

Section 7

Traditional Industries

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Section 7: Traditional Industries

Through your work on this section you will be gaining the following Abu Dhabi knowledge:

Traditional industries of the UAE including:

- Flora and fauna
- Farming
- *Falaj* system
- Date cultivation
- Pearl diving
- Camels
- Arabian horses
- Fishing

It will help you to:

LO 17 Give details about the traditional industries of the UAE

In this section, we look at traditional industries of the UAE and see the part they played in the past by providing sources of income to local communities and how they have contributed to the cultural heritage of the UAE.

In Section 3: The formation and history of the UAE, you will have learned that before the discovery of oil in the 1950s, the UAE's economy was almost wholly dependent on fishing, pearl diving and small-scale farming. You will have also learned that there was a period of serious economic decline after 1920 when the pearl industry collapsed. Sheikh Zayed bin Sultan Al Nahyan, however, had a clear vision for his country and the impact oil would have. He committed to preserve the cultural heritage of his country and its traditional industries.

Sheikh Zayed also understood that it was important to protect the environment and avoid relying on one resource for economic development. His vision for the future included 'Greening of the Desert'.

Flora and fauna

The natural environment is a key component of traditional industries in the UAE and its preservation is evident in the green landscaping, public parks, fruit-laden palm trees lining the streets and the natural mangroves in the middle of urban developments.

Despite the desert climate and limited rainfall, Abu Dhabi has over 3,500 native plants, the date palm being the most well-known amongst them. Fruit- and flower-bearing trees from around the world are found in farms, gardens, parks and palaces in Abu Dhabi.

The *ghaf* tree is an evergreen species and is the national tree of the UAE. It is an important tree and can help to prevent sand covering the oases. Sheikh Zayed bin Sultan Nahyan, recognising the importance of the *ghaf* tree to protect the environment, gave it official status and royal protection. People are sometimes provided with free seeds to encourage them to plant new trees.

The *ghaf* tree was very important for the survival and prosperity of the Bedouin tribes as it provided shade, wood for cooking, timber for shelters and food in the form of edible leaves and fruit. The long pods also provided feed for animals. The tree has very long roots that enable it to reach water from subterranean sources and it can spread by producing new shoots from the root system rather than from seed. This means that even during long dry periods, the trees are in leaf and can flower and fruit. The *ghaf* tree plays a vital link in the desert chain, being the only source of food for wild and domestic animals in times of drought. The tree also supports large populations of insects that either feed or live on the trees.

In 1971, Sheikh Zayed bin Sultan Al Nahyan made Sir Bani Yas his island retreat and began to establish a nature reserve as part of his commitment to his 'Greening of the Desert' campaign. The government added more to the island's reserve in 2007 and it is now the most diverse wildlife sanctuary in the region. After years of conservation work and investment in the fragile ecology, it supports a large variety of mammals and several million trees and plants. There is also a programme for releasing wild animals back into the deserts. This has included 14 oryx which were released into the Liwa Desert in 2010.

Research and conservation remain the most important part of the Sir Bani Yas park's focus but there are some wildlife and adventure activities available for visitors. These include wild-game tours, nature trails, mountain biking and outdoor dining. The island now has a thriving tourist industry and hosts conferences as well as being home to several small resorts.



Arabian Oryx

Most people believe that the camel is the national animal of the UAE but it is in fact the Arabian oryx. The late Sheikh Zayed bin Sultan Al Nahyan found a valuable breeding herd of oryx in Abu Dhabi which provided stock for reintroductions. There are oryx breeding herds in Al Ain Zoo, Sharjah's Breeding Centre for Endangered Arabian Wildlife, and a number of private collections in Abu Dhabi and Dubai. Recent records showed that UAE hosts more than 4,000 Arabian oryx.

Local fauna includes not only the camels and small rodents of the desert but also the critically-endangered Arabian leopard and Asiatic lion, which are on the verge of extinction. The most commonly-seen mammals will be the camels and cats but you may also see the sand cat, the sand fox and the desert hare, as well as gerbils, hedgehogs and geckos. The UAE lies on the bird migration route between Central Asia and East Africa and is a vital stopping off point for many species. Native species include the protected Houbara bustards.

The waters around Abu Dhabi are full of a rich variety of marine life including manatees and dugongs (sea cows) as well as endangered blue and fin whales. In fact, eight species of whale and seven species of dolphin have been recorded off the coast. The rare hawksbill and leatherback turtles can also be spotted offshore. The government has introduced regulations and awareness campaigns to preserve the fish stocks and protect the fragile marine environment. You will read about this later in this document.

DID YOU KNOW?

- The UAE is home to rare species of plants, animals and marine life
- The UAE's national animal is the Arabian oryx
- There are 23 species of mammal:
 - Three are endangered:
 - the Asiatic lion
 - the blue and fin whales
 - the Arabian leopard
 - Five are vulnerable:
 - Sudan cheetah
 - Gazelles
 - Oryx
 - Manatees
 - Dugongs
 - One is close to being at risk:
 - the sand cat



Caracal

Farming

Sheikh Zayed bin Sultan Al Nahyan's long-term vision for 'Greening of the Desert' was underpinned by a belief that farming and green spaces were essential to preserve the cultural heritage of the country, to prevent the desert taking over more land, and to protect wildlife.

The oil industry meant that agriculture and fishing took a back-seat role in the UAE economy, contributing less than 4% of GDP and requiring the UAE to import 70% of its food requirements by the late 1990s.

The introduction of investment capital and generous government subsidies to encourage diversification, however, has given rise to a large increase in agricultural production in recent years. The Digdagga Agricultural Trials Station in Ras Al Khaimah is central to agricultural research and to agricultural training in the UAE.

Production of vegetables has increased, particularly in Abu Dhabi, due to the growing prosperity and the demands of expatriate communities. The growth in production is supported by government grants and high-quality technology and it is estimated that vegetable production will increase by 25% in the next few years. The production of dates in the UAE is vitally significant; you will read more about date production later on in this section.

The poultry industry in the UAE has faced challenges with disease but continues to grow. According to Poultry World, poultry meat production meets approximately 15% of the country's demand; 85% of poultry meat is therefore imported.¹

In 1981, under the directive of the late Sheikh Zayed Bin Sultan Al Nahyan, Al Ain Farms for Livestock Production was formed.² This company was given the responsibility to produce fresh dairy products and so the first dairy farm in the UAE was established – Al Ain Dairy. Since the 1980s, Al Ain Dairy has helped to change the food manufacturing landscape of the country and now employs around 1,700 people from the local community.

Abu Dhabi has a wheat farm at Al Ain which supports and trains local Bedouins in farming. The main farming areas in the UAE are around the oases of Al Ain and Liwa, the coastal area of Al Fujairah and Ras Al Khaimah, which receives underground water supplies from the nearby mountains of Oman and enjoys the most plentiful rainfall.

In a dry environment like the UAE, successful farming depends on access to water. There is an ancient irrigation system which was relied upon to bring water to the barren areas through a complex system of tunnels and impressive man-made and natural oases. This is called the *falaj* system.

Further your knowledge on farming in the UAE:

<http://gulfnews.com/news/uae/environment/zayed-vision-transforming-desert-into-green-haven-1.132209>

<http://www.nationsencyclopedia.com/Asia-and-Oceania/United-Arab-Emirates-AGRICULTURE.html>

¹ Source: <http://www.poultryworld.net/Meat/Articles/2016/2/Case-Study-Challenges-within-UAE-poultry-sector-2754620W/>

² Source: <http://www.alaindairy.com/EN/Pages/HomePage.aspx#aboutus>

Falaj system

Through a network of tunnels, the *falaj* system taps into subterranean aquifers (underground water-bearing permeable rock). The water flows into open channels where it can be directed and regulated. This unique and innovative method has been used in the eastern region of Abu Dhabi since the Iron Age and has been recognised by UNESCO as a World Heritage Site.

A *falaj* system is based on a 'mother well', a natural underground water source which occurs in the oases. The main well is dug, along with smaller wells, and these are connected by tunnels to increase the distance the water supply can go. The tunnels are drilled with vertical holes to the surface at regular distances between the well and the fields. The holes allow ventilation, the removal of debris and provide access to the tunnel if it needs mending. From the tunnels, the water flows into surface channels into the fields and these are controlled using sliding gates.

The invention of the *falaj* during the Iron Age led to the development of agriculture and the large-scale cultivation of date palms. At least five Iron Age *falaj* have been found in the Al Ain area. At Hili 15, a *falaj* dating from around 1000 BC has been excavated to show the surface channels, a *shari'a* (mother well) with sliding gates still in place, a covered channel section and two shafts. The *falaj* system can be seen at the Al Ain Oasis.

Some of the settlements at Al Jabeeb, north of Al Ain, for example, were abandoned and covered by the advancing dunes. In fact, until recently, the *falaj* was seen as part of history but due to the region's rapidly-growing population, there is high demand for water and engineers are investigating whether a modern system of *falaj* could help.

Further your knowledge about the *falaj*

www.youtube.com/watch?v=ap9t6IZMY2A



Example of a Falaj system

Date cultivation

Native to the Arabian Peninsula, the date palm is a nutritious fruit able to withstand the harsh climatic conditions of the desert. Dates were first cultivated over 7,000 years ago and have played an important role in the history and culture of the Bedouin tribes, providing an invaluable trading resource and versatile natural product. Today, the date palm is still a significant source of income to the economy of the region and the UAE's date industry is recognised as one of the biggest in the world, representing more than 11% of the global market. It is key to the government's economic diversification plan and attracts large investment in terms of loans and in research and technology.

Date-palm trees are male or female and ripen in four stages, which are known throughout the world by their Arabic names:

kimri - unripe

khalal - full-size, crunchy

rutab - ripe, soft

tamr - ripe, sun-dried

The date palm has many other uses such as: palm-frond houses, mats, covers for food, boats, baskets and fish traps. Date harvesting begins in July. A long rope made from palm-tree fibres called a *habool* is used to climb the palm tree to collect the dates. Once harvested, dates can be stored for months. Traditionally, dates and camel milk break the evening fast during Ramadan.

Date-seed oil can be used in the making of soap and cosmetics. Date seeds can also be ground and used as an additive to coffee and can be chemically processed to create oxalic acid or burned to make charcoal. A syrup made from ripe dates is used in the making of pipes (to prevent leaking) and leather bags.

DID YOU KNOW? In 2009 the UAE was recognised by the Guinness Book of Records for having the largest number of date-palm trees in the world. There are around 44 million date palms in the UAE, the seven main varieties of date are *Khanizi*, *Khallas*, *Dabbas*, *Abu Maan*, *Fardh*, *Nukhba* and *A'adj*.

The Liwa Date Festival celebrates the importance of dates in the history and culture of the Emirati people. It offers a range of competitions, exhibitions and activities including cooking displays, photography and handicraft contests. The main activity for visitors and participants is the Ratab Beauty Competition for dates. The total prize money is approximately AED 5 million and there are usually more than 200 participants. More information on the date festival is available in Section 2 and Section 10.

Pearl diving

In Section 3, you read about the importance of the pearl industry in the UAE economy. The pearl oyster or lulu (*qamashah*) provided a source of wealth in the Emirates, long before the discovery of oil. The oysters grow on the shallow banks (*fashit*) in the Gulf and the quality of the water produces pearls in yellow, pink, white, grey and even green. By the 19th century, the pearling industry had transformed the traditional economy of the nomadic population who had previously relied on small-scale farming and herding of animals. Pearl diving was dangerous but provided great wealth for the many cooperatives that emerged. Family and economic life revolved around the boats, the pearling season and the trade in pearls.

With the introduction of the Japanese cultured pearl in the 1920s, diving for sea pearls became obsolete and the economic impact was large. Natural pearls had become the main source of income and many families had moved to live permanently in coastal settlements such as Abu Dhabi, Dubai, Sharjah and Ras al-Khaimah. The collapse of the natural pearl market changed the economic and social structure of communities and the economy struggled for many years until the discovery of oil in the 1950s.

Some of the vocabulary used in the pearl-diving profession includes:

- *Al Banoosh* and *Jalboot*³ - traditional dhows used for pearl diving
- *Noukhada* - captain
- *Al Jadi* - vice-captain
- *Al Sakoony* - navigator
- *Al Yada* - rope used for pulling diver out of water
- *Al Zeybin* - rope with weight used to help diver submerge
- *Al Tawash* – a pearl trader
- *Khabt* - leather finger covers for protection
- *Al Muflaqa* - knife used to open shell
- *Al Dista* - the group of items including scales, magnifying glass and weight book

Further your knowledge:

<http://www.khaleejtimes.com/nation/general/11-facts-about-pearl-diving-in-the-uae>

Pearl diving in 360° - Visit Abu Dhabi:

<https://www.youtube.com/watch?v=YQxYkkI5HxM>

DID YOU KNOW? The entrepreneur, Kokichi Mikimoto from Japan, was the first person to introduce the cultured pearl which transformed the pearl industry.

³ Source: <https://smccudubai.wordpress.com/2014/05/16/pearls-and-pearl-diving/>

The camel

Ata Allah or 'God's gift' is the Bedouin name for *camelus dromedarius*, the single-hump dromedary, also known as the Arabian camel. For the Bedouin tribes, the camel was essential, providing transport, shade, milk, meat, wool and hides, a bride's gift in marriage and the sacrificial offering at festivals. Camels can cope with high body temperatures up to 42c and can go five to seven days with little or no food and water.

As you will have read in Section 6: Emirati culture and traditions, the camel is now celebrated primarily through camel racing which is a very popular pastime amongst Emiratis. Al Ain Camel Souk has camels segregated according to whether they will provide meat or milk, or whether they will be used for racing. Racing camels are the most expensive. An article by the BBC in 2016 entitled 'Camel Racing – a market worth millions', reported that to buy a camel would cost a minimum of about £40,000 and that in 2010, an Emirati camel-racing fan spent £6.5m on three camels. ⁴

Camel breeding in Abu Dhabi is a thriving business. The Advanced Scientific Group (ASG), known previously as The Veterinary Research Centre (VRC), is renowned for its camel breeding department, breeding purebred dromedary camels for either racing or milk production. It is also known for its use of embryo transfer technology; between 1992 and 2013, around 5,000 calves were born using this breeding method.

Some interesting facts about camels:

- The average adult camel is 1.85m at the shoulder and 2.15m at the hump and weighs up to 700kg.
- A camel that is used for travelling is known as a *Rahool*
- A small male camel is known as *Al Qaood*
- The large black camel is known as *Al Majaheem*
- The *Yalla* is a cover used to protect the camel from the cold weather
- The normal life span of a camel is 40 years, although a working camel retires from active duty at 25
- The best camel meat comes from young male camels. It is regarded as a delicacy in the Arabian diet, and is gaining popularity in arid lands where it is difficult to herd sheep, cattle and goats. Although it makes for tough chewing, the taste is not unlike beef
- Camel milk is more nutritious than cow's milk. It is lower in fat and lactose, higher in potassium, iron and Vitamin C. It is normally drunk fresh from the camel when it is warm, sweet and frothy
- Abu Dhabi has two camel race tracks: the Al Whathba Camel Race track, approximately 45 km from Abu Dhabi, and the Al Maqam Track near Al Ain

Find out more

<http://asgroup.ae/brief-history/>



⁴ Source: <http://www.bbc.co.uk/news/business-35935661>

Arabian horses

The Arabian horse is an important part of the cultural heritage and tradition of the UAE. The Arabian horse represents the strength and beauty of the natural world in harmony with the people of the desert communities. It originated on the Arabian Peninsula, adapted to the harsh environment and was specifically bred to meet the needs of the nomadic people. Trade and war spread the news of their strength, speed and endurance and ownership became a sign of status. Excavations at Mleiha, in Sharjah, show that over 2,000 years ago, prized stallions, decorated with gold trappings, were buried close to their owners.

The breed is distinctive with a wedge-shaped head, a broad forehead, large eyes, large nostrils, and a small muzzle. They display a concave, or 'dished' profile and have a slight forehead bulge between their eyes. This bulge is called the *jibbah* by the Bedouin and adds additional sinus capacity, believed to have helped the Arabian horse in the desert climate. With a distinctive head shape and high tail carriage, the Arabian is one of the most easily recognisable horse breeds in the world.

Preserving and promoting the pure-bred Arabian horse is very important to the UAE Government. Set up in Dubai in 2007, the Dubai Arabian Horse Stud has bred and produced international champion horses and has gained respect across the world.⁵ The HH Sheikh Mansoor Bin Zayed Al Nahyan Global Arabian Horse Flat Racing Festival strives to preserve the heritage of the equestrian sport and the pure-bred Arabian horse. The Festival promotes Arabian horses throughout the world and encourages UAE citizens to buy and breed pure-bred Arabian horses. There are many race meetings and events held all year, both at the two Abu Dhabi race tracks and at other tracks around the world.

The equestrian industry, as a whole, is now buoyant in the UAE. This is evident from the number of stud farms, equestrian centres and activities available throughout the UAE and in both Dubai and Abu Dhabi in particular. Both the British Horse Society and the Pony Club now have bases in the UAE and sometimes fly in their approved instructors to provide training clinics to members. An international horse fair has been held in Dubai annually since about 2004. This often takes place alongside an international Arabian horse championship which sees horses competing for a prize of up to AED 15 million.

In addition to breeding Arabian horses, horse racing has become a major sporting event in the UAE and Abu Dhabi has one of the four racecourses in the UAE; it opened in 1991. Find out more about horse racing in the UAE: <http://www.emiratesracing.com/industry/frequently-asked-questions>

Further your knowledge:

Brief history of Arabian horses

www.youtube.com/watch?v=TsKGUprJx4k

⁵ Source: <http://dubaiarabianstud.com/web/about-us>

Fishing

Fishing has been an important part of the UAE economy for many centuries. The Bedouin people settled along the coasts as the climate became more arid and as the pearl industry grew. The farming and herding of animals was supplemented by fishing and many tribes relied heavily on the fishing industry. In the 1920s, with the collapse of pearling and economic decline, fishing was essential to many communities' survival. So, when oil began to bring in money to the Emirate in the 1960s, there was substantial investment in the fishing fleet. This was to meet the increased demand for fish from the growing population and when the demand for seafood outstripped supply.

Traditional fishing boats or dhows have different traditional names based on their sizes, like *Sambouk*, *Shu'ai* and *Jalboot*. Some of the traditional fishing methods used include:

- *Hadra*: fence traps placed perpendicularly out from the shore. *Hadra* traps are used right along the coast and inshore islands
- *Gargour* or *garagir*: a fishing trap made of palm leaves woven into a semi-circular shape, weighted to the seabed with rocks or cement. They are then baited with fresh or rotting fish to lure the fish in
- *Al Salia*: a fish trap that resembles an umbrella with holes around it, used to trap a school of fish
- *Garagir* (plural of *gargopur*): metallic netted basket traps, only allowed to be used on licensed wooden fishing dhows known as *lanshs*
- Beach seine netting (*yarooof*), drift nets (*al hayali*), gillnets (*al liekh*) and long lines (*manshalla*) are also used.

Sheikh Zayed bin Sultan Nahyan identified the dangers of over-fishing and, with his strong vision for conservation and sustainability, introduced regulation to protect the waters. Environmental organisations such as Environment Agency Abu Dhabi (EAD) carry out regular surveys of fish stocks to monitor and manage the industry. Fishing licences are limited, the use of fish traps is regulated, net sizes have been controlled and there are set periods of time when fishing can take place. The fishing season in the UAE is from February to June.

The fishing industry in the Gulf is worth over AED 1 billion a year and the population of the UAE eats about 100 tons of seafood annually.

Fishing has also grown to be a popular sport and pastime in the UAE. There are over 500 marine species in the seas around the UAE, ranging from smallest seahorses to largest sharks. Species include: barracuda, sherry, Sultan Ibrahim, hamour, sharks, stingrays, kingfish, and cobia.

Further your knowledge:

<http://fishinguae.com/general-information-about-fishing-in-the-united-arab-emirates-2/>

Knowledge Bank: Traditional Industries

Flora and fauna

- Abu Dhabi has over 3,500 native plants
- The *ghaf* tree is an evergreen species and is the national tree of the UAE
- Large mammals include the highly-endangered Arabian leopard and Asiatic lion
- In 1971, Sheikh Zayed bin Sultan Al Nahyan made Sir Bani Yas his island retreat and began to establish a nature reserve as part of his 'Greening of the Desert' campaign
- The national animal of the UAE is the Arabian oryx
- The waters around Abu Dhabi are full of a rich variety of marine life including manatees and dugongs (sea cows) as well as endangered blue and fin whales
- As Abu Dhabi is on the migration route between Central Asia and East Africa, many species of bird can be seen, included the rare and protected Houbara bustard
- Rare hawksbill and leatherback turtles can be spotted offshore

Farming

- Vegetable production in the UAE includes onions, potatoes, tomatoes, garlic, cauliflower, cucumber, cabbage, beans, eggplant, peppers, lettuce, lemons and apples
- In 1981, the first dairy farm in the UAE was established
- Abu Dhabi has a wheat farm at Al Ain, to support and train local Bedouins in farming

The *falaj*

- The ancient irrigation system which was relied upon to bring water to barren areas through a complex system of tunnels is called the *falaj* irrigation system
- The main well in a *falaj* system is dug along with smaller wells which are connected by tunnels
- At least five Iron Age *falaj* have been found in the Al Ain area

Date cultivation

- Dates were first cultivated over 7,000 years ago
- Date-palm trees are male or female and ripen in four stages:
 - *kimri* - unripe
 - *khalal* - full-size, crunchy
 - *rutab* - ripe, soft
 - *tamr* - ripe, sun-dried
- A long rope made from palm-tree fibres called a *habool* is used to climb the palm tree for date collection
- There are around 44 million date palms in the UAE
- The seven main varieties of date are: *Khanizi*, *Khallas*, *Dabbas*, *Abu Maan*, *Fardh*, *Nukhba* and *A'adj*
- The Liwa Date Festival is held annually and celebrates the importance of dates in the history and culture of Emirati people

Pearl diving

- The pearl oyster or lulu (*qamashah*) provided a source of wealth in the Emirates
- The oysters grow on the shallow banks (*fasht*) in the Gulf and the quality of the water produces pearls in yellow, pink, white, grey and green
- With the introduction of the cultured pearl in the 1920s, diving for sea pearls became obsolete and economic impact was severe
- The pearl trader was known as: *Al Tawash*

Camels

- For the Bedouin tribes, the camel was essential, providing transport, shade, milk, meat, wool and hides, a bride's gift in marriage and the sacrificial offering at festivals
- Camel breeding in Abu Dhabi is a thriving business
- Camel racing is popular in the UAE
- The normal life span of a camel is 40 years, although a working camel retires from active duty at 25
- Camel milk is more nutritious than cow's milk. It is lower in fat and lactose, higher in potassium, iron and Vitamin C. It is normally drunk fresh from the camel when it is warm, sweet and frothy
- Abu Dhabi has two camel race tracks: the Al Whathba Camel Race track, approximately 45 km from Abu Dhabi, and the Al Maqam Track near Al Ain

Arabian horses

- The Arabian horse is an important part of the cultural heritage and tradition of the UAE
- Excavations of sites in Sharjah, show prized stallions decorated with gold trappings were buried close to their owners over 2,000 years ago
- The breed is distinctive with wedge-shaped heads, a broad forehead, large eyes, large nostrils and small muzzles
- With a distinctive head shape and high tail carriage, the Arabian is one of the most easily-recognisable horse breeds in the world
- International Arabian horse championships see horses competing for a prize of up to AED 15 million

Fishing

- Fishing has been an important part of the UAE economy for many centuries
- In the 1920s, with the collapse of pearling, fishing was essential to survival
- Traditional fishing boats are called dhows
- Dhows used for pearl diving are *Al Banoosh* and *Jalboot*
- Fishing licences are limited and the use of fish traps is regulated
- There are over 500 marine species in the seas around the UAE, ranging from smallest seahorses to largest sharks
- The fishing season in the UAE is from February to June