



The National Field  
Research Centre for  
Environmental Conservation  
About innovative Environmental Research



Sultanate of Oman  
Diwan of Royal Court

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Issue 41

# The Palm

## Food and medicine



**Annually: 45 million kilogram of carbon absorbed by palm trees in Oman**

## Get a big reaction via Twitter

# «#Wanted\_for\_justice» seeks to punish offenders of environmental cleanliness



### Lynx - April:

Oman Environment Holding Company (BEA) has launched an active follow-up through Twitter, which has gained widespread popularity among citizens and residents of the Sultanate. The theme, which coincided with the campaign launched by Bee'ah as part of Oman Tashah's social responsibility campaign to reduce the indiscriminate dumping of waste in tourist areas, was accompanied by tweets including pictures and videos of awareness, including a short crime film «Which destroys dirt and debris in the «victim» - public places, beaches, deserts and parks - and the perpetrator leaves the crime scene to be free, but will remain wanted for justice. In order to enhance the role of the campaign and to reach the largest possible number of members of the community, a number of environmentalists, a number of media professionals, influential people in social networks and some representatives of public and private institutions discussed the importance of promoting community education for the conservation and preservation of the environment. A number of citizens and residents asked through their interaction with the tag setup workshops to discuss the problem and involve the responsible bodies

in most countries to find new mechanisms of action and to avoid the scenes that they described as regrettable. While some have called for benefiting from the experience of Singapore, where the distribution of observers there alternately in the places of tourism to do their part in the liberalization of the violations of environmental pollution and link violations civil number where the violation is paid during the renewal of the civil card. The company responded by saying, «With regard to plastic boxes, we have a list of companies interested in recycling. Batteries, electronic devices and other waste should be contacted via the number 1881 and the communication will be dealt with. The company said it would benefit those who want to get a list of companies interested in recycling after sending the request via e-mail. Some also requested the company for the distribution of garbage cans in all places of tourism, stressing the presence of many of the sites that do not contain these boxes, and some demanded the rapid emptying of containers in the population areas, noting that they are filled in just 3 days. Some of the cartoonists participated in some pictures showing that some people polluted the tourist areas in the Sultanate, asking the authorities to punish them, while others only gave advice on keeping the environment clean by marking.

## point of view



## Philosophy of Nature

Dr. Dawood Sulaiman Al Balushi  
Editor-in-Chief

The nature has its own philosophy. It also has its own values which helps it in maintaining topographic and ecological balance, away from human modernity and its technology which is threatening the environmental parameters of nature. This is the universal formula in which all the natural elements are according to the ultimate goals set by the Almighty.

The life cycle of nature is its real breather which helps it in balancing the natural and environmental systems. This is despite all the imbalances caused by direct human interference which are causing fundamental changes. Earlier, the nature was dominant on human being. The human being was directly affected by the nature in its food, clothing and houses. But after the rapid technological advancements, the scales turned upside down, and human being by its technologies became dominant on nature. Now the human being is taming the nature in its own interests to suite its mental and life needs. But despite that boom in modernity, the nature continued with its own philosophy of defending itself through sudden climate changes, earthquakes, high temperatures, floods and other natural circumstances which the world experiences every day.

Recently, some scientists have discovered the secrets of nature that how the marine environment deals with the problems its faces when the sea is polluted by oil of the petroleum tankers and how the marine environment get rid of this situation. French scientists have discovered nature's cycle of increasing climatic fluctuations which are accompanied by tropical cyclones and floods by a range of new atmospheric reactions with some types of gases which are released from the surface of the earth due to any human act and which creates an environment suitable for these interactions leading to rapid climatic fluctuations and increased temperatures. American scientists have also discovered the role of forests and trees cut daily for construction work which absorbs large amounts of carbon monoxide. These scientists have come out with various other similar studies.

This is the nature and this is the philosophy of survival. The process of understanding of reality in human being is based on science, reason and faith in creator the Almighty and his unlimited ability to do everything. Therefore, there must be a point of meeting between a human being and nature to create reconciliation between. There should be complete adherence to the conventions and norms of nature to which all the countries of the world should comply through agreements and treaties aimed at protection of environment. We are hopeful that a page of reconciliation with the nature and environment would be opened for the sake of our future generation and protection of human life.

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# Arak

## a tree with economic value

### Lynx - Fatima Al Zadjalayah:

**The Sultanate of Oman has unique ecological diversity. Most part of the country is covered by deserts. Also, there are a number of plants spread all across the country. Perhaps, Arak tree is one of the most widespread Al Salvadoran species in the environment the Sultanate. The Omanis have lived with Arak tree and have benefited from its branches and fruits. Not only this, but they have used its roots spread deep under the earth.**

Arak is known for its permanent greenness. It is three meters tall and known scientifically as the «Salvadora Prisca». The plant has the capability of resisting drought and salinity of the earth. In addition to this, its leaves have good aroma. The Arak plants are spread from the north of the Sultanate to its south, especially near the wadis and coastal areas. It is also found near stones and in mountain areas, particularly in the wadis and plains of Dhofar governorate.

### Importance

It is considered a tree of economic significance. Its roots contain fluorine, which is used in the manufacturing of mouth and dental health products. Latest studies show that the Arak currently grown in private farms after creating suitable environment for them to extract their roots. The Arak tree have yellow flowers in the spring. These flowers mature in the summer to form bunches like those of grapes in general. The colour of its fruits is red. When these fruits become ripe they turn like berry in colour. The leaves and fruits of this plant are most favourite foods of camels and birds. It is also possible for human being to eat its fruit. The fruits of the Arak are called

kabbath. It is generally said that the cattle which eats leaves, branches and fruits of the Arak have tasty milk with good smell.

### Benefits

There are many other benefits in the Arak plants, particularly in its roots, which are used in the toothpaste industry. They clean teeth and keep them white. In addition to this, it protects the teeth from decay and calcination. It smells good. The miswak of Arak helps in elimination of cough and protects people from bronchial allergies, keeps the gums tight due to its soft brushes which have organic materials. It is also a treatment of bleeding gums resulting from various types of infections. It is one of the most important means helpful in quitting smoking. The fruits of the Arak, known in the past as Kabbath have many medicinal as well as nutritional benefits. They are used as alternative medicine to treat a number of diseases such as: stomach, back pain, and pain of hemorrhoids, diseases of the urinary tract, and passage of abdominal gases. While the boiled Arak leaves are considered good laxatives for intestines. It helps in reducing the severity of constipation. Apart from this, it reduces the pain of joints and rheumatism.

## World Studies

**T**here are certain research carried out internationally, particularly in German universities, on the roots of Arak. These studies have concluded that these roots have certain chemical properties. The Florine found in these roots can resist acidity. Chlorine component which is found in it can help in getting rid of pigments. Its Salviaurea resists and destroys bacteria. The Dental Treatment Complex in Germany has recommended toothpaste factories to add this substance to the toothpaste. There are other characteristics of the Arak woods. If you are using it, there is no need for a brush or a paste. It works as brush and it has chemical properties which is like paste. It was used by the Holy Prophet (peace and blessings of Allah be upon him).



**Palm trees protected**

**Omani environment for more than 4,000 years**

# Palm Tree

## Food and medicine

**Annually: 45 million kilogram of carbon absorbed by palm trees in Oman**

**A number of experts and officials have emphasized the importance of the spread of the palm trees in the Omani environment. They say that the date palm was an essential component of the Omani environment for more than four thousand years ago and still it is the same. In addition the palm trees have maintained the sustainability of the surrounding environment for many decades and help in increasing the amount of oxygen in the atmosphere and absorb carbon. As per 2018 census, there are about 7.5 million palm trees in Oman and it absorbs approximately 45 million kilogram of carbon annually. For this reason His Majesty Sultan Qaboos bin Said instructed to cultivate one million palm trees in 2009. This is high realization from His Majesty for the importance of palm trees and their role in food security, economic value, environmental sustainability and the biodiversity of the Sultanate.**

### One Million Date Palm Project:

On the role of the palm in preserving the Omani environment, Saif bin Rashid Al Shaqsi, Director General of the One Million Date Palm Project at the Diwan of the Royal Court, said that His Majesty Sultan Qaboos bin Said's directives to establish a One Million Date Palm Project in 2009 were a qualitative leap forward for the agricultural sector as a whole, particularly from date palms. The One Million Date Palm Project is considered one of the pioneering projects in the Sultanate of Oman which would help in ensuring food security and has massive economic, social, and environmental benefits. If latest scientific methods are used for the cultivation of date palms, manufacturing of date products and other related items, it would be a giant leap forward. It would add value to the Omani dates competing in the foreign markets and strengthen economic capabilities for Omani agriculture.

Al Shaqsi pointed out that palm cultivation has many direct and indirect environmental benefits. Palm trees help increase the amount of oxygen in the atmosphere. Scientific studies have shown that one tree absorbs about 6 kg of carbon annually and releases oxygen which is enough for two people. one acre of palm trees absorb about 2.5 tons of carbon dioxide per year.

Researchers agree that trees help in increased rainfall. Studies have shown that for example about 50 percent of the Amazon rain are due to the trees. As far as palm trees are concerned they provide environmental friendly bioethanol.

The Palm is considered as an important source of food

security in the face of the expected climatic changes. Date palm trees are considered to be tolerant of adverse climatic conditions compared with the other crops.

Palm cultivation plays an important role in the management of natural resources and improving soil fertility. Palms also contribute in protecting the soil from erosion and work as desertification resistant. They improve local climate through moisture and humidification. They also play a positive role in enriching biodiversity and ecological balance.

Al Shaqsi said that the One Million Date Palm Project's farms were spread over vast areas of the Sultanate. They are considered clean farms. They operate in the form of integrated socio-economic production system. The project also owns the largest organic palm farm in the region where organic agriculture is defined as a system of sustainable agricultural production. Here, for the agriculture only natural resources are used and not the chemicals which are harmful for general health. The project takes into account the conservation of biodiversity in all sites where the project farms are located. Here old wild trees are not allowed to be cut. These farms directly contribute to the fight against desertification. They work for soil stabilization and reduce the spread of dust in the cities and villages, and create of an integrated vibrant ecosystem.

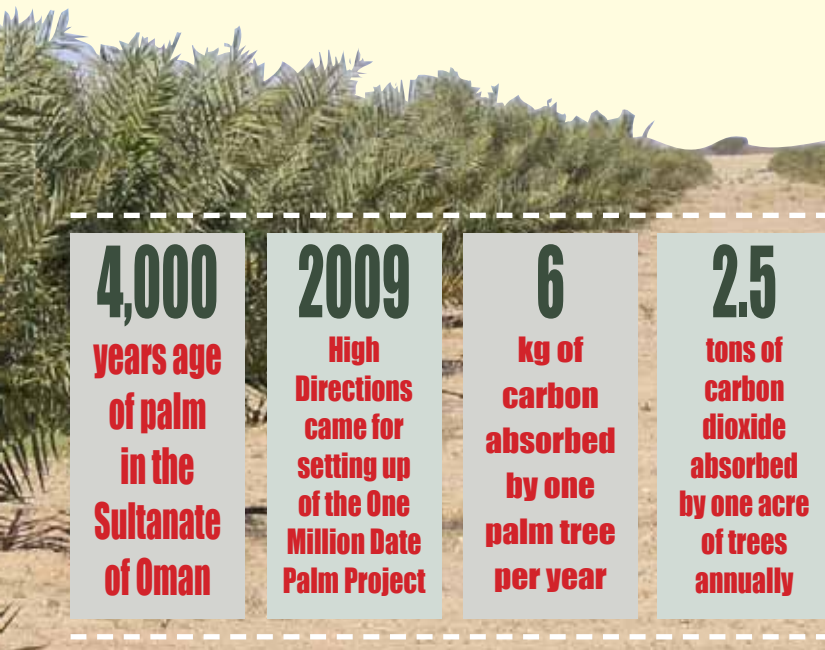
### Integrated Environmental System

Engineer Haitham bin Badr Al Khanjari, Director of the date palm department at the Ministry of Agriculture and Fisheries, said that the Sultanate of Oman has always shown keen interest



■ **Dr Saif Al Shqasi:** Scientific studies indicate that the palm absorbs about 6 kg of carbon per year

■ **E. Haytham Al Khanjari:** Date palms creates a good environment for the cultivation of many crops soround it.


**4,000**

years age  
of palm  
in the  
Sultanate  
of Oman

**2009**

High  
Directions  
came for  
setting up  
of the One  
Million Date  
Palm Project

**6**

kg of  
carbon  
absorbed  
by one  
palm tree  
per year

**2.5**

tons of  
carbon  
dioxide  
absorbed  
by one acre  
of trees  
annually

**50%**

of Amazon  
rains  
are  
due to  
its forest

**70,000**

shots are  
produced  
by the  
Laboratory  
of tissue  
culture  
annually

■ **Dr Abdullah Al Saadi:** The project of planting one million palm trees has an ecological dimension. It would preserve the biodiversity of the Omani environment.

■ **Dr Mahmoud Al Mahrouqi:** The palm, with its various components, played an important role in providing natural materials so that the Omani environment becomes friendly good to the human being.

■ **E. Saeed Al Sabahi:** Palm trees made the atmosphere moderate and purified the air of harmful gases. It enabled the human being to live in the hot and dry climate of Oman.



in palm. The palm has always been on the top in terms of crop of the country as well as an integrated environmental and agricultural system. He said that the date palm was a national wealth and is rooted in the social fabric of the country.

Al Khanjari said that the Omanis have always been interested in the palm and this tradition is inherited generations after generation due to its social, economic and financial feasibility. Al Khanjari said that planting of trees has many important environmental benefits, particularly if you plant date palm trees. Under these palm trees one can cultivate many crops as they create suitable environment for other crops as well. The Omani environment has got benefited from the palm. The cultivation of palm is linked with Aflaj system as a demographic environment of the Sultanate. There are many palm oases which attracted the population and villages came up alongside them due the food security these palm oasis provided. He added that the Omani environment has benefited enormously from

other elements. On the efforts of the Sultan Qaboos University (SQU) regarding palm, the Dean of the College of Agricultural and Marine Sciences of the university, said that there are many researches that have been conducted at SQU, particularly in the field of palm trees. These researches focused on studying the pests of date palms and their treatment. In addition to this, some researches focused on the factors which increase the production of date and quantity of the palm, as well as the optimum use of fertilizers and irrigation water. Some researches were focused on the benefits of the date palm in different industries and some talked about the use of the wastes of palm. There are also research about the benefits of date in the processing of different food item as well as its effect on some human diseases. Many other related researches are still going on.

#### Friend for the Omanis Human

Dr. Mahmoud bin Saif Al Mahrouqi, Secretary of the Omani Agricultural Association, the head of the Al Dakhiliyah branch of the association said that the palm was a permanent companion of Omanis, especially as the source of their food, livelihood, and home. Omanis have always taken care of palms. The concerned authorities also given priority to palms, increased its products and set up laboratories and specialized environmental research centers such as the Palm Research Centre of WadiQurayat, Textile Agriculture Laboratory in Jamah in the WilayatBahla, and in addition to One Million Date Palm Project.

The president of the Farmers Association in Al Dakhiliyah governorate said that the palm was an integral part of human life in the governorate. The dates are comprehensive food which provides energy to the human being as they contain a lot of proteins, fiber, and minerals. He said that the palm contributed with its various components to the Omani environment and life of its people. It played a major environmental role for a human being. Omanis used it for their making their homes, tools and cooking food. Its trunk is used for the construction of traditional houses. Its fruits provided a healthy meal for Omani people and are the diet for animals related to humans.

The Palm has contributed to the improvement of the soil properties by providing soil organic materials which decompose fast. It helps in the improvement of soil texture and pores which makes it more fertile.

#### Essential environmental component

According to Engineer Saeed Bin Khamis Al Sabahi, member of the Omani Farmers' Association, palm trees are an essential component of the Omani environment. Most of the cities and villages of Oman are oases of palm trees. These oases provided an environment suitable for both humans and animals. When the atmosphere is very hot, its shades make it pleasant. It also purifies the air from harmful gases, enabling people to co-exist in the warm and dry environment of Oman. The Palm has played an important role in providing food in times of distress.

The palm also provides raw materials for the construction of homes. All its parts are used for the construction of homes. Even they are useful for making utensils. It plays major role in the prevention of desertification and protection of soil layers from erosion. It also plays an important role in air purification from dust and impurities and provided an environment suitable for the multiplication of many organisms, especially endemic and migratory birds.

all parts of the date palm, whether they are their products or biproducts.

#### Importance of the Palm

Abdullah bin Mohammed bin Saif Al Sadi, Dean of the College of Agricultural and Marine Sciences at Sultan Qaboos University, said that the Omanis have always cared about the date palm, which was an important source of food security. The palm was always used as a main source of food and parts of it in construction and as furniture for the house. The date palm continued to be main source of food security. The Government is making efforts to expand date palm farming. It is supporting production and manufacturing of dates. It also benefits from date palm waste in various eco-friendly industries.

On the environmental benefits of One Million Date Palm Project, he said: «The project was according to the vision of His Majesty, The Sultan, who realised the importance of the date palm for us and for our coming generations. It also has strategic importance as a cornerstone of food security and has economic importance. It also helps in preservation of the biological diversity of the Omani environment. The palm trees are a refuge for different types of birds. It also helps in containing some types of harmful gases and reduces temperature. It also helps in avoiding desertification. A large variety of unique and different types of micro-organisms live side by side with the palm. Some of these micro-organisms defend the palm from various diseases. Some of these micro-organisms have huge benefits for the environments surrounding the palm as they convert the organic materials into different

## >> Oman participating with the world in observing Earth Hour

### Lynx - April

As part of its efforts to reduce the thermal emissions, the Sultanate of Oman participated with the world in observing Earth Hour in March. The annual event was aimed at increasing awareness of the people about the importance of participation in the national efforts to meet the challenges of global warming which are resulting in climatic changes. Global warming is one of the major challenges being faced by the world for many decades. The observing of the Earth Hour will promote positive behaviour of the people of the society to protect the planet from the negative effects of greenhouse gas emissions caused by human acts, as well as to increase awareness in the society about the importance of rationalizing the use of traditional energy sources and expanding the areas of use of renewable sources of energy in development sectors. It is also to make people aware of the importance of preserving environmental resources and services for present and future generations. This year, the Ministry of Environment and Climate Affairs observed the Earth Hour with the world under the auspices of His Excellency



Najib bin Ali Al Rowas, Undersecretary of Ministry of Environment and Climate Affairs. Various organisations of the Sultanate participated in the annual event which is held to protect the environment. This year the theme of the Earth Hour was "Connect with the Earth." At the occasion, all unnecessary lights were switched off and a number of events were organised to create awareness in various segments of the society. The Environment Society of Oman (ESO) urged residents and citizens of the Sultanate to switch off their electrical appliances at 8:30 pm to join them in observing Earth Hour.

Several governmental and private institutions supported the idea and switched off their lights for one hour. In Musandam governorate, primary school students were taught about the Earth Hour and its importance by a team of the UNESCO based in the governorate. The students learned about the importance of not wasting electricity and water and the need to preserve natural resources for future generations. According to Nama Group, Earth Hour activities have contributed 20 percent increase in conservation of electricity supply this year in all governorates of the Sultanate compared to last year.

### Qatar

## Qatar announces the launch of the Marine Turtles Protection Project

The Ministry of Municipalities and Environment announced the closure of Fuwayrit beach between April 1, 2019 and August 1, 2019 to start work on the endangered sea turtle conservation project. This is part of the efforts of the Ministry of Municipalities and the Environment of Qatar to preserve wildlife, in accordance with Ministerial Decision No. 37 of 2010 regarding the conservation of turtles and seabirds from extinction. The ministry has urged the citizens and residents who visit the beaches and the northern islands not to approach the nesting areas of the sea turtles and to report immediately on 998 in the case of any observations. It has also asked them not to put lights on them and avoid any source of disturbing sounds nearby. In the year 2018, there was unprecedented record number of young turtles launched to the sea. The number of these young turtles was 5,010. The Department of the Protection of Wildlife has selected a team of Qatari environmental inspectors and observers with high skills for groundwork on the project. The process of selection was done under the direct supervision of Omar Salim Al Nuaimi, director of protection of wildlife. A training workshop was also organised for the team of inspectors which was participated by experts of wildlife.

### KUWAIT

## 30 nominations for the Sumait Prize for African Development 2019

The Kuwait Foundation for the Advancement of Sciences (KFAS) has received about 30 entries from around the world so far for the 2019 African Development Award for the Food Security category worth US \$ one million. The annual Sumait Prize of \$ one million is awarded for major improvements in health, food security and education in Africa. The recommendations of

the Selection Committee will be approved for one winner or multiple winners by the Board of Trustees of the Sumait Prize, which includes prominent international figures of the field of development in Africa and internationally renowned personalities. The Board of Trustees is headed by Sheikh Sabah Khaled Al Hamad Al Sabah, Deputy Prime Minister and Minister of Foreign Affairs.

### Saudi Arabia & Bahrain

## Bahrain, KSA discuss cooperation in environmental areas

The Kingdom of Bahrain discussed opportunities for bilateral cooperation in the area of an environment with the Kingdom of Saudi Arabia (KSA). The talks were held when the Mohammad bin Mubarak bin Dinah chief executive officer of the Supreme Council of Environment of Bahrain met Ahmad Al Ansari, deputy chief executive officer of the Authority of Environmental Affairs in the Public Authority of Metrology and Environment Protection of the KSA. Bin Dinah lauded the developments taking place in the KSA in the area of environment and the wildlife. They also held deliberations about the level of cooperation between the two countries.

Bin Dinah expressed desire of Bahrain to strengthen cooperation and make joint efforts with the KSA in the area in the interest of the people of the two countries and their future. Bin Dinah introduced mechanism of the Supreme Council for issuing environmental permits and the steps being taken by it for environmental compliance of industrial establishments in the Kingdom. He also talked about the inspection drive carried out by the Supreme Council during 2019 in the establishments which are of industrial and production nature. The inspection drive was planned carefully and a number of inspectors were trained by the council so that they can carry out the drive with dexterity and accuracy.

### UAE

## Abu Dhabi completes an aerial survey of wild areas

The Abu Dhabi Environment Agency (EAD) has completed an aerial survey of three wild areas covering 25 percent areas of Abu Dhabi. The survey was carried out to record the number of large herbivores in Abu Dhabi, collect data on other species of wildlife such as birds and small mammals, as well as to study the distribution of local vegetation in the surveyed areas. Other information was also documented including the distribution of camel farms, grassland and waste disposal areas.

During the survey, eight mammal species were recorded, including 281 types of sand gazelles and 241 mountain gazelles. Other mammal species included the Arabian Oryx, the Red Fox, and the wild mountain rabbits. The survey also recorded up to 6,839 Arab camels, sheep and goats. The survey also measured 13 different species of birds, such as flamingos, houbara, large falcon, falcon, and other common species of migratory birds which spend their time in Abu Dhabi and migrate during the summer.

## >> New environmentally friendly coolers

In an effort to protect the environment and reduce greenhouse gas emissions, a number of experts have come up with a new way to operate refrigerators and coolers. Experts said a solid material known as plastic crystals would provide safer alternatives to gases currently used in refrigerators and air conditioners. According to the British newspaper Daily Mail, refrigerators are cooled by gas pressure, a reaction which takes the heat and triggers cold. The new system achieves

the same performance with the same pressure applied to the crystals, changing its molecular structure and making it able to absorb heat and create a cooling effect. Refrigeration units such as coolers and air conditioners currently cause more than a quarter of the world's electricity consumption. Scientists from the Metals Research Institute of the Chinese Academy of Sciences in Shenyang say plastic crystals were not only effective in air cooling but also use less energy.

## >> GM investing \$ 300 million to produce electric cars in US

General Motors (GM), the largest car maker in the United States (US), has announced plans to invest \$ 300 million in one of its factories in the state of Michigan to produce electric cars. This announcement came after it has indicated its intention to produce the cars in its factories outside the United States. The new investment would create about 400 new jobs at Orion Township, about 40 kilometers north of Detroit, the capital of the historic

American automobile industry. General Motors is currently producing new Chevrolet Bolt EV in this factory which after new investment will be able to produce new Chevrolet electric cars as well. The company said in a statement issued recently that the production of a new electric car will strengthen its commitment in the area. The new car will be designed and engineered on the basis of what GM described as an «advanced version» of Bolt EV's electrical design.



## >> Number of butterflies plummets in Netherlands

A recent study showed a decline in the number of butterflies in the Netherlands by at least 84 percent over the past 130 years. It confirms the crisis affecting insect populations in Western Europe. According to the Guardian newspaper, the researchers analyzed the data of 120,000 butterflies caught by the collectors of butterflies between 1890 and 1980 as well as recent scientific data. Through this, they discovered a significant decline in 71 species of native butterflies in the country. Fifteen species were extinct during the last century. «We are absolutely certain that the real decline is much greater,» said Chris Van Suai of Dutch Butterfly

Conservation and one of the researchers in the study. Following the study, warning about a decline in the number of insects came after a global review calculated that the total number of insects was falling by 2.5 percent each year. A German study found that the average abundance of flying insects fell by 76 percent over 27 years, and since the scientific observation of British butterflies in 1976, there was a 77 percent decline in the number of butterflies was in habitats found only in certain areas, such as grassland or woodland, while the number of species most common in rural areas declined by 46 percent.



Environmental Vocabulary

### The legend

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The minds of many are still chunky with its fairy tales. Its novels are woven into each board, and the roles of its starring are played by both humans and Jinn. We Infant its events from the beginnings of breastfeeding, imagining, believing them and live with their imaginary events as much as possible. We live its chapters in a virtual world where we feel its sense of feeling, which is in reality is just a psychological sense basically bare from the truth. Is it a fairy-tale animal whose our mind built it in the world of non-existence, or is it a real animal living with its spirit and body in the world of existence?!

This animal's favorite house is caves and dens. Moves alone, especially at night and less daylight. It is may be found with simple groups especially at the source of food. When these animals do meet, they greet by sniffing each other's face, neck, nose and a special pouch by the anus. From these pouches, a yellow aromatic substance is produced that this animal smears on rocks and grass stalks to denote the possession of the place. In captivity was seen placing this substance in the bowls of food. This animal is not a dog species but a bit like it. Its neck is thicker than dog. Its forelegs are high and shoulders are also thicker while the back is tilting downward towards the rump. It possesses a medium-sized rise-like on its shoulder, where the hair above it stands when the animal feels dangerous. Its fur tends to be brownish-gray, while its snout and ears are dark. It weighs on average 40 kilograms. It feeds everything from a plants and animals especially the dead animals (polyphagous). It is basically a scavenger, and uses its powerful jaws to chew and grind bones.

The female gives for approximately four puppies a year after a pregnancy lasts to eighty days. The youngsters continue in breastfeeding for five months during which the parents provide food while are still in their holes. When they reach a full year, they are able to engage in reproduction. The life span extends up to 12 years.

This living creature has acquired a bad reputation in the people. It's scary shape and its unpopular behaviors have greatly contributed to the fixation of this reputation. This is has been aggravated by the fact that it is associated with the novels of witchcraft and sorcery. The past literature has been filled with narratives that may reach to superstition and myth. In addition, the interested people have expanded to characterize all parts of it and to determine their benefits and uses in various ways that astonishes the mind and contrary the nature. So this animal dresses with these beliefs and irregular actions a cloth of myth mixed of awe and desire. Interested people dealt with this by their eye of interest and point of view, while public is trapped in the illusion of disbelief.

In Dhofar province where mountains, caves and cliffs this animal lives mainly. It is also recorded in scattered areas of the Hajar Mountains and some other areas. In general, it is at risk of extinction, with only 2,500 heads estimated to be in the Arabian Peninsula. This legendary animal, the striped hyena, needs more environmental and behavioral studies to understand its scientific secrets and its association with other organisms and to preserve it as a wild animal of extreme environmental importance.

# Public Utilities Conservation



What a beautiful park! We like to play and have a fun in it.

Come on! I want to play. Hurry up!

Wait Ahmed.. our friends are still playing. Let us wait our turn please.

We must keep these utilities, so don't destroy or break them. It was created for us to play together and meet our friends.

Public utilities such as public parks are our national and religious duty to conserve them. This is responsibility of all. We must take care of our plants, landscape and other utilities and consolidate this behavior for our and other benefits.