

GLOBALISATION, TNCs AND THE WATER BOTTLING INDUSTRY



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TEACHERS' NOTES

This short unit gives students the opportunity to look at the local impacts of one of the largest transnational corporations (TNC) in the world, Nestlé. A subsidiary of Nestlé, Nestlé Waters accounts for 9% of the total Nestlé market, Nestlé being the largest food and beverage company in the world.

Originally investigated by Vittel, now owned by Nestlé Waters France, the Quezac mineral water spring is now a high-technology water bottling industry in the Tarn Gorge, owned and operated by Nestlé Waters France, with a large amount of research and development going into the safety and traceability of the product. Students receive a guided tour around the mineral water bottling plant in Quezac, conducted by the guide in English.

This unit contains a series of questions which the students should attempt to collect information on during their tour. You may wish to add questions of your own, specific to your specification and other requirements.

KEY SPECIFICATION AREAS:

- Development of global operations by multi-national companies;
- What are the factors encouraging a global economy? Definition of Globalisation; role of transport; the information and communications revolution. Concept of globalisation to be developed through a range of examples;
- Globalisation and changing economic activity. The role of Trans-National Corporations, reasons for development, implications of TNC's for global organisation of production and employment. The impact of globalisation and the global shift on countries at different states of development. Study of one TNC in detail (possible link to chosen manufacturing/service industry);
- The expanding global economy; the spatial distribution of new markets, products and services.

GENERAL INFORMATION.

Transnational Corporations and Globalisation

Currently, there were 60,000 transnational corporations. The top 1% of these own 50% of all investments made in the world and the top 200 account for 25% of the world's economic activity. Transnational corporations are now the single most important economic force in the world, creating global shifts in economic activity through their locational decision-making. For example, in Canada, half of the manufacturing industry is in foreign-owned plants, mainly with their head offices in the US.

60% of multi-nationals are involved in manufacturing, 40% in the provision of services.

Although TNCs are often thought of as a recent development, this is not actually the case. In the 17th century parts of India were run by the East India Company. It controlled trade routes and ruled 20% of the world's population. As such it represented probably the world's first TNC. However, much of the development of multi-national companies can be traced to after the industrial revolution. Advancing technology required greater financial capital investment, more machinery and bigger factories, more investment in research and development, sales and marketing. Only the bigger companies had the financial ability to compete and survive and compete effectively, leading to the development of the large, multi-national companies. Improvements in transport networks, including the improvements in large-volume air and sea-going freight transporters enabled the opening up of the global market place (shrinking world). This was accelerated by the fall of the 'iron curtain' in Europe and the effective removal of trade barriers after the Second World War. The establishment of the European Union and encouragement of free trade, and the adaptation of a capitalist economic model, accompanied by the increasing rejection of communism has accelerated the development of the multi-nationals.

Why do TNCs Grow?

Three factors seem to be important in the growth of large companies; motive, means and mobility.

Motive: The motivation for most companies is **profit**. This can be greatest achieved by controlling costs and dominating a market. This can often be achieved through mergers and takeovers which occur in three ways:

- Horizontal Integration - by buying up the competition.
- Vertical integration – by controlling and owning all stages of production. E.g. Exxon owns oil wells, oil tankers, oil refineries and petrol stations.
- Economies of scale – companies expand production to increase efficiency and reduce unit production costs.

Means: Banks (until the recent credit crisis!) provide the means for companies to grow by providing finance. Companies invest overseas to take advantage of lower costs, boosts to market share or to take advantage of less strict laws (e.g. labour hours, minimum wages or environmental controls). Up until recently the traditional investing countries (USA, UK, France, Germany and Japan) have dominated overseas investments. However, a growing trend is now for TNCs in developing countries to invest in overseas (reverse colonialism?). Companies in China, India, South Korea, Taiwan, Brazil and Malaysia are increasingly making overseas investments, e.g. Tata of India investing in UK steel and car production.

Mobility: Development within the global transport and communication system has helped companies to grow. These include:

- Faster and cheaper transport with larger ships, containers and air transport.
- Accelerated communications through the use of fibre-optics, satellite and digital technology.
- Reduction in transport cost even with rising oil prices through competition and fuel-efficient technology.

In 1991, the UN Commission on Trans-National Corporations found that the top 500 companies in the world accounted for 70% of world trade, 80% of direct private investment, and controlled 30% of the world's gross domestic product. Many TNC's now make more money in a year than countries produce in Gross Domestic Product (GDP).

The Top 10 TNCs in 2006 in comparison to country GDP

Rank	Company	Country of origin	Revenue (\$ billion)	Profits (\$ billion)	Comparable country GDP
1	Exxon Mobil	USA	339.9	36.1	Saudi Arabia
2	Wal-Mart Stores	USA	315.6	11.2	Greece
3	Royal Dutch Shell	Netherlands/UK	306.7	25.3	Denmark
4	BP	UK	267.6	22.3	South Africa
5	General Motors	USA	192.6	-10.6	Finland
6	Chevron	USA	189.5	14.1	UAE
7	Daimler Chrysler	Germany	186.1	3.5	Portugal
8	Toyota Motors	Japan	185.8	12.1	Argentina
9	Ford Motor	USA	177.2	2.0	Hong Kong
10	Conoco Phillips	USA	166.7	13.5	Iran

Nestlé

Nestlé are a major multi (trans) – national company. In 1994, Nestle was rated the 8th largest company in the world (ranked by the value of their foreign assets) holding an estimated 70% of their assets and making 98% of their sales outside Switzerland, where they have their headquarters. They are now the largest food and beverage company in the world, ahead of Unilever (ranked the 11th largest multi-national in 1994). In 2005 Nestle accounted for nearly 2% of the world sales turnover of food industries. Nestle was founded by Henri Nestlé in Vevey, Switzerland in 1866. In 2004, it made sales of 876 bn CHF (Swiss francs), at a net profit of 6.76 bn CHF. Nestlé employs 247,000 people with operations at 487 sites in 84 countries.

Nestlé brands include:

Nescafé	Coffee mate	Power bars
Nesquik	Nestea	Spillers Pet Foods
Milo	Maggi	Lean cuisine
Carnation	Buitoni	

Rowntree brand snacks (kit kat, rolo, aero, crunch, smarties)

They also hold assets in L'Oreal and have interests in pharmaceutical markets.

9% of the Nestlé market comes from Nestlé waters. Nestlé waters are present in 130 countries, and market 77 brands including Perrier, Vittel and Quezac. In 2000, 'Nestlé Pure Life' was launched in emerging countries. This is water which has been treated and re-mineralised to ensure quality and purity. Nestlé is now the biggest water company world-wide.

In 2004, Nestlé waters sales were 5.2 bn euros. It's 77 brands gave employment to 27,600 people (60-65 of which are at Quezac!), in 109 factories located in 33 countries around the world.

In 2007, the number of brands had been reduced to 72 and only 100 factories were in operation. However, growth was taking place at 6.6%, sales were at 6.3 bn euros, employees were at 33,500 and the number of countries with operations was now 38. Market share by value stood at 19.2%.

Europe is the birthplace of bottled water, and is recognised as a mature market, in which you would not expect to see rapid growth. The UK lags behind much of Europe in the consumption of mineral water. However, it is currently the fastest growing sector of the soft drinks industry. Consumption per head has grown from 29 litres in 2002 to 36 litres in 2007 and is estimated that it will be at 38 litres by 2010. The UK bottled water market is now worth over £1.5 billion.

Country	Average mineral water consumption per capita (2003)
Italy	203
France	149
Belgium	145
Spain	126
Portugal	92
UK	34

Bottled Water Consumption in Top Ten Countries and World, 1999 and 2004		
Country	1999	2004
	Billion Liters	
United States	17.3	25.8
Mexico	11.6	17.7
China	4.6	11.9
Brazil	5.7	11.6
Italy	8.9	10.7
Germany	8.3	10.3
France	6.9	8.5
Indonesia	3.4	7.4
Spain	4.1	5.5
India	1.7	5.1
All Others	25.9	39.9
Total	98.4	154.3

The UK has a much longer history of safe drinking water being available as a domestic supply, but the table above indicates significant growth opportunities for bottled water in the UK. The consumption of bottled water is increasing in response in increased focus on health, possibly due to health guidelines which encourage the consumption of '8 glasses of water each day', as a replacement for tap water and due to the convenience of bottled water being available to people in the move. It has also been argued that the growth in the demand (and

marketing) of bottled water is due to links with the oil industry who have profited from the demand for plastic bottles. Making bottles to meet Americans' demand for bottled water requires more than 17 million barrels of oil annually, enough to fuel more than 1 million U.S. cars for a year. Worldwide, some 2.7 million tons of plastic are used to bottle water each year.

Europe and the US together account for over 50% of the sales of bottled water. In the US, one third of bottled water consumed is delivered to work/home market in large format containers, the rest in convenient small size bottles.

Contrast these consumption figures with those in other countries:

Country	Average mineral water consumption per capita (2003)
Pakistan	2
Vietnam	2
South Africa	3
Egypt	3
China	7
Phillipines	15
Jordan	22
Thailand	43

SPECIFIC INFORMATION

The History of Quezac Mineral Water:

The precise date of discovery of the source of mineral water at the village of Quezac in the Tarn Gorge is not known, but it has been renowned since pre-historic times. It was certainly being consumed in the Gallo-Roman period, 2000 years ago. Quezac is a naturally sparkling mineral water with a high sodium and carbonate content. It also contains a lot of iron, which stain the rocks around the head of the spring red.

Louis XIV initiated the regulation of the mineral water industry, controlling its exploration, exploitation and consumption, and during this period, prospecting around the site of the Quezac spring unearthed a tombstone depicting Belenos, the healing god of the Gauls. The first written records about the spring date back to 1780, when doctors in Mende prescribed waters from Quezac to 'unblock the ducts' (for vascular and urinary problems), and this treatment continued for many years.

In 1858, Dr. Comandre began to use the mineral water to treat the after-effects of cholera. He later bought the exploitation rights to build a spa aimed at treating sick children. The spa never quite came off – the railway link between Florac and Mende on which the scheme depended was abandoned and his trickle of sick children dried up. The business was sold to another medical family, the Blanquets. In 1900, his son began to market the fizzy mineral water, in glass bottles stopped with corks, and Quezac mineral water was registered by the State in 1901. Unfortunately, two exceptional floods and the First World War brought this business enterprise to an end after a small scale exploitation which had lasted for 30 years.

The large scale commercial exploitation of the spring was fraught with problems. The spring lies on the east bank of the river, whilst the main road lies on the west bank. To pass across the river at the village of Quezac, one has to cross a narrow Mediaeval bridge, which has a preservation order on it – not suitable for heavy commercial vehicles. Also, the spring itself is very close to the river bank, and in spate, the source is submerged by the River Tarn.

Commercial-Scale Water Bottling at Quezac.

(In 1968, **Nestlé** purchased a 30% share of **Vittel**, a French water bottling company.)

The commercial exploitation of the source had to wait until 1989, when the mineral water company Vittel became interested in the spring. The water is thought to originate on Mont Aigoual, (schist rocks), to the south of the limestone plateau of the Causse Mejan, and take between 30 and 40 years to arrive at the spring at Quezac. Vittel were interested in Quezac water's unique taste, a naturally sparkling mineral water with a high sodium and carbonate content, which contrasted with their other range of mineral waters and had the potential to

increase their sales by using the Vittel name with a different product. Originally it was thought that Quezac could compete with Badaoux, a mineral water bottled by **Danone**. In 1990, **Vittel** tested the water and the source, carrying out feasibility studies to test the viability of a new exploitation at Quezac.

In 1991, the companies Vittel and **Perrier** merged, forming **Perrier-Vittel France**. In 1992, Perrier-Vittel France were bought out by **Nestlé**, forming **Nestlé waters France**, presumably enabling a larger initial capital investment in the establishment of the plant. Finally, in 1993, following successful feasibility studies, construction of the first pipelines began. Due to the limitations on transporting the water across the bridging point at Quezac, also in the periphery of the Cevennes National Park, pipelines were constructed under the river, bringing the water to a site next to the main road. Water is piped from the spring down 100m beneath the river, and across 230m to the bottling plant. In 1994, the plant itself was constructed, in the village of Molines, in the Gorge du Tarn between Ste. Enimie and Florac, and in April 1995, the factory was opened. Initially, there was only one factory line, which filled one litre bottles, for sale in shops and supermarkets. In 2000, a second line was built, which fills both one and 1/3 litre bottles (for sale in cafes and restaurants). In 1995, 66, 000, 000 bottles were produced. By 2004, this had increased to 98, 000, 000 bottles.

At first, Quezac water was only sold locally, within Lozere. It gradually spread throughout the region of Languedoc Rousillon, and is now sold throughout France and the French territories (Guadeloupe, Martinique, etc.). Quezac water is marketed to compete with supermarket own brands. The mineral water business is very competitive, but Quezac is sold as a premium brand. Quezac is comparatively expensive as it is a *naturally* sparkling mineral water. It is a mineral water rather than spring water as it is bottled at source and has a constant and predictable mineral content. Spring water can be collected from several sources and does not have a constant or predictable mineral content.

The Water-Bottling Process at Quezac.

1 Holding room.

Water is taken initially from the source at a rate of 18,000 litres an hour. This passes into an initial holding room, where a total of 550,000 litres is retained in tanks. The naturally-occurring carbon dioxide is removed from the water before it enters these tanks. This is achieved by a passive process of passing the water over metal sheets with a large surface area, allowing the carbon dioxide to gas-off. Iron is also removed at this stage, once the water is flat. Schist is very iron-rich, and iron dissolves from the rocks into water passing through it. The resulting mineral water is too iron-rich for human consumption, and iron must be removed.

2 Blowing room.

Quezac mineral water is bottled in distinctive blue, narrow-necked plastic bottles. The bottles arrive as PET pre-forms, tiny shrunken blanks in boxes of 7,000 which are transported from a factory in Haute Garonne, keeping transport costs to a minimum. The tiny, hard pre-forms are also more resistant to damage during transport. On arrival, the colour of the pre-forms are checked for consistency.

In the blowing room, the blanks are blown with hot air, to expand them to their full size. Initially, the bottles are heated to 110°C (but not the screw thread section at the top of the bottle, which arrives at the factory the correct size!). They are then blown with sterile air at 40 bars pressure, which expands them to their correct size. As they pass off the line, they pass through infra-red gages, which provokes the rejection of the bottle if it is not properly blown. These bottles drop off the production line and are recycled into fibres such as fleece. A random selection of bottles is also checked by hand. There are two lines, line 1 blows 5-6 bottles a second, about 19,500 each hour. Line 2 blows 8,200 bottles per hour. The cardboard boxes which the blanks arrived in are recycled. Blown bottles pass along to the filling room via a pneumatic conveyor, which also blows the bottles full of sterile air, killing any microbes present.

3 Filling room.

In the filling room, the bottles are washed out with plain, sterile water before being filled with (by now re-gassed) Quezac water. Tops are screwed onto the bottles. On exit from this stage of the production line, each bottle again passes through infra-red gages, which check the fill-level of each bottle. Bottles are rejected off the line if the level is too low. Full bottles continue along the production line to the labelling machines. Quezac labels, as well as information about the product itself, show a best before date. This is one year after bottling, as the water will gradually lose carbon dioxide through the plastic bottle, after one year becoming flat. Individual bottles are also bar-coded and marked with vital traceability information, including the line number (1 or 2), the shift number (1, 2 or 3), and the time and date of filling. This is to enable the identification of each bottle should problems be identified later.

4 Packaging.

Finally, bottles are packaged into packs of 6 one litre bottles, encased in a plastic wrapping, also displaying traceability information. A handle is attached to the outer packaging. These six-packs are then made up into pallets each containing 112 packs of 6 bottles, 672 litres of water per pallet. (From line 2, the 1/3 litre bottles are made into pallets of 2016 bottles).

5 Analysis, storage and transport.

The pallets are stored on site for three days. This allows time for the lab test results to come through and confirm that there are no quality-control issues with the water. Eighty quality control water tests are carried out on site each day, including mineral constant, microbe-

counts, etc. Some testing is carried out at Nestlé central laboratories (150 bottles each month). Pallets are then transported to La Grande Combe (near Ales, to the south) by a local transport company, Jassin, for transport on from La Grande Combe around France and the territories.

Staff.

The factory operates Monday to Friday from January to June, and Monday to Thursday from July to December. This is to cope with seasonal demand increases for bottled water during the summer months. The factory operates 24 hours a day, and is staffed by eight-hour three shifts. Saturday and Sunday is spent cleaning and maintaining the equipment. The factory employs 52 people full time, 8 part-time, and a small number of students during the summer to help cover staff vacations. Of these, there are 8 people working on each of three shifts on the machines on each of two lines (48 people total); 3 technicians; 6 forklift truck operators (2 outside, 4 inside); 3 quality control personnel; plus 5 administration and management staff. The Director of the company is Sylain Hynaux.

AIMS

To use the case study of the mineral water bottling plant at Quezac to develop an understanding of:

- The concept of globalisation, using the water bottling industry (specifically Nestlé Waters) as an example;
- The operation of a trans-national corporation, and its impacts on a global and local level;
- The impact of globalisation on countries at different states of development;
- The expanding global economy and the spatial distribution of new products and services.

EQUIPMENT

- Clipboard and pen
- Case study sheet included in this pack.

METHOD AND ORGANISATION OF STUDY

Complete the case study sheets included in this pack. During the tour, pay particular attention to information concerning:

- The life history of the product from the raw materials to the finished product;
- How the physical environment affects the location of the industry;
- Why the industry is located where it is;
- Whether the industry has a positive or a negative effect on the environment;
- What is the role of National and Local Government?

EAGLES NEST
TRANSNATIONALS, GLOBALISATION AND NESTLE WATERS FRANCE

Background:

Describe the evolution of the companies with interests in Quezac, to the present day.

Where is the factory located? Give details of the main transport links to the factory.

“A good public image is important to Nestlé Waters France.” What is the evidence for this statement?

Nestle Waters promotes itself through the phrase “Health, wellness and pleasure”. What evidence for this, if any can you see at Quezac.

Water is free – how does the local commune benefit from the presence of Nestlé?

Product Life-Cycle:

How much land area does this site occupy (Hectares)? What are the physical limitations to the development of the site?

Give brief details of the product life-cycle (include details of technology employed):

- 1 Holding room;**

- 2 Blowing room;**

- 3 Filling room;**

- 4 Packaging;**

- 5 Analysis, storage and transport.**

What waste materials are produced by this industry? What happens to the waste products?

What are the impacts on the environment of this factory?

Is the extraction of mineral water from the Quezac source sustainable? Justify your answer.

Socio-economic factors:

Describe the profile of employees at the factory (age range, part-time or full-time, skilled / unskilled, manual / research / managerial):

What has been the impact of this business on the local community?

Do you feel that having a TNC like Nestle involved at Quezac has had a positive or negative effect upon Lozere and the local area.

DISCUSSION POINTS

- ❖ What are the key features of transnational companies? To what extent does Nestle fit this model?

- ❖ What has the factory done to create an excellent public image? Think about:
 - Recycling;
 - Promotion of quality control including posters in staff and public-access areas and traceability of product;
 - Architectural design of factory in a sensitive National Park location – low-lying building, faced in local limestone, using neutral colours;
 - Guided tours promoting tourism in local area and improving public image;
 - Free Quezac water and pre-form gifts for visitors

- ❖ Europe is seen as being a mature market for bottled water. Where are the new markets? How is Nestle looking to increase its market-share in these countries? What are the ethics of expanding a product such as this into LEDC's?

- ❖ What have been the effects of this industry on the local economy?

- ❖ What have been the effects of this industry on the local community?