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About innovative Environmental Research

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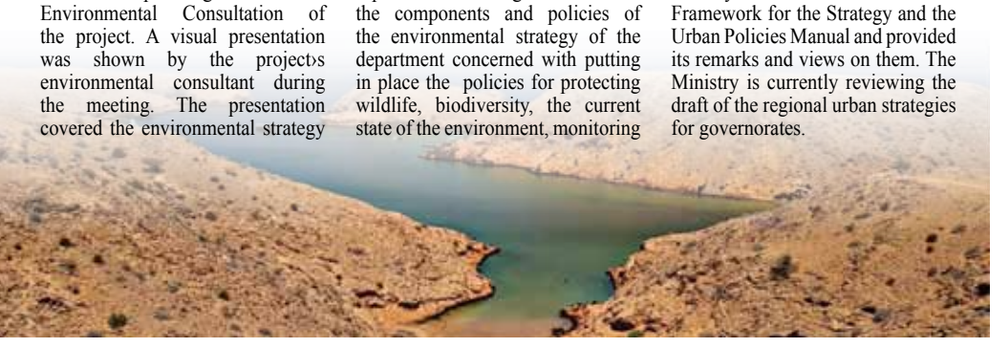
Issue 54

Carcass Leather

One of the Largest Wealth Thrown at the Landfill

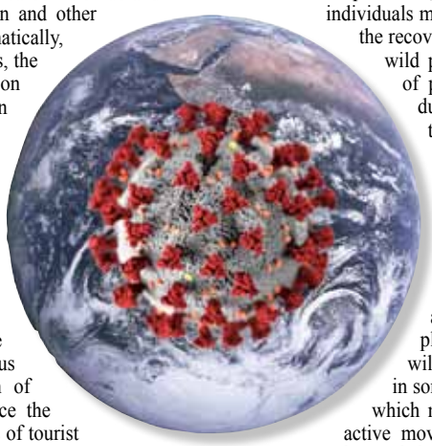
MCA Follows up the developments of the National Urban Development Project

His Excellency Mohammed bin Salim AlTobi, Minister of Environment and Climate Affairs, followed up the developments of the National Urban Development Project with the Supreme Council for planning which is the Environmental Consultation of the project. A visual presentation was shown by the projects environmental consultant during the meeting. The presentation covered the environmental strategy of the administration as part of the urban strategy and policies related to the environmental sector, in addition to the policies for the use of natural resources such as water and mineral resources, among other aspects. The meeting also discussed the components and policies of the environmental strategy of the department concerned with putting in place the policies for protecting wildlife, biodiversity, the current state of the environment, monitoring and control, in addition to air quality and noise control policies, coastal and marine areas management, and policies for mitigation of and adaptation to climate change. It is worth noting that the Ministry recently reviewed the National Framework for the Strategy and the Urban Policies Manual and provided its remarks and views on them. The Ministry is currently reviewing the draft of the regional urban strategies for governorates.



(Covid 19) Reduces Waste and Mitigates Stress on the Global Environment

Despite the risks that faced the world as a result of the outbreak of the Corona virus (Covid 19) pandemic and its severe effects on human health and economic and social aspects, the pandemic, on the other hand, has a positive impact on the environment. Harmful gas emissions such as carbon dioxide and air pollutants such as plankton and other emissions have decreased dramatically, due to closing of most factories, the suspension of air transportation and the restriction of population movement in most countries of the world. This is what was monitored via satellite images and published by a number of global sites concerned with environment. By asking whether the Omani environment has benefited from the Corona virus,the answer is that the positive effects of the Coronavirus are obvious in the reduction of the pressures that used to face the natural environments and areas of tourist attraction in particular. Our beautiful Omani beaches that used to be and still are famous destinations for tourists and which used to suffer from irresponsible behavior of some individual, such as throwing environmental harmful waste, especially plastic waste, has decreased. That is in addition to the drop in the percentage of random cars driving on beaches that affect living organisms and their life cycle. Many of the Sultanate's environments have regained their vegetation due to the recent rains.As well, the measures for dealing with the pandemic, such as the restriction of individuals movement, have contributed to the recovery and maintenance of many wild plants through the mitigation of pressure on the natural sites due using random roads and the perpetration of violations by some visitors of these sites, such as breaking tree branches or burning them, as was the case for the Juniber trees at Al Jabal Al Akhdhar and other plants. As for wild animals, they are no less fortunate than the plants, as the movement of wild animals has become active in some locations, especially those which move by night. For example, active movement of the mountain fox was detected through camera traps that were installed in mountainous areas in a number of northern governorates. Like most wild night active animals, this animal is shy and it is difficult to be seen during the day light.



point of view

Finally, the Earth Breathed

Dr. Dawood Sulaiman Al Balushy
Editor-in-Chief

Finally, the earth breathed a sigh of relief after a long and bitter struggle against the scourge of pollution in all its forms and types. The Earth breathed and regained its natural green color that it had a hundred years ago, the years of the Industrial Revolution. The past months that the world experienced and is still experiencing in its struggle with the Coronavirus (Covid 91) are not negative for the environment, nature and wildlife, on the contrary, they are positive. At a time when thousands of people are dying from infection with this virus, natural life, in the other hand, with all its components, including animals, plants, and living creatures, is flourishing and thriving. The black clouds that covered the countries of the world with pollution disappeared, and the animals returned to their natural pastures.

The recent measured taken by the all of the world countries to stop all industrial and petrochemical production, imposing curfews in most cities and global capitals, stopping the movement of cars and trains, stopping travelling to and from all air, sea and land ports and stopping many commercial, agricultural and industrial activities, all of this has negative and dangerous economic and social impacts on the countries of the world, but on the other hand, this constituted a real start to restore the ecological balance to the world that was disturbed by the reckless and disgraceful actions of human. Due to the industrial revolution in all its stages, pollution rates have exceeded global ratios, the list of extinct animals has expanded, desertification has expanded, and green spaces have declined. However, all these damages have begun to decline during the past months due to the measures taken by the countries of the world to fight this virus.

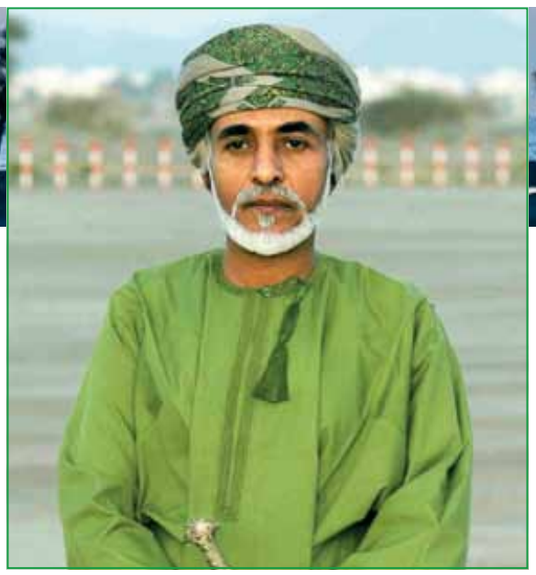
Most recent reports issued by many international environmental organizations indicate that the environment has recovered during the past months and reached positive levels better than the past years. For the first time in history, the ozone hole closes over the Arctic and Antarctic regions, the air quality has improved in 733 cities around the world,deer go out to roam the streets of London, migratory birds return to occupy the beach of Agua Dolce in Peru, the Parisians watch ducks roam the streets. In Venice, residents saw small fish under the water, and a pelican appeared swimming in the lakes and in Delhi, monkeys wandered freely in the human-free streets.

Many curses include blessings within them. This small virus that destroyed human beings came to teach us valuable lessons for our daily life. It came to tell us that the power of God Almighty is above man's ability. It came to open in our minds a new page in terms of our dealings with the environment, nature and living beings. Did we learn the message behind this lesson?

The aspects of the interest of the late Sultan, Qaboos bin Said - may God rest his soul in peace, in preserving and protecting the environment are various. During his reign, many laws were enacted and the Sultanate signed many agreements and protocols for international environmental cooperation due to his belief in the importance of environment. This is stated in in one of his speeches when he said that, «preserving of environment is a collective responsibility that is not bounded by the political borders of countries». In appreciation of his contributions in this regard, he received praises and became a symbol in the field of environmental conservation. The world celebrated the late Sultan, Qaboos efforts by naming a rose in his name «Sultan Qaboos Rose». Hereunder, we list some of His Majesty›s environmental efforts.

«Sultan Qaboos Rose» named after his Majesty in Appreciation of the Efforts in Preserving the Environment

The Late Sultan was the One Who Enacted the Environmental Laws and Ordered the Signing of International Environmental Agreements



Laws

During the reign of Sultan Qaboos bin Said - may God have mercy on him - many laws were issued to preserve the environment and protect it from various damages. In 1974, the late Sultan issued a law to control marine pollution, which was the real launch of the environmental work in the Sultanate. The Environmental Protection and Pollution Control Law was also issued by the Royal Decree No. 10 / 1982. This law was repealed according to the text of Article (2) of the Royal Decree No. 114 / 2001.Then the Environmental Protection and Pollution Control Law was issued. The Law on the Protection of Drinking Water Resources from Pollution was also promulgated by the Royal Decree No. 115 / 2001. This was followed by the enactment of the Law of Natural Reserves and Wildlife Conservation promulgated by the Royal Decree No. 6 / 2003.Then Royal Decree No. 46 /95 was issued to enact a system for handling and using chemicals. The Royal Decree No. 35 / 81 was also issued to promulgate the Maritime Law. In order to preserve the environment, the Royal Decree No. 26 / 79 was issued to enact the Law of National Parks and the Protection of Natural Sites. This law was canceled according to the text of Article 3 of the Royal Decree No. 6 / 2003 that enacted the Law of Natural Reserves and Wildlife Conservation. The Royal Decree No. 15 / 81 on the Territorial Sea, the Continental Shelf and the Exclusive Economic Zone was issued.

International Conventions

During the reign of the late Sultan, the Sultanate signed and entered to several international agreements and protocols aim at protecting the environment and supporting international efforts in such aspect. These agreements and protocols covered many issues, most notably 3 agreements on hazardous and chemical waste which is known as the Basel International Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, to which the Sultanate acceded to by the Royal Decree No. 199 / 1994, and the Rotterdam Convention on the Prior Informed Consent regarding certain hazardous chemicals and pesticides in chemical trade. The Sultanate joined this agreement by Royal Decree No. 99 / 81. Stockholm Convention on Persistent Organic Pollutants (POPs), signed by the Sultanate on 4 / 3 / 2002 and ratified on November 24, 2004.

The Sultanate takes care of the environment and is protecting it from chemical pollutants. Among its efforts in this direction, it ratified the Chemical Weapons Convention(OPCW), according to the Royal Decree No. 122 / 94. In the field of climate change and the ozone layer, the Sultanate ratified the United Nations Framework Convention on Climate Change in 1994 by the Royal Decree No. 119/ 94, and ratified the Kyoto Protocol to the United Nations Framework Convention on Climate Change in 2004 by the Royal Decree No. 10 / 7 / 2004. The Sultanate also, signed the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer.

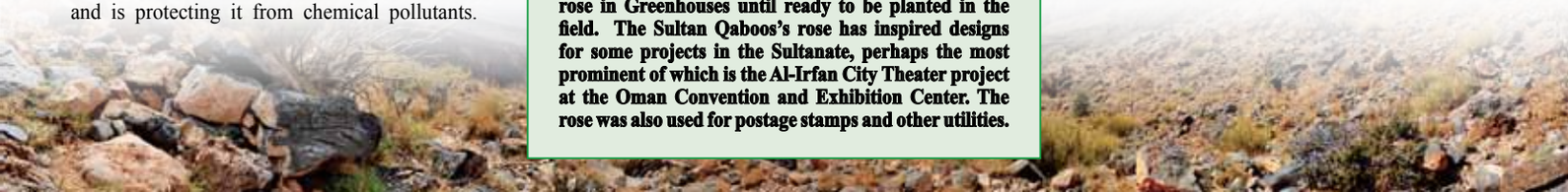
In the era of the Late Sultan Qaboos bin Said - may God have mercy on him - the Sultanate signed the Biological Diversity Agreement in 1992 and joined it in 1994 by The Royal Decree No. 119 / 1994 and the same step was taken with the Cartagena Protocol on Biosafety which the Sultanate joined in 2002 by the Royal Decree No. 55 / 2002.In the field of marine environmental protection, the Sultanate has joined the United Nations Convention on the Law of the Sea by the Royal Decree No. 67 / 89, and it has also joined the International Maritime Organization (IMO) Agreement by the Royal Decree No. 2581/ and the International Convention To prevent pollution from ships for the year 1973, and Protocol 78 (MARPOL 7378/).]MARPOL 73 / 78, MARPOL is short for International Convention for the Prevention of Pollution from Ships and 73 / 78 is short for the years 1973 and 1978).

According to the Royal Decree No. 26 / 81, the Sultanate joined the London Dumping Convention 72 and the Protocol96. By the Royal Decree No. 93 / 84, the Sultanate also joined the International Convention of 1969 regarding interference in the high seas in cases of oil slicks (Convention 69 Intervention) and the Protocol 73 in cases of non-oil pollution. By the Royal Decree No. 57 / 94 the Sultanate joined the 1992 protocol to amend the 1969 International Convention on Civil Liability for Damage Resulting from Oil Pollution (Civil Liability Convention - CLC 92).

The Sultanate also signed agreements to protect the environment from desertification and to preserve wildlife. In the field of desertification control, the Sultanate joined the United Nations Convention to Combat Desertification (UNCCD) in 1996. As for preserving wildlife, the Sultanate joined the Convention on the Conservation of Wildlife and its Natural Habitats in the countries of the Gulf Cooperation Council in 2002 in accordance with Royal Decree No. 67 / 2002. The Sultanate also joined the Convention on International Trade in Endangered Species of Animals and Plants in 2007 by Royal the Decree No. 117 / 2007.

Sultan Qaboos Rose

The Sultan Qaboos rose is a distinct type of roses bearing the name of the late Sultan - may God have mercy on him - in appreciation of his efforts to achieve world peace, support the environment, and preserve human rights. The rose first appeared officially in April 1990 at the Osaka Gardens Gallery in Japan.It is considered a global appreciation for the efforts of the late Sultan. The rose was officially presented to Sultan Qaboos bin Said - may God rest his soul - by the World Rose Society - based in the Netherlands, and presented to the late Sultan by the President of the World Federation of Rose Societies, Susan Page in 1990. It is customary for roses to be called after the names of personalities to honor their accomplishments, and this is a common practice since the nineteenth century as a kind of veneration. The Sultan Qaboos rose is characterized by several qualities, including the pleasant smell, the rich color of the scarlet red, and its long stalk. It is a botanical plant, that is means it is a plant or a variety of ornamental plants that has distinctive characteristics enable it to be preserved through propagation and selection. The Center for Textile Agricultural Research has succeeded in propagating Sultan Qaboos's rose histologically by propagating with bodily buds, and this success came as a result of lengthy research to reach the appropriate medium for the growth of the rose and multiply it inside the growth rooms in the laboratory.Then attempts were made to reach the center of rooting, followed by arriving at the appropriate conditions for localizing the rose in Greenhouses until ready to be planted in the field. The Sultan Qaboos's rose has inspired designs for some projects in the Sultanate, perhaps the most prominent of which is the Al-Irfan City Theater project at the Oman Convention and Exhibition Center. The rose was also used for postage stamps and other utilities.



Carcass Leather

With the advent of the religious seasons, such as the holy month of Ramadan, Eid al-Fitr and Eid al-Adha, the slaughter houses are crowded with requests for slaughtering of sheep, cows and camels, as they follow proper ways to get rid of the scraps. As for the slaughters that take place in homes or private slaughterhouses, the waste is disposed directly in the garbage containers. Moreover, the human consumption of meat increases daily, and thus the carcass waste also increases, and the methods for its disposal add many burdens to the concerned authorities. The improper methods of disposing the carcasses waste that we see in the festive seasons, by throwing them on farms, valleys or places of space and other places, repeat themselves with more scale every season, causing harm to humans and the environment. This phenomenon imposes on us two important possibilities. The first is the necessity of getting rid of the slaughtering waste that increase daily and the environmental disasters that may result from them.The other one is the possibility of exploiting and investing the slaughtering waste as a major economic resource, especially in the leather industry.

One of the Largest Wealth Thrown at the Landfill

The environmental damages resulting from throwing the slaughtering residues in places other than those designated for them are many, such as emitting bad odors over the place where such scraps are thrown, which leads to air pollution, in addition to the fact that they constitute a fertile environment for insects and rodents to congregate on them and these insects and rodents can transmit diseases to humans and other living organisms. These residues can also be decomposed and mixed with soil, which may lead to environmental defects and contamination of groundwater. Also, if these wastes come into contact with water bodies, they will pollute the water, which will harm the beneficiaries of that water. In addition, it distorts the aesthetic landscape. Even if the disposal of the slaughtering waste in the engineering landfills is done in a good way, the burden of disposal will increase, at a time when it can constitute a major economic resource that reduces the burden on garbage dumps and at the same time supports the national economy and develops the leather industry and its derivatives.

Livestock in the Sultanate

Based on the latest statistics available in the Sultanate for the year 2019, the number of livestock such as cows, goats, camels, and sheep in the Sultanate,is more than 3.6 million, and the volume of animal production increased to 301 thousand tons in 2019 compared to 2011, when the production volume was only 129 thousand tons.

A large number of sheep and cows are imported to the Sultanate from time to time to supplement the local markets. Last April, more than 18 thousand Somali sheeps arrived at the Port of Salalah. In the same month, 10 thousand Australian sheeps, and 10 thousand Sudanese sheeps arrived to Sultan Qaboos Port.

Oman for Environmental Services Holding Company «Bee›ah» explained that the engineering landfills of waste that are scattered in various governorates of the Sultanate received large quantities of municipal and animal waste during the period of Eid al-Fitr of 2019, estimated at more than 20 thousand tons, increased by an average of about 36% compared to the quantities of waste during the regulardays.

Until 2018, there have been 28 factories for leather and related products in the Sultanate according to the National Center for Statistics and Information. This is not a large number compared to the size of the carcasses in the Sultanate on ordinary days and on holidays. From the above said, it can be considered that leather is an unexploited asset.

So, if leather is optimally exploited, it will generate economic returns for individuals and the country. It is also possible to achieve self-sufficiency in leather in the Sultanate on the one hand and export it abroad on the other hand. In addition to that, through our exploitation of leather, we can solve the problem that affects the environment, which is the throwing of animal waste in places other than those designated.

Leather can be exploited in two ways. The first is to be used as raw leather. This will create an urgent need for the emergence of institutions concerned with the collection, tanning and preparation of leather for various industries and the need to deliver them to the companies that operate in the field of manufacturing leather products inside the Sultanate and export them to the companies that operate outside the Sultanate. The other side is the establishment of institutions that manufacture products from leather. The Holy Qur'an mentioned the importance of leather and its utilization in several verses.

Past and Present of Leather Tanning

The tanning profession on which the leather industries depended was known a long time ago. It is considered one of the traditional trades that Omanis used in ancient times. Leather tanning is defined as the process of converting animal skin (sheep / goats / cows) into a useful skin product, after skinning and removing meat and hair. The Omanis used to treat leather tanning with great care. The used local plant materials for tanning processes such as the fruits of the Acacia nilotica tree, with help of various tools, some of which are primitive.

The tanning process keeps the leather from rotting and making it elastic, some sorts of it are thick and heavy.

● The damages resulting from the random throwing of carcass are many, including emitting bad odors, attracting insects and rodents that cause diseases.

● The ancestral usage of leather for manufacturing their daily needs is a cultural heritage that must be restored and developed

● The number of livestock, such as cows, goats, camels and sheep in the Sultanate, exceeds 3.6 million

● The amount of carcass waste received by the engineering landfills during the last Eid Al-Fitr period 2019 was more than 20 thousand tons

● If these leathers are fully exploited, it will achieve great economic returns and solve a problem that affects the environment

others are thin and light. The tanned leather is characterized by its high mechanical resistance and great durability.

By referring to what the ancestors used to do with animal slaughter residues, we find that these wastes had multiple uses, the most prominent of which was the utilization of carcasses leather. This is considered now as a heritage. When slaughtering, our ancestors used to be sure that the leather was not affected by scratches, so that it would be useful. Leather was used in various industries that meet some daily needs, such as waterbladder «Qirbah» that was used for keeping water, Money wallets, buckets «dalow» which was used to extract water from the well, «belts» that are used for daggers, strips that was used for the saddles of camels, donkeys and horse, as well, the leather was used for making shoes of various kinds, bursar which is used as covers for weapons such as rifles, sheaths, swords, daggers and knives. It was also used in making vessel for shaking the milk, as well as making vessel for storing oil and «Sien» which was used to transport water while traveling. It was also used to make bed cover and other useful things. Today, there are many industries that depend on leather as they enter in many of the products that we use in our daily lives such as home furniture. chairs, beds, etc., and clothing products such as shoes, bags, watches, coats, belts, and clothing in general. Leather also enter into the manufacture of some interior parts of cars, children›s toys and many more things.

The local production of carcass skins can cover all the requirements for tanned leather if there is specialized factories for producing such requirements.

Strenuous Efforts

The Ministry of Regional Municipalities and Water Resources, the Municipality of Muscat, and the Municipality of Dhofar are making every effort to provide slaughter houses in the various governorates of the Sultanate. That is because such slaughter houses are very important for live stock slaughtering after confirming their safety and that they are free of all diseases. Then slaughtering waste is disposed in proper way and proffesional methods.

The municipal slaughterhouses are ideal place for slaughter, as all safety requirements are available. The competent authorities make hard efforts to maintain the soundness of theslaughterhouses, as well as encouraging the people to use the slaughterhouses and raising awareness on the dangers of random slaughtering outside slaughterhouses.

The Omani Environment Services Holding Company "Bee›ah" stated that it faces great challenges during the holidays due to the wrong behavior of some individuals who improperly dispose municipal waste, the matter that cause many damages to public health and environmental hygiene. It is worth noting that the company directs many tips and messages through social media platforms and TV channels explaining the proper ways for dealing with the carcass waste, such as placing the carcass waste in the waste bag and closing it tightly, placing the bag in the designated waste container and closing it tightly, whether during the holidays or in the normal days. In the context of the efforts exerted to face the increasing challenges of managing waste, Bee›ah is planning to launch an environmental awareness campaign to introduce the company›s call center No. (1881), and the services it provides. This campaign includes the period of Eid Al-Fitr and Al-Adha. The company has developed a plan to deal with the expected large quantities of carcass waste during Eid Al-Fitr holiday, by providing large volume containers in specific places in the governorates which are covered by the service in proportion to the population density. These containers will be only for carcass waste. In addition, the company will intensify its efforts to transfer the waste to the engineering land fills on a daily and continuous basis throughout the holidays. All segments of the community will be introduced to the sites of these containers via the electronic link and through text messages and social media platforms of Bee›ah.

Guidance

In order to preserve human health and for the safety of the environment, the proper handling of carcass residues in the Sultanate can be explained through several recommendations, including instilling the importance of leather exploitation in the minds of children, while introducing them to the heritage of grandparents in how to use leather. On the other hand, we have to establish companies specialized in leather assembly and leather products manufacturing. It is important to focus on the use of slaughterhouses when wanting to slaughter livestock and to stop random slaughtering in homes, roads and other unhealthy places, in addition to intensifying awareness campaigns and guidance on the dangers of disposal of animal waste in places other than that designated for them. By doing so, we can take care for environment; protect it from all pollutants and preserving its components.

Antelope Returned to Practice Normal Life

The Office for Conservation of Environmentat the Diwan of the Royal Court published photos on its account on the social networking site «Twitter» for flocks of antelopes as practicing their normal live in the Wildlife and Wildlife Sanctuary in Al-Wusta Governorate, with wildlife rangers permanently guarding them. This happened against the back drop of last March's launching of an environmental project by the Office for Conservation of Environment to return wilde animals (antelopes) to the their natural habitat of the Sultanate, to live freely in the nature at the Wildlife and Wildlife Sanctuary in Al-Wusta Governorate. These wild animals are tracked via satellite and radio devices. This happened after a success story worth telling that started with the Arabian Oryx Resettlement and Propagation Project since the 1970s. After that, it was released into the wild in a first stage implemented by His Majesty the late Sultan Qaboos bin Said - may God rest his soul in peace - in the eighties of the last century. Now it is time for the second stage, which is to return the Arabian Oryx, the Arabian gazelle. and Reem gazelle to the wilds of the reserve. This comes as a result of the use of modern technologies such as satellite tracking devices to monitor wildlife and raise the efficiency of human cadres through providing the reservation with a number of other organisms that will coexist with nature and reproduce in order to establish an environmental diversity that contributes to setting a milestone that enriches eco-tourism.

UAE

Wide participation in the activities of the National Environment Day 2020

Dubai Municipality in the United Arab Emirates participated in the celebrations on the occasion of the twenty-third National Environment Day under the slogan «Solutions Based on Nature». This slogan reinforces the vision of Dubai Municipality, which is building a happy and sustainable city, through a number of activities implemented by the Environmental Department as this day is an important annual occasion for highlighting one of the important environmental issues in the United Arab Emirates. Through the various activities, students and attendees will be taught the importance of nature-based solutions such as planting mangroves which in its turn, contribute to the protection of coasts. The importance of mangroves, the height of which ranges between three and eight meters, is not only limited to this matter, it attracts different types of animals seeking protection from the sun heat in summer and fish live close to it as well.

Qatar

Nesting Process Accelerated at the Sea Turtles Protection Project

The Ministry of Municipal and Environment, represented by the Department of Protection and Wildlife, announced the project of protecting the sea hawks bill turtles which are threatened by extinction, will continue well this season, while taking all precautions that guarantee the safety of the project team. The field work of the project witnessed an acceleration in the nesting operations, where (12) nests were transferred to the protected nests site in Fuwairet beach, and the necessary measurements were taken for turtles, cleaning them from snails and treating some wounded ones. The project of marine turtle protection is being implemented under the supervision of the Ministry of Municipal and Environment, funded by Qatar Petroleum and the executed by the Center for Environmental Sciences at Qatar University in cooperation with a team from the Department of Protection and Wildlife. The project covers the northeastern shores of the country.

KUWAIT

A Visit to find out how to safely dispose of medical waste

His Excellency Sheikh Abdullah Al-Ahmad Al-Hamoud Al-Sabah, Director General of the Environmental Public Authority and Chairman of the Board visited the medical waste treatment plant in Al-Shuaiba region; to see the progress of work and how to get rid of these wastes. The visit came in the context of emphasizing the keenness of the Ministry of Health and the Public Authority of Industry about safely dealing with medical waste with a medical way and with a manner that is safe to the public, as well as the safe handling of vehicles which transport such hazardous medical waste and to ensure that there are no harmful emissions from the chimneys of the plant, emphasizing the continuationin monitor emissions from such plants.

Saudi Arabia

The Red Sea Project Contributes inImproving the Marine Environment

In the context of the adopting measures taken by the Red Sea Development Company and King Abdullah University of Science and Technology last year,the scientific journal «Frontiers in Marine Science» published a research paper by a group of the scientists from King Abdullah University of Science and Technology (KAUST). The paper contains a detailed study of the marine planning for the Red Sea project, which is considered one of the most ambitious tourism projects in the world. The adopting measures taken by the Red Sea Development Company and King Abdullah University aims at protecting the environmental development of the Red Sea project by promoting biological diversity and maintaining the life cycle of endangered and endemic species. This paper was co-authored by an international team of researchers from several academic institutions and specialized research centers in the world; Such as the National Technical University of Athens and the University of Thessaly, in addition to the participation of executives from the Red Sea Development Company (TRSDC), the main developer of the project. The research explains how the team used simulation of the marine spatial planning of the Red Sea project, in order to determine the positive returns that contribute to the preservation of the marine basin in Al Wajh Governorate. This marine basin covers an area of 2081 square kilometers and includes 92 islands and valuable habitats.

Bahrain

Inauguration of the Second Edition of «Our Sea is Clean»

The Supreme Council for the Environment, in cooperation with the Bahrain Volunteer Diving Team, announced the launch of the national campaign to clean the Kingdom›s coasts in its second edition under the slogan: (Our Sea is Clean) in partnership with the United Nations Environment Program. Dr. Mohammed bin Dinah, CEO of the Supreme Council for the Environment, expressed the council's pride in the efforts of the volunteer team and the partnership with civil society institutions that have provided support to many similar campaigns and continue to provide national initiatives, stressing that there are other campaigns with Gulf diving teams that come within the framework of the community partnership to support the ideas of Bahraini youth who volunteer to clean the facilities.he said: «The Supreme Council for the Environment provides all means of support for these campaigns» added Dr. Mohammed bin Dinah.

«Cloud Brightness»: A Promising Technology for Protecting Coral Reefs from Bleaching

As the world grapples with the Covid-19 virus, the Great Barrier Reef near Queensland, northern Australia, faces its third, «unexpected» collective bleaching crisis in just five years. Days before the global curfew was imposed to counter the Coronavirus, Southern Cross University announced on its website the success of an experiment conducted by an Australian research team in the application of «cloud brightness» technology off the coast of Townsville, to protect coral reef systems from future bleaching events.This experiment is the first of its kind globally and it does not use any chemicals. This experiment depends on natural materials, where the technique of «cloud brightness» depends on processing the cloud cover to make it reflect more sunlight into space. This is a proposed technique for managing solar radiation. The researchers believe that this technology can reduce the temperature of the atmosphere and oceans because it absorbs less energy from the sun, but it will not reduce levels of greenhouse gases.

A New Discovery ... Living Creatures Allied to Get Rid of Polluting Gases on the Seabed

Scientific search does not hesitate to explore the mysteries of the sea and discover its secrets and the lifestyle of marine creatures. Based on this fact, scientists from the University of California for Technology and Occidental College in Los Angeles have discovered collaboration between worms belonging to the «cilia» family and the methylococcaceae bacteria. They collaborate to harvest methane gas on the seabed. Researchers made this discovery during their trips to study the locations of methane gas leak off the coast of Southern California and Costa Rica and they published their discovery on April 3 in the journal «Science Advances». First, the research team was amazed to seeworms in large numbers. They are small in size, not more than several inches long and have thick cilia that help them to breathe, at the CH4 nozzles (methane gas leaking from oil wells) on the sea floor. But after studying the phenomena, they found out that methylococcacia, which relies on methane and carbon, as the primary source of energy, lives on the cilia of those worms. This explains the presence of these worms at the mouths of methane gas leakage, as the worms themselves became a consumer of methane gas.

Shortage of Oxygen in Oceans›Water Warns a New Mass Extinction

In the framework of an academic cooperation between the Georgia Institute of Technology, Yale University, the University of Portsmouth, the Czech University of Life Sciences in Prague and the Stanford School of Earth, Energy and Environmental Sciences (Stanford Earth), a team of researchers has strengthened the theory that oxygen shortages in the oceans contributed to devastating deaths about 444 million years ago. The results of the new studies indicate that there were conditions where the oxygen was ranging from»little to non-oxygen» and lasted for more than three million years, which was aperiod much longer than the similar episodes of extermination witnessed by our planet. The study, published in «Nature Communications» on April 14th, addressed an event known as the Ordovicianmass extinction, which occurred about 450 to 444 million years ago, and is the second largest mass extinction the Earth has ever seen. Thus, this extinction is classified in the second degree after the largest event, which is the extinction of the Permian Tertiary Period, known as the «Great Death» that occurred 251.4 million years ago, in which nearly 96% of all marine species and 70% of the wild vertebrates were eliminated.

Environmental Vocabulary

The Predominant

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When the earth is blessed with good soil, and the sky is rainy, the earth beddings it's green landscape rug, and the trees give fruits, then the environment reviveswith its surroundings in prosperity and fertility without tiny fatigue.While if the weather turns and its conditions worsen, the rain stops and hopes are dashed, the earth takes off its green robe and reveals its blond body, then only the trees that can adapt to the vicissitudes of time remain, imposing themselves everywhere. The remaining trees are dominated by their strength, intensity and struggle. This kind of trees remains to draw a track record of survival and permanence, telling us the story of its intimate coexistence with animals, humans and even to other kinds of plants and trees.

Animals may transfer its seeds without knowing that they carry seeds that may grow trees that feed on them one day.Wind and birds are also important factors in the transportation of their seeds, which are as soon as they settle on the surface of the earth and their tree has been readily germinated.So, it was said that one of the disadvantages of this wild tree is rapidspread, the advantages of some are the disadvantages of others. It grows rapidly, as high as 20 meters.It penetrates deep into the soil to reach water aquifer up to 30 meters as if it had groundwater exploration sensors, achieving two main objectives: the source of life (water) and the strong anchoring in the ground. In the past, people infer its existence in a place to the availability of groundwater in the place where it is. Its stem grows to a diameter of one meter, while its thorny long branches carry dense and ever-green leaves. Its yellow flowers are complemented by 510- cm long green -yellow cylindrical spikes. Its impressive length, dense branches and green leaves provide a large area of shade that it gives to every passerby.

There are a number of benefits that cannot be counted for this huge perennial wild tree.It is one of the most suitable trees to solve the problem of desertification and stabilize the dunes because it withstands extreme weather fluctuations, extreme heat and drought, and adapts to the most types of soils, rather, it increases soil fertility. Its wood is a versatile wood wealth. Its leaves are involved in the manufacture of certain drugs and in the fight against certain plant fungi, in addition they are the most important fodder for livestock, as well as the spikes of seeds which rich in protein and sugary substances. Its environmental and climatic importance is very great, and wherever the Prosopis tree is found, a kingdom of life is formed around it, each of which takes and coexists with it as much as it needs, even the environment feels its existence with recovery, security and stability. The spread of the Prosopis tree in agricultural areas may be undesirable because of its impact on nearby trees, but it is a wild tree that must be spread and cultivated in every spot somewhat far from agricultural activity. It is the predominantto the place that human has known since ancient times. It carried lots of memories to the human being, and its existence was associated with many stories and myths.

Water Cycle

Marwa Al Mukhaini