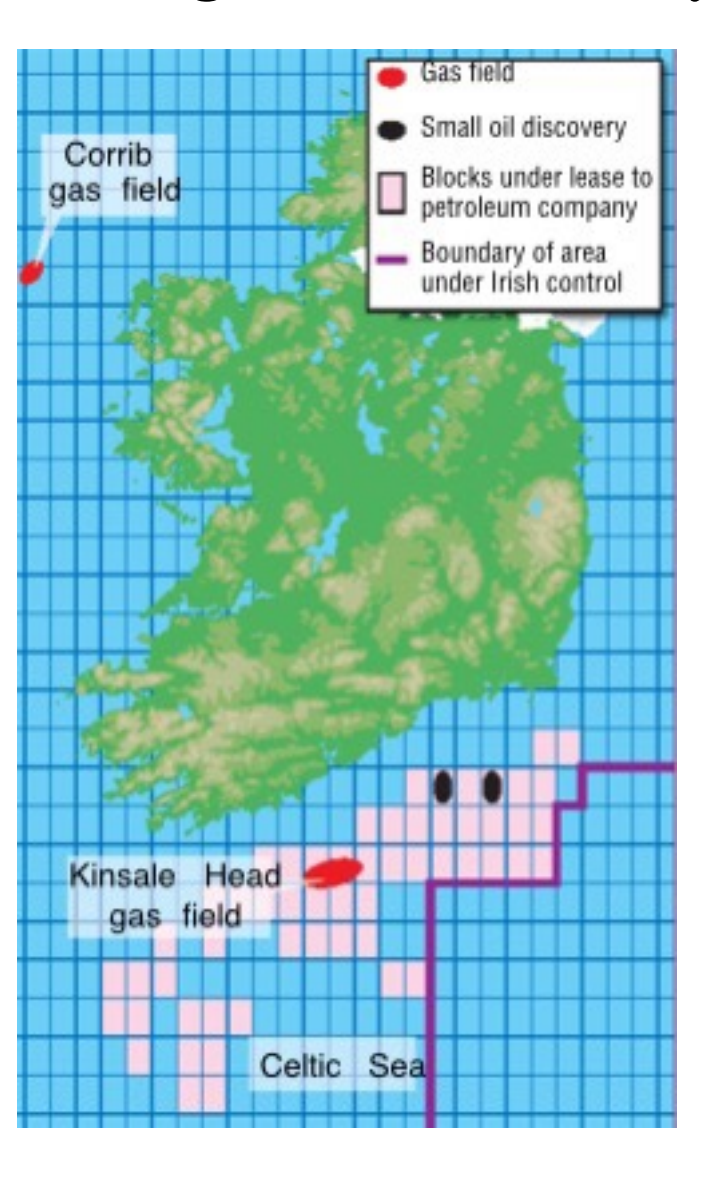
2. The burning of oil contributes to the greenhouse effect

3. Oil is a **finite** resource and will eventually run out.

WATERFORD OIL AND KINSALE GAS

Oil was discovered off Waterford and gas off the coast of Kinsale. The gas off the coast of Kinsale was discovered by Marathon Corporation.

1. The Irish government rented out blocks of the seabed to Marathon.
2. Rock studies carried out indicated that there were quantities of oil or gas there.
3. Drilling started and gas was discovered.
4. A platform was then built so that drilling could continue and gas was transported through a pipeline to the shore. The gas was then piped to industrial and domestic customers. It was also used to make **fertilisers** and to **generate electricity**.



MAYO GAS

Recently, a number of companies have discovered gas approximately 70 km off the coast of Mayo. This is known as the **Corrib gas field**. It is believed that this find will supply Ireland's gas needs for at least 15 years. This exploration is controversial, as some people are opposed to it. This is an example of a conflict between an industry and the community.

THE ADVANTAGES OF OIL AND GAS DISCOVERIES

1. People are **employed** to work on oil and gas rigs and also to supply and sell the oil and gas.
2. Dependency on imported energy is reduced.
3. The government would need to invest in improved infrastucture, for example ports and roads, to enable the delivery of the oil and gas.

THE DISADVANTAGES OF OIL AND GAS DISCOVERIES

1. The use of oil and gas **pollutes** the atmosphere. Leaks can also damage the enviroment.
2. Oil and gas rigs ruin the natural beauty of coastal areas.
3. An oil or gas discovery could increase the cost of living in an area.
4. A discovery could discourage the development of **renewable** energy sources.

PEAT

Peat, or turf, is a valuable and important resource used for heating homes and for cooking. However, peat is **non-renewable**: this resource, once used, cannot be used again.

Peat bogs cover vast areas of Ireland. They are divided into two main types:

1. **Raised bogs** formed in shallow depressions **mainly in the Midlands of Ireland**. These bogs have an average **depth of 8 m**. An example is the Blackwater Bog Shannonbridge, Co. Offaly.
2. **Blanket bogs** formed in areas where rainfall is on average greater than 120 mm per year. These bogs are shallower than raised bogs. They have an average **depth of 3 m**. Examples of blanket bogs **are found in the West of Ireland**.

- **Peat exploitation is an example of an Extractive industry. This means that resources are taken from the earth.**

MODERN PEAT EXPLOITATION

In 1946, Bord na Móna was established to harvest peat for commercial purposes. New machines made it much easier and quicker to harvest. There are four main steps in the extraction of peat from Bogs;

Preparing the bogs

Before peat is harvested, the bog must be drained.

1. A large machine known as a **ditcher** digs drains throughout the bog. These drains allow surplus water to run through. The ditcher runs on wide tracks to prevent it sinking into the bog.
2. Next a **grader** levels the bog. This makes it is easier for the harvesting machines to do their work. Heavy tractors lay train tracks for transporting the peat off the bog.

Peat harvesting

Today, most peat is harvested as milled peat.

1. A **miller** scrapes approximately half a centimetre of peat from the bog surface and breaks it up into tiny fragments.
2. The milled peat is dried before it is turned over by a **harrow**.
3. A **ridger** gathers the peat into ridges.

Milled peat:
This is used to generate electricity at power stations. When milled peat is compressed, it forms peat briquettes, which are used as a domestic fuel.

Moss peat:
This is used to improve soil fertility.

Sod peat:
This is turf that is sold to households for use as a fuel. It is also sold to peat-burning power stations.

Overfishing

The over-exploitation of a resource may lead to its Depletion. Overfishing is an example of this.

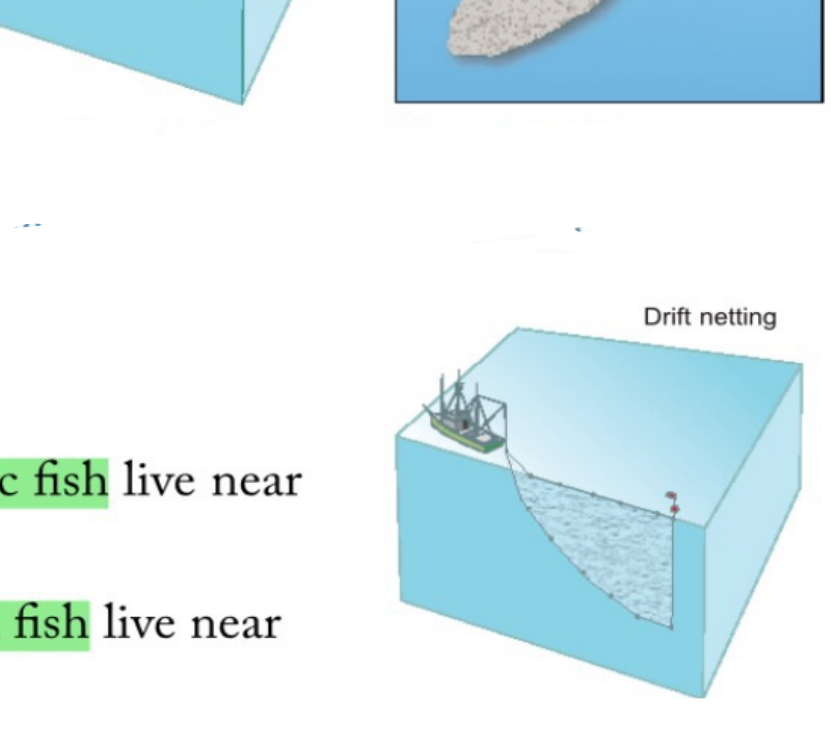
Fish are a renewable resource, as with careful management they will not run out. However, fish resources are being over-exploited.

Fish can renew their numbers by breeding, but in some areas of the world, overfishing is such a problem that the fish cannot recover their numbers. As a result, fish stocks are falling dramatically.

WHY IS OVERFISHING HAPPENING?

Technology

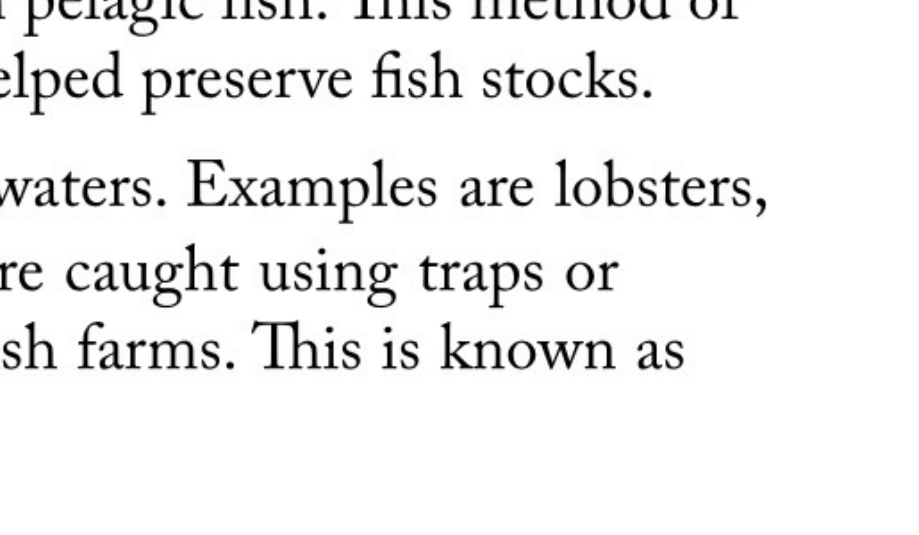
In the past, fishing boats were mainly small and often used fishing nets made of natural fibres that fish could see. Both fishermen's income and catches were small.



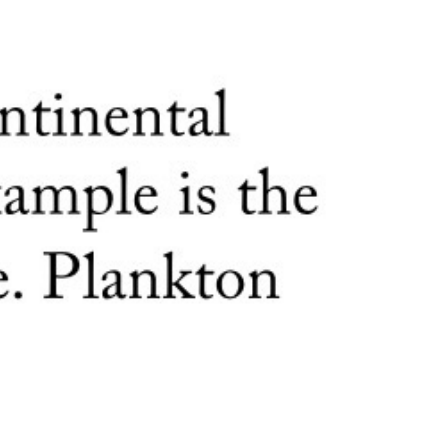
A super-trawler.

Nowadays:

- **Large modern fishing boats**, known as super-trawlers, are often accompanied by factory boats. These boats process and freeze the fish that are caught at sea. Transport ships are then used to carry the processed fish to the markets. This means that fishing boats can stay out at sea for months.
- **Improved sonar and radar equipment** is used to locate shoals of fish.
- **Large nets** can catch huge numbers of fish.
- **Motorised winches** are used to pull the catch on board the boat.
- **Improved transportation** has allowed fish to be transported to the markets in large refrigeration units.
- **Refrigeration** has also improved at the port facilities.



MODERN SEA FISHING METHODS



- **Purse seining:** This method is used to catch pelagic fish. Pelagic fish live near the surface. Examples are mackerel, tuna, herring and salmon.
- **Trawling:** This method is used to catch demersal fish. Demersal fish live near or on the seabed. Examples are cod, whiting and haddock.
- **Drift netting:** This method is also used to catch pelagic fish. This method of fishing has been banned in Ireland, which has helped preserve fish stocks.
- **Traps and fish farms:** Shellfish live in shallow waters. Examples are lobsters, crabs, oysters and mussels. Lobsters and crabs are caught using traps or lobster pots. Oysters and mussels are raised in fish farms. This is known as **aquaculture** .

The location of fishing

The majority of fish are caught along the **continental shelves**. A continental shelf is an area of shallow water along the edge of a landmass. An example is the Celtic Sea. Microscopic fish food known as **plankton** is found there. Plankton attracts fish to the area.

The majority of fish are caught around the **continental shelves** because:

- The shallow water in these areas allows sunlight to reach the seabed. The sunlight helps plankton to grow.
- The North Atlantic Drift influences the oceans around Ireland and Europe. This warm current helps ensure that Ireland's ports are kept ice-free all year round. The North Atlantic drift attracts a wide variety of fish to Ireland.
- The bays and harbours around Ireland's coast are sheltered, which makes fishing easier.

These reasons have led to overfishing off the coast of Ireland and Western Europe. For example, herring has been overfished in the Celtic Sea.

THE SEASONS AND FARMING

Some farming systems are very labour intensive. For example, cows need to be milked twice a day, seven days a week.

The type of work done varies from season to season.


Harvested hay.

- **Spring:** The land is ploughed and fertilised. Seeds are planted. The lambs and calves are born and cared for. The cows are milked.
- **Summer:** Slurry is spread on the land to fertilise grass. The grass is cut for silage. The sheep are sheared and the lambs are sold. The cows are milked.
- **Autumn:** The crops are harvested. Land may be ploughed and fertilised. Beef cattle are sold and the cows are milked.
- **Winter:** Livestock is fed. Young cows are purchased. The sheep are prepared for lambing. Farm machinery is repaired. Maintenance work around the farm is carried out, such as the mending of fences and the cutting of hedges.

THE CHALLENGES FACING AGRICULTURE

- **EU expansion enlarging the market:** As more states join the EU, Ireland faces more competition when selling its produce.
- **A changing climate:** Global warming is causing extreme weather, such as storms and heatwaves, which affects crops.
- **Diseases:** Foot and mouth and bird flu outbreaks have led to a decreased demand for farm produce.
- **An excessive use of fertilisers or insecticides:** When these are overused, chemical residues can end up in the food. Although it is illegal, sometimes fertilisers, silage and slurry are dumped into rivers. This reduces oxygen levels in the water, which can kill fish.