

THE KINGDOM

TRANSLATED BY

Prof. Abdullah H. Homiedan

In the name of Allah, the most Gracious, the most Merciful

## **CONTENTS OF THE BOOK**

### **CHAPTER 1: THE LAND**

#### **A. Nature**

1. Geography
2. Climate
3. Geology

#### **B. Natural Life in the Kingdom of Saudia Arabia**

1. Mammals
2. Whales and Dolphins
3. Fish
4. Birds
5. Reptiles and Amphibians
6. Camels
7. Plants and Trees
8. Palm Trees

### **CHAPTER 2: THE PEOPLE**

#### **A. Social Sciences**

1. Population
2. History

## **B. Culture**

1. Education
2. Culture
3. Archaeology
4. Fine Arts
5. Information
6. Tourism
7. Hunting
8. Horsemanship
9. Janadriya
10. King Abdulaziz City of Sciences and Technology

## **C. Women**

1. Women's Education
2. The Working Woman
3. Clothes
4. Marriage Customs
5. Woman Charitable Societies

## **D. Sports**

1. Health
2. Social Services
3. Sports

## **E. International Saudi Participation**

1. Saudi Foreign Aid

## CHAPTER 3: THE CIVILIZATION

### **A. Holy Places**

1. The Holy Ka‘ba, its dress, and the Black Stone
2. The Well of Zamzam
3. Nûr Mountain
4. Thûr Mountain
5. Mina
6. Arafat
7. The Expansion of the Custodian of the Two Holy Mosques
8. Mosques

### **B. Urbanization**

1. Architecture in the Past and in the Present
2. Urban Areas and Cities

### **C. Economy and Development**

1. Traditional Folk Professions and Crafts
2. Agriculture
3. Oil
4. Trade in the Past
5. Banking Sector
6. Modern Industries
7. Private Sector and Development
8. Transportation
9. Communication

## **INTRODUCTION:**

Saudi Society has been trying to achieve comprehensive social, cultural and economic development. Since it was united by its founder King Abdulaziz, the Kingdom has developed using all human and material resources available. The Kingdom spares no effort to exploit any intellectual development that might contribute to the achievement of this goal. The motivation for this has to do with the status of the Kingdom. In religion, the Kingdom hosts the holy places. Holy Makkah is the center for Islamic propagation and is the direction of prayer for more than one billion Muslims all over the world. In Madinah there is also the Mosque of the Prophet (PBUH).

The land of the Kingdom also witnessed the establishment of the first Islamic State, which spread Islam and established moral values. Thus, the land of the Kingdom was the center of a civilization that contributed to the development of other civilizations. It has a strategic position among the continents of the ancient world. It also has strong economic, technological, and cultural relations with the civilizations of the New World. The climate and geographical features of the Kingdom are diverse. The Kingdom has also tremendous oil and mineral resources that form the basis of its modern economy. At the international level, the Kingdom has its political and economic power. The Saudi people have achieved remarkable development within a civilization based on a system of noble thought and human values.

Thus, there has been a need for a comprehensive and objective book about the Kingdom of Saudi Arabia. Along these lines, this book aims at relating the past with the contributions of the present in its social, cultural and economic context. In doing so, we have been interested in including data and figures in a clear and simple language that will hopefully match the diverse cultures of the readers.

## **SUMMARY:**

**Area:** The Kingdom covers four-fifths of the Arabian Peninsula or 2,420,000 sq. km.). The West Coast is 1,800 km. long and the East Coast 500 km. long.

**Reliefs:** The Kingdom comprises very high mountains and very wide valleys. It also has the biggest sand desert in the world at about 600, 000 sq. km.

**Population:** According to the 1992 census, the Kingdom's population is 17 million.

**Climate:** It is dry and hot in summer, though mild in the southwestern cliffs. On the coasts, the climate is hot and humid. In the winter, the temperature drops below zero in the center, the east, the north, and the south of the Kingdom.

**Currency:** The Saudi Riyal is the currency unit, and it consists of 100 *halala*. There are bank notes of one riyal, five riyals, ten riyals, fifty riyals, one hundred riyals and five hundred riyals. Coins, on the other hand, are of five halala, ten halala, twenty-five halala, fifty halala and a hundred *halala*. The American Dollar Empty Quarteruals 3.75 Saudi Riyals.

**Transport:** Air transport is considered one of the best means of transport between the cities of the vast Kingdom. Therefore, there is a network of local flights connecting the Kingdom's cities together. There are also a large number of international airlines serving the country. There are twenty-four local airports and three international airports as well: King Abdulaziz Airport in Jeddah, King Khalid International Airport in Riyadh and the Eastern Region Airport in Dhahran.

Limousine service, bus service and taxi services are available in most areas. There are six trains daily between Riyadh and Dammam. There is also a modern network of roads connecting the Kingdom's regions and facilitating the process of transportation.

**Communication:** The telephone communication system in the Kingdom is considered one of the most sophisticated systems. One can make national and international phone calls without resorting to the operator. Direct phone calls to 202 countries through 5,232 pay phones are possible in the different cities of the Kingdom.

**Animal Resources:** Animal resources are available in the Kingdom both on land and at sea. The most important of these are camels, Arabian horses, sheep, cows, poultry, fish, hawks, partridges, addaxes, bustards, wild goats and rabbits.

**Oil:** The Kingdom has a quarter of the world reserves of crude oil, while its reserve of natural gas is 192 million cubic feet.

**Education:** The number of schools for boys and those for girls in the Kingdom is 23,752 accommodating 4,088,637 male and female students. There are seven universities with sixty-eight colleges accommodating 155,182 male and female students. There are also sixty-one colleges for girls accommodating 100,000 students. In addition, there are fifty-six technical colleges with specializations in health, technology and teacher training.

**Health:** There are 296 hospitals in the Kingdom, 179 of which belong to the Ministry of Health, thirty-nine to other governmental sectors, and seventy-eight to the private sector. There are also 3,531 clinics and health centers, 173 of which belong to the Ministry Health, 443 to other governmental sectors, and 1,353 to the private sector. There are 135,259 employees in the health sector,

32,271 of whom are physicians, 64,345 nurses, 5,261 pharmacists and 33,382 technicians.

**The Holy Places:** The Two Holy Mosques in the Holy cities of Makkah and Madinah are located in the Holy cities of Makkah and Madinah in the Kingdom of Saudi Arabia. More than one billion Muslims face the Holy Ka‘ba five times a day when praying.

**Archaeology:** There are a number of archeological sites in the Kingdom. The most important of these sites are ‘Ulâ, Madâ’in Sâlih, Taimâ’, Dûmat al-Jandal, Rabdah, Faw Village, Ukhdûd and Dir‘iya.

**Plants:** The Kingdom’s flora is known for its diversity. There are more than 2,700 species in more than 130 families, most of which grow in the southern area.

**Agriculture:** The most important agricultural products available in the Kingdom are dates, wheat, and barley. In addition, there are fruits such as pomegranates, apples, citrus fruits, peaches, as well as different kinds of vegetables.

## **THE GEOGRAPHY OF THE PLACE**

The Arabian Peninsula can be categorized into various geographical regions. We will briefly deal with these regions from the West to the East, i.e. we will start with the Red Sea in the West and move on to the Arabian Gulf in the East.

### **1. The Red Sea**

The Red Sea separates the Arabian Peninsula from the Northeast of Africa. It is connected with the Indian Ocean from the South and almost connected with the Mediterranean Sea through the Suez Canal. The Red Sea is important for international trade because it reduces the distance between Europe and the Indian Ocean. The area of the Red Sea is about 450,000 square kilometers and its average depth is 491 meters. The highest recorded depth of the Red Sea is 285 meters, while the average depth of oceans is 3,700 meters.

The Red Sea is a narrow oceanic ridge extending for 2,000 km, beginning with Bâb al-Mandab, which links the Indian Ocean with the Red Sea through the Gulf of Aden. The Red Sea is located between the latitudes of thirteen and twenty-eight degrees north. Both the Suez Canal and Arabian Gulf in the North are extensions of the Red Sea. The width of the Red Sea in the North is about 180 km, while in the South it is about 180 km. Then it becomes as narrow as 30 km at Bâb al-Mandab.

Various types of the coral reefs are scattered in five areas on the Eastern Shore of the Red Sea. This does not mean that the other areas do not contain such coral reefs since the development of these reefs depends on the natural circumstances of the environment.

The distribution of islands along the Eastern Shore of the Red Sea varies depending on the factors that contribute to the formation of these islands.

However, most islands consist of either above-the-surface coral reefs or submerged coral reefs. Volcanic rocks, on the other hand, rarely exist though many of the coral reef islands were formed on volcanic rocks. Thus, two types of these islands can be identified and examined with respect to the surface forms and factors that contributed to their formation. These types are (1) the muddy submerged reef shoals and (2) the above-the-surface reef islands such as Jazâ'ir, Farasân, Sinâfir and Tirân.

## Two: The Coastal Plains of the Red Sea (The Tihâma Plains)

The word *tihâma* is locally used to refer to the coastal plains along the Red Sea and the neighboring hills. These coastal plains are very narrow in the north, and they disappear at the latitude of 27 north. They are the widest near the Jâzân, where they are 40 km wide. The Tihâma Plains are referred to by the local names 'Tihâma Asîr' and 'Tihâma al-Shâm', which are separated by the 'Hurât al-Birk.' The other lava fields or *hurats* in the Tihama Plains are Hurât Idâm and Hurât Shâma.

Along the coast of the Red Sea, the hot climatic conditions help form salt marshes, as well as other relief formations like coastal lagoons and soluble calcareous rocks. Floodwaters collect in areas of coastal sands, too. Along the coast of the Red Sea, there are small openings called *shurûm*, meaning 'small bays' or 'inlets', sometimes called *akhwâr*, having the same meaning as *shurûm*, or *marâs*, meaning 'anchorage'. Some of these openings are linked to the valleys that extend along the coastal mountains, while others are not linked to any valley.

The top of the Sarawât Heights is considered as a clear boundary between the valley waters running to the east and the valleys extending to the west toward Tihâma Plains. The valleys extending to the west are steep, narrow, and they have a lot of rain. Among the most important Tihama valleys are the Jâzân

Valley, the Baish Valley, the ‘Utud valley, the Halî Valley, the Yaba Valley, the Qanûna Valley, the Ahsiba Valley, the Laith Valley and the Yalamlam Valley.

### Three: The Tihâma Mountains

These mountains are located between the Tihâma valleys and are therefore called the Tihama Mountains. They are called foothills because they are located at the foot of the Sarawat Heights. Tihama Mountains consists of hills and mountains formed as a result of the geological changes which led to the separation of the Arabian Peninsula from Africa. Among these mountains are Faifa Mountain at 1,814 meters, Qahar Mountain at 1,947 meters, Tharyân Mountain at 1,746 meters, Higher Shadâ Mountain at 2,202 meters, Lower Shadâ Mountain at 1,513 meters, and Nâtif Mountain at 1,258 meters.

### Four: The Western Heights

The Western Heights region is known as Hijaz because it is located between Tihama and Najd. As stated in the *Al-Buldan* dictionary, al-Hijaz is a mountain separating Najd from Tihama and its top is known as Sarât. The Western Heights are considered one of the most important topographic features in the Arabian Peninsula. They extend from Aqabah in the North to the south of the Republic of Yemen. The Western Heights consist of three parts: the Sarawât Mountains in the South, the Hijaz Mountains in the center, and Madyan Mountains in the north.

#### 1. The Sarawât Mountains

The Sarawât Mountains extend from the Kingdom’s borders with the Republic of Yemen in the south to the city of Tâ’if in the north. The Tihâma valleys mentioned before extend toward the West. Many valleys extend from these

mountains toward the East. Among these valleys are Najrân Valley, Hubûna Valley, as well as tributaries of the Dawâsir Valley, i.e. Tathlîth Valley, Bîsha Valley, Ranya Valley, and Turaba Valley.

The Sarawât Mountains are divided into five main sections usually after the tribes that inhabited them. The following are these divisions (from north to south):

1. Sarât Thaḳîf, which is adjacent to Arafât and extends toward the south
2. Sarât Bani Mâlik at Jilaya
3. Sarât Ghâmid and Zahrân
4. Sarât al-Hajar which is linked to Sarât Asîr from the Southeast
5. Sarât Asîr, which is located around the city of Abhâ.

## 2. The Hijaz Mountains

The Hijaz Mountains extend from the north of Makkah and end at the latitude of 28 degrees north where the Madyan Mountains begin. They include a series of mountains such as Subh Mountain, Radwî Mountain, Râl Mountain, Dubbagh Mountain and Shâr Mountain. Many valleys originate at these mountains. Examples are Fâtima Valley, Qadîd Valley, Qâha Valley, Safrâ' Valley, Hamad Valley, and Jizl Valley. These mountains also include many *hurât* or lava fields such as Hura Rahâ (or Rahât), Hura 'Uwaiyridh, Hura Khaibar and Hutaim, Hura Lunayyir, Hura Kuramâ', Hura Ruhât, Hura Kushub, Hura Hadhan, and Hura Nawâsif and Buqum.

## 3. The Madyân Mountains

The Madyân Mountains are located in the towns of Madyan at the latitude of 28 degrees north. They include groups of very high mountains like Fayhân Mountain at 2,549 meters, Qulûm Mountain at 2,398 meters and Lawz

Mountain at 2,401 meters. There are also many big and small valleys in this area, the biggest and best known of which is 'Ifâl Valley.

#### Five: The Western Plateaux

Toward the east of the Western Heights, there are very large areas of plateaux extending from the north to the south. These mountain ranges can be categorized into five distinct plateaux: The Asîr and Najrân Plateau, the Najd Plateau, the Hijaz Plateau, and the Hismâ Plateau.

##### 1. The Asîr and Najrân Plateau

The Asîr and Najrân Plateau is located in the eastern part of the Asîr Heights. It is considered as a transitional area between the high mountains in the West and the Najd Plateau in the Northeast. The height of the Asîr Plateau ranges between 900 and 1,700 meters. Floods in the Asîr plateau are drained into Tathlîth Valley and Bîsha Valley. On the other hand, floods in the Najrân Plateau are drained into Hubûna Valley and Najrân Valley.

##### 2. The Najd Plateau

The Najd Plateau is known by the Arabs as the Najd Heights. The Najd Plateau is so vast that its width is about 600 km. The surface of this plateau gradually slopes towards the East and the South from about 1,000 to about 800 meters). The Ruma Valley drains the water in the northern parts of the Najd Plateau, while the valleys of Bîsha, Tathlîth, and Randya combine to form the Dawâsir Valley and drain the southern part.

Ruma Valley is one of the great valleys in the Arabian Peninsula. It drains the waters of most of the Najd Plateau, as well as the waters of many large and small valleys. In the past, it used to be a river running toward the Arabian Gulf

across Bâtin Valley. After the drought period, however, that river was filled with sands and consequently Bâtin Valley was separated from Ruma Valley. It used to terminate at Sinâm Mountain near the Shatt al-‘Arab.

There are prominent groups of mountains in the vast area of the Najd Mountain Range extending from the Shamar Mountains (Ajâ and Salmâ) in the North to the southern part of the Dawâsir Valley. Among these mountains are the Majâmi‘ Mountains, the Hadhb Mountains, the Nair Mountains, the Abânât Mountains (Abân al-Asmar and Aban al-Ahmar), the Sha’bâ’ Mountains, Aja Mountain and Salma Mountain. These chains of mountains are separate from one another but they are also close to one another. The Najd Plateau also includes a number of small and large sandy accumulations such as ‘Urûq Subai’, Nufud al-Surra, and Nufud al-‘Uraiq.

### 3. The Hijaz Plateau

The Hijaz Plateau is located to the south east of Hismâ Plateau and extends from the Tubaiq Mountains in the north to Hura Khaibar in the south. It also extends to al—Nufûd al-Kabîr in the east. Because the Hijaz Plateau slopes towards the east and north, the valleys in it take the same direction. Among these valleys are Qû Valley, Matrân Valley and Silsila Valley, which extends to the far west of the plateau. The height of this plateau ranges between 900 and 1,400 meters.

### 4. The Hismâ Plateau

The Hismâ Plateau is located in the northeast of the Kingdom to the east of the Madyân Mountains and to the north of Hura al-Rahâ. It is bordered by Ra’s al-Naqb in Jordan to the north, the northern parts of Hura al-Rahâ to the north, and the Tabûk Lowland in the east. This plateau consists of Cambrian and arenaceous sandstone. The surface of this plateau is divided into several parts

due to the valleys. As a result, there is a complex network of small plateaux and hills.

#### Six: The Najd Sedimentary Plateau

It is located directly to the east of Najd Crystallized Plateau. This area is characterized by mountainsides and is sometimes known as the Region of Sides.

#### Seven: The Sand Accumulations

Sand accumulations due to winds are very common in the Arabian Peninsula. Most of these accumulations exist in four main seas of sand, the Empty Quarter or Rub' al-Khali, al-Nufûd al-Kabîr, Dahnâ' and Jâfûra. These sand seas cover about half of the sedimentary part of the Arabian Peninsula. They are also other sandy areas connected with the main valleys of the vast alluvial plains. In addition, there are small sandy areas in Tihâma. The area of sand in the Arabian Peninsula is almost one third of the whole Peninsula.

##### A. al-Nufûd al-Kabir

The desert of al-Nufûd al-Kabir is located in the northern part of the Kingdom between the region of Ha'il in the south and the region of Jawf i.e. between the latitudes of 29.5 north and 40.29 degrees north. It extends for 34 square kilometers long, while its width is 572 kilometers. However it gets narrow in the east where its width is no more than 128 kilometers. Thus, al-Nufûd al-Kabîr is like a triangle, the base of which is in the west and the top of which is in the east. The total area of al-Nufûd al-Kabîr is 63,630 square kilometers.

##### B. Dahnâ'

Dahnâ' is a sandy desert shaped like a bow. It extends for 1,200 km between the region of Jâlât in the east and the Plateau of Summân in the west. It also connects the desert of al-Nufûd al-Kabîr in the north with the Empty Quarter in the south. As to its width, it varies from one area to another. However, its average width towards the north of the Bâtin Valley is only twenty meters. It is also connected with Nufûd al-Madhhûr and Nufûd al-Thuwayrât through 'Urûq al-Sayyâriyât. The reason for the sand accumulations in this area is that it is located to the east of the old Ruma Valley (the Ajrudî Valley), which is lower than the areas surrounding it. The width of Dahnâ' is about sixty kilometers, while its total area is 40,789 square kilometers.

#### B. Jâfûra

Jâfûra is located to the east of the Summân Plateau along the coast of the Arabian Gulf. It extends toward the south near Jabail until it merges with the sands of the Empty Quarter. Many problems are caused to the cultivated lands in Ahsâ' by the Jâfûra sands.

#### D. The Empty Quarter (Rub' al-Khali)

The Empty Quarter contains the biggest sandy desert in the world. The area of this desert is more than 600,000 kilometers. The length of the Empty Quarter is about 1,200 kilometers between the longitudes of 30.44 and 74.00 degrees east. Its width is about 640 kilometers between the latitudes of 15.00 to 23.00 degrees north. It extends between the United Arab Emirates to the Yemen Mountains and from Hadramawt Plateau in the south to Jâfûra and Dahnâ' in the north. The northeastern part of the Empty Quarter was known as Yabrîn or Jabrîn, while the part that is located to the north of Hadramawt Plateau was known as Ahqâf. The northwestern part of the Empty Quarter that is located to the south of Dawâsir Valley was

known as Jaz', while the western part that is adjacent to Yemen was known as Wabâr. The contemporary divisions of the Empty Quarter are the dunes in the eastern part, Dakâka, 'Urûq (Dunes) al-Mawârid and Qa'âmiyât in the southern part of the Empty Quarter, Shaqa al-Kharîta, Ramlat Ya'm and Ramlat Dahm in the southern western part, 'Urûq (Dunes) Bani Mu'ârid and Bani Hamrân, 'Urûq al-Remliyah in the western part, as well as Turâ'îz, Hibâka, Kursû', and Sanâm in the middle and the northern part.

#### Eight: The Northern Plateaux

The northern plateaux in the Kingdom of Saudi Arabia are divided into two parts,

##### A. The Hamad Plateau

The Hamad Plateau is located to the northeast of Hurra al-Hurra. The height of this plateau ranges from 800 to 850 m. There are many plains and flood plains in this plateau.

##### B. The Hajara Plateau

The Hajara Plateau is located to the east of the Hamad Plateau, i.e. between the longitudes of 40.30 degrees east and 45.00 degrees east, where the Dibdiba Gravel Plain starts. This plateau extends for about 600 km, sloping towards the northeast. There are hundreds of valleys and tributaries throughout this plateau.

#### Nine: The Summân Plateau

The Summân Plateau is located between the coastal plain on the Arabian Gulf in the east and Dahnâ' in the west. It is a rocky oblong plateau with a

width ranging between 80 and 250 kilometers. Ghawâr, which is the biggest petroleum field in the world, is located below this plateau to the west of Hofûf.

The beginning of the Summân Plateau is the end of the Dibdiba Gravel Plain between the longitudes of 20.00 and 45.00 degrees east. It ends in the south in the Empty Quarter at the latitude of 21.00 degrees north. Thus the Summân Plateau extends for 996 km, and it is given a number of local names.

#### Ten: The Eastern Plains

The Eastern Plains are located to the east of the Summân Plateau and stretch from north to south. The following is a presentation of two major divisions of the Eastern Plains. These are The Ahsâ' Plains and the Coastal Plain, which comprises sea terraces and high shores.

##### A. The Ahsâ' Plains

The Ahsâ' Plains are located about seventy kilometers from the Arabian Gulf coast between the Coastal Plain and the edge of Shadqam. The elevation of these plains ranges from 130 to 160 m above sea level. They slope gently towards the Arabian Gulf and extend to parts of Jâfûra.

##### B. The Coastal Plain of the Arabian Gulf

The Coastal Plain of the Arabian Gulf extends from northwest to southeast between The Summân Plateau in the west and the Arabian Gulf in the east. Its width is between 50 and 100 km. Many Parts of this plain are covered with sands and salt terraces. It extends along the whole of the Arabian Gulf Coast. In the Kingdom, this plain extends between Um-Qusbah to the north of Khafjî and

Dûha Duwaihîh to the south of the Gorge of ‘Udaîd. Some of these parts contain the petroleum riches of the Kingdom, such as Ghawwâr, Buqaiq and Qatîf.

#### Eleven: The Arabian Gulf

The Arabian Gulf is characterized as shallow, semi-closed and surrounded by a dry environment. It extends from the north of the western north towards the south of the eastern south between latitudes of 24.00 and 30.30 degrees north and the longitudes of 56.00 and 48.00 degrees east. Its length is about 1,000 km, while its width ranges between 200 and 300 km. The average depth of the Arabian Gulf is 35 m, though in some areas in the north its depth could reach to 100 meters or even a little more. About 18% of the Arabian Gulf is considered shallow, i.e. less than 5m deep. About 74% of these shallow areas is internal, while the rest consists of coastal shores and coral reefs. The areas that are five to ten meters deep constitute 8.5% of the Arabian Gulf, while the rest is more than ten meters deep. The total area of the Arabian Gulf is 226, 000 square kilometers. Among the most important islands in the Gulf are Karân, Janâ, Juraid, Kurain, Hurqûs (Hurqûsh), and Arabiyya.

## CAMELS

Camels are of two types, the Arabian camel and the Bactrian camel. The Bactrian camels have two humps and they live in cold areas in the middle of Asia and the east of Europe. They have long and thick hair and they can stand the cold and the snow. However, these camels walk slowly and cannot carry as much weight as the other type. The Arabian camel (the dromedary), on the other hand, has only one hump. It has an elegant body, moves easily, runs fast, can stand thirst and can carry a lot of weight. Arabian camels live in mild and hot areas such as the Arabian Peninsula, fertile regions in Iraq, Syria, Jordan, Palestine, Lebanon, the north of Egypt, Sudan, Eritrea, Ethiopia, Somalia, Libya, Tunis, Algeria, Morocco, Mauritania, the Moroccan Sahara, Chad and other places as well.

The male Arabian camel is known in Arabic as the *jamal*, and its female counterpart is known as the *nâqa*. Arabian camels are known for their light hair, their height (2-3 meters), and their ability to live in the desert. Scholars believe that Arabs domesticated this useful animal between 5,000 and 4,000 BC. Other scholars believe that this was long before this date based on evidence from drawings and inscriptions found on some rocks in the Arabian Peninsula.

The camel constitutes one of the main bases of the Arabs' life. It is one of the four dimensions of the Arab's personality, namely the person himself, his horse, his camel and his tent. The horse is the protective power an Arab resorts to at the time of hardship, while the camel is the base on which his whole life is founded. An Arab relied on camels in travelling and carrying his food, water, and clothes. He used its milk as a main source of food and its hair for making his clothes, his bed and parts of his tent.

Camels have been companions of the Arab since a long time ago. No other animal has the same linguistic status as the camel. In one of the Arabic

dictionaries, there are in excess of 10,000 words for the camel! Moreover, many current Arabic words are etymologically related to “camel”. For instance, the word *i’tiqâl*, which means “internment”, came from *‘iqâl* which means the “shackles of the camel.” Similarly, the words *zimâm al-umûr*, which mean “control of matters” came from the word *zimâm*, which means “camel reins.” Thousands of poems about camels have been composed by Arab poets since the beginning of the Arabic poetry and until fifty years ago. Camels are mentioned in almost all poems, as well as in prose, whether in colloquial or standard Arabic.

During the Islamic conquests around the world camels were used as shields to protect warriors from the attacks of the enemies and in attacks against enemies. In the economic field, camels were used as a means of transport. They were also put to use to power the water wheels that brought up underground water for use in drinking and irrigation of farmland in the Peninsula.

Camels have come in many colors and combinations of color. Two are very common in the Kingdom, the *maghâtîr* and the *majâhîm*. The former includes white and off-whites as well as blond, moonlight, flame and red, while the latter includes black and its different shades as well as blue, smoke and yellow. These colors are sub-categorized into various colors with a different name for each.

The most common camel diseases are scabies and coughing. Camels’ feet can also get sore or galled from walking on rough ground.

There are many ways to tame or control camels. The most common is the use of the *‘iqal* to tie the camel’s front leg or both legs when it is sitting. The word *al-i’tiqal* which means internment is derived from the camel’s *‘iqal*. The shackle is a kind of rope known in Arabic as *qayd*. It is tied around the camel’s

legs while standing in order to restrict its movement and steps. The Arabic word *quyûd*, meaning restrictions, is etymologically derived from the camel's *qayd*. Another rope used to control camels is known as the *hujâr* which is used to tie up the front leg of the camel with its back counterpart so that it allows the camel to walk and look for food but prevents it from running away. Camels can also be tied up with a rope above the front knees and below the thighs. This kind of rope gives the camel more freedom to move and it is known in Arabic as *al-ta'dhîd*. Another rope is tied to the camel's groin at the bottom of the abdomen while its other end is tied to one of the camel's thighs so that it can move freely but it cannot run away. Another rope is tied to the bottom of the camel's legs and the end of its back. The Arabic for this rope is the *hijâz* from which the Arabic word *ihtijâz*, meaning detainment, was derived. Thus, when the camel is tied by the *'iqâl* and the *hijâz*, it cannot move at all. Any one type of the ropes mentioned above can be used alone except for the *'iqâl* and the *hijâz*, which have to be used together for specific purposes.

The camel's halter is called *rasan* or *qarârîs*, and it is fixed on its head and is used for leading the camel. The camel halter consists of the noseband, which is fixed around the camel's muzzle, the headstall, which is fixed around the back of its head, the halter ring and the halter rope. Arabic expressions such as *sa'b al-qiyâda*, meaning difficult to lead, and *sahl al-qiyâda*, meaning easy to lead, were developed from the camel's halter. Another word called *khuzâm*, meaning nose ring, refers to another type of rope which goes through the camel's nose and is used with camels which are difficult to control.

People can ride camels without using anything to sit on, though this would not be comfortable. Therefore, certain devices such as the saddle (*shadâd*) and the litter (*hawdaj*) for women were developed to be used for riding camels. Camels are watered at different intervals of time and each interval is known in Arabic as *wird*. If camels are offered water every day and whenever they like, this is known in Arabic as *raffa* from which the Arabic word *rafâhiya*, meaning

luxury, was derived. If water is offered every other day, this is called *raghab*. If offered every fourth day, this is called in *rub*' (i.e. fourth), and if offered every fifth day, this is called *khums* (i.e. fifth), etc.

To ascertain a camel's age, one should know that camels have different names at different ages. One should also know about the development of camel's teeth. For instance, the word *jid'* refers to a camel which is four years old and getting into the fifth, the word *thunî* refers to a camel which has completed the fifth year and is getting into the sixth. At this age, a camel loses its two incisors and develops two bigger ones instead. When a camel is six years old and starting the seventh, it is called *ruba*. At this age, a camel loses two teeth and grows bigger ones instead. When completing seven years old and getting into the eighth, camels lose the rest of their teeth and get new ones. At this age, a camel is called *sudâs*. At the age of nine, camels' canines come out and at this age camels are called *fâtir* or *shârif*. The peak of the camel's strength is between the age of six and eight. When they start growing canines, camels start to get weak and slow.

There are many words in Arabic referring to the camels' walking and running at different speeds. The Arabic word *rafîf* refers to slow walking, next to this in speed is *khabab*. Other Arabic words referring to camels' walking and running are *jamz*, *na'q*, *tazayyud*, *dhamayl*, *rasîm*, *ramal*, *irqâl*, *ranf*, and *kab'*, which refers to the camel's running while lifting his front and back legs simultaneously.

Camels also have different titles such as "God's gift," "whose milk is sweet," "whose steps are long," "whose necks are bent," "whose hocks are bent," etc.

Groups of camels that differ in number have different names. For instance, the word *dhawd* is used for a group of camels consisting of three to ten, *sirmah* for

a herd from thirty to fifty, the word *hajma* for a group of 50-90, and next is *hanîda* for a group of 100 camels.

Camels which carry litters, women and provisions are called *tha'n*. Those carrying luggage and other things while traveling are called *madhhûr*. The number of camels a person owns is the measure of his wealth. The Arabic word *na'am*, meaning cattle or livestock, is exclusively used with camels. Camels are nicknamed "hoof" just as sheep are nicknamed "cloven hoof". A caravan is a number of camels carrying goods and other things.

Camels reproduce through mating. The male camel is called in Arabic *jamal*, while the female is called *nâqa*. Male and female camels have also many nicknames such as *mitfal* and *dhi'r*. Among all animals, the female camel has the strongest band of affection towards its offspring. If it loses its baby, it will become uncontrollable and it might die because of this. When a baby camel dies, its skin is taken and stuffed with grass and other things, so that its mother will smell it. This stuffed baby camel is called *baww*.

Mating between male and female camels takes place at specific times during the year. When the male camel approaches its female (for intercourse), it gets wild and aggressive, particularly if it sees another male camel near its female. If anybody tries to take it away from its female, he might even kill this person. This wild behavior of the male camel begins with what is called *hadîr*, meaning "growl". There are many words in Arabic referring to the different phases of this *hadîr*. It begins with what is called the *kashîsh*, then it develops into the *katîr*, then the *zaghd*, then the *rijs*, and finally the *badhakh*. The *badhakh* is the highest degree of *hadîr*, when foam comes out of the male camel's mouth like a balloon. The word *badhakh*, which means sumptuous mode of life, is etymologically related to the camel's phase of *badhakh*.

Arabs used to mark their camels by using certain drawings to identify them. The device was similar to what we know now as logos and trademarks, which are used by companies and institutions. These marks and drawings were usually done either by using a knife or branding on obvious areas of the neck or cheek. Marking could also be done by notching the ear.

Arabs used to live on the camels' meat and milk. It has been shown by analysis that camel' milk contains the following ingredients: 10.4 – 14.4 % solid substances, 2% fat, 2.5% protein, 3 - 7.5% lactase, 14 – 27% sodium chloride and the rest is water.

Camel meat contains a lot of protein, iron, and fat. The meat of young camels is the best. When camels are old, their meat consists of solid tissue and muscles that are difficult to digest.

## PLANTS

The Kingdom of Saudi Arabia is located between the latitudes of 22.3 degrees north and 16.3 degrees south of an area of 2,420,000 square kilometers, about four fifths of the Arabian Peninsula. It used to be bordered on the west by the African continent and on the east by Iran. The topographic changes which resulted in the formation of the Red Sea and the Arabian Gulf area had its impact on the type of plants that grow in the Arabian Peninsula. As a result, the types of plants in the Arabian Peninsula are identical with those in Africa, Asia and the Mediterranean region. Due to the climatic changes over the ages, certain geographic areas underwent formal changes to adjust to the environmental conditions and consequently certain indigenous plants grew in these areas. These indigenous plants do not grow outside this area. In the Arabian Peninsula, there are about 350 types of indigenous plants, from which about sixty types are in the Kingdom.

Generally, plants that grow in the Arabian Peninsula are adapted to such difficult conditions as drought, high temperature, and very salty soil. Thus, most of these plants are desert plants with particular characteristics.

Despite the difficult conditions mentioned above, the plants growing in the Kingdom are quite diverse. There are more than 2,700 types of plants in the Kingdom, which can be classified into more than 130 categories. Most of these plants grow in the southern region, while small trees grow in the mountain areas and valleys. Annual plants, on the other hand, grow in the desert plains after rainfall.

The inhabitants of the Kingdom have relied on wild plants for raising their cattle and sheep. Some of these plants were used as food. There are about 100 plants that are edible, either as cooked or fresh food. Among the plants that are still used in daily meals are *ruma vesicavius*, *trigovellla stallata*, *spina-christi*,

*zizyphus nummularia, launea capitata, oleo vera, capparis spirosa* and *mesembryanthenum forsskaler*.

Muslim scholars have pointed out that some of the wild plants can be used to cure many diseases. Many wild plants in the Kingdom are still used in medicine. Scientific studies have shown that many wild plants in the Kingdom can be used for pharmaceutical products to cure many diseases. Among these plants are *artimisia herba-alba, cassia senna* and *cymbobopagon schoenathus*. Other wild plants are used as perfumes and food flavor. Among these plants are *publicaria undulata, pulicario arabica* and *ocimum*.

In the past, the Saudi people used tree woods in constructing houses, water wells, and kitchen facilities. Nowadays the use of these woods is confined to traditional wooden industries such as wooden plates, food containers and beehives. Among the trees that produce this wood are *junaperus polycarpus* and *zizyphus nummularia*. However, the consumption of the wild wood is threatening for the life of such plants as *calligonum comosum, acacia seyal, acacia lacta, acacia raddiana, ochrademus baccatus, retama raetam* and *haloxylon persicum*.

### Environmental Factors Affecting the Growth and Distribution of Plants

Plants are closely related to the environment where they grow, since the environment provides the plants with the factors necessary for their growth. These environmental factors are, in turn, interrelated, and they affect one another. Thus plants that grow in any area are conditioned by the environmental factors of that area. These plants also constitute an organic unity where they depend on one another. Among the factors affecting the growth and distribution of plants are the following:

1. Temperature:

Temperature is the main source of energy for plants. However, each plant needs a minimum and a maximum of temperature. If these limits are exceeded the plant will die. Thus temperature controls the type of plants and their growth.

Due to the vast area of the Kingdom, the climate conditions are very diverse. Most areas in the Kingdom have hot and dry weather in the summer, while the winter is characterized with cool weather and a little rain. The Southern Region, however, is mild and rainy in summer, and cold in winter. This type of weather is reflected on the type of plants in this area where forests of *pulicario arabica* grow. Other plants such as *acacia seyal*, *acacia raddiana* and *haloxylon persicum* are adapted to the difficult environmental conditions and grow in other areas of the Kingdom.

## 2. Rain

Water plays an essential role in the growth and development of plants. Thus, the appropriate amount of water is among the main factors that affect the growth of plants. For instance, trees need more water than herbs. This means that the amount of water determines the type of plants and their characteristics. The amount of annual rainwater in the Kingdom ranges between a few millimeters in the Empty Quarter to 600 mm in the mountain areas of the Southern Region. Most rains in the Kingdom arrive in winter and the rate of rains does not exceed 200 mm. These rains are often like heavy showers for a short period of time. As a result, surface floods are drained in valleys and lowlands. This affects the distribution and growth of plants. Thus, plants are rather dense in valleys and lowlands where water is plenty, while herbs grow in the sloping areas. Rains may not fall at all in some years.

## 2. Soil

All types of plants, with the exception of the water plants, get all they need for growth from the soil. Thus plants cannot grow without a certain amount of soil. Also the distribution and categorization of plants depend on the physical and chemical characteristics of the soil. These characteristics determine the ability of the soil to preserve the water necessary for the growth of plants. Chemical features also affect the growth of plants, since different plants need different chemical substances.

The Kingdom hosts different types of soil. In sandy soils, there are certain types of plants such as *haloxylon persicum*, *artemisia monosperma* and *panicum turgidum*. In valleys where the soil is muddy there exist such trees as *acacia seyal* and *acacia raddiana*. In salty soil, we find plants like *suaeda monoica*, *zygophyllum coccineum* and *hypericum chrysostrictum*.

### **3. Geographic Reliefs:**

In the Kingdom, the areas which are higher than the sea level affect the growth of plants. For instance, the Sarawât Mountains along the Red Sea are separated from the sea by a narrow plain, which in certain areas could be 10km wide. Areas that are above the sea level are affected by many factors such as low temperature, water availability, the direction and strength of winds and exposure to sun. Thus, in an area ranging between zero above sea level and 3,500ft. as it is the case with the mountain cliffs in the Southern Region, one finds that such an area comprises a very diverse variety of plants. Among these plants are: *junepurus polycarpus*, *olea chrysophylla*, *acacia seyal*, *acacia raddiana*, *solvadora persica*, *alyssum homalocarpum*, *hyphoena thebaica*, *zizyphus nummularia*, and *avicennia mariany*.

### **4. The Biological Factor:**

Living beings, whether they are plants or animals, usually seek a kind of equilibrium based on mutual benefit. For instance, bees use the flower nectar for producing honey, and at the same time the flowers use the bees for pollination. This kind of equilibrium between plants and animals continues as long as man does not interfere.

In the Kingdom, man has tremendous impact on the environmental equilibrium between plants and animals. The reason for this is that the Saudi people raise a lot of cattle and sheep, and they consume a lot of tree woods. Consequently, many plants and trees are eradicated. Modern methods of agriculture also have a role in this regard, since these methods affect the natural environment that contains many types of plants. For instance, the agricultural terraces in 'Asîr Mountains and the big farms in most parts of the Kingdom have resulted in a shortage of underground water which plants need. Due to all these factors, more than fifty types of plants are subject to extinction.

### **The geographic regions:**

The world is classified into six plant kingdoms based on the different latitudes and environmental factors. Each plant kingdom is divided into geographic regions depending on the type of plants in each region. According to this classification, the Kingdom is located between two geographical regions. The southern part of the Arabian Peninsula belongs to the Sudanese Region which is known for seasonal rains, while the rest of the Arabian Peninsula belongs to the North African Sahara Region which is known for very little rains, and consequently plant's density is very low.

### **The Natural Plant Regions:**

Any natural plant region in the world comprises a variety of certain trees, bushes, and herbs that are distinctive of that region. However, no clear-cut

boundaries distinguish one region from another rather there are transitional plant areas between one region and another. Any natural plant region in the world comprises a variety of certain trees, bushes, and herbs which are distinctive of that region. However, no clear-cut boundaries distinguish one region from another rather there are transitional plant areas between one region and the other. In other words, it is more like a continuum containing a variety of distinct plant regions.

In the Kingdom the distribution of natural plant regions depends on such factors as the geographic position, the geological structure, and the surface level. Therefore, the Kingdom is divided into two main regions: 1) The Western Region and 2) East of the Hijâz Mountain region.

### **1. The Western Region:**

It includes the Hijâz Mountains that extend from the north to south. It is composed of volcanic rocks sloping sharply toward Tihâma Plain and gradually toward the east.

### **2. East of the Hijâz Mountain Region:**

It includes the Eastern, the Middle and the Northern Region. Geologically, it is different from the Western Region since it is composed of sedimentary rocks.

The Western Region is divided into two parts depending on the geographic and climatic factors that affect the growth of plants.

### **3. South of the Western Region:**

This includes the Western southern region which begins at the latitude of 21.30 north until the Yemen borders in the south. This part is characterized by hot

weather and seasonal rains that are due to the clouds accumulating over mountains during August and September. These rains fall on 'Asîr and Bâha, while winter rains fall on the northern parts. In the beginning of summer, some rains fall on some parts of this region such as Faifa Mountain. Normally, rainy seasons are characterized by lower temperature and higher rates of humidity.

The southern part of the Western Region is characterized by high mountains. These mountains are as high as 3,700m near Abhâ in the south; they get less high towards the north. Mountains are sharply sloping westward. There are also tributaries where water is gathered to form big valleys from which water passes to Tihâma and the sea. The Tihâma Plain which is about 2-10 km separates the mountains from the sea.

Among the tropical trees which grow on the mountain foot in this region are: *juniperus polycarpus*, *olea chryophylla*, *zizyphus spino-christia*, *comiphara mulmul*, *rumex nervosus*, *dodonea viscosa*, *ficus sycamorus*, and *arnebia hispidissima*. The plants that grow in Tihâma Plain are *hyphaene thebacia*, *acocio syvol*, *alyssum homalocarpum* and *solvadora persica*.

#### **4. North of the Western Region:**

This part is located outside the hot area, and consequently rain falls in winter. This part is also less rainy and hotter than the southern part. Mountains get less high northwards; they do not exceed 1,500m high except for few mountains such as Radhwî Mountain and Lawz Mountain. Plants in this part are less dense than in the southern part. They are also different plants in each part. The plants growing on mountain foot are *phanterium suaeveolens*, *acacia raddiana*, and *acacia asak*, while the plants growing in the valleys are *acocio seyal*, *retama raetam*, and *acacia asak*.

#### **5. The Eastern, Middle and Northern Regions:**

It is located to the east of the Hijâz Mountains. It is a plateau of 1000m high containing a series of mountains. These mountains are formed of crystallized granite rocks, and they are about 1,500m high. This region is also characterized by sandy areas such as Nufûdh Al-Dahnâ to the west of which there are the Tuwayq Plateau and the Samân Plateau.

In this region, winter is cold and rainy, while the summer is hot and dry. Rains usually fall between October and April, and the annual rate of rain does not exceed 130mm. As a result, plants grow only in valleys, meadows and mountain foot. Among the plants growing in this region are: *lycium shawii*, *haloxylon persicum*, *hansada elegans*, *acacia seyal*, *colotropis procera*, *rhaterium eppaposum*, *frocoria crispa*, *capparis cartilaginea*, *rhazya stricta*, and *plantago albicans*. After the fall of rain, annual plants increase. Among these annuals are: *harwoodia albicans*, *authemis voblis*, *medicago spp*, *launea spp*, *rumex vesicarius*, *trigovella stallata* and *neurada procumbens*.

## PLANT ENVIRONMENTS:

### 1. Mountains

Among the most important plant environments in the Kingdom are mountains. For instance, the Sarawât Mountains along the Red Sea are higher in the south at 3,700 m, while in the north they go down gradually to 1,500 m with the exception of few mountains that are 2,000 m high.

In the middle and the north of the Kingdom there are some mountains that are not very high, but they are known for particular plants, e.g. the mountains of Ajâ and Salmâ in Hâ'il. On the other hand, the mountains of the Western Region are known for heavy rains, low temperature and high humidity. Consequently, there are certain plants know to be different from

other plants in the Kingdom. Among these plants are *juniperus polycarpos*, *olea ehrysophylla* and *acacia raddiana*, which grow at the top of mountains. At the foot of the mountains, we find such plants as *ziziphro nummularia*, *comiphora mulmul* and *lycium shawii*. In the rest of the Kingdom's mountains, we often find plants such as *morinya peregrina*, *rhanterium suaeveolens*, *moltkiopsis*, *acacia seyal*, *acacia lacta* and *ratama ratam*.

### Valleys

Valleys are formed from the runoff of heavy rains. A main valley usually has a number of tributaries that provide it with rainwater. A valley could be as long as 100 km, while its width might range between 10 and 100 m. The valley floor is usually covered with sedimentary deposits that are delivered by water. As a result, valleys are richer in plants than the neighboring areas. Trees, bushes and annuals, also grow on both sides of the valley. Among the most important valley plants in the Western region are *zizyphus spina-christia* and *acacia lacta*. In the north of the Western region, grow plants like *acacia seyal*, *acacia raddiana*, *renama raetam*, *zizyphus nummularia* and *alyssum homalo*. In the rest of the valleys in the Kingdom, we find plants such as *acacia seyal*, *panicum turgidum*, *rhanteriam appaposum*, *tamarix aphylla*, *zizyphus nummularia*, *rhazya stricta*, *capparis cartilaglnea*, *artemesia herba*, *achillen fragrantissima* and *zilla spinosa*.

### Sands

Sands constitute about a third of the whole area of the Kingdom of Saudi Arabia. Among these sandy areas are the Empty Quarter in the southeast of the Kingdom, al-Nufûd al-Kabîr in the north of the Kingdom and the Dahnâ' in the east of the Kingdom. These sandy environments are very dry due to the rarity of the rains there, and to the fact that sandy soil cannot hold water. Thus plants

growing in the areas are of the type that can survive under these conditions. Among these plants are *calligonum camosun*, *haloxylon persicum*, *artimisia monoperma* and *hamada elegans*. After rainfall, the following annuals grow: *picris abyssinica*, *picris cyanocarpa*, *cyperus conglomyratus*, *asphodelus fistulosus*, *aristida plumsa*, *stipagrostis scoparia*, *neurada procumens* and *cornulaca movacantha*. No plants grow in the migrating sand dunes.

## Meadows

Meadows are lowlands where water accumulates via the tributaries. These meadows are known for sandy, muddy lands. As a result, plants in these meadows are so dense that they look like big farms in the middle of the desert. Among the trees that grow in these meadows are *acacia seyal*, *zizyphus spino-christia*, *frocaria crispa*, *artimisia herba-aba*, *achillea fragrantissima*, *calotropis procera* and *capparis cartilaginea*. Annuals that grow in these meadows during the spring season are *plantago albicans*, *authemis voblis*, *launea spp.* and mint. In the middle region, there are plenty of meadows, such as Khuraym Meadow, Sabla Meadow and many meadows in Samân.

## Moorland

Moorland is salty land, and can be classified into two types in the Kingdom: coastal moorland near the Red Sea and the Arabian Gulf and internal moorland in the Middle and Northern Regions. Plants growing in these moorlands are of the type that can put up with the high concentration of salt in the soil. Among these plants are *suaeda monoica*, *zygophyllum coccineum-album* and *hypericum chrysostrictum*. Other plants grow in moorlands where soil has a lower concentration of salt. Examples of these plants are *tamarix aphylla* and *zizyphus nummularia*. Other areas of moorland are too salty for plants to grow at all.

## Desert Plains

The desert plains are vast areas varying in height and containing some small tributaries and meadows. Desert plains are plentiful in the Kingdom, particularly in the middle and northern Regions. Among the plants growing in these plains are *rhazya stricta*, *hamada elegans* and *rhanterium oppoposum*. In rainy seasons, annual plants grow in these plains, and consequently these plains turn green instead the usual khaki. Among these plants are *horwoodia diksonea*, *plantago albicans* and *echinosciadium arabicum*.

## CLIMATE

The climate is an important factor affecting the lives of people, animals and plants. Due to the diversity of geographic environments and topography in the Kingdom, climate conditions differ from one area to another. Thus the weather conditions in coastal areas are different from those in the internal plateaux and heights.

The climate in the Kingdom can be classified into three types: the climate of coasts, the climate of internal plateaux and the climate of heights. These climates vary in conditions such that a given division can have different areas within the division, depending on its position in relation to the Equator.

The type of plants and animals is determined by the type of climate. Thus in the desert environment we find plants and animals that need little water and food. Climate also affects the life of the people, health, food, cloth, agriculture, industry, trade and education. It also affects the social and economic life, as well as other activities. For instance, in the field of agriculture the types and seasons of agricultural crops are determined by the climate. Thus crops cultivated in internal plateaux are those that stand high temperature and little water. A given crop can grow in different seasons in different areas, and consequently, it will be available in the market throughout the whole year.

In the field of tourism, climate affects people's activities. For instance, in winter, people living in cold areas like the north and middle of the Kingdom move to the western coastal areas. In summer, people living in warm areas move to the areas where the weather is mild.

Thus the Kingdom generally has a desert climate and a semi-desert climate. Humidity, rains and temperature vary from one area to another. Coastal areas have climatic conditions different from internal areas and high areas.

## **The Elements of Climate**

### Solar Radiation

The Kingdom of Saudi Arabia is located in the tropical and semi-tropical area between the latitudes of 16 and 32 degrees north. In summer, the sun is vertical on the Tropic of Cancer (23.5 degrees north), which nearly passes through the middle of the Kingdom. These geographic and climatic factors affect the amount and duration of the solar radiation. The average duration of solar radiation is 8.8 hours daily. This duration increases in the summer season and decreases in winter. The average amount of the annual solar radiation is about 155,000 calories per square meter. This amount is sometimes affected by local topographical features and weather factors such as clouds and dust.

Table showing the daily duration of sun radiation in some cities in the Kingdom.

### Temperature

Temperature varies from one area to another depending on environmental and geographic factors. With the exception of the mountain areas, the temperature is high in the summer and mild in winter. The average daily temperature in the Kingdom is 24.5 Degrees Celsius. The lowest mean temperature is 15.6 Degrees Celsius, while the highest is 30.2 Degrees Celsius. These averages increase in low and coastal areas and decrease in elevated areas.

Temperatures in the Kingdom vary also from one season to another. In winter, the average temperature is 16.2 Degrees Celsius, while in summer it is 30.6 Degrees Celsius. The winter rate goes down towards the north and in mountain areas, while the latter gets higher towards the south and lower towards northern and mountainous areas. In Riyadh, the mean temperature in summer is 32.9 Degrees Celsius, while in Abhâ and Nammâs at the Asîr Heights, the rates are 22.3 Degrees Celsius and 20 Degrees Celsius respectively.

#### Table showing temperature rates in some cities in the Kingdom

Due to its desert nature, high temperature during daytime and low temperature at night, we notice that daily, seasonal and annual temperature ranges in the Kingdom vary. The seasonal temperature range in the Kingdom is 16 Degrees Celsius. This range varies from one area to another and from one season to another. For instance, it gets lower toward the western coast due to the effect of the Red Sea. This temperature range also gets lower in the desert areas. It is 19.7 Degrees Celsius in Riyadh, in Abhâ 9.8 Degrees Celsius, while in Madhlîf on the Red Sea only 6.8 Degrees Celsius.

#### The Winds

The Kingdom is exposed to a variety of local and regional winds. The winds that come from the north and the northeast are cold and dry in winter, and hot and dry in summer. Winds from the northwest are cold and dry, while the winds from the southeast and the southwest are warm and humid. The Kingdom is also exposed to local winds that are hot, dry and dusty.

The speed and direction of winds in the Kingdom are different in different days, months, seasonal years and different areas. This is due to the different geographic conditions. The average speed rate of winds in the Kingdom is 8.5 km/hr annually. In coastal areas it is 16.2 km/hr. This is the case in Dahrân and Yanbu'. In internal areas such as the Empty Quarter, it is 9 km/hr. Wind direction also varies from one area to another due to the different temperature rates in different months. The permanent and local winds in the Kingdom always carry dust and sand due to the dry soil and the scarcity of plants.

## Rain

Due to its desert and semi-desert nature, rainfall in the Kingdom is very low. Rain in the Kingdom might fall heavily in one year and not at all for a number of years. The annual amount of rain in the Kingdom is less than 150 mm, with the exception of the western and southern heights, where the rate exceeds 500 mm. This variation is due to the diverse topography and the different winds in the Kingdom.

Table showing rates of annual rains in some cities in the Kingdom

## Humidity

The rates of humidity in the Kingdom vary according to the sources of humidity such as seas and agricultural areas, as well as the directions of winds. The annual rate of humidity in the Kingdom is 14%. This rate gets higher in the eastern and western coastal areas, as well as in elevated areas. In general, humidity increases in winter and decreases in summer.

## Evaporation

Due to such factors as topography, temperature and wind speed, the evaporation rates in the Kingdom vary from one area to another. Water lost due to evaporation is 3,679 mm annually. This rate varies from one area to another. In Dawadmi it is 5,796 mm, in Nammâs 1,904 mm and in Baljarshî 2,322 mm.

# HISTORY

## **Introduction:**

The agreement between Prince Muhammad bin Saud, Prince of Dira'iyah, and Sheikh Muhammad bin Abdulwahhâb in 1115 A.H. / 1745 AD marks the beginning of Saudi history on the basis of which many issues have been resolved and the small town of Dira'iyah has become a powerful and influential state. The Prince believed that the Sheikh was right in fighting the false religious innovations and superstitions that dominated the feelings and thoughts of many Muslims. The Prince was also convinced that spiritual corruption and deviation from the right belief were the causes behind the Muslims' backwardness and disunity.

When the agreement between the Prince and the Sheikh took place, Najd was divided between sheikhs of tribes and leaders of groups. Although the Hanbali sect of thought, a prominent Sunni school, that lays much emphasis on the purity of religion was dominant in Najd, and although scholars were available in the town of this area, most Bedouins were ignorant of their religious duties, and the false religious practices of Sufism were also common.

To sum up, its situation in Najd was religiously, politically, economically, socially and culturally unacceptable. Najd was in need of a spiritual movement to get rid of the religious misguidance and deviation and teach the ignorant people their religious duties. Najd was also in need of a political movement to unify the area, unify the efforts of the people, utilize its potentialities, establish security and get rid of the chaos and enmity common among the various tribes and people of rural and urban areas.

## **The First Saudi State:**

The Dira‘iya agreement has led to a covenant consisting of one article, namely Jihad in order to purify religion, spread the right religion, and fight the opposing powers whose concern is separation only. Their actions were truly in accordance with this article. The reign of Muhammad bin Saud lasted for twenty years after the agreement. Throughout his reign, he fought against those who deviated from the right religion, as well as tribal and village leaders who wanted to preserve their authority. He was able to bring most of Najd under his control, even though there was some cases of betrayal and hypocrisy during this period. He died before defeating his toughest opponent Dahâm ibn Dawâs, who was the governor of Riyadh. Thus the Prince deserved the title Imam.

After the death of the Imam in 1773, his son Prince Abdulaziz succeeded him as Imam. His son’s military power led to the conquest of Riyadh, and thus Dahâm’s opposition, which had lasted for twenty-seven years, was over. This facilitated the unification of Najd, which took place when Shammar mountain was brought under the control of Dira‘iya in 1792.

During the reign of Imam Abdulaziz, both Ahsâ’ and the Gulf region were brought under his control. The only two parts of the Arabian Peninsula remaining outside Dira‘iya’s authority were the Hijaz and Yemen. Finally, the Hijaz and Yemen were brought under the authority of his successor, Saud bin Abdulaziz, who succeeded his father after latter’s assassination in 1801.

Imam Saud was a partner with his father in the government. He was known for his bravery and military skills. During his reign, the Saudi State reached the climax of its power, and its authority extended to parts of Iraq and Syria where many tribes were influenced by the Islamic teachings of the spiritual movement. Consequently, after Ottoman authority had been undermined in the Arabian Peninsula, the Ottoman State was concerned that the Saudis were a threat to its interests in Arab countries. So the Ottoman Sultan had no option but to ask the strong governor of Egypt, Muhammad Ali, to fight the Saudis.

The Sultan's request appealed to the strong ambition of Muhammad Ali, who wanted to take advantage of the bad circumstances of the Caliphate, gain more power, and extend the territories under his authority. Thus he sent a military expedition under the leadership of his son Tusun. In the beginning, the military expedition was defeated. But finally, the Saudi's withdrew from the Hijaz due to the continuous military support for the expedition, the big difference in materials and fighters on both sides, the Imam Saud's lack of leadership skills, and his death in 1814.

Abdullah succeeded his father as Imam. He was a righteous and brave man, but he lacked the political and military experience of his father. It was clear to him that the main objective was to destroy his state in Dira'iyah. The resistance of Imam Abdullah ibn Saud to the invaders in the north and middle of Najd lasted until Ibrahim Pasha managed to reach Dira'iyah and besiege it. In 1818, Dira'iyah surrendered and Imam Abdullah was imprisoned. He was taken to Egypt and then to Constantinople, where he was executed.

### **The Second Saudi State**

The fall of the first Saudi state did not stop its spiritual, political and cultural power. It was natural that the Saudi determination would overcome the setback. This is exactly what happened when Prince Turki bin Muhammad bin Saud restored Saudi authority in Najd in 1820. His son Faisal was able to control some Gulf states besides Najd during the first period of his reign, which began in 1830 and lasted for four years. But Muhammad Ali, who was planning to establish an Arabian Empire for himself viewed the revival of the Saudi State as an obstacle in the way of carrying out his plan. Therefore, he organized a military expedition that resulted in the capture of Imam Faisal.

Prince Khalid bin Saud succeeded his father Imam Faisal, and he ruled Najd for three years and some months, after which one of his cousins, Abdullah ibn Thanyen succeeded him. Abdullah's tough nature and his killing of people on the basis of mere suspicion spoiled the relative stability and the gains he achieved. Thus, the people were looking forward to the return of Imam Faisal, who was released by the governor of Egypt. Then he ruled Najd for the second time in 1893. During this era, Najd enjoyed political stability, security, stability, and economic development. However, there were cases of draught and cases of the disobedience common in tribal and desert life.

### **The Kingdom of Saudi Arabia:**

The first step towards the establishment of the Kingdom of Saudi Arabia was the brave and successful military operation through which Prince Abdulaziz bin Abdurrahman regained Riyadh and the areas around it in 1902. Two years later, the south of Najd became under his control. In 1904, he conquered Qasîm, the Ahsâ' region in 1913, and Hâ'il, as well as its neighboring areas in the north, in 1921. A year later, he gained Asîr.

On Thursday, December 16, 1925, the Hijaz came under the Saudi authority after the treaty of Jeddah. The name of the Kingdom of Saudi Arabia was declared on the December 13. However, the September 22, 1932 AD was designated as the national day of the Kingdom.

After the declaration of the name of the Kingdom, there was a political change that manifested itself by the international recognition of the Kingdom. Security also developed, and the Hajj routes were made safe. Culturally, emphasis was laid on education and literary journalism. Socially, the geographical barriers and borders were eradicated. Finally, economic conditions improved with the discovery of oil.

Thus the history of the Kingdom can be divided into three phases:

### **THE FIRST PHASE:**

This phase covers the periods between the opening of Riyadh until the Qatîf treaty with Britain in 1915. This period was known for series of wars and military expeditions. At that time, Abdulaziz thought of the settlement of the Bedouins, so that they would be directed to Jihad instead of conquest. He also thought of teaching them religion, agriculture and trade. Thus they became obedient to him and ready to follow his instructions. Then the Brotherhood Movement was established among the rulers of the Arabian Peninsula. He also thought of restoring Ahsâ'. As an outlet to the sea, Ahsâ' would also contribute with agricultural products as well as customs tax revenues. Among the factors which helped in the restoration of Ahsâ' are its connection with Najd throughout its modern history, the weakness of the Ottoman rule in this area, the attitude of the British, who supported the Saudi rule of Ahsâ', and the desire of the people there to get rid of the chaos and tribal dictatorship.

### **THE SECOND PHASE: (From 1915 to 1932)**

During this phase, the Sultan of Najd, King Abdulaziz, was powerful and independent. He was also known for his skills in fighting and argumentation. His object was to achieve his plan of unity despite the confrontation with the Ottomans and the British, who wanted to prevent him from conquering Hâ'il after the collapse of the Ottoman State in World War I. However, he went on fighting Hâ'il until he liberated it.

At this phase, some Arab rulers who were frustrated because of occupation viewed King Abdulaziz as a saving power. He was quite sure that reaching a compromise with King Hussein was not possible. Therefore, King Abdulaziz

decided to unite the Hijaz with Najd. After doing this, he took all responsibilities and handled all the consequences properly.

King Abdulaziz has practically proved that the unity of the Hijaz and Najd from long ago could not be distorted by tribal disputes or enmity between rulers. He was against the idea of considering the Hijaz as means for establishing the Caliphate after it was banned by Kemal Ataturk. Nor did he accept the idea that the Hijaz would be ruled by organizations located in occupied countries that might expose it to Westernization and Christianization. After all, it was an Arab and Islamic country and it needed independent and righteous leadership.

Thus King Abdulaziz became the master of the Arab Peninsula. The entire Arab nation saw in him the potential for a comprehensive Arab union. In fact, influential Arab leaders asked him to re-establish the Arab Empire. This annoyed Britain, which tried to establish unity between two Arab countries to compete with the state of King Abdulaziz. But it did not happen.

### **ORGANIZATION AND REFORM:**

After the union was completed, King Abdulaziz began to organize and reform the united state. For this purpose, he selected a board of directors whose members were sincere, experienced, and willing to work for the public interest, so that reform would be based on solid ground and would take into account the priorities, needs, and the obstacles. This board issued the basic instructions that determined the international and external policies, rights and duties, regulations and responsibilities. Among these responsibilities were the passport and nationality system, political representation, foreign relations and avenues of cooperation.

King Abdulaziz placed particular emphasis on security in the Hijaz for the sake of pilgrims, and he was able to provide security for the pilgrims. He was much concerned with education, and he established a council to supervise the educational process. This council was concerned with educational development, curricula and modernization. He also established an educational administration to take care of schools, teachers, students and employees. He established a modern financial system compatible with the demands of the modern age. Military training and equipment were also modernized. There were also administrations for health and mail services, as well as for Hajj. He was also concerned with the communication system to connect the different parts of the Kingdom together. Routes were modernized, cars were made available, and a telegram network throughout the whole Kingdom was developed. The King was keen to modernize his Kingdom, and in fact, development and social harmony became obvious in the new Kingdom.

### **Discovery of Oil:**

The King's feelings of happiness due to stability, security, unity, and reform were not complete until the oil was discovered in the eastern part of the Kingdom in 1933. At that time, there was a need for service development, a need for huge potentialities, and a need for various qualifications. It was very difficult for the King because the lack of all these things would impede all the reform plans he had in mind.

Based on his intuition and his feeling that his country had to be similar to Iraq and Iran when oil was discovered, the King always believed that his country had to have the same natural resources. Even after a British oil company announced that there was no oil in the Arabian Peninsula, the King did not believe this. Later, the British company wanted to search for oil in the Kingdom again, but the King refused so as not to spoil his reputation for independence vis à vis the British Empire, which exploited people. At that time

the United States had not spoilt its history with imperialism, so the King agreed that an American company would search for oil. In 1938, plenty of oil was discovered, and in 1938, a celebration under the patronage of the King was held in Dahrân for this occasion. In the same year, Ras Tannura was designated as a harbor for oil export.

The impact of oil was obviously substantial in the late 1940's. Despite the short period between the exportation of oil in the late 1940's and the death of the King in 1953, the King was able to establish a lot of development in education, roads, railways between Riyadh and the Eastern region and electricity service. He also began to develop an air fleet that became the biggest in the Middle East. Besides the existing ministers of Finance, Foreign Affairs and Defense, the King also appointed a number of ministers for different services.

After King Abdulaziz, his son the Crown Prince Saud succeeded him. He became the King after the royal family selected him, and after he was acknowledged by the masses. During his reign, there were many developments in various services such as schools, routes, streets and electric service. The first Saudi university was also established in 1957.

In 1964, King Faisal succeeded King Saud. King Faisal had a lot of experience since his youth. He had been a fighter, a ruler, a minister, a prime minister, and a crown prince. He was an expert on international politics and was aware of the country's affairs. He was known for deep thoughts, his wisdom, and his far-sightedness.

During the reign of King Faisal, the economic system opened up, and its objective was not just to meet daily needs. Emphasis was placed on national industries and development programs. However, King Faisal was most known for his foreign policy. Among his prominent contributions was his attitude towards the Yemen situation, which led to the end of the civil war there, and

his support for the armed struggle in Palestine in the Khartoum conference after the 1967 war. He was able to influence the policy of powerful countries such as that of the United States, which was biased for Israel. After the war of 1973, the King stopped the exportation of oil to the United States, and all Arab countries supported that decision.

King Faisal supported the principle of Islamic solidarity, and he made visits to many Islamic countries. First, the reactions to this varied but later there was a strong response. In June 1976, a conference for the Islamic countries was held in Rabat, which paved the way for the establishment of an Islamic Fund. Then, there were many Islamic conferences for political and economic cooperation, as well as for condemning the Israeli actions.

Due to his actions and his sayings, King Faisal forced his enemies, whether they were Arabs or foreign, to respect him. In the Arab world, King Faisal had a special status, while the Islamic world built great hopes because of him. The Palestinians liked him because of his insistence that Jerusalem was Arab, his call for Jihad, i.e. the liberation of the Islamic holy places, his denial of the Israeli claims, his unlimited moral and material support for the Palestinian struggle, and the economic and political pressure he put on the countries that cooperated with Israel.

In 1975, Crown Prince Khalid ibn Abdulaziz succeeded King Faisal. King Khalid was pious, simple, lovable, brave and honest. His father used to assign him some responsibilities, and King Faisal used to assign him certain duties on his behalf. During King Faisal's reign, he was the Deputy Premier and the Crown Prince. King Khalid placed much emphasis on internal affairs. He also emphasized Arab agreement and coordination of Islamic countries. Among his achievements were resolving the disputes between Iraq and Iran, between Iraq and Syria, and between Algeria and Morocco as well as his attempt to end the Civil war in Lebanon in 1973.

In 1982, the Crown Prince Fahad ibn Abdulaziz succeeded King Khalid upon his death. On 24 October 1986, King Fahad chose the title “Custodian of the two Holy Mosques” instead of the title “His Majesty”.

Besides his distinguished education in his childhood and his youth, King Fahad, as well as all of his brothers, was brought up in special religious, cultural, and social environments which were also experienced by whoever wanted to attend King Abdulaziz’s meetings. In addition, since his youth, King Fahad was assigned some local responsibilities. Also, he participated in a number of international activities such as the following:

- He was a member of the Saudi delegation for the establishment of the United Nations in 1945.
- He was the head of the Kingdom’s delegation for the crowning of the British Queen in 1953.
- He was the head of the Kingdom’s delegation for the exceptional meeting of the Arab League in Lebanon in 1960, as the 32<sup>nd</sup> meeting in Rabat in 1965.
- He was the head of the Kingdom’s delegation for the discussion of the Gulf situation in Britain in 1970.

In the field of education, it was King Fahad who modernized the educational systems, curricula and policies. He motivated parents and students to follow up their studies by certain incentives. These incentives also motivated the students to complete their higher education in different specializations inside and outside the Kingdom, since education is the basis for any development or progress.

When he was the Minister of the Interior, King Fahad emphasized the modernization and sophistication of the security techniques. He also emphasized the training and promotion of the personnel. The impact of the

King was quite obvious in both the internal and foreign policies, and his responsibilities increased when he became the Second Deputy Premier and Minister of Interior in 1976.

Similarly, when King Fahad was the Crown Prince, his contribution was quite obvious in all the achievements and developments that were carried out. His economic directions were reflected in the progress and development of the infrastructure. When negative aspects in the social change began to appear, the cultural and scientific activities in the media had a great role in distinguishing between the negative and positive consequences of social change.

When he was the Crown Prince, King Fahad played a great role in resolving disputes among the Arab countries. He also supported the Palestinian armed struggle against Israel and proposed a peace plan in the Middle East in 1981.

There was also a lot of development in the Armed Forces, the National Guard, and the standard of living in general. The private sector achieved great progress through big investments, its contribution in the development processes, and its contribution at the international level. To achieve integration among various sectors, the King relied on planning strategies based on scientific rules to meet the economic, social, and cultural needs of the country.

For the sake of fast and balanced development, integrative relations, and the progress of the national economy, King Fahad placed particular emphasis on both the heavy and light industries. The transformational industries which are based on oil flourished in the industrial city of Yanbu' on the Arabian Gulf.

In the field of agriculture, the land became fertile due to modern technology and the drought problem was solved. King Fahad once stated that wheat production was 1,300,000 tons, out of which 900,000 tons are consumed. The

King added that great countries that tried to dissuade us from growing wheat had not reach this rate.

During King Fahad's reign, routes connecting all the Kingdom's cities were established, the airline network was improved, the railways were renewed, bridges and tunnels were built, the telephone and electric services were expanded, wells for underground water were developed, projects for water desalinization increased, the problems of inflation and housing were solved, banks were Saudiized, loans and financial aid were made available, and the cultural aspect of development was emphasized. The expansion of the two Holy Mosques was unprecedented: The Haram Mosque now accommodates 1,500,000 pilgrims, while the Prophet's Mosque 1,200,000 pilgrims. The King did a great service for Islam and Muslims, and now Muslims can perform Hajj and Umra in ease and comfort.

The King has also established a center for printing the Qur'an known as the King Fahad Complex for Printing the Qur'an, where various copies of the Qur'an are accurately printed and distributed to mosques and institutions all over the world, translations of the meanings of the Qur'an made available, and recitations of the Qur'an by well known reciters recorded.

King Fahad has issued three royal decrees that are considered as a re-establishment of the State. The first deals with the basic system of the government and consists of 83 articles. The second is concerned with the establishment of the Shura Council, while the third has to do with the system of regions.